

APPENDIX B

28th Creek Road Wetland Delineation Report

Wetland Delineation Report

for

28th Creek Road
Carroll Landfill Mitigation Site

Town of Ellington
Chautauqua County, New York

for

Daigler Engineering, P.C.



EARTH DIMENSIONS, INC.

Soil & Hydrogeologic Investigations • Wetland Delineations

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February 15, 2012

EDI Project Code: W1A12

**REPORT SUMMARIZING
THE RESULTS OF
A WETLAND DELINEATION SURVEY OF**

**28th Creek Road
Carroll Landfill Mitigation Site**

Prepared for Submission to

**U.S. ARMY CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207**

Prepared by

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for

**DAIGLER ENGINEERING, P.C.
1711 Grand Island Blvd.
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**DATE PREPARED
February 15, 2012**

Project Code: W1A12

ACKNOWLEDGMENTS

Daigler Engineering, P.C. has retained Earth Dimensions, Inc. (EDI) to complete a wetland delineation study for the proposed Carroll Landfill Wetland Mitigation site located on 28th Creek Road in the Town of Ellington, County of Chautauqua, and State of New York. EDI would like to thank Copy Market, Inc. for providing the duplicating and binding services.

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EXECUTIVE SUMMARY

Daigler Engineering, P.C. has proposed wetland mitigation for the expansion of an existing C&D Landfill on a 35.8± acre site located on 28th Creek Road in the Town of Ellington, County of Chautauqua, and State of New York. Daigler Engineering, P.C. has retained Earth Dimensions, Inc. (EDI) to complete a wetland delineation report that would allow the U.S. Army Corps of Engineers (Corps) and New York State Department of Environmental Conservation (NYSDEC) to determine their jurisdictional authority over the investigation area, pursuant to Section 404 of the Clean Water Act and Article 24 (Freshwater Wetlands) of the New York State Environmental Conservation Law.

A preliminary review of available information pertaining to vegetation, soils, and hydrology in the project area was implemented prior to conducting a field investigation at the site. Sources of information included the United States Geological Survey (USGS), Natural Resources Conservation Service (NRCS), National Wetland Inventory (NWI), and NYSDEC Freshwater Wetland maps. The NRCS Map indicates the potential for wetlands under federal jurisdiction.

EDI applied methodology specified by the *Corps of Engineers Wetlands Delineation Manual* (January 1987) and *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (October 2009) to perform a delineation of Federal jurisdictional wetlands within the site. EDI identified four (4) wetland areas totaling 7.061± acres at the parcel. The identification number of the wetland, the acreage and boundary flags are as follows:

Wetland Identification #	Geographic Center (NAD83)		Boundary Flags	Total Acreage Mapped	Reschke's Classifications	Cowardin Classifications
	Longitude	Latitude				
Wetland 1	79.15506	42.19620	W1-1 through W1-66	4.383±	Forested Wetland/ Shallow Emergent Wetland Complex	PFO/EM
Wetland 2	79.15329	42.19633	W2-1 through W2-4	0.090±	Shallow Emergent Marsh (Agricultural Wetland)	PEM
Wetland 3	79.15332	42.19741	W3-1 through W3-4	0.025±	Shallow Emergent Marsh (Agricultural Wetland)	PEM
Wetland 4	79.15376	42.19979	W4-1 through W4-21	2.563±	Shrub Swamp/ Seepage Wetland	PSS/EM
Total Wetland Acreage:				7.061±		

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SECTION I

INTRODUCTION

Daigler Engineering, P.C. is proposing wetland mitigation on a 35.8 acre parcel located on 28th Creek Road, in the Town of Ellington, County of Chautauqua, and State of New York. The project has been given the name 28th Creek Road, Carroll Landfill Mitigation Site and is located on USGS 7.5 minute quadrangle map indexed as Gerry/2002 DeLorme (Figure 1).

Daigler Engineering, P.C. has retained Earth Dimensions, Inc. (EDI) to complete a wetland delineation study at this site. The investigation was designed to facilitate a determination of the extent of U.S. Army Corps of Engineers (Corps) and New York State Department of Environmental Conservation (NYSDEC) jurisdiction over the project area pursuant to Section 404 of the Clean Water Act and Article 24 (Freshwater Wetlands) of the New York State Environmental Conservation Law.

EDI has performed a wetland delineation study at the site under guidelines specified by the *Corps of Engineers Wetlands Delineation Manual*, dated January 1987 (referred to hereafter as the Corps Manual) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (referred to hereafter as the Northcentral and Northeast Regional Supplement). The purpose of this report is to present EDI's methods, results, conclusions and recommendations with respect to the 28th Creek Road, Carroll Landfill Mitigation site.

SITE DESCRIPTION

The 28th Creek Road, Carroll Landfill Mitigation site is comprised of a rectangular shaped parcel with road frontage along 28th Creek Road. The investigation area has a total acreage of 35.8± acres and is outlined on Figure 1. The investigation area is depicted on the Wetland Delineation Map included in Attachment A (Figure 6).

The natural topography of the 28th Creek Road, Carroll Landfill Mitigation site is gently to strongly sloping. The uplands within the investigation area are comprised of mown hayfield, successional shrubland and maple-beech mesic forest communities. The wetland areas were found to consist of forested wetland hardwood swamp/ drain, shallow emergent marsh, shrub swamp and shallow emergent marsh (agricultural wetland) communities. The vegetative communities of the investigation area are described according to *Ecological Communities of New York State* (Edinger et al. 2002).

PRELIMINARY DATA REVIEW**A. SUMMARY OF FINDINGS**

Several sources of information may be reviewed to facilitate the completion of a wetland delineation study. In some cases it is even possible to make a preliminary office wetland determination based upon available vegetation, soils, and hydrologic information for a project area.

EDI completed a preliminary review of several data sources at the onset of this study. The results of the review are summarized as follows:

1. USGS 7.5 Minute Topographical Map

Figure 1 depicts the 28th Creek Road, Carroll Landfill Mitigation Site on the Gerry/2002 DeLorme quadrangle map. The figure depicts the gently to sloping topography of the site.

2. USFWS National Wetlands Inventory Map

The National Wetlands Inventory (NWI) map obtained from <http://wetlandsfws.er.usgs.gov/wtlnds/launch.html> is included as Figure 2. No wetlands are depicted within or adjacent to the project site.

3. Natural Resources Conservation Service Soils Map

Figure 3 presents the project area outlined on a copy of the Chautauqua County Soil Survey map from the National Cooperative Soil Survey. As shown on that figure, the site has the following soil types:

Soil Conservation Service Legend

<u>Designation</u>	<u>Description</u>	<u>Hydric Soil/ Inclusions?</u>
As	Ashville silt loam	Hydric Soil
BsA	Busti silt loam, 0 to 3% slopes	Inclusions Possible
BsB	Busti silt loam, 3 to 8% slopes	Inclusions Possible
CkB	Chautauqua silt loam 0 to 8% slopes	Inclusions Unlikely
CkC	Chautauqua silt loam 8 to 15% slopes	Inclusions Unlikely
Fe	Fluvaquents-Udifluvents Complex	Hydric Soil /Inclusions Possible

Ashville: the series consists of very deep, poorly drained soils in upland depressions. They formed in a thin mantle of local colluvium and in some places the underlying till. Slopes range from 0 to 3 percent. Mean annual temperature is 48 degrees F, and mean annual precipitation is 37 inches. Ashville soil is located in the southwestern portion of the investigation area.

Busti: the series consists of very deep, somewhat poorly drained soils on glaciated uplands. They formed on till deposits derived from siltstone, sandstone, and small amounts of shale. Slope ranges from 0 to 15 percent. Mean annual temperature is 48 degrees F., and mean annual precipitation is 37 inches. Busti soil is located in the north and central portions of the investigation area.

Chautauqua: the series consists of very deep, moderately well drained soils on glaciated uplands. They are nearly level to moderately steep soils formed in till. Permeability is moderate in the solum and moderately slow in the substratum. Slope ranges from 0 to 25 percent. Mean annual temperature is 48 degrees F., and mean annual precipitation is 37 inches. Chautauqua soil is located throughout portions of the investigation area.

Fluvaquents-Udifluvents: the map unit is composed of many soils along narrow stream channels. Fluvaquents are located in lower, wetter areas while Udifluvents are in slightly higher, better drained areas of the map unit. These soils flood frequently, resulting in both erosion and deposition. Texture is variable. Fluvaquents-Udifluvents map unit is located in the southern portion of the investigation area, associated with the creek channel.

erosion and deposition. Texture is variable. Fluvaquents-Udifluvents map unit is located in the southern portion of the investigation area, associated with the creek channel.

The U.S. Department of Agriculture's National Technical Committee for Hydric Soils Criteria has developed a list of soils that often display hydric soil characteristics. Hydric soil typically forms in places of the landscape where surface water periodically collects for some time and/or where groundwater discharges sufficient to create waterlogged or anaerobic soils. Such anaerobic soils can support the growth and survival of hydrophytic vegetation that is tolerant of such conditions. Ashville is a hydric soil, which may support wetland vegetation. Wetland hydrologic conditions, hydric soils, and hydrophytic vegetation are the three criteria of a wetland.

4. NYSDEC Freshwater Wetlands Map

The NYSDEC Freshwater Wetlands map obtained from the online, NYSDEC Environmental Resource Mapper does not show any Freshwater Wetlands mapped within or adjacent to the project site. The NYSDEC therefore has no apparent jurisdiction over the parcel.

B. RESULTS OF AGENCY INFORMATION REVIEW

The preliminary data review revealed that the Corps may have jurisdiction over wetlands at the project location. The evidence consisted of hydric soils mapped on the NRCS map (Figure 3). Therefore, it was considered necessary to perform a field investigation at the site in order to confirm the presence of federal and state protected wetlands. The methods specified in the *Corps of Engineers Wetlands Delineation Manual* (January 1987) and *Northcentral and Northeast Regional Supplement* (October 2009) were employed during the field investigation. Procedures, results, and conclusions of the wetland delineation study are presented in the remainder of this report.

SECTION IV
FIELD INVESTIGATION PROCEDURES

Step 1

EDI applied methodology specified by the *1987 Corps of Engineers Wetlands Delineation Manual and Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* to perform a delineation of Federal jurisdictional wetlands within the site. EDI used the Level 2 Routine Determination method (on-site inspection necessary) since insufficient information was available for making a determination for the entire project area. This methodology is consistent with Part IV, Section D of the Corps Manual.

Step 2

EDI's initial evaluation of the project area revealed no evidence of past disturbance. EDI used methodology outlined in Part IV, Section F of the Corps manual and/or Section 5 of the *Northcentral and Northeast Supplement*, for the disturbed areas in the northern portion of the site.

Step 3

EDI made the determination that normal environmental conditions were present, as the area was not lacking hydrophytic vegetation or hydrologic indicators due to annual, seasonal or long-term fluctuations in precipitation, surface water, or groundwater levels. The *Northcentral and Northeast Supplement* defines the growing season as beginning when one of the following indicators of biological activity are evident in a given year: (1) above-ground growth and development of vascular plants and/or (2) soil temperature measured at 12" below ground surface reaches 41°F. The end of the growing season is defined as the point at which deciduous species lose their leaves or the last herbaceous plants cease flowering and their leaves become dry or brown, whichever comes latest. Based on this definition, the field work was conducted outside of the growing season, although hydrophytic vegetation indicators were judged to be sufficient to perform the delineation. The field work was performed on January 10 and February 2, 2012.

Step 4

In order to accurately identify the limits of various vegetative communities and extent of wetlands on-site, a routine determination method was used. As depicted in Attachment A and included in Attachment B, six (6) points were used to characterize the site.

Step 5

The plant community inhabiting each observation point was characterized in accordance with methods specified in the Northcentral and Northeast Regional Supplement. Dominant plant species were identified within four vegetative strata (i.e. herb, sapling/shrub, tree and liana (woody vines) at each sampling point. The Northcentral and Northeast Regional Supplement defines the vegetative strata in the following manner:

Herb – A non-woody individual of a macrophytic species. Seedlings of woody plants (including vines) that are less than 3.28 feet in height are considered to be herbs.

Sapling/Shrub – A layer of vegetation composed of woody plants < 3.0 inches in diameter at breast height but greater than 3.28 feet in height, exclusive of woody vines.

Tree – A woody plant > 3.0 inches in diameter at breast height, regardless of height (exclusive of woody vines)

Liana – A layer of vegetation in forested plant communities that consist of woody vines greater than 3.28 feet in height.

As outlined in the Northcentral and Northeast Regional Supplement, the quadrant sizes used for the vegetative strata were (i) a five-foot radius for herbs; (ii) a fifteen-foot radius for saplings and shrubs; and (iii) a 30-foot radius for trees and woody vines. Dominant plant species were estimated using aerial coverage methods. Dominant species are defined in the Corps Manual as the most abundant plant species that when ranked in descending order of abundance and cumulatively totaled immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species comprising 20 percent or more of the total dominance measure.

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28th Creek Road, Carroll Landfill Mitigation Site

The wetland indicator status (OBL, FACW, FAC, FACU, or UPL) listed for each identified species by the U.S. Fish and Wildlife Service in the *National List of Plant Species that Occur in Wetlands: Northeast (Region 1)* was recorded. The U.S. Fish and Wildlife wetland indicator status listings are defined as follows:

OBL – Plants that occur almost always (estimated probability >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated probability < 1 percent) in nonwetlands.

FACW – Plants that occur usually (estimated probability >67 percent to 99 percent) in wetlands, but also occur (estimated probability 1 percent to 33 percent) in nonwetlands.

FAC – Plants with a similar likelihood (estimated probability 33 percent to 67 percent) of occurring in both wetlands and nonwetlands.

FACU – Plants that occur sometimes (estimated probability 1 percent to <33 percent) in wetlands, but occur more often (estimated probability >67 percent to 99 percent) in nonwetlands.

UPL – Plants that occur rarely (estimated probability < 1 percent) in wetlands, but occur almost always (estimated probability >99 percent) in nonwetlands under natural conditions.

The plant community data was summarized on the data forms provided in the *Northcentral and Northeast Regional Supplement* included in this report as Attachment B.

Step 6

Plant data from each observation point were tested against the hydrophytic vegetation criterion specified in the Corps Manual and Northcentral and Northeast Regional Supplement. The Northcentral and Northeast Regional Supplement identifies a four-tiered approach for making a determination of whether or not the hydrophytic vegetation criteria is met for a sample plot. Indicator 1 (Rapid Test for Hydrophytic Vegetation) was first applied to determine if all dominant species across all strata are rated OBL and/or FACW. If Indicator 1 did not meet the hydrophytic vegetation criteria, Indicator 2 was then applied (dominance test); if greater than 50% of all plant species across all strata were rated OBL, FACW, or FAC, the hydrophytic vegetation criteria was

W1A12 28th Creek Road, Carroll Landfill Mitigation Site considered met. In rare cases, when Indicators 1 and 2 did not meet the hydrophytic vegetation criteria but soils and hydrology criteria were met, Indicators 3 (Prevalence Index) and 4 (Morphological Adaptations) were used to make a final determination. All observation points that met the hydrophytic vegetation criterion were considered potential wetlands. Soils were then characterized.

Step 7

The Corps Manual specifies that soils need not be characterized (and are assumed hydric soils) at sampling points meeting the hydrophytic vegetation criterion if: (i) all dominant plant species have an indicator status of OBL, or (ii) all dominant species have an indicator status of OBL and/or FACW, and the wetland boundary is abrupt.

Step 8

At observation points requiring a soil evaluation, soil borings were performed by an EDI Soil Scientist using methods specified in the *Northcentral and Northeast Regional Supplement*. Soil pits were dug using a tile spade. Testpits were generally dug to a depth of 20 inches below ground surface. Soils were examined for any of the hydric soil indicators, as outlined in the *Field Indicators of Hydric Soils in the United States*. A determination was made as to whether or not the hydric soil criterion was met. Soils data was recorded on the data forms included in Attachment B of this report.

Step 9

EDI's Soil Scientist examined hydrologic indicators using methods specified by the Northcentral and Northeast Regional Supplement at each observation point. The wetland hydrology criterion was met if: (i) one or more primary field indicators was materially present, (ii) two or more secondary indicators were present. Results were recorded on data forms taken from the Corps Manual and are included in this report as Attachment B.

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Step 10

28th Creek Road, Carroll Landfill Mitigation Site

A wetland determination was made for every observation point. If a sample plot met the hydrophytic vegetation, hydric soil, and wetland hydrology criteria, the area was considered to be wetland.

Step 11

Based on the results of the transected data, wetland boundaries were established for each identified wetland using survey ribbon labeled “wetland delineation” and numbered consecutively along each wetland boundary. As outlined in the Corps Manual, the placement of flags was based on the limits of areas where all three parameters were met. Wetland flags were labeled W1-1 through W1-66, W2-1 through W2-4, W3-1 through W3-4 and W4-1 through W4-21.

RESULTS AND CONCLUSIONS

Earth Dimensions, Inc. (EDI) has completed a wetland delineation study at the 28th Creek Road, Carroll Landfill Mitigation site located on the south side of 28th Creek Road, east of Dean School Road, in the Town of Carroll, County of Chautauqua, and State of New York. A field investigation was conducted by a Soil Scientist and a Wetland Ecologist from EDI. The wetland delineation study found four (4) wetlands present at the 28th Creek Road, Carroll Landfill Mitigation site.

A general site map is presented in Attachment A. Figure 5 shows major plant communities found on the property. The uplands within the investigation area consisted of mown hay field, successional shrubland and maple-beech mesic forest communities. The wetland areas were found to consist of forested wetland/ drain, shallow emergent marsh, shrub swamp and shallow emergent marsh (agricultural wetland) communities. The vegetative communities of the investigation area are described according to *Ecological Communities of New York State* (Edinger et al. 2002).

The maple-beech mesic forest (D1) community was dominated by the following species: black cherry (*Prunus serotina*), silver maple (*Acer saccharinum*), cockspur hawthorn (*Crataegus crus-galli*), Virginia strawberry (*Fragaria virginiana*), graceful sedge (*Carex gracillima*), Norwegian cinquefoil (*Potentilla norvegica*), bitternut hickory (*Carya cordiformis*) and American beech (*Fagus grandifolia*).

The mown hay field (D2) community consisted of the following species: reed canary grass (*Phalaris arundinacea*), soft rush (*Juncus effusus*), Canada goldenrod (*Solidago canadensis*), white clover (*Trifolium repens*), creeping buttercup (*Ranunculus repens*) and ox-eye daisy (*Chrysanthemum leucanthemum*).

The forested wetland/ drain (D3) community consisted of the following species: American elm (*Ulmus americana*), red maple (*Acer rubrum*), pussy willow (*Salix discolor*), American hornbeam (*Carpinus caroliniana*), silky dogwood (*Cornus amomum*), willow (*Salix* spp.), sensitive fern (*Onoclea sensibilis*), bearded beggar ticks (*Bidens aristosa*), golden ragwort (*Packera aurea*), fowl manna grass (*Glyceria striata*), rough goldenrod (*Solidago rugosa*) and reed canary grass (*Phalaris arundinacea*).

The shallow emergent marsh (D4) community consisted of the following species: wool grass (*Scirpus cyperinus*), New England aster (*Aster novae-angliae*), quaking aspen (*Populus tremuloides*), soft rush (*Juncus effusus*), sensitive fern (*Onoclea sensibilis*), pussy willow (*Salix discolor*), silky dogwood (*Cornus amomum*), willow (*Salix* spp.), common red raspberry (*Rubus idaeus*), bristly dewberry (*Rubus hispida*), club moss (*Lycopodium* spp.), rock polypody (*Polypodium virginianum*) and reed canary grass (*Phalaris arundinacea*).

The shallow emergent marsh (agricultural wetland) (D5) community consisted of the following species: wool grass (*Scirpus cyperinus*), soft rush (*Juncus effusus*), tall buttercup (*Ranunculus acris*), curly dock (*Rumex crispus*) and reed canary grass (*Phalaris arundinacea*).

The shrub swamp and emergent wetland (D6) community consisted of the following species: pussy willow (*Salix discolor*), silky dogwood (*Cornus amomum*), crack willow (*Salix fragilis*), grey dogwood (*Cornus racemosa*), multiflora rose (*Rosa multiflora*), sensitive fern (*Onoclea sensibilis*), soft rush (*Juncus effusus*), calico aster (*Aster lateriflorus*), fox sedge (*Carex vulpinoidea*), Canada goldenrod (*Solidago canadensis*), flat-topped goldenrod (*Euthamia graminifolia*) and tall buttercup (*Ranunculus acris*).

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28th Creek Road, Carroll Landfill Mitigation Site

Hydrology is generally highly variable during a field investigation and accurate examinations of the landscape must be conducted to assure an accurate delineation. Wetlands 1 and 4 have apparent connections to a tributary to Twentyeighth Creek. Wetlands 2 and 3 have no outlet, with hydrology confined to the low point in the landscape.

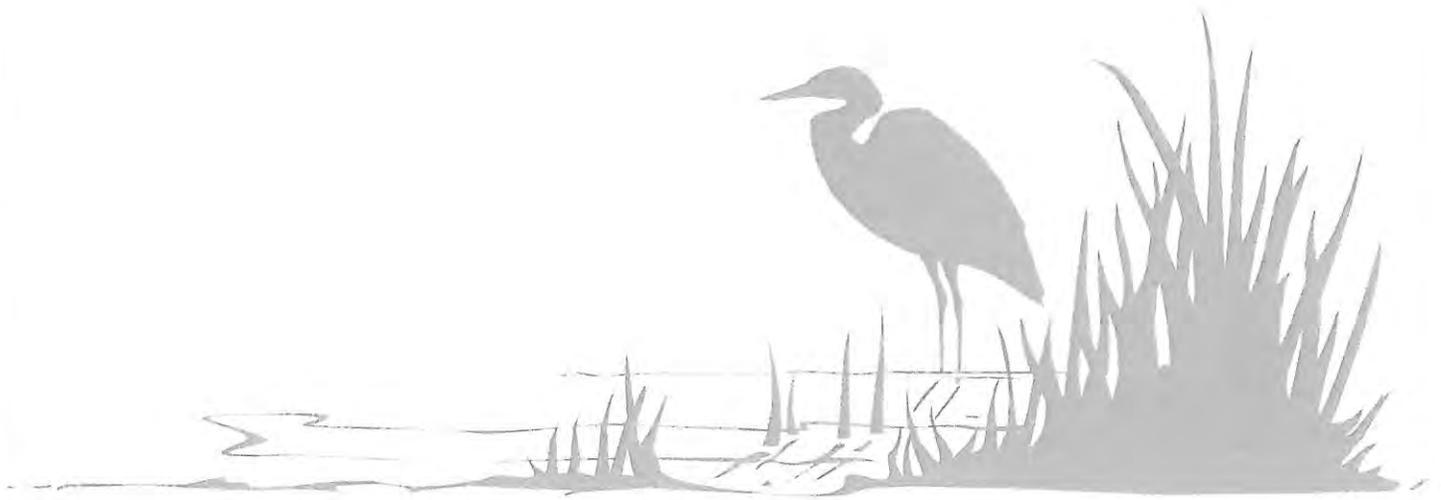
A map which depicts the site boundaries and the location of all observation points established during the field survey is included as Figure 6 in Attachment A of this report. Data forms are included as Attachment B. Attachment C consists of an aerial photograph of the site. Attachment D includes representative photographs of the project area. Attachment E notes the references used during the preparation of this report and during the field investigation. Attachment F provides the names, addresses and phone numbers of the survey personnel involved in the wetland delineation study.

RECOMMENDATIONS

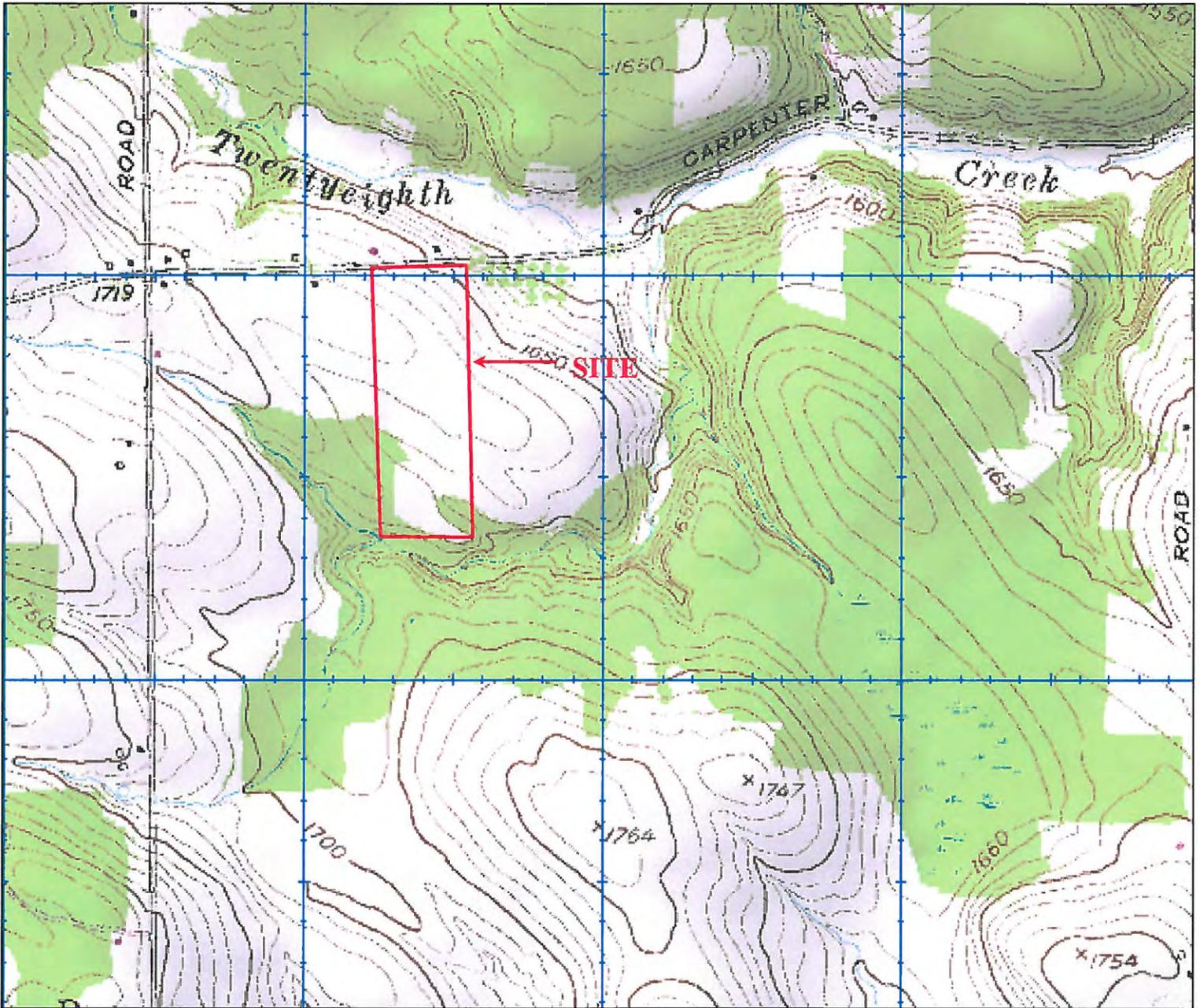
Four (4) wetland areas were identified during the course of a field investigation based upon the three parameter technique (vegetation, soils, and hydrology) outlined in the Corps Manual and *Northcentral and Northeast Regional Supplement*. It is EDI's professional opinion that Wetlands 1 and 4 will qualify as federally jurisdictional wetlands. Wetlands 2 & 3 have no apparent connection to waters of the U.S. appear to be unregulated. The USACE approaches their regulatory analyses by first considering avoidance of wetlands and minimization of wetland losses. EDI recommends the following:

- (1) Submit this report to USACE with a request for a jurisdictional determination and wetland boundary confirmation.
- (2) If no impacts are proposed to federal regulated wetlands (based on the results of the jurisdictional determination), it is the professional opinion of EDI that the project may proceed without the need for a Section 404 Permit.
- (3) If any impacts are proposed to federal wetland, EDI recommends that an Application for permit be submitted to the USACE and NYSDEC, with a request for a Section 404 Permit and Section 401 Water Quality Certification.

28th Creek Road
Carroll Landfill Mitigation Site



ATTACHMENT A
Figures



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Figure 1: USGS 7.5 Minute Topographical Map
Gerry Quadrangle/ 2002 DeLorme

28th Creek Road, Carroll Landfill Mitigation Site
Town of Ellington, Chautauqua County, New York





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Figure 2:

National Wetlands Inventory Map

Gerry Quadrangle

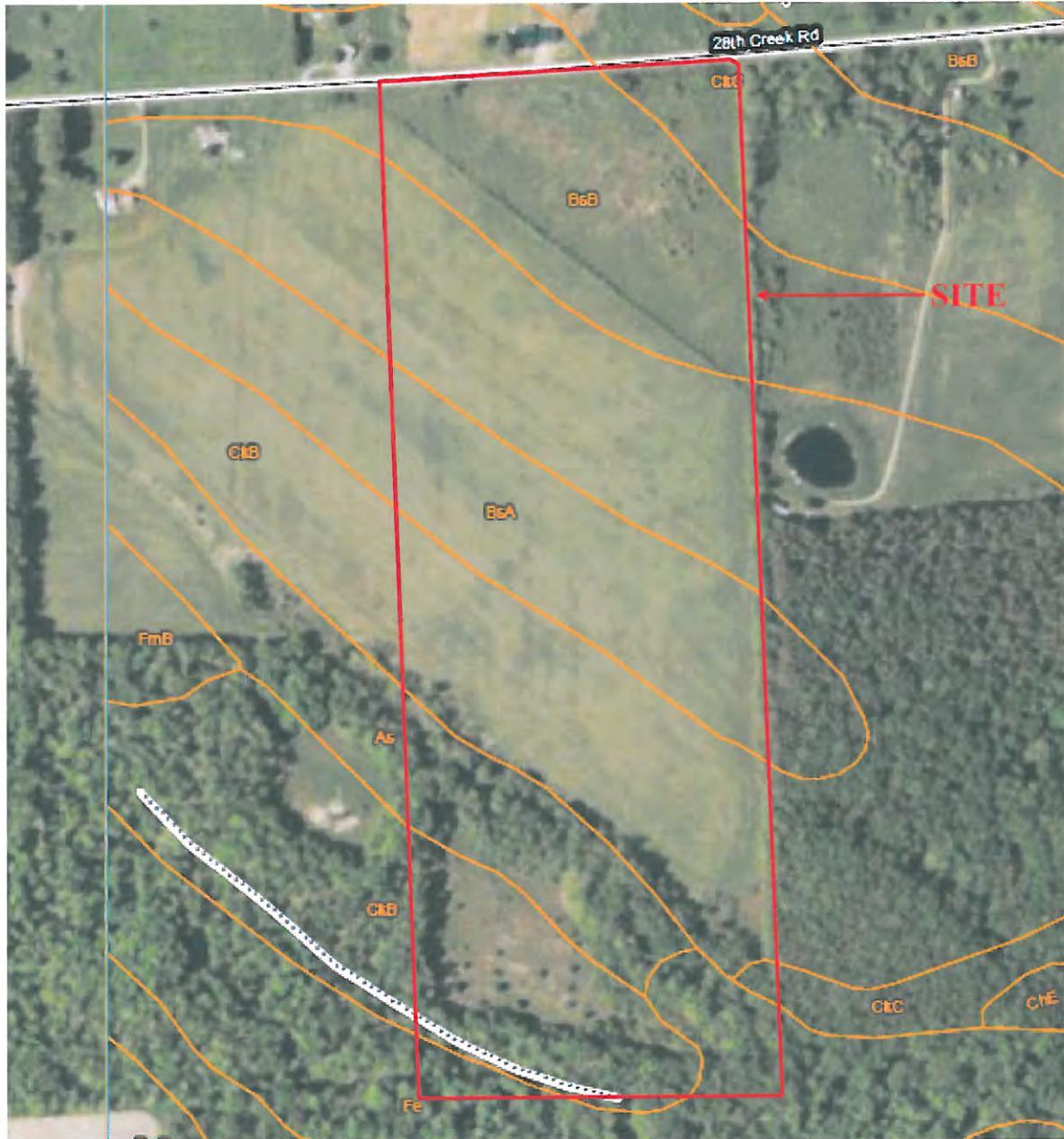
<http://137.227.242.85/wetland/wetland.html> (Site Visited on 02/13/12)

28th Creek Road, Carroll Landfill Mitigation Site
Town of Ellington, Chautauqua County, New York



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28th Creek Road, Carroll Landfill Mitigation Site



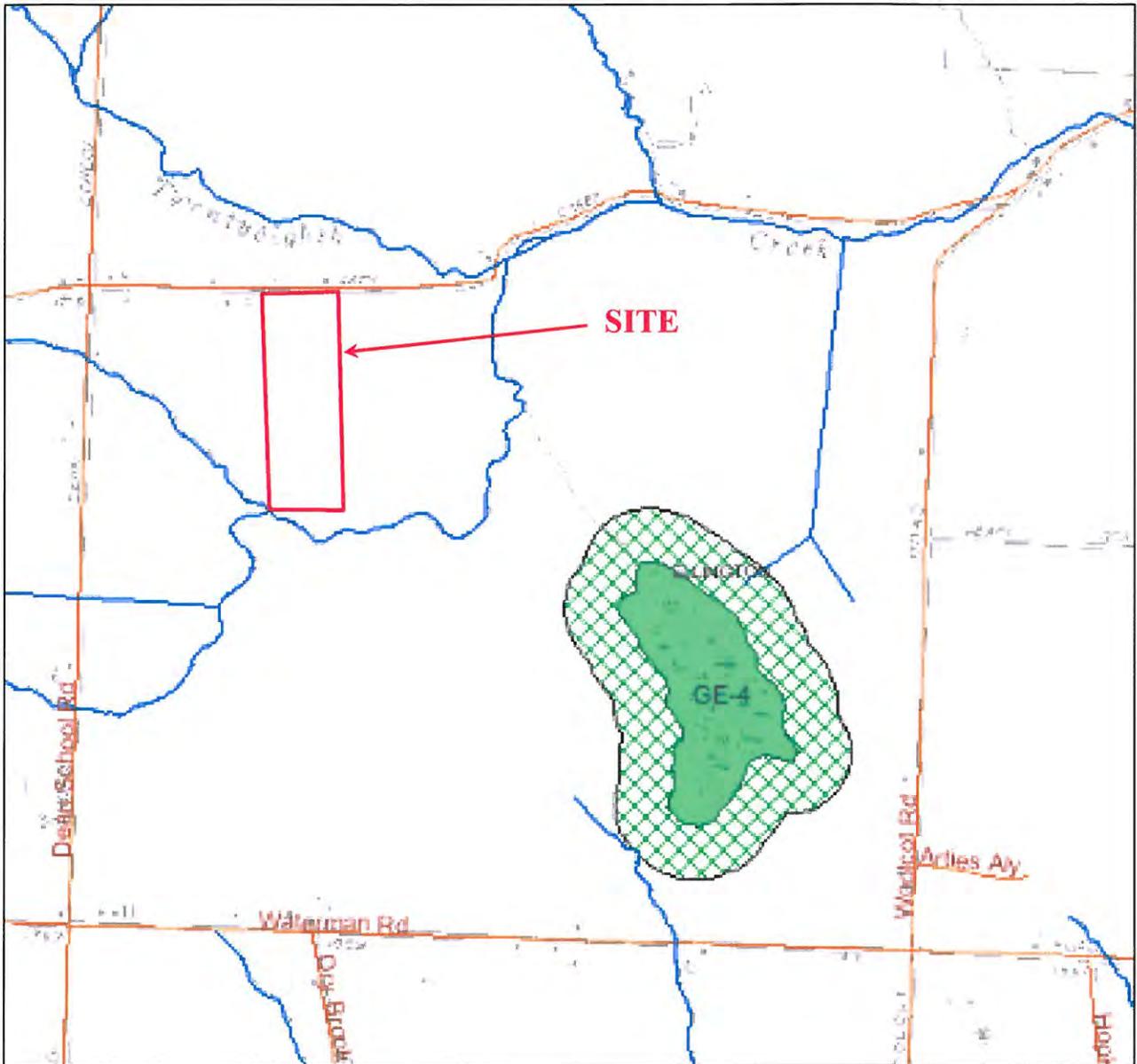
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Figure 3: [NRCS Chautauqua County Soil Survey Map](http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx)
<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>
Site visited 02-13-2012

28th Creek Road, Carroll Landfill Mitigation Site
Town of Ellington, Chautauqua County, New York





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Figure 4: NYSDEC Environmental Resource Mapper
<http://www.dec.ny.gov/imsmaps/ERM/Viewer.htm>
Site visited 02/13/12

28th Creek Road, Carroll Landfill Mitigation Site
Town of Ellington, Chautauqua County, New York



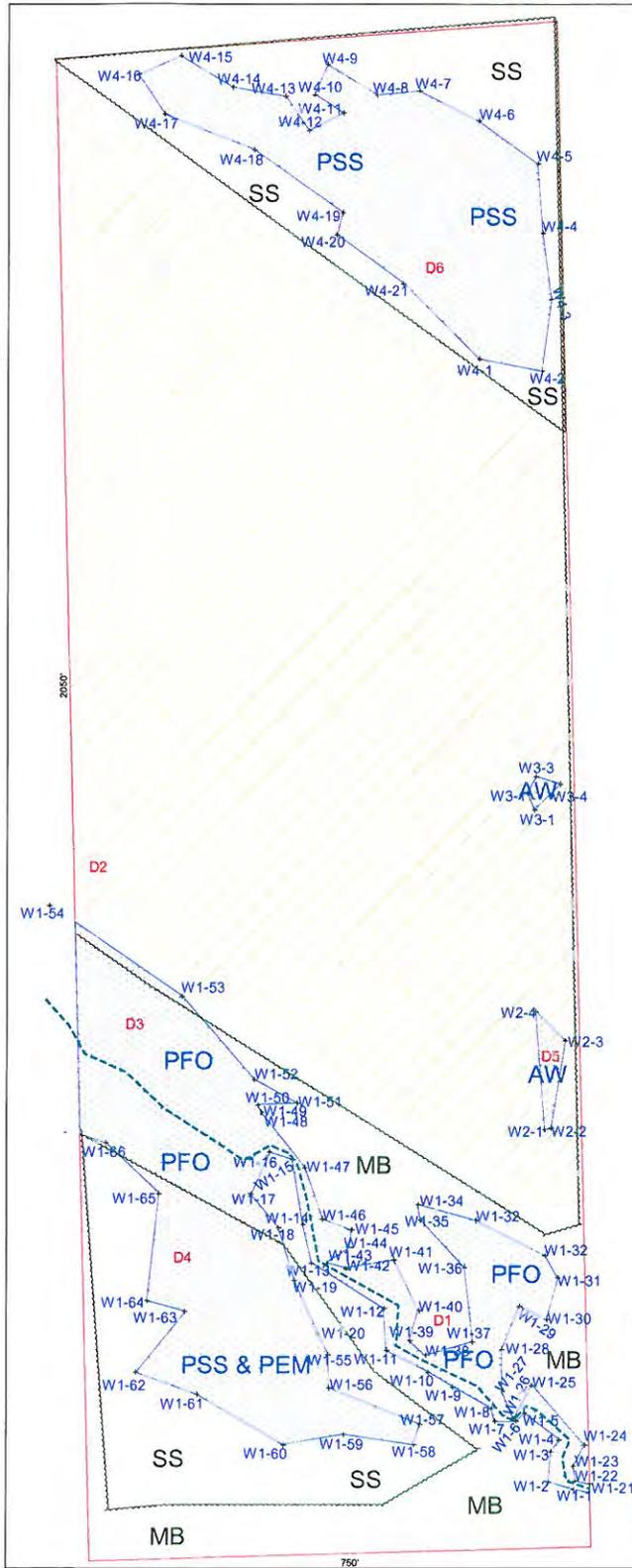
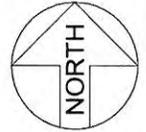
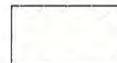
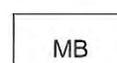
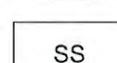
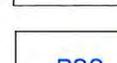
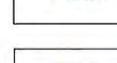
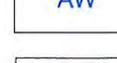


FIGURE 5: General Vegetation Map



LEGEND

-  drainage way
-  Wetland Area
-  Data Location
-  Tree Line
-  Mown hay field
-  Maple-beech mesic forest
-  Successional shrubland
-  Shrub swamp
-  Shallow emergent marsh
-  Shallow emergent marsh (AG)
-  Forested wetland drain

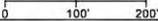
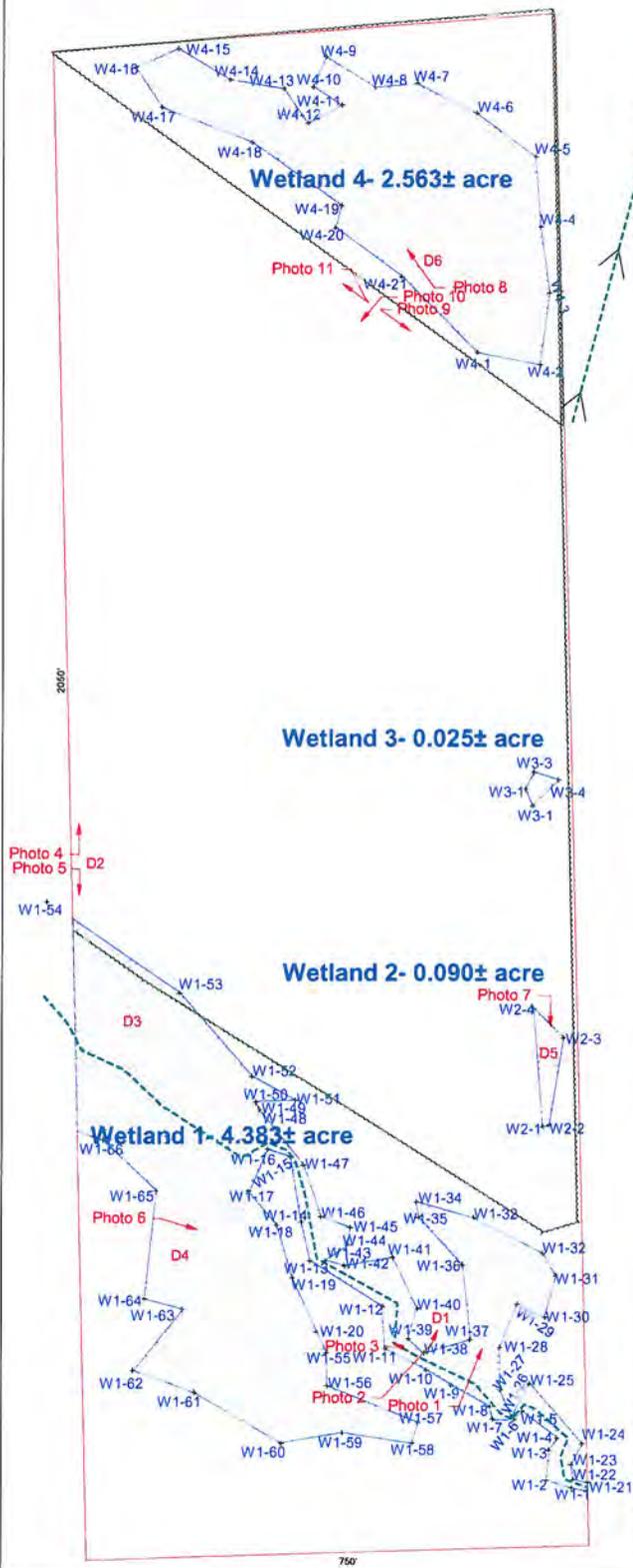
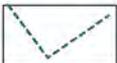
<p>EDI PROJECT CODE: W1A12</p> <p>Base Map Provided by:</p>		<p>28th Creek Road</p> <p>General Vegetation Map</p>	
		<p>TOWN OF Ellington CHAUTAUQUA COUNTY, NEW YORK</p>	
<p>Map Date: 02-15-2012, JMC/EDI</p> <p>Revised:</p>		 <p><i>Soil and Hydrogeologic Investigations * Wetland Delineations</i></p> <p>1091 Jamison Road * Elma, NY 14058</p> <p>(716) 655-1717 * Fax (716) 655-2915</p>	
<p>SCALE: </p>			
<p>File Name: VEG map</p>			

FIGURE 6: Wetland Delineation Map



LEGEND

-  drainage way
-  Wetland Area
-  Data Location
-  Photo Location
-  Tree Line

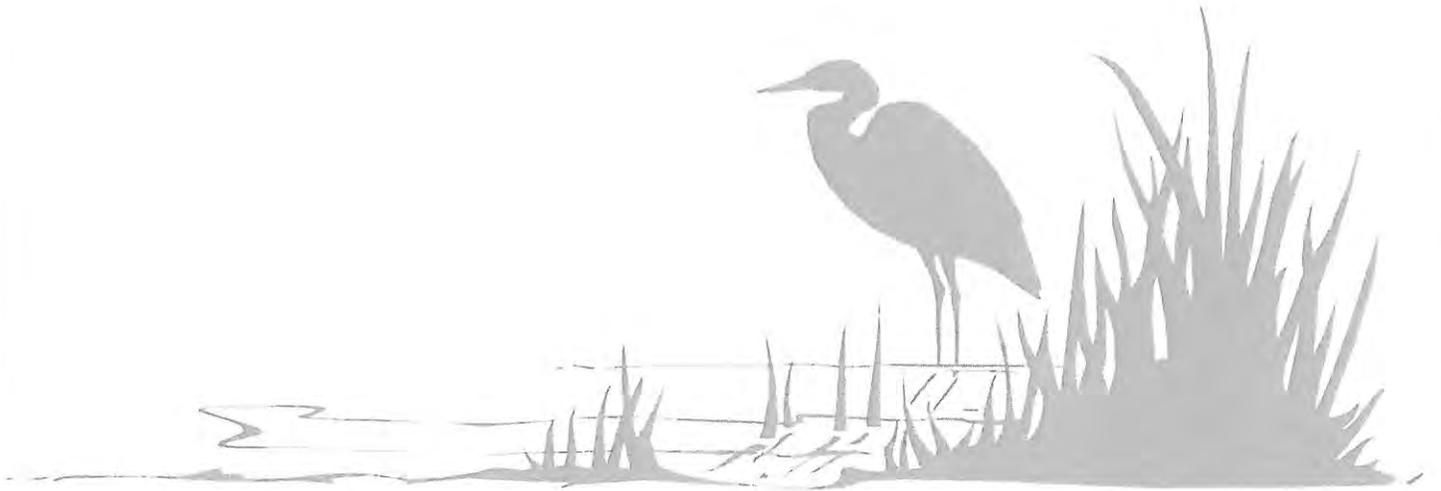
Wetland Summary

Wetland 1: 4.383± acres
 Wetland 2: 0.090± acre
 Wetland 3: 0.025± acre
 Wetland 4: 2.563± acres

Wetland Total on-site: 7.061± acres

<p>EDI PROJECT CODE: W1A12</p> <p>Base Map Provided by:</p>	<p>28th Creek Road Wetland Delineation Map</p> <p>TOWN OF Ellington CHAUTAUQUA COUNTY, NEW YORK</p>
<p>Map Date: 02-15-2012, JMC/EDI Revised: 08-20-2012, JMC/EDI</p> <p>SCALE: </p> <p>File Name: WD map</p>	
 <p>Soil and Hydrogeologic Investigations * Wetland Delineations 1091 Jamison Road * Elma, NY 14059 (716) 655-1717 * Fax: (716) 655-2915</p>	

28th Creek Road
Carroll Landfill Mitigation Site



ATTACHMENT B
Data Forms

WETLAND DETERMINATION DATA FORM Northcentral and Northeast Region

28th Creek Road

Feb 2

Project/Site: ~~XXXXXXXXXX~~ City/County: Ellington/Chautauqua County Sampling Date: ~~January 10, 2012~~

Applicant/Owner: Daigler Engineering State: NY Sampling Point: D1

Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: 304.00-2-24.1

Landform (hill slope, terrace, etc.): Hill Slope Local relief (concave, convex, none): CONVEX

Slope (%): 3-8 Lat: 42.19524 Long: 79.15395 Datum: NAD83

Soil Map Unit Name: Ashville 3.14 100m NW I classification:

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

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

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	If yes, optional Wetland Site ID: _____	
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks: (Explain alternative procedures here or in a separate report.)

* ACTUAL Series identified: CHAUTAUQUA

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): N/A	
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): N/A	
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): N/A	

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

Remarks:

VEGETATION : Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>PRUNUS serotina</i>	40	Y	FACU
2.	<i>Carya cordiformis</i>	15	Y	FAC
3.	<i>FAGUS GRANDIFOLIA</i>	10	N	FACU
4.	<i>ACER SACCHARINUM</i>	5	N	PACW
5.				
6.				
7.				

70 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>FAGUS GRANDIFOLIA</i>	15	Y	FACU
2.	<i>CRATAEGUS CRUS-GALLI</i>	5	N	FACU
3.	<i>CARYA CORDIFORMIS</i>	10	Y	FAC
4.	<i>PRUNUS serotina</i>	5	N	FACU
5.				
6.				
7.				

35 = Total Cover

Herb Stratum (Plot size: <u>5'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>CAREX gracillima</i>	5	Y	FACU
2.	<i>Potentilla norvegica</i>	3	Y	FACU
3.	<i>FRAGARIA virginiana</i>	<2	N	FACU
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				

10 = Total Cover

Woody Vine Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	NA			
2.				
3.				
4.				

0 = Total Cover

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>85</u>	x 4 = <u>336</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>115</u> (A)	<u>421</u> (B)

Prevalence Index = B/A = 3.66

Hydrophytic Vegetation Indicators:

N Rapid Test for Hydrophytic Vegetation

N Dominance Test is >50%

N Prevalence Index is < 3.0¹

 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Community Type: MAPLE-BEECH MESIC FOREST

Hydrophytic Vegetation Present? Yes No X

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

Photo # 2 Direction of Photo NNE

SOIL

Sampling Point: D1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 4/3	100					sil	5-10% shale frags
10-14	10YR 4/4	100					shs:l	

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

- Hydric Soil Indicators:
- Histosol (A1)
 - Histic Epipedon (A2)
 - Black Histic (A3)
 - Hydrogen Sulfide (A4)
 - Stratified Layers (A5)
 - Depleted Below Dark Surface (A11)
 - Thick Dark Surface (A12)
 - Sandy Mucky Mineral (S1)
 - Piedmont Floodplain Soils (F19) (MLRA 149B)
 - Sandy Gleyed Matrix (S4)
 - Sandy Redox (S5)
 - Stripped Matrix (S6)
 - Dark Surface (S7) (LRR R, MLRA 149B)
 - Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
 - Thin Dark Surface (S9) (LRR R, MLRA 149B)
 - Loamy Mucky Mineral (F1) (LRR K, L)
 - Loamy Gleyed Matrix (F2)
 - Depleted Matrix (F3)
 - Redox Dark Surface (F6)
 - Depleted Dark Surface (F7)
 - Redox Depressions (F8)
- Indicators for Problematic Hydric Soils³:
- 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)
 - Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
 - Red Parent Material (TF2)
 - Very Shallow Dark Surface (TF12)
 - Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: NONE

Depth (inches): n/a

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM Northcentral and Northeast Region

Project/Site: 28th Creek Road City/County: Ellington/Chautauqua County Sampling Date: Feb 2 January 10, 2012
 Applicant/Owner: Dagler Engineering State: NY Sampling Point: DZ
 Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: 304.00-2-24.1
 Landform (hillslope, terrace, etc.): Hill Slope Local relief (concave, convex, none): CONVEX
 Slope (%): 3-8 Lat: 42.19717 Long: 79.15562 Datum: NAD83

Soil Map Unit Name: CHAUTAUQUA SILT 10AM, 3-8% slopes NW 1 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? Yes _____ No X Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? Yes _____ No X (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 _____	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No _____	If yes, optional Wetland Site ID:	_____
Wetland Hydrology Present?	Yes _____ No <u>X</u>		

Remarks: (Explain alternative procedures here or in a separate report.)
HAY Field
ACTUALLY BUSTI

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	_____ Surface Soil Cracks (B6)
_____ Surface Water (A1)	_____ Water-Stained Leaves (B9)
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)
_____ Saturation (A3)	_____ Drainage Patterns (B10)
_____ Water Marks (B1)	_____ Moss Trim Lines (B16)
_____ Sediment Deposits (B2)	_____ Dry-Season Water Table (C2)
_____ Drift Deposits (B3)	_____ Crayfish Burrows (C8)
_____ Algal Mat or Crust (B4)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Iron Deposits (B5)	_____ Stunted or Stressed Plants (D1)
_____ Inundation Visible on Aerial Imagery (B7)	_____ Geomorphic Position (D2)
_____ Sparsely Vegetated Concave Surface (B8)	_____ Shallow Aquitard (D3)
	_____ Microtopographic Relief (D4)
	_____ FAC-Neutral Test (D5)

Field Observations:
 Surface Water Present? Yes _____ No X Depth (inches): N/A
 Water Table Present? Yes _____ No X Depth (inches): N/A
 Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): N/A
 Wetland Hydrology Present? Yes _____ No X

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

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: _____

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. NA			
2.			
3.			
4.			
5.			
6.			
7. ✓			

0 = Total Cover

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. NA			
2.			
3.			
4.			
5.			
6.			
7. ✓			

0 = Total Cover

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Juncus effusus	5	N	FACW
2. Phalaris arundinacea	70	Y	FACW
3. Solidago CANADENSIS	8	N	FACU
4. Trifolium repens	10	N	FACU
5. Ranunculus repens	3	N	FAC
6. CHRYSANTHEMUM LEUCANTHEMUM	2	N	FACU
7.			
8.			
9.			
10.			
11.			
12.			

98 = Total Cover

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. NA			
2.			
3.			
4. ✓			

0 = Total Cover

Remarks: (Include photo numbers here or on a separate sheet.)
 Photo # 4 Direction of Photo N

* Phalaris arundinacea dominant + present @ SAMPLE POINT
 DATA POINT IS IN HAY FIELD

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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 = _____

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

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

Community Type: MOWN OLD HAY FIELD

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: B2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/3	48	10YR 5/3	2	C	M&PL	Silt ⁺	
6-12	10YR 5/2	95	10YR 5/8	5-10	C	M	Silt ⁺	

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

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 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)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: NONE
 Depth (inches): N/A

Hydric Soil Present? Yes X No

Remarks:

RELICT Hydric Soil

WETLAND DETERMINATION DATA FORM Northcentral and Northeast Region

Project/Site: 28th Creek Road City/County: Ellington/Chautauqua County Sampling Date: Feb 2 January 10, 2012
 Applicant/Owner: Daigler Engineering State: NY Sampling Point: D3
 Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: 304.00-2-24.1
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): CONCAVE
 Slope (%): 1 Lat: 42.19652 Long: 79.15548 Datum: NAD83
 Soil Map Unit Name: Ashville Silt loam NW 1 classification: PSS1F0

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

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If yes, optional Wetland Site ID: <u>W1</u>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Microtopographic Relief (D4)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input 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 type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>0-1" (25%)</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>SURF</u>	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>SURF</u>	

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

Remarks:

VEGETATION : Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>ULMUS AMERICANA</u>	<u>15</u>	<u>Y</u>	<u>FACW-</u>
2. <u>Salix discolor</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>
3. <u>Acer rubrum</u>	<u>7</u>	<u>N</u>	<u>FAC</u>
4. <u>CARPINUS CAROLINIANA</u>	<u>10</u>	<u>N</u>	<u>FAC</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Cornus amomum</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
2. <u>Salix spp.</u>	<u>25</u>	<u>Y</u>	<u>*</u>
3. <u>CARPINUS CAROLINIANA</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Prevalence Index worksheet:

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 = _____

Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Bidens aristosa</u>	<u>8</u>	<u>N</u>	<u>FACW</u>
2. <u>Onoclea sensibilis</u>	<u>55</u>	<u>Y</u>	<u>FACW</u>
3. <u>Rackera aurea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>
4. <u>Glyceria striata</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
5. <u>Solidago rugosa</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
6. <u>Phalaris arundinacea</u>	<u>8</u>	<u>N</u>	<u>FACW</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

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

Definitions of Vegetation Strata:

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

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

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

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

Woody Vine Stratum (Plot size: <u>30'</u>)	Absolute % Cover
1. <u>NA</u>	_____
2. _____	_____
3. _____	_____
4. _____	_____

Community Type: PFO/EM
HARDWOOD SWAMP + SHALLOW EMERGENT MARSH COMPLEX

Hydrophytic Vegetation Present? Yes X No _____

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

Photo # 5 Direction of Photo SOUTH

SOIL

Sampling Point: 13

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR3/2	98	10YR5/8	2	C	M	s.l	
5-12	2.5Y5/2	95	10YR5/8	5	C	M	s.l	

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

- Hydric Soil Indicators:**
- Histosol (A1)
 - Histic Epipedon (A2)
 - Black Histic (A3)
 - Hydrogen Sulfide (A4)
 - Stratified Layers (A5)
 - Depleted Below Dark Surface (A11)
 - Thick Dark Surface (A12)
 - Sandy Mucky Mineral (S1)
 - Piedmont Floodplain Soils (F19) (MLRA 149B)
 - Sandy Gleyed Matrix (S4)
 - Sandy Redox (S5)
 - Stripped Matrix (S6)
 - Dark Surface (S7) (LRR R, MLRA 149B)
 - Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
 - Thin Dark Surface (S9) (LRR R, MLRA 149B)
 - Loamy Mucky Mineral (F1) (LRR K, L)
 - Loamy Gleyed Matrix (F2)
 - Depleted Matrix (F3)
 - Redox Dark Surface (F6)
 - Depleted Dark Surface (F7)
 - Redox Depressions (F8)
 - 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)
 - Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
 - Red Parent Material (TF2)
 - Very Shallow Dark Surface (TF12)
 - Other (Explain in Remarks)

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

Restrictive Layer (if observed):
 Type: NONE
 Depth (inches): NA

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM Northcentral and Northeast Region

Project/Site: 28th Creek Rd City/County: Ellington/Chautauqua County Sampling Date: Feb 2
 Applicant/Owner: Daigler Engineering State: NY Sampling Point: D4
 Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: 304.00-2-24.1
 Landform (hillslope, terrace, etc.): Hill Slope Local relief (concave, convex, none): NONE (Sloping)
 Slope (%): 3-8 Lat: 42.19564 Long: 79.15527 Datum: NAD83
 Soil Map Unit Name: CHAUTAUQUA SILT LOAM, 3-8% Slopes NW I classification: PEM

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? Yes No X Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? Yes No X (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>
Remarks: (Explain alternative procedures here or in a separate report.)		If yes, optional Wetland Site ID: <u>WI</u>	

* ACTUALLY ASHVILLE

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <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 type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<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)
Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u>N/A</u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>SURF.</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>SURF.</u>	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>

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

Remarks:
Hillside Wetland

VEGETATION : Use scientific names of plants.

Sampling Point: _____

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Populus tremuloides</i>	5	Y	FACW
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

5 = Total Cover

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Salix discolor</i>	20	Y	FACW
2. <i>Salix</i> spp.	15	Y	*
3. <i>Cornus amomum</i>	10	N	FACW
4. <i>Rubus idaeus</i>	10	N	FAC
5. <i>Rubus hispida</i>	10	N	FACW
6. _____	_____	_____	_____
7. _____	_____	_____	_____

65 = Total Cover

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Scirpus cyperinus</i>	15	Y	FACW
2. <i>Aster nove-angliae</i>	5	N	FACW
3. <i>Juncus effusus</i>	25	Y	FACW
4. <i>Polypodium virginianum</i>	8	N	NI
5. <i>Rubus hispida</i>	5	N	FACW
6. <i>Onoclea sensibilis</i>	10	N	FACW
7. <i>Lyco podium</i> spp.	5	N	*
8. <i>Phalaris arundinacea</i>	5	N	FACW
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

78 = Total Cover

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. N.A	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

0 = Total Cover

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

Photo # 6

Direction of Photo SE

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

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 = _____

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

___ Dominance Test is >50%

___ Prevalence Index is < 3.0¹

___ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

PEM / PSS
SHALLOW EMERGENT MARSH + SHRUB SWAMP

Community Type: _____

SEEP?

Hydrophytic Vegetation Present?

Yes No _____

SOIL

Sampling Point: D4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	100					s.l	
4-12	10YR 5/1	95	10YR 5/8	5	C	m	s.l	

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

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) | | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Stripped Matrix (S6) | | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | |

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

Restrictive Layer (if observed):

Type: NONE
 Depth (inches): N/A

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM Northcentral and Northeast Region

28 1/2 Creek Rd

Project/Site: ~~Ellington Pipeline~~ City/County: Ellington/Chautauqua County Sampling Date: ~~January 10, 2012~~ Feb 2
 Applicant/Owner: Daigler Engineering State: NY Sampling Point: D5
 Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: 304.00-2-24.1
 Landform (hillslope, terrace, etc.): Hill Slope Local relief (concave, convex, none): NONE
 Slope (%): 3 Lat: 42.19641 Long: 79.15332 Datum: NAD83
 * Soil Map Unit Name: CHAUTAUQUA SILT LOAM 3-8% SLOPES NW I classification: PEM

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

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: (Explain alternative procedures here or in a separate report.)		If yes, optional Wetland Site ID: W2	

* ACTUALLY BUSTI
 Ag Wetland (Hay Field)

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	Drainage Patterns (B10)
<input type="checkbox"/> High Water Table (A2)	Moss Trim Lines (B16)
<input type="checkbox"/> Saturation (A3)	Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input 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 type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:
 Surface Water Present? Yes No Depth (inches): 0-1" (50%)
 Water Table Present? Yes No Depth (inches): SURF
 Saturation Present? Yes No Depth (inches): SURF
 Wetland Hydrology Present? Yes No

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

Remarks:

VEGETATION : Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. NA			
2.			
3.			
4.			
5.			
6.			
7.			

0 = Total Cover

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. NA			
2.			
3.			
4.			
5.			
6.			
7.			

0 = Total Cover

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Scirpus aperinus</i>	3	N	FACW
2. <i>Phalaris arundinacea</i>	80	Y	FACW
3. <i>Juncus effusus</i>	10	N	FACW
4. <i>Ranunculus acris</i>	3	N	FAC
5. <i>Rumex crispus</i>	2	N	FACV
6.			
7.			
8.			
9.			
10.			
11.			
12.			

98 = Total Cover

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. NA			
2.			
3.			
4.			

0 = Total Cover

Remarks: (Include photo numbers here or on a separate sheet.)
 Photo # 7 Direction of Photo SOUTH

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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 =

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

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

Community Type: PEM SHALLOW EMERGENT MARSH

Hydrophytic Vegetation Present? Yes X No

SOIL

Sampling Point: 05

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR3/2	98	10YR2.5/8	7	C	M	S.S	
10-14	10YR5/E	95	10YR5/8	5	C	M	S-cl	

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

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) | | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Stripped Matrix (S6) | | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | |

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

Restrictive Layer (if observed):

Type: NONE
 Depth (inches): N/A

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM Northcentral and Northeast Region

28th Creeks Rd

Project/Site: ~~XXXXXXXXXX~~ City/County: Ellington/Chautauqua County Sampling Date: Feb 2 January 10, 2012
 Applicant/Owner: Daigler Engineering State: NY Sampling Point: D6
 Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: 304.00-2-24.1
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): NONE
 Slope (%): 3 Lat: 42.19944 Long: 79.15394 Datum: NAD83
 Soil Map Unit Name: BUSTE SILT LOAM, 3-8% slopes NW I classification: PSS16M

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? Yes No X Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? Yes No X (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>
Remarks: (Explain alternative procedures here or in a separate report.)		If yes, optional Wetland Site ID: <u>W4</u>	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	<u> </u> Surface Soil Cracks (B6)
<u> </u> Surface Water (A1)	<u> </u> Drainage Patterns (B10)
<u> </u> High Water Table (A2)	<u> </u> Moss Trim Lines (B16)
<u>X</u> Saturation (A3)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Water Marks (B1)	<u> </u> Crayfish Burrows (C8)
<u> </u> Sediment Deposits (B2)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Drift Deposits (B3)	<u> </u> Stunted or Stressed Plants (D1)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Geomorphic Position (D2)
<u> </u> Iron Deposits (B5)	<u> </u> Shallow Aquitard (D3)
<u> </u> Inundation Visible on Aerial Imagery (B7)	<u> </u> Microtopographic Relief (D4)
<u> </u> Sparsely Vegetated Concave Surface (B8)	<u> </u> FAC-Neutral Test (D5)
<u> </u> Water-Stained Leaves (B9)	
<u> </u> Aquatic Fauna (B13)	
<u> </u> Marl Deposits (B15)	
<u> </u> Hydrogen Sulfide Odor (C1)	
<u> </u> Oxidized Rhizospheres on Living Roots (C3)	
<u> </u> Presence of Reduced Iron (C4)	
<u> </u> Recent Iron Reduction in Tilled Soils (C6)	
<u> </u> Thin Muck Surface (C7)	
<u> </u> Other (Explain in Remarks)	

Field Observations:	
Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u>N/A</u>	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u>N/A</u>	
Saturation Present? (includes capillary fringe) Yes <u>X</u> No <u> </u> Depth (inches): <u>SURF</u>	

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

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: _____

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Salix discolor</i>	5	Y	FACW
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Salix discolor</i>	20	Y	FACW
2. <i>Cornus amomum</i>	20	Y	FACW
3. <i>Salix fragilis</i>	5	N	FAC
4. <i>Cornus racemosa</i>	7	N	FACW
5. <i>Rosa multiflora</i>	10	N	FACU
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Prevalence Index worksheet:

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 = _____

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Juncus effusus</i>	20	Y	FACW
2. <i>Onoclea sensibilis</i>	15	N	FACW
3. <i>Euthamia graminifolia</i>	7	N	FAC
4. <i>Ranunculus acris</i>	8	N	FAC
5. <i>Aster lateriflorus</i>	5	N	FACW
6. <i>Carex vulpinoidea</i>	20	Y	DBL
7. <i>Solidago canadensis</i>	5	N	FACU
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

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

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

Community Type:

PSS/EM
 YOUNG SHRUBSWAMP ON SEEP AREAS OF PEW (EMERGENT) MARSH WITHIN

Hydrophytic Vegetation Present? Yes No _____

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

Photo # 8 Direction of Photo NW

SOIL

Sampling Point: D6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR 3/2	90	10YR 3/6 7/8	10	C	M	S.L	
9-12	10YR 5/2	75	10YR 5/6	25	C	M	S.L	

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

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

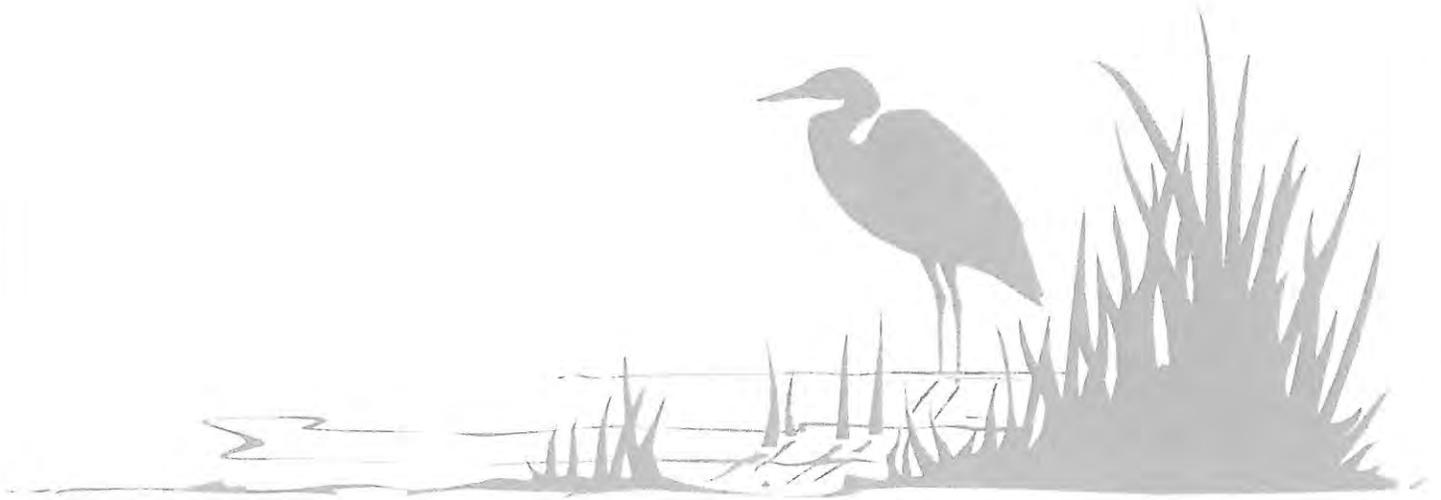
- | | | |
|--|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) | | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Stripped Matrix (S6) | | |
| <input type="checkbox"/> Dark Surface (S7)-(LRR R, MLRA 149B) | | |

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

Restrictive Layer (if observed):		Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: <u>NONE</u>	Depth (inches): <u>N/A</u>	

Remarks:

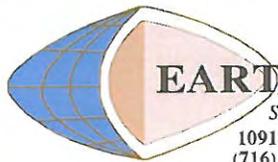
28th Creek Road
Carroll Landfill Mitigation Site



ATTACHMENT C
Aerial Photograph

W24H04a

Carroll Landfill



EARTH DIMENSIONS, INC.

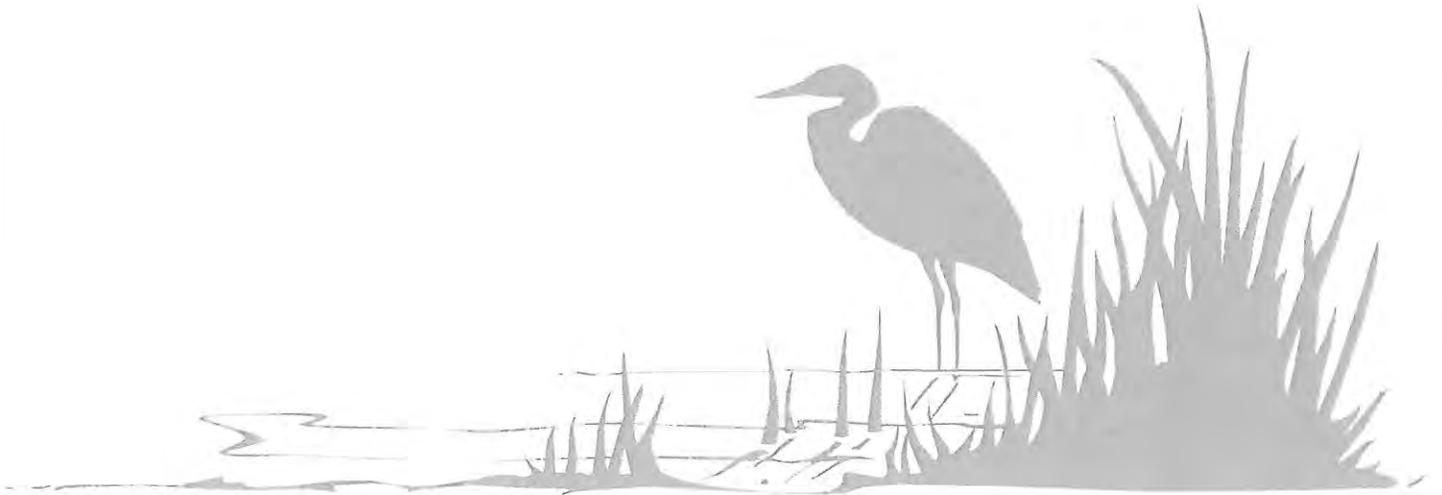
Soil & Hydrogeologic Investigations • Wetland Delineations
1091 Jamison Road • Elma New York 14059
(716) 655-1717 • Fax (716) 655-2915 • www.earthdimensions.com

Attachment C: Aerial Photograph
<http://maps.google.com/maps?hl=en&tab=wl>
Site visited 02-13-2012

28th Creek Road, Carroll Landfill Mitigation Site
Town of Ellington, Chautauqua County, New York



28th Creek Road
Carroll Landfill Mitigation Site



ATTACHMENT D
Site Photographs



Photo 1: 02-02-2012. Facing northeast from near wetland flag W1-37, depicts the vegetation of wetland 1.



Photo 2: 02-02-2012. Facing northeast from near data point D1, depicts maple-beech mesic forest.



Photo 3: 02-02-2012. Facing northwest from near wetland flag W1-39, depicts the stream channel within wetland 1.



Photo 4: 02-02-2012. Facing north from near Wetland flag W1-54; depicting a mown hay field.



Photo 5: 02-02-2012. Facing south from near Wetland flag W1-54; depicting wetland 1.



Photo 6: 02-02-2012. Facing southeast from near wetland flag W1-65, depicts the vegetation of wetland 1, near data point D4.





Photo 7: 02-02-2012. Facing south from near wetland flag W2-4; depicts wetland 2 (agricultural wetland).



Photo 8: 02-02-2012. Facing northwest from near wetland flag W4-21; depicts the wetland 4.



Photo 9: 02-02-2012. Facing southeast from along hedgerow; depicts the mown hay field south of wetland 4.



Photo 10: 02-02-2012. Facing south from hedgerow; depicts the mown hay field south of wetland 4.



Photo 11: 02-02-2012. Facing northwest from along hedgerow; depicts the mown hay field south of wetland 4.

28th Creek Road
Carroll Landfill Mitigation Site



ATTACHMENT E
References

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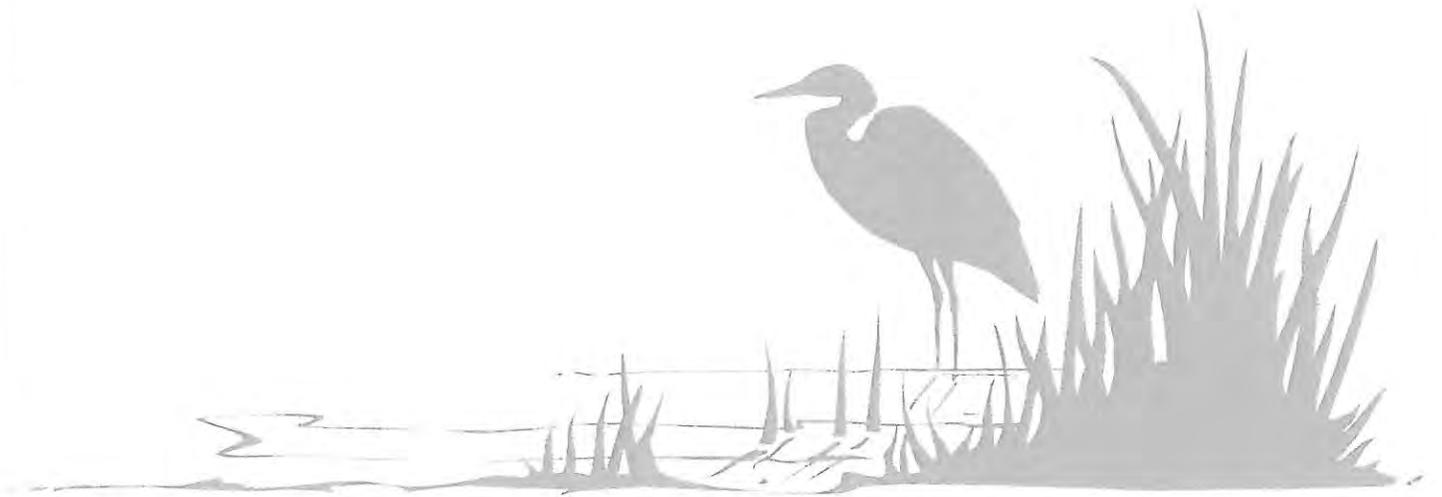
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28th Creek Road
Carroll Landfill Mitigation Site



ATTACHMENT F
Wetland Investigation Personnel

WETLAND INVESTIGATION PERSONNEL

Soils and Hydrology Sampling

Scott Livingstone Senior Soil Scientist
Earth Dimensions, Inc.
1091 Jamison Road
Elma, New York 14059
(716) 655-1717

Vegetation Sampling

Jody M. Celeste, Ecologist
Earth Dimensions, Inc.
1091 Jamison Road
Elma, New York 14059
(716) 655-1717

Report Preparation

Jody M. Celeste, Ecologist
Earth Dimensions, Inc.
1091 Jamison Road
Elma, New York 14059
(716) 655-1717

APPENDIX C

U.S. Army Corps of Engineers Jurisdictional Determination



DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

REPLY TO
ATTENTION OF:

January 2, 2013

Regulatory Branch

SUBJECT: Preliminary Jurisdictional Determination and Approved Jurisdictional Determination for Department of the Army Application No. 2012-01110

Mr. David Lenox
Daigler Engineering, P.C.
1711 Grand Island Boulevard
Grand Island, New York 14072

Dear Mr. Lenox:

I have reviewed the wetland delineation report submitted on your behalf by Mr. Scott Livingstone of Earth Dimensions, Inc. for your request for a wetland boundary verification on 36 acre parcel located at 28th Creek Road, Town of Ellington, Chautauqua County, New York.

Section 404 of the Clean Water Act establishes Corps of Engineers jurisdiction over the discharge of dredged or fill material into waters of the United States, including wetlands, as defined in 33 CFR Part 328.3.

I have evaluated your submitted wetland delineation map and have determined that the wetland and water boundaries shown on the map accurately represent on-site conditions. I am hereby verifying the wetland and water boundaries depicted on Sheet 6 of 6 with a preliminary and an approved jurisdictional determination.

1. Approved Jurisdictional Determination, Attachment A, for Wetlands W2 & W3

Based upon our evaluation of the subject project site, we have determined that there is no clear surface water connection or ecological continuum between wetlands W2 (0.090 acres) and W3 (0.025 acres) on the parcel and a surface tributary system to a navigable water of the United States. Therefore, these waters are considered isolated, non-navigable, intrastate waters and not regulated under Section 404 of the Clean Water Act. Accordingly, you do not need Department of the Army authorization to commence work in these areas.

This determination for wetlands W2 and W3 will remain valid for a period of 5 years from the date of this correspondence unless new information warrants revision of the delineation before the expiration. At the end of this period, a new delineation may be required. If you object to this determination, you may request an administrative appeal under Corps regulations at 33

Regulatory Branch

SUBJECT: Preliminary Jurisdictional Determination and Approved Jurisdictional Determination for Department of the Army Application No. 2012-01110

CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal the above determination, you must submit a completed RFA form within 60 days of the date on this letter to the Great Lakes/Ohio River Division Office at the following address:

Review Officer
Great Lakes and Ohio River Division
CELRD-PDS-O
550 Main Street, Room 10032
Cincinnati, OH 45202-3222
Phone: 513-684-6212

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 C.F.R. part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by March 3, 2013.

It is not necessary to submit an RFA to the Division office if you do not object to the determination in this letter.

2. Preliminary Jurisdictional Determination, Attachment B, for W1, W4 and DW1

Please note that this is a Preliminary Jurisdictional Determination (JD) for wetlands W1, W4 and drainage way DW1. Preliminary JDs are non-binding written indications that there may be waters of the United States on your parcel and approximate locations of those waters. Preliminary JDs are advisory in nature and may not be appealed.

Pursuant to Regulatory Guidance Letter 08-02, any permit application made in reliance on this Preliminary JD will be evaluated as though all wetlands or waters outlined on Attachment B are regulated by the Corps. Further, all waters, including wetlands on Attachment B will be used for purposes of assessing the area of project related impacts and compensatory mitigation. If you require a definitive response regarding Department of the Army jurisdiction for any or all of the waters identified on Attachment B, you may request an approved jurisdictional determination from this office. If an approved jurisdictional determination is requested, please be aware that this is often a lengthy process and we may require the submittal of additional information.

I have enclosed the Preliminary JD Form, Attachment b, with this letter. The form and attached table identifies the extent of waters on the site and specific terms and conditions of the Preliminary JD. Please sign and return a copy of this form to my attention so that I may complete my evaluation of your file. If you do not respond within fifteen days of this letter, January 18, 2013, I will assume you no longer wish to pursue the jurisdictional determination and will withdraw your application.

Regulatory Branch

SUBJECT: Preliminary Jurisdictional Determination and Approved Jurisdictional Determination for Department of the Army Application No. 2012-01110

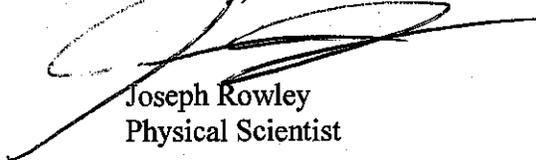
In accordance with Regulatory Guidance Letter 05-02, "Preliminary jurisdictional determinations are not definitive determinations of areas within regulatory jurisdiction and do not have expirations dates." However, I strongly recommend that the boundaries of waters of the United States identified on Attachment B be re-evaluated by a qualified wetland biologist after five years of the date of this letter. This will ensure that any changes are appropriately identified and you do not inadvertently incur a violation of Federal law while constructing your project or working on your project site.

Lastly, the Preliminary and Approved Jurisdictional Determinations have been conducted only to identify the limits of waters that may be subject to Corps Clean Water Act or Rivers and Harbors Act jurisdiction. This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resource Conservation Service prior to starting work.

A copy of this letter has been sent to Mr. Scott Livingstone of Earth Dimensions, Inc.

Questions pertaining to this matter should be directed to me by calling (716) 879-4279, by writing to the following address: U.S. Army Corps of Engineers, 1776 Niagara Street, Buffalo, New York 14207, or by e-mail at: joseph.m.rowley@usace.army.mil

Sincerely,



Joseph Rowley
Physical Scientist

Enclosures

Attachment A

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Daigler Engineering, P.C.		File Number: 2012-01110	Date: Jan 2, 2013
Attached is:		See Section below	
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A	
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B	
	PERMIT DENIAL	C	
X	APPROVED JURISDICTIONAL DETERMINATION for W2, W3, W4, W5 and W6	D	
	PRELIMINARY JURISDICTIONAL DETERMINATION	E	

SECTION II: The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/cccw/rep/or/Corps/regulations/1F33/CFR/Part%2033/>

- A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.
- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
 - **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.
- B: PROFFERED PERMIT:** You may accept or appeal the permit
- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
 - **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.
- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
 - **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Joseph Rowley
U.S. Army Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207
(716)879-4279
joseph.m.rowley@usace.army.mil

If you only have questions regarding the appeal process you may also contact:

Review Officer
Great Lakes and Ohio River Division
CELRD-PDS-O
550 Main Street, Room 10032
Cincinnati, OH 45202-3222
Phone: 513-684-6212; FAX(513) 684-2460
pauline.d.thorndike@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:

Telephone number:

ATTACHMENT B

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): January 2, 2013

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:

Mr. David Lenox
Daigler Engineering, P.C.
1711 Grand Island Boulevard
Grand Island, New York 14072

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: 2012-01110 (28th Creek Road)

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION: A delineation was submitted by Earth Dimensions, Inc on February 23, 2012 for a jurisdictional determination for a 35 acre parcel located at 28th Creek Road, in the Town of Ellington, Chautauqua County, NY.

(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State: New York County: Chautauqua City: Ellington

Center coordinates of site (lat/long in degree decimal format):

Lat. 42.1983 Long. -79.1556

Universal Transverse Mercator:

Name of nearest waterbody: 28th Creek

Identify (estimate) amount of waters in the review area:

Non-wetland waters:

linear feet: 1,134 width (ft): 4-5 ft and/or acres.

Cowardin Class: Riparian

Stream Flow: Perennial

Wetlands: 6.8 acres.

Cowardin Class: Scrub/Shrub/Forested

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:

Non-Tidal:

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: September 20, 2012

Field Determination. Date(s): August 17, 2012

FILE NAME, AND NUMBER: LRB 2012-01110 (28th Creek Road Parcel)

SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply -

checked items should be included in case file and, where checked and requested, appropriately reference sources below):

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
Wetland delineation report submitted by Earth Dimensions, Inc.

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

Data sheets prepared by the Corps:

Corps navigable waters' study:.

U.S. Geological Survey Hydrologic Atlas:.

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Cite scale & quad name: Gerry.1:24000

USDA Natural Resources Conservation Service Soil Survey. Citation:
Chautauqua County Soil Survey.

National wetlands inventory map(s). Cite name: USFWS Wetland Mapper; No
mapped Federal wetlands are within the delineated parcel.

State/Local wetland inventory map(s): NYSDEC Resource Mapper; NY State
regulated wetlands are outside the delineated parcel:.

FEMA/FIRM maps:.

100-year Floodplain Elevation is: (National Geodectic Vertical Datum
of 1929)

Photographs: Aerial (Name & Date): Bing or Google Maps

or Other (Name & Date): Photos submitted by Earth Dimensions, Inc.
with the delineation report.

Previous determination(s). File no. and date of response letter:.

Other information (please specify):.

**IMPORTANT NOTE: The information recorded on this form has not necessarily
been verified by the Corps and should not be relied upon for later jurisdictional
determinations.**

Signature and date of
Regulatory Project Manager
(REQUIRED)

DAVID LENOX
David Lenox 2/14/2013

Signature and date of
person requesting preliminary JD
(REQUIRED)

FILE NAME, AND NUMBER: LRB 2012-01110 (28th Creek Road Parcel)

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

FILE NAME, AND NUMBER: LRB 2012-01110 (28th Creek Road Parcel)

Preliminary Jurisdictional Determination for Regulated Waters of the U.S.

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
Wetland 1	42.1942	-79.1534	PSS	4.38 Acres	Section 404
Wetland 4	42.1998	-79.1551	PSS	2.56 Acres	Section 404
DW1	42.1939	-79.1535	Intermittent	1,134 LF	Section 404

Approved Jurisdictional Determination for Isolated, non-Regulated Waters of the U.S.

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
Wetland 2	43.2188	-78.9537	PEM	0.104 Acres	Isolated
Wetland 3	43.2195	-78.9540	PEM	0.026 Acres	Isolated

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): January 2, 2013

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: LRB 2012-01110 (28th Creek Rd (Daigler Engineering, P.C.))

C. PROJECT LOCATION AND BACKGROUND INFORMATION: (Wetland 2 & 3)

State: New York

County/parish/borough: Chautauqua

City: Ellington

Center coordinates of site (lat/long in degree decimal format): Lat. 42.198329° N, Long. -79.155604° W.

Universal Transverse Mercator:

Name of nearest waterbody: 28th Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:

Name of watershed or Hydrologic Unit Code (HUC): Southwestern Lake Ontario

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: September 20, 2012

Field Determination. Date(s): August 17, 2012

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There ~~are~~ "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There ~~are~~ "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

h. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: Wetland 2 (0.090 Acres) and Wetland 3 (0.025 Acres) were determined to be isolated with no connections/outlet channels/evidence of flow away from the wetlands to a navigable waters of the US.

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

- (i) General Area Conditions:
 - Watershed size: [Redacted]
 - Drainage area: [Redacted]
 - Average annual rainfall: inches
 - Average annual snowfall: inches

(ii) Physical Characteristics:

- (a) Relationship with TNW:
 - Tributary flows directly into TNW.
 - Tributary flows through [Redacted] tributaries before entering TNW.

Project waters are [Redacted] river miles from TNW.
 Project waters are [Redacted] river miles from RPW.
 Project waters are [Redacted] aerial (straight) miles from TNW.
 Project waters are [Redacted] aerial (straight) miles from RPW.
 Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵:
 Tributary stream order, if known:

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) **General Tributary Characteristics (check all that apply):**

- Tributary is: Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: feet
Average depth: feet
Average side slopes: Pick List.

Primary tributary substrate composition (check all that apply):

- | | | |
|--|--|-----------------------------------|
| <input type="checkbox"/> Silts | <input type="checkbox"/> Sands | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles | <input type="checkbox"/> Gravel | <input type="checkbox"/> Muck |
| <input type="checkbox"/> Bedrock | <input type="checkbox"/> Vegetation. Type/% cover: | |
| <input type="checkbox"/> Other. Explain: | | |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: stable banks.

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: Pick List

Tributary gradient (approximate average slope): %

(c) **Flow:**

Tributary provides for: Pick List

Estimate average number of flow events in review area/year: Pick List

Describe flow regime:

Other information on duration and volume:

Surface flow is: Pick List. Characteristics:

Subsurface flow: Pick List. Explain findings:

- Dye (or other) test performed:

Tributary has (check all that apply):

- | | |
|---|---|
| <input type="checkbox"/> Bed and banks | |
| <input type="checkbox"/> OHWM ⁶ (check all indicators that apply): | |
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> the presence of litter and debris |
| <input type="checkbox"/> changes in the character of soil | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> shelving | <input type="checkbox"/> the presence of wrack line |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> scour |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> water staining | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> other (list): | |
| <input type="checkbox"/> Discontinuous OHWM. ⁷ Explain: | |

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- | | |
|--|--|
| <input checked="" type="checkbox"/> High Tide Line indicated by: | <input checked="" type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects | <input type="checkbox"/> survey to available datum; |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings; |
| <input type="checkbox"/> physical markings/characteristics | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges | |
| <input type="checkbox"/> other (list): | |

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known:

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) **General Wetland Characteristics:**

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain:

(b) **General Flow Relationship with Non-TNW:**

Flow is: Pickle Creek. Explain:

Surface flow is: Pickle Creek

Characteristics:

Subsurface flow: Pickle Creek. Explain findings:

Dye (or other) test performed:

(c) **Wetland Adjacency Determination with Non-TNW:**

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) **Proximity (Relationship) to TNW**

Project wetlands are Pickle Creek river miles from TNW.

Project waters are Pickle Creek aerial (straight) miles from TNW.

Flow is from: Pickle Creek.

Estimate approximate location of wetland as within the Pickle Creek floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the trihutory (if any)**

All wetland(s) being considered in the cumulative analysis: Pickle Creek

Approximately () acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
 - TNWs: linear feet width (ft), Or, acres.
 - Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**
 - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
 - Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
- Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain:
- Other factors. Explain:

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters:

Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.

Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.

Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).

Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:

Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

Non-wetland waters (i.e., rivers, streams): linear feet width (ft).

Lakes/ponds: acres.

Other non-wetland waters: acres. List type of aquatic resource:

Wetlands: 0.115 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

Non-wetland waters (i.e., rivers, streams): linear feet width (ft).

Lakes/ponds: acres.

Other non-wetland waters: acres. List type of aquatic resource:

Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Wetland delineation report prepared by Earth Dimensions, Inc..

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

Data sheets prepared by the Corps:

Corps navigable waters' study:

U.S. Geological Survey Hydrologic Atlas:

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Cite scale & quad name: Gerry, NY Quadrangle 1:24000; The delineated parcel was identified.

USDA Natural Resources Conservation Service Soil Survey. Citation: Chautauqua County Soil Survey/Web Soil Survey.

National wetlands inventory map(s). Cite name: USFWS wetland mapper (<http://www.fws.gov/wetlands/>), No mapped Federal wetlands are within or near the parcel vicinity.

State/Local wetland inventory map(s): NYSDEC Wetland mapper (<http://www.nysgis.state.ny.us/>), No State wetlands are within or near the project vicinity.

FEMA/FIRM maps:

100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)

Photographs: Aerial (Name & Date): Google Maps; Bing Maps, Google Earth.

or Other (Name & Date):

Previous determination(s). File no. and date of response letter:

Applicable/supporting case law:

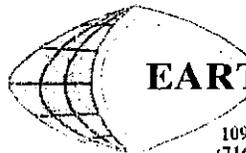
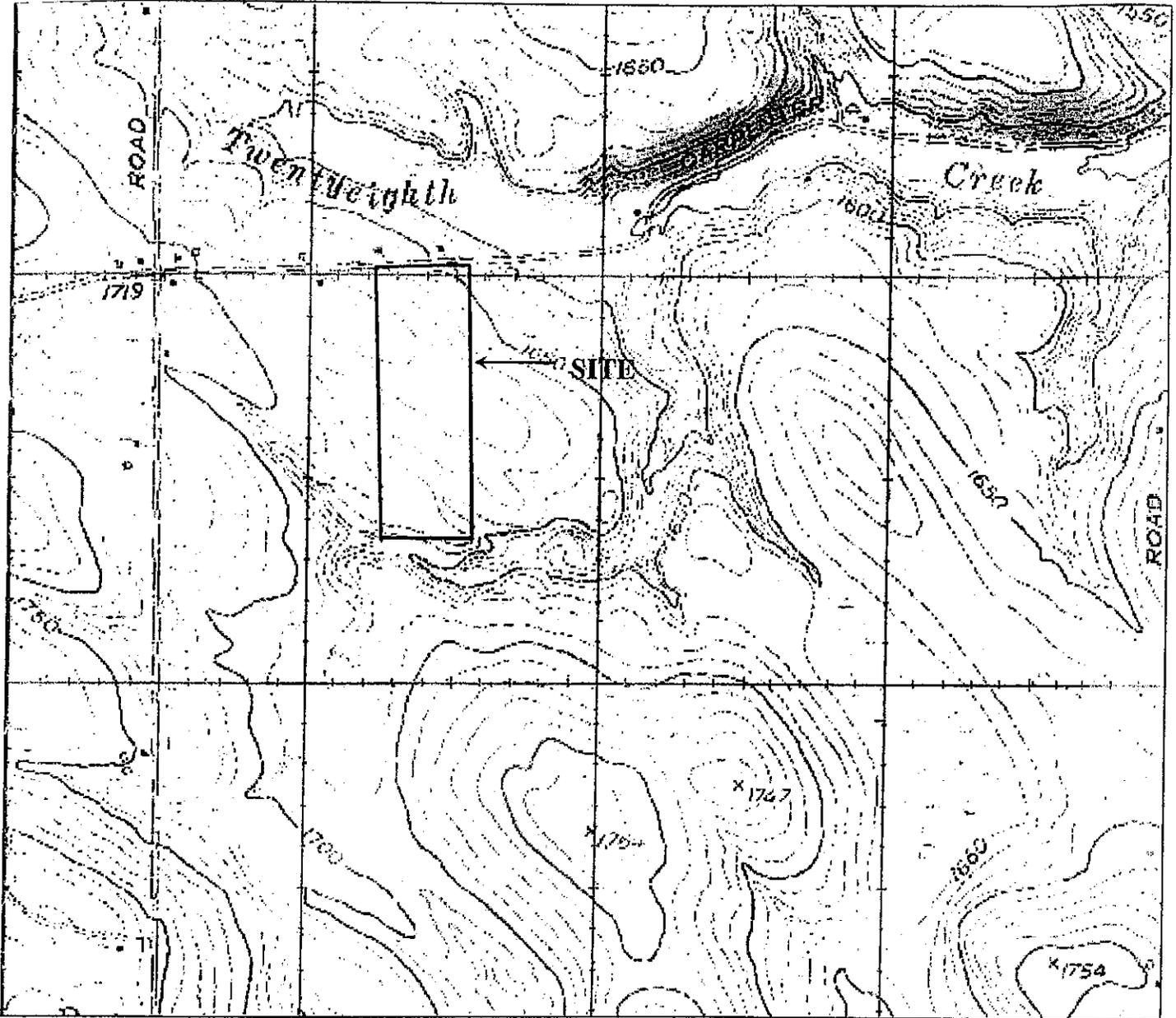
Applicable/supporting scientific literature:

Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: All wetland boundaries were field verified on August 17, 2012 with Mr. Scott Livingstone of Earth Dimensions, Inc. and Mrs. Susan Baker of USACE Buffalo District.

WETLANDS 2 & 3

Isolated wetlands 2 & 3 were field verified by the Corps of Engineers on August 17, 2012. The perimeter of wetland 2 & 3 were walked and no evidence of any connection to other waters were identified. There were no connections between Wetland 2 & 3 and any other waters on the Gerry USGS Quad or Chautauqua County Soil Survey. Wetland 2 & 3 are isolated and outside the Department of the Army's jurisdiction. The determination is supported by the review of in-house resources and verified from a site visit. None of the 328.3(a)(3)(i-iii) factors are relevant in this case. Wetland 2 & 3 don't support recreational or other use by interstate travelers, nor do they provide habitat for fish or shellfish. Wetland 2 & 3 offer no use for industrial or commercial purposes.



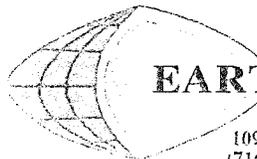
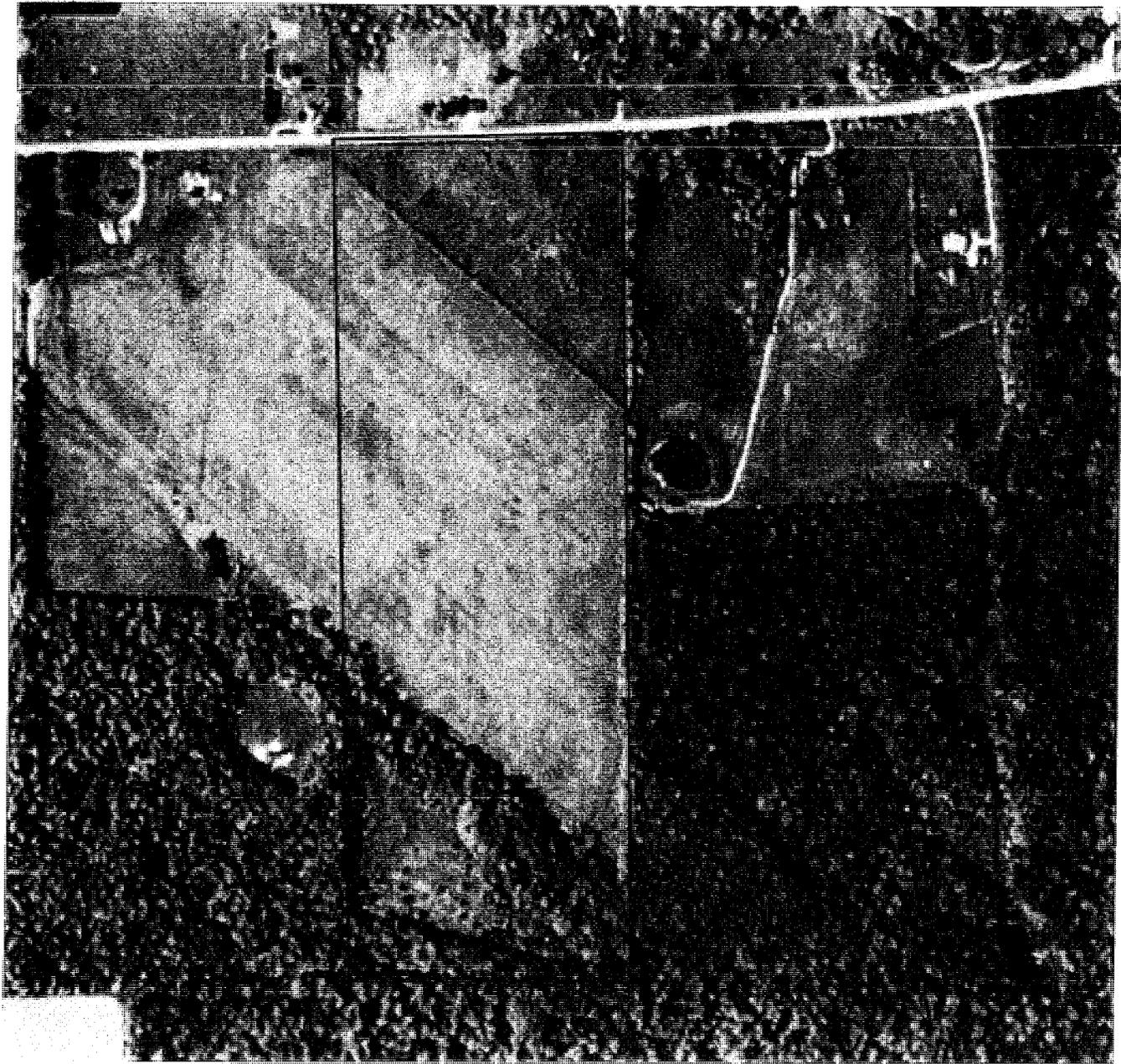
EARTH DIMENSIONS, INC.

Soil & Hydrogeologic Investigations • Wetland Delineations
1091 Jamison Road • Elma New York 14059
(716) 655-1717 • Fax (716) 655-2915 • www.earthdimensions.com

Figure 1: USGS 7.5 Minute Topographical Map
Gerry Quadrangle/ 2002 DeLorme

28th Creek Road, Carroll Landfill Mitigation Site
Town of Ellington, Chautauqua County, New York





EARTH DIMENSIONS, INC.

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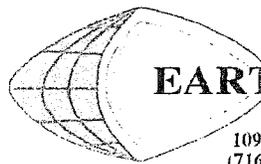
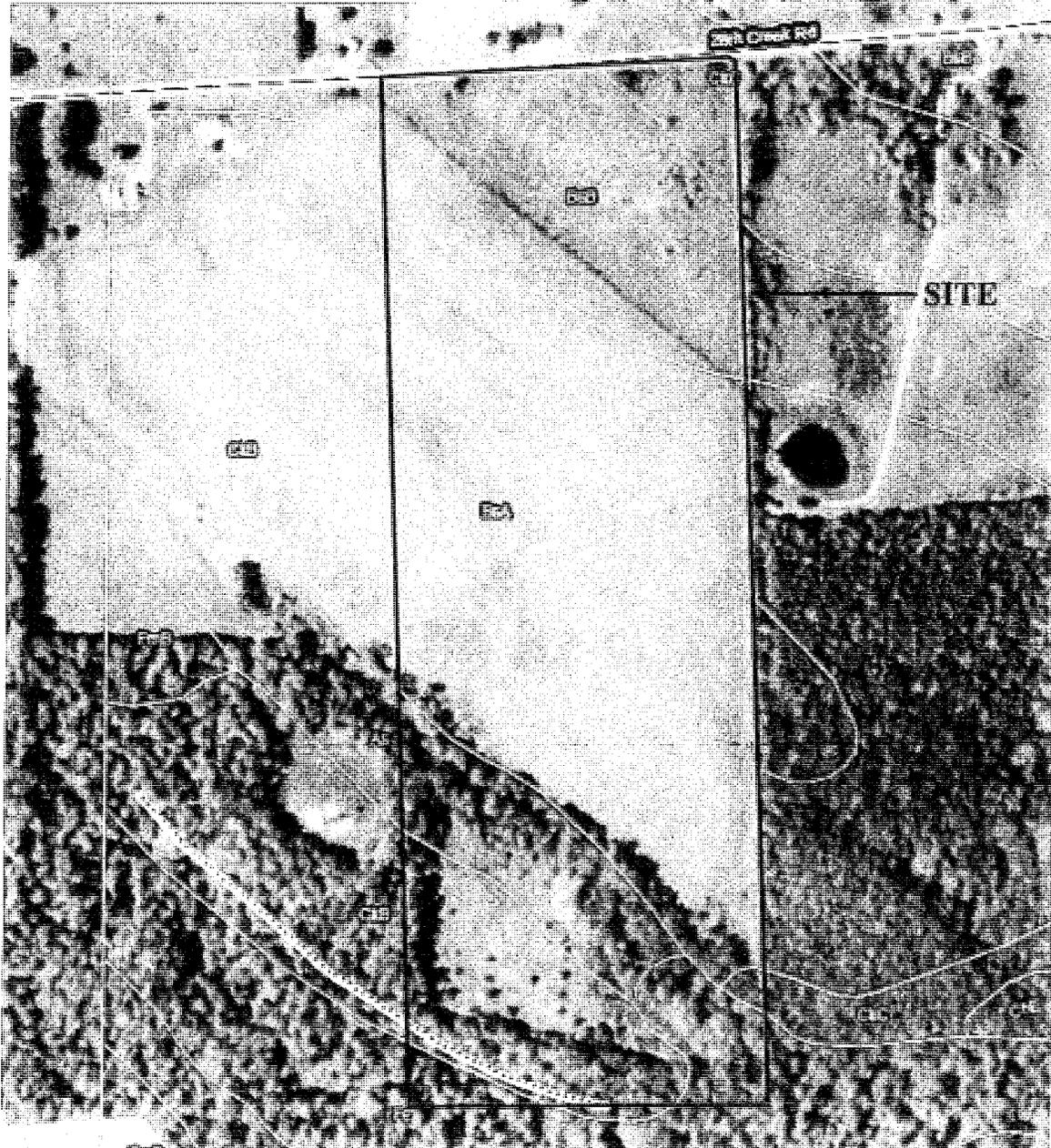
1091 Jamison Road • Elma New York 14059

(716) 655-1717 • Fax (716) 655-2915 • www.earthdimensions.com

Figure 2: National Wetlands Inventory Map
Gerry Quadrangle
<http://137.227.242.85/wetland/wetland.html> (Site Visited on 02/13/12)

28th Creek Road, Carroll Landfill Mitigation Site
Town of Ellington, Chautauqua County, New York





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Figure 3:

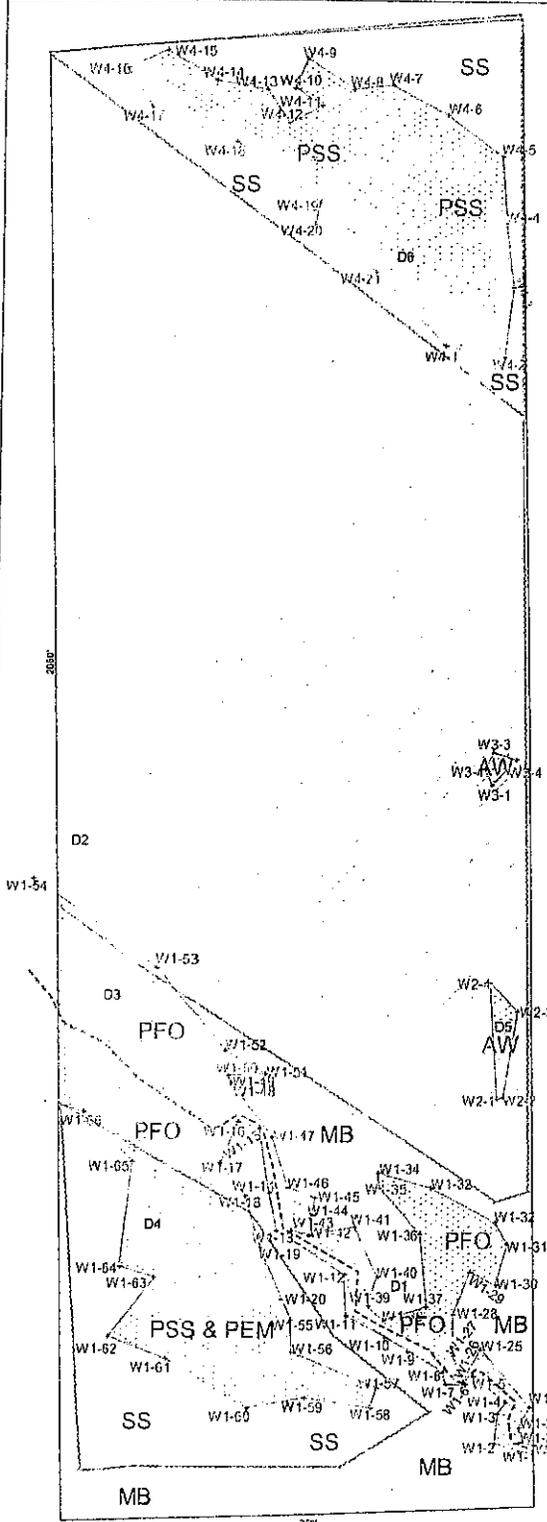
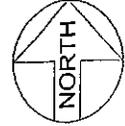
NRCS Chautauqua County Soil Survey Map
<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>
Site visited 02-13-2012

28th Creek Road, Carroll Landfill Mitigation Site
Town of Ellington, Chautauqua County, New York

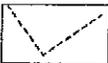
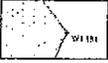
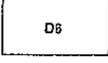
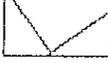
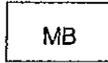
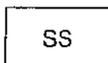
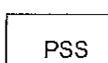
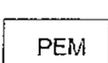
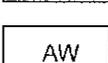
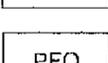




FIGURE 5: General Vegetation Map



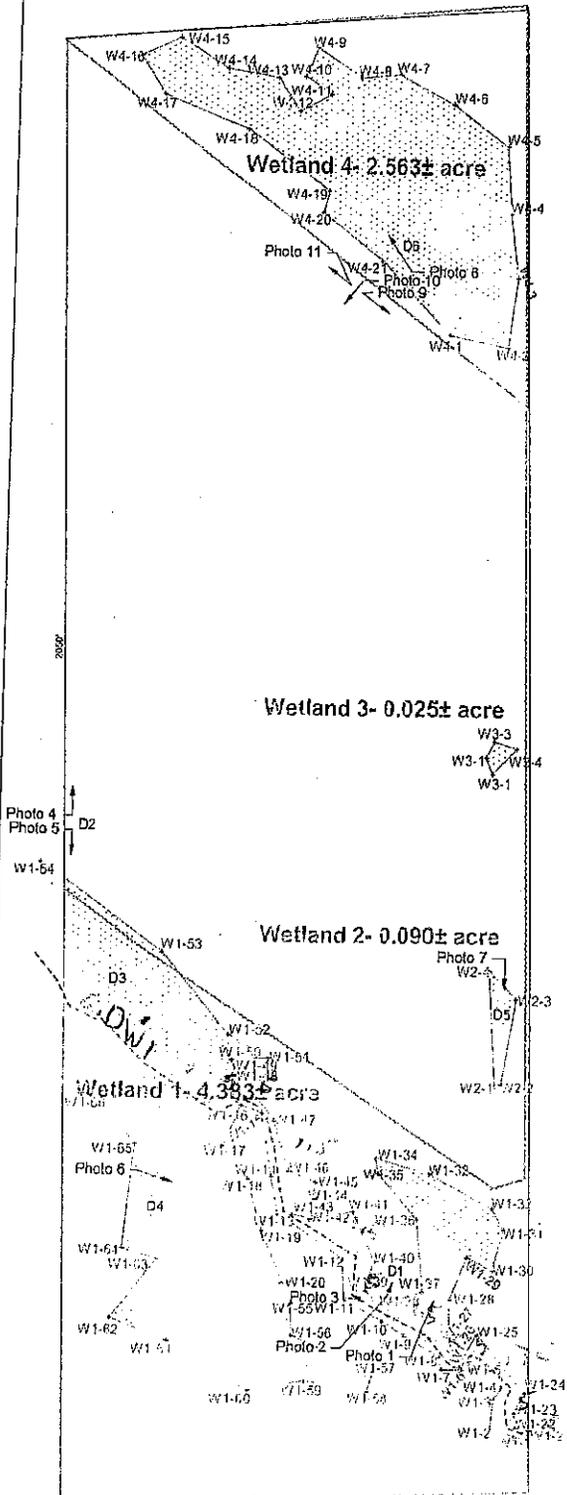
LEGEND

-  drainage way
-  Wetland Area
-  Data Location
-  Tree Line
-  Mown hay field
-  Maple-beech mesic forest
-  Successional shrubland
-  Shrub swamp
-  Shallow emergent marsh
-  Shallow emergent marsh (AG)
-  Forested wetland drain

<p>EDI PROJECT CODE: W1A12</p> <p>Base Map Provided by:</p>	<p>28th Creek Road General Vegetation Map</p> <p>TOWN OF Ellington CHAUTAUQUA COUNTY, NEW YORK</p>
<p>Map Date: 02-15-2012, JMC/EDI</p> <p>Revised:</p> <p>SCALE: 0 100' 200'</p> <p>File Name: VEG map</p>	<p> EARTH DIMENSIONS, INC.</p> <p><small>Soil and Hydrogeologic Investigations • Wetland Detection</small> 1091 Jackson Road • Elba, NY 14059 (716) 856-1117 • Fax: (716) 856-2216</p>



FIGURE 6: Wetland Delineation Map



LEGEND

- drainage way
- Wetland Area
- Data Location
- Photo Location
- Tree Line

Wetland Summary

Wetland 1: 4.383± acres
 Wetland 2: 0.090± acre
 Wetland 3: 0.025± acre
 Wetland 4: 2.563± acres

Wetland Total on-site: 7.061± acres

DW1: 1,134 LF

EDI PROJECT CODE: W1A12	28th Creek Road Wetland Delineation Map TOWN OF Ellington CHAUTAUQUA COUNTY, NEW YORK
Base Map Provided by:	
Map Date: 02-15-2012, JMC/EDI	 <small>Wetland Hydrogeologic Investigations • Wetland Delineations 1501 Johnson Ave. • Elmira, NY 14856 (716) 655-1717 • Fax: (716) 655-2515</small>
Revised:	
SCALE:	
File Name: WD incp	

APPENDIX D

EcoLogic, LLC's SVAP2 Assessment Report

**ASSESSMENT OF THE PHYSICAL AND BIOLOGICAL CHARACTERISTICS
OF FOUR STREAM SYSTEMS RELATED TO THE PROPOSED EXPANSION
OF THE CARROLL LANDFILL, TOWN OF CARROLL,
CHAUTAUQUA COUNTY, NEW YORK**

Prepared for

DAIGLER ENGINEERING, P.C.
2620 Grand Island Boulevard
Grand Island, NY 14072

Prepared by

Kurt J. Jirka
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Cazenovia, NY 13035
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FINAL REPORT

July 1, 2016

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I. INTRODUCTION

EcoLogic, LLC (EcoLogic) was hired by Daigler Engineering, P.C. to conduct an assessment of the physical and biological characteristics of four stream systems related to the proposed expansion of the Carroll Landfill, Town of Carroll, Chautauqua County, NY. The purpose of these assessments was to gather information to be used as the basis for the drainageway mitigation plan that would support expansion of the landfill. The four stream systems evaluated consisted of approximately 3,040 ft of an intermittent drainageway on the property of the Carroll Landfill (identified as channels B through H in Figure 1), approximately 220 ft of Storehouse Run on the property of the Carroll Landfill (Figure 2), approximately 645 ft of Frews Run southeast of Frewsburg, NY (Figure 3), and approximately 1,050 ft of an unnamed intermittent stream near Kennedy, NY (Figure 4). The intermittent drainageway on the property of the Carroll Landfill will be impacted by the planned expansion of the landfill. The other three stream systems are potential sites to be improved as part of the mitigation plan addressing impacts to the intermittent drainageway. The investigation described herein was aimed at characterizing each of these stream systems to determine their current ecological quality. This information will be useful in determining the value of proposed mitigation efforts for this project.

II. METHODS

The condition of the aquatic ecosystems of the stream systems evaluated was assessed using the Stream Visual Assessment Protocol Version 2 (SVAP2) of the U. S. Department of Agriculture Natural Resources Conservation Service (NRCS 2009). This protocol presents a standardized means of qualitatively assessing the physical and biological condition of wadeable, permanent and intermittent streams using a suite of 16 measures or elements that are rated on a scale of zero (worst condition) to ten (best condition) and then averaged to arrive at a numerical score for the overall condition of the stream reach evaluated.

The 16 elements of the SVAP2 are as follows.

Element 1: Channel condition

Element 2: Hydrologic alteration

Element 3: Bank condition
Elements 4 and 5: Riparian area quantity and quality
Element 6: Canopy cover
Element 7: Water appearance
Element 8: Nutrient enrichment
Element 9: Manure or human waste presence
Element 10: Pools
Element 11: Barriers to aquatic species movement
Element 12: Fish habitat complexity
Element 13: Aquatic invertebrate habitat
Element 14: Aquatic invertebrate community
Element 15: Riffle embeddedness
Element 16: Salinity (if applicable)

The first 15 elements listed were used to assess the overall condition of the reaches of stream evaluated. Element 16, salinity, was not relevant to these strictly freshwater systems and was omitted from the analysis.

The intermittent drainageway on the Carroll Landfill property and the unnamed stream near Kennedy, NY varied enough physically within their respective assessment reaches to justify dividing these sites into multiple reaches that were assessed individually. The intermittent drainageway was divided into 12 reaches that were distinguished from one another by gradient, channel width, substrate composition, riparian zone/floodplain characteristics, and/or discharge. Channel H was divided into four reaches, channel B was divided into three reaches and channel D was divided into two reaches, numbered from downstream to upstream (Figure 1). The unnamed stream near Kennedy, NY was similarly divided into two reaches (Figure 4).

Each distinct stream reach, with the exceptions of reaches B2, B3, and E, was walked from downstream to upstream by a two-biologist crew experienced in stream habitat assessment. Reaches B2, B3, and E were not visited during the field effort but were evaluated based on photographs taken in mid-April 2016 and the similarities of these reaches to the other channels assessed during the field effort. In cases where the upstream end of the stream ran dry, the stream

was evaluated to the point where there was no longer a defined wetted channel. Each stream reach was evaluated using elements 1 through 15 of the SVAP2. The two biologists conferred to arrive at a score for each element using the criteria described in the protocols. Representative photographs of each reach were taken, and parts A through C of the SVAP2 Field Assessment form were completed for each reach evaluated. This resulted in an overall score ranking the quality of each stream reach on a scale from 0-10 and an assessment of each stream based on the following scale.

Over-all Score	Stream Reach Condition
1 to 2.9	Severely degraded
3 to 4.9	Poor
5 to 6.9	Fair
7 to 8.9	Good
9 to 10	Excellent

III. RESULTS

The stream assessments were conducted over a two-day period on April 27-28, 2016. The weather was sunny on April 27 and overcast on April 28. The most recent rain in the area occurred on April 26 but totaled less than 0.25 inches. All stream reaches were in low-flow condition (well below bank-full) during the assessments. Fourteen stream reaches were assessed (Tables 1 and 2). Findings for each stream reach are discussed below. Stream reaches are presented in downstream to upstream order.

A. Intermittent Drainageway, Channel H1

Channel H1 received an overall assessment of *Good*. This reach of stream was approximately 255 ft long with an average bankfull width of 10 ft. This reach had a low-gradient, aggrading channel with deposition of sediment causing the channel to be shallow nearly throughout (Photos 1 and 2). Very few pools were present, and those that existed were shallow and without appreciable cover. Fine sediment was abundant (comprising 30% of substrate), and riffle embeddedness was relatively high (poor). As a result of these conditions, elements 1 (channel condition), 10 (pools), and 15 (riffle embeddedness) scored poorly (<5).

The riparian zone was relatively extensive, and there was little sign of hydrologic alteration, nutrient enrichment, or impact due to animal or human waste in the reach, resulting in high scores (>8) for all of these elements. Fish and invertebrate habitat complexity was moderate (6-7), though no fish were observed and water depth was limiting for fish occupancy. The aquatic invertebrate community was relatively diverse and was dominated by group I, pollution-sensitive taxa (particularly Plecoptera and Ephemeroptera), resulting in a score of 9 for element 14 (aquatic invertebrate community).

B. Intermittent Drainageway, Channel H2

Channel H2 received an overall assessment of *Good*. This reach of stream was approximately 406 ft long with an average bankfull width of 7 ft. This reach had an incising channel of moderate gradient (Photos 3 and 4). Much of this reach was shallow, riffle/run habitat with cobble, gravel, and boulder substrate. Fine sediment was relatively abundant (25% of substrate), especially in areas of reduced current velocity. Pools were uncommon, shallow, and had relatively little cover, resulting in a score of 4 for this element. Although riparian area quantity was high (9), riparian area quality was low (4), due to the relative high abundance of invasive species, primarily Japanese honeysuckle (*Lonicera japonica*) and multi-flora rose (*Rosa multiflora*).

The riparian zone was relatively extensive, and there was little sign of hydrologic alteration, nutrient enrichment, or impact due to animal or human waste in the reach, resulting in high scores (>8) for all of these elements. Fish and invertebrate habitat complexity was relatively high (8-9), though no fish were observed and water depth was limiting for fish occupancy. The aquatic invertebrate community was relatively diverse and was dominated by group I, pollution-sensitive taxa (particularly Plecoptera and Ephemeroptera), resulting in a score of 9 for the aquatic invertebrate community element.

C. Intermittent Drainageway, Channel H3

Channel H3 received an overall assessment of *Fair*. This reach of stream was approximately 118 ft long with an average bankfull width of 3 ft. This reach had an aggrading channel of low gradient

(Photo 5). Much of this reach was extremely shallow. Fine sediment was abundant (40% of substrate), resulting in high (poor) riffle embeddedness (score of 4). Pools were uncommon, extremely shallow, and had relatively little cover, resulting in a score of only 3 (poor) for this element. Although riparian area quantity was excellent (9), riparian area quality was poor (3), due to the dense growth of invasive species, primarily Japanese honeysuckle and multi-flora rose. There were also considerable amounts of dead trees and shrubs in the riparian zone indicating that the native plant community was compromised.

The riparian zone was relatively extensive, and there was little sign of hydrologic alteration, nutrient enrichment, or impact due to animal or human waste in the reach, resulting in high scores (>8) for all of these elements. Fish and invertebrate habitat complexity was fair (5-6), but no fish were observed and water depth was extremely limiting for fish occupancy. The aquatic invertebrate community was relatively diverse and was dominated by group I, pollution-sensitive taxa (particularly Plecoptera and Ephemeroptera), resulting in a score of 9 for the aquatic invertebrate community element.

D. Intermittent Drainageway, Channel H4

Channel H4 received an overall assessment of *Fair*. This reach of stream was approximately 228 ft long with an average bankfull width of 4 ft. This reach had relatively stable channel condition, with areas of minor incision and moderate gradient (Photos 6 and 7). Much of this reach was extremely shallow. Fine sediment was relatively abundant (30% of substrate), resulting in high (poor) riffle embeddedness (score of 3). Pools were uncommon, extremely shallow, and had relatively little cover, resulting in a score of only 3 for this element. Although riparian area quantity was excellent (9), riparian area quality was only fair (score of 5), due to moderate abundance of invasive Japanese honeysuckle and multi-flora rose.

The riparian zone was relatively extensive, and there was little or no sign of nutrient enrichment, or impact due to animal or human waste in the reach, resulting in high scores (>8) for all of three of these elements. Invertebrate habitat and fish habitat complexity were poor (4) and fair (5), but no fish were observed and water depth was extremely limiting for fish occupancy. The aquatic invertebrate community was relatively diverse, dominated by group I, pollution-sensitive taxa

(particularly Plecoptera and Ephemeroptera), but not especially abundant, resulting in a score of 8 for the aquatic invertebrate community element.

E. Intermittent Drainageway, Channel B1

Channel B1 received an overall assessment of *Fair*. This reach of stream was approximately 384 ft long with an average bankfull width of 3 ft. This reach had an aggrading channel of low gradient (Photos 8 and 9). Channel B1 was narrow and extremely shallow. Pool habitat was absent. Fish habitat complexity and invertebrate habitat complexity were poor, no fish were observed, and insufficient water depth precluded fish occupancy. Fine sediment was relatively abundant (30% of substrate), resulting in high (poor) riffle embeddedness (score of 4).

Riparian area quantity was excellent (9), but riparian area quality was only fair (score of 5) due to moderate abundance of invasive species and the compromised condition of the native vegetative community. The riparian zone was relatively extensive, and there was no sign of impact due to animal or human waste in the reach, resulting in high scores (>8) for these two elements. Invertebrate habitat and fish habitat complexity were poor (scores of 4 and 3, respectively). The aquatic invertebrate community was relatively diverse, dominated by group I, pollution-sensitive taxa but was not especially abundant and contained more facultative taxa than the downstream in Channel H.

F. Intermittent Drainageway, Channel B2

Channel B2 received an overall assessment of *Fair*. This reach of stream was approximately 265 ft long with an average bankfull width of 2 ft. This reach had an incising channel of moderate gradient (Photo 10). Channel B2 was narrow and extremely shallow. Pool habitat was absent. Fish habitat complexity and invertebrate habitat complexity were poor, no fish were observed, and insufficient water depth precluded fish occupancy. Fine sediment was relatively abundant (30% of substrate), resulting in high (poor) riffle embeddedness (score of 4).

Riparian area quantity was excellent (9), but riparian area quality was only fair (score of 6) due to moderate abundance of invasive species and the compromised condition of the native vegetative

community. The riparian zone was relatively narrow but intact, and there was no sign of impact due to animal or human waste in the reach, resulting in high scores (>8) for these two elements. Invertebrate habitat and fish habitat complexity were poor (4) and severely degraded (2) due to a limited number of cover types. The aquatic invertebrate community element was not included in the assessment of Channel B2 since this reach was not visited.

G. Intermittent Drainageway, Channel B3

Channel B3 received an overall assessment of *Fair*. This reach of stream was approximately 260 ft long with an average bankfull width of 3 ft. This reach had an incising channel of moderate to high gradient (Photos 11 and 12). Channel B3 was narrow and extremely shallow. Pool habitat was absent. Fish habitat complexity and invertebrate habitat complexity were poor, no fish were observed, and insufficient water depth precluded fish occupancy. Fine sediment was abundant (50% of substrate), resulting in high (poor) riffle embeddedness (score of 4).

Riparian area quantity was good (score of 8), but riparian area quality was only fair (score of 5) due to moderate abundance of invasive species and the compromised condition of the native vegetative community. The riparian zone was relatively narrow but intact, and there was no sign of impact due to animal or human waste in the reach, resulting in high scores (>8) for these two elements. Invertebrate habitat and fish habitat complexity were poor (4) and severely degraded (2) due to a limited number of cover types. The aquatic invertebrate community element was not included in the assessment of Channel B3 since this reach was not visited.

H. Intermittent Drainageway, Channel C

Channel C received an overall assessment of *Poor*. This reach of stream was approximately 230 ft long with an average bankfull width of 8 ft. The character of this channel varied distinctly upstream and downstream of a severe head cut (Photos 13-15). Downstream of the head cut, the channel was incising, with active incision evident at the head cut. Upstream of the head cut, the channel was an engineered, ditch-like, vegetated swale with isolated pockets of stagnant water supporting dense growth of shrubs and/or cattails (*Typha* sp.). The channel downstream of the

head cut was wet and contained some pockets of surface water, but there was not continuous surface flow along the length of the channel.

The aquatic invertebrate community element was not included in the assessment of Channel C due to the lack of continuous surface flow and related habitat that could be sampled for invertebrates. Five of the 14 elements assessed for Channel C received scores of 2 or less, indicating severely degraded conditions. Six other elements received scores of 3 or 4, indicating poor conditions. The only elements to score 7 or higher were riparian area quantity (7) and impact due to manure or human waste (10). Fish habitat complexity was poor, no fish were observed, and water depth and periodicity of flow excluded fish from occupying Channel C. Channel C appeared to be a highly intermittent stream that only flows after significant hydrologic events that result in water pooled in the upper portion of the reach spilling down slope toward Channel H, resulting in severe head-cutting of the slope between Channel H and the upper portion of Channel C.

I. Intermittent Drainageway, Channel D1

Channel D1 received an overall assessment of *Fair*. This reach of stream was approximately 180 ft long with an average bankfull width of 2 ft. This reach had a relatively stable channel condition, with areas of minor incision and moderate gradient (Photo 16). This reach was extremely shallow, with water depth less than 3 inches and typically less than 1 inch. Hydrologic alteration was not evident, the riparian zone was relatively extensive, canopy cover was high, and there was little or no sign of nutrient enrichment or impact due to animal or human waste in the reach, resulting in high scores (>8) for all of these elements. Water appearance was assessed only as fair (score of 5) since an oily sheen was seen on the water surface in one area of the reach.

Fine sediment was the dominant substrate (75% of substrate), resulting in high (severely degraded) riffle embeddedness (score of 1). Pools were absent and areas of slow flow were extremely shallow and had little cover, resulting in a score of only 1 for this element. Invertebrate habitat and fish habitat complexity were severely degraded (scores of 2) due to the extreme shallowness of the stream and barriers to movement due to limited water depth. No fish were observed, and insufficient water depth precluded occupancy of Channel D1 by fish. The aquatic invertebrate

community element was not included in the assessment of Channel D1 due to the lack of sufficient surface flow and related habitat that could be sampled for invertebrates.

J. Intermittent Drainageway, Channel D2

Channel D2 received an overall assessment of *Fair*. This reach of stream was approximately 244 ft long with an average bankfull width of 3 ft. Channel D2 was similar to Channel D1 but had a higher gradient and was slightly (approximately 1 ft) wider. Channel D2 had a relatively stable channel condition, with areas of minor incision and moderate gradient (Photo 17). This reach was extremely shallow, with water depth less than 2 inches and typically less than 1 inch. Hydrologic alteration was not evident, canopy cover and water appearance were high, and there was little or no sign of nutrient enrichment or impact due to animal or human waste in the reach, resulting in high scores (>8) for all of these elements.

Fine sediment was the dominant substrate (60% of substrate), resulting in high (poor) riffle embeddedness (score of 4). Pools were absent and areas of slow flow were extremely shallow, resulting in a score of zero for this element. Invertebrate habitat and fish habitat complexity were poor to severely degraded (scores of 4 and 2, respectively) due to the extreme shallowness of the stream and barriers to movement due to limited water depth. No fish were observed, and insufficient water depth precluded occupancy of Channel D2 by fish. The aquatic invertebrate community element was not included in the assessment of Channel D2 due to the lack of sufficient surface flow and related habitat that could be sampled for invertebrates.

K. Intermittent Drainageway, Channel E

Channel E received an overall assessment of *Fair*. Although this small reach (43 ft long) was not visited, given its elevation and close proximity Channel B1 and Channel D1, it was assumed it bore many of the same characteristics of these reaches. Given the topographic gradient where this reach was located, it was assumed to 1) be of low gradient with an aggrading channel like that of Channel B1, 2) lack pool habitat, and 3) be narrow and extremely shallow like all of the channels found this far up the drainage. Given physical similarity of Channel E to that of Channel D1, fish habitat complexity was scored as severely degraded (score of 2). Invertebrate habitat quality was

assumed to be similar to that in Channel B1 and was scored as poor (4). Given that this channel apparently has no surface-water connection to the nearby channels, it was assumed that Channel E contained no fish and had insufficient water depth for fish occupancy. Fine sediment was presumed to be relatively abundant given the low gradient of the channel, resulting in high (poor) riffle embeddedness (score of 4).

Riparian area quantity and quality were assumed similar to that of channel B1, being excellent (score of 9) and fair (score of 5), respectively. The riparian zone was assumed to be intact, and no sign of impact due to nutrient enrichment or animal or human waste would be expected in the reach, resulting in high scores (>8) for these three elements. The aquatic invertebrate community element was not included in the assessment of channel E since this reach was not visited.

L. Intermittent Drainageway, Channel F

Channel F received an overall assessment of *Fair*. This reach of stream was approximately 189 ft long with an average bankfull width of 3 ft. Channel F was nearly identical to Channel D2 and had a relatively stable channel condition, with areas of minor incision and moderate gradient (Photo 18). This reach was extremely shallow, with water depth less than 2 inches and typically less than 1 inch. Hydrologic alteration was not evident, canopy cover and water appearance were high, and there was little or no sign of nutrient enrichment or impact due to animal or human waste in the reach, resulting in high scores (>8) for all of these elements.

Fine sediment was the dominant substrate (60% of substrate), resulting in high (poor) riffle embeddedness (score of 4). Pools were absent and areas of slow flow were extremely shallow, resulting in a score of zero for this element. Invertebrate habitat and fish habitat complexity were poor to severely degraded (scores of 4 and 2, respectively) due to the extreme shallowness of the stream and barriers to movement due to limited water depth. No fish were observed, and insufficient water depth precluded occupancy of Channel F by fish. The aquatic invertebrate community element was not included in the assessment of Channel F due to the lack of sufficient surface flow and related habitat that could be sampled for invertebrates.

M. Intermittent Drainageway, Channel G

Channel G received an overall assessment of *Fair*. This reach of stream was approximately 235 ft long with an average bankfull width of 2 ft. It had an actively incising channel of high gradient (Photos 19 and 20). This reach was extremely shallow, with water depth less than 2 inches and typically less than 1 inch. Hydrologic alteration was not evident, the riparian zone was relatively extensive, and there was little or no sign of nutrient enrichment or impact due to animal or human waste in the reach, resulting in high scores (>8) for all of these elements.

Fine sediment was the dominant substrate (50% of substrate), resulting in high (poor) riffle embeddedness (score of 4). Pools were absent and areas of slow flow were extremely shallow, resulting in a score of zero for this element. Invertebrate habitat and fish habitat complexity were severely degraded (scores of 2) due to the extreme shallowness of the stream and barriers to movement due to limited water depth. No fish were observed, and insufficient water depth precluded occupancy of Channel G by fish. The aquatic invertebrate community element was not included in the assessment of Channel G due to the lack of sufficient surface flow and related habitat that could be sampled for invertebrates.

N. Storehouse Run

The assessed reach of Storehouse Run received an overall assessment of *Fair*. This reach was approximately 220 ft long with an average bankfull width of 12 ft. This reach had an aggrading channel with low gradient (Photos 21-23). Much of this reach was shallow pool with a few short, extremely shallow riffle areas near the top and bottom of the reach. There was little sign of hydrologic alteration, nutrient enrichment, or impact due to animal or human waste in the reach, and water appearance was excellent, resulting in high scores (>8) for all of these elements. There were no significant barriers to fish movement, and the aquatic invertebrate community was relatively diverse and dominated by group I, pollution-sensitive taxa (particularly Plecoptera and Ephemeroptera), resulting in a score of 9 for both of these elements as well.

This reach scored poorly (score of 3 or 4) for channel condition due to excessive erosion, pools due to general lack of depth and cover, and riffle embeddedness due to abundant fine sediment in

riffle areas. Severely degraded conditions (score of 2) were found for riparian area quality and quantity due to the presence of a house and lawn along the east bank and severe sloughing and collapsing of a large bluff along the west bank (Photos 23 and 24). The natural plant community was significantly compromised by the presence of invasive or ornamental species, a general lack of tree and shrub cover in what was naturally a wooded riparian zone, and the severe sloughing of the bank along the west shore that resulted in large trees sliding into the stream and denuding of the stream bank. The presence of a house and lawn within the riparian zone and a concrete pad along the east bank's edge added to the degraded nature of the riparian zone.

O. Frews Run

The assessed reach of Frews Run received an overall assessment of *Poor*. This reach was approximately 645 ft long with an average bankfull width of 45 ft. This reach had an incising channel with low to moderate gradient and consisted almost entirely of riffle and run habitat (Photos 25-27). There was little sign of nutrient enrichment or impact due to animal or human waste, water appearance was excellent, and there were no significant barriers to fish movement, resulting in high scores (>8) for all of these elements. The aquatic invertebrate community was relatively diverse and dominated by group I, pollution-sensitive taxa (particularly Plecoptera and Ephemeroptera), but abundance was somewhat low, resulting in a score of 8 for this element.

Channel condition and bank condition were severely degraded (scores of 0 and 1, respectively) due to extensive and severe bank erosion and failure (Photos 26 and 28). Riparian area quantity, riparian area quality, and canopy cover were also severely degraded (scores of 1, 1, and 0) due to past alterations of the stream channel from bridge reconstruction upstream and subsequent high-flow events and reconfiguration of the channel and riparian zone by heavy equipment (Photos 29, 30). With the exception of one small pool, this reach lacked pool habitat (score of 2), and fish habitat complexity and aquatic invertebrate habitat scored poorly (scores of 3 and 4) due to a lack of diverse cover types.

This reach of Frews Run is physically highly degraded. There is evidence of massive bank erosion, bank failure, and channel instability throughout the reach, and the riparian zone is highly dysfunctional from the perspective of providing a buffer between upland activities and processes

and the stream itself. The riparian zone also provides no shading or significant allochthonous inputs to the stream. This reach was assessed as *Poor*, but physically it should be categorized as *Severely Degraded*. The only reason it did not grade out as severely degraded is the high quality of the water itself due to a lack of evidence of nutrient enrichment, lack of barriers to movement of aquatic organisms, and the high water clarity. Although these properties are highly desirable, the high element scores for these characteristics belie the overriding severity of the stream's physical condition. This reach of stream is extremely unstable, with a wandering channel, unconsolidated and shifting substrate, and a highly impaired riparian zone.

P. Unnamed stream Reach 1

Reach 1 of the unnamed stream near Kennedy, NY received an overall assessment of *Good*. This reach of stream was approximately 760 ft long with an average bankfull width of 7 ft. The character of this channel varied considerably, ranging from low to moderate gradient with evidence of past incising with some recovery in some areas, active erosion in others, and an aggrading channel elsewhere (Photos 31-33). Much of this reach was extremely shallow. Fine sediment was not abundant (10% of substrate) on the surface of the substrate but did fill interstitial spaces within riffles, resulting in high (poor) riffle embeddedness (score of 4). Pools were moderately abundant but shallow with limited cover. Riparian area quantity was high (9), and riparian area quality generally good, though there were areas where trees along the stream bank were being undermined and falling into the channel (Photo 34). There was also evidence of past logging in the riparian zone close to the stream (Photo 35).

There was little sign of hydrologic alteration, nutrient enrichment, or impact due to animal or human waste in the reach, resulting in high scores (>8) for all of these elements. Fish and invertebrate habitat complexity was relatively high (scores of 7 and 8), though no fish were observed and insufficient water depth precluded fish occupancy. The aquatic invertebrate community was relatively diverse and was dominated by group I, pollution-sensitive taxa (particularly Plecoptera and Ephemeroptera), but abundance was somewhat low, resulting in a score of 8 for this element.

Q. Unnamed stream Reach 2

Reach 2 of the unnamed stream near Kennedy, NY received an overall assessment of *Fair*. This reach of stream was approximately 480 ft long with an average bankfull width of 6 ft. The character of Reach 2 was considerably different from that of Reach 1, with Reach 2 being very low gradient and lacking any rock substrate (Photos 36-38). This reach was extremely shallow, with water depth typically less than 2 inches and occurring only as sheet flow in a couple of areas, including over an old logging or farm road approximately 60 ft from the downstream end of the reach (Photo 37). Hydrologic alteration was not evident, riparian area quantity was high, and there was no evidence of impact due to animal or human waste in the reach, resulting in high scores (>8) for all three of these elements.

Conversely, fine sediment comprised 100% of the substrate, resulting in a score of zero (severely degraded) for riffle embeddedness. Pools were absent and areas of slow flow were extremely shallow, resulting in a score of 1 (severely degraded) for this element, and invertebrate habitat and fish habitat complexity were poor to severely degraded (scores of 3 and 0, respectively) due to the extreme shallowness of the stream, lack of coarse mineral substrates, and barriers to movement due to limited water depth. No fish were observed, and insufficient water depth precluded occupancy of this reach by fish. The aquatic invertebrate community element was not included in the assessment of Reach 2 due to the lack of sufficient surface flow and related habitat that could be sampled for invertebrates.

IV. LITERATURE CITED

Natural Resources Conservation Service (NRCS). 2009. Stream Visual Assessment Protocol Version 2. National Biology Handbook, Subpart B—Conservation Planning, Part 614. U. S. Department of Agriculture, Natural Resources Conservation Service. 48 pp. + appendices.

Drainage Feature Map

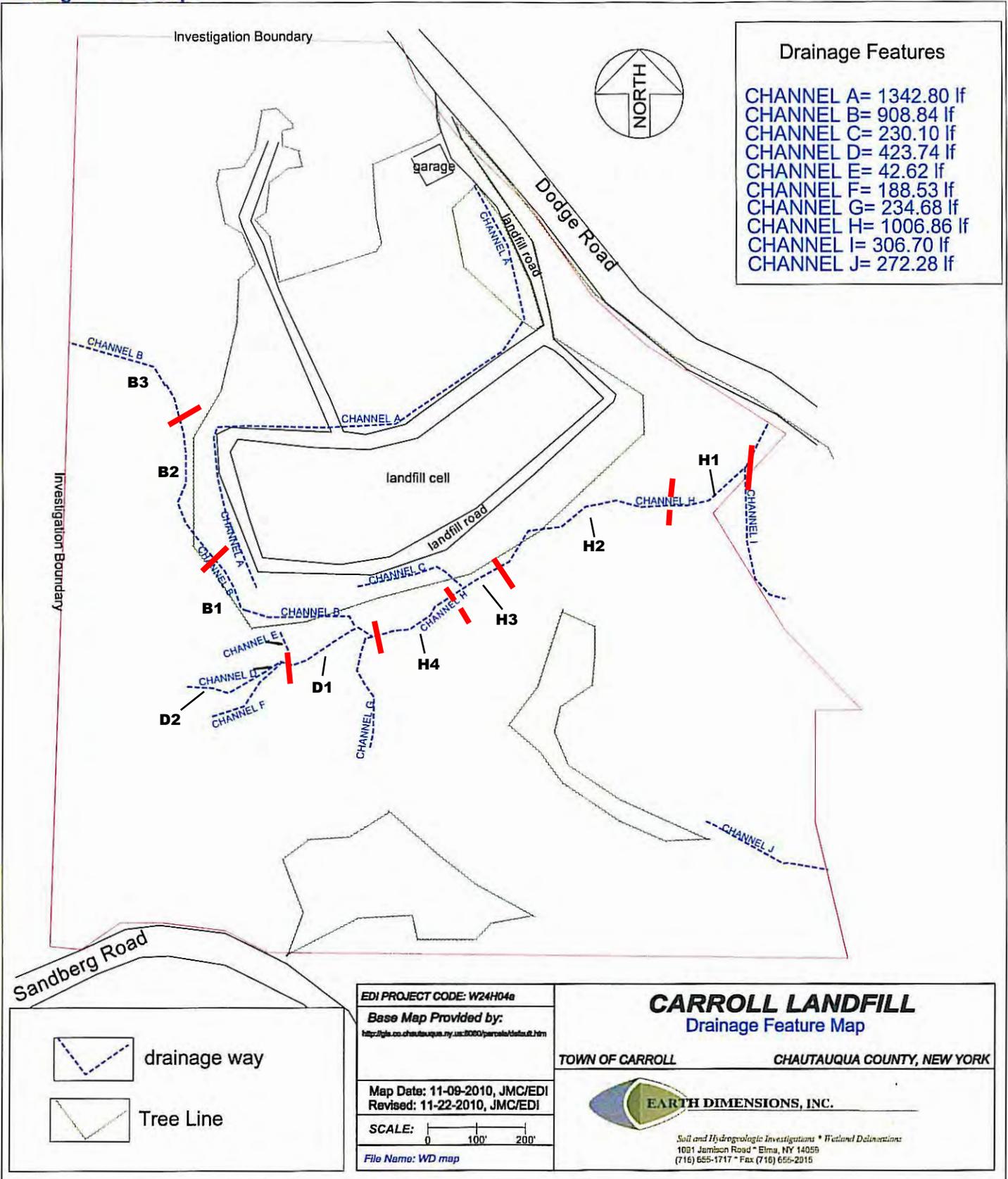


Figure 1. Location of distinct drainageway channels on the property of the Carroll Landfill, Town of Carroll, Chautauqua County, NY. Channels B through H were assessed using Stream Visual Assessment Protocol Version 2 on April 27, 2016.

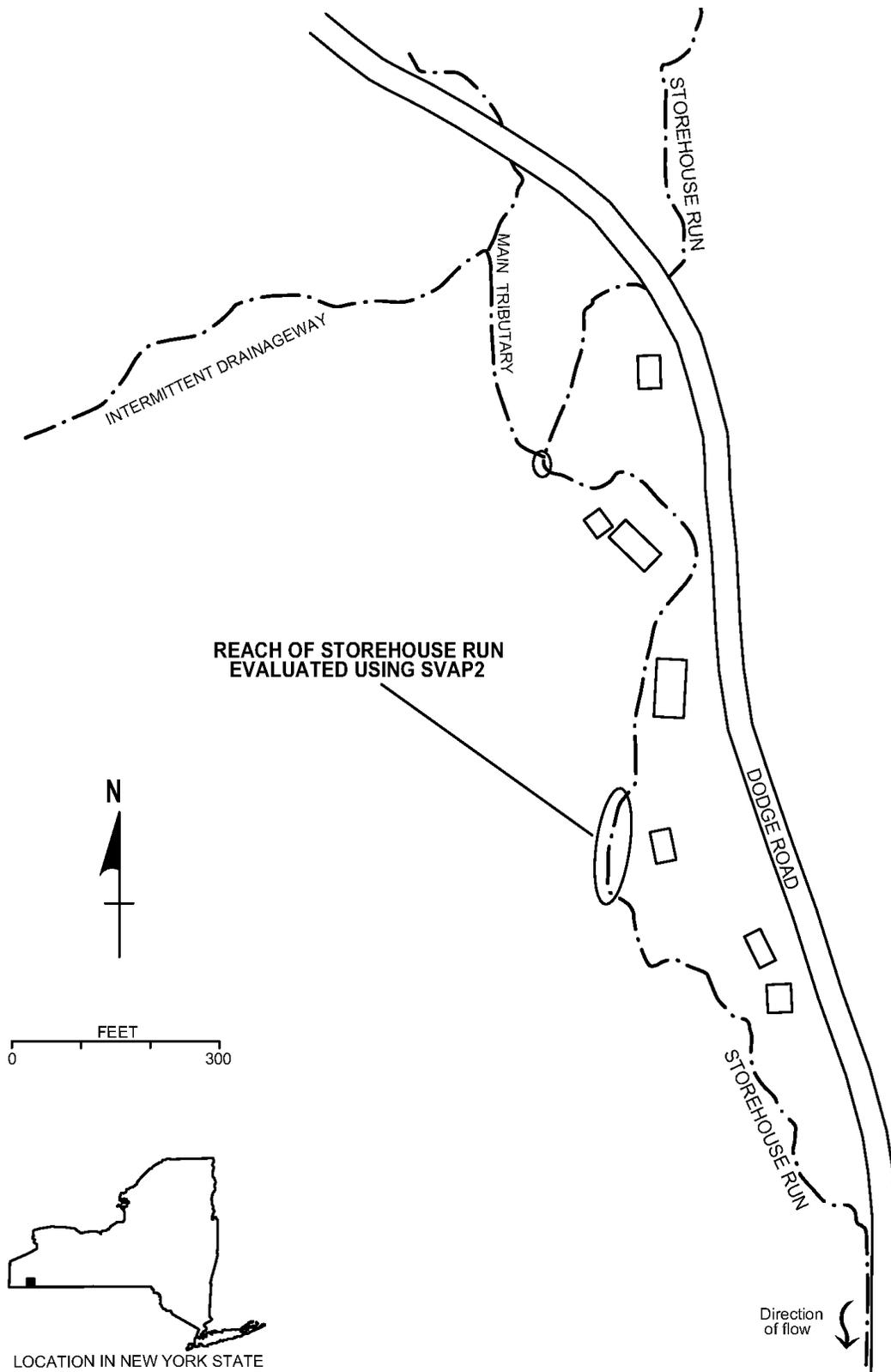


Figure 2. Reach of Storehouse Run in the vicinity of the Carroll Landfill, Town of Carroll, Chautauqua County, NY, evaluated using Stream Visual Assessment Protocol Version 2 on April 28, 2016.



Figure 3. Reach of Frews Run in the vicinity of Frewsburg Chautauqua County, NY, evaluated using Stream Visual Assessment Protocol Version 2 on April 28, 2016.

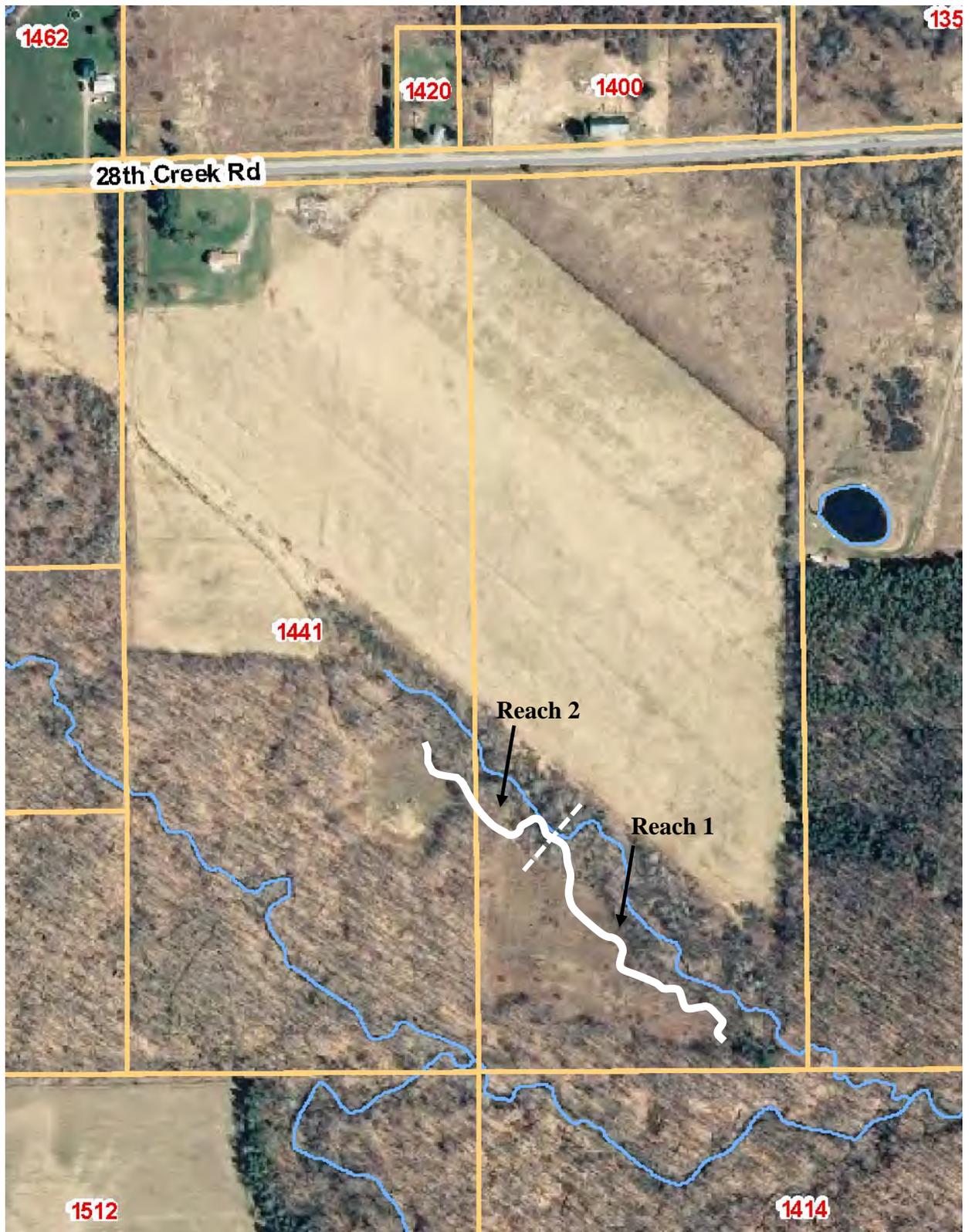


Figure 4. Reaches 1 and 2 of the unnamed intermittent stream near Kennedy, NY, evaluated using Stream Visual Assessment Protocol Version 2 on April 28, 2016.

Table 1. Stream Visual Assessment Protocol scores and conditions for the individual channels of the intermittent drainageway on the property of the Carrol Landfill, Town of Carroll, Chautauqua County, NY, April 27, 2016.

Element	Channel												
	H1	H2	H3	H4	B1	B2	B3	C	D1	D2	E	F	G
1. Channel Condition	4	6	4	8	6	8	4	0	8	8	8	8	3
2. Hydrologic Alteration	9	9	9	8	9	9	9	3	9	9	9	9	9
3. Bank Condition	7	6	6	8	8	8	4	3	7	7	8	7	4
4. Riparian Area Quantity	9	9	9	9	9	9	8	7	9	7	9	7	9
5. Riparian Area Quality	6	4	3	5	5	6	5	3	6	6	5	6	5
6. Canopy Cover	9	7	5	7	8	8	7	3	9	9	9	9	7
7. Water Appearance	6	6	6	8	8	9	9	2	5	9	--	9	5
8. Nutrient Enrichment	9	9	9	9	9	9	9	5	10	10	10	10	10
9. Manure or Human Waste	10	10	10	10	10	10	10	10	10	10	10	10	10
10. Pools	3	4	3	3	1	1	1	1	1	0	1	0	0
11. Barriers to Movement	8	8	8	8	7	7	6	0	7	7	7	7	6
12. Fish Habitat Complexity	7	8	5	5	3	2	2	3	2	2	2	2	2
13. Aquatic Invertebrate Habitat	6	9	6	4	4	4	4	4	2	4	4	4	2
14. Aquatic Invertebrate Community	9	9	9	8	8	--	--	--	--	--	--	--	--
15. Riffle Embeddedness	4	5	4	3	4	4	4	2	1	4	4	4	4
A. Sum of all elements scored	106	109	96	103	99	102	90	46	86	92	86	92	76
B. No. of elements scored	15	15	15	15	15	14	14	14	14	14	13	14	14
Overall Score: A/B	7.1	7.3	6.4	6.9	6.6	6.7	5.9	3.3	6.1	6.6	6.6	6.6	5.4
Overall Condition	Good	Good	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Fair	Fair	Fair

Table 2. Channel, riparian zone, and floodplain characteristics of the individual channels of the intermittent drainageway on the property of the Carrol Landfill, Town of Carroll, Chautauqua County, NY, April 27, 2016.

Channel	Length Assessed(ft)	Bankfull Width (ft)	Riparian Zone Width (ft)	Floodplain Width (ft)	Riparian Zone Cover (%)	Substrate Composition (%)
H1	255	10	120	120	Herbaceous (65), tree (25), shrub (10)	Gravel (45), fine sed. (30), cobble (20), boulder (5)
H2	406	7	75	75	Shrub (40), tree (30), herbaceous (30)	Cobble (35), gravel (25), fine sed. (25), boulder (15)
H3	118	3	45	45	Shrub (50), herbaceous (35), tree (15)	Fine sediment (40), gravel (40), cobble (20)
H4	228	4	40	40	Shrub (40), herbaceous (35), tree (25)	Cobble (40), gravel (30), fine sediment (30)
B1	384	3	60	60	Shrub (70), herbaceous (20), tree (10)	Gravel (40), fine sediment (30), cobble (30)
B2	265	2	15	15	Shrub (40), herbaceous (30), tree (20), bare (10)	Cobble (40), gravel (30), fine sediment (30)
B3	260	3	15	15	Herbaceous (35), shrub (30), tree (25), bare (10)	Fine sediment (50), gravel (30), cobble (20)
C	230	8	25	30 ^a 10 ^a	Herbaceous (55), shrub (40), tree (5)	Gravel (50), cobble (35), fine sediment (15) ^b
D1	180	2	20	20	Herbaceous (40), tree (30), shrub (20), bare (10)	Fine sediment (75), gravel (20), cobble (5)
D2	244	3	25	25	Shrub (40), herbaceous (30), tree (20), bare (10)	Fine sediment (60), cobble (30), gravel (10)
E	43	2	40	40	Shrub (70), herbaceous (20), tree (10)	Fine sediment (50), gravel (35), cobble (15)
F	189	3	25	25	Shrub (40), herbaceous (30), tree (20), bare (10)	Fine sediment (60), cobble (30), gravel (10)
G	235	2	15	15	Herbaceous (70), shrub (20), tree (10)	Fine sediment (50), gravel (30), cobble (20)

a - Mean floodplain width was 30 ft in downstream third of reach and 10 ft in upstream two-thirds.

b - Values are for 72-ft of reach downstream of the area of head-cutting. Upstream of the head cut is vegetated and lacks exposed mineral substrates.

Table 3. Stream Visual Assessment Protocol scores and conditions for the stream reaches of Storehouse Run, Frews Run, and the unnamed stream near Kennedy, NY, assessed on April 28, 2016.

Element	Stream Reach			
	Storehouse Run	Frews Run	Unnamed stream Reach 1	Unnamed stream Reach 2
1. Channel Condition	4	0	4	7
2. Hydrologic Alteration	9	7	9	9
3. Bank Condition	3	1	6	8
4. Riparian Area Quantity	2	1	9	9
5. Riparian Area Quality	2	2	7	6
6. Canopy Cover	5	0	7	5
7. Water Appearance	9	9	9	6
8. Nutrient Enrichment	9	9	9	7
9. Manure or Human Waste	10	10	10	10
10. Pools	4	2	7	1
11. Barriers to Movement	9	10	7	7
12. Fish Habitat Complexity	5	3	7	0
13. Aquatic Invertebrate Habitat	8	4	8	3
14. Aquatic Invertebrate Community	9	8	8	--
15. Riffle Embeddedness	3	7	4	0
A. Sum of all elements scored	91	73	111	78
B. No. of elements scored	15	15	15	14
Overall Score: A/B	6.1	4.9	7.4	5.6
Overall Condition	Fair	Poor	Good	Fair

Table 4. Channel, riparian zone, and floodplain characteristics for the stream reaches of Storehouse Run, Frews Run, and the unnamed stream near Kennedy, NY, assessed on April 28, 2016.

Stream Reach	Length Assessed (ft)	Bankfull Width (ft)	Riparian Zone Width (ft)	Floodplain Width (ft)	Riparian Zone Cover (%)	Substrate Composition (%)	GPS Coordinates (Downstream to Upstream)¹
Storehouse Run	220	12	60	60	Herbaceous (40), bare (30), tree (25), shrub (5)	Gravel (50), fine sediment (20), cobble (15), boulder (5), sand (5), bedrock (5)	N 42.0113/ W -79.0845 N 42.0118/W -79.0845
Frews Run	645	45	140	140	Herbaceous (45), bare (35), shrub (15), tree (5)	Gravel (50), cobble (30), sand (15), boulder (5)	N 42.0481/ W -79.0453 N 42.0473/W -79.0433
Unnamed stream Reach 1	819	7	90	90	Shrub (40), tree (30), herbaceous (20), bare (10)	Gravel (35), cobble (30), boulder (15), fine sediment (10), sand (10)	N 42.1947/ W -79.1532 N 42.1961/W -79.1547
Unnamed stream Reach 2	225	6	60	60	Shrub (40), herbaceous (40), tree (20)	Fine sediment (100)	N 42.1961/W -79.1547 N 42.1962/W -79.1553

1 - GPS coordinates are in NAD 83 State Plane New York West.



Photo 1. Channel H1 approximately 100 ft from downstream end, looking downstream.



Photo 2. Channel H1 approximately 100 ft from downstream end, looking upstream.



Photo 3. Channel H2 looking upstream from the bottom of the reach.



Photo 4. Channel H2 in upstream third of reach with dense riparian shrub growth.



Photo 5. Channel H3 looking downstream from the middle of the reach.

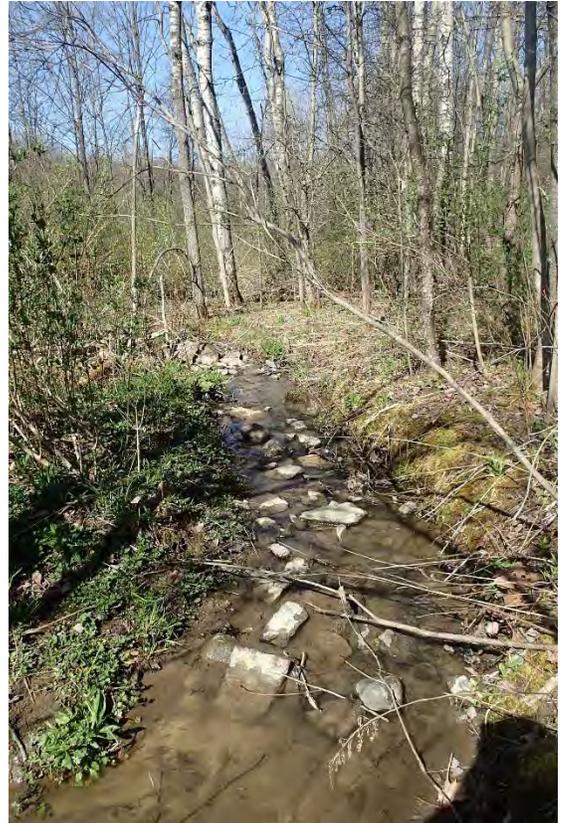


Photo 6. Channel H4 looking downstream in lower one-third of the reach.



Photo 7. Channel H4 looking upstream in upper one-third of the reach.



Photo 8. Channel B1 near mid-reach looking upstream.



Photo 9. Area of aggrading channel in Channel B1 looking downstream.

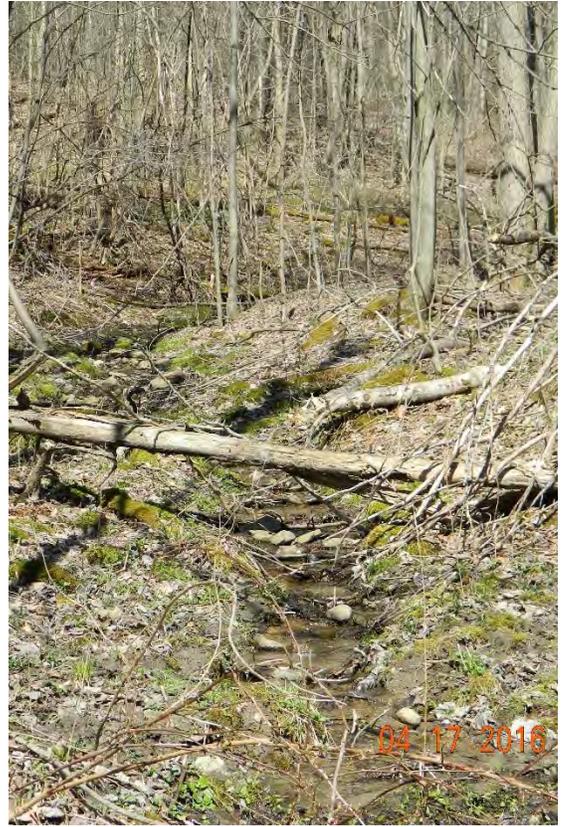


Photo 10. Channel B2 near its downstream end, looking upstream.



Photo 11. Channel B3 near mid-reach, looking upstream.



Photo 12. Incised channel in Channel B3 near its upstream end, looking upstream.



Photo 13. Severe head cut located approximately 75 ft from the downstream end of Channel C.



Photo 14. Channel C downstream of head cut, looking downstream.



Photo 15. Ditch-like form of Channel C upstream of the head cut, looking downstream.



Photo 16. Channel D1 looking upstream from the downstream end of the reach.



Photo 17. Channel D2 looking upstream from the downstream end of the reach.



Photo 18. Channel F looking upstream from the downstream end of the reach.



Photo 19. Channel G looking downstream from the middle of the reach.



Photo 20. Channel G looking upstream from the middle of the reach.



Photo 21. Aggrading channel in the downstream end of assessed reach of Storehouse Run, looking downstream, April 28, 2016.



Photo 22. Shallow pool and run habitat in mid-reach of assessed reach of Storehouse Run, looking upstream, April 28, 2016.



Photo 23. Aggrading channel and shallow pool and riffle habitat in the upstream end of assessed reach of Storehouse Run, looking downstream, April 28, 2016.



Photo 24. Severely eroding bank on west shore in the downstream end of Storehouse Run, looking downstream, April 28, 2016.



Photo 25. Downstream end of assessed reach of Frews Run, looking upstream, April 28, 2016.



Photo 26. Mid-section of assessed reach of Frews Run, looking upstream, April 28, 2016.



Photo 27. Upstream section of assessed reach of Frews Run, looking upstream, April 28, 2016.



Photo 28. Severely eroding banks in the mid-section of the assessed reach of Frews Run, looking downstream, April 28, 2016.



Photo 29. Denuded riparian zone and high eroding bank along the left side of the assessed reach of Frews Run, looking downstream, April 28, 2016.



Photo 30. Denuded riparian zone near the downstream end of the assessed reach of Frews Run, looking east, April 28, 2016.



Photo 31. Upstream section of Reach 1 of the unnamed stream near Kennedy, NY, looking upstream, April 28, 2016.



Photo 32. Mid-reach of Reach 1 of the unnamed stream near Kennedy, NY, looking upstream, April 28, 2016.



Photo 33. Upstream section of Reach 1 of the unnamed stream near Kennedy, NY, looking upstream, April 28, 2016.



Photo 34. Evidence of bank undermining and trees falling into the channel of Reach 1 of the unnamed stream near Kennedy, NY, looking upstream, April 28, 2016.



Photo 35. Evidence of riparian zone logging and degradation in Reach 1 of the unnamed stream near Kennedy, NY, looking upstream, April 28, 2016.



Photo 36. Low-gradient, vegetated channel of Reach 2 of the unnamed stream near Kennedy, NY, looking upstream, April 28, 2016.



Photo 37. Old logging or farm road crossing in Reach 2 of the unnamed stream near Kennedy, NY, looking upstream, April 28, 2016.



Photo 38. Low-gradient channel and densely vegetated riparian zone of Reach 2 of the unnamed stream near Kennedy, NY, looking upstream, April 28, 2016.

APPENDIX E

Compensatory Stream Mitigation Evaluation Worksheets

Appendix A: Stream Mitigation Worksheets

ADVERSE STREAM IMPACT WORKSHEET

Stream Type	Ephemeral			Intermittent			Perennial (OHWM width)		
	0.1			0.4			<15' 0.6	15'-30' 0.8	31'-50' 1.0
Priority Area	Tertiary 0.1			Secondary 0.4			Primary 0.8		
Existing Condition (SVAP 2 Score)	Impaired Range (0 – 4.9) 0.1			Somewhat Impaired Range (5.0 – 7.9) 0.8			Fully Functional Range (8.0 – 10.0) 1.6		
Dominant Impact	Shade/Clear 0.05	Utility Crossing 0.15	Below Grade Culvert (<100') 0.3	Armor 0.5	Detention/Weir 0.75	Morphologic Change 1.5	Impoundment (dam) 2.0	Below Grade Culvert/Pipe >100' 2.2	Fill 2.5
Impact Factor	<100' 0	100'-200' 0.05	201-500' 0.1	501-1000' 0.2	>1000 linear feet (LF) LF / 1000 x 0.2 Example: 5,280 / 1000 x 0.2 = 1.1				

Factor	Dominant Impact Type 1	Dominant Impact Type 2	Dominant Impact Type 3	Dominant Impact Type 4	Dominant Impact Type 5
	H1	H2	H3	H4	B1
Stream Type Impacted	0.4	0.4	0.4	0.4	0.4
Priority Area	0.1	0.1	0.1	0.1	0.1
Existing Condition	0.8	0.8	0.8	0.8	0.8
Dominant Impact	2.0	2.0	2.0	2.0	2.0
Impacts Factor	0	0.1	0.05	0.1	0.1
Sum of Factors (M)=	3.3	3.4	3.35	3.4	3.4
Linear Feet of Stream Impacted in Reach (LF)=	62	406	118	228	384
M X LF=	204.6	1380.4	395.3	775.2	1305.6

A. Total Mitigation Credits Required = (M X LF) = _____ →

Appendix A: Stream Mitigation Worksheets

ADVERSE STREAM IMPACT WORKSHEET

Stream Type	Ephemeral			Intermittent			Perennial (OHWM width)			
	0.1			0.4			<15' 0.6	15'- 30' 0.8	31'- 50' 1.0	>51' 1.2
Priority Area	Tertiary 0.1			Secondary 0.4			Primary 0.8			
Existing Condition (SVAP 2 Score)	Impaired Range (0 – 4.9) 0.1			Somewhat Impaired Range (5.0 – 7.9) 0.8			Fully Functional Range (8.0 – 10.0) 1.6			
Dominant Impact	Shade/ Clear 0.05	Utility Crossing 0.15	Below Grade Culvert (<100') 0.3	Armor 0.5	Detention /Weir 0.75	Morpho- logic Change 1.5	Impound- ment (dam) 2.0	Below Grade Culvert /Pipe >100' 2.2	Fill 2.5	
Impact Factor	<100' 0	100'-200' 0.05	201-500' 0.1	501-1000' 0.2	>1000 linear feet (LF) LF / 1000 x 0.2 Example: 5,280 / 1000 x 0.2 = 1.1					

Factor	Dominant Impact Type 1	Dominant Impact Type 2	Dominant Impact Type 3	Dominant Impact Type 4	Dominant Impact Type 5
	B2	B3	C	D1	D2
Stream Type Impacted	0.4	0.4	0.4	0.4	0.4
Priority Area	0.1	0.1	0.1	0.1	0.1
Existing Condition	0.8	0.1	0.1	0.8	0.1
Dominant Impact	2.0	2.0	2.0	2.0	2.0
Impacts Factor	0.1	0.1	0.1	0.05	0.1
Sum of Factors (M)=	3.4	2.7	2.7	3.35	2.7
Linear Feet of Stream Impacted in Reach (LF)=	265	260	230	180	244
M X LF=	901	702	621	603	658.8

A. Total Mitigation Credits Required = (M X LF) = →

Appendix A: Stream Mitigation Worksheets

ADVERSE STREAM IMPACT WORKSHEET

Stream Type	Ephemeral			Intermittent			Perennial (OHWM width)			
	0.1			0.4			<15' 0.6	15'-30' 0.8	31'-50' 1.0	>51' 1.2
Priority Area	Tertiary 0.1			Secondary 0.4			Primary 0.8			
Existing Condition (SVAP 2 Score)	Impaired Range (0 - 4.9) 0.1			Somewhat Impaired Range (5.0 - 7.9) 0.8			Fully Functional Range (8.0 - 10.0) 1.6			
Dominant Impact	Shade/Clear 0.05	Utility Crossing 0.15	Below Grade Culvert (<100') 0.3	Armor 0.5	Detention/Weir 0.75	Morphologic Change 1.5	Impoundment (dam) 2.0	Below Grade Culvert/Pipe >100' 2.2	Fill 2.5	
Impact Factor	<100' 0	100'-200' 0.05	201-500' 0.1	501-1000' 0.2	>1000 linear feet (LF) LF / 1000 x 0.2 Example: 5,280 / 1000 x 0.2 = 1.1					

Factor	Dominant Impact Type 1	Dominant Impact Type 2	Dominant Impact Type 3	Dominant Impact Type 4	Dominant Impact Type 5
	E	F	G		
Stream Type Impacted	0.4	0.4	0.4		
Priority Area	0.1	0.1	0.1		
Existing Condition	0.8	0.1	0.1		
Dominant Impact	2.0	2.0	2.0		
Impacts Factor	0	0.05	0.1		
Sum of Factors (M)=	3.3	2.65	2.7		
Linear Feet of Stream Impacted in Reach (LF)=	43	189	235		
M X LF=	141.9	500.85	634.5		

A. Total Mitigation Credits Required = (M X LF) = 8824.15

WETLAND AND DRAINAGEWAY MITIGATION DESIGN - CARROLL C&D LANDFILL EXPANSION
STREAM MITIGATION WORKSHEET
RELEVANT BENEFIT/EXISTING CONDITIONS FACTORS

Element	Channel													
	H1	H2	H3	H4	B1	B2	B3	C	D1	D2	E	F	G	
1. Channel Condition	4	6	4	8	6	8	4	0	8	8	8	8	3	
2. Bank Condition	7	6	6	8	8	8	4	3	7	7	8	7	4	
3. Riparian Area Quantity	9	9	9	9	9	9	8	7	9	7	9	7	9	
4. Riparian Area Quality	6	4	3	5	5	6	5	3	6	6	5	6	5	
5. Pools	3	4	3	3	1	1	1	1	1	0	1	0	0	
6. Fish Habitat Complexity	7	8	5	5	3	2	2	3	2	2	2	2	2	
7. Aquatic Invertebrate Habitat	6	9	6	4	4	4	4	4	2	4	4	4	2	
A. Sum of all elements scored	42	46	36	42	36	38	28	21	35	34	37	34	25	
B. No. of elements scored	7	7	7	7	7	7	7	7	7	7	7	7	7	
Overall Score: A/B	6.0	6.6	5.1	6.0	5.1	5.4	4.0	3.0	5.0	4.9	5.3	4.9	3.6	
Existing Condition Factor	0.8	0.8	0.8	0.8	0.8	0.8	0.1	0.1	0.8	0.1	0.8	0.1	0.1	
Overall Condition	Somewhat Impaired	Impaired	Impaired	Somewhat Impaired	Impaired	Somewhat Impaired	Impaired	Impaired						

WETLAND AND DRAINAGEWAY MITIGATION DESIGN - CARROLL C&D LANDFILL EXPANSION
DRAINAGEWAY MITIGATION DESIGN
RELEVANT BENEFIT/EXISTING CONDITIONS FACTORS

Element	Onsite Reach			28th Creek Road Mitigation Site Reach	
	Storehouse Run	Unnamed Tributary (as for H1)	Onsite Mitigation Drainageway (B3)	Unnamed Reach 1	Unnamed Reach 2
1. Channel Condition	4	4	4	4	7
2. Bank Condition	3	7	4	6	8
3. Riparian Area Quantity	2	9	8	9	9
4. Riparian Area Quality	2	6	5	7	6
5. Pools	4	3	1	7	1
6. Fish Habitat Complexity	5	7	2	7	0
7. Aquatic Invertebrate Habitat	8	6	4	8	3
A. Sum of all elements scored	28	42	28	48	34
B. No. of elements scored	7	7	7	7	7
Overall Score: A/B	4.0	6.0	4.0	6.9	4.9
Existing Condition Factor	0.4	0.05	0.4	0.05	0.4
Overall Existing Condition	Impaired	Somewhat Impaired	Impaired	Somewhat Impaired	Impaired

STREAM MITIGATION WORKSHEET Continued

— 28th CREEK RD —

Factors	Reach 1 ONSITE	Reach 2 STOREHOUSE RUN	Reach 3 REACH 1	Reach 4 REACH 2	Reach 5 UNNAMED TRIB	Reach 6
Stream Type	0.3	0.4	0.3	0.3	0.3	
Priority Area	0.05	0.2	0.05	0.05	0.05	
Existing Condition (SVAP 2 Score)	0.4	0.4	0.05	0.4	0.05	
Channel condition	0.6	0.6	0.6	0.15	0	
Bank condition	0.6	0.6	0.6	0.15	0	
Riparian area quantity	0.3	0.6	0	0	0.15	
Riparian area quality	0.6	0.6	0.3	0.6	0.6	
Pools	0.6	0.6	0	0.6	0	
Fish habitat complexity	0.6	0.6	0	0.6	0	
Aquatic invertebrate habitat	0.6	0.3	0	0.6	0	
Site Protection	0.2	0.2	0.2	0.2	0.2	
Timing of Mitigation	0.15	0.15	0.15	0.15	0.15	
Sum Factors (M)=	5	5.25	2.25	3.8	1.5	
Stream length in Reach (do not count each bank separately) (LF)=	900	160	758	475	200	
Total Credits (M X LF)=	4500	840	1705.5	1805	300	

B. Total Channel Restoration/Relocation Credits Generated = 9150.5

STREAM MITIGATION WORKSHEET

Stream Type	Ephemeral 0.05	Intermittent 0.3	Perennial (OHWM width)			
			<15' 0.4	15'-30' 0.6	31'-50' 0.8	>51' 1.0
Priority Area	Tertiary 0.05		Secondary 0.2		Primary 0.4	
Existing Condition (SVAP 2 Score)	Impaired Range (0 – 4.9) 0.4		Somewhat Impaired Range (5.0 – 7.9) 0.05		Fully Functional Range (8.0-10) 0	
	Preservation only 0		Preservation only 0.05		Preservation only 0.4	
NET BENEFIT	Channel condition	No Improvement 0	1 category improvement 0.15	2 category improvement 0.30	≥3 category improvement 0.6	
	Bank condition	No Improvement 0	1 category improvement 0.15	2 category improvement 0.30	≥3 category improvement 0.6	
	Riparian area quantity	No Improvement 0	1 category improvement 0.15	2 category improvement 0.30	≥3 category improvement 0.6	
	Riparian area quality	No Improvement 0	1 category improvement 0.15	2 category improvement 0.30	≥3 category improvement 0.6	
	Pools	No Improvement 0	1 category improvement 0.15	2 category improvement 0.30	≥3 category improvement 0.6	
	Fish habitat complexity	No Improvement 0	1 category improvement 0.15	2 category improvement 0.30	≥3 category improvement 0.6	
	Aquatic invertebrate habitat	No Improvement 0	1 category improvement 0.15	2 category improvement 0.30	≥3 category improvement 0.6	
Site Protection	Corps approved site protection without third party grantee 0.00			Corps approved site protection recorded with third party grantee or transfer of title to a conservancy 0.2		
Timing of Mitigation	Before 0.15		During 0.05		After 0	

Appendix C: SVAP 2 Stream Assessment Parameters (from USDA NRCS, 2009)

Channel Condition

Natural, stable channel with established bank vegetation	If channel is incising (appears to be downcutting or degrading), score this element based on the descriptions in the upper section of the matrix								
No discernible signs of incision (such as vertical banks) or aggradation (such as very shallow multiple channels)	Evidence of past incision and some recovery; some bank erosion possible			Active incision evident; plants are stressed, dying or falling in channel			Headcuts or surface cracks on banks; active incision; vegetation very sparse		
Active channel and flood plain are connected throughout reach, and flooded at natural intervals	Active channel and flood plain are connected in most areas, inundated seasonally			Active channel appears to be disconnected from the flood plain, with infrequent or no inundation			Little or no connection between flood plain and stream channel and no inundation		
Streambanks low with few or no bank failures	Streambanks may be low or appear to be steepening			Steep banks, bank failures evident or imminent			Steep streambanks and failures prominent		
Stage I: Score 10	Top of point bars are below active flood plain			Point bars located adjacent to steep banks			Point bars, if present, located adjacent to steep banks		
Stage V: Score 9 (if terrace is visible)	Stage I: Score 8			Stage IV: Score 5			Stage II or III, scores ranging from 2 to 0, depending on severity		
	Stage V: Score 7-8			Stage III: Score 4					
	Stage IV: Score 6			Stage II: Score 3					
	8	7	6	5	4	3	2	1	0
	If channel is aggrading (appears to be filling in and is relatively wide and shallow), score this element based on the descriptions in the lower section of the matrix								
	Minimal lateral migration and bank erosion			Moderate lateral migration and bank erosion			Severe lateral channel migration, and bank erosion		
	A few shallow places in reach, due to sediment deposits			Deposition of sediments causing channel to be very shallow in places			Deposition of sediments causing channel to be very shallow in reach		
No more than 1 bar forming in channel	Minimal bar formation (less than 3)			3-4 bars in channel			Braided channels (5 or more bars in channel)		
10 0	8	7	6	5	4	3	2	1	0

Bank Condition

Banks are stable; protected by roots of natural vegetation, wood, and rock ^{1/}	Banks are moderately stable, protected by roots of natural vegetation, wood, or rock or a combination of materials			Banks are moderately unstable; very little protection of banks by roots of natural wood, vegetation, or rock			Banks are unstable; no bank protection with roots, wood, rock, or vegetation				
No fabricated structures present on bank	Limited number of structures present on bank			Fabricated structures cover more than half of reach or entire bank			Riprap and/or other structures dominate banks				
No excessive erosion or bank failures ^{2/}	Evidence of erosion or bank failures, some with reestablishment of vegetation			Excessive bank erosion or active bank failures			Numerous active bank failures				
No recreational or livestock access	Recreational use and/or grazing do not negatively impact bank condition			Recreational and/or livestock use are contributing to bank instability			Recreational and/or livestock use are contributing to bank instability				
Right bank	10	9	8	7	6	5	4	3	2	1	0
Left bank	10	9	8	7	6	5	4	3	2	1	0

^{1/} Natural wood and rock does not mean riprap, gabions, log cribs, or other fabricated revetments.

^{2/} Bank failure refers to a section of streambank that collapses and falls into the stream, usually because of slope instability.

Riparian Area Quantity

Natural plant community extends at least two bankfull widths or more than the entire active flood plain and is generally contiguous throughout property		Natural plant community extends at least one bankfull width or more than 1/2 to 2/3 of active flood plain and is generally contiguous throughout property		Natural plant community extends at least 1/2 of the bankfull width or more than at least 1/2 of active flood plain		Natural plant community extends at least 1/3 of the bankfull width or more than 1/4 of active flood plain		Natural plant community extends less than 1/3 of the bankfull width or less than 1/4 of active flood plain	
		Vegetation gaps do not exceed 10% of the estimated length of the stream on the property		Vegetation gaps do not exceed 30% of the estimated length of the stream on the property		Vegetation gaps exceed 30% of the estimated length of the stream on the property		Vegetation gaps exceed 30% of the estimated length of the stream on the property	
Right bank	10 9	8 7	6 5	4 3 2	1 0				
Left bank	10 9	8 7	6 5	4 3 2	1 0				

Note: Score each bank separately. Scores should represent the entire stream riparian area within the property. Score for this element = left bank score plus right bank score divided by 2. If the score of one bank is 7 or greater and the score of the other bank is 4 or less, subtract 2 points from final score.

Riparian Area Quality

Natural and diverse riparian vegetation with composition, density and age structure appropriate for the site		Natural and diverse riparian vegetation with composition, density and age structure appropriate for the site; Little or no evidence of concentrated flows through area			Natural vegetation compromised			Little or no natural vegetation		
		Invasive species present in small numbers (<20% cover or less)			Evidence of concentrated flows running through the riparian area Invasive species common (>20% <50% cover)			Evidence of concentrated flows running through the riparian area Invasive species widespread (>50% cover)		
No invasive species or concentrated flows through area		8	7	6	5	4	3	2	1	0
		10	9	8	7	6	5	4	3	2

Notes: Score should represent the entire stream riparian area within the property. Score for this element = left bank score plus right bank score divided by 2.

Pools

More than two deep pools separated by riffles, each with greater than 30% of the pool bottom obscured by depth, wood, or other cover Shallow pools also present		One or two deep pools separated by riffles, each with greater than 30% of the pool bottom obscured by depth, wood, or other cover			Pools present but shallow (<2 times maximum depth of the upstream riffle) Only 10-30% of pool bottoms are obscured due to depth or wood cover			Pools absent, but some slow water habitat is available No cover discernible or Reach is dominated by shallow continuous pools or slow water		
		At least one shallow pool present								
10	9	8	7	6	5	4	3	2	1	0

Fish Habitat Complexity

Ten or more habitat features available, at least one of which is considered optimal in reference sites (large wood in forested streams)		Eight to nine habitat features available		Six to seven habitat features available		Four to five habitat features available		Less than four habitat features available	
10	9	8	7	6	5	4	3	2	1 0

Note: Fish habitat features: logs/large wood, deep pools, other pools (scour, plunge, shallow, pocket) overhanging vegetation, boulders, cobble, riffles, undercut banks, thick root mats, dense macrophyte beds, backwater pools, and other off-channel habitats

Aquatic Invertebrate Habitat

At least 9 types of habitat present A combination of wood with riffles should be present and suitable in addition to other types of habitat (If nonforested stream, consider reference site's optimal habitat type needed for this high score)		8 to 6 types of habitat Site may be in need of more wood or reference habitat features and stable wood-riffle sections		5 to 4 types of habitat present		3 to 2 types of habitat present		None to 1 type of habitat present	
10	9	8	7	6	5	4	3	2	1 0

Note: Aquatic invertebrate habitat types, in order of importance: Logs/large wood, cobble within riffles, boulders within riffles. Additional habitat features should include: leaf packs, fine woody debris, overhanging vegetation, aquatic vegetation, undercut banks, pools, and root mats.

Memorandum

Date: June 8, 2016
To: File
From: David Lenox, PE, Daigler Engineering, PC
Cc:
RE: **Mitigation Drainageway Fact Sheet**

Design Elements

The Mitigation Drainageway is designed to provide the following functions:

- Stabilized banks;
- Reduced sedimentation;
- Reduced pollutant and nutrient retention;
- Enhanced habitat for riparian flora and fauna;
- Reduced invasive species coverage; and,
- Planted native riparian vegetation buffer.

The Mitigation Drainageway will be located along the western perimeter of the site, and is designed to intercept surface and groundwater flow currently entering the impacted intermittent jurisdictional drainageway, directing it around the expanded facility. The following natural stream channel design concepts and bioengineering techniques will be applied to the Mitigation Drainageway:

- Two stage channel design that incorporates benches that function as natural flood plains. The lower stage is bankfull discharge (return interval less than two years);
- The bankfull channel stage will include a meander based on the channel width using calculations from Chapter 12 of the Stream Restoration Design National Engineering Handbook. Meander planform design parameters including wave length, radius of curvature, meander amplitude and sinuosity are incorporated in the design;
- Riffles consisting of loose rock structures comprised of cobbles and boulders will be located between meander curves;
- Shallow pools will be located at meander curves and will include a log cover; and,
- Native riparian trees and shrubs will be planted within the floodplain. Live stakes will be planted along the bank full channel.

Project Facts:

The Mitigation Drainageway is designed based on the existing conditions of Channel B3 because of its similar location within the onsite intermittent drainageway watershed. The following information is for Channel B3

- Bank Full width: 3 feet (EcoLogic);
- Floodplain width: Approximately 15 feet;
- Substrate Composition: Fine Sediment – 50 %, Gravel- 30 %, Cobble – 20% (EcoLogic);
- Existing Length: 260 feet
- Mitigation Drainageway Length: 900 feet

Mitigation Scoring Rationale

The USACE Buffalo District Compensatory Stream Mitigation Evaluation Method was used to calculate the total credits generated.

Element	Existing Score	Onsite Mitigation Drainageway Proposed Score
Channel Condition	4	9
Bank Condition	4	9
Riparian Area Quantity	8	10
Riparian Area Quality	5	8
Pools	1	4
Fish Habitat Complexity	2	5
Aquatic Invertebrate Habitat	4	7
Average Score	4	7.4
UASCE Overall Condition	Impaired	Somewhat Impaired

- Stream Type (.3): The Mitigation Drainageway is an intermittent drainageway;
- Priority Area (.05): The Mitigation Drainageway and Channel B3 eventually flow to Storehouse Run, a NYSDEC Class C(T) stream. The Mitigation Drainageway and Channel B3 are considered tertiary as both drainageways have insufficient water depth for fish occupancy;

- Existing Condition (.4): Based on the Stream Visual Assessment Protocol (SVAP 2) scoring for Channel Condition, Bank Condition, Riparian Area Quantity and Quality, Pools, Fish Habitat Complexity and Aquatic Invertebrate Habitat, the average rating score is 4, qualifying the existing B3 channel as being impaired;
- Channel Condition (.6): The existing score is 4 due to an incising channel, active erosion and disconnection from floodplain. The proposed score is 9; the Mitigation Drainageway will be connected to a floodplain, with no discernable signs of incision and few or no bank failures;
- Bank Condition (.6): The existing score is 4 due to unstable banks with little protection. The proposed score is 9; the Mitigation Drainageway will create stable banks protected by roots of natural vegetation, wood and rock. There will be no excessive erosion or bank failures and no recreational or live stock access;
- Riparian Area Quantity (.3): The existing score is 8 as the natural plant community extends at least one bankfull width or more than $\frac{1}{2}$ to $\frac{2}{3}$ of the active floodplain and is generally contiguous throughout. The proposed score is 10; the project will provide a contiguous natural plant community extending at least two bankfull widths and the entire active floodplain. Trees and shrubs will be planted within the floodplain in addition to riparian seeding. Live stakes will be planted along the bankfull channel;
- Riparian Area Quality (.6): The existing score is 5 due to moderate abundance of invasive species and the compromised condition of the native vegetative community. The proposed score is 8; the Mitigation Drainageway will provide a natural and diverse riparian vegetation with composition, density and age structure appropriate for the site; little or no evidence of concentrated flows through area and invasive species in small numbers. The riparian area diversity will be improved through the riparian tree and shrub

planting within the floodplain, the riparian seeding and live stake plantings along the bank flow channel;

- Pools (.6): The existing score is 1 due to a lack of pool habitat. The proposed score is 4; the Mitigation Drainageway will include shallow pools with log cover at meander bends;
- Fish Habitat Complexity (.6): The existing score is 2 due to limited number of cover types. The proposed score is 5; the Mitigation Drainageway will include seven types of habitat present including: overhanging vegetation, logs, pools, boulders, cobble, riffles and fine woody debris. This would normally result in a score of 6 but due to lack of water, the proposed score is 5;
- Aquatic Invertebrate habitat (.6): The existing score is 4 (four types of habitat present) due to lack of diverse cover types. The proposed score is 7; the Mitigation Drainageway will include seven types of habitat present including: overhanging vegetation, logs, pools, boulders within riffles, cobbles within riffles, leaf packs and fine woody debris;
- Site Protection (.2): A third party conservation easement will be secured to ensure the long-term protection, monitoring and maintenance of the Mitigation Drainageway; and,
- Timing of Mitigation (.15): The proposed stream restoration will occur prior to the stream impacts.

Memorandum

Date: June 8, 2016

To: File

From: Madeline Marsack

RE: Storehouse Run Restoration Fact Sheet

Design Elements

The stream restoration project will be designed to reduce stream impairments by providing the following functions:

- Limitation of erosion and control sedimentation;
- Reconstruction, reinforcement and stabilization of failed stream banks;
- Stabilization of soil; and
- Improving wildlife habitat, water quality, and aesthetics.

Restoration of the streambank area will incorporate biological, mechanical and ecological engineering solutions. The following restoration techniques will be applied:

- The streambank area will be enhanced using a variety of plants capable of providing ground cover and root penetration for erosion protection, food cover that will attract and sustain wildlife, and to improve water quality.
- The failed high wall on the west streambank will be reconstructed and stabilized using a structural fill and turf reinforcement mat. This slope will be planted with grasses and

shrubs that will provide ground cover and root penetration for erosion protection, as well as food and cover that will attract and sustain wildlife;

- Rock armoring will be used to protect the toe zone from continued undercutting. The rock armoring will be extending from the stream bottom to elevations above the toe zone. Vegetation will be planted between and above the armoring and deflecting rock structure.
- Shrubs and live cuttings of flood tolerant, woody plants, including elderberry and shrub-like willows, will be planted in the bank zone. These plantings will provide bank stabilization as well as cover for native wildlife. These plants can extend roots into deep water, binding the soil above and below the water line and forming permeable underwater obstacles to slow currents and reduce impacts on soil.
- Native grasses, herbs, and shrubs are planted for the upland zone outside of the graded filters where vegetation is considered important for tying the upper portion of the streambank together with its soil-binding root network. A combination of shrubs and grasses will serve as an integrated plant community for erosion control, improve wildlife habitat diversity, and improve aesthetic appeal. Emergent vegetation will be planted at the surface of the graded filters, further improving habitat diversity in the stream bank area.
- A waterfall will be built into the streambank to provide a measure of aeration in concert with a shaded four foot deep trench pool. A downstream wedge dam will maintain a minimum water surface in the trench pool and adjacent streambed. The trench pool excavation will intersect the groundwater table, improving the artesian condition at the bottom of the pool, allowing additional volumes of cold groundwater that will mix with stream water at a greater rate, providing a thermal refuge for distressed fish.

Project Facts

- Location: The restoration section is West of Dodge Rd., North of the intersection of Dodge Rd. and Sandberg Rd. (EcoLogic)

- Average Bankfull width: 12 feet (EcoLogic)
- Restoration length: 160 feet (EcoLogic)
- Floodplain width: 60 feet (EcoLogic)
- Substrate composition: Gravel – 50%, Fine sediment – 20%, Cobble – 15%, Boulder – 5%, Sand – 5%, Bedrock – 5% (EcoLogic)
- New York State Department of Environmental Conservation (NYSDEC) Class C (T) stream which discharges into Conewango Creek.

Stream Mitigation Scoring Rationale

Existing scores for Storehouse Run were determined by EcoLogic using Stream Visual Assessment Protocol Version 2. The following table includes existing scores for the seven elements described by USACE for classification as well as the proposed scores after restoration.

Element	Storehouse Run	
	Existing Score	Proposed Score
Channel Condition	4	7
Bank Condition	3	8
Riparian Area Quantity	2	5
Riparian Area Quality	2	6
Pools	4	10
Fish Habitat Complexity	5	10
Aquatic Invertebrate Habitat	8	10
Average Score	4.0	8.0
USACE Classification	Impaired	Fully Functional

The USACE Buffalo District Compensatory Stream Mitigation Evaluation Method Draft was used as a guideline to calculate the total channel restoration credits generated. The Stream Mitigation worksheet is attached.

- Stream Type (0.4): Storehouse Run is a perennial stream with an approximate bankfull width of 12 feet.

- Priority Area (0.2): This reach is designated as a Class C (T) stream by the NYSDEC and therefore qualifies as a secondary priority area.
- Existing Condition (0.4): Based on the Stream Visual Assessment Protocol (SVAP 2) scoring for Channel Condition, Bank Condition, Riparian Area Quantity and Quality, Pools, Fish Habitat Complexity and Aquatic Invertebrate Habitat, the average rating score is 4.0, qualifying the stream as being impaired.
- Channel Condition (0.6): The existing score is 4 due to excessive erosion and because it is an aggrading channel. The proposed score is 7 because active erosion is stopped through rock placement, live stake planting, and trench pool installation.
- Bank Condition (0.6): The existing score is 3 due to severe sloughing of the bank and large trees sliding into stream. There is also a house, lawn and concrete along east bank edge. The proposed score is 6 because banks will be stabilized and protected by roots of natural vegetation and wood, rock, or a combination of materials.
- Riparian Area Quantity (0.6): The existing score is 2 because of the house, lawn and concrete on the east bank and due to the lack of tree and shrub cover. The proposed score for the west side is 10 because the natural plant community will extend at least two bankfull widths or more than the entire active floodplain and is contiguous throughout the property. The proposed score for the east side is 4 because the riparian area will extent to one third of the bankfull width with live stakes. When one side is 7 or greater and the other side is 4 or less, 2 is subtracted from the average making the proposed score 5.
- Riparian Area Quality (0.6): The existing score is 2 due to the presence of invasive or ornamental species, lack of tree and shrub cover, and the presence of a house, lawn and concrete. The proposed score is 6 for both sides because there will be natural and diverse riparian vegetation with composition, density, and age structure appropriate for the site with invasive species present in small numbers.
- Pools (0.6): The existing score is 4 because there are shallow pools with short, extremely shallow riffle areas near the top and bottom of the reach, and due to lack of depth and

cover. The proposed score is 10 because of the creation of a deep trench pool and greater than 30% will be obscured by cover.

- Fish Habitat Complexity (0.6): The existing score is 5 due to the presence of six to seven habitat features and no significant barriers to fish movement. The proposed score is 10 due to the trout refuge trench pool, overhanging vegetation, and the presence of boulders and cobbles.
- Aquatic Invertebrate Habitat (0.3): The existing score is 8 because there are eight different types of habitats (the site may need more wood or reference habitat features and stable wood-riffle sections). The proposed score is 10 due to the addition of overhanging vegetation, boulders, cobbles and a covered deep pool.
- Site Protection (0.2): A third party conservation easement will be secured over the restored stream area to ensure the long-term protection, monitoring and maintenance.
- Timing of Mitigation (0.15): The proposed stream restoration will occur prior to the stream impacts.

Memorandum

Date: June 8, 2016

To: File

From: Madeline Marsack

RE: 28th Creek Rd Reach 1 Restoration Fact Sheet

Design Elements

The stream restoration project will be designed to reduce stream impairments by providing the following functions:

- Reducing active erosion and bank failures;
- Reducing stressed, dying, and falling plants;
- Stabilization of eroding banks; and,
- Enhancing diversity of riparian species.

This reach ranged from low to moderate gradient with evidence of past incising and recovery in some areas, active erosion in others, and an aggrading channel elsewhere. The stream banks were nearly vertical in some areas with undermining trees that were falling into the channel. The following techniques will be applied to improve these conditions:

- The steep, nearly vertical, failing stream banks will be graded/filled to achieve a slope of 1.5H:1V or flatter.

- Brush mattress will be placed along the slope of the banks and held in place with hardwood stakes at two foot spacing. Brush mattress consists of dormant live branches that are bound together to create a mat used to protect against erosion. The brush mattress will then be backfilled with topsoil.
- A live fascine bundle will be located on the bank, parallel to the stream in a dug out trench at the base of the brush mattress, held in place by hardwood stakes and live stakes. A live fascine bundle includes dormant cuttings or branches bound together with twine and placed in covered trenches.
- Hand placed rock will be located in the undercut up to, and slightly extending past, the ordinary high water mark to prevent undermining of brush mattress and to protect the toe from erosion.
- Along the shorter stream banks that are lacking woody vegetation and show evidence of bank failure, the live fascine bundles will be used along with hardwood stakes, live stakes, and a rock toe armoring. The banks must be excavated to a 2H:1V slope.
- In the areas that have flat banks and are undercutting, joint staking and live stakes will provide erosion protection and stabilization. Joint staking contains live stakes planted within rock toe armoring.
 - Banks that have existing woody, rooted vegetation will be preserved and the rock will be placed in the undercut areas with live stakes planted in the joints.
 - Banks that do not have existing woody, rooted vegetation will be excavated to a 2H:1V slope and the rock will be placed along that slope with live stakes planted in the joints.
- Shade trees will be planted in the gap of the tree line to provide shade for the stream in that area.
- Invasive species in the riparian area will be removed by pulling and digging them out. Personnel will be required to return to the site regularly to pull any sprouting invasive plants until they are gone.

Project Facts

- Location: Downstream portion of unnamed stream near Kennedy, NY (EcoLogic)
- Average bankfull width: 7 feet (EcoLogic)
- Restoration length: 758 feet (EcoLogic)
- Average floodplain width: 90 feet (EcoLogic)
- Substrate composition: Gavel – 35%, Cobble – 30%, Boulder – 15%, Fine Sediment – 10%, Sand – 10% (EcoLogic)
- New York State Department of Environmental Conservation (NYSDEC) Class C stream which discharges into Twenty-eighth Creek, which is also Class C.

Stream Mitigation Scoring Rationale

Existing scores for Reach 1 of the 28th Creek Rd drainage way were determined by EcoLogic using Stream Visual Assessment Protocol Version 2. The following table includes existing scores for the seven elements described by USACE for classification as well as the proposed scores after restoration. All four proposals will result in the same score.

Element	Reach 1	
	Existing Score	Proposed Score
Channel Condition	4	7
Bank Condition	6	9
Riparian Area Quantity	9	9
Riparian Area Quality	7	9
Pools	7	7
Fish Habitat Complexity	7	7
Aquatic Invertebrate Habitat	8	8
Average Score	6.9	8
USACE Classification	Somewhat Impaired	Fully Functional

The USACE Buffalo District Compensatory Stream Mitigation Evaluation Method was used to calculate the total channel restoration credits generated. The Stream Mitigation worksheet is attached.

- Stream Type (0.3): This reach is an intermittent stream.
- Priority Area (0.05): This reach is designated as a Class C stream by the NYSDEC and therefore qualifies as a tertiary area.
- Existing Condition (0.05): Based on the Stream Visual Assessment Protocol (SVAP 2) scoring for Channel Condition, Bank Condition, Riparian Area Quantity and Quality, Pools, Fish Habitat Complexity and Aquatic Invertebrate Habitat, the average rating score is 6.9, qualifying the stream as being somewhat impaired.
- Channel Condition (0.6): The existing score is 4 because much of the reach is extremely shallow and fine sediment was not abundant on the surface of the substrate but did fill interstitial spaces within riffles, resulting in high (poor) riffle embeddedness. There is also evidence of past incising with some recovery, active erosion, and aggrading channel. The proposed score is 7 because slopes will be stabilized and active erosion will be stopped. Stressed, dying, and failing plants will also be reduced.
- Bank Condition (0.6): The existing score is 6 due to evidence of bank erosion and failure. The proposed score is 9; the restoration project will create stable banks protected by roots of natural vegetation, wood and rock. There will be no excessive erosion or bank failures and no recreational or live stock access.
- Riparian Area Quantity (0): No improvements will be made in this category due to a high existing score.
- Riparian Area Quality (0.3): The existing score is 7 because this element is generally good, although there are invasive species present. The proposed score is 9 because the addition of live stake plantings will increase species diversity and invasive species will no longer be present.
- Pools (0): No improvements will be made in this category due to a high existing score.

- Fish Habitat Complexity (0): No improvements will be made in this category due to a high existing score.
- Aquatic Invertebrate Habitat (0): No improvements will be made in this category due to a high existing score.
- Site Protection (0.2): A third party conservation easement will be secured over the restored stream area to ensure the long-term protection, monitoring and maintenance.
- Timing of Mitigation (0.15): The proposed stream restoration will occur prior to the stream impacts.

Memorandum

Date: June 8, 2016

To: File

From: Madeline Marsack

RE: 28th Creek Rd Reach 2 Restoration Fact Sheet

Design Elements

The stream restoration project will be designed to reduce stream impairments by providing the following functions:

- Addition of shallow pools;
- Enhanced riparian area quality;
- Enhanced fish and aquatic vertebrate habitat complexity; and
- Bank and channel stabilization.

This reach is very low gradient and is lacking any rock substrate. The channel is poorly defined in some sections with evidence of sediment deposition in extremely shallow sections. Pools and riffles are absent and the only evidence of bank failure was located at the old logging road. The following techniques will be applied to improve these conditions:

- The old logging road will be excavated and live stakes will be planted with natural fiber matting along the bank in that area. Sediment deposition caused by the old logging road will decrease; the live stakes and natural fiber matting will provide bank stabilization and

an increased riparian area quality. Rock toe armor may be necessary to further stabilize the banks and decrease bank erosion.

- Log-cross vanes will be added to the reach and improve many characteristics of the stream. Log-cross vanes are composed of two logs that join in the center of the stream, small rocks along the logs in the stream, and larger rocks to hold the logs in place on the bank. This structure would add pools, boulders, and cobble (all habitat features for fish and aquatic vertebrate). These structures may also help centralize flows along the stream path and prevent concentrated flows in the riparian area. The log-cross vanes will be constructed in the areas before poorly defined channel sections.
- Scour pools would be created from the log-cross vane structure. These scour pools should be dug out immediately following the log-cross vane to a depth of about 5 inches (calculations attached). The scour pools should then be lined with gravel to prevent the pool from collapsing and filling in.
- Invasive species in the riparian area will be removed by pulling and digging them out. Personnel will be required to return to the site regularly to pull any sprouting invasive plants until they are gone.

Project Facts

- Location: Upstream portion of unnamed stream near Kennedy, NY (EcoLogic)
- Average bankfull width: 6 feet (EcoLogic)
- Restoration length: 475 feet (EcoLogic)
- Average water depth: Typically less than 2 inches (EcoLogic)
- Average floodplain width: 60 feet (EcoLogic)
- Substrate composition: Fine sediment – 100% (EcoLogic)

- New York State Department of Environmental Conservation (NYSDEC) Class C stream which discharges into Twenty-eighth Creek, which is also Class C.

Stream Mitigation Scoring Rationale

Existing scores for Reach 2 of the 28th Creek Rd drainage way were determined by EcoLogic using Stream Visual Assessment Protocol Version 2. The following table includes existing scores for the seven elements described by USACE for classification as well as the proposed scores after restoration.

Element	Reach 2	
	Existing Score	Proposed Score
Channel Condition	7	8
Bank Condition	8	9
Riparian Area Quantity	9	9
Riparian Area Quality	6	9
Pools	1	4
Fish Habitat Complexity	0	3
Aquatic Invertebrate Habitat	3	6
Average Score	4.9	6.9
USACE Classification	Impaired	Somewhat Impaired

The USACE Buffalo District Compensatory Stream Mitigation Evaluation Method was used to calculate the total channel restoration credits generated. The Stream Mitigation worksheet is attached.

- Stream Type (0.3): This reach is an intermittent stream.
- Priority Area (0.05): This reach is designated as a Class C stream by the NYSDEC and therefore qualifies as a tertiary area.
- Existing Condition (0.4): Based on the Stream Visual Assessment Protocol (SVAP 2) scoring for Channel Condition, Bank Condition, Riparian Area Quantity and Quality, Pools, Fish Habitat Complexity and Aquatic Invertebrate Habitat, the average rating score is 4.9, qualifying the stream as being impaired.

- Channel Condition (0.15): The existing score is 7 due to bank destruction at the old logging road and evidence of sediment deposition. The proposed score is 8 because the removal of the old logging farm and the bank improvements will increase the score but it is likely aggrading sections of the reach will still be evident.
- Bank Condition (0.15): The existing score is 8 because it is the highest score possible with evidence of bank failure at the old logging road. Once the old logging road is removed and bank stabilization techniques are implemented in that section of the reach, the score will improve to a proposed score of 9.
- Riparian Area Quantity (0): No improvements will be made in this category due to a high existing score.
- Riparian Area Quality (0.6): The existing score is 6 due to some evidence of invasive species and concentrated flows through the riparian area. The removal of invasive species and concentrating flows in the stream path should increase the score to 9.
- Pools (0.6): The existing score is 1 due to the absence of pools. The proposed score is 4 because shallow pools will be present and only 10-30% of pools will be obscured due to depth or wood cover. Scour pools will be created following the log-cross vanes.
- Fish Habitat Complexity (0.6): The existing score is 0 due to extreme shallowness, lack of coarse mineral substrates, and barriers to movement due to limited water depth. No fish were observed, and insufficient water depth precluded occupancy of this reach by fish. The proposed score is 3 because five habitat features will be available including the existing overhanging vegetation and logs/large wood along with added scour pools, boulders, and cobble. According to the SVAP2 guidelines, this would result in a proposed score of 4 but following the professional opinion of Kurt Jirka, EcoLogic LLC, the score is reduced to a 3 due to lack of water.
- Aquatic Invertebrate Habitat (0.6): The existing score is 3 due to extreme shallowness, lack of coarse mineral substrates, and barriers to movement due to limited water depth. The proposed score is 6 because seven types of habitat will be present, including the

existing overhanging vegetation, logs/large wood, leaf packs, and fine woody debris along with the added scour pools, boulders and cobble. According to the SVAP2 guidelines, this would result in a proposed score of 7 but following Kurt Jirka's professional opinion, the score is reduced to a 6 due to lack of water.

- Site Protection (0.2): A third party conservation easement will be secured over the restored stream area to ensure the long-term protection, monitoring and maintenance.
- Timing of Mitigation (0.15): The proposed stream restoration will occur prior to the stream impacts.

Memorandum

Date: June 9, 2016
To: File
From: Madeline Marsack
Cc:
RE: Unnamed Tributary Restoration Fact Sheet

Design Elements

This stream restoration project is designed to reduce stream impairments by providing riparian area enhancement.

The Unnamed Tributary is a tributary stream to Storehouse Run and its characteristics are considered to be the same as channel, H1. The proposed improvements to the Unnamed Tributary will provide plants capable of attracting and sustaining wildlife, and improving water quality. Conventional hard structures such as rip rap will be supplemented with soft treatments including a native riparian seed mix, shrubs, and native trees to restore disturbed areas and provide shading.

Project Facts:

- Average bankfull width (H1): 10 feet (EcoLogic);
- Average floodplain width (H1): 120 feet (EcoLogic);
- Substrate Composition (H1): Gravel- 45%, Cobble – 20%, Fine Sediment – 30%, Boulder – 5% (EcoLogic).

- Restoration Length: 200 Feet (PD-3)

Stream Mitigation Scoring Rationale

The USACE Buffalo District Compensatory Stream Mitigation Evaluation Method was used to calculate the total channel restoration credits generated. The Stream Mitigation worksheet is attached.

Element	Unnamed Tributary (H1 Scoring)	
	Existing Score	Proposed Score
Channel Condition	4	4
Bank Condition	7	7
Riparian Area Quantity	9	10
Riparian Area Quality	6	9
Pools	3	3
Fish Habitat Complexity	7	7
Aquatic Invertebrate Habitat	6	6
Average Score	6.0	6.6
USACE Classification	Somewhat Impaired	Somewhat Impaired

The USACE Buffalo District Compensatory Stream Mitigation Evaluation Method was used to calculate the total channel restoration credits generated. The Stream Mitigation worksheet is attached.

- Stream type (0.3) – The stream type was determined to be intermittent because the Preliminary Jurisdictional Determination Form states that the onsite drainageways are intermittent.
- Priority area (0.05) – The priority area was determined to be tertiary.
- Existing Condition (0.05): Based on the Stream Visual Assessment Protocol (SVAP 2) scoring for Channel Condition, Bank Condition, Riparian Area Quantity and Quality, Pools, Fish Habitat Complexity and Aquatic Invertebrate Habitat, the average rating score is 6.3, qualifying the stream as being somewhat impaired.
- Channel Condition (0): No improvements will be made in this category.

- Bank Condition (0): No improvements will be made in this category.
- Riparian Area Quantity (0.15): The score will increase from 9 to 10 because adding wetland area will increase contiguity in the riparian area and riparian planting will add more vegetation.
- Riparian Area Quality (0.6): The score will increase from a 6 to a 9 because riparian planting will add more diversity and invasive species will be removed and monitored on the property. Concentrated flows in the riparian area will not be reduced and therefore the proposed score will not be 10. The concentrated flow in the riparian area is the storm water discharge structure.
- Pools (0): No improvements will be made in this category.
- Fish Habitat Complexity (0): No improvements will be made in this category.
- Aquatic Invertebrate Habitat (0): No improvements will be made in this category.
- Site Protection (0.2): A third party conservation easement will be secured over the restored stream area to ensure the long-term protection, monitoring and maintenance.
- Timing of Mitigation (0.15): The proposed stream restoration will occur prior to the stream impacts.

APPENDIX F

Restrictive Deed Covenant

STATE OF NEW YORK
COUNTY OF _____

Cross reference to that certain ___ (deed) _____ dated _____ and recorded in Deed Book _____, Pages _____ (Name of County) County Records. Enter the Grantor/Grantee recorded deed/s relevant to place this document in the chain of title.

DECLARATION OF CONSERVATION COVENANTS AND RESTRICTIONS

THIS DECLARATION OF CONSERVATION COVENANTS AND RESTRICTIONS (this "Declaration") is hereby made by _____ (Insert the name/s of the owner/s of the property as shown on the deed of title) (further describe the owners i.e. a New York limited liability company, a governmental entity, or other legal entity) the undersigned "Declarant." Declarant is the owner in fee simple of a certain tract or parcel of real property lying in ___, (County), New York. This tract of land was conveyed on (date) from (Grantor to Grantee) recorded in Deed Book ___, Page ___, (____) County Records.) Declarant comes now and, for good and valuable consideration, declares conservation use restrictions on (if less than all the property cross-referenced above as having been conveyed by Grantor to Grantee, then state, "a portion of") the property hereinafter described. A legal description of the specific parcel or parcels of Property subject to this Declaration is more particularly described in Exhibit "A" hereto attached and made a part hereof. The Declaration hereinafter stated shall apply to Property described in Exhibit "A" and is by reference, incorporated herein for a description and for all other legal purposes.

Exhibit A is a legal description of each parcel subject to the restrictive covenant. It is generally a portion of some larger parcel/s. The permit, mitigation bank or mitigation plan should be reviewed with the environmental consultant and/or owner to determine the specific property to be surveyed.

If the metes and bounds on the survey are extensive, then the legal description can reference the platted survey. For example, the legal description can state, "All that tract or parcel of land situate, lying and being in the ___ District, ___ County, New York, and being shown as ___ acres +/- on a plat entitled _____, dated _____, prepared by _____, GRLS # _____, recorded _____ in Plat Book ___, Page ___, in the Office of the Clerk of _____ County, New York.

PREMISES

WHEREAS, Declarant was (select one) (1) issued a permit, (2) authorized by that certain letter dated _____ to implement a Banking Instrument, (3) subject to an enforcement action by the US Army Corps of Engineers ("USACE") Action Number (enter permit number, banking instrument number, enforcement action number) pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344) or Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 401) under the administrative regulatory authority of the USACE Buffalo District, Regulatory Branch, setting forth authorization for certain dredge and/or discharge of fill activities in waters of the United States, including wetlands and streams; and,

Note

The Declarant should be both the permit holder ("permittee") and the owner of the mitigation Property. If the person or entity to whom the permit/banking instrument is issued, is NOT the owner of the land subject to the restrictive covenant, or does not intend to acquire fee title to the land, the property may not be considered for mitigation. Contact the Corps of Engineers. The Declarant should be the owner of the mitigation bank land. The owner may contract with an agent or sponsor to manage the bank. If that is the case, it should be so stated.

If the owner is a subsidiary of a corporation, a holding company or a real estate management company, and the permittee is a parent corporation—but the two legal entities have the same managing partners or corporate officers, then draft a paragraph explaining the relationship between the two entities and list the names of the president and one other officer that are common to both. The President and one other officer may sign the declaration on behalf of both corporations.

In the alternative, if approved by USACE, the permit would have to be transferred into the name of the owner of the property prior to recordation of the restrictive covenant. The permit/banking instrument is considered contractual in nature and there must be privity of contract between the permittee/bank sponsor/owner of property and the USACE. Suggested language for various scenarios:

WHEREAS, the permit/banking authorization letter was issued to "X". X is acting as agent for "Y," the owner of the property. (Have both owner and agent sign the declaration as co-permittees)

WHEREAS, the (permit or banking authorization letter) was issued to "X" Corporation. X Corporation is the parent company of "Y" LLC," the owner of the property to be protected. X and Y Corporations have the same officers—(list). The officers will sign the declaration on behalf of both X and Y corporations (permittee and owner of the property).

WHEREAS, the (permit or banking authorization letter) was issued to "X". X has transferred the (permit or banking authorization letter) to "Y" with approval from USACE. A copy of the transfer document is attached hereto. (Only the transferee/owner of the property would sign as the new permittee).

WHEREAS, said (select one) (permit, banking instrument, settlement agreement) dated _____ is attached hereto as Exhibit "B" and by this reference is made a part hereof; and,

Exhibit B - Attach the substantive document/s (1) letter or document authorizing the permitted activity, "the permit" (2) letter or document conditionally authorizing the permitted activity, "the conditional permit," (3) letter authorizing an after-the-fact permit and the settlement agreement or (4) a letter approving and authorizing a banking instrument and the banking instrument. An executive summary of the banking instrument may be used as Exhibit B in lieu of the entire banking instrument if reviewed and approved by Office of Counsel. The entire banking instrument will be incorporated by reference. Do not rely on the USACE Regulatory Branch to furnish copies of the authorizing letters, permit, banking instrument for use as Exhibit B. Please obtain the necessary documents from the permit holder, bank sponsor, environmental consultant or entity with whom USACE corresponded.

WHEREAS, dredge and/or discharge of fill material in jurisdictional waters of the United States including wetlands and streams pursuant to the Clean Water Act, Section 404, and/or Rivers and Harbors Act of 1899, Section 10, requires compensatory mitigation and perpetual protection of the mitigation property; and,

WHEREAS, a dated platted survey with seal affixed by a New York registered surveyor of the bearings and distances and coordinate values of the boundary of the Property referenced as Exhibit A has been recorded at (plat book, drawer, page or otherwise) (the "Survey"). The survey approximately shows the actual or planned wetland, stream and buffer areas within the Property. The property contains _____ acres in _____ parcels of land. The property further contains approximately ____ acres of wetlands and ____ linear feet of a (select one or more if relevant: first,

second or third order) tributary with buffer. The survey is made a part of this Declaration and is incorporated by reference. For requirements for survey, see separate page for instructions. Do not record survey until reviewed and approved by Office of Counsel.

WHEREAS, the Conservation Functions and Services are summarized and described in Exhibit "C", attached hereto and made a part hereof; and (Note - To Be Prepared By the wetland/stream consultant using the directions for Exhibit C--See instruction page below.)

WHEREAS, ((1) Use this paragraph only with single permits and not with mitigation banks.) the Property is being preserved, restored, established or enhanced as a wetland, buffer to wetlands, stream, streamside buffer, and/or upland buffer to jurisdictional waters of the United States, as well as to non-jurisdictional waters of the United States where such property has been accepted as compensatory mitigation pursuant to the permit; and,

WHEREAS (Use this paragraph if the conservation property is part of a planned community and if the planned community/development/subdivision restrictive covenants have been recorded) the Property is part of a planned community known as _____ which is subject to the provisions of (General Restrictive Covenants or Charter or other document) recorded at Book _____, Page _____, *et seq.*, in the Office of the Clerk of _____ County, New York. This Declaration will be incorporated into the overall master land use plan; and,

WHEREAS, Declarant also seeks to develop the Property in a manner authorized by New York State Department of Environmental Conservation ("NYSDEC", to include any successor agency) Permit number _____ issued on _____, 200__ in accordance with _____; and

NOW, THEREFORE, in consideration of the mutual benefits to be derived by the Declarant and each and every subsequent owner and occupant of the real property, and as required mitigation for dredge and/or discharge of fill material in waters of the United States including wetlands and streams, Declarant has promised to place certain restrictions on the Property exclusively for conservation purposes, in order that it shall remain substantially in its restored, enhanced, preserved, open, natural and/or scenic condition, in perpetuity.

1

Transfers & Extinguishment

Declarant does hereby declare that all of the Property described hereinafter shall be held, transferred, sold, conveyed and occupied subject to the terms and conditions of the covenants, easements and affirmative obligations all of which shall run with the Property and will be binding on all persons, firms, associations, corporations or governmental entities having or hereafter acquiring any right, title or interest in said Property, or any part thereof, their heirs, executors, administrators, successors and assigns. The terms and conditions of this Declaration of Covenants and Restrictions shall be both implicitly and explicitly included in any subsequent transfer, conveyance, or encumbrance affecting all or any part of the conservation property. It shall set forth the terms and conditions of this document either by reference to this document and its recorded location or by attachment and incorporation by reference. The covenant shall not be extinguished except by written approval of the USACE, or its successor in administration of the Clean Water Act or the Rivers and Harbors Act of 1899.

2

Property as Open and Common Area

The Property is set aside for conservation use and shall be designated as an undeveloped lot, buffer, open and common area or greenway and will not now, nor in the future, be made part of any single lot or lots in a residential or mixed use subdivision or a subdivided commercial development, but rather the Property shall be held, maintained and managed by the owner, developer, corporation, homeowner or business association as an open, common and undeveloped conservation area. There shall be no legal or de facto division, subdivision or partitioning of the protected Property used as mitigation unless approved by USACE and addressed in the permit or banking instrument.

3

Prohibited Uses

Except as necessary (1) to carry out wetland/stream and/or buffer restoration, enhancement and/or establishment in keeping with the mitigation plan of the permit or banking instrument as approved by USACE; or, (2) to fence the property to keep out livestock, domestic animals, trespassers, or for protection or enhancement of the property; or, (3) to carry out management and maintenance of the property as approved in writing by the USACE; the actions encompassed as prohibited by this covenant shall include, but shall not be limited to the following:

- A. Clearing, cutting or mowing;
- B. Earthmoving, grading, removal of topsoil, cultivation, burning, filling or changes in the topography of the land in any manner;
- C. Placement of refuse, wastes, sewage, dredged spoil, solid waste, incinerator residue, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, industrial, municipal, or agricultural waste on the Property;
- D. Draining, ditching, diking, dredging, channelizing, pumping, impounding, excavating;
- E. Diverting or affecting the natural flow of surface or underground waters within, or out of the Property; manipulating or altering any natural water course, body of water or water circulation and any activities or uses detrimental to water quality;
- F. Mining, drilling;
- G. Burning, systematically removing or cutting timber or otherwise destroying any vegetation. Upon approval from the USACE, selective pruning, unsafe trees or exotic non-native vegetation may be removed in accordance with current scientific best management practices as set out by the U.S. Forest Service or the New York Forestry Commission;
- H. Spraying with biocides or use of herbicides or pollutants that violate water quality standards;

- I. Introducing exotic species on the Property, altering the natural state of the wetlands or streams or causing erosion or sedimentation;
- J. Grazing or use by domesticated animals such that animal wastes enter soil and water;
- K. Construction of any kind in the wetlands, streams, buffers or upland, whether temporary or permanent.
- L. Use of off-road vehicles and used of motorized vehicles except on existing roadways is prohibited.
- M. Any other use of, or activity on, the Restricted Property which is or may become inconsistent with the purposes of this Declaration, the preservation of the Restricted Property substantially in its natural condition, or the protection of its environmental systems, is prohibited.
- N. As permitted or approved in writing by USACE the property may have: (1) a narrow pedestrian walking trail in the uplands or upland buffer using pervious materials, (2) minimal structures and boardwalks for the observation of wildlife and wetland/stream ecology, (3) crops for wildlife or placement of temporary hunting stands in uplands.
- O. Display of billboards, signs, or advertisements on or over the Property, except for the posting of no trespassing signs, temporary signs indicating the property is for sale, signs identifying the trees, vegetation, wetlands or conservation values of the property and/or signs identifying the owner of the property.
- P. Conservation and wildlife habitat management plans may be implemented by the New York Department of Environmental Conservation, US Forest Service, conservation land trusts holding conservation easements, or other conservation management entities where the habitat, wildlife or forest management does not result in any impacts to the wetlands/streams/riparian corridors and its buffers, or to property protected for its historical, cultural and/or archeological value, and where the proposal would enhance the management of the property for its conservation use.

5

Representations

Declarant represents and warrants that after reasonable investigation, and to the best of its knowledge:

A. No substance defined, listed, or otherwise classified pursuant to any federal, state, or local law, or regulation, as hazardous, toxic, polluting, or otherwise contaminating to the water or soil, has been released, generated, treated, stored, used, disposed of, deposited, abandoned, or transported in, on, from, or across the Property;

B. There are no underground storage tanks located on the Property, whether presently in service or closed, abandoned, or decommissioned;

C. The Property is in compliance with all federal, state and local laws, regulations and permits and there is no pending or threatened litigation in any

way affecting, involving or relating to the Property and its use.

D. The conservation property is not land-locked and there is access to the protected property by road, dedication of pathway or by an access easement.

6

Affirmative Duties

A. Declarant/Owner will take action to prevent the unlawful entry and trespass by persons whose activities may degrade or harm the conservation values of the Property or that are otherwise inconsistent with this Declaration.

B. A management plan shall be developed by Declarant and its successors for management of the property for its conservation duties. Adequate financial resources shall be allocated by owner of the mitigation property for protection of the property. Declarant shall take immediate action to cure violations of this restrictive covenant.

7

Exclusive Possession

Declarant, its (personal representatives, heirs, executors, administrators) (successors and assigns), reserve all other rights accruing from its ownership of the Property including but not limited to the exclusive possession of the property, the right to transfer or assign their interest in the same, the right to take action necessary to prevent erosion on the Property, to protect the property from losing its conservation functions and services, or to protect public health or safety; and the right to use the property in any manner not prohibited by this Declaration and which would not defeat or diminish the conservation purpose of this Declaration.

8

Benefits to the General Public

It is expressly understood and agreed that this covenant does not necessarily grant or convey to members of the general public, any rights of ownership, interest in, or use of the protected property unless so designated by the owner for such purpose. Nonetheless, the property has significant aesthetic and conservation value in its present or restored state as a predominately natural area which has not been subject to extensive development or exploitation. The protection of jurisdictional and non-jurisdictional waters of the United States, their buffers and uplands, floodplains, vegetation, scenic, open space, aquatic and wildlife habitat are considered of great importance to the well being of the general public and to all citizens of New York and are worthy of preservation and conservation.

9

Enforcement

The USACE, U.S. Department of Justice, New York State Department of Environmental Conservation and/or the Environmental Protection Agency, or their successors, as third party beneficiaries hereof, are hereby specifically granted the authority to enforce the provisions of this Declaration pursuant to the Clean Water Act Section 404 and the Rivers & Harbors Act of 1899, Section 10, and implementing regulations. Appropriate remedy for violation of this section is contemplated to include, without limitation, injunctive relief to restrain such violation, restoration, administrative, civil or criminal penalties as well as any other remedy available under law or equity. However, no violation of this covenant shall result in a forfeiture or reversion of title. It shall not be a defense, for purposes of this covenant, that the conservation functions and services of the property were impacted without the owner's knowledge or consent, or that the waters on the property are deemed to be non-jurisdictional waters of the United States either by their function or by statute. The property was offered and accepted as mitigation and is therefore subject to the contractual terms of the permit/banking instrument and this Declaration. Loss of conservation functions and services shall not be required to be replaced if damage is due to "acts of God" as it generally referenced, so long as there has been completion of the mitigation requirements of the permit/banking instrument as to restoration, enhancement, establishment and monitoring. In any enforcement action, an enforcing agency shall be entitled to a complete restoration for any violation, as well as any other judicial remedy such as civil or criminal penalties or an award of agency attorneys' fees. Nothing herein shall limit the right of the Corps of Engineers or NYSDEC to modify, suspend or revoke their respective Permits.

10

Right of Ingress and Egress

The USACE, NYSDEC and/or the Environmental Protection Agency and their respective agents, their assigned agents and contractors, shall at reasonable times and upon notice to the owner, have an access easement for the right of ingress and egress to inspect the property in order to monitor and to ascertain whether there has been compliance with this Declaration. Posted signs declaring the property to be conservation property shall be posted by the owner in order to provide notice of the land use designation.

11

Covenant Runs with the Land

This covenant shall not terminate upon some fixed amount of time but shall run with the land in perpetuity both as to benefit and as to burden and shall be enforceable against Declarant and all present and future owners, tenants and other holders of any interest in the Property. This

covenant is established for the purpose of preserving, enhancing and conserving wetlands and streams, non-jurisdictional wetlands and streams accepted as mitigation, buffers, uplands, open areas and the associated conservation values, services and functions. Furthermore, this covenant carries out the statutory requirement of Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act and the implementing regulations.

12

Intent of Clean Water Act

The intent of the Clean Water Act ("CWA") Section 404 is to restore and maintain the chemical, physical and biological integrity of the Nation's waters. The intent of this document is that the Property be perpetually protected as conservation lands.

13

Written Notice of Legal Action against Property

Pursuant to the CWA the District Engineer, c/o Office of Counsel, United States Department of the Army, Corps of Engineers, Buffalo District, Buffalo, New York, shall be provided with a 60-day advance written notice of any legal action concerning this covenant, or of any action to extinguish, void or modify this covenant, in whole or in part. The restrictive covenant is intended to survive foreclosure, tax sales, bankruptcy proceedings, zoning changes, adverse possession, abandonment, condemnation and similar doctrines or judgments affecting the property. A copy of this recorded document shall accompany said notice.

14

Eminent Domain

It is the intent of this conservation covenant that the aquatic resources it protects shall not be altered or impacted by eminent domain. However, if any or part of the protected property is taken by exercise of the power of eminent domain, so as to terminate this covenant, in whole or in part, USACE shall be given 60-day notification for the purpose of providing the condemnor and the court authorizing the action, with the value and cost of the consequential damages or the costs of replacement in kind of the ecological units and the conservation functions, services and values of Clean Water Act jurisdictional or non-jurisdictional mitigation on the property. Subject to approval by the USACE, options for replacement of consequential environmental impacts due to eminent domain are governed by the CWA Section 404 or the Rivers & Harbors Act of 1899 Section 10 and their implementing regulations. Options for payment of consequential damages to waters of the United States impacted by the eminent domain taking may include: (1) Re-recording of the USACE model Declaration of Conservation Covenants and Restrictions on the property signed by the new owner thereby preserving the existing waters of the U.S and their buffers on the site without impact; (2) payment of funds sufficient for the acquisition and protection of alternative real property in the same hydrologic watershed providing equivalent conservation functions, services and values of wetlands, streams, creeks, shorelines, other waters of the U.S. and their buffers; or (3) if available, the option to fund the purchase of conservation mitigation credits from an authorized wetland/stream mitigation bank sufficient to replace the conservation mitigation functions, services and values of the wetlands, streams, creeks, shorelines, and other waters of the U.S. and

their buffers; (4) payment of funds to an in-lieu fee mitigation wetlands/streams trust account approved by the USACE in an amount sufficient to purchase and protect alternative real property in the same hydrologic watershed that would provide the equivalent mitigation conservation functions, services and values, as the property impacted by eminent domain; or (5) Any other alternative consequential damages aquatic conservation mitigation as may be approved by USACE in compliance with the regulations and requirements. Failure for the proponent to provide consequential damages through alternative mitigation due to impact to aquatic resources protected under the CWA associated with eminent domain shall be referred to the U.S. Justice Department for action.

15

Removal to U.S. Federal District Court

The USACE reserves the right to recommend to the U.S. Department of Justice that the legal action as it relates to the Clean Water Act be removed to the United States Federal District Court in the district where the land lies.

16

Recordation of Instrument

Declarant shall execute and record this instrument in timely fashion in the official records of the Office of the Clerk of the County in which this Property lies and shall provide the USACE with a copy of the recorded covenant and exhibits. Declarant may re-record this instrument at any time as may be required to preserve its rights.

17

Notice to Government

Any permit application or request made to any governmental entity and affecting the Restricted Property, shall expressly reference and include a copy (with the recording stamp) of this Declaration.

18

Property Transfers

Declarant shall include the following notice on all deeds, mortgages, plats, or any other legal instruments used to convey any interest in the Property (failure to comply with this paragraph does not impair the validity or enforceability of these Restrictive Covenants):

NOTICE: This Property Subject to Declaration of Restrictive Covenants
Recorded at [*insert book and page references, county(ies), and date of recording*].

19

Amendment

This Declaration may only be amended by a recorded document signed by the Declarant after written approval by the Corps of Engineers and NYSDEC. Any amendment shall be consistent with the Corps of

Engineers' model conservation restrictions at the time of amendment. Amendment shall be allowed at the discretion of the Corps of Engineers and NYSDEC, in consultation with resource agencies as appropriate, and then only in exceptional circumstances. Mitigation for amendment impacts will be required pursuant to Corps Engineers and NYSDEC mitigation policy at the time of amendment. There shall be no obligation to allow an amendment.

20

Severability Provision

Should any separable part of these Restrictive Covenants be held contrary to law, the remainder shall continue in full force and effect.

IN WITNESS WHEREOF Declarant has duly executed this covenant on this the ____ day of

APPENDIX G

Deed of Conservation Easement

DEED OF CONSERVATION EASEMENT

THIS DEED OF CONSERVATION EASEMENT (the "Easement" or "Conservation Easement") dated as of _____, 201_ (the "Easement Date") is granted by and between **XXXXX**, and **THE CHAUTAUQUA WATERSHED CONSERVANCY, INC.** (the "Holder"), a New York State not-for-profit corporation, having an address at 413 North Main Street, Jamestown, NY 14701.

This Conservation Easement is intended to be interpreted so as to convey to Holder in perpetuity all of the rights and privileges of a holder of a conservation easement under the New York State Environmental Conservation Law, Article 49, Title 3. Holder is a publicly supported, tax-exempt nonprofit organization, qualified under Sections 501(c)(3) and 170(h) of the Internal Revenue Code of 1986, as amended, and the regulations promulgated thereunder (the "Internal Revenue Code"), whose primary purpose is the preservation, protection, or enhancement of land in its natural, scenic, educational, historical, agricultural, forested, and/or open space condition.

Article I. Purpose and Property Description

1.01 Property

The grantor of this Conservation Easement (Owner) is the sole owner in fee simple of the real property that is subject to the Easement (the "Property" or "Easement Property"), which is legally described in Schedule A and shown on a professional survey prepared by _____ and dated _____, with said survey attached hereto as Schedule B and which will be recorded with the **Chautauqua County** Clerk along with this Conservation Easement.

The Property is also described as:

Town: _____ County: Chautauqua State: New York
Street Address: _____
Tax Parcel #(s): _____
Acreage: _____

1.02 Purpose of the Conservation Easement

The purpose of this Conservation Easement is to protect, preserve, and maintain the Conservation Values of the Property (as defined in Section 1.03) and to prevent any activities or use of the Property that will impair, diminish, or harm the Conservation Values of the Property. This Conservation Easement provides different levels of resource protection and different restrictions on property use as the Parties deem appropriate for the various Property Use Zones and other areas of special concern that are set forth in this Easement. The Parties seek to protect the Conservation Values of the Property while allowing Owner to engage in certain compatible activities and land uses, including but not limited to residing on the Property; agriculture; forest management; wildlife management; low-impact outdoor recreation; and other activities and land uses that do not impair the Conservation Values.

1.03 Conservation Values

The Property possesses significant natural, open space, scenic, agricultural, recreational, and educational values (collectively, the "Conservation Values") of great importance to Owner, Holder, and the people of the State of New York. In particular, the Conservation Values found on, or provided by, the Property include, but are not limited to, the following:

[Customize the description of Conservation Values by inserting, deleting, or revising as appropriate.]

NATURAL:

1. Approximately XXXX feet of frontage on a stream and ravine which run through the property and are tributaries to the XXXX.
2. The Property is wholly within the XXXX Creek watershed, and the protection of the natural and undeveloped condition of the Property is therefore important for helping to ensure the quality of water resources in the watershed, benefitting the Brocton municipal water supply;
3. Approximately half of the largest parcel is wooded with thick hardwood forests, and acts as significant habitat for native animals, plants, fungi, and other organisms;
4. This hardwood forest area includes coniferous trees along the stream and ravine, which run through the property and are tributaries to the XXXX, along with maples, hemlocks, poplars, ash, willows, honeysuckle, dogwood, beech, pines, magnolia, and birch;
5. There are also a number of wildflowers present on the property including milkweed, sunflower, lilies, arum, and snapdragons.

SCENIC and LANDSCAPE CONTEXT:

6. Fields and forests on the Property contribute to the highly scenic character of the Chautauqua region in general, and specifically the Property has approximately XXX feet of frontage on XXX Roads, public roads, and the Property is visible from property owned by the Village of XXXX;
7. The Property is set within a larger landscape dominated by forest lands, agricultural lands, and wetlands.
8. The Property is contiguous, or in close proximity to, other permanently protected lands including lands owned by the Town of XXX, and therefore this Easement expands the contiguous area of protected lands and conservation values, and provides an important buffer from development to those other protected lands;

FORESTRY:

9. The size of the forest resources on the Property that are available for management are of sufficient size to make management practical.

EDUCATIONAL:

1. The Property is currently used, and will continue to be used, as XXX.

1.04 Baseline Documentation

Holder acknowledges that the condition and uses of the Property as of the Easement Date are compatible with, and do not conflict with, the purpose, terms, and conditions of this Conservation Easement. Owner has made available to Holder, or Holder's representatives, sufficient documentation and access to the Property to establish the condition and uses of the Property, and to inventory the human and natural features of the Property, as of the Easement Date. The current uses and features of the Property are described, inventoried, and summarized in a set of written documents, surveys, maps, photographs, and materials referred to as the Baseline Documentation, which Holder has prepared with Owner's cooperation. The Baseline Documentation contains the notarized signatures of the Parties, with a statement attesting that the Parties accept the Baseline Documentation as an accurate representation of the condition and features of the Property as of the Easement Date. The Parties further agree that the Baseline Documentation may serve as a primary resource for assisting Holder with the right and responsibility to recognize any changes that take place on the Property and to monitor the activities on, and conditions of, the Property for the purpose of determining compliance with the terms and provisions of this Conservation Easement. The Parties acknowledge and agree that in the event a controversy arises with respect to the nature and extent of Owner's activities on, or uses of, the Property or its physical condition as of the Easement Date, the Parties shall not be foreclosed from utilizing any other relevant documents, surveys, reports, photographs, or other evidence to assist in the resolution of such controversy.

1.05 Property Use Zones

In order to more easily describe permitted and restricted activities and land uses that the Parties deem to be appropriate or inappropriate in any given area of the Property, this Conservation Easement hereby sets forth four (3) different Property Use Zones within the Property, which shall be known and referred to as follows:

1. Residential/Active Use Zone;
2. Forest Management Zone; and
3. Environmental Protection Zone.

All areas of the Property are designated as being within one of these zones, and limitations, restrictions, and reserved rights described in this Easement apply differently to each Property Use Zone, as further described in the Articles below. The locations and boundaries of the Property Use Zones are described in Schedule A, shown on the survey attached as Schedule B, and depicted on one or more maps in the Baseline Documentation. Wherever there is a reference to a particular Property Use Zone in this Easement, such reference shall be applicable to the area of the Property described as such in Schedules A and B. Property Use Zone boundaries may also be delineated by fixed survey markers on the ground.

Article II. Subdivision and Conveyance

2.01 Prohibition

(a) Conveyance of Less Than the Full Property

In the event that the Property subject to this Conservation Easement is comprised of more than one tax parcel or existing lots, then all such parcels or existing lots must continue to be owned by only one (1) entity or Owner (recognizing that the Owner may be comprised of multiple individuals), and that Owner may not sell, gift, or otherwise convey less than the entire Property subject to this Conservation Easement to another entity or Owner, unless Holder issues prior written approval for the conveyance of individual parcels comprising less than the full Property to another entity or Owner. This prohibition shall not apply to any lots that may be created by a Subdivision of the Property that is permitted according to Section 2.02 below.

(b) Further Division or Subdivision

The division or subdivision of the Property is prohibited, except as set forth below. Subdivision, for purposes of this Easement, is any change in the boundary of the Property, any lot within the Property, or the creation of a new unit, lot, or parcel of real property for separate use or ownership, by any means.

2.02 Permitted Conveyance and Subdivision

(a) Conveyance and Encumbrance

Owner retains the right to sell, transfer, lease, mortgage, or otherwise convey the entire Property, subject to the restrictions and covenants set forth in this Easement.

(b) Subdivision [*Change or Delete if not Applicable*]

Owner retains the right to subdivide or convey less than the full easement property XX(XX) time into XX(XX) separate parcels, or otherwise convey the existing tax parcels, provided that each subdivided parcel has: [*insert specific subdivision limitations or terms*]

(c) Lot Line Change

Owner may merge or consolidate two or more tax parcels or existing lots comprising the Property. Owner may adjust a boundary line between two existing lots within the Property. Owner may adjust a boundary line between an existing lot of the Easement Property and another neighboring lot outside the Property only if the lot line adjustment does not result in a net decrease in land area subject to this Conservation Easement. All lot line changes are subject to prior written approval by the Holder.

(d) Subdivision and/or Conveyance for Conservation Purpose

With prior written approval of Holder, Owner may subdivide and convey portions of the Property for land conservation purposes to Holder; to another 501(c)3 non-profit land conservation organization; to a local or municipal government body; or to the State of New York for inclusion into a State Park, Reforestation Area, Wildlife Management Area, Multiple Use Area, Special Use Area, or Unique Area.

Article III. Use

3.01 Use of the Property

(a) Prohibition

The Property may not be used for activities and land uses that Holder determines are not consistent with the purpose of this Conservation Easement, and Owner's use of the Property shall be in accordance with the terms and provisions of this Easement. Notwithstanding any rights of use Owner reserves in this Easement, Owner shall make no use of the Property that impairs or could potentially impair the Conservation Values of the Property, and Owner agrees to notify Holder prior to undertaking any activity otherwise allowed under this Easement that may have a material adverse effect on the Conservation Values of the Property, in accordance with 26 CFR §1.170A-14.

(b) General Ownership

Owner shall retain all customary rights of ownership in the Property that are not limited or extinguished by this Easement, including the right to exclusive possession of the Property, provided that such rights are exercised in a manner that will not frustrate or diminish the purpose of this Easement. Furthermore, Owner shall have the right to engage in any of the activities and land uses permitted under this Easement, and to rent, lease, or grant access to the Property to guests, organizations, outdoor recreation groups or guides, researchers, or the general public for any of the activities and land uses permitted under this Easement, subject to any and all provisions and limitations described in this Easement. Nothing contained in this Easement grants, nor shall be interpreted to grant, to the public any right to enter upon the Property.

(c) Compatible Uses

It is the intention of the Parties that this Easement is to allow for activities and uses of the Property that are considered to be compatible with the purpose of this Conservation Easement and that do not diminish, harm, or threaten the Conservation Values. Such compatible activities and uses include outdoor recreational activities such as walking, hiking, cross-country skiing, horseback riding, nature study and observation, swimming, hunting, fishing, and biking; sustainable agriculture; sustainable forest management; low impact research or educational activities; and limited residential use. Sustainable land management practices are those that provide goods and services without degrading or perceivably diminishing productivity and environmental resource values at the site over time

(d) Commercial Activities

Commercial activities permitted on the Property include agriculture according to Article V; the sale of forest products according to Article VI; and other activities according to the provisions of this paragraph. In-home business(es) or professions, including the use of one or more of the existing or permitted residences as a 'bed and breakfast' or rental apartment, or use of any other permitted building or structure as a studio or workshop, shall be permitted without prior approval of Holder. With prior written approval of Holder, Owner may engage in other commercial activities that are consistent with the purpose, terms, and conditions of this Easement, as determined by Holder in its sole discretion.

(e) Motor Vehicles

The use of motor vehicles on the Property shall be only for customary purposes such as ingress and egress to the permitted Residential/Active Use Zone, access and inspection of the Property, and emergency access for vehicles such as fire trucks and ambulances; and for purposes and activities specifically permitted according to this Easement, such as the construction and maintenance of any permitted structures and

improvements and conducting permitted agricultural and forest management activities. Holder retains the right to require the cessation or reduction of any motor vehicle activity that Holder deems to be excessive and which is causing significant erosion or other harm to the Conservation Values of the Property, and Holder also retains the right to require the restoration of any roads, trails, or other areas of the Property that Holder determines to have been significantly damaged or degraded by motor vehicle use.

Article IV. Structures and Improvements

4.01 Prohibition

The placement, construction, or storage of buildings, structures, or other improvements anywhere on the Property is prohibited, except as permitted below in this Article.

4.02 Permitted Within the Residential/Active Use Zone

The following Structures are permitted within the Residential/Active Use Zone.

(a) Existing Single-Family Residence

The existing single-family house, described in the Baseline Documentation, may be maintained, remodeled, enlarged, moved, removed or replaced with a new single-family house, and all customary residential activities and uses may be conducted, including landscaping and gardening. In the event that the Property ceases to be used for residential purposes, Owner may use the house existing at the time, or other principal building approved by Holder, for any commercial, charitable, or educational use permitted by Holder that is consistent with the purpose, terms, and conditions of this Conservation Easement.

(b) Residential Accessory Structures

Existing residential accessory structures, shown and described in the Baseline Documentation, may be maintained, remodeled, replaced, enlarged, moved, or removed, and all customary uses of those structures may be conducted. New non-habitable residential accessory structures and improvements normally associated with residential use of a property, such as a garage, sheds, home office, studio, workshop, patio, gazebo, swimming pool, school bus shelter, gates, and fences may be constructed and maintained within the Residential/Active Use Zone without prior approval of Holder. New habitable residential accessory structures, such as a guest house, bunk house, rental apartment, or other such accommodation approved by Holder, but not including a multi-unit rental apartment building or a separate permanent residence, may be constructed and maintained within the Residential/Active Use Zone in accordance with local zoning laws or other governmental approval requirements. In all cases permitted habitable residential accessory structures shall be subservient to the principle single family residence and may not be subdivided from the Property.

(c) Driveways and Utilities

Existing driveways, including any associated ditches, culverts, or bridges, and existing utilities, as shown in the Baseline Documentation, may be maintained anywhere on the Property. New driveways and associated ditches, culverts, or bridges used for motor vehicle access and new utility lines, structures, and improvements used for the reception, storage, or transmission of water, sewage, telecommunications, and electricity, including structures for the generation of wind, solar, or geothermal power may be constructed and maintained anywhere within the Residential/Active Use Zone as necessary to serve activities, land uses, and structures permitted according to this Easement. New or replaced driveways and utilities may extend outside of the Residential/Active Use Zone only with prior written approval of Holder. Driveways and parking areas located within the Residential/Active Use Zone may be improved with shale, gravel, asphalt pavement, cement, or other such surface material.

4.03 Permitted Within the Environmental Protection Zone

Maintenance of existing trails and non-permanent recreational structures are permitted. New trails are permitted solely with Holders permission. Additional structures are prohibited within the Environmental Protection Zone.

4.04 Permitted Throughout the Property

The structures and improvements listed below in this Section 4.05 are permitted throughout the Property, with the exception of the Environmental Protection Zone as defined above, without prior approval of Holder, provided that such activities are limited in scope, frequency, and intensity, do not cause sedimentation or pollution of any stream or wetland, are undertaken in a manner consistent with the purpose and terms of this Conservation Easement, and the character of the natural habitat is not altered or diminished.

(a) Improved Access Roads

Owner may maintain existing improved access roads on the Property. Owner may construct new improved access roads only in accordance with an approved Agricultural or Forest Management Plan, or other prior written approval issued by Holder, except for driveways located wholly within the Residential/Active Use Zone, as described in Section 4.02(d). Improved access roads are those roads or paths that are graded and/or improved with shale, gravel, stone, or other surface material, and which may also have associated ditches, culverts, or bridges. Holder's approval of a new road may specify certain conditions, requirements, or limitations pertaining to such things as road width, location, surface materials, water control devices, and the timing and nature of construction.

(b) Recreational Trails and Unimproved Access Lanes

Owner may maintain existing recreational trails and unimproved access lanes on the Property, and create new foot paths, cross-country ski trails, horse trails, snowmobile trails or unimproved access lanes anywhere on the Property, without prior approval of Holder, provided that any such trails and access lanes are located, constructed, and maintained in a manner that is compatible with the natural and aesthetic characteristics of the Property, avoid or minimize erosion or other adverse effects to the Conservation Values, and avoid or have a minimal crossing through the Environmental Protection Zone. Unimproved access lanes are those dirt or grass pathways that might be used by slow-moving motor vehicles to access the Property, but which are not graded or improved with shale, gravel, stone, pavement, or other surface material. Recreational trails, paths, and unimproved access lanes outside of the Agricultural Building/Active Use Zone may not be converted to an improved road or otherwise graded or improved with shale, gravel, or other material unless such conversion or improvement is in accordance with an approved Agricultural Management Plan, Forest Management Plan, or otherwise given prior written approval by Holder

(c) Recreational Structures

The Parties agree that certain recreational structures are compatible with the purpose of this Easement and may be placed anywhere on the Property without prior approval of Holder, provided that such structures are small, non-habitable, predominantly made of wood or other materials that blend in with the natural surroundings, and are predominantly of a temporary and movable/removable nature. Examples of such recreational structures include bird houses or feeders; benches; picnic tables; hunting tree-stands; wildlife viewing ground-blinds; children's play house or tree house; docks on permitted ponds; and footbridges over the stream. Owner must obtain prior written approval of Holder for any proposed recreational structure that is not included in, or that are of a different nature and type than, the examples given above. Holder retains the right to require the removal of any structure that Holder determines is not within the meaning and spirit of this Section, that conflicts with the purpose of this Easement or diminishes or threatens the Conservation Values of the Property, or that have fallen into disuse and disrepair.

(d) Forest Management Structures and Improvements

Structures and improvements (whether temporary or permanent) related to permitted forest management activities, such as improved access roads, bridges, culverts, water bars, gates, log landings, and fencing to exclude deer or for other purpose around an area larger than one (1) acre may be constructed and maintained on the Property only in accordance with an approved Forest Management Plan, according to Article VI of this Easement. The use of tubes or wire mesh to protect individual tree seedlings or saplings, and the use of fencing to exclude deer from an area smaller than one (1) acre, does not require prior written approval of Holder.

(e) Research Devices and Equipment

The placement of scientific devices or equipment for the purpose of conducting scientific research, gathering data, or documenting conditions on the Property, whether temporary or permanent, shall require the prior written approval of Holder if such devices or equipment have the potential to disrupt wildlife or habitat, or otherwise impair the Conservation Values of the Property.

(f) Miscellaneous Structures

Other miscellaneous small, movable/removable structures or improvements of a de minimus nature and which would not harm or diminish the Conservation Values of the Property or conflict with the purpose of the Conservation Easement may be permitted on the Property on a case by case basis with prior written approval of Holder.

4.05 Special Protections

(a) Restoration or Enhancement Projects

Holder may grant prior written approval for certain structures, improvements, or work activities specifically related to the protection, maintenance, improvement, enhancement, or restoration of the Conservation Values on the Property. For example, such structures, improvements, or activities might be permitted for purposes such as stabilizing eroding stream banks or bluffs.

(b) Abandoned and Relocated Structures and Improvements

Holder retains the right to require Owner to remove any structure or improvement, or remnants thereof, located anywhere outside the Residential/Active Use Zone that has fallen into disuse and disrepair, or that has been damaged by fire or natural disaster and has been abandoned by Owner without plans for replacement or repair. Owner is obligated to restore any site formerly occupied by a structure or other improvement that has been removed or relocated to an open, vegetated condition, and Holder may require grading and seeding of such sites as necessary.

Article V. Agriculture

5.01 Prohibition

Agricultural activities and land uses are not permitted anywhere on the property but in the Residential/Active Use Zone.

Article VI. Forest Management

6.01 Prohibition

Forest management activities are limited to those permitted below in this Article, provided that the intensity or frequency of those activities do not diminish or adversely affect the forest-related Conservation Values on the Property. The purposeful introduction of non-native species within the Forest Management and Environmental Protection Zone is permitted only with prior approval of the Holder.

6.02 Permitted Throughout the Property

The forest management activities listed below in this Section 6.02 are permitted throughout the Property, with the exception of the Environmental Protection Zone as defined below in Section 6.05, without prior approval of Holder, provided that such activities are limited in scope, frequency, and intensity, do not cause sedimentation or pollution of any stream or wetland, are undertaken in a manner consistent with the purpose and terms of this Conservation Easement, and the character of the natural habitat is not altered or diminished.

(a) Protection of Personal Property or Safety

The cutting or removal of trees, alive or dead, to protect buildings, structures, or other significant personal property on the Property.

(b) Non-Native, Invasive Species

The killing, control, or removal of non-native, invasive species is permitted. Owner retains the right to plant non-native vegetation within the Residential/Active Use Zone, and in conjunction with permitted agricultural uses in the Agricultural/Field Management Zone. Non-native vegetation may be planted within the Forest Management Zone and Environmental Protection Zone, solely with prior approval of Holder.

(c) Collection of Non-Wood Forest Products

The collection of non-wood forest products such as maple sap, nuts, berries, and mushrooms.

(d) Collection of Wood Products and Small Scale Forest Stand Improvement for Personal Use

In the absence of an approved Forest Management Plan, Owner may cut trees, dead or alive, for firewood or for personal, non-commercial use only, and which shall be limited to a sustained-yield basis. In addition, Owner may trim, prune, or selectively cut individual trees for the purpose of improving the health, vitality, or productivity of individual trees or stands of trees, or to enhance wildlife habitat provided that cut trees are not commercially sold, and that said cutting results in forest clearings of no more than 50 feet in diameter.

(e) Cutting or Clearing to Exercise Other Reserved Rights

Owner may trim or cut trees and brush, dead or alive, for the purpose of exercising other reserved rights retained in this Conservation Easement, such as for the clearing of recreational trails.

6.03 Permitted Within the Residential/Active Use Zone

Owner retains the right to plant, cut, and manage trees and shrubs in the Residential/Active Use Zone and Agricultural/Field Management Zone for commercial or agricultural purposes, except as may be limited in Article 5.03, including plantation forestry and the cutting and removal of trees to maintain or reclaim fields. For the purposes of this Conservation Easement, tree cutting and planting activities conducted in the Agricultural/Field Management Zone shall be considered agricultural activities and may be subject to the Agricultural Management Plan requirements described in Article V.

6.04 Permitted Within the Forest Management Zone

In addition to the forest management activities permitted throughout the Property, as described above, the following specific provisions shall apply to forest management activities proposed for and conducted in the Forest Management Zone:

(a) Forest Stand or Habitat Improvement

Proposed forest stand or habitat improvement activities that exceed the intended limitations, scope, and nature of the small-scale forest stand or habitat improvement activities described and permitted as of right in Section 6.02(d) above, including the opening of forest patches, or clearings more than fifty (50) feet in diameter, may only be conducted in accordance with a Forest Management Plan, as defined in Section 6.04(c) below, that has been approved by Holder prior to commencement of any such activities.

(b) Commercial Harvesting

Owner may conduct or engage in commercial wood or timber harvesting activities (whether for timber, firewood, chips, pulp, biofuels, or other wood product, including salvage operations), including the associated clearing, construction, or improvement of new skid trails, forest access lanes, stream crossings, log landing areas, and other associated improvements, only in accordance with a Forest Management Plan, as defined and limited in Section 6.04(c) below, that has been approved by Holder prior to commencement of any such activities.

(c) Forest Management Plan Requirements

All forest management activities requiring prior approval of Holder, as indicated in this Article VI, may only be conducted in accordance with a Forest Management Plan that has been reviewed and approved by Holder prior to commencing any such activities. The following provisions, requirements, and limitations shall apply to Forest Management Plans submitted to Holder for review:

- (i) Any Plan that involves commercial harvesting or collecting of timber, firewood, or other wood product(s), and the associated construction or improvement of forest access lanes, must be prepared by a qualified professional forester, at Owner's sole expense. A qualified professional forester is someone that has a minimum of three (3) years work experience managing forests, can provide at least two (2) satisfactory references, and possesses a Bachelor of Science degree in forest management from an educational institution with a forestry curriculum accredited by the Society of American Foresters or other comparable educational standards approved by Holder. Any Plan that involves other non-commercial forest management activities, such as forest stand or habitat improvement activities, must be prepared by a professional forester, biologist, ecologist, botanist, or other qualified and knowledgeable person approved by Holder, at Owner's sole expense.
- (ii) The Plan must describe and provide detailed information on the following items: the landowner's objectives; what forestry or habitat management activities are to be conducted (including construction, repair, or enhancement of related improvement such as access lanes, stream crossings, and log landings); when and where those activities are to be conducted; and which Best Management Practices (see Section 8.02) will be employed.
- (iii) The Plan should promote sustainable forestry (see Section 3.01c for definition of "sustainable"); sound and generally accepted silvicultural and forest management standards and practices that are based on long rotations, a balance of forest age classes, and a balanced native species composition; and multiple uses and benefits of the forest on the Property, including the maintenance or improvement of soil productivity, water quality, timber and forest product value, wildlife habitat, unique or sensitive natural areas, non-motorized outdoor recreation, and aesthetics.
- (iv) Proposed harvesting practices or management activities that are not consistent with the goals described above in Section 6.04(c)(iii) shall only be considered for approval by Holder if the practice is necessary for the purpose of controlling a disease or insect infestation; salvaging dead or dying timber in the event of an infestation, storm, fire, or other natural disaster; or otherwise achieving a specific ecological objective or desired habitat improvement.
- (v) The Plan must incorporate Best Management Practices (see Section 8.02) to the greatest extent practicable and specifically address safeguards and provide for the protection and minimal disturbance of any steep slopes, watercourses, wetlands, riparian areas, and designated Environmental Protection Zones that may be within or adjacent to the Forest Management Zone.
- (vi) The Plan shall have been prepared, revised, or updated not more than ten (10) years prior to the date any harvesting or other forest management activities are to take place; the Plan and all updates shall cover a period of at least ten (10) years; and the Plan must be updated prior to expiring, as needed, for the continuation of ongoing forest management activities.
- (vii) The Plan should specify that heavy machinery should only be operated when the ground is dry or frozen, and that any and all ruts or other significant soil disturbance occurring as a consequence of forest management activities must be smoothed and repaired upon completion of the project or job.
- (viii) Any structures and improvements recommended or addressed in the Plan must be in accordance with the terms and limitations described in Article IV of this Easement.

(d) Forest Management Plan Review and Approval; Notice and Supervision of Activities

Review and approval of Forest Management Plans submitted to Holder will be conducted in accordance with Section 10.03 of this Easement. At least thirty (30) days prior to the commencement of any forest stand or habitat improvement project or commercial timber or wood product harvesting activity that has been granted prior approval by Holder, Owner shall provide Holder with a notice of intent to engage in such activities. Owner shall permit Holder or Holder's representative(s) to inspect the Property prior to, during, and/or after any harvesting activities to ensure compliance with an approved Plan and the terms of the Conservation Easement. Owner must engage a qualified professional forester (see Section 6.04c(i) above),

or other qualified professional approved by Holder to provide actual, on-site supervision of the activities approved in the Plan, at Owner's sole expense, unless Holder waives such requirement in writing.

6.05 Permitted Within the Environmental Protection Zone

Wood or timber harvesting activities are prohibited within the Environmental Protection Zone, however Holder may approve, at its sole discretion, limited forms of tree cutting as is necessary to maintain forest health.

Article VII. Dumping; Disposal and Storage of Debris and Wastes

7.01 Prohibition

The storage, dumping, burial, or burning of trash, garbage, vehicles, trailers, boats, household appliances, agricultural or other equipment, construction materials, oil, chemicals, hazardous materials, or other debris or substances anywhere on the Property is prohibited, except as permitted below in this Article.

7.02 Permitted Within the Forest Management Zone

Plant or animal materials generated on the Property may be disposed of on the Property, provided that the intensity or frequency of the activity or use does not adversely affect the Conservation Values, and is not within one hundred (100) feet of any stream, wetland, or other natural waterbody. This right includes the production of compost for use on the Property, the piling, scattering, or burning of brush and other vegetation to the extent reasonably necessary to accommodate permitted agricultural, forestry, and landscaping activities, and the occasional burial of animals, but does not include the routine or regular burial of animals or animal remains from any meat processing operation or other occurrence of multiple animal deaths.

7.03 Permitted Solely Within the Residential/Active Use Zone

The following activities related to the storage and/or disposal of wastes generated on the Property may take place only within the Residential/Active Use Zone:

- (i) The routine, temporary storage of containerized trash or wastes generated by the customary use of the Single Family Residence, until such trash can be removed from the Property for proper disposal;
- (ii) The use and maintenance of a modern, functioning individual household sewage treatment system (septic system) or a municipal sewage control system serving (each of) the permitted Single-Family Residence(s);
- (iii) The routine, temporary storage of trash, manure, chemicals, and other materials or substances generated by the customary, permitted agricultural uses and activities until such materials can be disposed of properly; and
- (iv) The storage of vehicles, boats, trailers, agricultural machinery, equipment or other personal property, whether operable or inoperable.

Article VIII. Alteration of Topography

8.01 Prohibition

Alteration of the topography of the Property is prohibited, except as may be permitted according to an approved Agricultural Management Plan or Forest Management Plan, as may be required to construct a structure or other improvement permitted according to this Easement, or as permitted below in this Article.

8.02 Best Management Practices

Any permitted activity that alters the topography of the property, or has the potential to cause erosion, including agricultural, forest management, construction of buildings or other improvements, and other activities permitted by this Easement, must be conducted in a way that avoids or minimizes erosion, or the potential for erosion, and other negative environmental impacts. Such environmental protection is achieved through the use and employment of Best Management Practices (BMP's), which are methods, procedures,

devices, guidelines, and/or minimum standards that are designed and used for the purpose of preventing or minimizing erosion, run-off, pollution, habitat destruction, pathogens, noise, or other negative environmental impacts that can occur from conducting activities that can disturb soil or other natural resources. Recommended BMP's are often described and outlined in publications or documents by government agencies.

8.03 Ponds

(a) Existing Ponds

Owner may maintain and restore (but not expand) any and all existing ponds on the Property without prior approval of Holder, provided that such activities do not cause significant sedimentation or pollution of any natural surface or subsurface waters on or off of the Property.

(b) New Ponds; Expansion of Existing Ponds

Owner may expand existing ponds and create and maintain new ponds as permitted below, provided that such activities do not cause significant sedimentation or pollution of any natural surface or subsurface waters on or off of the Property.

- (i) Without prior approval of Holder within the Residential/Active Use Zone.
- (ii) Only with prior written approval of Holder in Forest Management and Environmental Protection Zones; and Holder, at its discretion, may place limits on the location, number, size, or total cumulative area of new ponds located in these zones.

8.04 Special Habitat Creation or Restoration Projects

Certain activities or projects that would alter the topography of the Property may be conducted for specific purposes that seek to protect, enhance, or restore Conservation Values on the Property, such as the creation, restoration, or manipulation of wetlands, or the stabilization or restoration of a streambank or other erosion site. Any such activity or project may only be conducted with the prior written approval of Holder and only in accordance with a written plan that is prepared by a qualified professional and that promotes or imitates natural processes to the greatest extent practicable.

Article IX. Mineral Resources

9.01 Prohibition

Extraction of mineral resources from the Property, including the mining, drilling, excavation or any other surface development of the property to extract, store, or transport mineral resources, including (but not limited to) soil, sand, salt, gravel, rock, sod, oil, coal, or natural gas from the Property is expressly prohibited, except as may be permitted below in this Article.

9.02 Off-Site Extraction of Underground Gas and Oil Resources

Owner retains the right to extract oil, gas, and associated hydrocarbons from beneath the Property for commercial purposes, or enter into a lease agreement for such purpose, provided that the exploration, extraction, storage, processing, or transportation of these materials, or the use of machinery or equipment associated with such activities, shall not be conducted from, or take place on, the surface of the Property. Furthermore, the treatment, processing, or disposal of materials or substances related to mining or mineral extraction on the Property is prohibited; no water resources located on the Property may be used or impacted by such activity; and any offsite drilling and extraction of mineral resources located beneath the Property must not impair the Conservation Values of the Property or otherwise conflict with the purpose and terms of this Easement. Owner is solely responsible for complying with any and all applicable laws, permits requirements, or regulatory approvals, including compliance with §170(h) of the Internal Revenue Code. Owner shall notify Holder before entering into any such oil and/or gas lease.

Article X. Rights and Duties of Holder

10.01 Grant to Holder

(a) Grant in Perpetuity

By freely and unconditionally signing and recording this Conservation Easement, the Parties intend to be legally bound by the entire agreement, which grants and conveys to Holder a conservation servitude over the Property for the purpose of protecting and maintaining the Conservation Values of the Property in perpetuity. This Conservation Easement shall run with the land and be binding on Owner and Owner's heirs, administrators, successors and assigns, and shall inure to the benefit of Holder and its successors and assigns.

(b) Superior to All Liens

Owner warrants to Holder that the Property is, as of the Easement Date, free and clear of all liens or, if it is not, that Owner has obtained and recorded the legally binding subordination of any liens affecting the Property, and has provided Holder with copies of all such subordinations, prior to recording this Easement.

10.02 Enforcement and Inspection

The grant to Holder under the preceding section gives Holder the right and duty to protect and maintain the Conservation Values on the Property by administering and enforcing the purpose, terms, restrictions, limitations, and provisions set forth in this Conservation Easement. Specifically, Holder retains the right to enforce the terms and provisions of this Conservation Easement, including, in addition to other remedies, the right to enter the Property to inspect and monitor the condition and uses of the Property, to investigate a suspected, alleged, or threatened violation of the Easement, and to require Owner to restore damage to the Property resulting from a violation at Owner's expense.

10.03 Review and Approval

(a) Holders Right to Approve Certain Activities and Land Uses

This Easement identifies certain activities and land uses that require the prior written approval of Holder before Owner can commence engaging in said activities or land uses. As specified and required in other sections of this easement, Owner shall submit to Holder an Agricultural Management Plan, Forest Management Plan, or other documents, plans, or materials as appropriate for describing Owner's plans for any proposed activity or land use that requires prior written approval of Holder, and Holder retains the right to review such plans and either deny the plans, approve the plans, approve the plans with conditions, or require that modifications be made to the plans before they can be approved. Holder's approval for proposed activities or land uses that Holder determines do not conflict with the purpose and terms of this Conservation Easement or negatively impact the Conservation Values of the Property is not to be unreasonably withheld. Plans or other documents describing proposed activities or land uses that require prior approval of Holder shall be submitted by Owner to Holder in accordance with the Notice provisions described in Section 13.01.

(b) Response Procedures and Time Limitations

Within thirty (30) business days of receiving an written approval request submitted by Owner (including an Agricultural Management Plan or Forest Management Plan, Holder shall notify Owner that the information has been received and will inform Owner if additional information is needed. After notifying Owner that all information necessary for reviewing an approval request has been received, Holder shall then have sixty (60) business days to review the information and within that time shall notify Owner that the Plan or other request is being denied with cause, approved as is, approved with conditions, or that modifications to the Plan or other documents or descriptions are needed. Holder may request from Owner an extension of the time Holder has to review a Plan or other approval request, however Owner is under no obligation to grant such request for additional time. If Holder issues conditional approval for a proposed activity or land use, then commencement of the proposed activity or land use shall constitute

acceptance by Owner of all conditions set forth in writing by Holder. If Holder determines that the proposed activity or land use can only be approved with further modifications to the Plan or other materials, then the review and approval process shall begin again and be repeated when such modified or revised Plans or materials are resubmitted to Holder.

10.04 Amendment

Holder may, without any obligation to do so, enter into an amendment of this Conservation Easement with Owner if Holder determines that an amendment would be consistent with, or in furtherance of, the purpose of the Easement; will not result in any private benefit prohibited under the Internal Revenue Code; and otherwise conforms to Holder's policy regarding the amendment of conservation easements. Any amendment, modification, or supplement to this Conservation Easement must be signed and notarized by Owner and Holder and officially recorded in the public records.

Article XI. Violation; Remedies

11.01 Violation of Conservation Easement

If Holder determines that this Conservation Easement is being, or has been, violated, or that a violation of the Easement is threatened or imminent, then the provisions of this Section will apply:

(a) Notice

Holder must notify Owner of the violation. Holder's notice may include its recommendations of measures to be taken by Owner to cure the violation and restore features of the Property damaged or altered as a result of the violation.

(b) Opportunity to Cure

Owner's cure period expires thirty (30) days after the date of Holder's notice to Owner, subject to extension for the time reasonably necessary to cure, but only if all of the following conditions are satisfied:

- (i) Owner ceases the activity constituting the violation promptly upon receipt of Holder's notice;
- (ii) Owner and Holder agree, within the initial thirty (30) day period, upon the measures Owner will take to cure the violation;
- (iii) Owner commences to cure within the initial thirty (30) day period; and
- (iv) Owner continues thereafter to use best efforts and due diligence to complete the agreed upon cure.

(c) Imminent Harm

No notice or cure period is required if circumstances require prompt action to prevent or mitigate irreparable harm or alteration to any natural resource or Conservation Value of the Property.

11.02 Remedies

Upon expiration of the cure period (if any) described in the preceding section, Holder may bring an action at law or in equity in a court of competent jurisdiction to enforce the terms of this Easement; to enjoin present or future violations, ex parte as necessary, by temporary or permanent injunction; to recover any damages to which it may be entitled for violation of the terms of this Easement (including but not limited to injury to any of the Conservation Values of the Property) and to require the restoration of the Property to the condition that existed prior to any such violation. Holder also may exercise the right of self-help and enter the Property to prevent or mitigate further damage to the Conservation Values of the Property. Holder's remedies described in this Section shall be cumulative and shall be in addition to all remedies now or hereafter existing at law or in equity.

11.03 Termination

If circumstances arise in the future that render the purpose of this Easement impossible to accomplish, this Easement can only be terminated or extinguished, whether in whole or in part, by judicial proceedings in a court of competent jurisdiction, and the amount of the proceeds to which Holder shall be

entitled, after the satisfaction of prior claims, from any sale, exchange, or involuntary conversion of all or any portion of the Conservation Property pursuant to such termination or extinguishment, shall be determined, unless otherwise provided by New York State law at the time. In the event of termination, the following provisions shall apply:

(a) Compensatory Damages

Holder is entitled to collect from the person or party seeking the termination, compensatory damages in an amount equal to the fair market value of the Conservation Easement (determined in accordance with Section 12.05), plus reimbursement of Holder's attorney's fees and other costs.

(b) Restitution

Holder is entitled to recover from the person or party seeking the termination, (i) restitution of amounts paid for this Conservation Easement (if any) and any other sums invested in the Property for the benefit of the public as a result of rights granted under this Conservation Easement plus (ii) reimbursement of Holder's attorney's fees and other costs.

(c) Condemnation.

If the Easement is taken, in whole or in part, by exercise of the power of eminent domain, Grantee shall be entitled to compensation in accordance with paragraph 11.03 (a) and applicable law.

11.04 No Waiver

If Holder does not exercise any right or remedy when it is available to Holder, that is not to be interpreted as a waiver of any non-compliance with this Conservation Easement or a waiver of Holder's right to exercise its rights or remedies at another time.

11.05 No Fault of Owner

Holder will waive its right to reimbursement for the cost of enforcement under this Article as to Owner (but not other persons or parties that may be responsible for a violation) if Holder is reasonably satisfied that a violation was not the fault of Owner and could not have been anticipated or prevented by Owner by reasonable means. In addition, Holder shall not be entitled to bring any action against Owner for any violation resulting from causes beyond Owner's reasonable control, including, without limitation, fire, flood, storm, and earth movement, or from any prudent action taken by Owner under emergency conditions to prevent, abate, or mitigate significant injury to the Property resulting from such causes.

11.06 Multiple Owners; Multiple Lots

If different Owners own lots within the Property, then only the Owner of the lot in violation or other responsible person or party will be held responsible for the violation.

11.07 Multiple Owners; Single Lot

If more than one person or entity owns the lot in violation of this Conservation Easement, those people or entities that own the lot in violation are jointly and severally liable for the violation regardless of the form of ownership.

11.08 Continuing Liability

If a lot subject to this Conservation Easement is transferred while a violation remains uncured, the Owner who transferred the lot remains liable for the violation jointly and severally with the Owner to whom the lot was transferred. This provision does not apply if Holder has issued a certificate of compliance evidencing no violations within thirty (30) days prior to the transfer. It is the responsibility of the Owner owning the lot prior to the transfer to request a certificate of compliance to verify whether violations exist as of the date of transfer.

11.09 Cost of Enforcement

Any reasonable costs incurred by Holder in enforcing the terms of this Conservation Easement against Owner, or any third-party that violates the terms or provisions of this Easement, including but not limited

to costs of suit and attorney's fees, and any costs of restoration necessitated by a violation of the terms of this Easement, shall be borne by the violator and/or Owner, if the violator is the Owner or an employee, agent or invitee of the Owner.

11.10 Breach of Duty; Failure to Enforce

If Holder fails to enforce this Conservation Easement, or ceases to be an organization qualified to hold conservation easements according to IRS regulations, then the rights and duties of Holder under this Conservation Easement may be transferred to another "qualified organization" as defined by 26 CFR 1.170A-14 by a court of competent jurisdiction. In addition, the Attorney General of the State of New York, the New York Department of Environmental Conservation, and the State of New York have the right to enforce this Conservation Easement if Holder fails to do so.

Article XII. Federal and State Tax Items

12.01 Qualified Conservation Contribution

The rights granted to Holder under this Conservation Easement have been donated in whole or in part by Owner. This Conservation Easement is intended to qualify as a charitable donation of a partial interest in real estate as defined under §170(f)(3)(B)(iii) of the Internal Revenue Code to a qualified organization as defined in §1.170(A-14(c)(1) of the IRS regulations.

12.02 Public Benefit

The Parties have entered into this Conservation Easement to provide a significant public benefit, as defined in section §1.170A-14(d)(2)(i) of the Internal Revenue Code and in accordance with section §49-0301 of Environmental Conservation Law of the State of New York.

12.03 Mineral Interests

No person or party has retained a qualified mineral right or interest in the Property of a nature that would disqualify the Conservation Easement for purposes of §1.170A-14(g)(4) of the Internal Revenue Code. From and after the Easement Date, the grant or severance of any such right or interest is prohibited and Holder has the right to prohibit the exercise of any such right or interest if granted in violation of this provision.

12.04 Notice Required Under Regulations

As required by §1.170A-14(g)(5)(ii) of the Internal Revenue Code, and in addition to any other notice or approval requirements set forth in this Easement, Owner agrees to notify Holder before exercising any reserved right that may have an adverse impact on the Conservation Values associated with the Property.

12.05 Property Right

In accordance with §1.170A-14(g)(6) of the Internal Revenue Code, Owner agrees that the grant of this Conservation Easement gives rise to a property right, immediately vested in Holder, that entitles Holder to compensation upon extinguishment of the Easement (which may be accomplished only by judicial proceedings). The fair market value of the property right is to be determined in accordance with the Internal Revenue Code; i.e., it is at least equal to the proportionate value that this Conservation Easement, as of the Easement Date, bears to the value of the Property as a whole, as of the Easement Date (the Proportionate Value). If the Proportionate Value exceeds the compensation otherwise payable to Holder, Holder is entitled to payment of the Proportionate Value. Holder must use any funds received on account of the Proportionate Value for conservation purposes (as that phrase is defined in the Internal Revenue Code).

12.06 No Representation of Tax Benefits

Owner represents, warrants, and covenants to Holder that:

- (i) Owner has not relied upon any information or analyses furnished by Holder with respect to the availability, amount, or effect of any deduction, credit, or other benefit to Owner under the Internal Revenue Code and regulations, or other Applicable Law, or with respect to the monetary value of this Conservation Easement or the Property.
- (ii) Owner has relied solely upon their own judgment and/or professional advice furnished by the appraiser and any legal, financial, and accounting professionals engaged by Owner. If any person or party providing services in connection with this Conservation Easement or the Property was recommended by Holder, Owner acknowledges that Holder is not responsible in any way for the performance of services by these persons or parties.
- (iii) The donation of this Conservation Easement is not conditioned upon the availability or amount of any deduction, credit, or other benefit under the Internal Revenue Code and regulations, or other Applicable Law.

Article XIII. Miscellaneous

13.01 Notice Requirements

All notices, approval requests and responses, Plans required in accordance with this Easement, and other official correspondence between the Parties related to the Easement, must be written, unless expressly stated otherwise. Such documents may be delivered by hand or by mail through the United States Post Office or a private delivery service. Documents may be sent by facsimile (fax), electronic mail (e-mail), or other means only if agreed to by both Parties. A notice or other document shall be deemed given as of the date it is received.

13.02 Governing Law

The laws of the State of New York govern this Conservation Easement. Owner is responsible for complying with any and all applicable laws, statutes, codes, ordinances, standards, regulations, regulatory approvals, and/or permit requirements that may apply to any activities or land uses that Owner might engage in on the Property.

13.03 Assignment and Transfer

Holder may assign this Conservation Easement only to a qualified organization in accordance with 26 CFR §1.170A-14 and Section 170(h)(3) of the Internal Revenue Code and otherwise in accordance with applicable law.

13.04 Binding Agreement

Subject to the restrictions on assignment and transfer set forth in the preceding Section, this Conservation Easement binds and benefits Owner and Holder and their respective personal representatives, successors, and assigns.

13.05 No Other Beneficiaries

This Conservation Easement does not confer any enforcement rights or other remedies upon any person or party other than Owner and Holder, except as provided in Section 11.10. Owners of lots adjoining the Property are not beneficiaries of this Conservation Easement and, accordingly, have no right of approval or joinder in any decision or action between the Parties to the Easement.

13.06 Severability

If any provision of this Easement is determined to be invalid, illegal, or unenforceable, the remaining provisions of the Easement shall remain valid, binding, and enforceable. To the extent permitted by Applicable Law, the Parties waive any provision of Applicable Law that renders any provision of this Easement invalid, illegal, or unenforceable in any respect.

13.07 Counterparts

This Conservation Easement may be signed in multiple counterparts, each of which constitutes an original, and all of which, collectively, constitute only one agreement.

13.08 Indemnity

Owner must indemnify, hold harmless, and defend Holder and its members, directors, officers, employees, and agents and the heirs, personal representatives, successors and assigns of each of them (Indemnified Parties) against all claims, causes of action, liabilities, damages, losses, penalties, judgments and expenses (including reasonable attorneys fees) of any kind whatsoever, arising out of or relating to (a) any alleged or actual breach or violation of this Conservation Easement or applicable law; and (b) damage to property or personal injury (including death) occurring on or about the Property except to the extent (if any) caused by the negligent or wrongful acts or omissions of an Indemnified Party.

13.09 Guides to Interpretation; Captions

The descriptive headings and titles of the articles, sections and subsections of this Conservation Easement are for reference and organizational purposes only, and shall be ignored in its construction.

13.10 Entire Agreement

This is the entire agreement of Owner and Holder pertaining to the subject matter of this Conservation Easement. The terms of this Easement supersede in full all statements and writings between Owner, Holder, and others pertaining to the transaction set forth in this Easement.

13.11 Incorporation by Reference

Each Schedule attached to this Conservation Easement is incorporated into this Easement by this reference. The Baseline Documentation (whether or not attached to this Conservation Easement) is incorporated into this Easement by this reference.

TO HAVE AND TO HOLD unto Grantee (Holder), its successors, and assigns forever.

IN WITNESS WHEREOF Grantor and Grantee (Owner and Holder) have set their hands on the day and year first above written.

LANDOWNER
(LANDOWNER)

BY: JOHN JABLONSKI III
(Executive Director of the Chautauqua Watershed Conservancy)

STATE OF NEW YORK)
COUNTY OF **XXXXX**) ss:

On the ___ day of _____ in the year 20__ before me, the undersigned, a Notary Public in and for said State, personally appeared **Landowner**, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

NOTARY PUBLIC

STATE OF NEW YORK)
COUNTY OF CHAUTAUQUA) ss:

On the ___ day of _____ in the year 20__ before me, the undersigned, a Notary Public in and for said State, personally appeared **John Jablonski III**, the Executive Director of The CHAUTAUQUA WATERSHED CONSERVANCY, INC., personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

NOTARY PUBLIC

APPENDIX H

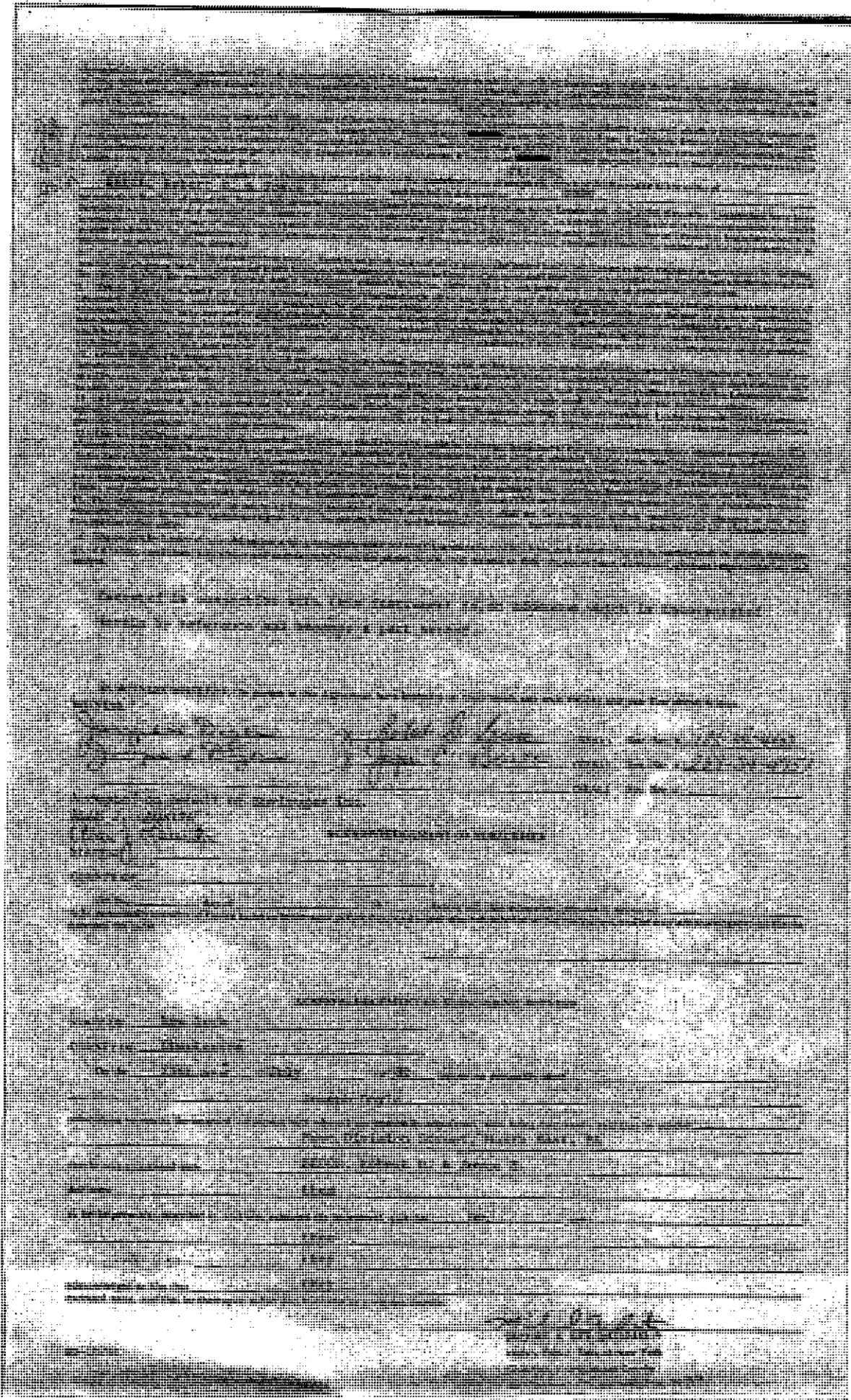
Oil and Gas Lease and Amendment

ENERGY SERVICES

Oil and Gas Lease

Agreement

[The following text is extremely faint and illegible due to heavy noise and low contrast in the scan. It appears to be a standard oil and gas lease agreement form with multiple sections for property description, terms, and signatures.]



ADDENDUM

Addendum to a certain Oil and Gas Lease dated the 21st day of July, 1982, by and between BRUCE, Robert D. & Joyce E. and Envirogas Inc. which is incorporated therein and becomes a part thereof.

16. No gas storage rights are granted herein whatsoever. This clause supersedes anything to the contrary contained herein.
17. Well location(s) and access route(s) are to be mutually agreed upon by both Lessor and Lessee and Lessor agrees he will not unreasonably withhold such agreement.
18. Lessor shall have the right to drill and produce additional shale gas wells. However, Lessor shall not drill to a sufficient depth to penetrate the Onondaga formation.
19. Lessee will repair or replace any tiles broken due to its drilling operations.
20. With reference to Lessee's agreement to furnish free gas as provided in Paragraph Six (6) of this lease, in lieu of the said maximum of up to 300,000 cubic feet of gas, from any one well, Lessor may receive, less one-eighth 1/8, the cash equivalent, of 200,000 cubic feet of gas per twelve-month period, based on the wellhead price, from any such well located on the leased premises, commencing from the date of first production of the said well. In the event Lessor chooses this alternative, Lessor shall notify Lessee by giving Lessee written notice, which notice must be received by Lessee within sixty (60) days of the commencement of production from the said well. Lessee hereby reserves the right to discontinue the payment of cash equivalent at such time as gas production from the well falls below 3,600 MCF per year.

WITNESS:

Joseph D. Dwyer & Robert D. Bruce (L.S.)

Joseph D. Dwyer & Joyce E. Bruce (L.S.)

DEAN

SCHOOL ROAD

TWENTY

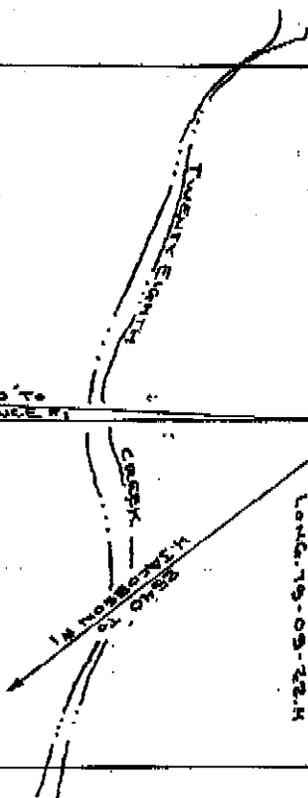
EIGHTH

CREEK

ROAD

ROBERT BRUCE *
10.3 AC.

ROBERT BRUCE *
65 AC.



R. BRUCE #2
 1730' S. of 41-17-30
 8450' W. of 19-07-30
 Elev. 1630'
 Lat. 42-12-17.8
 Long. 79-09-22.4

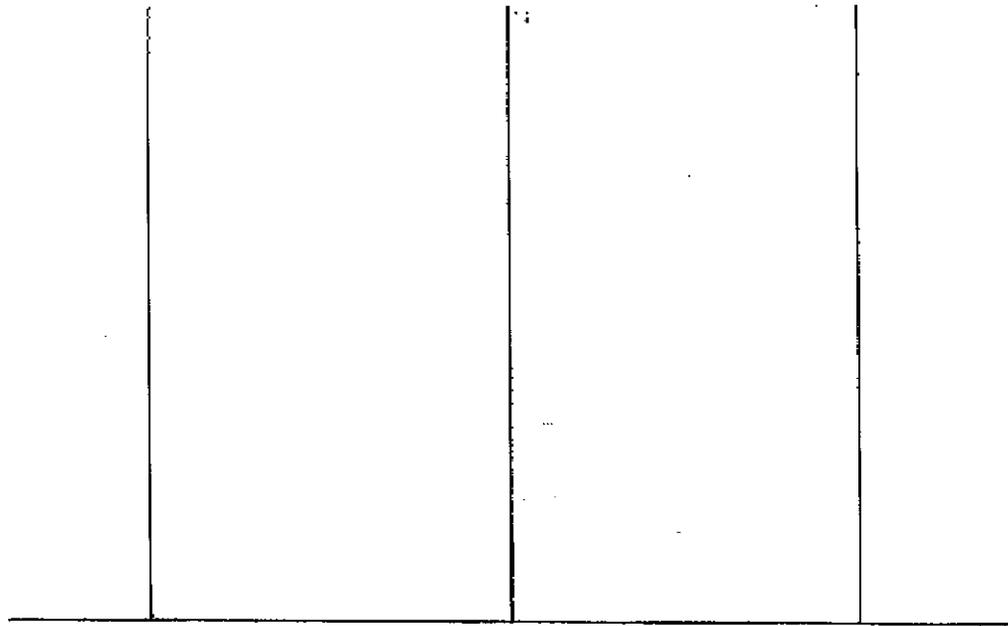
ROAD TO R. BRUCE #1

ROAD TO R. BRUCE #1



SCALE: 1"=400'

SCALE: 1" = 400'



NOTES:

- 1) ALL WELLS SHOWN ON THIS PLAN SHALL BE LOCATED NOT LESS THAN 600 FEET FROM ANY BOUNDARY LINE OF THE LEASE, CONSOLIDATED OR POOLED LEASES, OR UNIT, AND NO CLOSER THAN 1250 FEET FROM ANY OTHER PRODUCING OIL AND GAS WELL COMPLETED IN THE SAME POOL OR WELL BEING DRILLED IN THE SAME POOL.
- 2) * - INDICATES UNDER LEASE TO ENVIROGAS, INC.
- 3) USGS REFERENCE:
GERRY, NY - T. 5. SERIES - 1954
- 4) FIELD BOOK: G-7-68/70

LOCATION PLAN FOR
 ENVIROGAS, INC.
R. BRUCE # 2

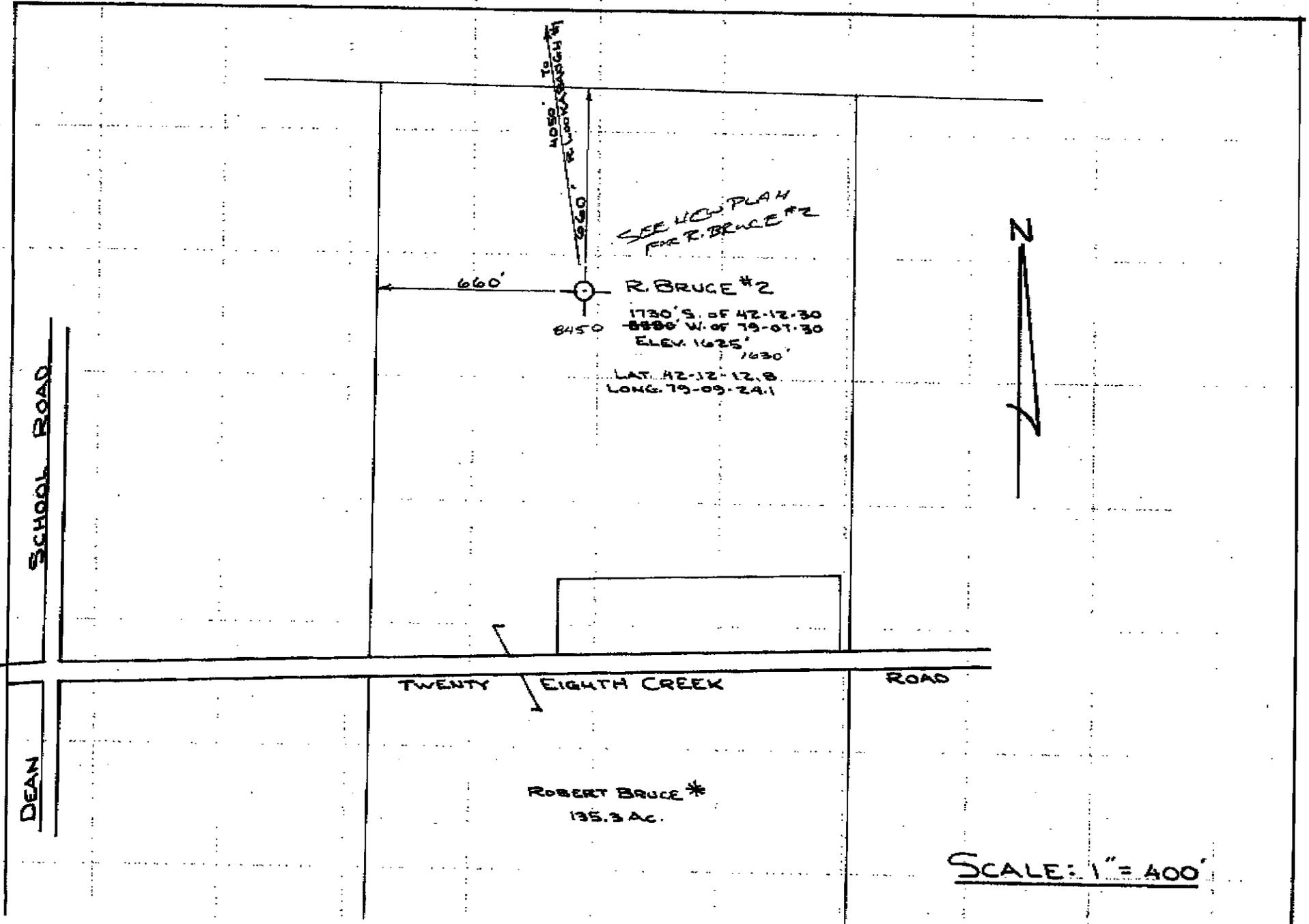
TOWN OF ELLINGTON
 COUNTY OF CHAUTAUGUA
 STATE OF NEW YORK

LSI-TB-RIO OF THE H.L.C.S.

SURVEY BY: MICHAEL J. RODGERS AND ASSOCIATES
 BEMUS POINT, NY

DATED: FEBRUARY 1, 1983





SEE NEW PLAN FOR R. BRUCE #2

R. BRUCE #2

1730' S. OF 42-12-30
8880' W. OF 79-07-30
ELEV. 1625'
1630'

LAT. 42-12-12.8
LONG. 79-09-24.1

660'

650'

4050'

TO LOOK FOR MONUMENT #1

N

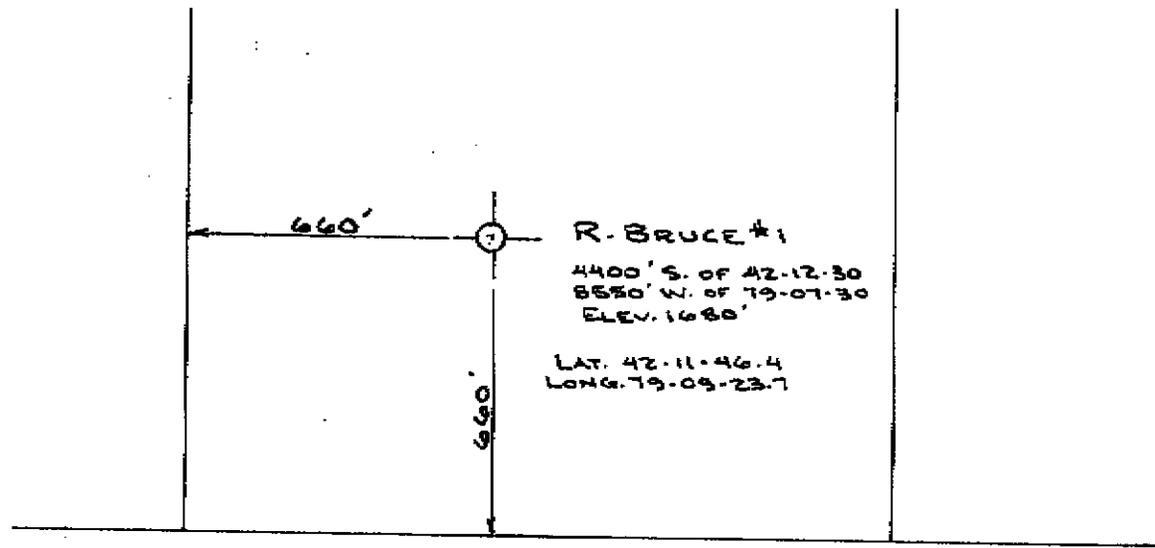
SCALE: 1" = 400'

SCHOOL ROAD

DEAN

TWENTY EIGHTH CREEK ROAD

ROBERT BRUCE *
135.3 AC.



NOTES:

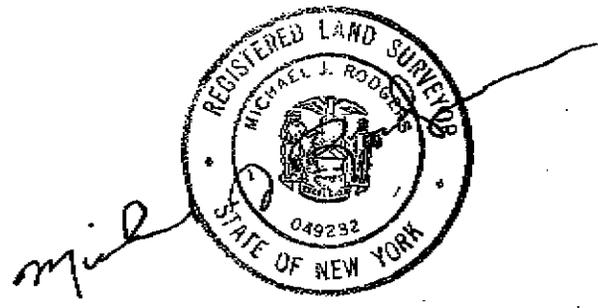
- 1) ALL WELLS SHOWN ON THIS PLAN SHALL BE LOCATED NOT LESS THAN 660 FEET FROM ANY BOUNDARY LINE OF THE LEASE, CONSOLIDATED OR POOLED LEASES, OR UNIT, AND NO CLOSER THAN 120 FEET FROM ANY OTHER PRODUCING OIL AND GAS WELL COMPLETED IN THE SAME POOL OR WELL BEING DRILLED IN THE SAME POOL.
- 2) * - INDICATES UNDER LEASE TO ENVIROGAS, INC.
- 3) USGS REFERENCE:
GERRY, NY - T8 SERIES - 1954
- 4) FIELD BOOK: G-7-68/70

LOCATION PLAN FOR
ENVIROGAS, INC.
R. BRUCE #1 & #2

TOWN OF ELLINGTON
COUNTY OF CHAUTAUGUA
STATE OF NEW YORK
LSI-T8-R10 OF THE H.L.C.S.

SURVEY BY: MICHAEL J. RODGERS AND ASSOCIATES
BEMUS POINT, NY

DATED: JANUARY 21, 1983



6. Lessee acknowledges that any created wetland requires a 100 foot buffer to the outside boundary of the Mitigation Wetland Area which Lessor acknowledges shall not be extended beyond the boundary lines of the Premises.
7. Lessor shall be entitled to its pro rata share of all royalties pursuant to the Lease and Declaration of Pooling Agreement. Lessor shall provide evidence of ownership of Premises to Lessee.
8. Lessor shall have no obligation to indemnify Lessee for any damages, loss of profits or for any reason whatsoever except in the event of Lessor negligence.
9. Lessee shall be granted free access to enter upon the Premises, using its best efforts to provide prior notice to Lessor, to maintain, repair or relocate any existing pipeline or facility located on the Premises. Such operations shall be performed in a good workmanlike manner in compliance with standard industry practices and shall not cause any disturbance to the ground surface within the Mitigation Wetland Area.
10. Lessee represents and warrants to Lessor that this Amendment (1) has been duly authorized, executed and delivered by Lessee and (2) constitutes the legal, valid and binding obligation of Lessee.
11. All other terms and conditions of the Lease not amended herein shall remain the same.
12. This Amendment shall be recorded in the Chautauqua County Clerk's Office.

[Remainder of page left intentionally blank, signatures on following page]

Legend

- Owner Name
- New Parcel ID
- Old Parcel ID
- Address Number
- Parcels
- Pennsylvania Municipalities
- New York Municipalities
- Municipal Boundaries Label
- Highways Label
- Local Roads Label

Highways

Highway Type

- Interstate Highway
- US Highway
- State Highway
- County
- Local Roads
- Railroad
- Hydrology
- Parks
- Airports
- Municipal Boundaries

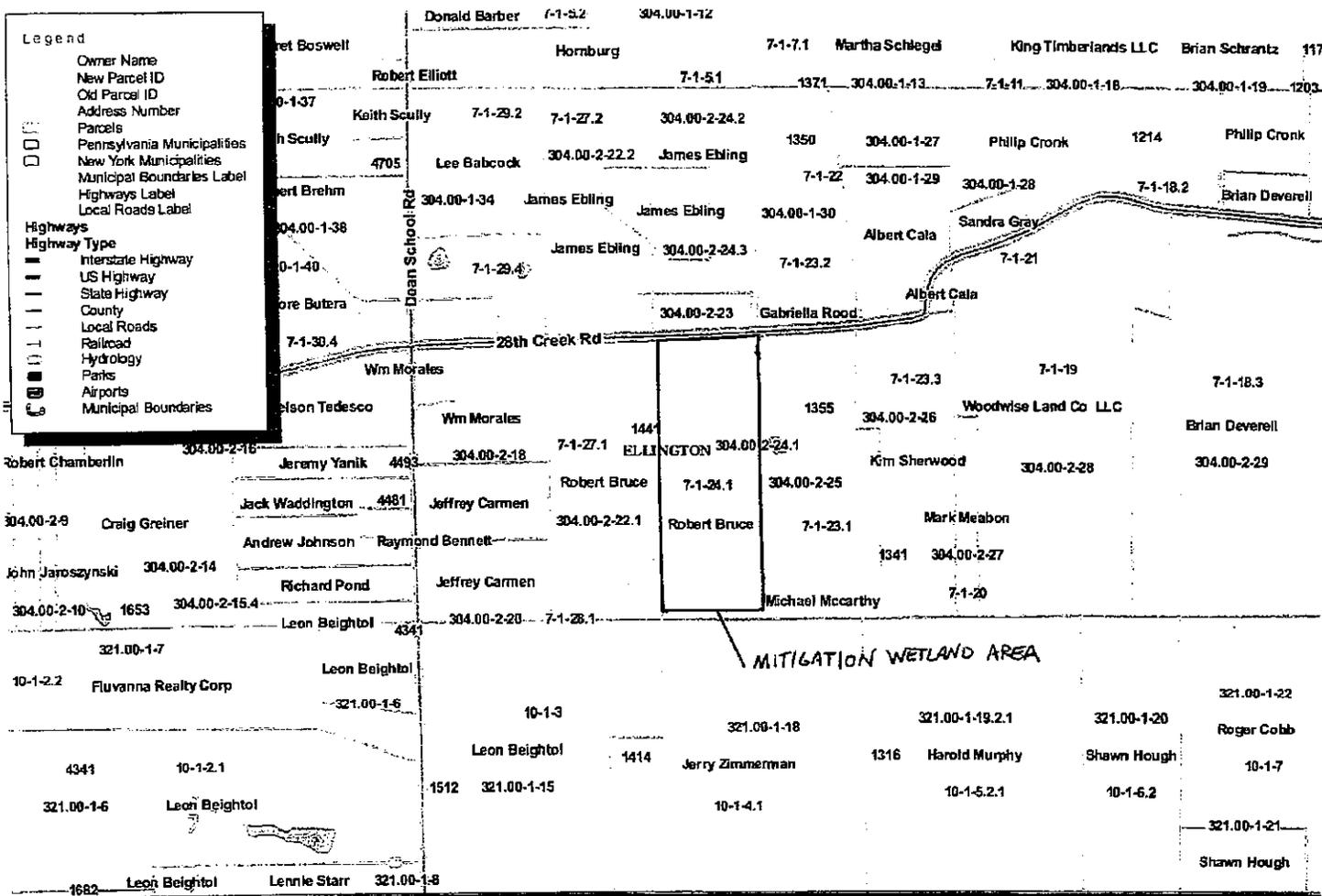
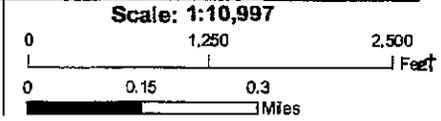


EXHIBIT A



28th Creek Road

MITIGATION WETLAND AREA
NOT TO SCALE



Letter from: Earth Dimensions, Inc.
Scott Livingstone, Wetlands Operations Manager
To: David Lenox, Daigler Engineering, P.C.

Re: Carroll Landfill Wetland Re-evaluation

October 20, 2016



EARTH DIMENSIONS, INC.

* Soil & Hydrogeologic Investigations * Wetland Delineations
1091 Jamison Road, Elma NY 14059
(716) 655-1717 * Fax (716) 655-2915 www.earthdimensions.com

October 20, 2016

W24H04b

David Lenox
Daigler Engineering, PC
2620 Grand Island Boulevard
Grand Island, New York 14072

RE: Carroll Landfill Re-evaluation
Carroll, New York

Dear Mr. Lenox:

At your request, Earth Dimensions, Inc. (EDI) has performed a re-evaluation of the wetland delineation performed at the Carroll Landfill site located at 309 Dodge Road in the Town of Carroll, Chautauqua County, New York. EDI had previously performed a wetland delineation at the site in November 2010 which identified five (5) wetlands totaling 6.09 acres. A Jurisdictional Determination (JD) relative to this delineation was issued by the U.S. Army Corps of Engineers (USACE) on August 4th, 2011. This determination expired on August 4, 2016. The August 4th, 2011 JD contained both a preliminary and an approved JD. The approved JD (for the isolated wetlands) expired on August 4, 2016. The preliminary JD (for the regulated wetlands) has no expiration date. The USACE however, strongly recommended that the boundaries of Waters of the US be re-evaluated. The results of this re-evaluation are presented in this letter.

At your request, EDI completed a re-verification of the 2010 wetland delineation to determine if there have been any changes to the wetland boundaries since that time. This investigation was completed on October 13, 2016. EDI walked the limits of the previously flagged wetland boundaries using a hand held GPS unit with the coordinates of the previously placed flags loaded onto the unit. EDI also took updated data at the approximate locations of the previous nine (9) data point locations as well as one additional point (D10) located in the now-abandoned borrow pit in the northern portion of the site (wetland 7).

EDI determined that there are no changes to the limits of the previously delineated five wetland areas. However, as noted on the attached updated wetland delineation map, we identified three (3) very small newly identified wetland areas, all three of which are isolated and, in our opinion, not under federal regulation. Two of these new areas formed in the now-abandoned borrow pit at the north end of the site (wetlands 7&8). This pit was active at the time of the previous investigation. In addition to the updated wetland delineation map, attached are the data forms and photos from the October 13th site visit.

If you have any questions or require further information, please contact our office at (716) 655-1717 or email slivingstone@earthdimensions.com.

Very truly yours,
Earth Dimensions, Inc.

Scott J. Livingstone
Wetlands Operations Manager

Encl.

Site Photos From 10-13-16



Photo D1; Facing South. Depicts Wetland 1.



Photo D2; Facing Southwest. Depicts successional northern hardwoods.



Photo D3; Facing west. Depicts Wetland 1.



Photo D4; Facing North. Depicts Wetland 1, floodplain to Storehouse Run.

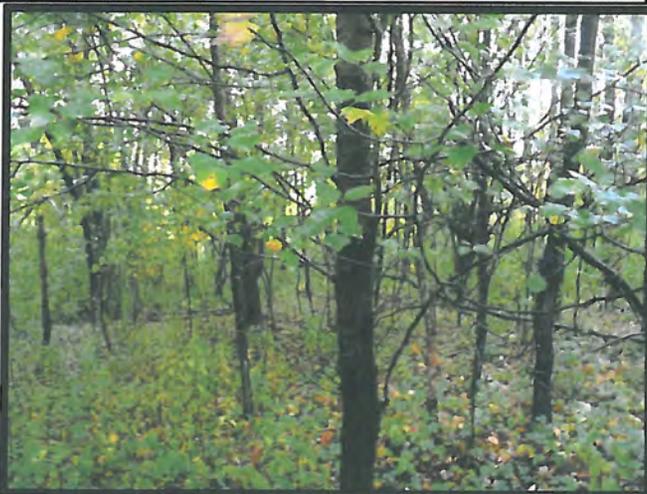


Photo D5; Facing North. Depicts successional shrubland.



Photo D6; Facing Northwest. Depicts Wetland 2.

Site Photos From 10-13-16



Photo D7; Facing West. Depicts rich mesophytic forest.



Photo D8; Facing North. Depicts a mixed conifer forest.



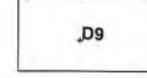
Photo D9; Facing north. Depicts rich mesophytic forest.

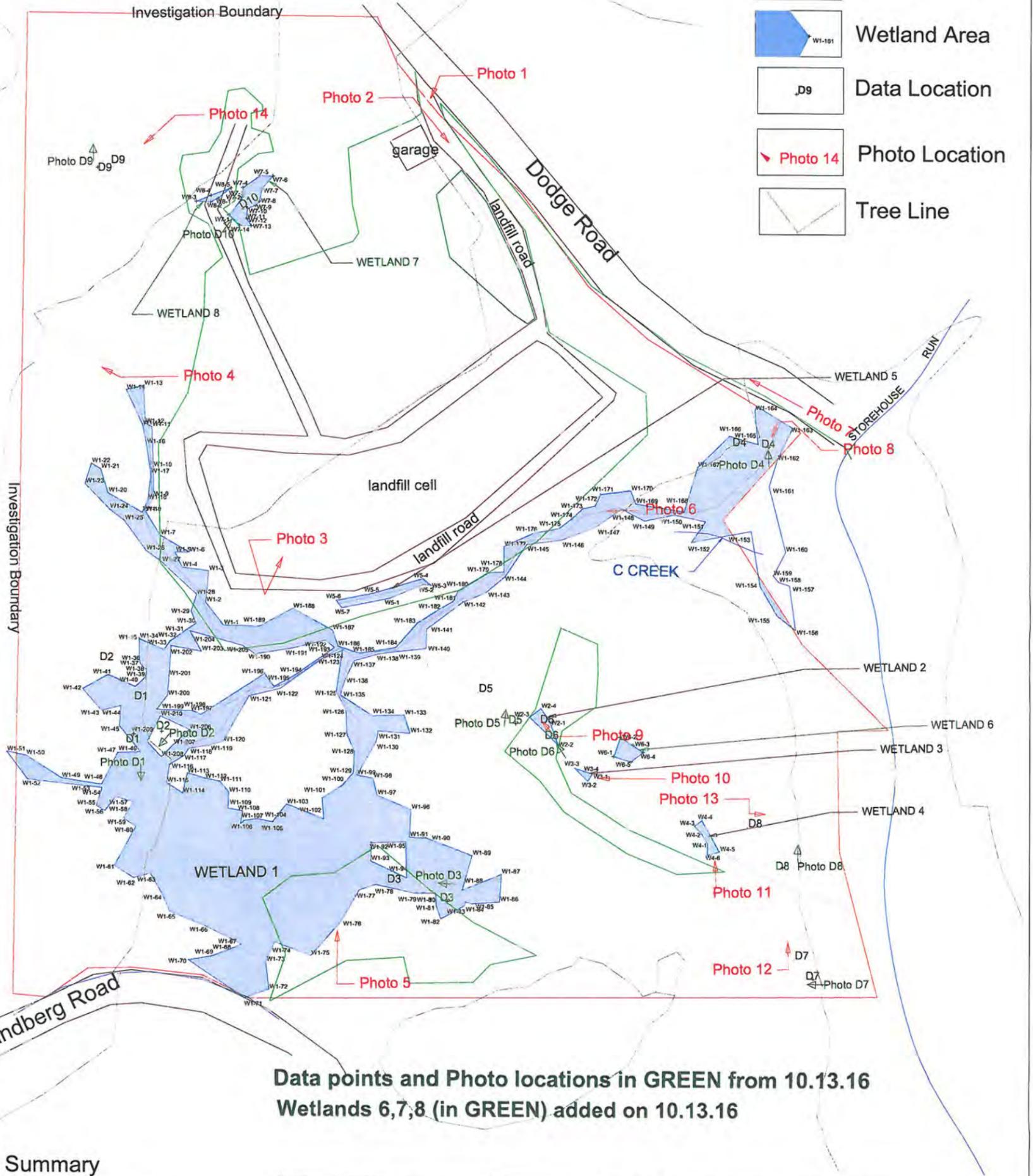


Photo D10; Facing North- Northeast. Depicts Wetland 7.

Wetland Delineation Map with Topography



-  drainage way
-  Wetland Area
-  Data Location
-  Photo Location
-  Tree Line

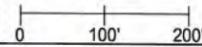


Data points and Photo locations in GREEN from 10.13.16
 Wetlands 6,7,8 (in GREEN) added on 10.13.16

Wetland Summary

- Wetland 1: 5.97± acres
- Wetland 2: 0.03± acre
- Wetland 3: 0.01± acre
- Wetland 4: 0.02± acre
- Wetland 5: 0.06± acre
- Wetland 6: 0.03± acre
- Wetland 7: 0.06± acre
- Wetland 8: 0.01± acre

Wetland Total on-site: 6.19± acres

EDI PROJECT CODE: W24H04a
Base Map Provided by: http://gis.co.chautauqua.ny.us:8080/parcels/default.htm
Map Date: 11-09-2010, JMC/EDI Revised: 10-20-2016, JMC/EDI
SCALE: 
File Name: WD map

CARROLL LANDFILL	
Wetland Delineation Map	
TOWN OF CARROLL	CHAUTAUQUA COUNTY, NEW YORK
 EARTH DIMENSIONS, INC.	
Soil and Hydrogeologic Investigations * Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • Fax (716) 655-2915	

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site Carroll Landfill Town/County: Carroll/Chautauqua County Sampling Date: 10/13/2016

Applicant/Owner: Daigler Engineering, PC State: New York Sampling Point: D1

Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: _____

Landform (hillslope, terrace, etc.): SEEP Local relief (concave, convex, none): NONE Slope (%): 1-2

Subregion (LRR or MLRA) LRRR Lat: 42.0126 Long: 79.08947 Datum: NAD83

Soil Map Unit Name: Chautauqua Silt loam, 8-15% slopes NW I classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydic Soil Present?	Yes <input checked="" type="checkbox"/> No _____	If yes, optional Wetland Site ID: <u>WI</u>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u>	
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u>	
Saturation Present? (includes capillary fringe)	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u>	

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

Remarks:

VEGETATION : Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NA</u>			
2.			
3.			
4.			
5.			
6.			
7. <u>√</u>			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Spiraea alba</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>
2. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
3.			
4.			
5.			
6.			
7.			

Prevalence Index worksheet:

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 = _____

Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Solidago gigantea</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>
2. <u>Onoclea sensibilis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
3. <u>Geum macrophyllum</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
4. <u>Ranunculus repens</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
5. <u>Impatiens capensis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
6. <u>Glyceria striata</u>	<u>3</u>	<u>N</u>	<u>OBL</u>
7. <u>Symphotrichum puniceus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
8. <u>Solidago rugosa</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
9.			
10.			
11.			
12.			

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

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

Woody Vine Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NA</u>			
2.			
3.			
4. <u>√</u>			

PEN - DRAIN THROUGH FOREST

Community Type: _____

Hydrophytic Vegetation Present? Yes No _____

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

Photo # DI Direction of Photo SOUTH

UPLAND TREES OUTSIDE CHANNEL - RED + SILVER MAPLE, QUAKING ASPEN

SOIL

Sampling Point: D1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR4/2	90	10YR5/8	10	C	M	Silt	
5-12	10YR6/1	80	10YR5/8	20	C	M	Silt	

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

- Hydric Soil Indicators:
- Histosol (A1)
 - Histic Epipedon (A2)
 - Black Histic (A3)
 - Hydrogen Sulfide (A4)
 - Stratified Layers (A5)
 - Depleted Below Dark Surface (A11)
 - Thick Dark Surface (A12)
 - Sandy Mucky Mineral (S1)
 - Sandy Gleyed Matrix (S4)
 - Sandy Redox (S5)
 - Stripped Matrix (S6)
 - Dark Surface (S7) (LRR R, MLRA 149B)
 - Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
 - Thin Dark Surface (S9) (LRR R, MLRA 149B)
 - Loamy Mucky Mineral (F1) (LRR K, L)
 - Loamy Gleyed Matrix (F2)
 - Depleted Matrix (F3)
 - Redox Dark Surface (F6)
 - Depleted Dark Surface (F7)
 - Redox Depressions (F8)
 - 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, M)
 - 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)

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

Restrictive Layer (if observed):
 Type: NONE
 Depth (inches): N/A

Hydric Soil Present? Yes No

Remarks:

Photo South

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site Carroll Landfill Town/County: Carroll/Chautauqua County Sampling Date: 10/13/2016
 Applicant/Owner: Daigler Engineering, PC State: New York Sampling Point: D2
 Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hill Slope Local relief (concave, convex, none): CONVEX Slope (%): 8
 Subregion (LRR or MLRA) LRRR Lat: 42.01267 Long: 79.08929 Datum: NAD83
 Soil Map Unit Name: CHAUTAUQUA SILT LOAM, 8-15% Slopes NW 1 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> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: <u>N/A</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION : Use scientific names of plants.

Sampling Point: D2

Tree Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Acer saccharum</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>
2.	<u>Acer rubrum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>
3.	<u>Populus tremula</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
4.	<u>FRAXINUS PENNSYLVANICA</u>	<u>10</u>	<u>N</u>	<u>FACW</u>
5.				
6.				
7.				

90 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Lonicera tatarica</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
2.	<u>FRAXINUS PENNSYLVANICA</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>
3.	<u>ROSA multiflora</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
4.	<u>Acer saccharum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
5.				
6.				
7.				

50 = Total Cover

Herb Stratum (Plot size: <u>5'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Solidago rugosa</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
2.	<u>CAREX gracillima</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
3.	<u>Potentilla norvegica</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>
4.	<u>Symphoricarpon lateriflorum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>
5.	<u>Fragaria virginiana</u>	<u>10</u>	<u>N</u>	<u>UPL</u>
6.	<u>Taraxacum officinale</u>	<u>3</u>	<u>N</u>	<u>FACU</u>
7.	<u>CAREX rosea</u>	<u>2</u>	<u>N</u>	<u>OBL</u>
8.				
9.				
10.				
11.				
12.				

70 = Total Cover

Woody Vine Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>NA</u>			
2.				
3.				
4.	<u>✓</u>			
5.				
6.				
7.				

0 = Total Cover

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	<u>5</u>	(A)
Total Number of Dominant Species Across All Strata:	<u>8</u>	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>63%</u>	(A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>25</u>	x 2 = <u>50</u>
FAC species <u>90</u>	x 3 = <u>270</u>
FACU species <u>83</u>	x 4 = <u>332</u>
UPL species <u>10</u>	x 5 = <u>50</u>
Column Totals: <u>210</u>	(A) <u>704</u>
Prevalence Index = B/A = <u>3.35</u>	

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

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

Definitions of Vegetation Strata:

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

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

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

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

SUCCESSIONAL NORTHERN HARDWOODS

Community Type: _____

Hydrophytic Vegetation Present? Yes _____ No X

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

Photo # D2 Direction of Photo SOUTHWEST

SOIL

Sampling Point: **D2**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/3	100					gre	
6-12	10YR 4/4	100					grl	

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

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer (if observed):

Type: **NONE**
 Depth (inches): **N/A**

Hydric Soil Present? Yes No

Remarks:

Photo SW

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site Carroll Landfill Town/County: Carroll/Chautauqua County Sampling Date: 10/13/2016
 Applicant/Owner: Daigler Engineering, PC State: New York Sampling Point: D3
 Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Till Plain Local relief (concave, convex, none): NONE Slope (%): 1-3
 Subregion (LRR or MLRA) LRRR Lat: 42.01169 Long: 79.08733 Datum: NAD83
 Soil Map Unit Name: ASHVILLE SILT LOAM NW I classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	If yes, optional Wetland Site ID:	<u>WI</u>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Microtopographic Relief (D4)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input 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 type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): <u>N/A</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): <u>N/A</u>	
Saturation Present? (includes capillary fringe)	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): <u>N/A</u>	

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

Remarks:

VEGETATION : Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. NA			
2.			
3.			
4.			
5.			
6.			
7.			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix discolor	5	Y	FACW
2. Salix fragilis	10	Y	FAC
3. Salix nigra	5	Y	FACW
4.			
5.			
6.			
7.			

Prevalence Index worksheet:

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 = _____

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Solidago rugosa	10	N	FAC
2. Eupatorium perfoliatum	10	N	FACW
3. Carex vulpinoidea	20	Y	OBL
4. Scirpus cyperinus	35	Y	FACW
5. Euthamia graminifolia	10	N	FAC
6. Symphyotrichum novae-angliae	5	N	FACW
7. Typha latifolia	5	N	OBL
8. Carex lurida	3	N	OBL
9. Polygonum sagittatum	2	N	OBL
10.			
11.			
12.			

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

Definitions of Vegetation Strata:

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

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

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

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

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. NA			
2.			
3.			
4.			

Community Type: **PEM SHALLOW EMERGENT**

Hydrophytic Vegetation Present? Yes No

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

Photo # D3 Direction of Photo WEST

SOIL

Sampling Point: **D3**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR4/1	95	10YR5/8	5	C M		Silt	
3-12	10YR7/1	99	10YR5/8	1	C M		Silt 5% gravel	

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

- | | | |
|---|--|---|
| <p>Hydric Soil Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) <input checked="" type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) <input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) | <p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) |
|---|--|---|

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

<p>Restrictive Layer (if observed):</p> <p>Type: <u>NONE</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site Carroll Landfill Town/County: Carroll/Chautauqua County Sampling Date: 10/13/2016
 Applicant/Owner: Daigler Engineering, PC State: New York Sampling Point: D4
 Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): CONCAVE Slope (%): 3%
 Subregion (LRR or MLRA) LRRR Lat: 42.01398 Long: 79.08539 Datum: NAD83
 Soil Map Unit Name: Busti silt loam, 3-9% slopes NW 1 classification: PFO
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>W1</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<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)

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>SURFACE</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Floodplain to Storehouse Run

D4

VEGETATION : Use scientific names of plants.

Sampling Point: _____

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Betula allegheniensis</i>	10	Y	FAC
2. <i>FRAXINUS PENNSYLVANICA</i>	5	Y	FACW
3. <i>CARPINUS CAROLINIANA</i>	5	Y	FAC
4. <i>TSUGA CANADENSIS</i>	5	Y	FACW
5. _____			
6. _____			
7. _____			

85 = Total Cover

Sapling/Shrub Stratum (Plot size: 15')
1. NA
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

0 = Total Cover

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Eupatoriadelphus maculatus</i>	10	Y	FACW
2. <i>Myosotis angustifolia</i>	10	Y	OBL
3. <i>Oenothera sensibilis</i>	15	Y	FACW
4. <i>Impatiens capensis</i>	5	N	FACW
5. <i>Geum macrophyllum</i>	10	Y	FACW
6. <i>Pachera aurea</i>	10	Y	FACW
7. <i>Carex rosea</i>	15	Y	OBL
8. <i>Chelone glabra</i>	5	N	OBL
9. <i>Symphoricarpon lateriflorus</i>	5	N	FAC
10. <i>Phelypteris palustris</i>	10	Y	FACW
11. <i>Crataegus cow-galli</i>	2	N	FAC
12. _____			

97 = Total Cover

Woody Vine Stratum (Plot size: 30')
1. NA
2. _____
3. _____
4. _____

0 = Total Cover

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 11 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 91 (A/B)

Prevalence Index worksheet:

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 = _____

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

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

PFO HWS

Community Type: _____

Hydrophytic Vegetation Present? Yes X No _____

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

Photo # D4 Direction of Photo NORTH

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site Carroll Landfill Town/County: Carroll/Chautauqua County Sampling Date: 10/13/2016
 Applicant/Owner: Daigler Engineering, PC State: New York Sampling Point: DS
 Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): CONVEX Slope (%): 8
 Subregion (LRR or MLRA) LRRR Lat: 42.01268 Long: 79.08704 Datum: NAD83
 Soil Map Unit Name: CHAUTAUQUA SILT LOAM, 8-15% Slopes NW I 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> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION : Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Populus tremula</i>	15	N	FAC
2. <i>Crataegus crus-galli</i>	30	Y	FAC
3. <i>Malus officinalis</i>	10	N	FACU
4. <i>Acer saccharum</i>	20	Y	FACU
5. <i>Acer rubrum</i>	5	N	FAC
6.			
7.			

80 = Total Cover

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Crataegus crus-galli</i>	10	Y	FAC
2. <i>Cornus racemosa</i>	5	Y	FAC
3. <i>Prunus serotina</i>	10	Y	FACU
4.			
5.			
6.			
7.			

25 = Total Cover

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Solidago canadensis</i>	20	Y	FACU
2. <i>Solidago rugosa</i>	10	N	FAC
3. <i>Fragaria virginiana</i>	15	N	UPL
4. <i>Rubus allegheniensis</i>	40	Y	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

85 = Total Cover

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>N</i>			
2.			
3.			
4. <i>V</i>			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

0 = Total Cover

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 43% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>75</u>	x 3 = <u>225</u>
FACU species <u>100</u>	x 4 = <u>400</u>
UPL species <u>15</u>	x 5 = <u>75</u>
Column Totals: <u>190</u> (A)	<u>700</u> (B)

Prevalence Index = B/A = 3.68

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

Definitions of Vegetation Strata:

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

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

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

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

Community Type: SUCCESSIONAL SHRUBLAND

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
 Photo # DS Direction of Photo NORTH

SOIL

Sampling Point: **D5**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR4/3	100					Sil-	
6-12	10YR5/4	100					grl	

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

- | | | |
|--|--|--|
| <p>Hydric Soil Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) | <p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) |
|--|--|--|

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

<p>Restrictive Layer (if observed):</p> <p>Type: <u>NONE</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Remarks:

Photo North

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site Carroll Landfill Town/County: Carroll/Chautauqua County Sampling Date: 10/13/2016
 Applicant/Owner: Daigler Engineering, PC State: New York Sampling Point: D6
 Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): CONCAVE Slope (%): 0
 Subregion (LRR or MLRA) LRRR Lat: 42.01236 Long: 79.08622 Datum: NAD83
 Soil Map Unit Name: BVSTI SILT LOAM, 3-8% Slopes NW I classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>W2</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY:

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<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)

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>SURFACE</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. NA			
2.			
3.			
4.			
5.			
6.			
7.			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Spiraea alba	5	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			

Prevalence Index worksheet:

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 = _____

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Doellingeria umbellatus	5	N	FACW
2. Mimulus ringens	5	N	FACW
3. Onoclea sensibilis	5	N	FACW
4. Scirpus cyperinus	20	Y	FACW
5. CAREX vulpinoidea	20	Y	OBL
6. Solidago gigantea	20	Y	OBL
7. Verbena hastata	5	N	FACW
8. Symphyotrichum simplex	4	N	FACW
9. Impatiens capensis	10	N	FACW
10. Typha latifolia	2	N	OBL
11. Juncus effusus	2	N	OBL
12. Carex scoparia	2	N	FACW

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

Definitions of Vegetation Strata:

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

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

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

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

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. NA			
2.			
3.			
4.			

PEM/SS

Community Type: _____

Hydrophytic Vegetation Present? Yes X No _____

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

Photo # D6 Direction of Photo NORTHWEST

SOIL

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

Depth (inches)	Matrix		Redox Features					Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²			
0-3	10YR5/1	95	10YR5/8	5	C	M	Sil		
3-12	10YR6/1	85	10YR5/8	15	C	M	Sil		

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

- | | | |
|--|---|--|
| <p>Hydric Soil Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) <input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) | <p>Indicators for Problematic Hydric Soils³:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) |
|--|---|--|

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

<p>Restrictive Layer (if observed):</p> <p>Type: <u>NONE</u></p> <p>Depth (inches): <u>N/A</u></p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

Photo NW

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site Carroll Landfill Town/County: Carroll/Chautauqua County Sampling Date: 10/13/2016
Applicant/Owner: Daigler Engineering, PC State: New York Sampling Point: D7
Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): CONVEX Slope (%): 30
Subregion (LRR or MLRA) LRRR Lat: 45.01136 Long: 79.08519 Datum: NAD83
Soil Map Unit Name: SCHUYLER SELT LOAM, 15-25% Slopes 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>	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input 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 type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): <u>N/A</u>	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>N/A</u>	
Saturation Present? (includes capillary fringe) Yes _____ No <u>X</u> Depth (inches): <u>N/A</u>	

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

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: _____

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Acer saccharum</i>	30	Y	FACU
2. <i>Populus grandidentata</i>	10	N	FACU
3. <i>Prunus serotina</i>	5	N	FACU
4. <i>Tilia americana</i>	10	N	FACU
5. _____			
6. _____			
7. _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>16</u>
FAC species <u>26</u>	x 3 = <u>78</u>
FACU species <u>80</u>	x 4 = <u>320</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>114</u> (A)	<u>414</u> (B)
Prevalence Index = B/A = <u>3.63</u>	

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Ostrya virginiana</i>	5	N	FACU
2. <i>Acer saccharum</i>	10	Y	FACU
3. <i>Carpinus caroliniana</i>	15	Y	FAC
4. _____			
5. _____			
6. _____			
7. _____			

55 = Total Cover

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
- Woody vines** - All woody vines greater than 3.28 ft in height.

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Tilia americana</i>	2	N	FACU
2. <i>Ostrya virginiana</i>	5	N	FACU
3. <i>Fraxinus pennsylvanica</i>	8	Y	FACW
4. <i>Potentilla norvegica</i>	8	Y	FAC
5. <i>Carex pensylvanica</i>	3	N	FAC
6. <i>Maianthemum canadense</i>	3	N	FACU
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			

30 = Total Cover

RICH MEGOPHYTIC FOREST

Community Type: _____

Hydrophytic Vegetation Present? Yes _____ No X

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. NA			
2. _____			
3. _____			
4. _____			

0 = Total Cover

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

Photo # D7 Direction of Photo WEST

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 4/3	100					Sol	
4-12	10YR 5/4	100					Q	

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

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 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, M)
- 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)

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

Restrictive Layer (if observed):

Type: NONE
 Depth (inches): N/A

Hydric Soil Present? Yes No

Remarks:

Photo West

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site Carroll Landfill Town/County: Carroll/Chautauqua County Sampling Date: 10/13/2016
 Applicant/Owner: Daigler Engineering, PC State: New York Sampling Point: DB
 Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): Convex Slope (%): 25
 Subregion: (LRR or MLRA) LRRR Lat: 42.01186 Long: 79.08532 Datum: NAD83
 Soil Map Unit Name: SCHUYLER SILT LOAM, 15-25% Slopes NW I classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<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)

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u> Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>N/A</u> (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Photo North

DB

VEGETATION : Use scientific names of plants.

Sampling Point: DB

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>PICEA glauca</u>	<u>65</u>	<u>Y</u>	<u>FACU</u>
2. <u>ACER saccharum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
3. <u>POPULUS grandidentata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
4. <u>PINUS resinosa</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
5. _____			
6. _____			
7. _____			

80 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15'</u>)
1. <u>NA</u>
2. _____
3. _____
4. _____
5. _____
6. _____
7. <u>✓</u>

0 = Total Cover

Herb Stratum (Plot size: <u>5'</u>)
1. <u>CAREX gracillima</u>
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

3 = Total Cover

Woody Vine Stratum (Plot size: <u>30'</u>)
1. <u>NA</u>
2. _____
3. _____
4. <u>✓</u>

0 = Total Cover

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u>	(A)
Total Number of Dominant Species Across All Strata:	<u>2</u>	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u>	(A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>83</u>	x 4 = <u>332</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>83</u>	(A) <u>332</u> (B)
Prevalence Index = B/A = <u>4.0</u>	

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

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

Definitions of Vegetation Strata:

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

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

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

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

MIXED CONIFER FOREST

Community Type: _____

Hydrophytic Vegetation Present? Yes _____ No X

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

Photo # DB

Direction of Photo NORTH

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR ⁴ /3	100					grs.l	
6-12	10YR ⁴ /4	100					grl	

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

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer (if observed):

Type: NONE
 Depth (inches): N/A

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site Carroll Landfill Town/County: Carroll/Chautauqua County Sampling Date: 10/13/2016
 Applicant/Owner: Daiqler Engineering, PC State: New York Sampling Point: D9
 Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): CONVEX Slope (%): 15-25
 Subregion (LRR or MLRA) LRRR Lat: 42.01536 Long: 79.08962 Datum: NAD83
 Soil Map Unit Name: VALOIS GRAVELLY SILT LOAM Rolling NW I 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> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <div style="text-align: center; font-size: 2em; font-family: cursive;">U WOODS</div>	

HYDROLOGY

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

Sampling Point: D9

VEGETATION : Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>PRUNUS SEROTINA</u>	<u>15</u>	<u>N</u>	<u>FACW</u>
2. <u>ACER SACCHARUM</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>
3. <u>ACER RUBRUM</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
4. <u>QUERCUS RUBRA</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>
5. <u>FRAXINUS AMERICANA</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
6. _____			
7. _____			

95 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>OSTRYA VIRGINIANA</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
2. <u>CRATAEGUS CRUS-GALLI</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			

10 = Total Cover

Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>TOXICODENDRON RADICANS</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>
2. <u>FRAXINUS PENNSYLVANICA</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>
3. <u>ATHYRIUM FILIX-FEMINA</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
4. <u>GLYCERIA STRIATA</u>	<u>2</u>	<u>N</u>	<u>OBL</u>
5. <u>ACER RUBRUM</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
6. <u>PRUNUS SEROTINA</u>	<u>10</u>	<u>N</u>	<u>FACW</u>
7. <u>CAREX GRACILLIMA</u>	<u>3</u>	<u>N</u>	<u>FACW</u>
8. <u>VIOLA SORCORA</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
9. _____			
10. _____			
11. _____			
12. _____			

60 = Total Cover

Woody Vine Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NA</u>			
2. _____			
3. _____			
4. <u>✓</u>			

0 = Total Cover

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Column Totals:	Multiply by:	Result:
OBL species <u>2</u>	<u>165</u> (A)	x 1 =	<u>2</u>
FACW species <u>15</u>		x 2 =	<u>30</u>
FAC species <u>60</u>		x 3 =	<u>180</u>
FACW species <u>88</u>		x 4 =	<u>352</u>
OBL species <u>0</u>		x 5 =	<u>0</u>
Column Totals:			<u>564</u> (B)

Prevalence Index = B/A = 3.42

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

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

Community Type: RICH MESOPHYTIC WOODS

Hydrophytic Vegetation Present? Yes No

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

Photo # D9 Direction of Photo NORTH

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site Carroll Landfill Town/County: Carroll/Chautauqua County Sampling Date: 10/13/2016
 Applicant/Owner: Daigler Engineering, PC State: New York Sampling Point: D10
 Investigator(s): Scott Livingstone & Jody Celeste Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Borrow Pit Local relief (concave, convex, none): CONCAVE Slope (%): 0
 Subregion (LRR or MLRA) LRRR Lat: 42.01515 Long: 79.08871 Datum: NAD83
 Soil Map Unit Name: VALOIS GRAVELLY SILT LOAM, Rolling I classification: PEM
 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 _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>W7</u>
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-size: 1.2em; text-align: center;">WETLAND FORMED SINCE PREVIOUS (2011) WETLAND DELINEATION DURING PREV. DELINEATION, AREA WAS ACTIVELY BEING USED AS A BORROW AREA</p>	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	_____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes <u>X</u> No _____	Depth (inches): <u>6-12"</u>
Water Table Present? Yes <u>X</u> No _____	Depth (inches): <u>INUNDATEO</u>
Saturation Present? Yes <u>X</u> No _____	Depth (inches): <u>INUNDATEO</u>

Wetland Hydrology Present? Yes X No _____

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

Remarks:

VEGETATION : Use scientific names of plants.

Tree Stratum (Plot size: 30')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NA</u>			
2.			
3.			
4.			
5.			
6.			
7. <u>✓</u>			

0 = Total Cover

Sapling/Shrub Stratum (Plot size: 15')

1. <u>NA</u>			
2.			
3.			
4.			
5.			
6.			
7. <u>✓</u>			

0 = Total Cover

Herb Stratum (Plot size: 5')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Typha latifolia</u>	<u>10</u>	<u>N</u>	<u>OBL</u>
2. <u>Scirpus cyperinus</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>
3. <u>Leersia dryzoides</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>
4. <u>Eleocharis rostellata</u>	<u>15</u>	<u>N</u>	<u>OBL</u>
5. <u>Juncus CANADENSIS</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
6.			
7.			
8.			
9.			
10.			
11.			
12.			

85 = Total Cover

Woody Vine Stratum (Plot size: 30')

1. <u>NA</u>			
2.			
3.			
4. <u>✓</u>			

0 = Total Cover

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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 = _____

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

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

Definitions of Vegetation Strata:

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

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

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

Community Type: WB+W7 PEM SEM

Hydrophytic Vegetation Present? Yes X No _____

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

Photo # D10 Direction of Photo NNE

Letter from: Department of the Army Corps of Engineers, Buffalo District

Diane Kozlowski, Chief, Regulatory Branch

To: Dan Bree, Sealand Waste, LLC

**Re: Denial Without Prejudice – Department of Army
Application No 2005-00198**

May 11, 2016



DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

REPLY TO
ATTENTION OF:

May 11, 2016

Regulatory Branch

SUBJECT: Denial Without Prejudice - Department of Army Application No. 2005-00198, New York State Department of Environmental Conservation No. 9-0624-00025

Mr. Dan Bree
Sealand Waste, LLC
85 High Tech
Rush, New York 14543

Dear Mr. Bree:

This pertains to your proposal to construct a landfill on a 54 acre parcel northwest of the intersection of Dodge and Sandberg Roads, in the Town of Carroll, Chautauqua County, New York.

In 2007, the Town of Carroll enacted Local Law No. 1 of 2007, which states, "no solid waste management facility shall hereafter be constructed, allowed to commence operation or to continue operation within the Town." It makes the construction, operation or the continuing operation of a solid waste management facility located in the Town of Carroll a class A misdemeanor that is punishable by a fine or imprisonment.

Department of the Army Regulation 33 CFR 320.4(j), states:

...where the required Federal, state and/or local authorization and/or certification has been denied for activities which also require a Department of the Army Permit, the district engineer will, after considering the likelihood of subsequent approval of the other authorization and/or certification and the time and effort remaining to complete processing the Army permit application, either immediately deny the Army permit without prejudice or continue processing the application to a conclusion. If the District Engineer continues to process the application, he will conclude by either denying the permit as contrary to the public interest or denying it without prejudice indicating that except for the other Federal, state or local denial, the Army permit, under appropriate conditions, be issued.

...Denial without prejudice means that there is no prejudice to the right of the applicant to reinstate processing of the Army permit application if subsequent approval is received

SUBJECT: Denial Without Prejudice - Department of Army Application No. 2005-00198, New York State Department of Environmental Conservation No. 9-0624-00025

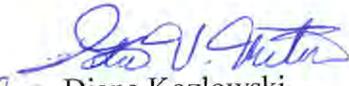
from the appropriate Federal, state and/or local agency of a previously denied authorization and/or certification.

Per Section 320.4(j) above, after considering the local law, the likelihood of subsequent approval of the other authorization and/or certification and the time and effort remaining to complete processing of the application of Sealand Waste, LLC for a Department of the Army permit, the application is denied without prejudice. Should Town of Carroll law change to allow the operation and construction of landfills, you may request re-evaluation of your permit application. In issuing this denial without prejudice at this juncture, the Corps is not in a position to opine as to whether a permit could be issued if the local law was not in place.

A copy of this letter has been sent to Mr. Jim Daigler of Daigler Engineering, Mr. David Denk of the New York State Department of Environmental Conservation, Ms. Sandra Doran of the United States Fish and Wildlife Service and Mr. John Cantilli of the United States Environmental Protection Agency.

Questions pertaining to this matter should be directed to Joseph M. Rowley, who may be contacted by calling (716) 879-4279, by writing to the following address: U.S. Army Corps of Engineers, 1776 Niagara Street, Buffalo, New York 14207, or by e-mail at: joseph.m.rowley@usace.army.mil

BY AUTHORITY OF THE SECRETARY OF THE ARMY


for Diane Kozlowski
Chief, Regulatory Branch