

**WETLAND DELINEATION REPORT  
CROTON OVERLOOK DEVELOPMENT  
TOWN OF YORKTOWN, WESTCHESTER COUNTY, NEW YORK**

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## 1.0 INTRODUCTION

Croton Overlook Corporation (COC) plans to develop an approximate 62.7 acre property site situated along NYS Route 100, in the Town of Yorktown, Westchester County, New York (Figure 1-1). The property will be developed as a 55 and older residential housing community.

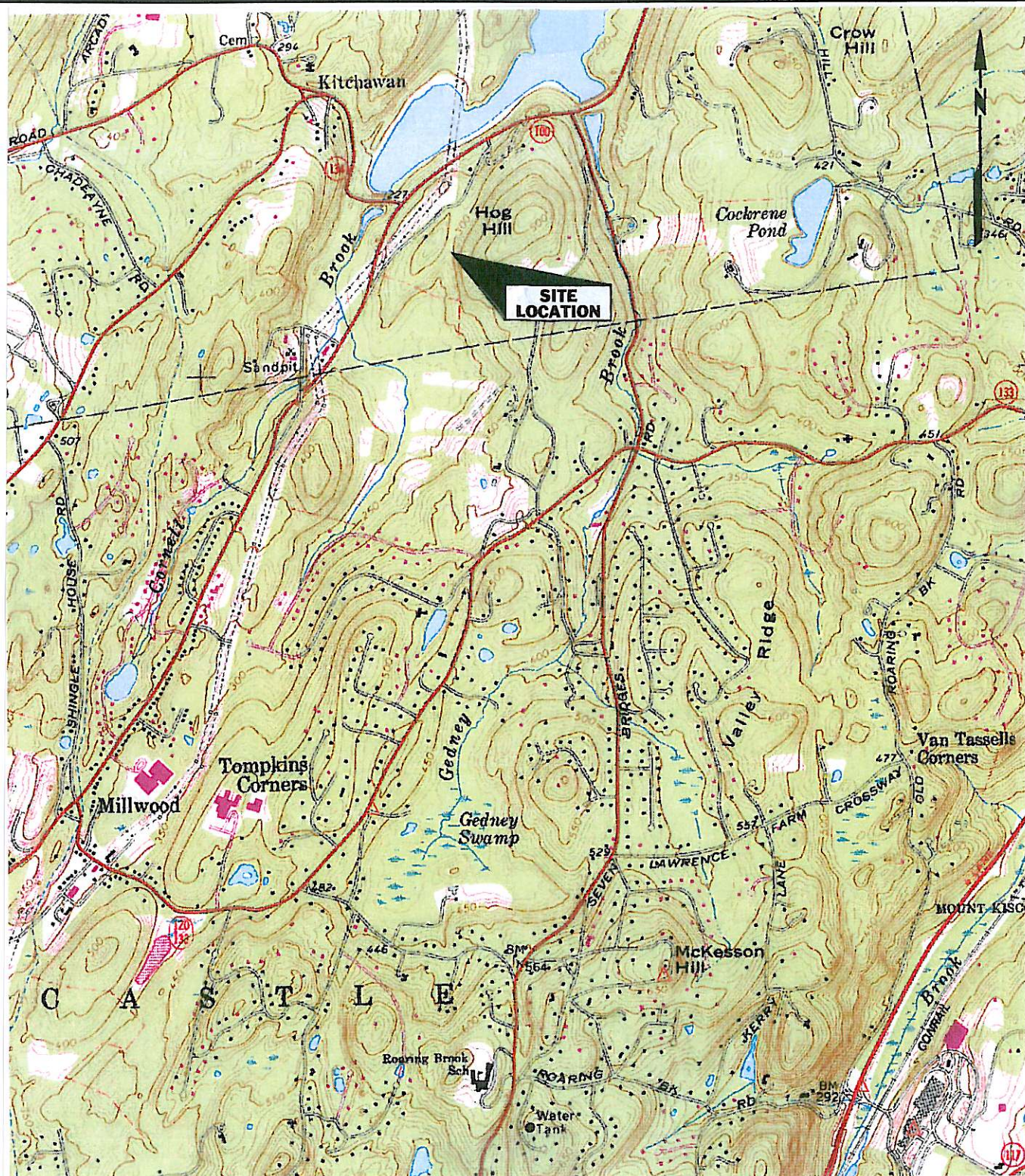
During November 2009, Environmental Compliance Services, Inc., on behalf of the Croton Overlook Corporation, delineated three wetland areas within the boundaries of the project site. The largest of the three wetlands, Wetland A, is 12.66 acres in size; Wetland B is 0.07 acres and Wetland C, 0.03 acres in size. These areas were delineated in accordance with the Town of Yorktown Code, Chapter 178, and the "US Army Corps of Engineers 1989 Interagency Wetland Delineation Manual", as required under Code. A brief wetland delineation report was prepared for the project (dated November 16, 2009) and was eventually submitted by COC to the Town of Yorktown, as part of filing application for Site Plan/Subdivision approval and to initiate SEQR review. This report briefly explains the type of soils, vegetation and hydrological conditions on-site, as well as recommends that COC arrange to have the New York State Department of Environmental Conservation (NYSDEC) confirm whether or not State jurisdiction may extend onto the property, in light of a possible connection with nearby State wetlands. Appendix A contains a copy of the initial wetland delineation report prepared by ECSI.

In August 2010, ECSI participated in an initial site meeting with Town of Yorktown Wetland Consultant Bruce Barber to inspect and confirm the boundaries of each of the three wetland areas. During this field meeting, Wetland C was joined with Wetland A at its northern boundary, and the limits of Wetland B were inspected, along with the majority of Wetland A (flags numbered 39 through 90). It was agreed that the remainder of Wetland A (flags 1 through 37) would be inspected and confirmed at a later date. As part of ongoing Site Plan/Subdivision and SEQR review, the Town subsequently requested that Croton Overlook Corporation update and resubmit the original wetland delineation report to the Town. A copy of an addendum to the original wetland delineation report (dated January 11, 2011) is contained in Appendix A. It is important to note that the addendum included indication that the NYSDEC had confirmed that no State jurisdictional wetlands exist on-site. This was indicated in correspondence provided by the State, which is attached to the addendum.

On April 21, ECSI and Mr. Barber again visited the project site and inspected and confirmed the remainder of Wetland A, flags numbered 1 through 38 (a, b, c, d, e, f, g, h, i and j). In addition, a nearby, off-site wetland existing along the Con Edison utility right-of-way was approximated so that this area can appear on project plans, as necessary, for wetland permitting purposes. This wetland is approximately 1,100 square feet in size, and thus, is a Town Jurisdictional wetland subject to a 100 foot boundary setback. On April 22, 2011, Mr. Barber provided COC with e-mail correspondence indicating that each on-site was verified in the field and that the Town's verification process is complete. A copy of Mr. Barber's e-mail is also contained in Appendix A.

This report has been prepared to support arrangements for obtaining a Town of Yorktown Wetland Permit (and a USACE General Nationwide Permit) necessary for proposed road and





SOURCE: USGS TOPOGRAPHIC QUADRANGLE  
OF NEW YORK; OSSINING, 1967,  
PHOTOREVISED 1979

SCALE: 1 INCH = 2000 FEET

FIGURE 1-1

## SITE LOCATION MAP

CROTON OVERLOOK DEVELOPMENT  
TOWN OF YORKTOWN  
WESTCHESTER COUNTY, NY



storm water drainage work along Dell Avenue, as well as for making improvements along "fire roads" which cross and/or lie within the buffer areas of Wetland A. These roads will be improved to provide community residents with safe access to natural areas as a form of passive recreational opportunity.

This report presents the results of performing a "Routine On-Site Determination Method" wetlands delineation during November 2009. Further, ECSI obtain updated soils, vegetation and hydrology information on May 3, 2011, pursuant to the USACE Interim Regional Supplement to the Corps Wetland Delineation Manual: Northcentral and Northeast Region. For this reason, completed copies of "Wetland Delineation Determination Data Forms" are included in Appendix B of this report. Two sets of forms were completed to reflect upland (UPLD) and wetland (WTLD) conditions at observation points located along the boundary of Wetlands A and B. Field photographs (Photo Nos. 1 through 8) were also obtained to document field conditions at each of these observation points and are contained in Appendix C.

## **2.0 PROJECT DESCRIPTION**

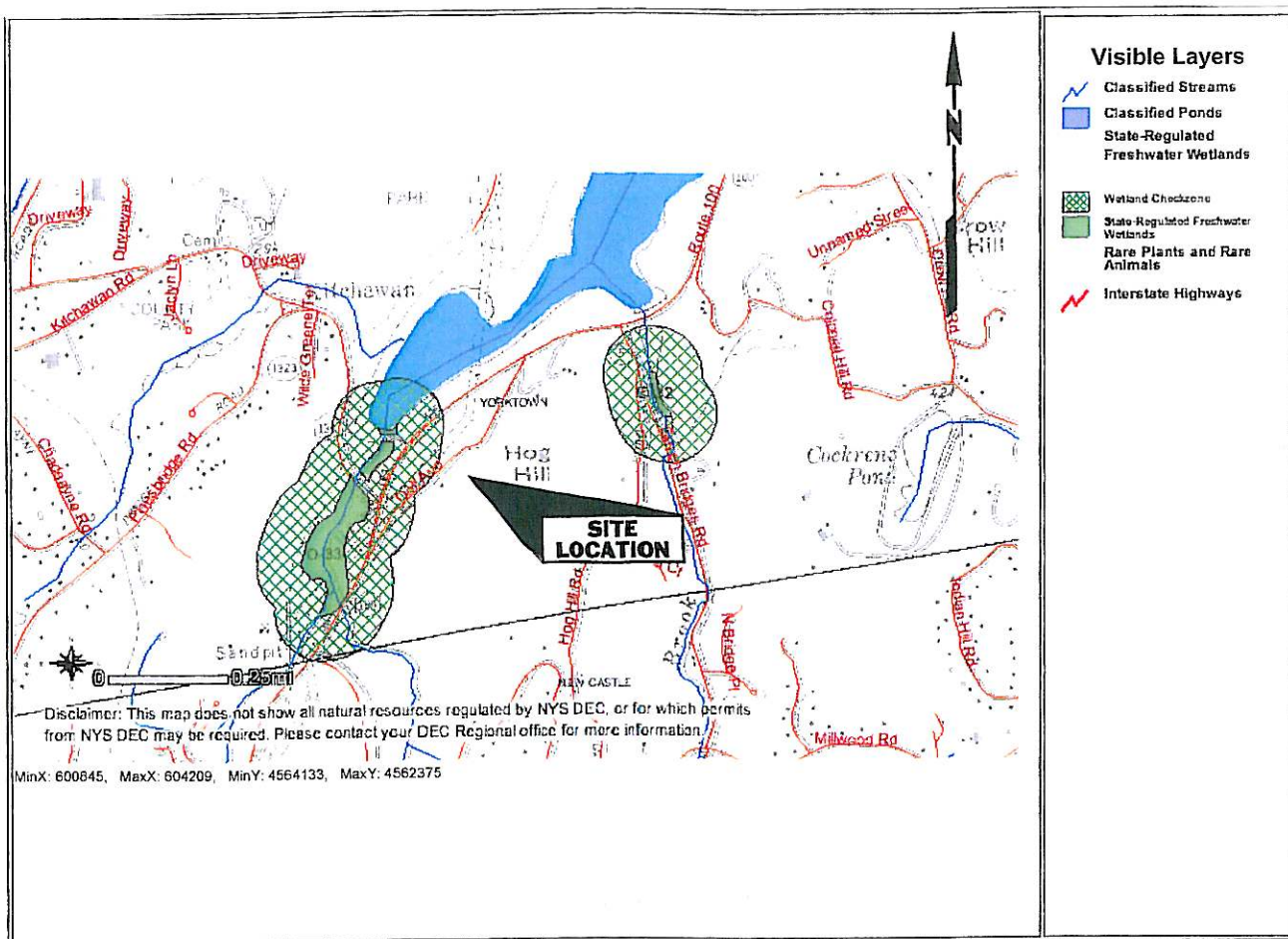
In general, the site can be described as having two elevated land forms near it's west and eastern boundaries, with a lower elevation areas between these elevated areas. A drainage divide exists north of Wetland A in close proximity to Wetland B. Essentially, surface and groundwater flows north at the northern most limits of the property; most of the site drains south towards an unnamed on-site perennial stream which is tributary to the Cornell Brook. The Cornell Brook, located south of the site, discharges to the Croton Reservoir located northwest of the site. A Con Edison utility right-of-way lies west of the site between Dell Avenue and NYS Route 100.

Most of the site is comprised of hardwood forests with open and closed canopy freshwater wetlands; portions of Wetland A include two open water ponds, and Wetland B consists of a forested wetland (Appendix C, Photo Nos. 1 through 8).

### **2.1 Water Resources**

Based on information maintained and provided by the New York State Department of Environmental Conservation (NYSDEC), the on-site wetlands are not designated wetlands by the State (Figure 2-1). ECSI reviewed a National Wetlands Inventory (NWI) map which revealed that a portion of Wetland A is depicted on the Federal map. It is important to note that this map is not as accurate as in-field determinations which are required by the USACE to verify the presence and extent of wetlands. For this reason, information depicted on NWI maps should always be viewed with caution. Wetland A is not depicted on the map; however, Wetlands A and B are defined under applicable regulations as "jurisdictional", and are also defined by the USACOE as "Waters of the US". Figure 2-2 presents a portion of the NWI map published for the project area, along with ecological system, subsystem, class and subclass indicators. Planned actions within such areas are subject to approval by the USACE.

The unnamed perennial stream at the southern limits of the site receives surface and groundwater flow from higher elevation, off-site areas that are located east, southeast and south



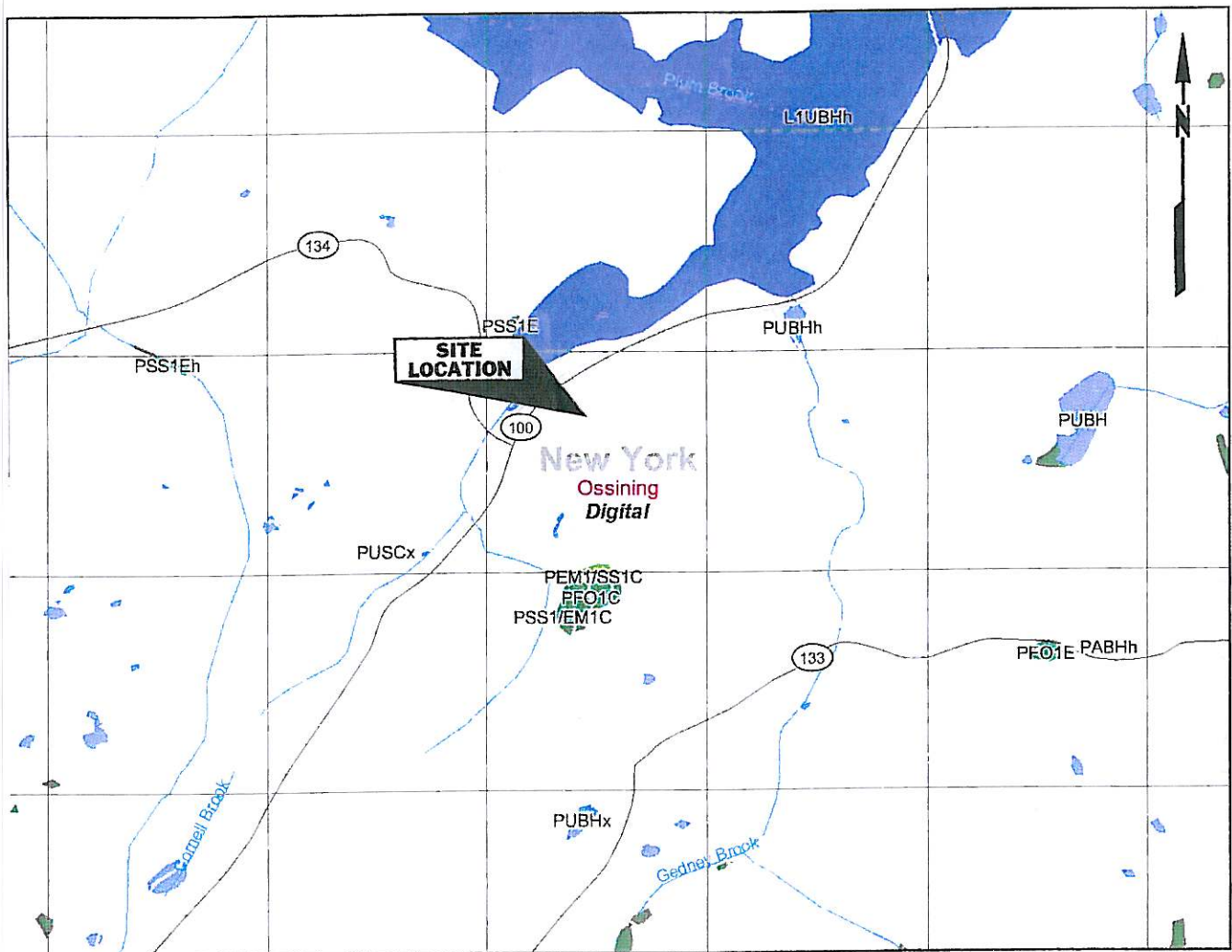
**FIGURE 2-1**

**NYSDEC WETLANDS MAP**

**CROTON OVERLOOK DEVELOPMENT  
TOWN OF YORKTOWN  
WESTCHESTER COUNTY, NY**

**SOURCE:** NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION;  
ENVIRONMENTAL RESOURCE MAPPER;  
<http://www.dec.ny.gov/imsmaps/ERM/viewer.htm>

**SCALE:** NOT TO SCALE



SOURCE: U.S. FISH AND WILDLIFE SERVICE; NATIONAL  
WETLANDS INVENTORY WETLANDS MAPPER  
[Http://wetlandsfws.er.usgs.gov/imf/imf.jsp?site=NWI\\_CONUS](http://wetlandsfws.er.usgs.gov/imf/imf.jsp?site=NWI_CONUS)

SCALE: NOT TO SCALE

**FIGURE 2-2**

## **NWI WETLANDS MAP**

**CROTON OVERLOOK DEVELOPMENT  
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WESTCHESTER COUNTY, NY**

of the site. As implied above, the pattern of drainage across the site occurs towards the north at the northwestern most portions of the site, relating to the topographic divide to the north.

## 2.2 Soils

The types of soils which exist within the wetland areas delineated at the subject property site are reported by the National Resources Conservation Service as being comprised of poorly drained to somewhat poorly drained soils; these conditions clearly demonstrate hydric (wetland) soil characteristics. The predominant hydric soil type in these areas is the Sun Loam soil series.

Upland areas immediately surrounding each on-site wetland consist of well drained to moderately well drained soils with rock outcrop. The predominant non-hydric soil type in these areas of the site are the Charlton Loam and Woodbury Loam soil series. The topographic relief is most pronounced throughout the site.

Based on a review of information presented in the "Soil Survey of Putnam County, New York" (NRSC Website, 10/09) and the "Soil Survey of Putnam and Westchester Counties, New York, (issued September 1994), seven soil types exist within the boundary limits of the site. According to the survey, on-site soils consist of Sun Loam (Sh), Charlton Loam (ChB and ChC), Woodbury Loam (WdB), Ridgebury Loam (RdB), Fluvaquents-Udifulvents Complex (Ff), Hollis-Rock Outcrop Complex (HrF), and Woodbridge Loam (WdB). A brief description of the physical properties associated with each type is presented below. Appendix D contains a soil map of the project site and a tabulation each on-site soil.

Sun Loam (Sh) - The Sh soil unit occurs on 0 to 3 percent slopes. This soil type is nearly level, deep, and very poorly drained with a water table near, or at, the surface. It occurs along old lake plains which are adjacent to perennial streams. The main limitation of this soil is wetness.

Charlton Loam (ChB and ChC) - The ChB and ChC soil unit occurs on 2 to 15 percent slopes. These units consist of well drained soils, which occur on slight to somewhat strongly sloping land which are derived mainly from schist, gneiss and granite. The water table is more than 80 inches below the surface.

Woodbury Loam (WdB) - The WdB soil unit occur on 3 to 8 percent slopes. This soil unit consists of moderately well drained soils, which also occur on slight to somewhat strongly sloping land which are derived mainly from crystalline rock. The water table is usually between 15 and 30 inches of the surface.

Ridgebury Loam (RdB) - The RdB soil unit occur on 3 to 8 percent slopes. This soil type is gently sloping, very deep, and poorly drained and somewhat poorly drained. It is on the lower parts of hillsides in the uplands and along small drainage ways. Individual areas are irregularly shaped or elongated and generally range from 2 to 20 acres in size. The water table is within a depth of 1.5 feet from November through May and has a moderate or moderately rapid permeability in the surface layer and subsoil and slow or very slow permeability in the substratum.

Fluvaquents-Udifluvents Complex (Ff) - The Ff soil unit occur on slopes which range from 0 to 3 percent and consists of very deep, well drained to very poorly drained, nearly level soils that formed in recent alluvial deposits. These soils are frequently flooded. Individual areas are mostly long and narrow and are adjacent to streams. In Fluvaquents, the water table is 1.0 foot above to 1.5 feet below the surface from October through June with frequent or brief periods of flooding from November through June. The soil properties of Udifluvents consists of a water table of 1.5 to 3.0 feet below the surface from November to April with frequent or brief periods of flooding from November through June.

Hollis-Rock Outcrop Complex (HrF) - The HrF soil unit occur on slopes which range from 30 to 60 percent. This unit consists of the shallow, very steep, well drained and somewhat excessively drained Hollis soil and areas of Rock outcrop, dominantly granite, gneiss, or schist. It is on hillsides in bedrock-controlled landscapes. The water table is at a depth of more than 6 feet, with a moderate or moderately rapid permeability throughout the profile.

Woodbridge Loam (WdB) - The Woodbridge series occur on 3 to 8 percent slopes. This soil series consists of very deep, moderately well drained soils on uplands. These soils formed in compact glacial till derived from schist, gneiss, and granite. The WdB soil unit is moderately well drained and consists of a water table of about 18 to 30 inches.

### **3.0 METHODOLOGY**

The "Routine On-Site Determination Method" was used to identify and delineate the wetland environment at the subject property site. This method was performed in accordance with the guidelines presented in the "US Army Corps of Engineers 1989 Interagency Wetland Delineation Manual," (1989) as required by Town Code for determining Town "jurisdictional" wetlands.

Three criteria were evaluated for identifying the boundary of on-site wetlands. The criteria evaluated were: 1) vegetation; 2) soils (hydric/non-hydric); and 3) hydrology. Field data obtained as part of performing this procedure are contained on the "Wetland Determination Data Forms" contained in Appendix B.

As noted, two wetland areas were defined as part of the delineation activities. ECSI representatives flagged the wetland areas and placed stakes in the field to establish observation point locations used to document the limits of the on-site wetlands. Each observation point consisted of evaluating one wetland and one upland location, whereby each location was assessed for the three criteria noted above.

Dominant vegetative indicators were observed vertically (i.e.: by vertical stratum) within a graduated circle plot (radius areas 30, 15 and 10 feet) for each observation point. Data was recorded in the field using a variety of reference guides widely recommended for evaluating

wetlands vegetation. Plant indicator categories published in the "National List of Plant Species That Occur In Wetlands: 1988 and the more recent "National List of Vascular Plant Species That Occur In Wetland: 1996 Summary", (US Department of the Interior, September) and recognized field guides were utilized to determine the frequency of occurrence in observed wetland/non-wetland transitional areas. Region I indicators were used for identifying and delineating on-site wetlands.

Munsell Soil Color Charts (Kollmorgen Instruments Corporation 2000 revised edition) were used to characterize in-field soil conditions for each observation point. A shovel was utilized to extract soil samples for observation. Shovel digs were taken in the vicinity of each observation point at 2 to 6 inch intervals to an approximate maximum depth of 18 inches within the soil profile. These soil samples, when compared to appropriate Munsell Color Charts, aided in confirming wetland/non-wetland transitional areas. In-field soil observations were compared to soil descriptions contained in the Westchester County Soil Survey for verification. The comparison revealed that in-field data were similar to the soil characteristics noted in the County Soil Survey. Data obtained as part of these activities were recorded field data forms (Appendix B) completed by ECSI representatives.

In order to delineate the limits (extent) of the wetlands investigated, two shovel digs (Upld and Wtld) were placed within each observation point. Each Wtld (Wetland) dig was placed at the presumed limits (i.e.: based on visually observed vegetative and hydrologic indicators) of each on-site wetland. The Upld (Upland) boring was taken approximately 10 to 15 feet from each Wtld boring (in an upland direction) to confirm wetland/non-wetland transitional areas. In-field observations were compared to soil descriptions contained in the County Soil Survey for verification. An observation point was placed in close proximity to Wetland A and B.

Hydrologic conditions were determined by using plant community indicators, as well as hydric soil conditions and visual observations of soil saturation and inundation (i.e.: wet/saturated soils, water stained markings and hydrogen sulfide odors).

Subsequent to delineating the boundaries of each wetland, representatives of Donnelly Land Surveying, P.C. of Yorktown Heights, New York were retained by COC to survey each wetland to assist Lawrence Paggi, Professional Engineer, in the preparation of site plans entitled "Sheet C1: Site Plan and Sheet C2: Grading Plan" (under separate cover by L. Paggi, P.E.). As noted, the area of Wetland A is 12.69 acres, and the area of Wetland B is 0.07 acres.

#### **4.0 DISCUSSION OF RESULTS**

The information obtained as part of performing in-field wetland identification and delineation activities are explained below. This information has been documented and referenced on the "Wetland Determination Data Forms" contained in Appendix B.

#### 4.1 Vegetation

Observations of vegetative community types at each observation point indicated the presence of both upland and wetland vegetation. In all instances, both upland and wetland species displayed levels of dominance and co-dominance, thereby establishing distinct transitions between wetland and non-wetland environments. Along noted wetland transitional areas, upland species of American Elm (*Ulmus americana*), Shagbark Hickory (*Carya ovata*), White Oak (*Quercus alba*) and Hair-Cap Moss (*Polytrichum spp.*) were observed. Red Maple (*Acer rubrum*), Skunk Cabbage (*Symplocarpus foetidus*), Spotted Jewelweed (*Impatiens capensis*) and Spice Bush (*Lindera benzoin*) were key components of observed wetland vegetation.

#### 4.2 Soils

Soil samples observed as part of delineating the on-site wetland areas indicated that the Wtld borings displayed hydric conditions. These observations were verified by comparing soil samples (auger extractions) to Munsell Color Charts (i.e.: chroma indicators equal to or less than 2) and the presence of soil wetness/mottle conditions. This information, as well as observed physical properties (i.e.: sandy, silty loam), were compared and verified with the physical soil descriptions contained in the County Soil Survey.

The placement of Upld borings in close proximity to each Wtld boring (i.e.: 10 to 15 feet in an upland direction) served to verify the aerial extent of hydric soil conditions. Each of the Upld borings displayed non-hydric conditions when compared to the Munsell Color Charts. These observations were also verified by comparing the recorded field data against the physical soil descriptions contained in the County Soil Survey.

Shovel extractions were taken at various intervals of depth and generally ranged from 1 to 6 inches near the surface, 7 to 16 inches mid-solum and approximately 18 inches near the base of the solum. Variations in interval depth were due to obstructions (i.e.: gravel and rocks) encountered in the field.

#### 4.3 Hydrology

The wetland hydrology criterion was determined by the presence of hydric soil conditions and vegetative indicators at each Wtld boring location. During each site visit, hydrology was determined by visual observation of soil saturation (i.e.: soggy surface, soil saturation, water within 12 inches of the surface and hydrogen sulfide odor) and the extent of inundation due to periods of seasonal rainfall. Water stained leaf litter within the vicinity of each wetland further substantiated periods of inundation. Observed hydrology indicators are also presented on the data sheets contained in Appendix B.



## 5.0 WETLAND FUNCTIONAL CAPACITY ANALYSIS

As part of plans to obtain a Town Wetlands Permit for construction activities proposed under the development, the COC retained ECSI to complete a functional analysis of Wetlands A and B. This analysis will be utilized to determine the extent of mitigation necessary to compensate for activities planned within, or in close proximity of these wetlands. The "Rapid Procedure for Assessing Wetland Functional Capacity" (Magee, February 1998) was utilized for this purpose, which is based on first completing an hydrogeomorphic (HGM) classification process. Once the HGM classification is determine for each wetland, then functional values and benefits can be concluded. Wetland Inventory Data sheets were completed for each wetland to determine HGM classification (Part 1 - Characterization of Wetland and Part 2 - Characterization of Model Variables). These sheets were then used to determine wetland functional capacity utilizing the eight model work sheets (conditions and variables) necessary to conclude Functional Capacity Index and Index Range. The Wetland Inventory Data sheets and the eight functional model work sheets completed for each of the two on-site wetlands are contained in Appendix E.

The Rapid Procedure for Assessing Wetland Functional Capacity method considers physical and chemical variables typically associated with wetlands in the northeast. Both the HGM classification and the model variables include four major parameters which are; position in the landscape, hydrology, soils and vegetation. The eight functional models evaluated under the method are as follows:

- 1) Modification of Groundwater Discharge
- 2) Modification of Groundwater Recharge
- 3) Storm and Flood Water Storage
- 4) Modification of Stream Flow
- 5) Modification of Water Quality
- 6) Export of Detritus
- 7) Contribution to Abundance and Diversity of Wetland Vegetation
- 8) Contribution to Abundance and Diversity of Wetland Fauna

The HGM classification and Functional Indices and ranges determined for each wetland are discussed below.

### Wetland A

This wetland is 12.69 in size and is surrounded by two elevated land areas east and west. The majority of this wetland is forested with two small open water ponds nestled within a wet sedge meadow vegetation community (north and east of the ponds); a riverine/floodplain vegetated community connects south and southeast. Surface water drainage occurs from the north, east and southeast over approximate slopes of 3 to 5 percent from these directions. Essentially, the components of this wetland are comprised of connecting slope, depression and riverine settings.

From the north, surface water is contributed by surface runoff and seasonal groundwater seeps which flow parallel and perpendicular across a gently sloping grade which feed into the two open water ponds surrounded within the wet sedge meadow vegetation community. This area is depressional in that features temporarily store moisture before discharging (via the surface) to a meandering perennial stream located at the southern reaches of the property. This perennial stream is tributary to the New Croton Reservoir located northwest of the project site. This stream lies within a Forested Floodplain vegetation community and is primarily fed by the Cornell Brook which lies within the Cornell Brook Basin sub-watershed of the New Croton Reservoir. This portion of Wetland A is considered a "riverine" setting which receives surface water flows from the wet sedge meadow and on-site ponds, as well as from off-site upgradient areas east, southeast and south of the property. This portion of the wetland is prone to seasonal low to moderate water level fluctuations and sedimentation deposits throughout the floodplain limits.

Soils within this wetland are predominantly Sun Loam (Sh), a State listed hydric soil, which lies above glacial till. Hydric soil conditions observed in the field include moist and saturated silty loam and clay near the surface. In addition, an hydrogen-sulfide odor was detected. Vegetation is comprised of diverse, well structured community species with an abundance of hydrophytic vegetation. These communities provide diverse habitat to support several varieties of observed (and potential) mammalian, avian, reptile and amphibian species. Information gathered in the field by ECSI as part of conducting an ongoing Bio-diversity Assessment for the property has served to document these findings, as well as contribute to the completion of the work sheets contained in Appendix E.

Based on the above and information presented on the completed Wetland Inventory Data sheets and the eight model work sheets, Wetland A is considered to be a highly functional wetland as its conditions and physical/chemical properties generate favorable Functional Indices which fall well within applicable Index Ranges. All but one of the eight functional models, Modification of Groundwater Recharge, are considered functional for this wetland. Modification of Groundwater Recharge does not apply as surface water flow and groundwater seeps are predominant which in turn discharge unrestricted through the wetland; no groundwater recharge flow component is expected.

#### Wetland B

This wetland is 0.07 acres in size and is downgradient of the two on-site elevated land areas situated east and south. This wetland is isolated from Wetland A and is comprised of a Forested Wetland-Closed Canopy vegetation community. Surface water drainage occurs predominantly from the south and east by surrounding elevated land areas. The primary components of this wetland are depressional with an unrestricted outlet; surface water flow travels from a small depressional "headwater" area and towards Dell Avenue (northeast) across a gentle 1 to 2 percent slope.

Soils within this wetland consist of the Charlton-Chatfield Complex, formed atop glacial till. This soil series is not considered hydric; however, small pockets of somewhat poorly drained soil conditions are found within, or adjoining this series. Hydric soil conditions

observed in the field include moist and saturated silty loam and clay near the surface. Hydrophytic vegetation observed within this wetland is of low diversity and structure. Compared to Wetland A, this wetland is much less diverse and provides less functional capacity benefits overall. The observed wetland vegetation community does support habitat for limited varieties of mammalian avian, reptile and amphibian species. Information gathered in the field by ECSI as part of conducting an ongoing Bio-diversity Assessment for the property has served to document these findings, as well as contribute to the completion of the work sheets contained in Appendix E.

Based on the above and information presented on the completed Wetland Inventory Data sheets and the eight functional model work sheets, Wetland B is considered to contribute a low to moderate functional benefits as its conditions and physical/chemical properties fall within the Functional Indices and Index Ranges for seven of the eight functional models evaluated. As with Wetland A, this wetland will not modify groundwater recharge; it routes surface water flow off-site to Dell Avenue where a storm water collection system routes runoff towards the New Croton Reservoirs.

Of the seven functional models, Modification of Water Quality and Export of Detritus result in good induces; the remaining functional models result in low to moderate indices with Modification of Stream Flow resulting with the lowest functional index.

## **6.0 CONCLUSION**

The subject property site contains two Town of Yorktown and USACE jurisdictional wetlands. These wetlands were identified and delineated by ECSI in accordance with the Town of Yorktown Code, Chapter 178, and the US Army Corps of Engineers 1989 Interagency Wetland Delineation Manual, as required under Code. In addition, ECSI obtained vegetation, soils and hydrology field data in accordance with applicable procedures contained in the "USACE Interim Regional Supplement to the Corps Wetland Delineation Manual: Northcentral and Northeast Region" (dated 2009). Soil shovel digs revealed distinct boundaries of hydric and non-hydric soil conditions which, when combined with vegetative indicators, served to verify wetland boundaries.

Wetland A is 12.69 acres in size and Wetland B is 0.07 acres in size. ECSI has determined that, based on in-field delineation activities, a review of the on-site and surrounding off-site drainage features, and a review of NWI mapping, Wetland A and B do not connect. Wetland A discharges to an unnamed perennial stream which flows east to west across the southern reaches of the property and is tributary to the New Croton Reservoir (northwest). Wetland B discharges off-site onto Dell Avenue, and into a nearby storm water collection system.

A wetland functional capacity analysis was performed ECSI for Wetland A and B, in accordance with the "Rapid Procedure for Assessing Wetland Functional Capacity". The assessment concludes that Wetland A displays highly functional attributes while Wetland B

displays much less, primarily due to its size and composition, compared to the diverse and multiple wetland characteristics of Wetland A.

## **APPENDICES**

**APPENDIX A**

**ORIGINAL WETLAND DELINEATION REPORT  
(DATED NOVEMBER 16, 2009)**

**ADDENDUM TO ORIGINAL WETLAND DELINEATION REPORT  
(DATED JANUARY 11, 2011)**

**EMAIL CORRESPONDENCE FROM BRUCE BARBER  
(DATED APRIL 22, 2011)**

# **ORIGINAL WETLAND DELINEATION REPORT**



Environmental  
Compliance  
Services, Inc.  
*ENVIRONMENTAL CONSULTING*

**VIA E-MAIL**

November 16, 2009

Mr. T. J. Muldoon  
P.O. Box 1132  
Yorktown Heights, New York 10598

Re: Wetland Delineation Letter Report - 60.48-Acre Property Site Located Along Dell Road  
Town of Yorktown, Westchester County, New York  
(ECSI Project No. 4311.WD)

Dear Mr. Muldoon:

On October 29, 2009, Environmental Compliance Services, Inc. (ECSI) delineated the limits of three (3) wetlands (Wetlands A, B and C) on the above noted property site. Delineation activities focused on applying the routine on-site method of delineation, in accordance with the guidelines presented in the US Army Corps of Engineers (USACE) 1989 Draft Wetland Delineation Manual, and the New York State Department of Environmental Conservation (NYSDEC) "Freshwater Wetland Delineation Manual" (dated July 1995). All procedures were performed and documented in accordance with the Town of Yorktown, Town Code Chapter 178 entitled "Freshwater Wetlands and Watercourse Protection Law of the Town of Yorktown."

**RESOURCE MAP REVIEW**

Prior to conducting wetland delineation activities, we reviewed available mapping which included a NYSDEC Wetlands Map, National Wetlands Inventory (NWI) mapping, and the Westchester County Soil Survey maps and soil descriptions published by the National Resource Conservation Service (NRCS).

Enclosed please find a copy of the NWI map for the subject area, and an area section of a published NYSDEC Wetlands Map depicting designated off-site Wetland O-33. These maps are provided to document the types of resource information we reviewed for the subject property and vicinity.

Based on our review of the enclosed information, two of the three wetland areas (Wetlands Areas A and C) can be regarded as being Federal Jurisdictional wetlands. Wetland Area B appears to be isolated and thus, this area may not be subject to Federal Jurisdiction. Wetland Areas A and C may also be considered by the New York State Department of Environmental Conservation (NYSDEC) to be under their jurisdiction by way of a connection with the nearby State Wetland (O-33) situated south and west of the subject property site. All three wetlands fall under the jurisdiction of the Town of Yorktown; the Town's jurisdiction extends outward from the delineated limits of each wetland within a 100-foot buffer distance.

**26 South Street, Middletown, NY 10940 (845) 342-6540 Fax: 342-0811**



It is important to note that the NYSDEC's mapping in the vicinity of the site indicates that portions of the subject property lie within a "Wetland Checkzone" which is related to the proximity of designated Wetland O-33. The State has mapped this checkzone to alert the public (and the NYSDEC and other agencies) that areas within the checkzone must be confirmed in the field to determine if State jurisdiction may exist and to what extent. In light of the State's mapped Wetland Checkzone, the NYSDEC must be contacted and invited to the site to confirm whether or not their jurisdiction extends onto the property site.

In addition, the Town of Yorktown Environmental Inspector must be contacted (after initial application for Site Plan/Subdivision Approval is filed with the Town) to arrange an on-site meeting to obtain their confirmation of the limits of each of the three wetland areas delineated by ECSI.

## WETLAND DELINEATION

The type of flagging used to delineate the limits of each on-site wetland consisted of a combination of pink pin-flags and pink/black striped survey flagging (ribbon). Wetlands B and C were delineated using pink pin-flags; Wetland A was delineated using a combination. The flag numbers used to delineate Wetland A were numbered WA-1 through WA-90, Wetland B WB-1 through WB-25, and Wetland C WC-1 through WC-8. Wetlands B and C were delineated in a "clockwise" direction; Wetland A was delineated in a "counter clockwise" direction.

In addition to the three wetland areas, a small upland area, located within the southwestern portion of Wetland A, was delineated. Pink/black striped flagging was used to delineate this small area and the flags are labeled as WA-CO 1 through WA-CO 8. The "CO" denotes the term "cut-out", which is also noted on flag numbered WA # 90 as a reminder to pick up the flags for the cut-out area within the limits of Wetland A.

Visual observations of vegetation, soils and hydrologic indicators were utilized and recorded to substantiate the wetland boundary limits delineated in the field (see attached Photo No. 1). The wetland boundary will eventually be presented on a survey plan to be prepared by Donnelly Land Surveying, P.C.; this plan is expected to be submitted to the Town of Yorktown as part of an initial application for Site Plan/Subdivision Approval. Our observations are highlighted below in the order of the above mentioned criteria.

### Vegetation

Our observation of on-site vegetation confirmed the presence of both wetland and upland vegetation along the wetland delineation line. Predominant canopy, understory and ground cover vegetation within the wetland portions of Wetlands A, B and C included: Red Maple (*Acer rubrum*), American Elm (*Ulmus americana*), American Hornbeam - Iron Wood (*Carpinus caroliniana*), Spicebush (*Lindera benzoin*), Woodland Horsetail (*Equisetum sylvaticum*), Cinnamon Fern (*Osmunda cinnamomea*), Sensitive Fern (*Onoclea sensibilis*), Skunk Cabbage (*Symplocarpus foetidus*), Tussocks Sedge (*Carex stricta*), Soft Rush (*Juncus effusus*) and Touch-Me-Nots (*Impatiens capensis*). Predominant canopy, understory and ground cover within upland areas immediately surrounding each wetland included Quaking Aspen (*Populus tremula*), Black Cherry (*Prunus serotino*), White Ash (*Fraxinus americana*), Sycamore (*Platanus occidentalis*), Multiflora Rose (*Rosa regosa*), American Elm

(*Ulmus americana*), Speckled Alder (*Alnus incana*), Common Blue Violet (*Viola sororia*), Poison Ivy (*Toxicodendron radicans*), and Virginia Creeper (*Parthenocissus quinquefolia*).

### Soils

The types of soils which exist within the wetland areas delineated at the subject property site are reported by the National Resources Conservation Service as being comprised of poorly drained to somewhat poorly drained soils; these conditions clearly demonstrate hydric (wetland) soil characteristics. The predominant hydric soil type in these areas is the Sun Loam soil series.

Upland areas immediately surrounding each on-site wetland area consist of well drained to moderately well drained soils with rock outcrop. The predominant non-hydric soil type in these areas of the site are the Charlton Loam and Woodbury Loam soil series. The topographic relief is most pronounced throughout the site. According to the "Soil Survey of Putnam County, New York" (NRSC Web-Site, 10/09), the above noted predominant soil map units are described as follows:

Sun Loam, 0 to 3 percent slopes (Sh) - This unit is nearly level, deep, and very poorly drained with a water table near or at the surface. It occurs along old lake plains which are adjacent to perennial streams. The main limitation of this soil is wetness.

Charlton Loam, 2 to 15 percent slopes (ChB and ChC) - These units consist of well drained soils, which occur on slight to somewhat strongly sloping land which are derived mainly from schist, gneiss and granite. The water table is more than 80 inches below the surface.

Woodbury Loam, 3 to 8 percent slopes (WdB) - This unit consists of moderately well drained soils, which occur on slight to somewhat strongly sloping land which are derived mainly from crystalline rock. The water table is usually between 15 and 30 inches of the surface.

According to the "Westchester County New York Hydric Soils and Soil with Potential Hydric Inclusions," the Sun (Sh) Loam soil is listed as hydric, or having the potential for hydric (wetland) soil inclusions (USDA, SCS, 1988).

### Hydrology

Moisture is supplied to the on-site wetland areas by way of seasonal groundwater (hillside) seepage and surface runoff from nearby upgradient sources, as well as from direct precipitation. Given the level and sloping ground surfaces within on-site wetland areas, and the existence of adjoining sloped upland areas, the hydrology criteria was confirmed to be well met for sustained hydrologic wetland characteristics. Also observed were evidence of inundation, shallow root growth (with exposed lenticels) and stained leaves throughout the subject wetland areas. These features substantiate wetland (hydric) conditions.

## **CONCLUSION**

Based on the above information (including the enclosed resource information and photograph 1), two of the three wetland areas (Wetlands Areas A and C) delineated in the field by ECSI can be regarded as being Federal Jurisdictional wetlands. Essentially, wetland conditions observed in Wetlands A and C

Mr. T.J. Muldoon  
November 16, 2009  
Page 4

meet three Federal criteria (soils, vegetation and hydrology) for concluding that the areas fall under Federal Jurisdiction. Wetland Area B appears to be isolated and thus, this area may not be subject to Federal Jurisdiction. Wetland Areas A and C may also be considered by the NYSDEC to fall under their jurisdiction by way of a connection with the nearby State-designated Wetland O-33, situated south and west of the subject property site. All three wetlands fall under the jurisdiction of the Town of Yorktown (the Town's jurisdiction extends outward from the delineated limits of each wetland within a 100 foot buffer distance).

It is important to note that the NYSDEC's mapping of the project area and vicinity indicates that portions of the subject property lie within a "Wetland Checkzone" in light of the proximity of designated Wetland O-33 to that of the site. This indication is applied as a means to alert individuals to contact the State and request their involvement to determine if their jurisdiction extends into the property. In light of this, we recommend that the NYSDEC be contacted and invited to the site to confirm their jurisdiction.

In addition, the Town of Yorktown Environmental Inspector must be contacted (after initial application for Site Plan/Subdivision Approval is filed with the Town) to arrange a on-site meeting to obtain their confirmation of the limits of each of the three wetland areas.

We trust that the above information will facilitate plans for filing application for Site and Subdivision Approval with the Town of Yorktown. If you should have any questions regarding the above, please do not hesitate to contact us.

Very truly yours,

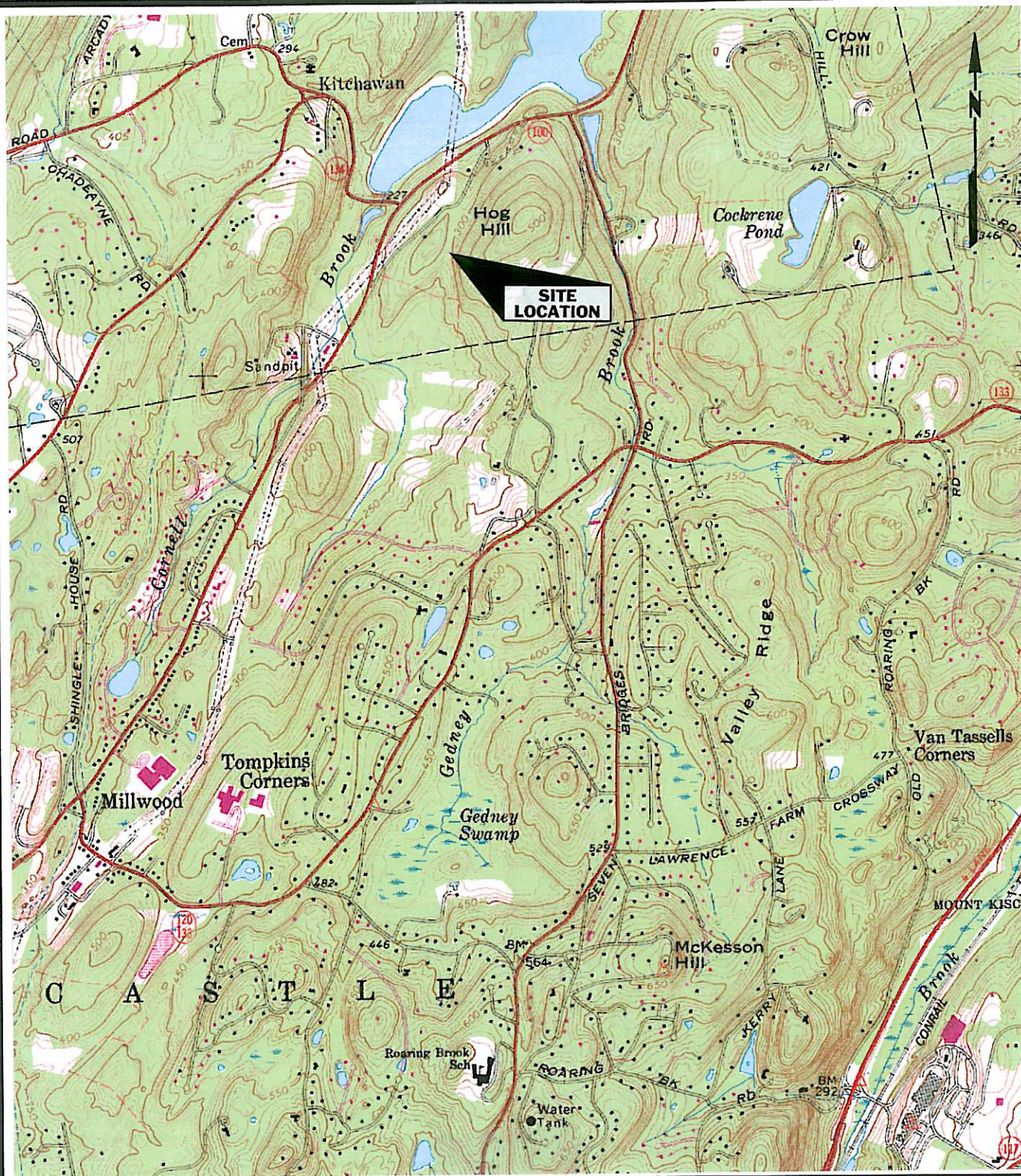
**ENVIRONMENTAL COMPLIANCE SERVICES, INC.**



Anthony P. Russo  
President

APR/hhd  
Enclosures:





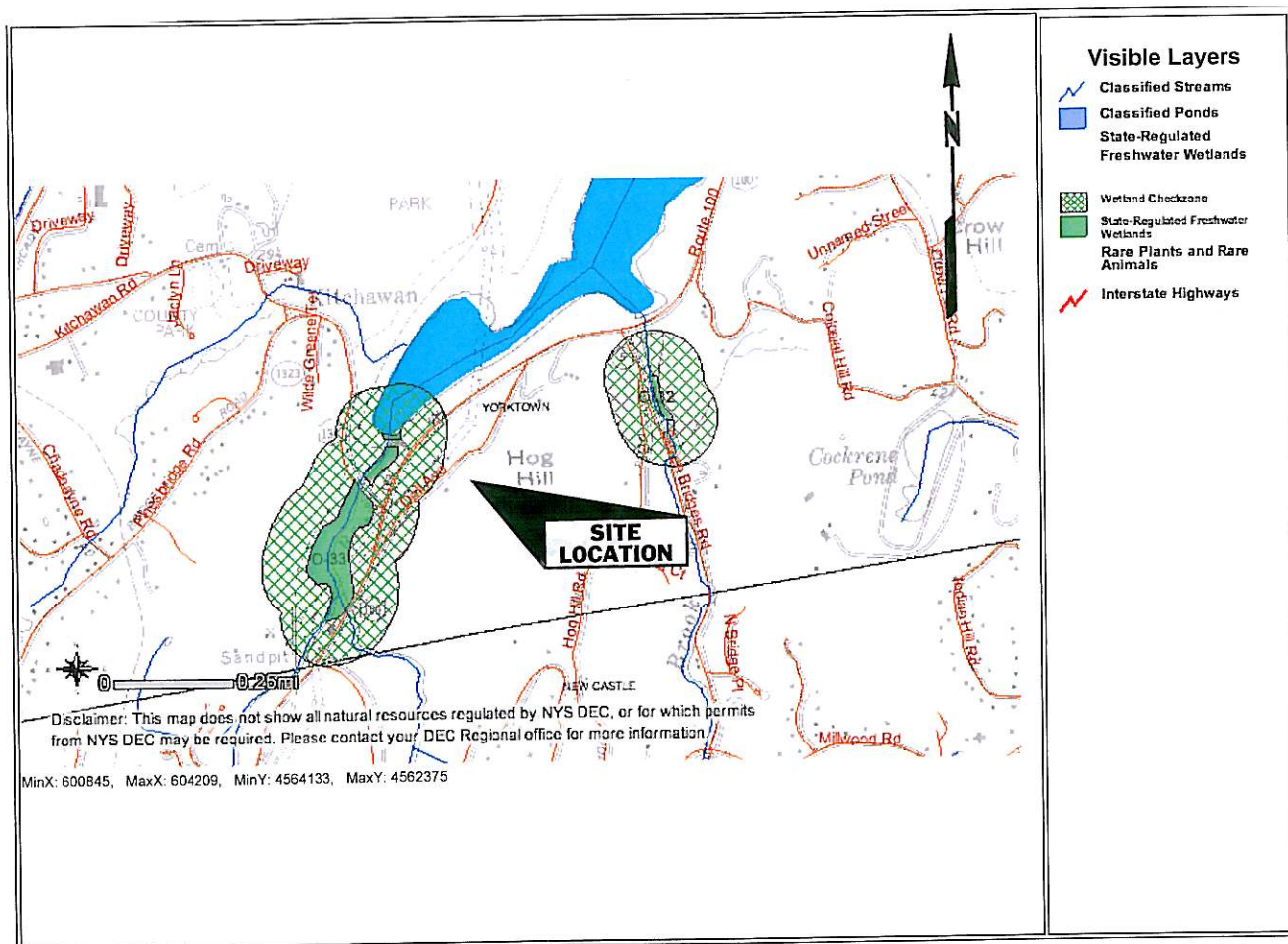
SOURCE: USGS TOPOGRAPHIC QUADRANGLE  
OF NEW YORK; OSSINING, 1967,  
PHOTOREVISED 1979

SCALE: 1 INCH = 2000 FEET

## SITE LOCATION MAP

MULDOON RESIDENTIAL  
DEVELOPMENT- HOG HILL RD.  
TOWN OF YORKTOWN HEIGHTS  
WESTCHESTER COUNTY, NY



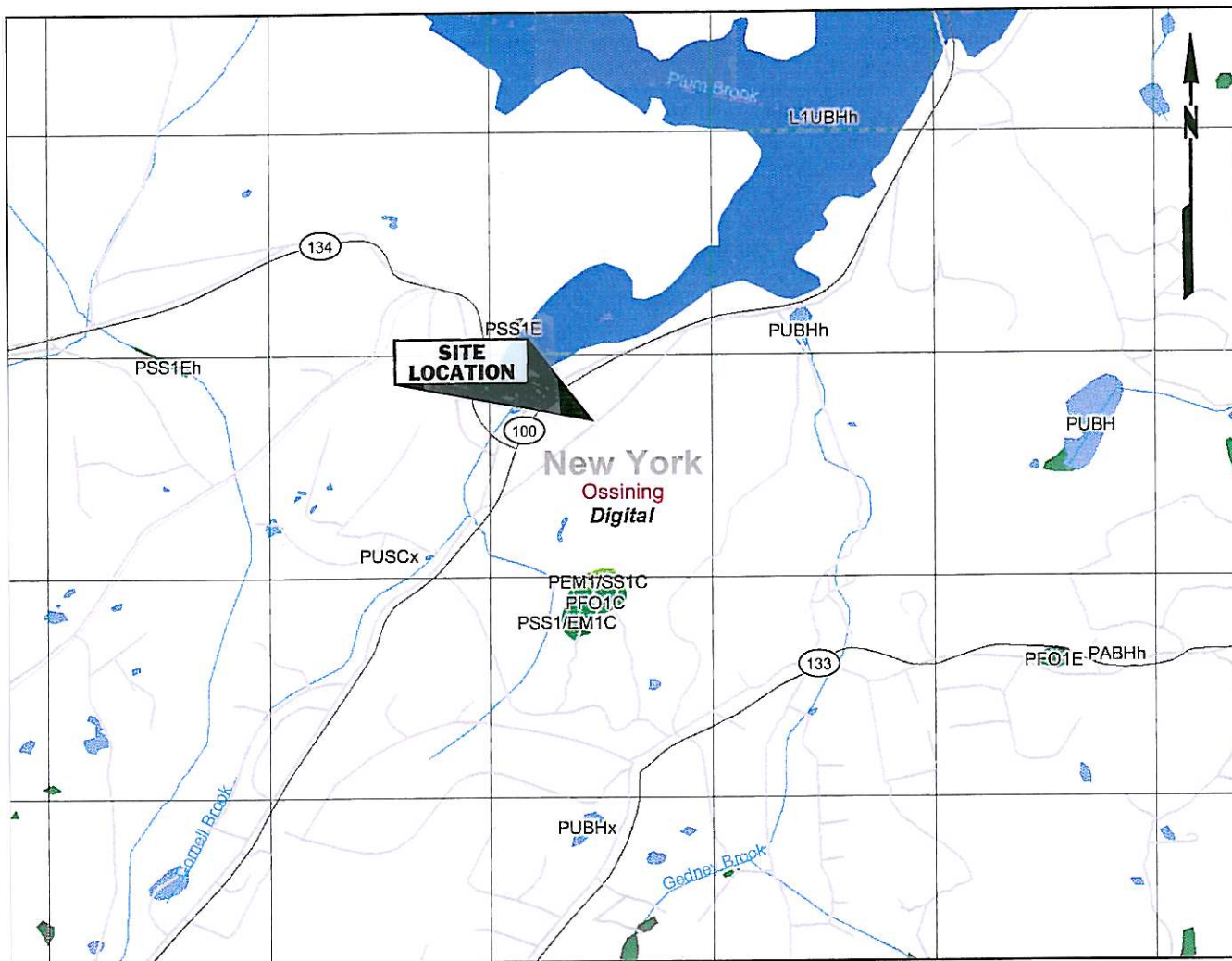


**SOURCE:** NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION;  
ENVIRONMENTAL RESOURCE MAPPER;  
<http://www.dec.ny.gov/imsmaps/ERM/viewer.htm>

**SCALE:** NOT TO SCALE

## NYSDEC WETLANDS MAP

MULDOON RESIDENTIAL  
DEVELOPMENT- HOG HILL RD.  
TOWN OF YORKTOWN HEIGHTS  
WESTCHESTER COUNTY, NY



SOURCE: U.S. FISH AND WILDLIFE SERVICE; NATIONAL  
WETLANDS INVENTORY WETLANDS MAPPER  
[Http://wetlandsfws.er.usgs.gov/imf/imf.jsp?site=NWI\\_CONUS](http://wetlandsfws.er.usgs.gov/imf/imf.jsp?site=NWI_CONUS)

SCALE: NOT TO SCALE

## NWI WETLANDS MAP

MULDOON RESIDENTIAL  
DEVELOPMENT- HOG HILL RD.  
TOWN OF YORKTOWN HEIGHTS  
WESTCHESTER COUNTY, NY

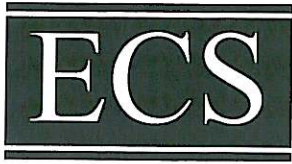




*Photo 1 - View of central portion of on-site Wetland A. Evidence of inundation and wetland vegetation in mid- and background.*

## **ADDENDUM TO ORIGINAL WETLAND DELINEATION REPORT**





Environmental  
Compliance  
Services, Inc.  
*ENVIRONMENTAL CONSULTING*

January 11, 2011

Mr. T. J. Muldoon  
P.O. Box 1132  
Yorktown Heights, New York 10598

Re: **Addendum to Our November 16, 2009 Wetland Delineation Letter Report**  
Croton Overlook Development; Section 70.15, Block 1, Lots 1 and 2  
60.48-Acre Property Site Located Along Dell Road  
Town of Yorktown, Westchester County, New York  
(ECSI Project No. 4311.WD)

Dear Mr. Muldoon:

This is to update our prior Wetland Delineation Report of November 16, 2011 to reflect wetland boundary changes which occurred subsequent to our field activities of October 29, 2009, specifically as part of wetland boundary confirmation efforts we performed on August 11, 2010 with Bruce Barber, Town of Yorktown Environmental Consultant.

In addition, this addendum provides updated information relative to confirming resource jurisdiction through the involvement of the New York State Department of Environmental Conservation (NYSDEC) as raised by Mr. Barber in a Memorandum he issued to the Town Board on November 4, 2010. His memorandum also expressed his need for additional information which is necessary for issuing a statement of boundary confirmation, as well as a suggestion to update our original Wetland Delineation Report of November 16, 2009. As of the date of this addendum report, his statement of boundary confirmation is pending.

## **WETLAND AREAS**

As reported, we originally delineated three wetland areas at the subject site on October 29, 2009. Wetlands A, B and C were flagged within the limits of the above noted property site. Delineation activities focused on applying the routine on-site method of delineation, in accordance with the guidelines presented in the US Army Corps of Engineers (USACE) 1989 Draft Wetland Delineation Manual, and the New York State Department of Environmental Conservation (NYSDEC) "Freshwater Wetland Delineation Manual" (dated July 1995). All procedures were performed and documented in accordance with the Town of Yorktown, Town Code Chapter 178 entitled "Freshwater Wetlands and Watercourse Protection Law of the Town of Yorktown."

We reviewed available resource mapping (NYSDEC Wetlands Map, National Wetlands Inventory mapping, and the Westchester County Soil Survey maps and soil descriptions published by the National Resource Conservation Service) which revealed that two of the three wetland areas (Wetlands Areas A and C) can be regarded as being Federal Jurisdictional wetlands. Wetland Area B appeared to be isolated and thus, this area may not be subject to Federal Jurisdiction. It was also reported that Wetland Areas A and C could be considered by the New York State Department of Environmental Conservation (NYSDEC) to be under their jurisdiction by way of a connection with a nearby State designated wetland (O-33) situated south and west of the subject property site. Relative to this, we also indicated in our initial report that the NYSDEC mapping we reviewed indicated that portions of the subject property lie within a "Wetland Checkzone", which is related to the proximity of designated nearby Wetland O-33. The State has mapped this checkzone to alert the public (and the NYSDEC and other agencies) that areas within the checkzone must be confirmed to determine if State jurisdiction may exist and to what extent.

## **RESULTS OF AUGUST 11, 2010 BOUNDARY DELINEATION CONFIRMATION**

On August 11, 2010, I met with Bruce Barber at the site to confirm the boundary limits of Wetlands A, B and C. Visual observations of vegetation, soils and hydrologic indicators were utilized to substantiate the wetland boundary limits delineated in the field. Wetland B, a small isolated area situated at the northern reaches of the property, was first inspected by Mr. Barber. Mr. Barber's inspection of the boundary limits originally delineated by our firm for Wetland B (flags numbered WB-1 through WB-25) concluded that the boundary was accurate and no line changes were necessary.

Wetland C, a small area situated immediately north of Wetland A, was inspected next; this area was determined to be "hydrologically connected" to the larger nearby Wetland A. Essentially, both Wetland C and A were joined to extend Wetland A further north. Flags numbered WC-1 through WC-8 were removed and additional flags were set in the field to denote a continuation of the original flag numbered WA-38; flags numbered WA-38a through WA-38j (using pink pin-flags and pink/black striped survey ribbon) were added in the field to reconfigure Wetland C as a northern extension of Wetland A. After the northern limits of Wetland A were reconfigured, the remaining flags (flags numbered WA-39 through WA-90, last on-site flag) were inspected by Mr. Barber. Mr. Barber concluded that these remaining flags accurately depict the wetland boundary limits of Wetland A and that no line changes were necessary. Given that infield changes were of short length and within a common topographic area, Mr. Barber agreed that a survey crew was not required to "pickup" the additional flags. Instead, field measurements using a survey tape and notation of field angles were utilized to later map the reconfigured portions of Wetland A.

It is important to note, it was agreed upon in the field that flags numbered WA-38 through WA-90 would be inspected as these flags represented portions of Wetland A as being closest to the limits of the proposed development. Flags numbered WA-1 through WA-37 (including a small upland area, located within the southwestern portion of Wetland A, delineated



as WA-CO 1 through WA-CO 8) were not inspected by Mr. Barber, as weather conditions on August 11th were extremely warm and unpleasant. Further, it was agreed that these flags would be inspected at a later date. More recently, an inspection was planned for December 30, 2010; unfortunately, a severe winter snow storm presented poor field conditions which resulted in the cancellation of planned field activities. As of the date of this addendum, flags numbered WA-1 through WA-37 have been verified by Mr. Barber, as noted in his memorandum of November 4, 2010.

The size of Wetland A is 12.87 acres; Wetland B is 0.07 acres in size. These areas are depicted on plan sheets entitled Conceptual Subdivision and Site Plan (C1) and Grading Plan (C2), as prepared by Lawrence Paggi, P.E., Engineer on behalf of the Croton Overlook Corporation. Copies of these plan sheets are attached.

#### **NYSDEC CHECK ZONE/JURISDICTIONAL VERIFICATION**

NYSDEC correspondence received by the Town Board as part of a SEQR Lead Agency Coordinated Review (dated August 12, 2010), documents the results of their jurisdictional file search for the property and immediately surrounding area. Their correspondence serves to confirm whether or not any State required permits may apply for the project, and clarifies matters related to the "check zone" area we had highlighted in our original Wetland Delineation Report of November 16, 2010. Based on the State's letter, no further verification or confirmation is required to be obtained from the NYSDEC; the on-site wetland are not jurisdictional to nearby State designated wetland O-33.

The above information serves to update our prior delineation report and is expected to comply with Bruce Barber's suggestion to update our prior delineation report, as issued in his Memorandum of November 4, 2010.

If you should have any questions regarding the above, please do not hesitate to contact us.

Very truly yours,  
**ENVIRONMENTAL COMPLIANCE SERVICES, INC.**



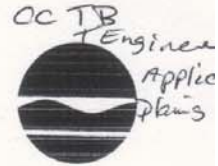
Anthony P. Russo  
President

APR/hhd  
Enclosures:

Cc: Town Board  
B. Barber, Town of Yorktown Environmental Consultant

**New York State Department of Environmental Conservation  
Division of Environmental Permits, Region 3**

21 South Platt Corners Road, New Paltz, New York 12561-1620  
Phone: (845) 256-3054 FAX: (845) 255-4659  
Website: [www.dec.ny.gov](http://www.dec.ny.gov)



Alexander B. Grannis  
Commissioner

August 12, 2010

Alice Roker, Clerk  
Town of Yorktown Town Board  
363 Underhill Avenue, P.O. Box 703  
Yorktown Heights, NY 10598

TOWN CLERK'S OFFICE

AUG 16 2010

TOWN OF YORKTOWN NY

RE: **Response on Intent to be Lead Agency**  
**Project: Croton Overlook**  
**DEC Tracking # 3-5554-00296/00002**  
**Town of Yorktown, Westchester County**

Dear Ms. Roker:

We have reviewed the Notice of Intent to be Lead Agency pursuant to the State Environmental Quality Review (SEQR) of the above referenced project which our office received on July 16, 2010.

Department Jurisdiction

Based upon our review of the circulated documents, it appears that the project may require the Department permits that are indicated below by a checked box:

- ☒ **Article 15, Protection of Waters:** See enclosed map. Any disturbance to the Class B(ts) stream, Cornell Brook, will require a permit. Any unmapped streams with year-round flow which drain into this Class B(ts) stream are also protected and disturbance will require a permit. This may include any improvements to the existing path and bridge shown on the plans.
- ☒ **Article 24, Freshwater Wetlands:** NYS freshwater wetland O-33, Class 1 is located across Saw Mill Road (NYS Route 100) from the project and DEC staff have determined that wetlands along the stream corridor of Cornell Brook are **not** eligible for inclusion under state jurisdiction. And it does not appear that the 100-foot adjacent area extends across the road onto this property.
- ☒ **State Pollutant Discharge Elimination System (SPDES), Sanitary:** A permit for the subsurface discharge of greater than 1,000 gallons per day requires a SPDES permit. As the proposed discharge will likely be greater than 10,000 gallons per day, this will be a major project under Uniform Procedures and a minimum 30-day comment period will be required.
- ☒ **Compliance with the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities (GP-0-10-001):** For proposed disturbance of 5000 square feet or more of land within the NYC DEP Watershed. This site is within an MS4 area (Municipal Separate Storm Sewer System), so the SWPPP must be reviewed and accepted by the municipality and the MS-4 Acceptance Form must be submitted to the Department. Authorization for coverage under the SPDES General Permit is not granted until the Department issues any other necessary DEC permits.
- ☒ **Other:** Section 401 of U.S. Public Law 95-217, and 33 USC 1341 of 1977, 1984, Water Quality Certification for projects requiring a federal permit. Issuance of this federal certification has been delegated to DEC in New York State. If any wetlands under jurisdiction of the Army Corp of

RE: Response on Intent to be Lead Agency  
Project: Croton Overlook  
DEC Tracking # 3-5554-00296/00002  
Town of Yorktown, Westchester County

Engineers are to be disturbed and a permit is required from the Corp, then a Water Quality Certification will be required from DEC.

By copy of this letter, we are advising project representatives of the potential need for these permits. It is possible that the New York State Department of Environmental Conservation permit requirements noted above may change based upon additional information received or as project modifications occur.

**Additional Comments**

In addition to the permit requirements noted above, the resources that are indicated below by a checked box should be evaluated during the review of this project under SEQOR:

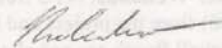
☒ **Cultural Resources:** This site is in an area determined by New York State to have potential for archeological resources. A resources assessment and review by the New York State Office of Parks, Recreation and Historic Preservation is required. potential visual impacts on the Taconic Parkway must also be considered as this is a site on the National Registry of Historic Places.

☒ **Other:** The Town of Yorktown must apply for a Water Supply permit for creation of a water district and taking of water from the NYCDEP as a third-party.

In addition to transmitting the above comments, this letter also serves to confirm that we have no objection to your board/agency assuming lead agency status for this project.

Questions pertaining to the Department's jurisdiction or related matters should be directed to the undersigned analyst assigned to the project. Please refer to the DEC project number identified above in all correspondence to the Department. Thank you.

Sincerely,

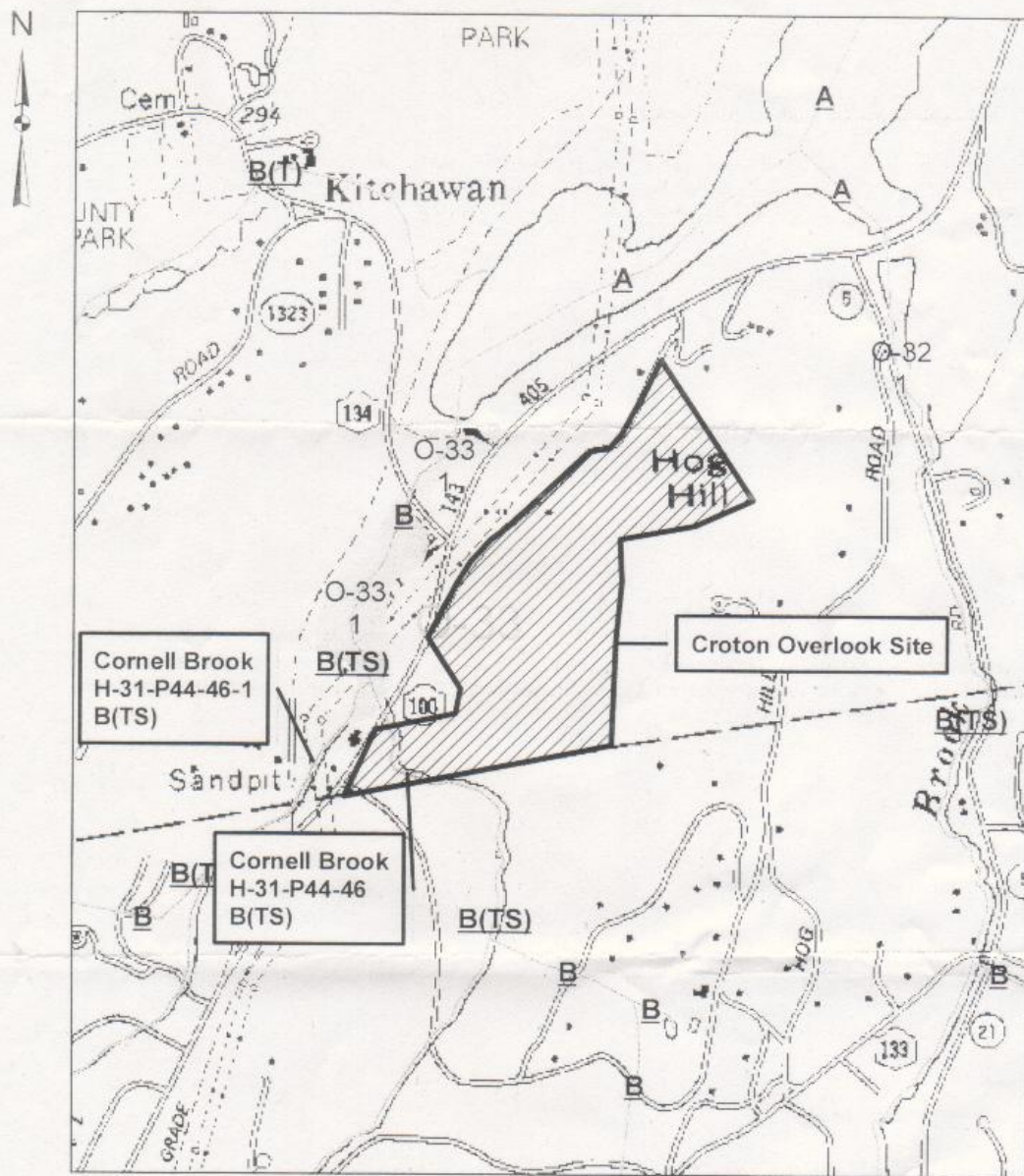


Rebecca Crist  
Environmental Analyst  
Division of Environmental Permits  
(845) 256-3014

☐ Enclosures as Indicated

Cc: Kim Calandriello, Croton Overlook Corporation  
Town of New Castle Town Board  
NYCDEP – Bureau of Water Supply, Valhalla





Croton Overlook  
East of intersection of NYS Routes 34 & 100  
T/Yorktown

Ossining Quadrangle  
NYTM's E: 602.08 N: 4562.99

Amy Daggett  
DEC Env. Permits

map for illustrative purposes only

0 0.125 0.25 0.5 Miles

**EMAIL CORRESPONDENCE FROM BRUCE BARBER**

**Heather**

---

**From:** Bruce Barber [barberbruce@yahoo.com]  
**Sent:** Friday, April 22, 2011 8:18 AM  
**To:** John Tegeder; Sharon Robinson; Susan Siegel  
**Cc:** TJ Muldoon; Tony Russo; Connor McBride  
**Subject:** Croton Overlook wetland verification  
**Attachments:** pb-croton overlook 4-22-11.docx

All,

Please see attached wetland verification confirmation.

Best,

Bruce





April 22, 2011

To: Town Board  
Planning Board

From: Bruce Barber  
Town of Yorktown Environmental Consultant

RE: **Croton Overlook Application**  
Saw Mill River Road and Dell Avenue  
Section 70.15 Block 1 Lots 1 and 2  
Town of Yorktown, New York

Please be advised a site inspection of the above referenced property was conducted on April 21, 2011 with the applicant's environmental consultant. The purpose of the site inspection was to complete the verification of the jurisdictional Town of Yorktown wetland boundary determination.

**Comments:**

Verification of the Town of Yorktown wetland boundary determination is complete. There were some minor field changes made to the wetland boundary on the site and a small, off-site wetland area adjacent to Dell Avenue was located at the time of inspection.

Please do not hesitate to contact me should you have any questions.

Sincerely,

Bruce Barber, PWS, Certified Ecologist  
Town of Yorktown Environmental Consultant

## **APPENDIX B**

### **WETLAND DELINEATION DETERMINATION DATA FORMS**

## **WETLAND A**

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Croton Overlook Development City/County: Westchester Sampling Date: 5/3/11  
 Applicant/Owner: TJ Muldoon State: NY Sampling Point: Wetland A  
 Investigator(s): A.P. Russo Section, Township, Range: Yorktown  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Convex  
 Slope (%): 0 Lat: 41.213788 Long: 73.777828 Datum: --  
 Soil Map Unit Name: Sh - Sun Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>                    </u>
Hydric Soil Present? Yes <u>X</u> No <u>    </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply)		<b>Secondary Indicators (minimum of two required)</b>
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input checked="" type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input 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)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>~1 "</u> Water Table Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>~10 "</u> Saturation Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>~3 "</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <u>X</u> No <u>    </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION – Use scientific names of plants.**Sampling Point: Wetland

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Red Maple</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)
2. <u>Shagbark Hickory</u>	<u>5</u>	<u>--</u>	<u>FACU-</u>	
3. <u>Green Ash</u>	<u>25</u>	<u>COD</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>60</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>				
1. <u>Spicebush</u>	<u>45</u>	<u>Y</u>	<u>FACW-</u>	
2. <u>American Elm</u>	<u>15</u>	<u>--</u>	<u>FACW-</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>60</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>10'</u>)</b>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Skunk Cabbage</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Garlic Mustard</u>	<u>5</u>	<u>--</u>	<u>FACU-</u>	
3. <u>American Elm Seedlings</u>	<u>10</u>	<u>--</u>	<u>FACW-</u>	
4. <u>Sensitive Fern</u>	<u>20</u>	<u>COD</u>	<u>FACW</u>	
5. <u>Marsh Fern</u>	<u>5</u>	<u>--</u>	<u>FACW</u>	
6. <u>Cinnamon Fern</u>	<u>10</u>	<u>COD</u>	<u>FACW</u>	
<u>80</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>10'</u>)</b>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. <u>Grape Vine Spp.</u>	<u>5</u>	_____	<u>N/A</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>5</u> = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____				

Remarks: (Include photo numbers here or on a separate sheet.)  
  
 COD = Co-Dominant  
 N/A = Not Applicable

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<input checked="" type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)  
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)  
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)  
☐ Dark Surface (S7) (**LRR K, L**)  
☐ Polyvalue Below Surface (S8) (**LRR K, L**)  
☐ Thin Dark Surface (S9) (**LRR K, L**)  
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)  
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)  
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if observed):

Type: Rock

Depth (inches): 14"

Hydric Soil Present? Yes X No       

Remarks:

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Croton Overlook Development City/County: Westchester Sampling Date: 5/3/11  
 Applicant/Owner: TJ Muldoon State: NY Sampling Point: Wetland A  
 Investigator(s): A.P. Russo Section, Township, Range: Yorktown  
 Landform (hillslope, terrace, etc.): 3 to 8% of slope Local relief (concave, convex, none): Convex  
 Slope (%): 3 Lat: 41.213788 Long: 73.777828 Datum: --  
 Soil Map Unit Name: WdB - Woodridge Loam NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
If yes, optional Wetland Site ID: _____	
Remarks: (Explain alternative procedures here or in a separate report.)	

## HYDROLOGY

<b>Wetland Hydrology Indicators: NONE</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		_____ Surface Soil Cracks (B6)
_____ Surface Water (A1)	_____ Water-Stained Leaves (B9)	_____ Drainage Patterns (B10)
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)	_____ Moss Trim Lines (B16)
_____ Saturation (A3)	_____ Marl Deposits (B15)	_____ Dry-Season Water Table (C2)
_____ Water Marks (B1)	_____ Hydrogen Sulfide Odor (C1)	_____ Crayfish Burrows (C8)
_____ Sediment Deposits (B2)	_____ Oxidized Rhizospheres on Living Roots (C3)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Drift Deposits (B3)	_____ Presence of Reduced Iron (C4)	_____ Stunted or Stressed Plants (D1)
_____ Algal Mat or Crust (B4)	_____ Recent Iron Reduction in Tilled Soils (C6)	_____ Geomorphic Position (D2)
_____ Iron Deposits (B5)	_____ Thin Muck Surface (C7)	_____ Shallow Aquitard (D3)
_____ Inundation Visible on Aerial Imagery (B7)	_____ Other (Explain in Remarks)	_____ Microtopographic Relief (D4)
_____ Sparsely Vegetated Concave Surface (B8)		_____ FAC-Neutral Test (D5)
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No _____ Depth (inches): _____	Water Table Present? Yes _____ No _____ Depth (inches): _____	
Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION – Use scientific names of plants.**Sampling Point: Upland

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Red Maple</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>0.5</u> (A/B)
2. <u>Sugar Maple</u>	<u>10</u>	<u>--</u>	<u>FACU-</u>	
3. <u>Shagbark Hickory</u>	<u>20</u>	<u>COD</u>	<u>FACU-</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>55</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>--</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>--</u> = Total Cover				
Herb Stratum (Plot size: <u>15'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Garlic Mustard</u>	<u>35</u>	<u>Y</u>	<u>FACU-</u>	
2. <u>Red Maple Seedlings</u>	<u>5</u>	<u>--</u>	<u>FAC</u>	
3. <u>Common Blue Violet</u>	<u>10</u>	<u>COD</u>	<u>FAC-</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Woody Vine Stratum (Plot size: _____ )				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)  <div style="margin-left: 40px;">COD = Co-Dominant</div>				



[illegible]

## **WETLAND B**

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Croton Overlook Development City/County: Westchester Sampling Date: 5/3/11  
 Applicant/Owner: TJ Muldoon State: NY Sampling Point: Wetland  
 Investigator(s): A.P. Russo Section, Township, Range: Yorktown  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Convex  
 Slope (%): 2-3% Lat: 41.213788 Long: 73.777828 Datum: --  
 Soil Map Unit Name: CrC - Charlton-Chatfield NWI classification: Palustrian

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u>    </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>    </u>
Hydric Soil Present? Yes <u>X</u> No <u>    </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	
If yes, optional Wetland Site ID: <u>    </u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>	
Primary Indicators (minimum of one is required; check all that apply)			
<u>X</u> Surface Water (A1)	<u>X</u> Water-Stained Leaves (B9)	<u>    </u> Surface Soil Cracks (B6)	
<u>X</u> High Water Table (A2)	<u>    </u> Aquatic Fauna (B13)	<u>    </u> Drainage Patterns (B10)	
<u>    </u> Saturation (A3)	<u>    </u> Marl Deposits (B15)	<u>    </u> Moss Trim Lines (B16)	
<u>    </u> Water Marks (B1)	<u>    </u> Hydrogen Sulfide Odor (C1)	<u>    </u> Dry-Season Water Table (C2)	
<u>    </u> Sediment Deposits (B2)	<u>X</u> Oxidized Rhizospheres on Living Roots (C3)	<u>    </u> Crayfish Burrows (C8)	
<u>    </u> Drift Deposits (B3)	<u>X</u> Presence of Reduced Iron (C4)	<u>    </u> Saturation Visible on Aerial Imagery (C9)	
<u>    </u> Algal Mat or Crust (B4)	<u>    </u> Recent Iron Reduction in Tilled Soils (C6)	<u>    </u> Stunted or Stressed Plants (D1)	
<u>    </u> Iron Deposits (B5)	<u>    </u> Thin Muck Surface (C7)	<u>    </u> Geomorphic Position (D2)	
<u>X</u> Inundation Visible on Aerial Imagery (B7)	<u>    </u> Other (Explain in Remarks)	<u>    </u> Shallow Aquitard (D3)	
<u>    </u> Sparsely Vegetated Concave Surface (B8)		<u>    </u> Microtopographic Relief (D4)	
		<u>    </u> FAC-Neutral Test (D5)	
<b>Field Observations:</b>			
Surface Water Present? Yes <u>X</u> No <u>    </u>	Depth (inches): <u>1-4"</u>	Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	
Water Table Present? Yes <u>X</u> No <u>    </u>	Depth (inches): <u>~15"</u>		
Saturation Present? Yes <u>X</u> No <u>    </u>	Depth (inches): <u>~12"</u>		
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

**VEGETATION – Use scientific names of plants.**

Wtld B

Sampling Point: Wetland

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Green Ash</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A/B)														
2. <u>Shagbark Hickory</u>	<u>5</u>	<u>COD</u>	<u>FACU-</u>															
3. <u>Red Maple</u>	<u>15</u>	<u>COD</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>30</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____ (A)</td> <td>_____ (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____ (A)	_____ (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = _____																	
FACW species _____	x 2 = _____																	
FAC species _____	x 3 = _____																	
FACU species _____	x 4 = _____																	
UPL species _____	x 5 = _____																	
Column Totals: _____ (A)	_____ (B)																	
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
_____ = Total Cover																		
<b>Herb Stratum (Plot size: <u>10'</u> )</b>																		
1. <u>Multiflora Rose</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
2. <u>Jewel Weed</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Sensitive Fern</u>	<u>20</u>	<u>COD</u>	<u>FACW</u>															
4. <u>Stilt Grass</u>	<u>40</u>	<u>N</u>	<u>FAC</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>100</u> = Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
<b>Woody Vine Stratum (Plot size: _____ )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)  <div style="margin-left: 40px;">COD = Co-</div>																		

[illegible]

**Hydric Soil Indicators:**

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)  
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)  
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)  
☐ Dark Surface (S7) (**LRR K, L**)  
☐ Polyvalue Below Surface (S8) (**LRR K, L**)  
☐ Thin Dark Surface (S9) (**LRR K, L**)  
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)  
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)  
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: Rock

Depth (inches): 16 Inches

Hydric Soil Present? Yes X No       

Northcentral and Northeast Region – Interim Version

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Croton Overlook Development City/County: Westchester Sampling Date: 5/3/11  
 Applicant/Owner: TJ Muldoon State: NY Sampling Point: Wetland B  
 Investigator(s): A. P. Russo Section, Township, Range: Yorktown  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Convex  
 Slope (%): 1 Lat: 41.213788 Long: 73.777828 Datum: --  
 Soil Map Unit Name: CrC - Charlton-Chatfield NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>    </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u>    </u> No <u>X</u>
Hydric Soil Present? Yes <u>    </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	
If yes, optional Wetland Site ID: <u>                    </u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>NONE</u>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>    </u> Surface Soil Cracks (B6)
<u>    </u> Surface Water (A1)	<u>    </u> Water-Stained Leaves (B9)	<u>    </u> Drainage Patterns (B10)
<u>    </u> High Water Table (A2)	<u>    </u> Aquatic Fauna (B13)	<u>    </u> Moss Trim Lines (B16)
<u>    </u> Saturation (A3)	<u>    </u> Marl Deposits (B15)	<u>    </u> Dry-Season Water Table (C2)
<u>    </u> Water Marks (B1)	<u>    </u> Hydrogen Sulfide Odor (C1)	<u>    </u> Crayfish Burrows (C8)
<u>    </u> Sediment Deposits (B2)	<u>    </u> Oxidized Rhizospheres on Living Roots (C3)	<u>    </u> Saturation Visible on Aerial Imagery (C9)
<u>    </u> Drift Deposits (B3)	<u>    </u> Presence of Reduced Iron (C4)	<u>    </u> Stunted or Stressed Plants (D1)
<u>    </u> Algal Mat or Crust (B4)	<u>    </u> Recent Iron Reduction in Tilled Soils (C6)	<u>    </u> Geomorphic Position (D2)
<u>    </u> Iron Deposits (B5)	<u>    </u> Thin Muck Surface (C7)	<u>    </u> Shallow Aquitard (D3)
<u>    </u> Inundation Visible on Aerial Imagery (B7)	<u>    </u> Other (Explain in Remarks)	<u>    </u> Microtopographic Relief (D4)
<u>    </u> Sparsely Vegetated Concave Surface (B8)		<u>    </u> FAC-Neutral Test (D5)
<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b> Yes <u>    </u> No <u>X</u>
Surface Water Present? Yes <u>    </u> No <u>X</u> Depth (inches): <u>            </u> Water Table Present? Yes <u>    </u> No <u>X</u> Depth (inches): <u>            </u> Saturation Present? Yes <u>    </u> No <u>X</u> Depth (inches): <u>            </u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION – Use scientific names of plants.**

Wtld B

Sampling Point: Upland

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Red Maple</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>0.25</u> (A/B)
2. <u>Sugar Maple</u>	<u>10</u>	<u>--</u>	<u>FACU-</u>	
3. <u>White Ash</u>	<u>20</u>	<u>COD</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
			<u>55</u> = Total Cover	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
			_____ = Total Cover	
Herb Stratum (Plot size: <u>10'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. <u>Christmas Fern</u>	<u>5</u>	<u>N</u>	<u>FACU-</u>	
2. <u>Common Blue Violet</u>	<u>25</u>	<u>COD</u>	<u>FAC-</u>	
3. <u>Garlic Mustard</u>	<u>35</u>	<u>Y</u>	<u>FACU-</u>	
4. <u>Wild Onion</u>	<u>15</u>	<u>N</u>	<u>N/A</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
			_____ = Total Cover	
Woody Vine Stratum (Plot size: _____ )				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
			_____ = Total Cover	
Remarks: (Include photo numbers here or on a separate sheet.)  <div style="margin-left: 40px;">                         COD = Co-Dominant                          N/A = Not Applicable                     </div>				

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

## SOIL

Wtld B

Sampling Point: Upland

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)  
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)  
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)  
☐ Dark Surface (S7) (**LRR K, L**)  
☐ Polyvalue Below Surface (S8) (**LRR K, L**)  
☐ Thin Dark Surface (S9) (**LRR K, L**)  
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)  
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)  
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if observed):

Type: Rock

Depth (inches): 18 Inches

Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:

## **APPENDIX C**

### **FIELD PHOTOGRAPHS 1 THROUGH 8**





*Photo No. 1 - East view of wetland sample point in Wetland A.*



*Photo No. 2 - View of shovel dig within Wetland A; water table encountered within 12 inches of surface. Soil is saturated.*





*Photo No. 3 - North view of upland sample point adjoining Wetland A boundary.*



*Photo No. 4 - View of upland shovel dig adjacent to Wetland A; a brown to light-brown silty-sandy soil loam was observed.*





*Photo No. 5 - North view of Wetland sample point within Wetland B.*



*Photo No. 6 - View of shovel dig within Wetland B; orange mottles depicted within moist soils as shown on shovel blade.*





*Photo No. 7 - South view of upland sample point adjoining Wetland B.*



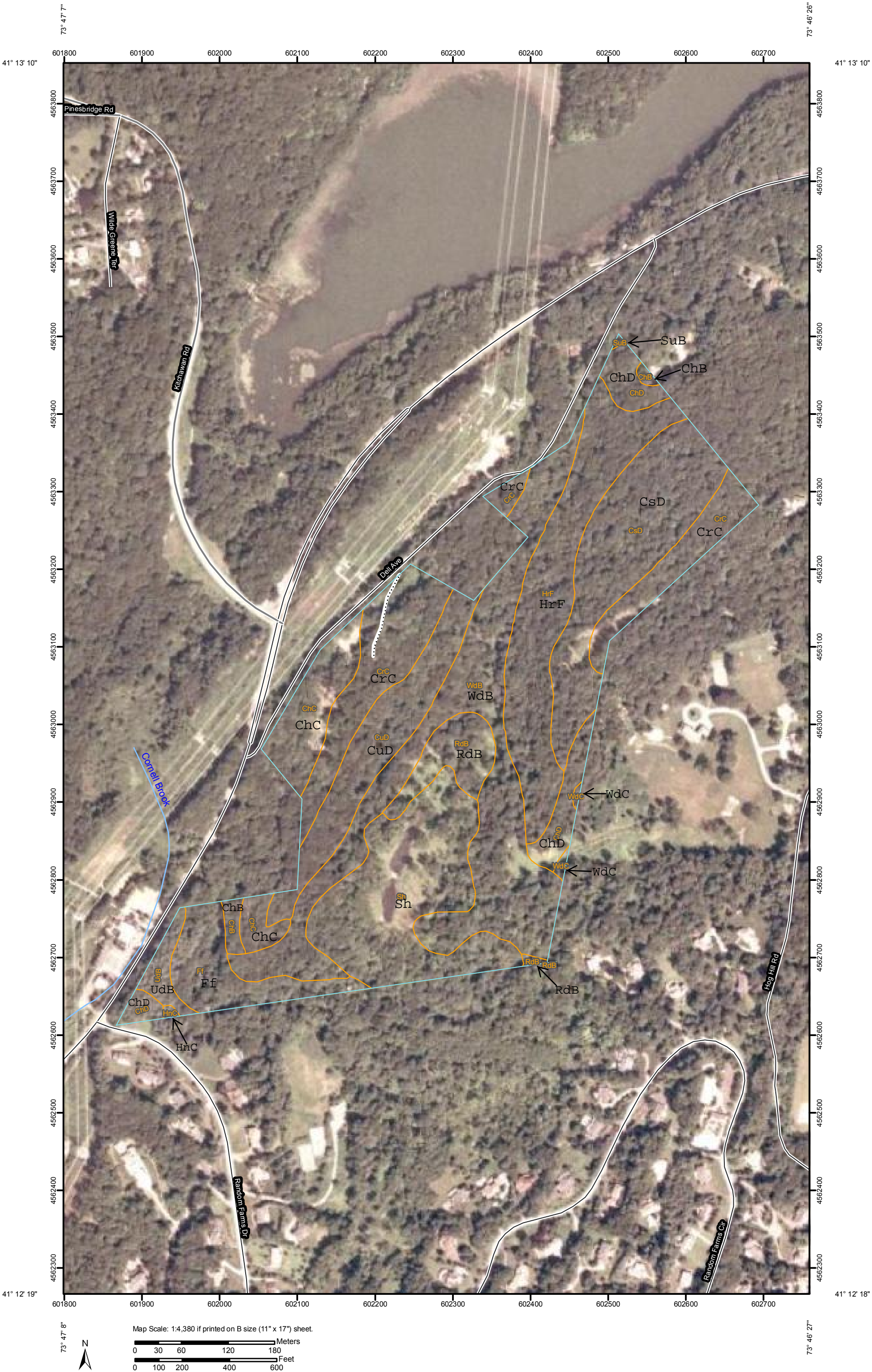
*Photo No. 8 - View of upland shovel dig adjacent to Wetland B; a brown to light-brown silty-sandy loam soils was observed.*

**APPENDIX D**

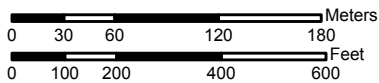
**SOIL MAP AND TABULATION**



Soil Map—Westchester County, New York  
(Croton Overlook Development)



Map Scale: 1:4,380 if printed on B size (11" x 17") sheet.



Soil Map—Westchester County, New York  
(Croton Overlook Development)

## MAP LEGEND

### Area of Interest (AOI)




 Area of Interest (AOI)

### Soils




 Soil Map Units

### Special Point Features

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

-  Very Stony Spot
-  Wet Spot
-  Other



### Special Line Features

-  Gully
-  Short Steep Slope
-  Other






### Political Features

-  Cities

### Water Features

-  Oceans
-  Streams and Canals

### Transportation

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

## MAP INFORMATION

Map Scale: 1:4,380 if printed on B size (11" × 17") sheet.

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
Coordinate System: UTM Zone 18N NAD83

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

Soil Survey Area: Westchester County, New York  
Survey Area Data: Version 6, Mar 10, 2011

Date(s) aerial images were photographed: 7/31/2006

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



## Map Unit Legend

Westchester County, New York (NY119)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ChB	Charlton loam, 2 to 8 percent slopes	0.5	0.7%
ChC	Charlton loam, 8 to 15 percent slopes	3.7	5.5%
ChD	Charlton loam, 15 to 25 percent slopes	2.8	4.1%
CrC	Charlton-Chatfield complex, rolling, very rocky	7.8	11.4%
CsD	Chatfield-Charlton complex, hilly, very rocky	8.5	12.6%
CuD	Chatfield-Hollis-Rock outcrop complex, hilly	5.1	7.6%
Ff	Fluvaquents-Udifluvents complex, frequently flooded	3.3	4.8%
HnC	Hinckley gravelly loamy sand, 8 to 15 percent slopes	0.1	0.1%
HrF	Hollis-Rock outcrop complex, very steep	8.9	13.1%
RdB	Ridgebury loam, 3 to 8 percent slopes	2.2	3.3%
Sh	Sun loam	9.8	14.5%
SuB	Sutton loam, 3 to 8 percent slopes	0.0	0.1%
UdB	Unadilla silt loam, 2 to 6 percent slopes	0.9	1.3%
WdB	Woodbridge loam, 3 to 8 percent slopes	14.2	20.8%
WdC	Woodbridge loam, 8 to 15 percent slopes	0.1	0.2%
<b>Totals for Area of Interest</b>		<b>67.9</b>	<b>100.0%</b>



**APPENDIX E**

**WETLAND INVENTORY DATA SHEETS**

**EIGHT FUNCTIONAL MODEL WORKSHEETS**

## **WETLAND INVENTORY DATA SHEETS**

## **WETLAND A**

WETLAND INVENTORY DATA

Project Number: Croton Overlook Development Date: 5/12/11  
Wetland Number: Wetland A  
Aerial Photo Numbers: Bing Maps - "Birds-Eye View"  
USGS Quadrangle: Ossining, NY Quadrangle  
Field Investigators: A.P. Russo

PART 1 - CHARACTERIZATION of WETLAND

SURFACE WATER FLOW VECTORS		PLANT SPECIES	
Condition	Percent/Acreage		
	X	Depressional	Red Maple
	X	Slope	Shagbark Hickory
		Flat	Green Ash
		Extensive Peatland	Spicebush
		Lacustrine Fringe	American Elm
	X	Riverine	Skunk Cabbage

VEGETATION TYPES		SOIL TYPES	
Type	Percent/Acreage		
Forested Wetland			
Evergreen			
Needle-leaved			
Deciduous			
Broad-leaved	70/5		
Needle-leaved			
Scrub Shrub			
Evergreen			
Broad-leaved			
Needle-leaved			
Deciduous			
Broad-leaved	15/3		
Needle-leaved			
Emergent Wetland			
Persistent	10/3		
Non-persistent			
Aquatic Bed	5/1		
Total	100/12		

GEOLOGY	
Surficial:	
X	

PRE-EMPTIVE STATUS	
Public ownership	Documented habitat for state or federal listed species
Wildlife management area	Regionally scarce wetland category
Fisheries management area	Historic/archaeologic area
X Designated State or Federal protected wetland	

WETLAND INVENTORY DATA (continued)

PART 2 - CHARACTERIZATION of MODEL VARIABLES

LANDSCAPE VARIABLES	
Size: <input type="checkbox"/> Small (<10 acres) <input type="checkbox"/> Medium (10-100 acres) <input type="checkbox"/> Large (>100 acres)	
Wetland Juxtaposition: <input type="checkbox"/> Connected Upstream and Downstream <input type="checkbox"/> Only Connected Above <input type="checkbox"/> Only Connected Below <input type="checkbox"/> Other Wetlands Nearby but not Connected <input type="checkbox"/> Wetland Isolated	
Fire Occurrence and Frequency: <input type="checkbox"/> Natural; Predictable Frequency <input type="checkbox"/> Natural; Sporadic Frequency <input type="checkbox"/> Human-caused; Predictable <input type="checkbox"/> Human-caused; Sporadic <input type="checkbox"/> Rare Event <input type="checkbox"/> No Evidence	
Regional Scarcity: <input type="checkbox"/> Not Scarce (>5% of total wetland area of region) <input type="checkbox"/> Scarce (<5% of total wetland area of region)	
Watershed Land Use: <input type="checkbox"/> > 50% urbanized <input type="checkbox"/> 25-50% urbanized <input type="checkbox"/> 0-25% urbanized	

HYDROLOGIC VARIABLES	
Surface Water Level Fluctuation of Wetland: <input type="checkbox"/> High Fluctuation <input type="checkbox"/> Low Fluctuation <input type="checkbox"/> Never Inundated	
Frequency of Overbank Flooding: <input type="checkbox"/> Return Interval > 5 yrs. <input type="checkbox"/> Return Interval 2-5 yrs. <input type="checkbox"/> Return Interval 1-2 yrs. <input type="checkbox"/> No Overbank Flooding	
pH: <input type="checkbox"/> Acid <5.5 <input type="checkbox"/> Circumneutral 5.5-7.4 <input type="checkbox"/> Alkaline >7.4 <input type="checkbox"/> No Water	
Surficial Geologic Deposit Under Wetland <input type="checkbox"/> Low Permeability Stratified Deposits <input type="checkbox"/> High Permeability Stratified Deposits <input type="checkbox"/> Glacial Till	
Wetland Land Use: <input type="checkbox"/> High Intensity (i.e. agriculture) <input type="checkbox"/> Moderate Intensity (i.e. forestry) <input type="checkbox"/> Low Intensity (i.e. open space)	
Wetland Water Regime: <input type="checkbox"/> Wet; Perm Flooded, Intermittently Exposed, Semiperm. Flooded <input type="checkbox"/> Drier: Seasonally Flooded, Temporarily Flooded, Saturated	
Basin Topographic Gradient: <input type="checkbox"/> High Gradient >2% <input type="checkbox"/> Low Gradient <2%	
Degree of Outlet Restriction: <input type="checkbox"/> Restricted Outflow <input type="checkbox"/> Unrestricted Outflow <input type="checkbox"/> No Outflow	
Ratio of Wetland Area to Watershed Area: <input type="checkbox"/> High >10% <input type="checkbox"/> Low <10%	

MICRORELIEF of Wetland Surface:	
<input type="checkbox"/> Pronounced >45 cm <input type="checkbox"/> Well Developed 15-45 cm <input type="checkbox"/> Poorly Developed <15 cm <input type="checkbox"/> Absent	
Inlet/Outlet Class: <input type="checkbox"/> No Inlet/No Outlet <input type="checkbox"/> No Inlet/Intermittent Outlet <input type="checkbox"/> No Inlet/Perennial Outlet <input type="checkbox"/> Intermittent Inlet/No Outlet <input type="checkbox"/> Intermittent Inlet/Intermittent Outlet <input type="checkbox"/> Intermittent Outlet/Perennial Outlet <input type="checkbox"/> Perennial Inlet/No Outlet <input type="checkbox"/> Perennial Inlet/Intermittent Outlet <input type="checkbox"/> Perennial Inlet/Perennial Outlet	
Nested Piezometer Data: <input type="checkbox"/> Recharge <input type="checkbox"/> Discharge <input type="checkbox"/> Horizontal Flow <input type="checkbox"/> Not Available	
Relationship of Wetlands' Substrate Elevation to Regional Piezometric Surface: <input type="checkbox"/> Piez. Surface Above or at Substrate elev. <input type="checkbox"/> Piez. Surface below Substrate elev. <input type="checkbox"/> Not Available	
Evidence of Sedimentation: <input type="checkbox"/> No Evidence Observed <input type="checkbox"/> Sediment Observed on Wetland Substrate <input type="checkbox"/> Fluviogent Soils	
Evidence of Seeps and Springs: <input type="checkbox"/> No Seeps or Springs <input type="checkbox"/> Seeps Observed <input type="checkbox"/> Perennial Spring <input type="checkbox"/> Intermittent Spring	

SOIL VARIABLES	
Soil Lacking: <input type="checkbox"/>	
Histosol: <input type="checkbox"/> Fibric <input type="checkbox"/> Hemic <input type="checkbox"/> Sapric	
Mineral Hydric Soil: <input type="checkbox"/> Gravelly <input type="checkbox"/> Sandy <input type="checkbox"/> Silty <input type="checkbox"/> Clayey	

VEGETATION VARIABLES	
Vegetation Lacking: <input type="checkbox"/>	
Dominant Wetland Type: <input type="checkbox"/> Forested - Evergreen - Needle-leaved <input type="checkbox"/> Forested - Deciduous - Broad-leaved <input type="checkbox"/> Forested - Deciduous - Needle-leaved <input type="checkbox"/> Scrub Shrub - Evergreen - Broad-leaved <input type="checkbox"/> Scrub Shrub - Evergreen - Needle-leaved <input type="checkbox"/> Scrub Shrub - Deciduous - Broad-leaved <input type="checkbox"/> Scrub Shrub - Deciduous - Needle-leaved <input type="checkbox"/> Emergent - Persistent <input type="checkbox"/> Emergent - Non-persistent <input type="checkbox"/> Aquatic Bed	

Number of Types & Relative Proportions:	
Number of Types	Evenness of Distribution
<input type="checkbox"/> Actual #	<input type="checkbox"/> Even Distribution
<input type="checkbox"/> 5	<input type="checkbox"/> Moderately Even Distribution
<input type="checkbox"/> 4	<input type="checkbox"/> Highly Uneven Distribution
<input type="checkbox"/> 3	
<input type="checkbox"/> 2	
<input type="checkbox"/> 1	

Vegetation Density/Dominance:	
<input type="checkbox"/> Sparse (0-20%)	
<input type="checkbox"/> Low Density (20-40%)	
<input type="checkbox"/> Medium Density (40-60%)	
<input type="checkbox"/> High Density (60-80%)	
<input type="checkbox"/> Very High Density (80-100%)	

Vegetative Interspersion:	
<input type="checkbox"/> High (small groupings, diverse and interspersed)	
<input type="checkbox"/> Moderate (broken irregular rings)	
<input type="checkbox"/> Low (large patches, concentric rings)	

Number of Layers and Percent Cover:	
Number of Layers	% Cover
<input type="checkbox"/> 6 or > (actual #)	1. submergents:
<input type="checkbox"/> 5	2. floating:
<input type="checkbox"/> 4	3. moss-lichen:
<input type="checkbox"/> 3	4. short herb:
<input type="checkbox"/> 2	5. tall herb:
<input type="checkbox"/> 1	6. dwarf shrub:
	7. short shrub:
	8. tall shrub:
	9. sapling:
	10. tree:

Plant Species Diversity:	
<input type="checkbox"/> Low 1-2 plots sampled	
<input type="checkbox"/> Medium 3-4 plots sampled	
<input type="checkbox"/> High 5 or more plots sampled	

Proportion of Animal Food Plants:	
<input type="checkbox"/> Low (5-25% cover)	
<input type="checkbox"/> Medium (25-50% cover)	
<input type="checkbox"/> High (>50% cover)	

Cover Distribution:	
<input type="checkbox"/> Continuous Cover	
<input type="checkbox"/> Small Scattered Patches	
<input type="checkbox"/> 1 or More Large Patches; Parts of Site Open	
<input type="checkbox"/> Solitary, Scattered Stems	

Dead Woody Material:	
<input type="checkbox"/> Abundant (>50 of wetland surface)	
<input type="checkbox"/> Moderately Abundant (25-50% of surface)	
<input type="checkbox"/> Low Abundance (0-25% of surface)	

Interspersion of Cover and Open Water:	
<input type="checkbox"/> 26-75% Scattered or Peripheral	
<input type="checkbox"/> >75% Scattered or Peripheral	
<input type="checkbox"/> <25% Scattered or Peripheral	
<input type="checkbox"/> 100% Cover or Open Water	

Stream Sinuosity:	
<input type="checkbox"/> Highly Convoluted (Index 1.50 or >)	
<input type="checkbox"/> Moderately Convoluted (Index 1.25-1.50)	
<input type="checkbox"/> Straight/Slightly Irreg. (Index) 1.10-1.25	

Presence of Islands:	
<input type="checkbox"/> Several to Many	
<input type="checkbox"/> One or Few	
<input type="checkbox"/> Absent	

## **WETLAND B**



WETLAND INVENTORY DATA

Project Number: Croton Overlook Development Date: 5/12/11  
Wetland Number: Wetland B  
Aerial Photo Numbers: Bing Maps - "Birds-Eye View"  
USGS Quadrangle: Ossining, NY Quadrangle  
Field Investigators: A.P. Russo

PART 1 - CHARACTERIZATION of WETLAND

SURFACE WATER FLOW VECTORS		PLANT SPECIES	
Condition	Percent/Acreage		OW FW F FU OU DOM OCC C S TS LS H
	X	Depressional	Green Ash
	X	Slope	Red Maple
		Flat	Shagbark Hickory
		Extensive Peatland	Multiflora Rose
		Lacustrine Fringe	Jewel Weed
		Riverine	Sensitive Fern
			Stilt Grass

VEGETATION TYPES		SOIL TYPES	
Type	Percent/Acreage		
Forested Wetland			
Evergreen			
Needle-leaved			
Deciduous	65/0.04		
Broad-leaved			
Needle-leaved			
Scrub Shrub			
Evergreen			
Broad-leaved			
Needle-leaved			
Deciduous			
Broad-leaved			
Needle-leaved			
Emergent Wetland			
Persistent	45/0.03		
Non-persistent			
Aquatic Bed			
Total	100/0.07		

GEOLOGY	
Surficial:	Bedrock:
X	

PRE-EMPTIVE STATUS	
Public ownership	Documented habitat for state or federal listed species
Wildlife management area	
Fisheries management area	
Designated State or Federal protected wetland	

WETLAND INVENTORY DATA (continued)

PART 2 - CHARACTERIZATION of MODEL VARIABLES

LANDSCAPE VARIABLES		MICRORELIEF of Wetland Surface:		Number of Types & Relative Proportions:	
Size:		<input type="checkbox"/> Pronounced >45 cm		Number of Types	Evenness of Distribution
<input type="checkbox"/> Small (<10 acres)		<input type="checkbox"/> Well Developed 15-45 cm		<input type="checkbox"/> Actual #	<input type="checkbox"/> Even Distribution
<input type="checkbox"/> Medium (10-100 acres)		<input type="checkbox"/> Poorly Developed <15 cm		<input type="checkbox"/> 5	<input type="checkbox"/> Moderately Even Distribution
<input type="checkbox"/> Large (>100 acres)		<input type="checkbox"/> Absent		<input type="checkbox"/> 4	<input type="checkbox"/> Highly Uneven Distribution
Wetland Juxtaposition:		Inlet/Outlet Class:		<input type="checkbox"/> 3	
<input type="checkbox"/> Connected Upstream and Downstream		<input type="checkbox"/> No Inlet/No Outlet		<input type="checkbox"/> 2	
<input type="checkbox"/> Only Connected Above		<input type="checkbox"/> No Inlet/Intermittent Outlet		<input type="checkbox"/> 1	
<input type="checkbox"/> Only Connected Below		<input type="checkbox"/> No Inlet/Perennial Outlet			
<input type="checkbox"/> Other Wetlands Nearby but not Connected		<input type="checkbox"/> Intermittent Inlet/No Outlet			
<input type="checkbox"/> Wetland Isolated		<input type="checkbox"/> Intermittent Inlet/Intermittent Outlet			
Fire Occurrence and Frequency:		<input type="checkbox"/> Perennial Inlet/No Outlet			
<input type="checkbox"/> Natural; Predictable Frequency		<input type="checkbox"/> Perennial Inlet/Intermittent Outlet			
<input type="checkbox"/> Natural; Sporadic Frequency		<input type="checkbox"/> Perennial Inlet/Perennial Outlet			
<input type="checkbox"/> Human-caused; Predictable					
<input type="checkbox"/> Human-caused; Sporadic					
<input type="checkbox"/> Rare Event					
<input type="checkbox"/> No Evidence					
Regional Scarcity:		Nested Piezometer Data:			
<input type="checkbox"/> Not Scarce (>5% of total wetland area of region)		<input type="checkbox"/> Recharge			
<input type="checkbox"/> Scarce (<5% of total wetland area of region)		<input type="checkbox"/> Discharge			
Watershed Land Use:		<input type="checkbox"/> Horizontal Flow			
<input type="checkbox"/> > 50% urbanized		<input type="checkbox"/> Not Available			
<input type="checkbox"/> 25-50% urbanized					
<input type="checkbox"/> 0-25% urbanized					
HYDROLOGIC VARIABLES		Relationship of Wetlands' Substrate Elevation to Regional Piezometric Surface:		Vegetation Density/Dominance:	
Surface Water Level Fluctuation of Wetland:		<input type="checkbox"/> Piez. Surface Above or at Substrate elev.		<input type="checkbox"/> Sparse (0-20%)	
<input type="checkbox"/> High Fluctuation		<input type="checkbox"/> Piez. Surface below Substrate elev.		<input type="checkbox"/> Low Density (20-40%)	
<input type="checkbox"/> Low Fluctuation		<input type="checkbox"/> Not Available		<input type="checkbox"/> Medium Density (40-60%)	
<input type="checkbox"/> Never Inundated				<input type="checkbox"/> High Density (60-80%)	
Frequency of Overbank Flooding:		Evidence of Sedimentation:		<input type="checkbox"/> Very High Density (80-100%)	
<input type="checkbox"/> Return Interval > 5 yrs.		<input type="checkbox"/> No Evidence Observed			
<input type="checkbox"/> Return Interval 2-5 yrs.		<input type="checkbox"/> Sediment Observed on Wetland Substrate			
<input type="checkbox"/> Return Interval 1-2 yrs.		<input type="checkbox"/> Fluvial Soils			
<input type="checkbox"/> No Overbank Flooding					
pH:		Evidence of Seeps and Springs:			
<input type="checkbox"/> Acid <5.5		<input type="checkbox"/> No Seeps or Springs			
<input type="checkbox"/> Circumneutral 5.5-7.4		<input type="checkbox"/> Seeps Observed			
<input type="checkbox"/> Alkaline >7.4		<input type="checkbox"/> Perennial Spring			
<input type="checkbox"/> No Water		<input type="checkbox"/> Intermittent Spring			
Surficial Geologic Deposit Under Wetland		SOIL VARIABLES		Plant Species Diversity:	
<input type="checkbox"/> Low Permeability Stratified Deposits		Soil Lacking:		<input type="checkbox"/> Low 1-2 plots sampled	
<input type="checkbox"/> High Permeability Stratified Deposits		<input type="checkbox"/> Histosol:		<input type="checkbox"/> Medium 3-4 plots sampled	
<input type="checkbox"/> Glacial Till		<input type="checkbox"/> Fibric		<input type="checkbox"/> High 5 or more plots sampled	
Wetland Land Use:		<input type="checkbox"/> Hemic			
<input type="checkbox"/> High Intensity (i.e. agriculture)		<input type="checkbox"/> Sapric			
<input type="checkbox"/> Moderate Intensity (i.e. forestry)		Mineral Hydric Soil:			
<input type="checkbox"/> Low Intensity (i.e. open space)		<input type="checkbox"/> Gravelly			
Wetland Water Regime:		<input type="checkbox"/> Sandy			
<input type="checkbox"/> Wet; Perm Flooded, Intermittently Exposed, Semiperm. Flooded		<input type="checkbox"/> Silty			
<input type="checkbox"/> Drier; Seasonally Flooded, Temporarily Flooded, Saturated		<input type="checkbox"/> Clayey			
Basin Topographic Gradient:		VEGETATION VARIABLES		Dead Woody Material:	
<input type="checkbox"/> High Gradient >2%		Vegetation Lacking:		<input type="checkbox"/> Abundant (>50 of wetland surface)	
<input type="checkbox"/> Low Gradient <2%		<input type="checkbox"/> Dominant Wetland Type:		<input type="checkbox"/> Moderately Abundant (25-50% of surface)	
Degree of Outlet Restriction:		<input type="checkbox"/> Forested - Evergreen - Needle-leaved		<input type="checkbox"/> Low Abundance (0-25% of surface)	
<input type="checkbox"/> Restricted Outflow		<input type="checkbox"/> Forested - Deciduous - Broad-leaved			
<input type="checkbox"/> Unrestricted Outflow		<input type="checkbox"/> Forested - Deciduous - Needle-leaved			
<input type="checkbox"/> No Outflow		<input type="checkbox"/> Scrub Shrub - Evergreen - Broad-leaved			
Ratio of Wetland Area to Watershed Area:		<input type="checkbox"/> Scrub Shrub - Evergreen - Needle-leaved			
<input type="checkbox"/> High >10%		<input type="checkbox"/> Scrub Shrub - Deciduous - Broad-leaved			
<input type="checkbox"/> Low <10%		<input type="checkbox"/> Scrub Shrub - Deciduous - Needle-leaved			
		<input type="checkbox"/> Emergent - Persistent			
		<input type="checkbox"/> Emergent - Non-persistent			
		<input type="checkbox"/> Aquatic Bed			

## **EIGHT FUNCTIONAL MODEL WORKSHEETS**

## **WETLAND A**

2.9.1 Modification of Ground Water Discharge

VARIABLES	CONDITIONS	HGM TYPES:	WEIGHTS			
			D	S	R	F
Indicators of Disfunction						
• Inlet/Outlet Class	• perennial inlet/no outlet		0	0	0	0
• Nested Piezometer Data	• recharge condition		0	0	0	0
• Relationship to Regional Piezo-metric Surface	• wetland substrate elevation above piezometric surface		0	0	0	0
Direct Indicators of Function						
• Presence of Springs and Seeps	• evidence of perennial seeps or springs		18	15	15	18
• Nested Piezometer Data	• discharge condition		18	15	15	18
• Relationship to Regional Piezometric Surface	• wetland substrate elevation below piezometric surface		18	15	15	18
• Inlet/Outlet Class	• no inlet/perennial outlet		18	15	15	18
Primary Variables						
• Microrelief of Wetland Surface	• pronounced		3	3	3	3
	• well developed		2	2	2	2
	• poorly developed		1	1	1	1
	• absent		0	0	0	0
• Inlet/Outlet Class	• perennial inlet/perennial outlet		3	3	0	3
	• intermittent inlet/perennial outlet		2	2	0	2
	• all other classes		0	0	0	0
• pH	• alkaline		3	3	3	3
	• circumneutral		2	2	2	2
	• acid		0	0	0	0
	• no water present		0	0	0	0
• Surficial Geologic Deposit Under Wetland	• high permeability stratified deposits		3	3	3	3
	• low permeability stratified deposits		2	2	2	2
	• glacial till		1	1	1	1
• Wetland Water Regime	• wet; permanently flooded, inter-mittently exposed, semipermanently flooded		3	0	3	3
	• drier; seasonally flooded, tempo-rarily flooded, saturated		1	0	1	1

(continued)

### 2.9.1 Modification of Ground Water Discharge (Continued)

VARIABLES	CONDITIONS	HGM TYPES:	WEIGHTS			
			D	S	R	F
• Soil Type	• histosol		3	3	3	3
	• mineral hydric soil		①	①	①	1
			—	—	—	—
		Total Score:	9	8	7	
		Model Range:	3-18	2-15	3-15	3-18
		Functional Capacity Index:	Total			
			Score	—	—	—
			18	15	15	18
			0.50	0.53	0.47	
		Index Range:	0.19-1.0	0.16-1.0	0.22-1.0	0.19-1.0

Note: This model can be applied to both year long and seasonal discharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a discharge mode for roughly half the year.

### 2.9.2 Modification of Ground Water Recharge None

VARIABLES	CONDITIONS	HGM TYPES:	WEIGHTS				
			D	L	EP	R	F
Indicators of Disfunction							
• Inlet/Outlet Class	• no inlet/perennial outlet; intermittent inlet/perennial outlet		0				0
• Nested Piezometer Data	• discharge condition		0	0	0	0	0
• Relationship to Regional Piezometric Surface	• wetland substrate elevation above or at piezometric surface		0	0	0	0	0
• Presence of Seeps and Springs	• presence of seeps or springs		0	0	0	0	0

(continued)



## 2.9.2

**Modification of Ground Water Recharge (Continued)**

VARIABLES	CONDITIONS	HGM TYPES:	WEIGHTS				
			D	L	EP	R	F
<b>Direct Indicators of Function</b>							
• Inlet/Outlet Class	• perennial inlet/no outlet		21				21
• Nested Piezometer Data	• recharge condition		21				21
• Relationship to Regional Peizometric Surface	• wetland substrate elevation below piezometric surface		21				21
<b>Primary Variables</b>							
• Microrelief of Wetland Surface	• Poorly Developed		3	3	1	3	3
	• Absent		3	3	1	3	3
	• Well Developed		2	2	2	2	2
	• Pronounced		1	1	3	1	1
• Inlet/Outlet Class	• Perennial Inlet/Intermittent Outlet		3	0	0	0	3
	• All Other Classes		0	0	0	0	0
• pH	• Acid		3	3	3	3	3
	• Circumneutral		2	2	2	2	2
	• Alkaline		1	1	1	1	1
	• No water present		0	0	0	0	0
• Surficial Geologic Deposit Under Wetland	• Glacial Till		3	1	1	1	3
	• Low Permeability Stratified Deposits		2	2	2	2	2
	• High Permeability Stratified Deposits		1	3	3	3	1
• Surface Water Level Fluctuation of the Wetland	• High Fluctuation		3	3	0	3	3
	• Low Fluctuation		2	2	0	2	2
	• Never Inundated		1	1	0	1	1
• Wetland Water Regime	• Drier: Seasonally Flooded, Temporarily Flooded, Saturated		3	3	0	3	3
	• Wet: Permanently Flooded, Intermittently Exposed, Semipermanently Flooded		1	1	0	1	1
• Soil Type	• Gravelly or Sandy Mineral Hydric		3	3	0	3	3
	• Silty or Clayey Mineral Hydric		2	2	0	2	2
	• Sapric Histosol		1	1	0	1	1
	• Fibric or Hemic Histosol		0	0	3	0	0
Total Score:			0				
Model Range:			4-21	4-18	2-12	4-18	4-21
Functional Capacity Index:			Total Score 21	18	12	18	21
Index Range:			0.19-1.0	0.22-1.0	0.16-1.0	0.22-1.0	0.19-1.0

Note: This model should be applied to both year long and seasonal recharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a recharge mode for roughly half the year.

### 2.9.3 Storm and Flood-Water Storage

VARIABLES	CONDITIONS	WEIGHTS					
		HGM TYPES: D	S	L	EP	R	F
Indicators of disfunction	none						
Direct Indicators of Function	no outlet	27	21				30
<b>Primary Variables</b>							
• Inlet/Outlet Class	• perennial inlet/intermittent outlet	3	3	0	0	0	3
	• intermittent inlet/intermittent outlet	(2)	(2)	0	0	0	2
	• no inlet/intermittent outlet	1	1	0	0	(0)	1
	• non inlet/perennial outlet	1	1	0	0	0	1
	• intermittent inlet/perennial outlet	1	1	0	0	0	1
	• perennial inlet/perennial outlet	1	1	0	0	0	1
• Degree of Outlet Restriction	• restricted	3	0	0	0	0	3
	• unrestricted	(0)	(0)	0	0	(0)	0
• Basin Topographic Gradient	• low gradient	(3)	(3)	0	3	(3)	3
	• high gradient	1	1	0	0	1	1
• Wetland Water Regime	• Drier: seasonally flooded, temporarily flooded, saturated	(3)	(3)	3	0	(3)	3
	• Wet: permanently flooded, intermittently exposed, semipermanently flooded	1	1	1	0	1	1
• Surface Water Level Fluctuation of the Wetland	• high fluctuation	3	0	3	0	3	3
	• low fluctuation	(2)	0	(2)	0	(2)	2
	• never inundated	0	0	0	0	0	0
• Ratio of Wetland Area to Watershed Area	• large	3	3	3	0	3	3
	• small	(1)	1	(1)	0	(1)	1
• Microrelief of Wetland Surface	• pronounced	3	3	3	3	3	3
	• well developed	2	2	2	2	2	2
	• poorly developed	1	(1)	1	1	(1)	1
	• absent	(0)	0	0	0	0	0
• Frequency of Overbank Flooding	• overbank flooding absent	(0)	(0)	0	0	(0)	0
	• return interval of >5 yrs	0	0	1	0	1	1
	• return interval of 2-5 yrs	0	0	2	0	2	2
	• return interval of 1-2 yrs	0	0	3	0	3	3
• Vegetation Density/Dominance	• high/very high	(3)	3	3	3	(3)	3
	• moderate	2	(2)	2	2	2	2
	• sparse/low	1	1	1	1	1	1
	• no vegetation	0	0	0	0	0	0

### 2.9.3 Storm and Flood-Water Storage (Continued)

VARIABLES	CONDITIONS	HGM TYPES:	WEIGHTS					
			D	S	L	EP	R	F
• Dead Woody Material	• abundant		3	3	3	3	3	3
	• moderately abundant		②	②	2	2	②	2
	• sparse		1	1	1	1	1	1
	• absent		0	0	0	0	0	0
			—	—	—	—	—	—
Total Score:			16	16			15	
Model Range:			4-27	4-21	2-21	0-12	3-24	4-30
Functional Capacity Index:			Total Score					
			27	21	21	12	24	30
			0.59	0.76			0.62	
Index Range:			0.15-1.0	0.19-1.0	0.09-1.0	0-1.0	0.12-1.0	0.13-1.0

### 2.9.4 Modification of Stream Flow

(This model is identical for all HGM types)

VARIABLES	CONDITIONS	WEIGHTS
Indicators of Disfunction	no outlet	0
Direct Indicators of Function	none	

#### Primary Variables

#### Storm and Flood Water Storage Function Model Score

High*	3	x
Mod	2	x
Low	1	x
High	3	x
Mod	2	x
Low	1	x
High	3	x
Mod	②	x
Low	1	x

#### Modification of Groundwater Discharge Function Model Score

High	3	=	9
High	3	=	6
High	3	=	3
Mod	2	=	6
Mod	2	=	4
Mod	2	=	2
Low	1	=	3
Low	1	=	2
Low	1	=	①

Total Score: 2

Model Range: 1-9

Functional Capacity Index: Total Score  
9

Index Range: 0.11-1.0 0.22

\*High = FCI of 0.67-1.0, Mod = FCI of 0.34-0.66, Low = FCI of 0-0.33 for the Storm and Flood Water Storage and Modification of Ground Water Discharge Function Model Scores.

## 2.9.5 Modification of Water Quality

VARIABLES	CONDITIONS	HGM TYPES:	WEIGHTS					
			D	S	L	EP	R	F
Indicators of disfunction	none							
Direct Indicators of Function	evidence of sedimentation		(18)	(15)	12	12	(12)	18
<b>Primary Variables</b>								
• Wetland Land Use	• low intensity		(3)	(3)	3	3	(3)	3
	• moderate intensity		2	2	2	2	2	2
	• high intensity		1	1	1	1	1	1
• Degree of Outlet Restriction	• restricted outflow		3	0	0	0	0	3
	• no outlet		2	0	0	0	0	2
	• unrestricted outflow		(1)	(0)	0	0	(0)	1
• Inlet/Outlet Type	• no outlet		3	(3)	0	0	(0)	3
	• intermittent outlet		(2)	2	0	0	0	2
	• perennial outlet		1	1	0	0	0	1
• Dominant Wetland Type	• forested wetland		(3)	(3)	3	3	(3)	3
	• scrub-shrub		2	2	2	2	2	2
	• emergent wetland		2	2	2	2	2	2
	• aquatic bed		1	0	0	0	0	0
	• no vegetation		0	0	0	0	0	0
• Cover Distribution	• forming a continuous cover		3	(3)	3	3	(3)	3
	• growing in small scattered patches		(2)	2	2	2	2	2
	• one or more large patches		1	1	1	1	1	1
	• solitary scattered stems		1	1	1	1	1	1
	• no vegetation		0	0	0	0	0	0
• Soil Type	• histosol or clayey soil		3	3	3	3	3	3
	• silty soil		(2)	(2)	2	0	(2)	2
	• sandy or gravelly soil		1	1	1	0	1	1
			—	—	—	—	—	—
Total Score:			13	14			11	
Model Range:			4-18	3-15	2-12	1-12	2-12	4-18
Functional Capacity Index:			Total Score					
			18	15	12	12	12	18
Index Range:			0.22-1.0	0.20-1.0	0.16-1.0	0.8-1.0	0.16-1.0	0.22-1.0
			0.72	0.78			0.92	

## 2.9.6 Export of Detritus

VARIABLES	CONDITIONS	HGM TYPES:	WEIGHTS					
			D	S	L	EP	R	F
Indicators of disfunction	no outlet		0	0		0		0
Direct Indicators of Function	none							
<b>Primary Variables</b>								
• Wetland Land Use	• moderate intensity		3	3	3	3	3	3
	• low intensity		②	②	2	2	②	2
	• high intensity		1	1	1	1	1	1
• Degree of Outlet Restriction	• unrestricted outflow		3	①	0	0	①	3
	• restricted outflow		①	0	0	0	0	1
• Inlet/Outlet Class	• perennial outlet		3	3	0	0	0	3
	• intermittent outlet		①	①	0	0	①	1
• Wetland Water Regime	• drier: seasonally flooded, temporarily flooded, saturated		③	③	3	0	③	3
	• wet: permanently flooded, intermittently exposed, semipermanently flooded		1	1	1	1	1	1
• Vegetation Density/Dominance	• high/very high		3	3	3	3	3	3
	• medium		②	②	2	2	②	2
	• sparse/low		1	1	1	1	1	1
	• no vegetation		0	0	0	0	0	0
• Soil Type	• mineral hydric soil		③	③	3	3	③	3
	• histosol		1	1	1	1	1	1
			—	—	—	—	—	—
Total Score:			14	11			10	
Model Range:			5-18	4-15	3-12	2-10	3-12	5-18
Functional Capacity Index:			Total Score					
			18	15	12	10	12	18
			0.78	0.73			0.83	
Index Range:			0.27-1.0	0.26-1.0	0.25-1.0	0.20-1.0	0.25-1.0	0.27-1.0



**2.9.7 Contribution to Abundance and Diversity of Wetland Vegetation**  
(This model is identical for all HGM types)

VARIABLES		CONDITIONS	WEIGHTS
Indicators of Disfunction		no vegetation	0
Direct Indicators of Function		none	
<b>Primary Variables</b>			
•	Plant Species Diversity	<ul style="list-style-type: none"> <li>• high diversity</li> <li>• medium diversity</li> <li>• low diversity</li> </ul>	5 (3) 1
•	Vegetation Density/Dominance	<ul style="list-style-type: none"> <li>• high/very high</li> <li>• medium</li> <li>• sparse/low</li> </ul>	5 (3) 1
•	Wetland Juxtaposition	<ul style="list-style-type: none"> <li>• connected upstream and downstream</li> <li>• connected above or below</li> <li>• other wetlands nearby but not connected (400 m or closer)</li> <li>• isolated</li> </ul>	(5) 3 1 0
		Total Score:	11
		Model Range:	2-15
		Functional Capacity Index:	= Total Score 15
			0.73
		Index Range:	0.13-1.0

### 2.9.8 Contribution to Abundance and Diversity of Wetland Fauna

(This model is identical for all HGM types except Slope Wetlands for which "Interspersion of Vegetation Cover and Open Water" does not apply))

VARIABLES	CONDITIONS	WEIGHTS
Direct Indicators of Disfunction	none	
Direct Indicators of Function	none	
<b>Primary Variables</b>		
• Watershed Land Use	• low intensity (0-25% urbanized)	③
	• moderate intensity (25-50% urbanized)	2
	• high intensity (> 50% urbanized)	1
• Wetland Land Use	• low intensity	③
	• moderate intensity	2
	• high intensity	1
• Wetland Water Regime	• wet: permanently flooded, intermittently exposed, semipermanently flooded	3
	• drier: seasonally flooded, temporarily flooded, saturated	①
• Microrelief of Wetland Surface	• pronounced	3
	• well developed	2
	• poorly developed	①
	• absent	0
• Number of Wetland types and Relative Proportions	• 5 or more types	3
	• 3-4 types	②
	• 1-2 types	1
	• no vegetation	0
	• even distribution	3
	• moderately even distribution	②
	• highly uneven distribution	1
	• no vegetation	0
• Vegetation Interspersion	• high interspersion	3
	• moderate interspersion	②
	• low interspersion	1
	• no vegetation	0
• Number of Layers and Percent Cover	• 5 or more layers	3
	• 3-4 layers	②
	• 1-2 layers	1
	• no vegetation	0
	• layers well developed (> 50% cover)	3
	• layers with moderate cover (26-50% cover)	②
	• layers poorly distinguishable (< 25% cover)	1
	• no vegetation	0

### 2.9.8 Contribution to Abundance and Diversity of Wetland Fauna (Continued)

VARIABLES	CONDITIONS	WEIGHTS
• Interspersion of Vegetation Cover and Open Water	<ul style="list-style-type: none"> <li>• 26-75% scattered or peripheral</li> <li>• &gt;75% scattered or peripheral</li> <li>• &lt;25% scattered or peripheral</li> <li>• 100% cover or open water</li> <li>• no vegetation</li> </ul>	3 2 ① 1 0
• Size	<ul style="list-style-type: none"> <li>• large (&gt; 100 acres)</li> <li>• medium (10-100 acres)</li> <li>• small (&lt; 10 acres)</li> </ul>	3 ② 1
• Wetland Juxtaposition	<ul style="list-style-type: none"> <li>• other wetlands within 400 m and connected above or below</li> <li>• other wetlands within 400 m but not connected</li> <li>• wetland isolated</li> </ul>	③ 1 0
Slope Wetlands:		
Model Range: 4-33		
Functional Capacity Index = $\frac{\text{Total Score}}{33}$		
Index Range: 0.12-1.0		
All Other HGM Types:		
Total Score: 24		
Model Range: 4-36		
Functional Capacity Index = $\frac{\text{Total Score}}{36}$		
Index Range: 0.11-1.0		

## **WETLAND B**

2.9.1 Modification of Ground Water Discharge

VARIABLES	CONDITIONS	HGM TYPES:	WEIGHTS			
			D	S	R	F
Indicators of Disfunction						
• Inlet/Outlet Class	• perennial inlet/no outlet		0	0	0	0
• Nested Piezometer Data	• recharge condition		0	0	0	0
• Relationship to Regional Piezo-metric Surface	• wetland substrate elevation above piezometric surface		①	0	0	0
Direct Indicators of Function						
• Presence of Springs and Seeps	• evidence of perennial seeps or springs		18	15	15	18
• Nested Piezometer Data	• discharge condition		18	15	15	18
• Relationship to Regional Piezometric Surface	• wetland substrate elevation below piezometric surface		18	15	15	18
• Inlet/Outlet Class	• no inlet/perennial outlet		18	15	15	18
Primary Variables						
• Microrelief of Wetland Surface	• pronounced		3	3	3	3
	• well developed		2	2	2	2
	• poorly developed		①	1	1	1
	• absent		0	0	0	0
• Inlet/Outlet Class	• perennial inlet/perennial outlet		3	3	0	3
	• intermittent inlet/perennial outlet		2	2	0	2
	• all other classes		①	0	0	0
• pH	• alkaline		③	3	3	3
	• circumneutral		2	2	2	2
	• acid		0	0	0	0
	• no water present		0	0	0	0
• Surficial Geologic Deposit Under Wetland	• high permeability stratified deposits		3	3	3	3
	• low permeability stratified deposits		2	2	2	2
	• glacial till		①	1	1	1
• Wetland Water Regime	• wet; permanently flooded, inter-mittently exposed, semipermanently flooded		3	0	3	3
	• drier; seasonally flooded, tempo-rarily flooded, saturated		①	0	1	1

(continued)



### 2.9.1 Modification of Ground Water Discharge (Continued)

VARIABLES	CONDITIONS	HGM TYPES:	WEIGHTS			
			D	S	R	F
• Soil Type	• histosol		3	3	3	3
	• mineral hydric soil		①	1	1	1
			-	-	-	-
	Total Score:		7			
	Model Range:		3-18	2-15	3-15	3-18
	Functional Capacity Index:	Total				
		Score				
		18		15	15	18
		0.39				
	Index Range:		0.19-1.0	0.16-1.0	0.22-1.0	0.19-1.0

Note: This model can be applied to both year long and seasonal discharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a discharge mode for roughly half the year.

### 2.9.2 Modification of Ground Water Recharge None

VARIABLES	CONDITIONS	HGM TYPES:	WEIGHTS				
			D	L	EP	R	F
Indicators of Disfunction							
• Inlet/Outlet Class	• no inlet/perennial outlet; intermittent inlet/perennial outlet		0				0
• Nested Piezometer Data	• discharge condition		0	0	0	0	0
• Relationship to Regional Piezometric Surface	• wetland substrate elevation above or at piezometric surface		0	0	0	0	0
• Presence of Seeps and Springs	• presence of seeps or springs		0	0	0	0	0

(continued)

## 2.9.2

**Modification of Ground Water Recharge (Continued)**

VARIABLES	CONDITIONS	HGM TYPES:	WEIGHTS				
			D	L	EP	R	F
<b>Direct Indicators of Function</b>							
• Inlet/Outlet Class	• perennial inlet/no outlet		21				21
• Nested Piezometer Data	• recharge condition		21				21
• Relationship to Regional Peizometric Surface	• wetland substrate elevation below piezometric surface		21				21
<b>Primary Variables</b>							
• Microrelief of Wetland Surface	• Poorly Developed		3	3	1	3	3
	• Absent		3	3	1	3	3
	• Well Developed		2	2	2	2	2
	• Pronounced		1	1	3	1	1
• Inlet/Outlet Class	• Perennial Inlet/Intermittent Outlet		3	0	0	0	3
	• All Other Classes		0	0	0	0	0
• pH	• Acid		3	3	3	3	3
	• Circumneutral		2	2	2	2	2
	• Alkaline		1	1	1	1	1
	• No water present		0	0	0	0	0
• Surficial Geologic Deposit Under Wetland	• Glacial Till		3	1	1	1	3
	• Low Permeability Stratified Deposits		2	2	2	2	2
	• High Permeability Stratified Deposits		1	3	3	3	1
• Surface Water Level Fluctuation of the Wetland	• High Fluctuation		3	3	0	3	3
	• Low Fluctuation		2	2	0	2	2
	• Never Inundated		1	1	0	1	1
• Wetland Water Regime	• Drier: Seasonally Flooded, Temporarily Flooded, Saturated		3	3	0	3	3
	• Wet: Permanently Flooded, Intermittently Exposed, Semipermanently Flooded		1	1	0	1	1
• Soil Type	• Gravelly or Sandy Mineral Hydric		3	3	0	3	3
	• Silty or Clayey Mineral Hydric		2	2	0	2	2
	• Sapric Histosol		1	1	0	1	1
	• Fibric or Hemic Histosol		0	0	3	0	0
Total Score:			0				
Model Range:			4-21	4-18	2-12	4-18	4-21
Functional Capacity Index:			Total Score 21	18	12	18	21
Index Range:			0.19-1.0	0.22-1.0	0.16-1.0	0.22-1.0	0.19-1.0

Note: This model should be applied to both year long and seasonal recharge wetlands.

If the wetland is seasonally fluctuating between recharge and discharge, then reduce the above score by one half (1/2), because the wetland only functions in a recharge mode for roughly half the year.

### 2.9.3 Storm and Flood-Water Storage

VARIABLES	CONDITIONS	WEIGHTS					
		HGM TYPES: D	S	L	EP	R	F
Indicators of disfunction	none						
Direct Indicators of Function	no outlet	27	21				30
<b>Primary Variables</b>							
• Inlet/Outlet Class	• perennial inlet/intermittent outlet	3	3	0	0	0	3
	• intermittent inlet/intermittent outlet	2	2	0	0	0	2
	• no inlet/intermittent outlet	①	1	0	0	0	1
	• non inlet/perennial outlet	1	1	0	0	0	1
	• intermittent inlet/perennial outlet	1	1	0	0	0	1
	• perennial inlet/perennial outlet	1	1	0	0	0	1
• Degree of Outlet Restriction	• restricted	3	0	0	0	0	3
	• unrestricted	①	0	0	0	0	0
• Basin Topographic Gradient	• low gradient	③	3	0	3	3	3
	• high gradient	1	1	0	0	1	1
• Wetland Water Regime	• Drier: seasonally flooded, temporarily flooded, saturated	3	3	3	0	3	3
	• Wet: permanently flooded, intermittently exposed, semipermanently flooded	①	1	1	0	1	1
• Surface Water Level Fluctuation of the Wetland	• high fluctuation	3	0	3	0	3	3
	• low fluctuation	②	0	2	0	2	2
	• never inundated	0	0	0	0	0	0
• Ratio of Wetland Area to Watershed Area	• large	3	3	3	0	3	3
	• small	①	1	1	0	1	1
• Microrelief of Wetland Surface	• pronounced	3	3	3	3	3	3
	• well developed	2	2	2	2	2	2
	• poorly developed	①	1	1	1	1	1
	• absent	0	0	0	0	0	0
• Frequency of Overbank Flooding	• overbank flooding absent	①	0	0	0	0	0
	• return interval of >5 yrs	0	0	1	0	1	1
	• return interval of 2-5 yrs	0	0	2	0	2	2
	• return interval of 1-2 yrs	0	0	3	0	3	3
• Vegetation Density/Dominance	• high/very high	3	3	3	3	3	3
	• moderate	②	2	2	2	2	2
	• sparse/low	1	1	1	1	1	1
	• no vegetation	0	0	0	0	0	0

### 2.9.3 Storm and Flood-Water Storage (Continued)

VARIABLES	CONDITIONS	HGM TYPES:	WEIGHTS					
			D	S	L	EP	R	F
• Dead Woody Material	• abundant		3	3	3	3	3	3
	• moderately abundant		2	2	2	2	2	2
	• sparse		①	1	1	1	1	1
	• absent		0	0	0	0	0	0
Total Score:			12					
Model Range:			4-27	4-21	2-21	0-12	3-24	4-30
Functional Capacity Index:			Total Score 27 0.44	21	21	12	24	30
Index Range:			0.15-1.0	0.19-1.0	0.09-1.0	0-1.0	0.12-1.0	0.13-1.0

### 2.9.4 Modification of Stream Flow

(This model is identical for all HGM types)

VARIABLES	CONDITIONS	WEIGHTS
Indicators of Disfunction	no outlet	0
Direct Indicators of Function	none	

#### Primary Variables

#### Storm and Flood Water Storage Function Model Score

High*	3	x
Mod	2	x
Low	1	x
High	3	x
Mod	2	x
Low	1	x
High	3	x
Mod	2	x
Low	①	x

#### Modification of Groundwater Discharge Function Model Score

High	3	=	9
High	3	=	6
High	3	=	3
Mod	2	=	6
Mod	2	=	4
Mod	2	=	2
Low	1	=	3
Low	1	=	2
Low	①	=	①

Total Score: 1

Model Range: 1-9

Functional Capacity Index: Total Score  
9

Index Range: 0.11-1.0 0.11

\*High = FCI of 0.67-1.0, Mod = FCI of 0.34-0.66, Low = FCI of 0-0.33 for the Storm and Flood Water Storage and Modification of Ground Water Discharge Function Model Scores.

## 2.9.5 Modification of Water Quality

VARIABLES	CONDITIONS	HGM TYPES:	WEIGHTS					
			D	S	L	EP	R	F
Indicators of disfunction	none							
Direct Indicators of Function	evidence of sedimentation		18	15	12	12	12	18
<b>Primary Variables</b>								
• Wetland Land Use	• low intensity		③	3	3	3	3	3
	• moderate intensity		2	2	2	2	2	2
	• high intensity		1	1	1	1	1	1
• Degree of Outlet Restriction	• restricted outflow		3	0	0	0	0	3
	• no outlet		②	0	0	0	0	2
	• unrestricted outflow		1	0	0	0	0	1
• Inlet/Outlet Type	• no outlet		③	3	0	0	0	3
	• intermittent outlet		2	2	0	0	0	2
	• perennial outlet		1	1	0	0	0	1
• Dominant Wetland Type	• forested wetland		③	3	3	3	3	3
	• scrub-shrub		2	2	2	2	2	2
	• emergent wetland		2	2	2	2	2	2
	• aquatic bed		1	0	0	0	0	0
	• no vegetation		0	0	0	0	0	0
• Cover Distribution	• forming a continuous cover		③	3	3	3	3	3
	• growing in small scattered patches		2	2	2	2	2	2
	• one or more large patches		1	1	1	1	1	1
	• solitary scattered stems		1	1	1	1	1	1
	• no vegetation		0	0	0	0	0	0
• Soil Type	• histosol or clayey soil		3	3	3	3	3	3
	• silty soil		2	2	2	0	2	2
	• sandy or gravelly soil		1	1	1	0	1	1
			—	—	—	—	—	—
Total Score:			14					
Model Range:			4-18	3-15	2-12	1-12	2-12	4-18
Functional Capacity Index:			Total Score					
			18	15	12	12	12	18
			0.78					
Index Range:			0.22-1.0	0.20-1.0	0.16-1.0	0.8-1.0	0.16-1.0	0.22-1.0



## 2.9.6 Export of Detritus

VARIABLES	CONDITIONS	HGM TYPES:	WEIGHTS					
			D	S	L	EP	R	F
Indicators of disfunction	no outlet		0	0		0		0
Direct Indicators of Function	none							
<b>Primary Variables</b>								
• Wetland Land Use	• moderate intensity		3	3	3	3	3	3
	• low intensity		②	2	2	2	2	2
	• high intensity		1	1	1	1	1	1
• Degree of Outlet Restriction	• unrestricted outflow		③	0	0	0	0	3
	• restricted outflow		1	0	0	0	0	1
• Inlet/Outlet Class	• perennial outlet		3	3	0	0	0	3
	• intermittent outlet		①	1	0	0	0	1
• Wetland Water Regime	• drier: seasonally flooded, temporarily flooded, saturated		③	3	3	0	3	3
	• wet: permanently flooded, intermittently exposed, semipermanently flooded		1	1	1	1	1	1
• Vegetation Density/Dominance	• high/very high		3	3	3	3	3	3
	• medium		②	2	2	2	2	2
	• sparse/low		1	1	1	1	1	1
	• no vegetation		0	0	0	0	0	0
• Soil Type	• mineral hydric soil		③	3	3	3	3	3
	• histosol		1	1	1	1	1	1
			—	—	—	—	—	—
Total Score:			14					
Model Range:			5-18	4-15	3-12	2-10	3-12	5-18
Functional Capacity Index:			Total Score					
			18	15	12	10	12	18
			0.78					
Index Range:			0.27-1.0	0.26-1.0	0.25-1.0	0.20-1.0	0.25-1.0	0.27-1.0

**2.9.7 Contribution to Abundance and Diversity of Wetland Vegetation**  
(This model is identical for all HGM types)

VARIABLES		CONDITIONS	WEIGHTS
Indicators of Disfunction		no vegetation	0
Direct Indicators of Function		none	
<b>Primary Variables</b>			
•	Plant Species Diversity	<ul style="list-style-type: none"> <li>• high diversity</li> <li>• medium diversity</li> <li>• low diversity</li> </ul>	5 ③ 1
•	Vegetation Density/Dominance	<ul style="list-style-type: none"> <li>• high/very high</li> <li>• medium</li> <li>• sparse/low</li> </ul>	5 ③ 1
•	Wetland Juxtaposition	<ul style="list-style-type: none"> <li>• connected upstream and downstream</li> <li>• connected above or below</li> <li>• other wetlands nearby but not connected (400 m or closer)</li> <li>• isolated</li> </ul>	5 3 1 ①
		Total Score:	6
		Model Range:	2-15
		Functional Capacity Index:	= Total Score
		0.40	15
		Index Range:	0.13-1.0

### 2.9.8 Contribution to Abundance and Diversity of Wetland Fauna

(This model is identical for all HGM types except Slope Wetlands for which "Interspersion of Vegetation Cover and Open Water" does not apply))

VARIABLES	CONDITIONS	WEIGHTS
Direct Indicators of Disfunction	none	
Direct Indicators of Function	none	
<b>Primary Variables</b>		
• Watershed Land Use	• low intensity (0-25% urbanized)	③
	• moderate intensity (25-50% urbanized)	2
	• high intensity (> 50% urbanized)	1
• Wetland Land Use	• low intensity	③
	• moderate intensity	2
	• high intensity	1
• Wetland Water Regime	• wet: permanently flooded, intermittently exposed, semipermanently flooded	3
	• drier: seasonally flooded, temporarily flooded, saturated	①
• Microrelief of Wetland Surface	• pronounced	3
	• well developed	2
	• poorly developed	①
	• absent	0
• Number of Wetland types and Relative Proportions	• 5 or more types	3
	• 3-4 types	2
	• 1-2 types	①
	• no vegetation	0
	• even distribution	3
	• moderately even distribution	②
	• highly uneven distribution	1
	• no vegetation	0
• Vegetation Interspersion	• high interspersion	3
	• moderate interspersion	②
	• low interspersion	1
	• no vegetation	0
• Number of Layers and Percent Cover	• 5 or more layers	3
	• 3-4 layers	2
	• 1-2 layers	①
	• no vegetation	0
	• layers well developed (> 50% cover)	3
	• layers with moderate cover (26-50% cover)	②
		1
	• layers poorly distinguishable (< 25% cover)	0
	• no vegetation	0

### 2.9.8 Contribution to Abundance and Diversity of Wetland Fauna (Continued)

VARIABLES	CONDITIONS	WEIGHTS
• Interspersion of Vegetation Cover and Open Water	<ul style="list-style-type: none"> <li>• 26-75% scattered or peripheral</li> <li>• &gt;75% scattered or peripheral</li> <li>• &lt;25% scattered or peripheral</li> <li>• 100% cover or open water</li> <li>• no vegetation</li> </ul>	3 2 ① 1 0
• Size	<ul style="list-style-type: none"> <li>• large (&gt; 100 acres)</li> <li>• medium (10-100 acres)</li> <li>• small (&lt; 10 acres)</li> </ul>	3 2 ①
• Wetland Juxtaposition	<ul style="list-style-type: none"> <li>• other wetlands within 400 m and connected above or below</li> <li>• other wetlands within 400 m but not connected</li> <li>• wetland isolated</li> </ul>	3 1 ①
Slope Wetlands:	All Other HGM Types:	Total Score: 18
Model Range: 4-33		Model Range: 4-36
Functional Capacity Index = $\frac{\text{Total Score}}{33}$		Functional Capacity Index = $\frac{\text{Total Score}}{36}$
Index Range: 0.12-1.0		0.50 Index Range 0.11-1.0



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*Donald D. Coleman, Jr.*

DONALD D. COLEMAN, JR., NYS LIC. NO. 49922

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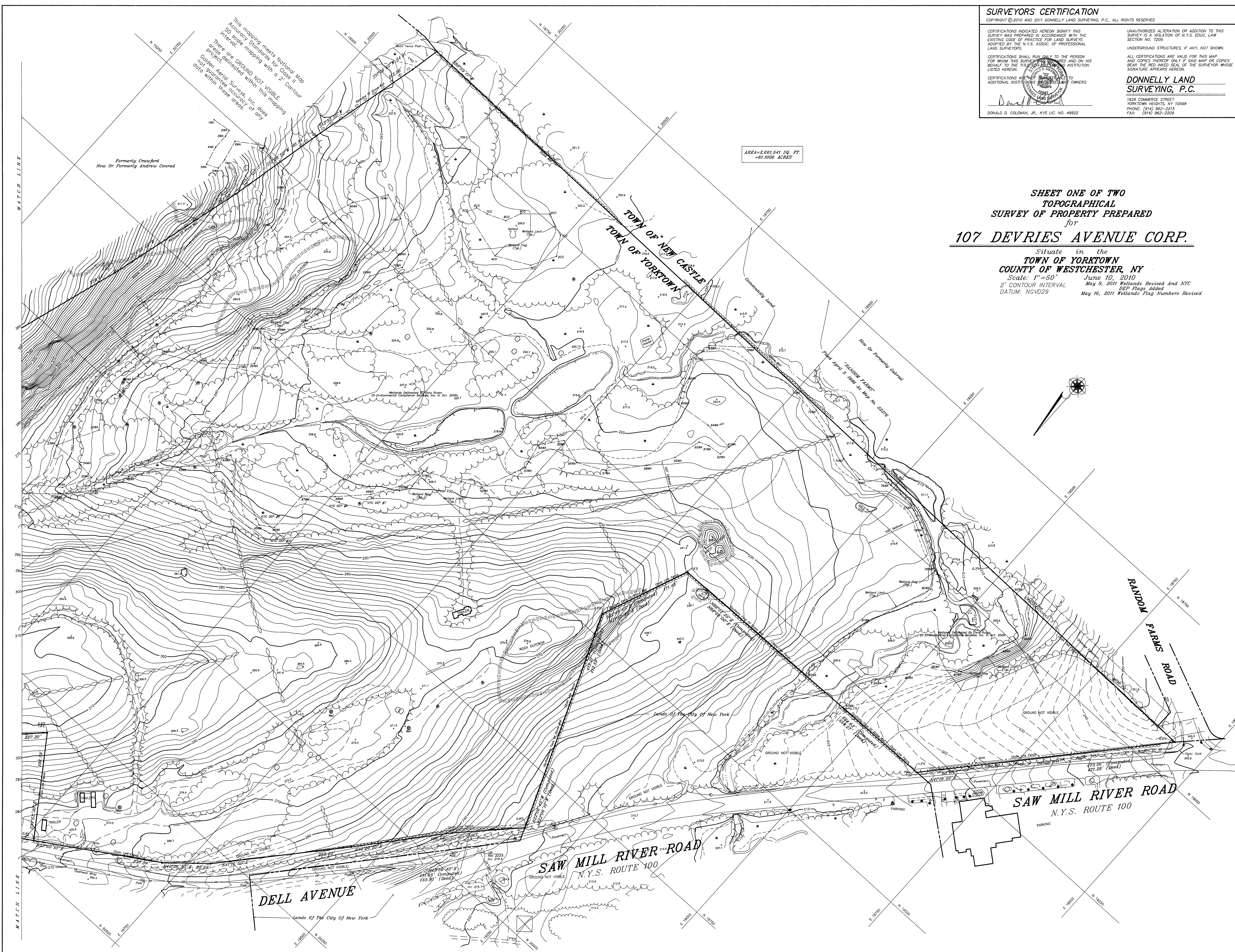
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1929 COMMERCE STREET  
YORKTOWN HEIGHTS, NY 10598  
PHONE: (914) 962-2215  
FAX: (914) 962-2209

**SHEET ONE OF TWO**  
**TOPOGRAPHICAL**  
**SURVEY OF PROPERTY PREPARED**  
**for**  
**107 DEVRIES AVENUE CORP.**

Situate in the  
**TOWN OF YORKTOWN**  
**COUNTY OF WESTCHESTER, NY**  
Scale: 1"=50'  
June 10, 2010  
2' CONTOUR INTERVAL  
DATUM: NGVD29  
May 9, 2011 Wetlands Revised And NYC  
2011 Plats Added  
May 16, 2011 Wetlands Plag Numbers Revised





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1529 COMMERCIAL STREET  
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FAX: (914) 962-2209

DONALD D. COLEMAN, JR., NYS LIC. NO. 49922

## **SHEET TWO OF TWO** **TOPOGRAPHICAL** **SURVEY OF PROPERTY PREPARED** **for** **107 DEVRIES AVENUE CORP.**

Situate in the  
**TOWN OF YORKTOWN**  
**COUNTY OF WESTCHESTER, NY**  
Scale: 1"=50'  
2" CONTOUR INTERVAL  
JUNE 10, 2010  
MAY 9, 2011 Wetlands Revised And NYC DEP Flags Added  
MAY 16, 2011 Wetlands Flag Numbers Revised

AREA=2,661,541 SQ. FT.  
=61.006 ACRES

Map Entitled "Survey Of A Portion Of The Land Conveyed To James C. Hull"  
Filed On June 21, 1927 As Map No. Volume 66 Page 8  
Lot B on a Map Entitled "Subdivision Prepared For Nancy Zuckendorf"  
Filed On May 23, 1989 As Map No. 23719

Formerly Mino  
Now Or Formerly M.I. Khan

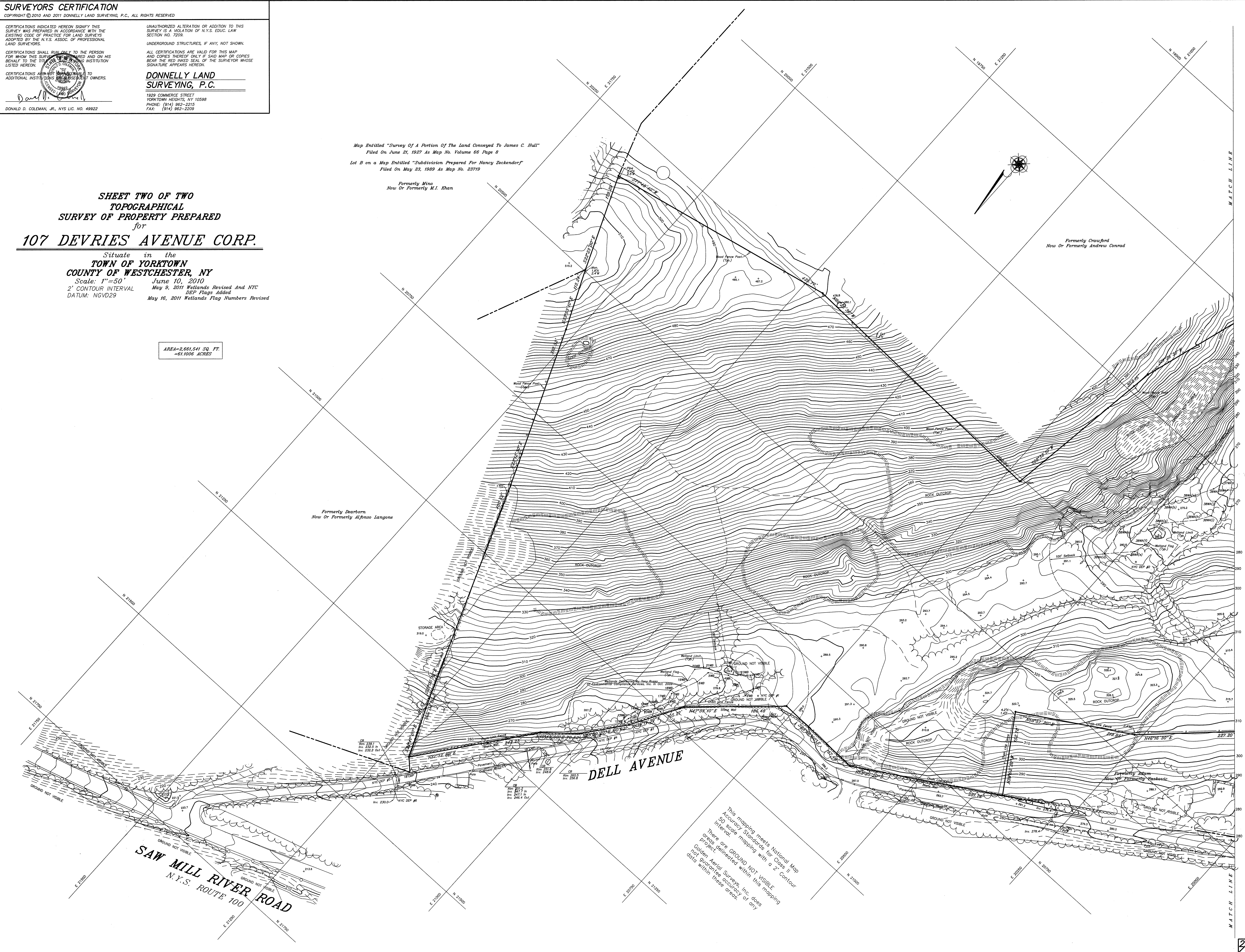
Formerly Crawford  
Now Or Formerly Andrew Conrad

Formerly Dearborn  
Now Or Formerly Alfonso Langone

**DELL AVENUE**

**SAW MILL RIVER ROAD**  
N.Y.S. ROUTE 100

This mapping meets National Map Accuracy Standards for Class II  
50' scale mapping with a 2' contour interval.  
There are GROUND NOT VISIBLE areas delineated within the mapping project.  
Golden Aerial Surveys, Inc. does not guarantee accuracy of any data within these areas.







April 22, 2011

To: Town Board  
Planning Board

From: Bruce Barber  
Town of Yorktown Environmental Consultant

RE: **Croton Overlook Application**  
Saw Mill River Road and Dell Avenue  
Section 70.15 Block 1 Lots 1 and 2  
Town of Yorktown, New York

Please be advised a site inspection of the above referenced property was conducted on April 21, 2011 with the applicant's environmental consultant. The purpose of the site inspection was to complete the verification of the jurisdictional Town of Yorktown wetland boundary determination.

**Comments:**

Verification of the Town of Yorktown wetland boundary determination is complete. There were some minor field changes made to the wetland boundary on the site and a small, off-site wetland area adjacent to Dell Avenue was located at the time of inspection.

Please do not hesitate to contact me should you have any questions.

Sincerely,

Bruce Barber, PWS, Certified Ecologist  
Town of Yorktown Environmental Consultant