Oatka Creek Mitigation Site

Prepared by:
Ducks Unlimited New York In-Lieu Fee Program
LRB-2010-00673 (ILFP)

DUCKS UNLIMITED | GREAT LAKES & ATLANTIC REGION

To be considered by:
United States Army Corps of Engineers
Interagency Review Team Chairs

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The Ducks Unlimited (DU) mission focuses on protecting and restoring wetland resources critical to sustaining North America's waterfowl populations. DU utilizes a scientific approach to prioritize its conservation and mitigation activities. At a high-level, conservation priorities are identified by a team of international biologists made up of waterfowl and conservation experts spanning government, academia, and NGO sectors as described in the North American Waterfowl Management Plan (NAWAMP; United States Fish and Wildlife Service 1986, 2012). DU's applied version of this plan, The International Conservation Plan identifies portions of New York as priority landscapes for waterfowl conservation (Ducks Unlimited, 2005, 2019). Furthermore, the northeastern United States and adjacent Canada support an estimated 7.6 million breeding waterfowl, 2.7 million wintering waterfowl, and four to five million migrating waterfowl.

DU established the New York In-Lieu Fee Program (DU-NY ILF Program) to provide a third-party compensatory mitigation option for unavoidable wetland impacts in this priority landscape. DU has developed a suite of GIS-planning tools to aide in the identification of wetland restoration and protection opportunities within these Service Areas following techniques described by Hunter et al. 2012 and Raney and Leopold 2018. DU's top-down prioritization of landscapes and significant wetland features within those landscapes enables DU to identify priority areas for wetland conservation and mitigation activities on a watershed-scale. DU thoroughly evaluated wetland restoration opportunities in the Lower Genesee Service Area (SA) (Figure 1) prior to coordinating the selection of this site with the IRT.

This plan describes an approach to provide mitigation at a 52.687-acre "Site" (Oatka Creek) within a larger 53.187-acre property protected by Wetlands America Trust (WAT), a fully-owned subsidiary of DU (Figure 2) in the Lower Genesee Service Area. The Site is located within a regional priority area for waterfowl conservation, and species of greatest conservation need (e.g., short-eared owl, northern harrier, eastern meadowlark). This mitigation plan has been prepared and will be implemented by DU in accordance with 33 CFR 332.4, the "U.S. Army Corps of Engineers New York District Compensatory Mitigation Guidelines" and the "Guidelines for Mitigation Banking in Ohio" (currently used by the U.S. Army Corps of Engineers Buffalo District). A Mitigation Plan is submitted for public comment followed by Interagency Review Team review for potential approval.

Figure 1 Site Location and Service Area.
Approximate coordinates Latitude: 42.783997° and Longitude: -78.119303°. The Site is accessed from NY State Route 19, Middlebury, NY. This Site serves the Lower Genesee Service Area, comprised of the 8-digit HUC: 04130003.

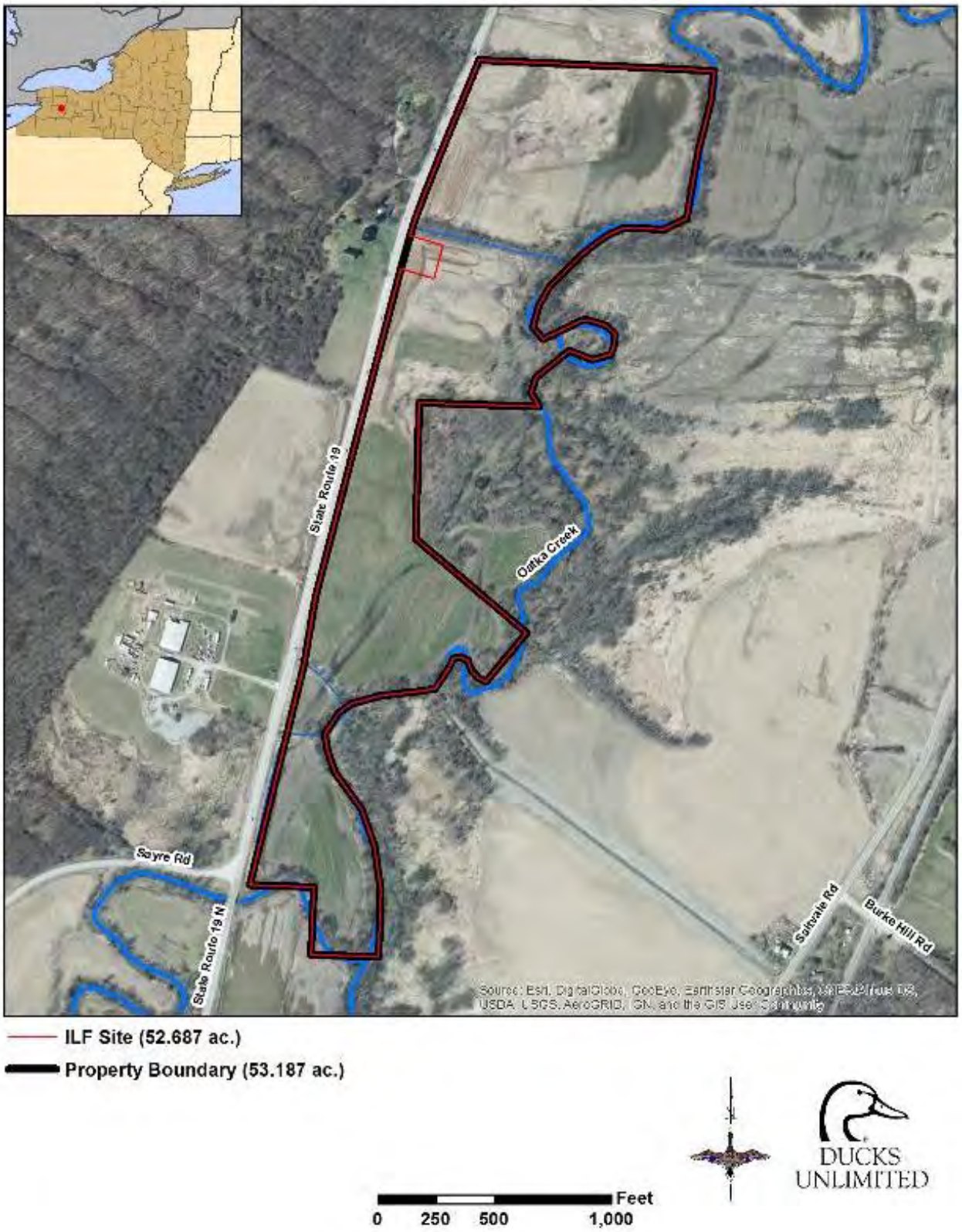

Figure 2 View of the Site.
The 52.687-acre Site is located within a 53.187-acre property owned by Wetlands America Trust (WAT). WAT is a wholly owned subsidiary of Ducks Unlimited.

1. Introduction and Objectives

The primary goal of the Oatka Creek Mitigation Site (hereafter: Site) is to provide wetland reestablishment, rehabilitation, enhancement, and preservation to compensate for wetland loss. More specifically this site provides an opportunity to:

- Replace wetland functions lost at impact sites
- Reestablish wetland acreage
- Reduce greenhouse emissions through a reduction/elimination of farming activities at the mitigation site
- Provide new habitat and or foraging opportunities for wildlife including species of greatest conservation need
- Provide a buffer and improve habitat conditions along an important stream
- Provide habitat for migratory waterfowl
- Provide greenspace for use by the public

2. Site Selection

2.1 Site Description

The Site is located at Latitude: 42.783997° and Longitude: -78.119303° off NY State Route 19 in the Towns of Middlebury and Warsaw, Wyoming County, New York in the Lower Genesee Service Area (8-digit HUC 04130003) (Figure 1). This site was selected because of its unique potential to reestablish a forested wetland community adjacent to Oatka Creek (Figure 2). During initial site inspections, evidence and an oral history of repeated flooding indicated suitable conditions for reestablishing wetland acreage. Hydrological conditions are described further in Section 5.2, in the Wetland Delineation Report (Appendix A), and are shown in the Work Plan (Appendix B). The Site spans 52.687-acres and lies within the larger 53.187-acre property protected by WAT. A conservation easement encompassing the 52.687-acre Site will be established to permanently protect natural areas on this property.

The wetland mitigation plan takes into consideration priorities identified in the New York State Wildlife Action Plan (SWAP) (NYSDEC, 2015). These include protection and restoration of floodplain forest, the restoration and enhancement of riparian buffers, and the control of invasive and problematic native plant species. In addition to the wetland restoration activities at the Site,

upland buffer areas will be planted to native upland trees and shrubs. The Site will also provide important benefits to water quality. The New York State Department of Environmental Conservation (NYSDEC) identifies aquatic life in this stretch of Oatka Creek as stressed due to algal/plant growth related to nutrient and sediment loading from surrounding agricultural activities, stream bank erosion is also widespread (NYSDEC, 2009). The Site contains approximately 35.3-acres that has been in agricultural use under a rotation of hay and row crops. The surrounding area also contains large dairy and other farming operations. Protection and restoration of this property will improve water quality within the watershed, as wetlands are particularly effective nutrient sinks (e.g., Mitsch and Gosselink 2000).

The wetland mitigation plan takes into consideration priorities identified in the New York State Wildlife Action Plan (SWAP) (NYSDEC, 2015). These include protection and restoration of floodplain forest, the restoration and enhancement of riparian buffers, and the control of invasive and problematic native plant species. In addition to the wetland restoration activities at the Site, upland buffer areas will be planted to native upland trees and shrubs. The Site will also provide important benefits to water quality. The New York State Department of Environmental Conservation (NYSDEC) identifies aquatic life in this stretch of Oatka Creek as stressed due to algal/plant growth related to nutrient and sediment loading from surrounding agricultural activities, stream bank erosion is also widespread (NYSDEC, 2009). The Site contains approximately 35.3-acres that has been in agricultural use under a rotation of hay and row crops. The surrounding area also contains large dairy and other farming operations. Protection and restoration of this property will improve water quality within the watershed, as wetlands are particularly effective nutrient sinks (e.g., Mitsch and Gosselink 2000).

The Site already provides breeding and migration habitat for waterfowl species such as mallard and wood duck, that is likely to improve through restoration activities. Several bird species of greatest conservation need (SGCN) identified in the State Wildlife Action Plan (SWAP, NYSDEC, 2015) have been observed in the vicinity of the Site. Moreover, Oatka Creek is a popular stream for trout fishing, this site will provide access for fishing. Specifically, the objectives of this plan are to:

- re-establish 1.79 acres of palustrine emergent (PEM) wetlands
- re-establish 1.47 acres of palustrine scrub-shrub (PSS) wetlands
- re-establish 9.95 acres of palustrine forested (PFO) wetlands
- rehabilitate 3.08 acres of PEM wetlands

- rehabilitate 0.65 acres of PSS wetlands
- rehabilitate 7.67 acres of PFO wetlands
- rehabilitate 13.93 acres of upland buffer
- enhance 1.78 acres of PEM wetlands
- preserve 1.55 acres of PEM wetlands
- preserve 1.12 acres of PFO wetlands
- preserve 4.83 acres of upland buffer

47.82 acres of habitat will be preserved or restored through this project

3. Site Protection Instrument

The Site is owned by Wetlands America Trust, Inc. (WAT). WAT, a wholly owned subsidiary of DU, is a non-profit conservation organization that is an Accredited Land Trust. Ownership of the Site by WAT meets the site protection requirements of 332.7(a)(1). Signs shall be erected and maintained that identify the mitigation site for conservation purposes. DU will transfer ownership to a local land-trust as the long-term steward of the property. Upon transfer of the property, WAT will retain a perpetual Conservation Easement on the Site in a form approved by the Corps of Engineers. Any transfer of the property or transfer of interest in the Mitigation Property from the Sponsor to another party requires USACE approval and consultation with the IRT. Any such sale or conveyance made without the prior written concurrence of USACE constitutes default and USACE may take action accordingly.

With the exception of activities approved in this Plan and the associated Nationwide Permit 27 affirmation, or activities approved by the USACE, no further alterations to the site shall occur. Prohibited alterations include but are not limited to:

1. **General**. There shall be no future fillings, flooding, excavating, mining, or drilling; no removal of natural materials (soil, sand, gravel, rock, minerals, etc.); no dumping of materials; and no alteration of the topography which would materially affect the Protected Property in any manner, except as authorized by the Permit, ILFP Instrument, Instrument Amendment, and any modifications thereof.
2. **Waters and Wetlands**. In addition to the general restrictions above, within the Protected Property there shall be no draining, dredging, damming, or impounding; no changing the grade or elevation, impairing the flow or circulation of waters, or reducing the reach of waters; and no other discharges or activity requiring a permit under applicable water pollution control laws and regulations, except as authorized by the Permit, ILFP Instrument, Instrument Amendment, and any modifications thereof.
3. **Trees/Vegetation**. On the Protected Property there shall be no clearing, burning, cutting, or destroying of trees or vegetation, except as may be necessary to protect public health or safety or as authorized by the Permit, ILFP Instrument, Instrument Amendment, and any

modifications thereof; there shall be no planting or introduction of non-native or exotic species of trees or vegetation.

4. **Uses**. No agricultural, animal husbandry, industrial, residential development, mining, logging, or commercial activity shall be undertaken or allowed on the Protected Property.
5. **Structures**. There shall be no construction, erection, or placement of buildings, billboards, or any other structures, to include fences, parking lots, trailers, mobile homes, camping accommodations, or recreational vehicles, or additions to existing structures, on the Protected Property, except as authorized by the Permit, ILFP Instrument, Instrument Amendment, and any modifications thereof.
6. **New Roads**. There shall be no construction of new roads, trails, or walkways on the Protected Property without the prior written approval (including approval of the manner of construction) of Grantee and the USACE.
7. **Utilities**. There shall be no construction or placement of utilities or related facilities (including telecommunications towers and antennas) on the Protected Property without the prior written approval (including approval of the manner of construction) of Grantee and the USACE.
8. **Pest Control**. There shall be no application of pesticides or biological controls, including controls of problem vegetation, on the Protected Property without prior written approval (including approval of the manner of application) of Grantee and the USACE, or as authorized by the Permit, ILFP Instrument, Instrument Amendment, and any modifications thereof.
9. **Vehicular Use**. There shall be no use of any motorized vehicle or motorized equipment, and no use of any non-motorized bicycle anywhere on the Protected Property, except in the case of emergency, for the purpose of enforcement of applicable laws and regulations, for the purpose of monitoring compliance with the purposes of this Conservation Easement, or as authorized by the Permit, ILFP Instrument, Instrument Amendment, and any modifications thereof.
10. **Subdivision**. There shall be no division or subdivision of the Protected Property.
11. **Other Prohibitions**. Any other use of, or activity on, the Protected Property which is or may become inconsistent with the purposes of the Conservation Easement, the preservation of the Protected Property substantially in its natural condition, or the protection of its environmental systems, is prohibited, except as authorized by the Permit, ILFP Instrument, Instrument Amendment, and any modifications thereof.

DU will also transfer funds to the long-term steward for the establishment of a stewardship endowment to be used for long-term monitoring and management of the site according to the long-term management plan (Described further in Section 10).

4. Determination of Credits

The IRT will determine credits based on wetland and upland buffer acres that meet or exceed performance standards, described in Section 8, and the credit ratios of the ILF Instrument as shown in Table 1. The IRT will consider buffer credits based on a site evaluation. The credit generation table will be modified as monitoring provides specific information on the size and quality of the wetlands being rehabilitated. Should areas not meet all of the performance criteria described in Section 8 at the end of the 10-year monitoring period, the program sponsor may request more time to achieve goals, or request that the Corps of Engineers consider an appropriate reduction in credit generation, or the Corps of Engineers may require additional monitoring/corrective action at the ILF Site.

Table 1 Credit Generation
The program sponsor anticipates the ILF Site will generate 18.94 credits based on the following ratios and acreages for each mitigation activity.

Mitigation Activity	Acres	Ratio (Acres:Credits)	Credits Generated
PEM Re-establishment	1.78	1:1	1.78
PEM Re-establishment (within 100 ft buffer)	0.01	4:1	0.00
PEM Rehabilitation	3.08	4:1	0.77
PEM Enhancement	1.78	4:1	0.45
PFO Re-establishment	9.80	1:1	9.80
PFO Re-establishment (within 100 ft buffer)	0.15	4:1	0.04
PFO Rehabilitation	7.67	3:1	2.56
PSS Re-establishment	1.30	1:1	1.30
PSS Re-establishment (within 100 ft buffer)	0.17	4:1	0.04
PSS Rehabilitation	0.65	4:1	0.16
Upland Buffer Rehabilitation	13.93	8:1	1.74
Upland Buffer Preservation	4.83	20:1	0.24
Wetland Preservation	2.67	15:1	0.18
Permanent Fill (berm)	0.12	-1:1	-0.12
Total	47.82		**18.94**

In order for the performance standard to be met, re-established wetlands must have a VIBI-FQ of 40. Whereas rehabilitated wetlands must have a VIBI-FQ of 40 or a 10-point increase from the baseline, whichever is higher. Three baseline plots located in the proposed wetland rehabilitation areas had VIBI-FQ scores ranging from 2.52-10.71. We anticipate an ecological lift will be

achieved with the restoration of hydrology, implementation of invasive species control, and the planting plan in accordance with Ohio Wetland Mitigation Guidelines specifications. Seed mixes with a FQAI score >50 will be used in all wetland areas.

Wetland 2 and portions of wetland 3 will be treated for invasive species. No hydrological restoration or planting will occur in these areas. These areas are shown as PEM enhancement in the Credit Generation Plan (Appendix B).

We propose a 1:1 credit ratio for re-established wetlands, 3:1 for the rehabilitated forested wetlands, 4:1 for the rehabilitated scrub wetlands, 4:1 for the rehabilitated emergent wetlands, and 4:1 for enhanced emergent wetlands. Rehabilitation occurs where both hydrologic and plant community improvements are being made to an existing wetland. The 3:1 ratio requested for rehabilitated forested wetlands reflects underlying costs required to reestablish tree cover. Existing PEM wetlands have been degraded through past disturbances including tilling, sedimentation, and the introduction of invasive species. The project sponsor anticipates efforts to rehabilitate the plant community in this area will be more similar to costs to reestablish wetlands, hence the request for a 4:1 ratio.

Agricultural acreage has increased since the late 1990's within the counties surrounding Oatka Creek (GFLRPC 2016). This Site has been cleared and drained and is currently in row crop production. Furthermore, recent years have seen a reduction in regulatory authority over wetlands (SWANCC, Rapanos), and recent studies suggest that further relaxation of the clean water act may lead to further wetland losses (Raney and Leopold 2018). There are two small forested wetlands at the Site, together they cover 1.12 acre. These wetlands are a small remnant of the original floodplain forest community. These forested wetlands do contribute to important, watershed scale functions; flood-storage value, carbon sequestration, habitat for wildlife (including species of greatest conservation need), and a role in denitrification. Additionally, these forested areas along Oatka Creek protect the adjacent wetlands and uplands from streambank erosion. Due to the important functions of these wetlands, we propose a credit production ratio of 15:1 to preserve existing wetlands at the Site.

Preservation of the existing forested upland buffer will also maintain habitat continuity and a diverse array of cover-types to increase wildlife usage. Wetlands and streams without intact upland buffers typically have lower plant diversity, more invasives, higher nutrients, sediment inputs, and temperatures. Given the importance of buffers to Oatka Creek, adjacent wetlands, and the quality of the habitat, a ratio of 20:1 for upland buffer preservation is recommended.

The existing upland buffer in the agricultural fields is planted to row crops and also includes a variety of non-native species associated with cropland. The VIBI-FQ score for this area is only 0.54. These fields are harvested and tilled on a regular basis, providing very little ecological benefit. Row crops provide very little cover for wildlife and contribute increased loads of sediments and nutrients to Oatka Creek. This area will be planted to an upland forest community, which will include a significant percentage of mast bearing species. This will improve the vegetation community and provide year-round, high quality cover for wildlife. An 8:1 credit-ratio is proposed for upland buffer rehabilitation.

- Provided that preservation is documented, and financial assurances are in place (recorded Notice of Mitigation Requirements on the deed with intention to file a CE) the credit release schedule will include:
- All of the credits associated with the preservation will be released upon approval of this Instrument Amendment, recordation of the conservation easement, and execution of financial assurances.
- 15% of the credits for rehabilitation will be released at as-built production and approval by the IRT.
- 15% of the credits for rehabilitation will be released after meeting the first interim goal.
- 30% of the credits for rehabilitation will be released after meeting the second interim goal.
- 15% of the credits for rehabilitation will be released after meeting the third interim goal.
- 25% of the credits for rehabilitation will be released after the final performance standards have been met for the 10-year monitoring period, the conservation easement is recorded, and the long-term stewardship is funded and approved.

5. Baseline Ecological Characteristics

5.1 Historic and Existing Plant Communities, Including Wetlands

The Site has a history of use as agricultural land dating back to at least the 1970's. Vegetation communities were surveyed between October 2018 and June 2019, and are further described in the wetland delineation report in Appendix A. Here we provide a brief summary of the plant communities and provide photographs of current site conditions. The emergent wetlands within the agricultural fields are dominated by cattail (*Typha* spp.), prickly comfrey (*Symphytum asperum*), reed canary grass (*Phalaris arundinacea*), and teal love grass (*Eragrostis hypnoides*). Wetland W-1 also contains a stand of common reed (*Phragmites australis*). The forested wetlands along Oatka Creek are dominated by red maple (*Acer rubrum*), boxelder (*Acer negundo*), black willow (*Salix nigra*), and cinnamon fern in the understory (*Osmundastrum cinnamomeum*). The cropland was planted to corn (*Zea mays*) and soybean (*Glycine max*) in 2019, but also contained large barnyard grass (*Echinochloa crus-galli*), English plantain (*Plantago lanceolata*), Canada thistle (*Cirsium arvense*), and red clover (*Trifolium pratense*).

Oatka Creek Photos. Fields are numbered 1-4 going from north to south.

Field 1 of the site is shown in the foreground, it contains W-1 and W-2. Photo taken October 2018.

Field 1 showing water accumulating from overland flow, and flood-waters from Oatka Creek

View of field 2 containing W-3.

Field 2 December 19, 2017.

Field 3. W-4 extends through the center of the field and is characterized by a brown-yellow color profile as opposed to green in more upland areas. The middle field where excavation and low-berm installation will occur.

Field 3 has the largest reestablishment potential of all the fields. Hydrology was moving from SW to NE as sheet flow across the property as the river has backed up water flowing off the hillside, causing water to spill out across the field. During a December 2017 field visit.

Field 4, the image is oriented facing South. Oatka Creek travels under Route

Field 4 The southernmost hay field floods periodically, typically in the winter and spring. Pictured in August 2018.

Forested areas along Oatka Creek provide an important buffer from agricultural run-off. DU will expand these buffers through this project by planting upland buffers and forested wetlands adjacent to the creek.

Cultural Resources

A request for a cultural and historic resources review was submitted to the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) and a response was received. According to (OPRHP), no cultural resources will be affected by the wetland mitigation activities (Appendix C).

5.2 Site Land Use History, Including Structures

There are no structures on the property. From a review of aerial photography dating back to 1972, fields within the Site have been continuously maintained for agricultural production 1995-2018 is shown in Figure 3. On-site reviews in October 2018 and May 2019 provided evidence of previous hydrological modifications, including ditching and tile drainage. Much of the Site's cropland areas appear to have historically supported more extensive wetlands prior to drainage and tillage activities. The fields were planted to wheat in 2018. In the spring of 2019 the fields were plowed and planted to corn and soybeans. There are no known hazardous material sites located on or within the vicinity of the Site.

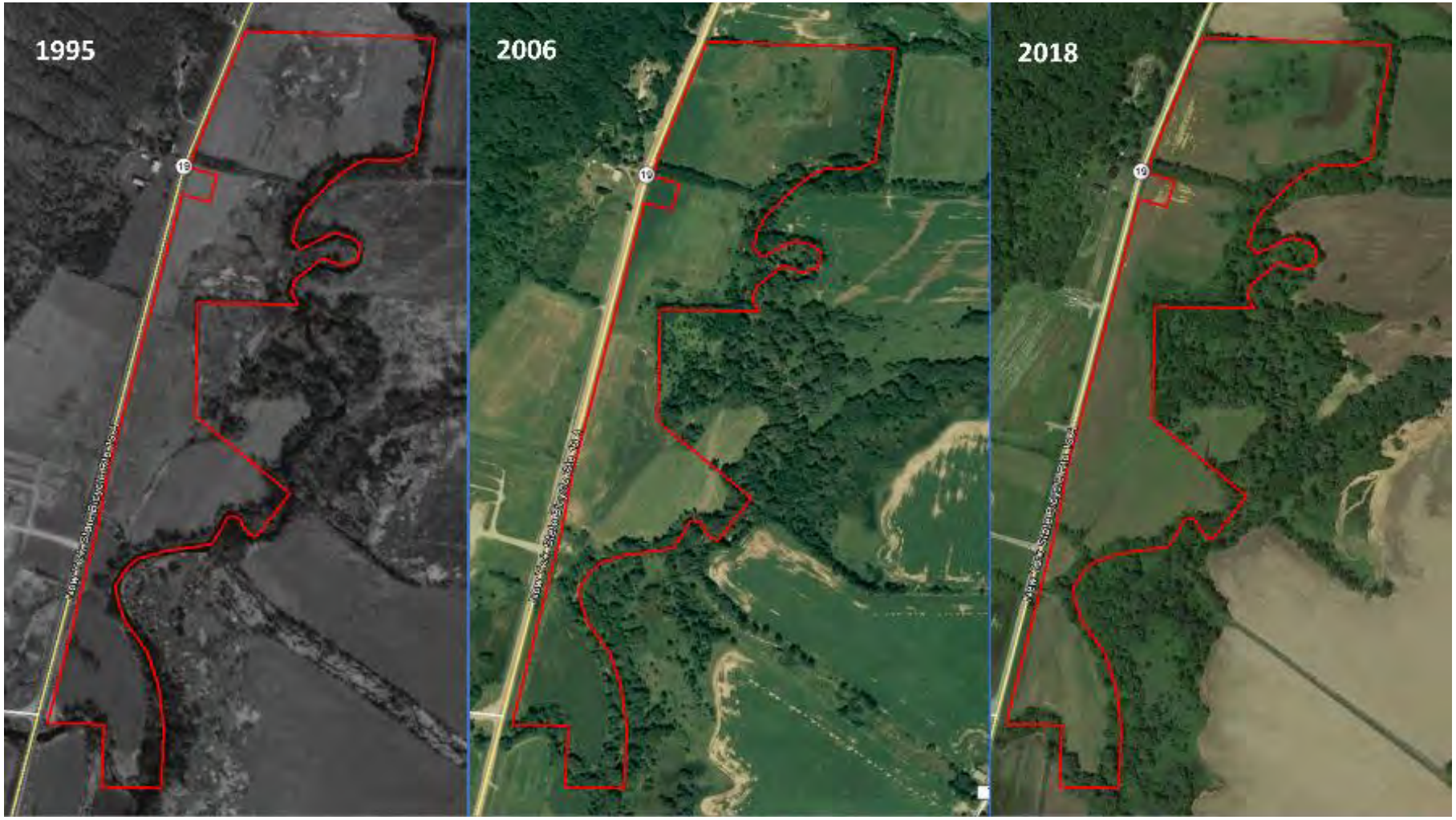

Figure 3 Historical Aerial Photos from Oatka Creek.
The property has been pretty stable in terms of landuse dating back until 1995. Wetland extent on the property has likely dropped somewhat in the field second from the northernmost, and a swale across the largest field running NE has been obscured through tilling from agricultural activities.

5.3 Soil Descriptions

Based on the Soil Survey of Wyoming County, New York (USDA Official Soil Series Descriptions) the soil series mapped on-site include Canadice silty clay loam, Darien silt loam, Herkimer shaly silt loam, and Teel silt loam. A soils map is provided in Figure 4. Soil conditions in the field appear to conform to the mapped soil series. Additionally, soil borings were taken throughout areas potentially suitable for restoration work. Descriptions of soil borings are provided in the work plans for the Site in Appendix B. Overall soils appear suitable for basin construction and berm construction. Where native soils are unsuitable for berm construction, silty-clay and clay loams will be pulled from nearby areas of planned excavation.

Ca-Canadice silty clay loam. This is a nearly level soil is in flat areas or in slight depressions within old glacial lake basins. Individual areas are long and narrow, or they are oblong. They range from 10 to 50 acres in size. These areas are subject to ponding in spring and after heavy rains. In a representative profile of a cultivated area, the surface layer is a very dark gray light silty clay loam about 9 inches thick. This layer has a few, distinct, yellowish-brown mottles. The upper part of the subsoil, to a depth of 14 inches, is grayish-brown firm silty clay loam that contains many prominent mottles. The lower part, to a depth of 38 inches, is a dark-gray, firm silty clay that also contains many prominent mottles. The substratum is mottled gray silty clay that is slightly lower in clay content than the subsoil. It is firm and calcareous from a depth of 45 inches down to a depth of 50 inches or more.

DnC-Darien silt loam, 8-15 percent slopes. This moderately sloping soil has a profile similar to the one described as representative for the series, but the upper part of the subsoil is thinner. This soil generally is in concave areas that receive some runoff from adjacent soils. It generally is below drier Manlius or Danley soils on adjacent steeper areas. In a representative profile the surface layer is very dark grayish-brown silt loam 9 inches thick. The subsurface layer is friable, mottled, grayish-brown silt loam and extends to a depth of about 12 inches. The upper part of the subsoil, about 8 inches thick, is firm, dark grayish-brown light silty clay loam that contains many faint and distinct mottles. The lower part of the subsoil, to a depth of about 35 inches, is firm, dark grayish-brown silty clay loam that contains many distinct mottles. The surface and subsurface layers and the subsoil contain a few shale fragments. Below a depth of 35 inches, the substratum is olive-gray shaly silty clay loam till that has some faint mottles. It is firm and calcareous.

HeB-Herkimer shaly silt loam, 3 to 8 percent slopes. This gently sloping soil has convex slopes and is on shaly outwash fans between steep valley sides and flood plains. Individual areas range from 5 to 40 acres or more in size, but along the Oatka valley where areas tend to merge, the landscape has a gently rolling appearance. In a representative profile the surface layer is very dark grayish-brown shaly silt loam 8 inches thick. The subsoil, from a depth of 8 down to 38 inches, is friable, porous, dark-brown to brown shaly silt loam that contains about 25 percent shale fragments. The substratum, from a depth of 38 to 45 inches, is friable, dark grayish-brown very shaly loam that contains about 55 percent shale fragments. From a depth of 45 to 60 inches or more, the substratum is stratified.

Te-Teel silt loam. This soil is nearly level and is on the flood plains of the larger streams. Individual areas occupy narrow strips within the flood plains and generally are 10 to 50 acres in size. It is subject to annual flooding, generally early in spring. In a representative profile the surface layer is very dark grayish-brown silt loam 10 inches thick. The subsoil is friable silt loam that extends from a depth of 10 down to 38 inches. The upper part, from a depth of 10 down to 18 inches, is dark grayish-brown. The middle part, from a depth of 18 down to 24 inches, is brown to dark brown with grayish-brown mottles. The lower part, from a depth of 24 down to 38 inches, is grayish-brown with faint and distinct mottles. The substratum, to a depth of 60 inches or more, is friable, dark grayish-brown silt loam that is faintly mottled.

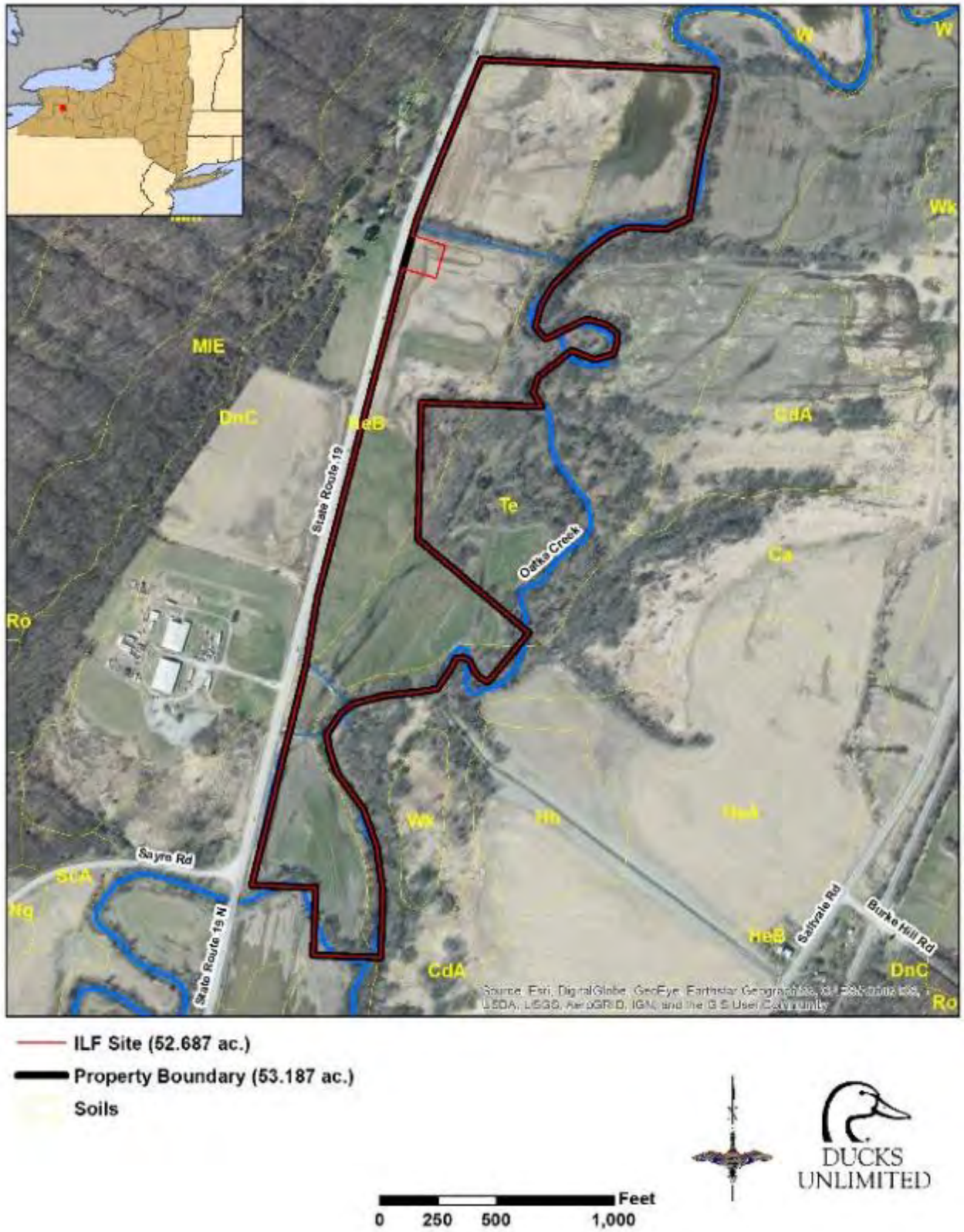

Figure 4 Soils Map.
Restoration activities will occur primarily in Te and HeB.

5.4 Animal and Plant Species Including Endangered Species

While no federally listed species were observed during site visits, forested portions of the site potentially contain roosting habitat for northern long-eared bat (*Myotis septentrionalis*) (Appendix D). DU will consult with the USFWS to ensure that this project will not negatively affect any listed species that may be present. DU will not cut any trees as part of this project as it might have an adverse impact on bat species. We anticipate that the restored wetlands and upland forest will improve foraging and roosting opportunities for bat species present at the site.

State listed species and species of greatest conservation need (SGCN) have been documented in the vicinity of the Site during past surveys including: short-eared owl, horned lark, brown thrasher, Canada warbler, vesper sparrow, bobolink, and eastern meadowlark (GFLRPC, 2012; McGowan and Corwin 2008). A full list of species observed at the property is provided in Table 2.

Table 2 Wildlife and Plant Species Identified

Species	Common Name	Conservation Status	Notes
	Birds		
Agelaius phoeniceus	red-winged blackbird		
Aix sponsa	wood duck		
Anas platyrhyncos	mallard		
Branta canadensis	Canada goose		
Buteo jamaicensis	red-tailed hawk		
Corvus brachyrhyncos	American crow		
Cyanocitta cristata	blue jay		
Falco sparverious	American kestrel	SGCN	
Icterus galbula	Baltimore oriole		
Poecile atricapillus	black-capped chickadee		
Spinus tristis	American goldfinch		
Turdus migratorius	American robin		
Zenaida macroura	mourning dove		
	Amphibians		
Lithobates catesbeianus	bullfrog		
Lithobates clamitans	green frog		
Lithobates pipiens	northern leopard frog		
Pseudoacris crucifer	spring peeper		
	Reptiles		
Chelydra serperntina	snapping turtle	SGCN	
Thamnophis sirtalis	common garter snake		
	Mammals		
Canis latrans	coyote		
Castor canadensis	North American beaver		
Odocoileus virginianus	white-tailed deer		
Ondatra zibethicus	muskrat		
Procyon lotor	raccoon		
Sciuris carolinensis	eastern gray squirrel		
Vulpes vulpes	red fox		
	Fish		
Ambloplites rupestris	rock bass		
Campostoma anomalum	central stoneroller		*Fish species list for Oatka Creek* (GFLRPC 2016)
Catostomus commersonii	white sucker		
Esox lucius	northern pike		
Etheostoma blennioides	greenside darter		
Etheostoma flabellare	fantail darter		

Species	Common Name	Conservation Status	Notes
Etheostoma nigrum	Johnny darter		
Etheostoma olmstedi	tessellated darter		
Exoglossum maxillingua	Cut-lip minnow		
Fundulus diaphanus	banded killifish		
Hypentelium nigricans	northern hog sucker		
Lepomis gibbosus	pumpkinseed		
Lepomis macrochirus	bluegill		
Luxilus cornutus	common shiner		
Micropterus dolomieu	smallmouth bass		
Micropterus salmoides	largemouth bass		
Moxostoma macrolepidotum	Short-head redhorse		
Nocomis biguttatus	Horny-head chub		
Notropis hudsonius	spottail shiner		
Notropis stramineus	sand shiner		
Notropis volucellus	mimic shiner		
Oncorhynchus mykiss	rainbow trout		
Percina caprodes	logperch		
Pimephales notatus	bluntnose minnow		
Pimephales promelas	fathead minnow		
Rhinichthys atratulus	eastern blacknose dace		
Rhinichthys cataractae	longnose dace		
Salmo trutta	brown trout		
Salvelinus fontinalis	brook trout		
Semotilus atromaculatus	creek chub		
	Plants		
Abutilon theophrasti	velvetleaf		
Acer rubrum	red maple		
Acer negundo	boxelder		
Achillea millefolium	common yarrow		
Agrostis scabra	rough bentgrass		
Alisma subcordatum	American water plantain		
Allaria petiolata	garlic-mustard		invasive
Alopecuris pratensis	field meadow-foxtail		
Amaranthus hybridus	green amaranth		
Ambrosia psilostachya	perennial ragweed		
Arctium minus	lesser burdock		
Asclepias syriaca	common milkweed		
Barbarea vulgaris	garden yellow -rocket		
Bidens cernua	nodding burr-marigold		
Bidens frondosa	devil's beggartick		

Species	Common Name	Conservation Status	Notes
Boehmeria cylindrica	small-spike false nettle		
Carex comosa	bristly sedge		
Carex gynandra	nodding sedge		
Carex scoparia	broom sedge		
Carex spicata	prickly sedge		
Carex vulpinoidea	fox sedge		
Chenopodium album	lamb's-quarters		
Cichorium intybus	chicory		
Cirsium arvense	Canada thistle		
Cirsium vulgare	bull thistle		invasive; early successional
Convulvulus arvensis	field bindweed		
Cyperus esculentes	chufa		
Daucus carota	wild carrot		
Digitalis purpurea	purple foxglove		
Digitaria sanguinalis	hairy crab grass		
Dipsacus fullonum	Fuller's teasel		
Echinochloa crus-galli	large barnyard grass		
Eleagnus umbellata	autumn olive		invasive
Eleocharis obtusa	blunt spike-rush		
Eleocharis palustris	common spike-rush		
Epilobium hirsutum	great hairy willowherb		
Eragrostis hypnoides	teal love grass		
Eupatorium perfoliatum	rough boneset		
Euthamia graminifolia	grass leaved goldenrod		
Eutrochium maculatum	spotted Joe Pye weed		
Festuca rubra	red fescue		
Fraxinus pennsylvanica	green ash		
Galium aparine	stickywilly		
Geranium maculatum	wild geranium		
Geranium pusillum	small-flowered crane's bill		
Glycine max	soybean		
Heracleum mantegazzianum	giant hogweed		invasive; control initiated by DEC
Hydrocotyle americana	American marsh-pennywort		
Impatiens capensis	touch-me-not		
Juncus effusus	soft rush		
Juncus tenuis	poverty rush		
Lamium purpureum	purple dead nettle		
Larix decidua	European larch		

Species	Common Name	Conservation Status	Notes
Leucanthemum vulgare	ox-eye daisy		
Lolium perenne	perennial ryegrass		
Lotus corniculatus	bird's-foot trefoil		
Ludwigia palustris	marsh primrose-willow		
Lythrum salicaria	purple loosestrife		invasive
Medicago sativa	alfalfa		
Mentha arvensis	American wild mint		
Myosotis arvensis	rough forget-me-not		
Onoclea sensibilis	sensitive fern		
Osmundastrum cinnamomeum	cinnamon fern		
Oxalis stricta	upright yellow wood-sorrel		
Panicum capillare	common panic grass		
Pastinaca sativa	wild parsnip		invasive
Persicaria pensylvanica	Pennsylvania smartweed		
Persicaria virginana	Jumpseed		
Phalaris arundinacea	reed canary grass		
Phleum pratense	common timothy		
Phragmites australis	common reed		invasive
Plantago major	broadleaf plantain		
Plantago lanceolata	English plantain		
Polygonum ramosissimum	yellow-flower knotweed		
Populus deltoides	eastern cottonwood		
Prunella vulgaris	common selfheal		
Ranunculus acris	tall buttercup		
Robinia pseudoacacia	black locust		
Rosa multiflora	multiflora rose		invasive
Rumex crispus	curly dock		
Salix nigra	black willow		
Schoenoplectus tabernaemontani	softstem bulrush		
Scirpus atrovirens	green bulrush		
Setaria pumila	yellow bristle grass		
Sinapis arvensis	charlock mustard		
Sisymbrium altissimum	tall hedge-mustard		
Solidago canadensis	Canada goldenrod		
Solidago gigantea	late goldenrod		
Solidago rugosa	roughleaf goldenrod		
Symphyotrichum ericoides	white heath American-aster		
Symphyotrichum novae-angliae	New England American-aster		
Symphytum asperum	prickly comfrey		
Symphytum officinale	common comfrey		

Species	Common Name	Conservation Status	Notes
Taraxacum officinale	dandelion		
Trifolium pratense	red clover		
Trifolium repens	white clover		
Typha angustifolia	narrow-leaved cattail		invasive
Typha latifolia	broad-leaved cattail		
Typha X *glauca*	hybrid cattail		invasive
Verbascum thapsus	great mullein		
Vicia sativa	garden vetch		
Xanthium strumarium	rough cocklebur		
Zea mays	corn		

6. Mitigation Work Plan

6.1 Geographic Boundaries

The geographic boundaries of the Site correspond to the 52.687-acre area to be placed under a conservation easement (red-line) as depicted in Figure 2, and in Appendix F. The Site lies to the east of Route 19 in Middlebury. A small area, excluded from the credit production and conservation easement area, will serve as off-road parking (Figure 2).

6.2 Sources of Water, Connections to Existing Waters and Upland Runoff

Depressions in the northern fields and swales across the southern fields capture water from the hillside to the west and Oatka Creek to the east. Existing wetland features have been identified through an on-site delineation, this report can be found in Appendix A. Three groundwater monitoring wells were installed at the Site in January of 2019. The well locations are shown in Appendix B and data from the wells are shown in Figure 5. The data from well MW1 indicate that ground water levels approached the surface several times during runoff events but would quickly recede, possibly due to existing drainage tile in that field. The groundwater levels at wells MW2 and MW3 often remained within 12 inches of the surface and had frequent elevations within 6” or less of the surface during runoff events. The site characteristics and data collected support the plan to utilize a combination of drain tile disruption, grading, and embankments to restore and maintain wetland hydrology to these areas.

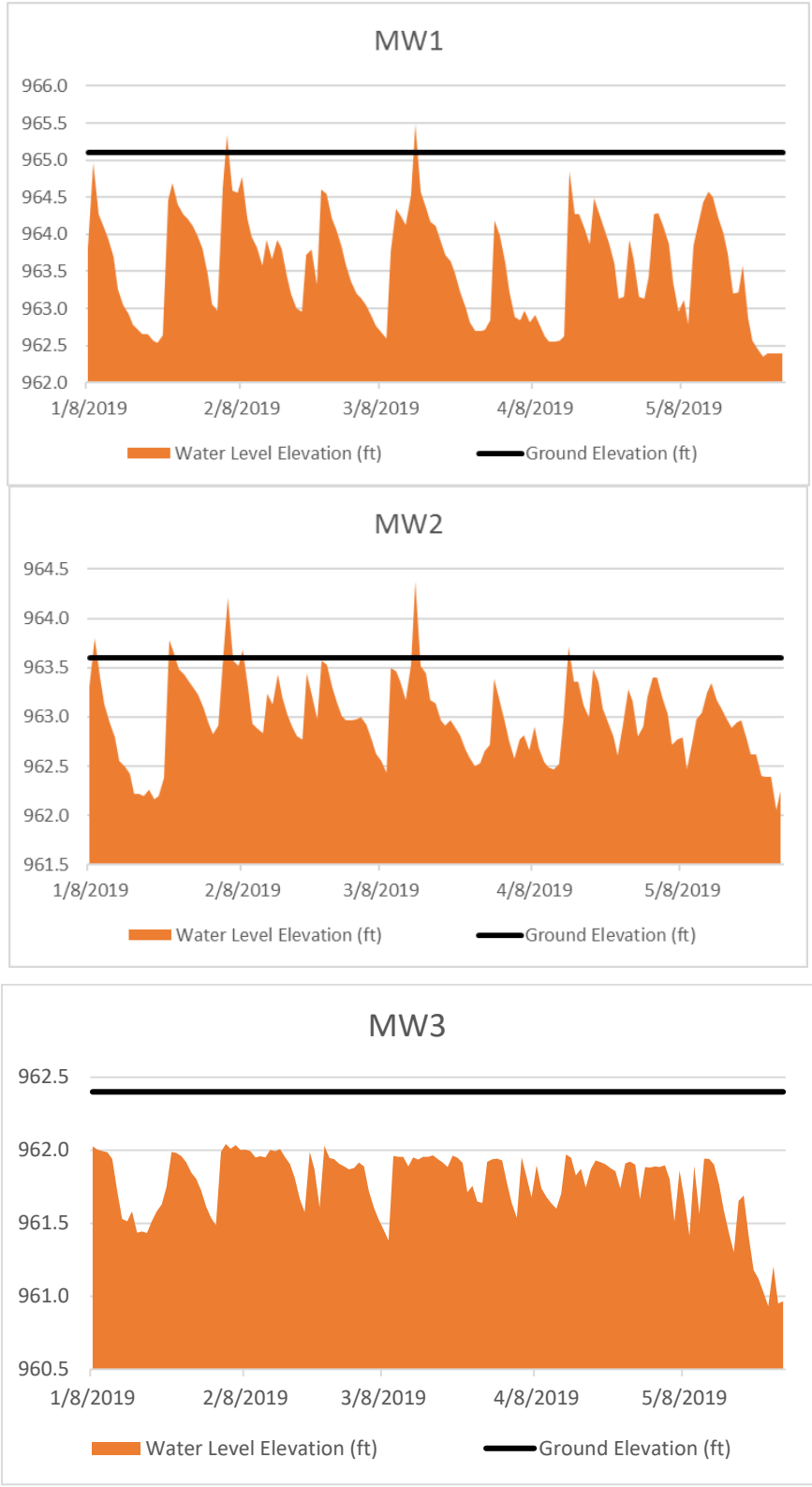

Figure 5 Ground Water Data.
Groundwater data is shown for a wet period in late winter and early spring; snowmelt and river flood effects appear present here; more recent data will be included in mitigation plan revisions. The water-table was observed to drop during the growing season.

6.6 Invasive Species

Upon acquisition, the Site had invasive plant species present that is typical in much of the Lower Genesee Service Area, summarized below. Active management will be required to achieve performance standards for invasive plant and native plant diversity goals. *Phragmites australis* and narrowleaf cattail (*Typha angustifolia*) cooccur in Field 1 and dominate Wetland 1. Reed canary grass is present in Fields 1 (Wetland 2) and to a lesser extent in Wetland 3 in Field 2. Narrowleaf cattail is also found in Wetland 3 in Field 2. Japanese knotweed was found in a couple of small clumps by Field 3 and 4. A few scattered Purple loosestrife (*Lythrum salicaria*) plants were observed on site and have been hand-pulled when encountered. DU staff also identified a few giant hogweed (*Heracleum mantegazzianum*) plants in 2019, and contacted the NYS-DEC's hogweed control team, which treated the plants. The NYS-DEC will continue to treat hogweed until it is eradicated. In conjunction with construction activities, Japanese knotweed, reed-canary grass, Phragmites and narrow-leaf cattail will be mowed ahead of two broad-cast herbicide applications. A broad-spectrum, aquatic-safe herbicide will be applied by a certified pesticide applicator in accordance with all state and federal regulations. No areas of permanent standing water are present within the treatment areas. More detail on the invasive plant control sequence to be initiated during construction activities is provided in Section 6.6.

Following construction activities, DU staff will monitor and adaptively manage invasive species on the property through hand pulling (non-hogweed species), mechanical removal, and through follow up. As the site develops, spot herbicide applications may be necessary. Other appropriate methods for control will be evaluated as invasive species are encountered. Long-term tasks will include routine inspections in early summer (late June through mid-July) to determine invasive species presence or absence, and abundance. DU will perform regular, routine monitoring of invasive plants during site monitoring visits typically five to six visits occur every growing season.

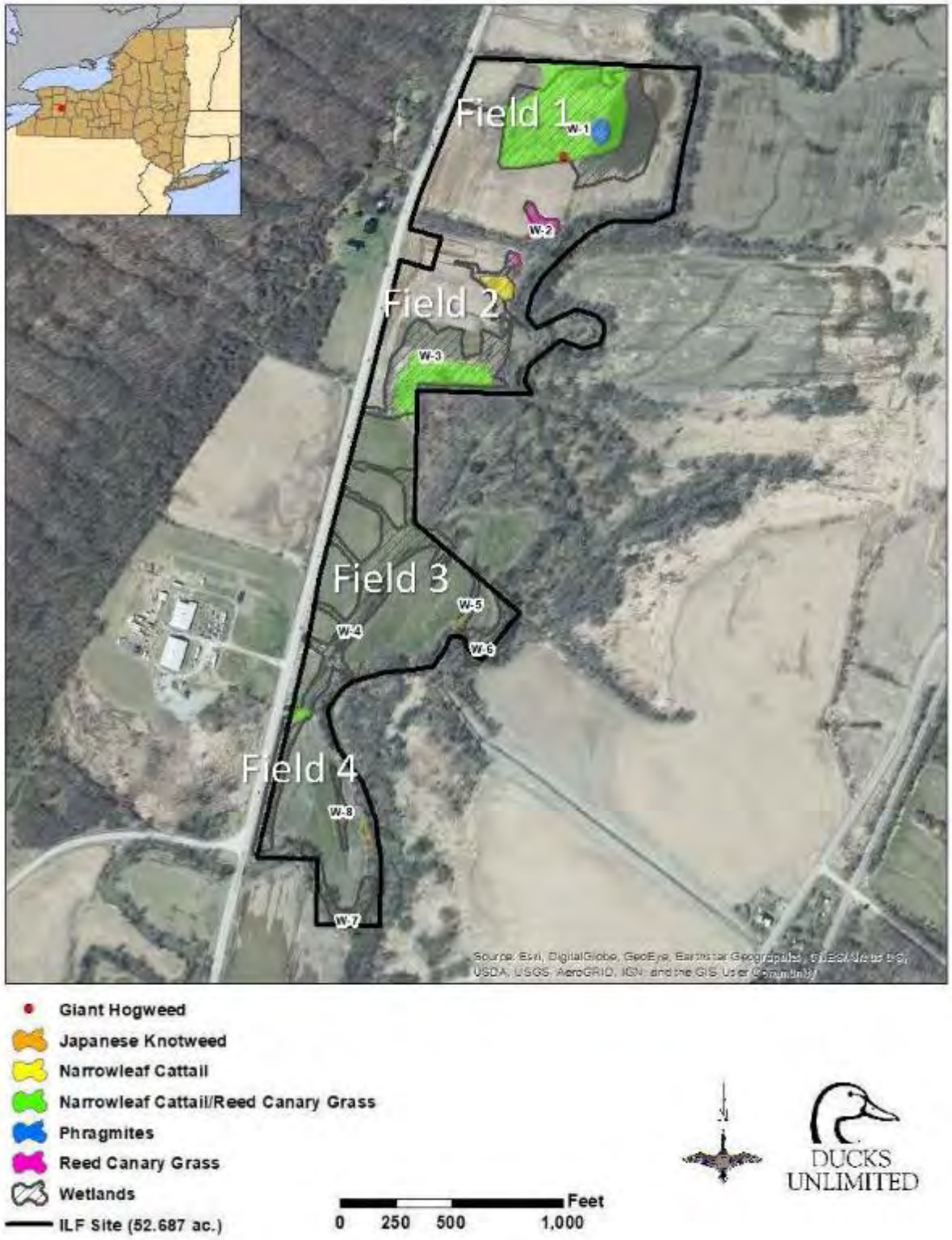

Figure 6 Invasive Species Map.
Invasive plant species will be targeted in construction and through adaptive management activities.

Invasive Plant Photos

Wetland 1 is dominated by Phragmites australis and narrow-leaf cattail, this area will be mowed and sprayed during construction activities and seeded to a native plant mix.

Giant hogweed identified in Wetland 1. The NYSDEC is treating these plants as part of their control program.

6.4 Construction Methods, Timing and Sequencing

Construction of the project will occur as soon as practicable after approval of this mitigation plan. Final earthwork adjustments and site planting will occur no later than June 30 of the year following the date of plan approval, or by an approved extension date.

The hydrological restoration plan provided in Appendix B includes the disruption of existing drain tile in Field 4, installation of ditch-plug in Field 1, combined with shallow scrapes and construction of low, flow-over berms in Field 3. The flow-over berm is planned for a constructed height of approximately 18 inches above existing-grade; it will function similarly to a ditch-plug by impeding surface runoff. Placement of a proposed scrape/borrow area for berm construction has been sited in Field 3 to maximize wetland reestablishment from the borrow area; a secondary proposed borrow area adjacent to the low berm will provide additional material for berm construction. Soil borings at the Site found layers of clay and clay loams suitable for low-berm construction.

Prior to any grading or placement of fill, topsoil will be stripped and stockpiled from the work area. Drain tile disruption, scrapes, and low berms will be completed on the site using a bulldozer and tracked excavator. Once the cut and fill work is completed, the stockpiled topsoil will be spread across all disturbed areas. The ditch plug and low berms combined will inundate approximately 4.6 acres to a maximum depth of 18 inches. Hydrology will be restored to additional acreage through the influence of this work upon the ground water.

Much of the Site had borderline, nearly hydric soil conditions, it is anticipated that much of the Site will revert to wetlands with cessation of regular agricultural activities (e.g., ditch maintenance, mowing, disking, vegetation disturbance, crop introduction, periodic herbicide broad-cast applications). Planned wetland areas shown in Appendix B that are undisturbed by construction activities will be roughly disked to reintroduce microtopography, and to prepare areas of likely reversion for seeding of wetland plant species. Soils will be left loose to facilitate wetland plant establishment.

Seeding will begin as soon as the earthwork is completed. All reestablished and rehabilitated wetland areas will receive the wetland seed mix. Any disturbed upland areas will be stabilized with the standard upland seed mix; including all low berms and access roads. The PSS, PFO, and upland buffer areas specified in the planting plan (Appendix B) will be planted to the species mixes specified in Table 3. Herbaceous wetland species will be seeded immediately following construction, however woody plantings may be delayed as necessary in order to establish plants during an optimum time of year, which is typically in the fall or early spring. Woody planting will occur no later than June 30 of the year following construction.

6.5 Grading Plan, Including Elevations and Slopes of Substrate

The grading operations with finished elevations are shown in the plan and profile pages of Appendix B. These include tile drain exploration and removal, scrapes, and low berm construction in order to collect and retain groundwater and surface runoff. Slopes shall not exceed 4:1 on the low berms. Final grading shall leave the topsoil in a loose condition conducive to broadcast seeding. The erosion and sediment control plan in Appendix B outlines the stormwater best management practices that will be used.

6.6 Methods for Establishing Desired Plant Community

Establishing the desired plant community will be achieved by active means. During the wetland delineation, some hydrophytic vegetation was observed in the agricultural fields, thus providing evidence of a hydrophytic seed bank that may reestablish following hydrological restoration. All reestablished and rehabilitated wetland areas will be broadcast with a wetland seed mix containing species with variable shade tolerance (Table 3). Species selection was formulated following a review of “Ecological Communities of New York State” (Edinger et al., 2014). The planting plan in Appendix B reflects a goal to reestablish multiple wetland cover types (i.e., PEM, PSS, PFO. Low berms will be planted to a cool season grass and legume mix in order to prevent erosion.

Table 3 Planting List

Target Area	Common Name	Scientific Name	Wetland Indicator Status	Propagule Type	Quantity/Acre
All Wetland Areas	fox sedge	*Carex vulpinoidea*	OBL	seed mix	*20 lbs seed mixture/acre in PEM areas*
	shallow sedge	*Carex lurida*	OBL		
	hop sedge	*Carex lupulina*	OBL		
	fringed sedge	*Carex crinita*	OBL		
	bristly sedge	*Carex comosa*	OBL		
	rice cutgrass	*Leersia oryzoides*	OBL		
	green bulrush	*Scirpus atrovirens*	OBL		
	swamp smartweed	*Polygonum hydropiperoides*	FACW		*15 lbs seed mixture/acre in PSS and PFO areas*
	spotted Joe pye weed	*Eutrochium maculatum*	OBL		
	nodding beggartick	*Bidens cernua*	FACW		
	soft rush	*Juncus effusus*	OBL		
PSS	red osier dogwood	*Cornus sericea*	FACW	bare root/potted	*sum to ≥500 stems / acre*
	silky dogwood	*Cornus amomum*	FACW		
	buttonbush	*Cephalanthus occidentalis*	OBL		
	black willow	*Salix nigra*	OBL		
PFO	red maple	*Acer rubrum*	FAC	bare root/potted	*sum to ≥500 stems / acre*
	silver maple	*Acer saccharinum*	FACW		
	red osier dogwood	*Cornus sericea*	FACW		
	silky dogwood	*Cornus amomum*	FACW		
	American sycamore	*Platanus occidentalis*	FACW		
	swamp white oak	*Quercus bicolor*	FACW		
	black willow	*Salix nigra*	OBL		
Upland Buffer	red maple	*Acer rubrum*	FAC	bare root/potted	sum to ≥500 stems/ acre
	American basswood	*Tilia americana*	FACU		
	white oak	*Quercus alba*	FACU		
	shagbark hickory	*Carya ovata*	FACU		
Low Berm	creeping red fescue	*Festuca rubra*	FACU	seed mix	*48 lbs seed mixture/acre*
	perennial ryegrass	*Lolium perenne*	FACU		
	annual ryegrass	*Lolium multiflorum*	FACU		
	birds-foot trefoil	*Lotus corniculatus*	FACU		

*****Exact species composition subject to commercial availability.*

6.7 Soil Management and Erosion Control Measures

All slopes, soils, substrates, and constructed features within and adjacent to the work site will follow stabilization protocols described in the Oatka Creek Erosion and Sediment Control plan that will be submitted to NYSDEC prior to initiation of those activities. DU will obtain all necessary permits (e.g., SWPPP) prior to construction.

7. Maintenance Plan

DU will take appropriate measures after initial construction to ensure continued site maturation. DU will be responsible for monitoring and coordinating the execution of maintenance activities. Monitoring will occur regularly throughout the growing season from approximately May through September of each year. Regular inspections include but are not limited to inspection of: site hydrology, plant community development including diversity, percent cover and presence of invasive species, functioning of berms and water control structures. Maintenance activities may be triggered by:

- During yearly monitoring (Section 9), management concerns (e.g., deer herbivory, unauthorized all-terrain vehicle (ATV) use, dumping) and appropriate adaptive management strategies will be reviewed and implemented as necessary. These include but are not limited to: erection of fencing, placement of barriers to prohibit unauthorized ATV use, contacting local authorities. Plant community management may take on the form of water level management, mechanical removal, mowing, and herbicide application to control invasive plant species.
- Unforeseen environmental conditions may affect the success of the project, but their effects can generally be managed through early detection. Flooding, drought, invasive species, site degradation, erosion, and vandalism are examples of some adverse conditions that can be managed.
- Routine maintenance checks, for example, on plant health and vigor, unwanted plant species, trash, herbivores, and areas with chronic erosion.
- Deer herbivory will be monitored, but in general densities are lower in this vs. other parts of New York State. Supplemental plantings, fencing, etc. may be required as adaptive management techniques.
- Supplemental plantings may be added, especially to overcome adverse weather

conditions early within site establishment phases.

- Corrective measures may include adding or removing plants as conditions warrant, adding boards to water control structures or modifying local topography to ensure wetland hydrology, and additional mulching and seeding as needed.
- Routine checks of berms and water control structures to look for erosion and to make sure that the outlets are clear of debris. Any eroded areas will be repaired and reseeded.
- Routine checks of signs and associated maintenance will be performed.
- Estimated costs for annual monitoring and reporting are provided in Appendix G

8. Performance Standards

Success within the planned wetland re-establishment and rehabilitation portions of the Site is based on meeting the USACE criteria for the three parameters described in the 1987 Corps of Engineers Wetland Delineation Manual and Northcentral Northeast Regional Supplement. These parameters require sufficient:

1. *wetland hydrology* to support adequate
2. *hydrophytic vegetation*, ultimately forming
3. *hydric soils*, all of which describe a functioning wetland.

The performance standards criteria described below will be monitored over a ten-year term that begins following the submittal of a post-construction as-built; the monitoring term includes three interim goals, and the final success criteria. When met, each interim goal would release 15% of the total remaining credits (i.e., credits remaining following mitigation plan and as-built approval). The final 25% of remaining credits would be released after the final vegetative goals have been met, a USACE approved long-term management plan and conservation easement have been executed and funded, and all other obligations and performance standards set forth in the instrument amendment and permit have been met. If areas of the Site are not meeting full performance criteria at the end of the 10-year monitoring period, the project sponsor may request that the areas be evaluated for partial credit release at a lower credit ratio, a modification to the instrument amendment may be requested, and/or additional corrective action/monitoring may be required. It is important to note that the first two options will only be considered in the event that all efforts to meet standards and obligations have been exhausted (including corrective action).

8.1 First Interim Goal Releases 15% of Credits When:

- The areas meeting wetland criteria will have 50% relative coverage by native perennial hydrophytes.
- The areas meeting wetland criteria are demonstrating progress in vegetative development towards meeting the final VIBI-FQ performance standard and have a minimum VIBI-FQ of 20.
- The areas meeting PSS criteria will have at least 150 shrubs/trees per acre, and those stems will display normal and healthy growth, free of disease and pests. PSS zones will have at least half of the stems growing as shrub species.
- The areas meeting PFO criteria will have at least 150 shrubs/trees per acre, and those stems will display normal and healthy growth, free of disease and pests. PFO zones will have at least half of the stems growing as tree species.
- Wetland acreage will have less than 10% relative cover of all non-Typha invasive plant species such as, but not limited to: purple loosestrife (*Lythrum salicaria*), common reed (*Phragmites australis*), Japanese Knotweed (*Polygonum cuspidatum*), reed canary grass (*Phalaris arundinacea*).
- Due to the difficulty of distinguishing the three species of cattails (*Typha latifolia*, *Typha angustifolia*, and *Typha* x *glauca*), as well as the likelihood that at least one of these will be present in many types of New York wetlands, the total relative cover of all invasive species, including *Typha* spp., will be less than 15%.
- Upland buffer rehabilitation areas will have no more than 25% relative cover composed of invasive species such as: buckthorn (*Rhamnus cathartica*), honeysuckle (*Lonicera* spp.), reed canary grass (*Phalaris arundinacea*).

8.2 Second Interim Goal Releases 15% of Credits When:

- The areas meeting wetland criteria will have 60% relative coverage by native perennial hydrophytes.
- The areas meeting wetland criteria are demonstrating progress in vegetative development towards meeting the final VIBI-FQ performance standard and have a minimum VIBI-FQ of 32.
- The areas meeting PSS criteria will have at least 250 shrubs/trees per acre, and those stems will display normal and healthy growth, free of disease and pests. PSS zones will have at least half of the stems growing as shrub species.
- The areas meeting PFO criteria will have at least 250 shrubs/trees per acre, and those stems will display normal and healthy growth, free of disease and pests. PFO zones will have at least half of the stems growing as tree species.
- Wetland acreage will have less than 8.5% relative cover of all non-*Typha* invasive plant species such as, but not limited to: purple loosestrife (*Lythrum salicaria*), common reed (*Phragmites australis*), Japanese Knotweed (*Polygonum cuspidatum*), reed canary grass (*Phalaris arundinacea*).
- Due to the difficulty of distinguishing the three species of cattails (*Typha latifolia*, *Typha angustifolia*, and *Typha* x *glauca*), as well as the likelihood that at least one of these will be present in many types of New York wetlands, the total relative cover of all invasive species, including *Typha* spp., will be less than 13.75%.

- Upland buffer rehabilitation areas will have no more than 20% relative cover composed of invasive species such as: buckthorn (*Rhamnus cathartica*), honeysuckle (*Lonicera* spp.), reed canary grass (*Phalaris arundinacea*).

8.3 Third Interim Goal Releases 15% of Credits When:

- The areas meeting wetland criteria will have 75% relative coverage by native perennial hydrophytes.
- The areas meeting wetland criteria are demonstrating progress in vegetative development towards meeting the final VIBI-FQ performance standard and have a minimum VIBI-FQ of 36.
- The areas meeting PSS criteria will have at least 350 shrubs/trees per acre, and those stems will display normal and healthy growth, free of disease and pests. PSS zones will have at least half of the stems growing as shrub species.
- The areas meeting PFO criteria will have at least 350 shrubs/trees per acre, and those stems will display normal and healthy growth, free of disease and pests. PFO zones will have at least half of the stems growing as tree species.
- Wetland acreage will have less than 6.5 % relative cover of all non-*Typha* invasive plant species such as, but not limited to: purple loosestrife (*Lythrum salicaria*), common reed (*Phragmites australis*), Japanese Knotweed (*Polygonum cuspidatum*), reed canary grass (*Phalaris arundinacea*).
- Due to the difficulty of distinguishing the three species of cattails (*Typha latifolia, Typha angustifolia*, and *Typha* x *glauca*), as well as the likelihood that at least one of these will be present in many types of New York wetlands, the total relative cover of all invasive species, including *Typha* spp., will be less than 12.5%.
- Upland buffer rehabilitation areas will have no more than 15% relative cover composed of invasive species such as: buckthorn (*Rhamnus cathartica*), honeysuckle (*Lonicera* spp.), reed canary grass (*Phalaris arundinacea*).

8.4 Final Goal Releases 25% at The End of the 10-Year Monitoring Period

- The wetlands shall have 90% relative coverage by native perennial hydrophytes.
- The areas meeting wetland criteria have met the final VIBI-FQ performance standard of 40.
- The areas meeting PSS criteria will have at least 425 shrubs/trees per acre ≥ 1m in height, and those stems will display normal and healthy growth, free of disease and pests. PSS zones will have at least half of the stems growing as shrub species.
- The areas meeting PFO criteria will have at least 425 shrubs/trees per acre ≥ 3” diameter at breast height, and those stems will display normal and healthy growth, free of disease and pests. PFO zones will have at least half of the stems growing as tree species.
- Wetland acreage will have less than 5 % relative cover of all non-*Typha* invasive plant species such as, but not limited to: purple loosestrife (*Lythrum salic*aria), common reed (Phrag*mites australis*), Japanese Knotweed (*Polygonum cuspidatum*), reed canary grass (*Phalaris arundinacea*).
- Due to the difficulty of distinguishing the three species of cattails (*Typha latifolia*, *Typha angustifolia*, and *Typha* x *glauca*), as well as the likelihood that at least one of these will

be present in many types of New York wetlands, the total relative cover of all invasive species, including *Typha* spp., will be less than 10%.

- Upland buffer rehabilitation areas are demonstrating progress in vegetative development and achieve a net increase in VIBI-FQ score above pre-construction levels.
- Upland buffer rehabilitation areas will have no more than 10% relative cover composed of invasive species such as: buckthorn (*Rhamnus cathartica*), honeysuckle (*Lonicera* spp.), reed canary grass (*Phalaris arundinacea*).
- A Corps approved long-term management plan and conservation easement have been executed and funded.
- All other obligations and performance standards set forth in the instrument amendment and permit have been met.

8.5 Wetland Hydrology and Hydric Soils

To meet the wetland criteria, re-established and rehabilitated wetlands must be inundated (flooded or ponded) or have a water table ≤12 inches below the soil surface for ≥14 consecutive days during the growing season at a minimum frequency of 5 years in 10 (≥50% probability). Any combination of inundation or shallow water table is acceptable in meeting the 14-day minimum requirement. Hydrology will be determined through an analysis of water-well data, visual inspections, and review of permanently located water-level gauges. The growing season can be approximated as the period of time between the average date of the last killing frost in the spring to the average date of the first killing frost in the fall. We will use a temperature threshold of 28 degrees F or lower at a frequency of 5 years in 10, and will draw from weather station records at Warsaw, NY to determine the typical growing season-length.

9. Monitoring Requirements

9.1 Monitoring Report Requirements

Annual site monitoring will begin after construction is completed and will continue for ten (10) years. Monitoring reports will be submitted as outlined in Table 4. Monitoring locations are shown in Appendix B. Monitoring will consist of the following:

- Post construction, monitoring report complete with photographs, baseline ecological descriptions, as-builts that describe the actual constructed features with 0.5’ contours, wetland delineation maps with habitat type breakdowns, delineation data forms, estimates

of relative cover of invasive plant species, and a description of any deviation from the Instrument Amendment.

- Descriptions of the monitoring inspection protocols used.
- Water depths will be reported from throughout the site from permanent locations, and as well as hydrology information derived from Wetland Determination Data Forms completed throughout the site. Locations of each water depth monitoring location and data point will be indicated on the survey map(s). Three permanent monitoring wells are currently installed in the site.
- Concisely describe remedial actions completed during the monitoring year to meet the three success standards – actions such as, replanting, controlling invasive plant species (with biological, herbicidal, or mechanical methods), re-grading the site, adjusting site hydrology, etc.
- Description of other remedial actions taken.
- Report on the status of all erosion control measures on the mitigation site. Identify whether they are functioning. Descriptions of the necessity of any planned additional temporary measures.
- Review of all information collected to meet all performance goals (8.1, 8.2, 8.3, 8.4, 8.5) as appropriate.
- Photographs taken from permanent photo points shown on a site plan.
- List of wildlife observed and other interesting biological occurrences.
- A qualitative description of the general arboreal plant health, vigor and mortality, including a prognosis for their future survival will be included along with photos illustrating tree growth.
- All areas >0.1 acre that are dominated by invasives will be mapped and reported.
- VIBI-FQ scores will be recorded for all reestablishment and rehabilitation areas generating credits.

9.2 Reporting Schedule

Monitoring reports, including an As-Built Report will be submitted no later than February 28 and will describe conditions in the prior growing season. The As-Built will be submitted following the completion of construction and planting. The As-Built survey will include a detailed contour

map and any deviations from the construction plans. Each report cover sheet shall indicate the year and report number. All reports described in this section will be submitted to the New York IRT, and (two hard copies) to the District Engineer at the Department of the Army, at the Buffalo District Corps of Engineers 1776 Niagara Street, Buffalo, NY 14207-3199 and to 1 Buffington Street, Watervliet Arsenal Building 10, Watervliet, New York 12189. All monitoring, reporting, requests and adaptive management implementation will be the responsibility of DU. Measures requiring additional soil manipulation or changes in hydrology will be undertaken only after written approval from the Buffalo District Engineer has been obtained.

Table 4 Reporting Schedule

Activity	Description	Year
As-built Report	To be submitted in February, the year following completion of construction and planting	0
1st Monitoring Report	First monitoring report / no credit release requested	1
2nd Monitoring Report	1st Interim Credit Release Request	3
3rd Monitoring Report	2nd Interim Credit Release Request	5
4rth Monitoring Report	3rd Interim Credit Release Request	7
Final Monitoring Report	Final Credit Release Request	10

*Credit release are anticipated to coincide with a given year, but they may deviate based on performance. Reports will be submitted by no later than February of the calendar year following monitoring activities.

10. Long-term Management Plan, Including Financial Arrangements

In order to provide for a more sustainable approach to long-term management, WAT will transfer ownership of the site to the Long-Term Steward following construction. It is anticipated that Genesee Valley Conservancy (GVC) will be the Long-term Steward. DU will provide written notice to the USACE at least 60-days prior to transfer of ownership of the Site to the Long-term Steward. A USACE-approved Conservation Easement and Long-Term Management Plan (LTMP), and Site Access and Management Easement (SAME), to be held by DU, will be recorded to the deed at the time of transfer. The SAME will outline responsibilities of the Long-Term Steward and DU during the active mitigation monitoring period, with DU remaining responsible for adaptive management and monitoring of the Site prior to entrance into the Long-term Management Phase. During the monitoring period, as outlined in the SAME, the Long-term Steward will assist with DU's efforts to maintain the conservation values of the site and meet the

objectives of this Instrument Amendment. When the Site enters the long-term management phase, the conditions of the SAME will be satisfied, and a notice of termination of the SAME will be recorded to the Deed.

The responsibilities of the Long-Term Steward are outlined in Table 5 and will be further described in the LTMP. Those responsibilities will begin when the final performance standards outlined in Section 8 are signed off on by USACE. It is anticipated entrance into The Long-Term Management phase will occur 10 years following construction. At that time, The Long-term Steward shall implement the LTMP, managing and monitoring the Site to preserve its habitat and conservation values. At the start of the Long-Term Management phase DU will assist The Long-term Steward with updating the baseline site conditions described in the LTMP to reflect current conditions. During the long-term protection phase, the Site will be monitored at least annually by The Long-Term Land Steward, and identification of threats to the Sites' conservation values will trigger adaptive management actions to maintain the integrity of the site. The responsibilities of the Long-Term Steward include prevention of: erosion, unauthorized use, dumping, as well as adaptive management of invasive plant species, and maintenance of signage designating the area as a protected area.

Funds for a long-term stewardship endowment will be provided by DU and will be maintained by the Long-term Steward as a non-wasting endowment to cover costs of annual monitoring, management of invasive species as needed, regular maintenance of signs, prevention of dumping, unauthorized use, and any other requirements of the LTMP. Anticipated long-term management activities and their costs are identified in Table 5. At a conservative 4% annual growth, we estimate $4,238 will be available annually for maintenance and adaptive management based on a $105,937.50 endowment. DU and the Long-term Steward are working to finalize the endowment cost estimate. The USACE will be consulted if changes to the Long-Term Manager or the LTMP are proposed. Prior to closure of the Site, and entrance into long-term management, DU staff will continue to be responsible for adaptive management and site maintenance.

Table 5. Anticipated Long-term Management Needs

Anticipated Management Activity*	Monitoring Method	Monitoring Frequency	Monitoring Cost	Annual Monitoring Total	Stewardship Trigger	Action	Action Frequency	Action Cost	Annual Action Total
Invasive Species	*Visual inspection*	*1/year*	*$75*	*$75*	*Greater than 10% coverage of invasive presence; presence of new species*	*Herbicide spraying, hand pulling, mowing, other*	*Every other year*	*$3,500*	*$1,787.50*
Trash Removal/Prevention of Unauthorized Access	*Visual inspection*	*1/year*	*$75*	*$75*	*Trash present, damage to site from ATV traffic*	*Prevent access for dumping*	*1/year*	*$500*	*$575*
Maintaining Signage	*Visual inspection*	*1/year*	*$100*	*$100*	*Signs damaged, missing*	*Replace/repair signs*	*1/year*	*$100*	*$200*
Erosion on Low Berm	*Visual inspection*	*1/year*	*$75*	*$75*	*Any erosion that is more than minor or appears to be a threat to long-term stability*	*Stabilize with appropriate materials (rock, plantings, etc.)*	*Every 5 years*	*$500*	*$175*
Contingency (including inflation)		*1/year*	*NA*	*NA*	*Actions requiring adaptive management outstrip dedicated available funds for the year*				*$1,500*

Total anticipated annual management cost (based on total above)	$4,238
Expected interest growth	4%
Total non-wasting stewardship endowment costs (to be self-sustaining)	**$105,937.50**

11. Adaptive Management Plan, Including Addressing Invasive Species Control

Every wetland site has its own unique characteristics that should be addressed with an adaptive management plan for long-term viability. Proper monitoring of the site will ensure adaptive management activities are implemented as new information is gathered. Completion of the regular maintenance activities outlined in Section 7 such as invasive species control and trash removal during routine monitoring trips will reduce the need for larger intervention. DU will regularly review the status of this site to confirm that all necessary activities have been implemented and that adequate hydrology and hydrophytic plant cover has become established. After construction, DU will conduct monthly monitoring visits during each growing season to evaluate the progress of the site relative to the performance standards outlined in Section 8. Occasional visits will also occur outside of the growing season.

Monitoring visits may include delineating the wetland acreage on-site, observing water levels, evaluating the plant community through vegetation monitoring (i.e., VIBI-FQ, woody stem counts, invasive species cover), inspecting berms, evaluating herbivory, and looking for any damage to the site. Data collected during these visits will be summarized in the monitoring reports outlined in Section 9.1 and compared against the interim goals specified in Sections 8.1-8.5. If any repairs are needed or if the site fails to be meeting any of the interim goals, DU will utilize adaptive management to address the issue(s).

Route 19 provides access for wetland observation or maintenance. Unforeseen environmental conditions can also affect a wetland's viability. Flooding, prolonged drought, invasive species, site degradation (i.e., trash dumping, illegal logging, ATV travel), erosion and vandalism are examples of some adverse conditions that with early detection and proper management can be overcome.

Reestablishment, rehabilitation and enhancement efforts will focus on recreating and improving wetland function. Techniques will include but are not limited to, invasive plant species control, and planting native vegetation to improve the VIBI-FQ score. Invasive species control methods include, but are not limited to, water level management, spraying, hand pulling, and mechanical removal. When monitoring indicates that a performance standard is not being met, the causes for failure will be evaluated to determine if simply more time is needed or whether a remedial action

may be required. Remedial action to help the site meet the performance standard shall be taken as soon as practicable once an issue has been identified. Remedial actions may include, but are not limited to: seeding or planting, non-native plant control, and erosion control measures. DU staff will be regularly monitoring the site throughout the growing season and at least once per dormant season in order to minimize the possibility for low-berm failure. Remedial actions requiring earth movement or changes in hydrology will not be implemented without written approval from the USACE.

If USACE in consultation with the IRT, determines that the site (or any portion thereof) is failing to make satisfactory progress towards meeting any performance goal within the monitoring period, DU must develop a remedial action plan to correct the deficiencies, or alternately a reduction of credits may be levied against underperforming areas. In the prior case, the remedial action plan shall be submitted to the IRT within three months of receipt of written notification of deficiencies from USACE. Remedial action plans may include suggested modifications to improve hydrology (e.g., regrading, addition of water control structures, ditch plugs, groundwater dams), and or additional plantings. The IRT shall in a timely manner provide written acceptance of the submitted plan or a modified plan acceptable to the IRT. The IRT-accepted remedial action plan (as submitted by DU or as modified by the IRT) will then be returned to DU and DU shall implement the measures specified in the remedial action plan within six months or along a timeline as otherwise provided in the remedial action plan. The default and closure provisions are further described in Appendix E. Once the monitoring period is over, the completed wetland will be managed by the long-term steward and managed only as needed and specified in the long-term stewardship plan.

12. Financial Assurances

Financial assurances for the construction and performance of the Site will be provided by DU in the form of a performance bond. Financial assurances will be established following mitigation plan approval and prior to release of credits from the site. The financial assurances will extend sufficient financial resources to completely cover the full cost of construction and replanting of the project if necessary, to achieve success. In the project budget (Appendix G) we estimate construction, planting and associated staffing costs at $216,984. Financial assurances shall be phased out once the compensatory mitigation project has been determined by the district

engineer to be successful in accordance with its performance standards. The financial assurances will not be called upon unless DU has exhausted the existing project budget, including all money set aside for contingency and wetland maintenance, excluding the funds to be utilized for the long-term stewardship endowment.

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Appendix A. Wetland Delineation Report

1.0 INTRODUCTION

Ducks Unlimited, Inc. (DU) investigated site conditions at the Oatka Creek site in the fall of 2018. The Mitigation Site is located at Latitude: 42.783997° and Longitude: -78.119303° off New York State Route 19 in the Towns of Middlebury and Warsaw, Wyoming County, New York. The eastern edge of the site borders Oatka Creek, which is within the Lower Genesee 8-digit HUC (HUC 04130003) lying within DU's Lower Genesee Service Area.

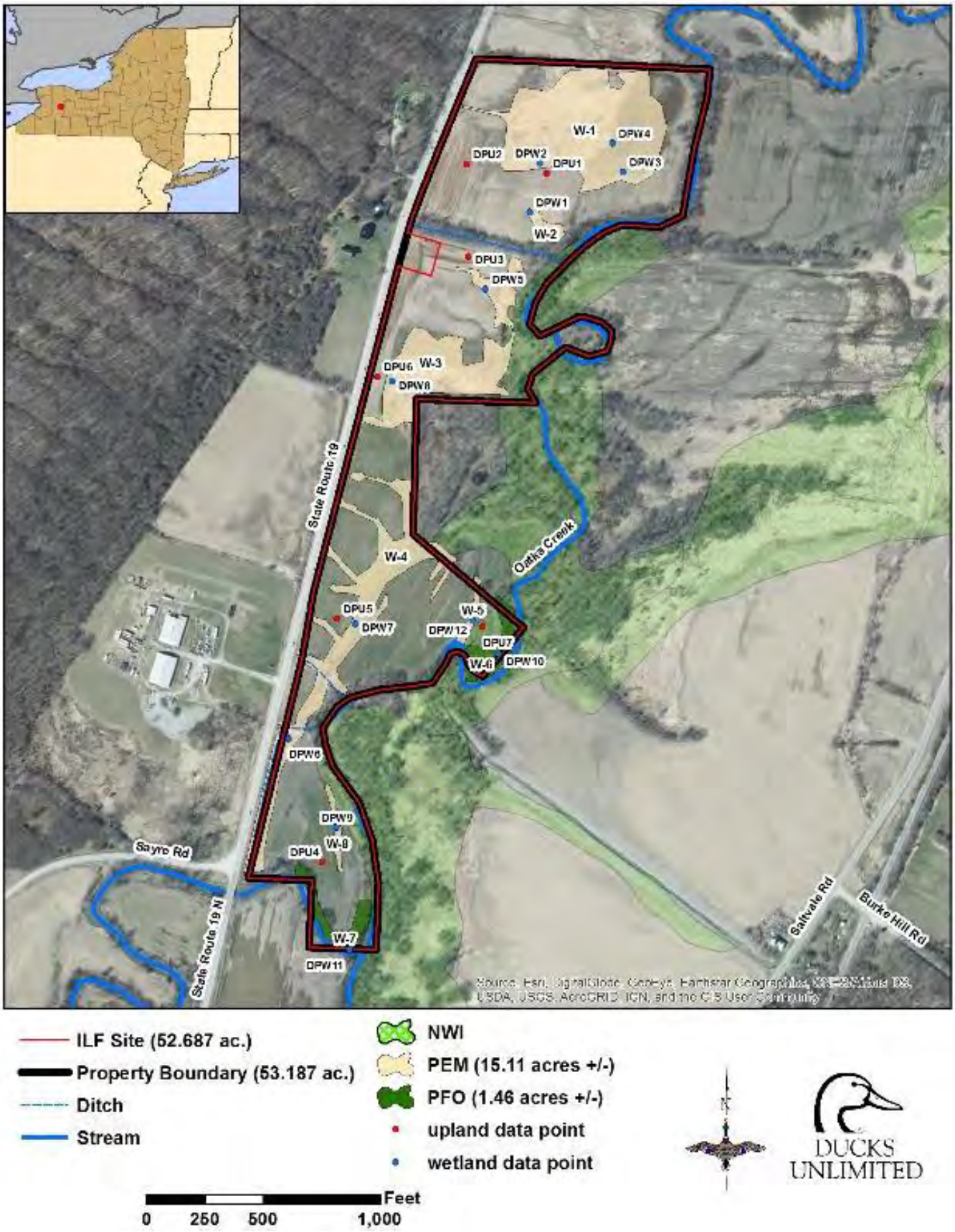
2.0 METHODS

Onsite data collection and wetland boundary delineation of the 53.187-acre property was performed by DU between October 18 and November 15, 2018. The boundaries were delineated following the protocols outlined in the United States Army Corps of Engineers' (USACE) 1987 "Wetland Delineation Manual" and data were collected on the "Regional Supplement to the Corps of Engineers Wetland Delineations Manual: Northcentral and Northeast Region (Version 2.0)" (Regional Supplement). A routine on-site determination was performed as specified in Section D of Chapter IV of the 1987 Delineation Manual. Prior to the delineation survey, the property was walked to identify general topography, drainage patterns, major plant communities, and potential areas of disturbance. Climatic/hydrologic conditions were typical for this time of year.

3.0 RESULTS

Normal circumstances were present at the time of data collection. The most prevalent type of wetland delineated at the Mitigation Site was palustrine emergent (PEM, 14.35 acres) wetlands.

Wetland Delineation Map and Datasheets:



ILF Site (52.687 ac.)

Property Boundary (53.187 ac.)

Ditch

Stream

NWI

PEM (15.11 acres +/-)

PFO (1.46 acres +/-)

upland data point

wetland data point

Feet

0 250 500 1,000

DUCKS UNLIMITED

Table 1. Delineated Wetlands at the Mitigation Site

Wetland Name	Wetland Type	Wetland Acres	Datapoints	Latitude (N)	Longitude (W)
W-1	PEM	6.07	DPW2	42.789273°	-78.117176°
			DPW3	42.789213°	-78.115859°
			DPW4	42.789548°	-78.116079°
W-2	PEM	0.25	DPW1	42.788696°	-78.117350°
W-3	PEM	3.8	DPW5	42.787765°	-78.118007°
			DPW8	42.786634°	-78.119486°
W-4	PEM	3.84	DPW6	42.782356°	-78.120918°
			DPW7	42.783760°	-78.119915°
W-5	PEM	0.18	DPW12	42.783825°	-78.118012°
W-6	PFO	0.49	DPW10	42.783441°	-78.117586°
W-7	PFO	0.67	DPW11	42.779906°	-78.119795°
W-8	PEM	0.21	DPW9	42.781315°	-78.120088°

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/18/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPW1

Investigator(s): P. Raney, J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): base of hill Local relief (concave, convex, none): concave Slope %: 1

Subregion (LRR or MLRA): LRR R Lat: 42.788696° Long: -78.117350° Datum: WGS84

Soil Map Unit Name: Herkimer channery silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: W-2
Wetland Hydrology Present?	Yes X	No ____	

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)

- x Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- x Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- x FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ____	Depth (inches): 2
Water Table Present?	Yes x	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 0

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.

Sampling Point: DPW1

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Typha latifolia*	35	Yes	OBL
2. *Carex comosa*	15	Yes	OBL
3. *Symphyotrichum ericoides*	10	No	FACU
4. *Polygonum ramosissimum*	9	No	FAC
5. *Juncus effusus*	8	No	OBL
6. *Phalaris arundinacea*	8	No	FACW
7. *Solidago rugosa*	8	No	FAC
8. *Epilobium hirsutum*	5	No	FACW
9.			
10.			
11.			
12.			
	98	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	58	x 1 =	58
FACW species	13	x 2 =	26
FAC species	17	x 3 =	51
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	98 (A)		175 (B)

Prevalence Index = B/A = 1.79

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: DPW1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-15	10YR 4/1	95	10YR 4/6	5	C	PL	Loamy/Clayey	
15-24	10YR 4/1	93	10YR 5/6	7	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/18/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPW2

Investigator(s): P. Raney, J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): concave Slope %: 3

Subregion (LRR or MLRA): LRR R Lat: 42.789273° Long: -78.117176° Datum: WGS84

Soil Map Unit Name: Herkimer channery silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: W-1
Wetland Hydrology Present?	Yes X	No ____	

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)

- ___ Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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)
- x FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes x	No ____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 0

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.

Sampling Point: DPW2

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Typha X glauca*	60	Yes	OBL
2. *Phalaris arundinacea*	10	No	FACW
3. *Eupatorium perfoliatum*	6	No	FACW
4. *Juncus effusus*	5	No	OBL
5. *Typha latifolia*	5	No	OBL
6. *Symphyotrichum ericoides*	3	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	89	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	16	x 2 =	32
FAC species	0	x 3 =	0
FACU species	3	x 4 =	12
UPL species	0	x 5 =	0
Column Totals:	89 (A)		114 (B)

Prevalence Index = B/A = 1.28

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: DPW2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 4/1	95	10YR 3/4	5	C	PL	Loamy/Clayey	
11-22	10YR 5/1	95	10YR 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/18/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPW3

Investigator(s): P. Raney, J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): base of hill Local relief (concave, convex, none): concave Slope %: 1

Subregion (LRR or MLRA): LRR R Lat: 42.789213° Long: -78.115859° Datum: WGS84

Soil Map Unit Name: Teel silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No x

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No x	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: W-1
Wetland Hydrology Present?	Yes X	No ____	

Remarks: (Explain alternative procedures here or in a separate report.)
Area was planted to soybeans (Glycine max), most of which had drowned. 45% of the ground was bare earth.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- x Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- x Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- x Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- x Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 0

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.

Sampling Point: DPW3

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Sisymbrium altissimum*	20	Yes	FACU
2. *Symphytum asperum*	15	Yes	UPL
3. *Glycine max*	5	No	UPL
4. *Plantago lanceolata*	3	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	43	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	23	x 4 =	92
UPL species	20	x 5 =	100
Column Totals:	43 (A)		192 (B)

Prevalence Index = B/A = 4.47

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** x

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

SOIL

Sampling Point: DPW3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 4/2	100					Loamy/Clayey	
9-17	10YR 3/3	97	10YR 3/4	3	C	M	Loamy/Clayey	Faint redox concentrations
17-26	10YR 4/1	75	10YR 3/6	25	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ 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)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/18/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPW4

Investigator(s): P. Raney, J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): base of hill Local relief (concave, convex, none): concave Slope %: 2

Subregion (LRR or MLRA): LRR R Lat: 42.789548° Long: -78.116079° Datum: WGS84

Soil Map Unit Name: Teel silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: W-1
Wetland Hydrology Present?	Yes X	No ____	

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)

- ___ Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- x Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- x FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes x	No ____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 0

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.

Sampling Point: DPW4

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Phragmites australis*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: DPW4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 4/1	95	10YR 3/4	5	C	PL	Loamy/Clayey	
11-22	10YR 5/1	95	10YR 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/22/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPW5

Investigator(s): J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): base of hill Local relief (concave, convex, none): concave Slope %: 3

Subregion (LRR or MLRA): LRR R Lat: 42.787765° Long: -78.118007° Datum: WGS84

Soil Map Unit Name: Herkimer channery silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: W-3
Wetland Hydrology Present?	Yes X	No ____	

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)

- ___ Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- x Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- x FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes x	No ____	Depth (inches): 3.5
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 0

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.

Sampling Point: DPW5

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	10	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Symphytum asperum*	70	Yes	UPL
2. *Typha angustifolia*	45	Yes	OBL
3. *Euthamia graminifolia*	25	No	FAC
4. *Plantago lanceolata*	12	No	FACU
5. *Solidago canadensis*	7	No	FACU
6. *Setaria pumila*	3	No	FAC
7. *Rumex crispus*	2	No	FAC
8.			
9.			
10.			
11.			
12.			
	164	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	19	x 4 =	76
UPL species	70	x 5 =	350
Column Totals:	174 (A)		571 (B)

Prevalence Index = B/A = 3.28

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: DPW5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/2	97	10YR 3/6	3	C	PL	Loamy/Clayey	
8-21	10YR 5/2	95	10YR 5/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/22/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPW6

Investigator(s): J. Fraser Section, Township, Range: Town of Warsaw

Landform (hillside, terrace, etc.): toe of road bank Local relief (concave, convex, none): none Slope %: 1

Subregion (LRR or MLRA): LRR R Lat: 42.782356° Long: -78.120918° Datum: WGS84

Soil Map Unit Name: Teel silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes x	No ____	If yes, optional Wetland Site ID: W-4
Wetland Hydrology Present?	Yes X	No ____	

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)

- ___ Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- x Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- x FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes x	No ____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 7

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.

Sampling Point: DPW6

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	40	Yes	FACW
2. *Symphytum asperum*	25	Yes	UPL
3. *Typha angustifolia*	25	Yes	OBL
4. *Lythrum salicaria*	12	No	OBL
5. *Bidens frondosa*	4	No	FACW
6. *Xanthium strumarium*	2	No	FAC
7. *Rumex crispus*	1	No	FAC
8. *Salix*	1	No	
9.			
10.			
11.			
12.			
	110	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	37	x 1 =	37
FACW species	44	x 2 =	88
FAC species	3	x 3 =	9
FACU species	0	x 4 =	0
UPL species	25	x 5 =	125
Column Totals:	109 (A)		259 (B)

Prevalence Index = B/A = 2.38

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: DPW6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	
6-21	10YR 4/2	95	10YR 4/6	5	C	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/22/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPW7

Investigator(s): J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave Slope %: <1

Subregion (LRR or MLRA): LRR R Lat: 42.783760° Long: -78.119915° Datum: WGS84

Soil Map Unit Name: Teel silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: W-4
Wetland Hydrology Present?	Yes X	No ____	

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)

- x Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- x Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- x FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ____	Depth (inches): 3
Water Table Present?	Yes x	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 0

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.

Sampling Point: DPW7

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Eragrostis hypnoides*	70	Yes	OBL
2. *Echinochloa crus-galli*	30	Yes	FAC
3. *Polygonum ramosissimum*	15	No	FAC
4. *Rumex crispus*	4	No	FAC
5. *Bidens frondosa*	2	No	FACW
6. *Lythrum salicaria*	2	No	OBL
7. *Phalaris arundinacea*	2	No	FACW
8.			
9.			
10.			
11.			
12.			
	125	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	72	x 1 =	72
FACW species	4	x 2 =	8
FAC species	49	x 3 =	147
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	125 (A)		227 (B)

Prevalence Index = B/A = 1.82

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: DPW7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	98	10YR 4/4	2	C	PL	Loamy/Clayey	
10-26	10YR 4/2	95	10YR 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/22/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPW8

Investigator(s): J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): base of hill Local relief (concave, convex, none): none Slope %: 2

Subregion (LRR or MLRA): LRR R Lat: 42.786634° Long: -78.119486° Datum: WGS84

Soil Map Unit Name: Herkimer channery silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: W-3
Wetland Hydrology Present?	Yes X	No ____	

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)

- ____ Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ 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)
- x Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- x FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes x	No ____	Depth (inches): 2.5
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 0

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.

Sampling Point: DPW8

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	90	Yes	FACW
2. *Eleocharis obtusa*	80	Yes	OBL
3. *Typha angustifolia*	12	No	OBL
4. *Symphytum asperum*	2	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	184	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	92	x 1 =	92
FACW species	90	x 2 =	180
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	184 (A)		282 (B)

Prevalence Index = B/A = 1.53

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: DPW8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/1	90	10YR 3/6	10	C	PL/M	Loamy/Clayey	
12-20	10YR 4/1	93	10YR 4/6	7	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/26/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPW9

Investigator(s): J. Fraser Section, Township, Range: Town of Warsaw

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope %: 1

Subregion (LRR or MLRA): LRR R Lat: 42.781315° Long: -78.120088° Datum: WGS84

Soil Map Unit Name: Teel silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: W-4
Wetland Hydrology Present?	Yes X	No ____	

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- x FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

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.

Sampling Point: DPW9

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Eragrostis hypnoides*	90	Yes	OBL
2. *Symphytum asperum*	25	No	UPL
3. *Geranium pusillum*	15	No	UPL
4. *Phalaris arundinacea*	5	No	FACW
5. *Rumex crispus*	4	No	FAC
6. *Echinochloa crus-galli*	2	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
	141	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	5	x 2 =	10
FAC species	6	x 3 =	18
FACU species	0	x 4 =	0
UPL species	40	x 5 =	200
Column Totals:	141 (A)		318 (B)

Prevalence Index = B/A = 2.26

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: DPW9

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/2	100					Loamy/Clayey	
8-19	10YR 4/2	98	10YR 4/4	2	C	M	Loamy/Clayey	Distinct redox concentrations
19-21	10YR 4/2	95	10YR 5/4	5	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/25/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPW10

Investigator(s): J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope %: <1

Subregion (LRR or MLRA): LRR R Lat: 42.783441° Long: -78.117586° Datum: WGS84

Soil Map Unit Name: Canadice silty clay loam NWI classification: PFO1C

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 X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: W-6
Wetland Hydrology Present?	Yes X	No ____	

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- x FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

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.

Sampling Point: DPW10

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Yes	FAC
2. *Salix nigra*	20	Yes	OBL
3. *Acer negundo*	15	Yes	FAC
4. *Populus deltoides*	12	No	FAC
5.			
6.			
7.			
	67	=Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Osmundastrum cinnamomeum*	60	Yes	FACW
2. *Alliaria petiolata*	2	No	FACU
3. *Fraxinus pennsylvanica*	2	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	64	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=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: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	62	x 2 =	124
FAC species	47	x 3 =	141
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals:	131 (A)		293 (B)

Prevalence Index = B/A = 2.24

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: DPW10

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	100					Muck	
8-27	7.5YR 3/2	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- X 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ 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)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/26/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPW11

Investigator(s): J. Fraser Section, Township, Range: Town of Warsaw

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope %: <1

Subregion (LRR or MLRA): LRR R Lat: 42.779906° Long: -78.119795° Datum: WGS84

Soil Map Unit Name: Teel silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: W-7
Wetland Hydrology Present?	Yes X	No ____	

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- x FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

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.

Sampling Point: DPW11

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	40	Yes	FAC
2. *Salix nigra*	25	Yes	OBL
3.			
4.			
5.			
6.			
7.			
	65	=Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Osmundastrum cinnamomeum*	75	Yes	FACW
2. *Solidago canadensis*	15	No	FACU
3. *Phalaris arundinacea*	2	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	92	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	77	x 2 =	154
FAC species	40	x 3 =	120
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	157 (A)		359 (B)

Prevalence Index = B/A = 2.29

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: DPW11

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	100					Muck	
8-27	7.5YR 3/2	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- X 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ 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)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/26/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPW12

Investigator(s): J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope %: <1

Subregion (LRR or MLRA): LRR R Lat: 42.783825° Long: -78.118012° Datum: WGS84

Soil Map Unit Name: Teel silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: W-5
Wetland Hydrology Present?	Yes X	No ____	

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- x Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- x FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes x	No ____	Depth (inches): 15.5
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 0

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.

Sampling Point: DPW12

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Bidens frondosa*	20	Yes	FACW
2. *Rumex crispus*	20	Yes	FAC
3. *Setaria pumila*	15	Yes	FAC
4. *Leucanthemum vulgare*	5	No	UPL
5. *Euthamia graminifolia*	4	No	FAC
6. *Xanthium strumarium*	3	No	FAC
7. *Echinochloa crus-galli*	2	No	FAC
8. *Solidago canadensis*	1	No	FACU
9.			
10.			
11.			
12.			
	70	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	44	x 3 =	132
FACU species	1	x 4 =	4
UPL species	5	x 5 =	25
Column Totals:	70 (A)		201 (B)

Prevalence Index = B/A = 2.87

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: DPW12

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 3/1	100					Loamy/Clayey	
10-22	10YR 4/2	97	10YR 4/6	3	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/18/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPU1

Investigator(s): P. Raney, J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 3

Subregion (LRR or MLRA): LRR R Lat: 42.789165° Long: -78.117133° Datum: WGS84

Soil Map Unit Name: Herkimer channery silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes X	No ____	

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ? Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes x	No ____	Depth (inches): 24
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 0

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.

Sampling Point: DPU1

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Trifolium repens*	35	Yes	FACU
2. *Echinochloa crus-galli*	20	Yes	FAC
3. *Rumex crispus*	15	No	FAC
4. *Setaria pumila*	10	No	FAC
5. *Euthamia graminifolia*	5	No	FAC
6. *Phalaris arundinacea*	5	No	FACW
7.			
8.			
9.			
10.			
11.			
12.			
	90	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	50	x 3 =	150
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	90 (A)		300 (B)

Prevalence Index = B/A = 3.33

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: DPU1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/3	100					Loamy/Clayey	
4-7	10YR 4/2	99	10YR 3/4	1	C	PL	Loamy/Clayey	Distinct redox concentrations
7-21	10YR 4/2	90	10YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/22/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPU2

Investigator(s): J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 6

Subregion (LRR or MLRA): LRR R Lat: 42.789227° Long: -78.118358° Datum: WGS84

Soil Map Unit Name: Herkimer channery silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

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: DPU2

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Plantago lanceolata*	70	Yes	FACU
2. *Daucus carota*	15	No	UPL
3. *Setaria pumila*	10	No	FAC
4. *Digitaria sanguinalis*	5	No	FACU
5. *Echinochloa crus-galli*	5	No	FAC
6. *Trifolium pratense*	5	No	FACU
7. *Euthamia graminifolia*	2	No	FAC
8. *Taraxacum officinale*	2	No	FACU
9.			
10.			
11.			
12.			
	114	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	17	x 3 =	51
FACU species	82	x 4 =	328
UPL species	15	x 5 =	75
Column Totals:	114 (A)		454 (B)

Prevalence Index = B/A = 3.98

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: DPU2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/3	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ 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)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/22/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPU3

Investigator(s): J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 8

Subregion (LRR or MLRA): LRR R Lat: 42.788123° Long: -78.118339° Datum: WGS84

Soil Map Unit Name: Herkimer channery silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

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: DPU3

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Plantago lanceolata*	45	Yes	FACU
2. *Setaria pumila*	15	Yes	FAC
3. *Solidago canadensis*	10	No	FACU
4. *Daucus carota*	8	No	UPL
5. *Euthamia graminifolia*	8	No	FAC
6. *Plantago major*	5	No	FACU
7. *Symphytum asperum*	5	No	UPL
8. *Cyperus esculentus*	2	No	FACW
9. *Digitaria sanguinalis*	2	No	FACU
10. *Trifolium pratense*	2	No	FACU
11.			
12.			
	102	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	2	x 2 =	4
FAC species	23	x 3 =	69
FACU species	64	x 4 =	256
UPL species	13	x 5 =	65
Column Totals:	102 (A)		394 (B)

Prevalence Index = B/A = 3.86

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: DPU3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 3/3	100					Loamy/Clayey	
11-20	10YR 5/3	98	10YR 4/6	2	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ 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)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/22/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPU4

Investigator(s): J. Fraser Section, Township, Range: Town of Warsaw

Landform (hillside, terrace, etc.): higher ground Local relief (concave, convex, none): convex Slope %: 3

Subregion (LRR or MLRA): LRR R Lat: 42.780914° Long: -78.120290° Datum: WGS84

Soil Map Unit Name: Teel silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

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: DPU4

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Cirsium arvense*	60	Yes	FACU
2. *Echinochloa crus-galli*	25	Yes	FAC
3. *Ambrosia psilostachya*	10	No	FAC
4. *Setaria pumila*	10	No	FAC
5. *Symphytum asperum*	5	No	UPL
6. *Phalaris arundinacea*	2	No	FACW
7. *Plantago lanceolata*	2	No	FACU
8. *Rumex crispus*	2	No	FAC
9. *Solidago canadensis*	2	No	FACU
10.			
11.			
12.			
	118	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	2	x 2 =	4
FAC species	47	x 3 =	141
FACU species	64	x 4 =	256
UPL species	5	x 5 =	25
Column Totals:	118 (A)		426 (B)

Prevalence Index = B/A = 3.61

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: DPU4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Loamy/Clayey	
16-20	10YR 4/3	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ 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)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/22/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPU5

Investigator(s): J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 4

Subregion (LRR or MLRA): LRR R Lat: 42.783766° Long: -78.120193° Datum: WGS84

Soil Map Unit Name: Herkimer channery silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ? Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes x	No ____	Depth (inches): 19
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 16

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: DPU5

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Trifolium pratense*	55	Yes	FACU
2. *Plantago lanceolata*	30	Yes	FACU
3. *Solidago canadensis*	10	No	FACU
4. *Symphyotrichum ericoides*	4	No	FACU
5. *Ambrosia psilostachya*	2	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	101	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	99	x 4 =	396
UPL species	0	x 5 =	0
Column Totals:	101 (A)		402 (B)

Prevalence Index = B/A = 3.98

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: DPU5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	100					Loamy/Clayey	
10-21	10YR 4/2	97	10YR 4/4	3	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/22/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPU6

Investigator(s): J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 6

Subregion (LRR or MLRA): LRR R Lat: 42.786655° Long: -78.119709° Datum: WGS84

Soil Map Unit Name: Herkimer channery silt loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

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: DPU6

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Plantago lanceolata*	80	Yes	FACU
2. *Trifolium pratense*	45	Yes	FACU
3. *Setaria pumila*	10	No	FAC
4. *Symphytum asperum*	4	No	UPL
5. *Cichorium intybus*	2	No	FACU
6. *Euthamia graminifolia*	2	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
	143	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	12	x 3 =	36
FACU species	127	x 4 =	508
UPL species	4	x 5 =	20
Column Totals:	143 (A)		564 (B)

Prevalence Index = B/A = 3.94

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: DPU6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 4/3	100					Loamy/Clayey	
7-21	10YR 5/2	98	10YR 4/4	2	C	M	Sandy	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ 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)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Oatka Creek City/County: Wyoming County Sampling Date: 10/26/18

Applicant/Owner: Ducks Unlimited State: NY Sampling Point: DPU7

Investigator(s): J. Fraser Section, Township, Range: Town of Middlebury

Landform (hillside, terrace, etc.): higher ground Local relief (concave, convex, none): convex Slope %: 3

Subregion (LRR or MLRA): LRR R Lat: 42.783789° Long: -78.117844° Datum: WGS84

Soil Map Unit Name: Teel silt loam NWI classification: PFO1C

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 X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

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)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

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: DPU7

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

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Cirsium arvense*	50	Yes	FACU
2. *Ambrosia psilostachya*	20	Yes	FAC
3. *Symphytum asperum*	15	Yes	UPL
4. *Taraxacum officinale*	15	Yes	FACU
5. *Plantago major*	12	No	FACU
6. *Setaria pumila*	10	No	FAC
7. *Trifolium pratense*	6	No	FACU
8. *Medicago sativa*	5	No	UPL
9. *Bidens frondosa*	4	No	FACW
10. *Plantago lanceolata*	3	No	FACU
11. *Rumex crispus*	2	No	FAC
12. *Polygonum ramosissimum*	1	No	FAC
	144	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	4	x 2 =	8
FAC species	33	x 3 =	99
FACU species	87	x 4 =	348
UPL species	20	x 5 =	100
Column Totals:	144 (A)		555 (B)

Prevalence Index = B/A = 3.85

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

VEGETATION Continued – Use scientific names of plants. Sampling Point: DPU7

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
8.			
9.			
10.			
11.			
12.			
13.			
14.			
		=Total Cover	
Sapling/Shrub Stratum			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
		=Total Cover	
Herb Stratum			
13. *Solidago canadensis*	1	No	FACU
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
	144	=Total Cover	
Woody Vine Stratum			
5.			
6.			
7.			
8.			
		=Total Cover	

Definitions of Vegetation Strata:

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

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

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

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

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

SOIL

Sampling Point: DPU7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-21	10YR 3/3	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ 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)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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 (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Wetland Datpoints

DPW1. Emergent wetland W-2 was dominated by broadleaf cattail (*Typha latifolia*) and bristly sedge (*Carex comosa*). Primary hydrology indicators included surface water, a high-water table, saturation, and oxidized rhizospheres on living roots. A depleted matrix was the hydric soil indicator.

DPW2. This portion of emergent wetland W-1 was dominated by hybrid cattail (Typha X glauca). Primary hydrology indicators included a high-water table, saturation, and oxidized rhizospheres on living roots. A depleted matrix was the hydric soil indicator.

DPW3. This portion of emergent wetland W-1 was dominated by tall hedge-mustard (*Sisymbrium altissimum*) FACU and prickly comfrey (Symphytum asperum) UPL. Vegetation here is significantly disturbed. This area was planted to soybeans in 2018, most of which flooded. Hydrology indicators included saturation to the surface and a sparsely vegetated concave surface. Hydric soil indicators also were absent within the plow layer due to the disturbance from recent tillage in this part of the wetland.

DPW4. This portion of emergent wetland W-1 was dominated by common reed (*Phragmites australis*). Primary hydrology indicators included a high-water table, saturation, and oxidized rhizospheres on living roots. A depleted matrix was the hydric soil indicator.

DPW5. This portion of emergent wetland W-3 was dominated by prickly comfrey (*Symphytum asperum*) and narrow-leaved cattail (*Typha angustifolia*). Primary hydrology indicators included a high-water table, saturation, and oxidized rhizospheres on living roots. A depleted matrix was the hydric soil indicator.

DPW6. This portion of emergent wetland W-4 was dominated by reed canary grass (*Phalaris arundinacea*), prickly comfrey (*Symphytum asperum*), and narrow-leaved cattail (*Typha angustifolia*). Primary hydrology indicators included a high-water table and saturation. Depleted below dark surface and a depleted matrix were the hydric soil indicators.

DPW7. This portion of emergent wetland W-4 was dominated by teal love grass (*Eragrostis hypnoides*) and large barnyard grass (*Echinochloa crus-galli*). Primary hydrology indicators included surface water, a high-water table, saturation, and oxidized rhizospheres on living roots. A depleted matrix was the hydric soil indicator.

DPW8. This portion of emergent wetland W-3 was dominated by reed canary grass (*Phalaris arundinacea*) and blunt spikerush (*Eleocharis obtusa*). Primary hydrology indicators included a high-water table, saturation, and oxidized rhizospheres on living roots. A depleted matrix was the hydric soil indicator.

DPW9. Emergent wetland W-8 was dominated by teal love grass (*Eragrostis hypnoides*). Secondary hydrology indicators included geomorphic position and FAC-neutral test. A depleted matrix was the hydric soil indicator.

DPW10. Forested wetland W-6 was dominated by red maple (*Acer rubrum*), black willow (*Salix nigra*), and boxelder (*Acer negundo*). Understory included cinnamon fern (*Osmundastrum cinnamomeum*). Secondary hydrology indicators included geomorphic position and FAC-neutral test. Histic epipedon and black histic were the hydric soil indicators.

DPW11. Forested wetland W-7 was dominated by boxelder (*Acer negundo*) and black willow (*Salix nigra*). Understory included cinnamon fern (*Osmundastrum cinnamomeum*). Secondary hydrology indicators included geomorphic position and FAC-neutral test. Histic epipedon and black histic were the hydric soil indicators.

DPW12. Emergent wetland W-5 was dominated by devil's-pitchfork (*Bidens frondosa*), curly dock (*Rumex crispus*), and yellow bristle grass (*Setaria pumila*). Saturation was the primary hydrology indicator. Hydric soil indicators included depleted below dark surface and a depleted matrix.

Upland Datapoints

DPU1. This area was dominated by white clover (*Trifolium repens*) and large barnyard grass (*Echinochloa crus-galli*).

DPU2. This area was dominated by English plantain (*Plantago lanceolata*).

DPU3. This area was dominated by English plantain (*Plantago lanceolata*) and yellow bristle grass (*Setaria pumila*).

DPU4. This area was dominated by Canada thistle (*Cirsium arvense*) and large barnyard grass (*Echinochloa crus-galli*).

DPU5. This area was dominated by red clover (*Trifolium pratense*) and English plantain (*Plantago lanceolata*).

DPU6. This area was dominated by English plantain (*Plantago lanceolata*) and red clover (*Trifolium pratense*).

DPU7. This area was dominated by Canadian thistle (*Cirsium arvense*), perennial ragweed (*Ambrosia psilostachya*), prickly comfrey (*Symphytum asperum*), and common dandelion (*Taraxacum officinale*).

Streams and Linear Aquatic Resource Features

Oatka Creek along the eastern boundary of the mitigation site. It is approximately 4 feet wide and 10 inches deep. It is approximately 20 feet wide and 4 feet deep.

The northernmost of three ditches flowing eastward towards Oatka Creek. This wooded ditch divides two fields

The middle in a series of three ditches flowing eastward towards Oatka Creek. This ditch bisects wetland W-4. It is approximately 2 feet wide and 8 inches deep.

The southernmost of three ditches flowing eastward towards Oatka Creek. This ditch bisects wetland W-4. It is approximately 3.5 feet wide and 1 foot deep.

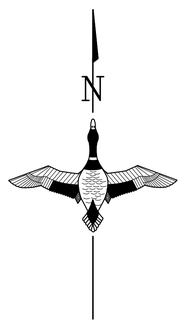
Road ditch that flows to the north along the southwestern edge of wetland W-4. It is approximately 5 feet wide and 2 feet deep. It is dominated by cattails, this ditch lies outside of the WAT-owned parcel.

DUCKS UNLIMITED

PROJECT

OATKA CREEK ILF MITIGATION SITE

LOWER GENESEE RIVER SERVICE AREA
WYOMING COUNTY, NEW YORK



PROJECT LOCATION
(LAT: 42° 47' 11"N, LON: 78° 7' 11"W)

SHEET INDEX

1. COVER SHEET
2. SPECIFICATIONS & NOTES
3. WETLAND DELINEATION
4. OVERALL SITE PLAN
5. SITE PLAN FIELD 1
6. SITE PLAN FIELD 2
7. SITE PLAN FIELD 3
8. SITE PLAN FIELD 4
9. PLAN AND PROFILE FOR LOW BERM AREA
10. EROSION AND SEDIMENT CONTROL PLAN
11. CONSTRUCTION DETAILS
12. PLANTING PLAN
13. CREDIT GENERATION PLAN
14. MONITORING PLAN

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COVER SHEET
OATKA CREEK ILF
MITIGATION SITE
TOWN OF WARSAW
WYOMING CO., NEW YORK

Revision	Sheet	Revisions	Date	By

CAD FILE: NY-224-2 Cover
DESIGNED BY: PR
DRAWN BY: NB
SURVEYED BY: GB & JP
BIOLOGIST: PR
DATE: 11-22-19
PROJECT NUMBER: US-US-224-2
GLARO-NY2-069-1

G:\TMProj\DU\Oatka Creek\Working CADD Files\NY-224-2 Cover.dwg, 11/21/2019 10:45 AM, Baxter, Nick, Cover, None

ESTIMATED QUANTITIES

SPEC. #	ITEM	UNIT	QUANTITY
201	MOBILIZATION	LS	1
202	SITE PREPARATION	CY-P	499
204	LOW BERM CONSTRUCTION	CY-P	514
205	DITCH PLUGS	CY-P	25
312	TILE EXPLORATION	LF-EXP	1100
312	TILE REMOVAL	LF	280
401	SOIL EROSION AND POLLUTION CONTROL	LS	1
402	SEEDING AND MULCHING- STANDARD UPLAND SEED MIX	AC-P	39
403	PLANTING PREPARATION- HEAVY DISKING	AC-P	39

SEED MIXES/ TREE PLANTINGS

Target Area	Common Name	Scientific Name	Wetland Indicator Status	Propagule Type	Quantity/Acre
All Wetland Areas	fox sedge	*Carex vulpinoidea*	OBL	seed mix	*20 lbs seed mixture/acre in PEM areas*
	shallow sedge	*Carex lurida*	OBL		
	hop sedge	*Carex lupulina*	OBL		
	fringed sedge	*Carex crinita*	OBL		
	bristly sedge	*Carex comosa*	OBL		
	rice cutgrass	*Leersia oryzoides*	OBL		
	green bulrush	*Scirpus atrovirens*	OBL		
	swamp smartweed	*Polygonum hydropiperoides*	FACW		*15 lbs seed mixture/acre in PSS and PFO areas*
	spotted Joe pye weed	*Eutrochium maculatum*	OBL		
	nodding beggartick	*Bidens cernua*	FACW		
	soft rush	*Juncus effusus*	OBL		
PSS	red osier dogwood	*Cornus sericea*	FACW	bare root/potted	*sum to $\geq$ 500 stems / acre*
	silky dogwood	*Cornus amomum*	FACW		
	buttonbush	*Cephalanthus occidentalis*	OBL		
	black willow	*Salix nigra*	OBL		
PFO	red maple	*Acer rubrum*	FAC	bare root/potted	*sum to $\geq$ 500 stems / acre*
	silver maple	*Acer saccharinum*	FACW		
	red osier dogwood	*Cornus sericea*	FACW		
	silky dogwood	*Cornus amomum*	FACW		
	American sycamore	*Platanus occidentalis*	FACW		
	swamp white oak	*Quercus bicolor*	FACW		
	black willow	*Salix nigra*	OBL		
Upland Buffer	red maple	*Acer rubrum*	FAC	bare root/potted	sum to $\geq$500 stems/ acre
	American Basswood	*Tilia americana*	FACU		
	white oak	*Quercus alba*	FACU		
	shagbark hickory	*Carya ovata*	FACU		
Low Berm	creeping red fescue	*Festuca rubra*	FACU	seed mix	*48 lbs seed mixture/acre*
	perennial ryegrass	*Lolium perenne*	FACU		
	annual ryegrass	*Lolium multiflorum*	FACU		
	birdsfoot trefoil	*Lotus corniculatus*	FACU		

NOTES:

1. PLANTING OF WETLAND AND UPLAND TREES AND SHRUBS WILL BE INCLUDED IN A SEPARATE CONTRACT.
2. PLANTINGS FOR PSS, PFO, AND UPLAND BUFFER WILL BE AT LEAST 18 INCHES IN HEIGHT. SEEDLINGS WILL BE A MIXTURE OF BARE ROOT PLANTS (75%) AND POTTED (25%).

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CONSTRUCTION NOTES:

1. BID ITEMS INCLUDED IN THE TABLE ARE DESCRIBED IN DETAIL IN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WETLAND RESTORATION, PROVIDED WITH THE BID DOCUMENTS. CONSTRUCTION NOTES HEREIN ARE NOT ALL INCLUSIVE; REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. ELEVATIONS PROVIDED IN THESE PLANS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88),FEET.
3. HORIZONTAL COORDINATES PROVIDED IN THESE PLANS ARE REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83), U.S. SURVEY FEET.
4. CONTRACTOR SHALL UTILIZE SAME VERTICAL AND HORIZONTAL COORDINATE SYSTEMS AS REFERENCED IN THE PLANS.
5. BID ITEM FOR MOBILIZATION SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL AND EQUIPMENT TO TRANSPORT ALL NEEDED LABOR, MATERIAL, AND EQUIPMENT TO AND FROM THE PROJECT SITE TO SUCCESSFULLY COMPLETE THE PROJECT AS SHOWN ON THE PLANS OR AS DESCRIBED BY THE ENGINEER. REFER TO MOBILIZATION SPECIFICATION 201. TRAFFIC MAINTENANCE AND CONTROL (SPECIFICATION 404) SHALL ALSO BE INCIDENTAL TO THIS LINE ITEM. PAYMENT FOR THIS LINE ITEM WILL BE BASED ON THE PAY QUANTITY LISTED ON THIS SHEET.
6. BID ITEM FOR SITE PREPARATION SHALL INCLUDE STRIPPING BENEATH EMBANKMENT AREA, DITCH PLUGS, AND SCRAPE/BORROW AREA. TOPSOIL SHALL BE TEMPORARILY STOCKPILED THEN REPLACED OVER COMPLETED EMBANKMENT, DITCH PLUG, AND SCRAPE/BORROW AREA. BID ITEM SHALL ALSO INCLUDE ANY TREE/BRUSH CLEARING WITHIN CONSTRUCTION AREA. REFER TO SITE PREPARATION SPECIFICATION 202. PAYMENT FOR THIS LINE ITEM WILL BE BASED ON THE PAY QUANTITY LISTED ON THIS SHEET.
7. BID ITEM FOR LOW BERM CONSTRUCTION SHALL INCLUDE ALL WORK REQUIRED TO EXCAVATE, HAUL, PLACE, AND COMPACT FILL MATERIAL AND PLACE TOPSOIL, TO THE LINES AND GRADES DEPICTED ON THE PLANS AND AS DETAILED ON DRAWING 9. MATERIAL SHALL BE PLACED AND COMPACTED IN LIFTS NOT EXCEEDING 8 INCHES IN ACCORDANCE WITH SPECIFICATION 204.
8. BID ITEM FOR DITCH PLUGS SHALL INCLUDE ALL WORK REQUIRED TO CONSTRUCT THE SOIL PLUGS DEPICTED ON DRAWINGS 5,7, AND 8. WORK REQUIRES PLACEMENT AND GRADING OF EXCAVATED SOIL MATERIAL FROM THE BORROW AREA AND PLACEMENT OF TOPSOIL TO THE LINES AND GRADES DEPICTED ON DRAWING 11. MATERIAL SHALL BE PLACED AND COMPACTED IN LIFTS NOT EXCEEDING 8 INCHES IN ACCORDANCE WITH SPECIFICATION SECTION 204.
9. THE TILE EXPLORATION BID ITEM IS FOR THE EXPLORATION OF EXISTING TILES (SPECIFICATION 312). EXCAVATION SHALL BE PERFORMED AS SHOWN ON THE PLANS, AND ALL TILES FOUND SHALL BE REPORTED TO THE ENGINEER BY THE CONTRACTOR. EXPLORATION EXCAVATIONS SHALL BE BACKFILLED WITH ORIGINAL SOILS AND COMPACTED FIRM AFTER EXPLORATION. THE PAYMENT FOR THIS LINE ITEM IS BASED ON LINEAR FEET OF EXPLORATION CONDUCTED.
10. THE TILE REMOVAL BID ITEM IS FOR THE REMOVAL OF EXISTING TILES (SPECIFICATION 312). REMOVAL OF TILE SHALL ABIDE BY SPECIFICATION 312.23. ALL TILE MATERIAL SHALL BE HANDLED AND/OR REMOVED IN ACCORDANCE WITH SPECIFICATION 312.24. THE PAYMENT FOR THIS LINE ITEM IS BASED ON LINEAR FEET OF TILE REMOVED; DUCKS UNLIMITED WILL PAY FOR ACTUAL LINEAR FEET OF TILE REMOVED.
11. THE BID ITEM FOR SOIL EROSION AND POLLUTION CONTROL SHALL INCLUDE THE SUPPLY, INSTALLATION, AND MAINTENANCE OF THE EROSION AND SEDIMENT CONTROLS SHOWN AND DESCRIBED ON THE DESIGN DRAWINGS AND ANY ADDITIONAL CONTROLS NEEDED TO MAINTAIN COMPLIANCE WITH NEW YORK STATE REGULATIONS UNTIL VEGETATION IS FULLY ESTABLISHED INCLUDING BUT NOT LIMITED TO EROSION CONTROL MATTING, REPAIR OF ANY DAMAGES RESULTING FROM EROSION OR SEDIMENTATION DURING THIS TIME PERIOD, AND REMOVAL AND PROPER DISPOSAL OF TEMPORARY EROSION AND SEDIMENT CONTROLS IMMEDIATELY FOLLOWING FULL VEGETATIVE ESTABLISHMENT. EXACT LOCATION AND QUANTITY MAY VARY DEPENDING UPON ACTUAL SITE CONDITIONS. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF WORK AND WILL BE MAINTAINED UNTIL FINAL STABILIZATION OF THE SITE. THE CONTRACTOR SHALL BID A LUMP SUM FOR SOIL EROSION AND POLLUTION CONTROL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL, INSPECT AND MAINTAIN ALL BEST MANAGEMENT PRACTICES REQUIRED TO PREVENT SILT AND POLLUTION RUNOFF FROM THE WORK AREA. THE CONTRACTOR SHALL PREPARE AND MAINTAIN ON-SITE ALL REQUIRED INSPECTION FORMS AND UP-TO-DATE DOCUMENTATION ACCORDING TO THE PERMIT REGULATIONS. PAYMENT FOR THIS LINE ITEM WILL BE BASED ON THE PAY QUANTITY LISTED ON THIS SHEET.
12. BID ITEM SEEDING AND MULCHING THE "STANDARD UPLAND SEED MIX" (THE EMBANKMENT, DITCH PLUGS, PROPOSED BORROW AREAS, AND TEMPORARY ACCESS LOCATIONS) SHALL INCLUDE THE MATERIAL, EQUIPMENT, AND LABOR REQUIRED TO LEVEL AND PREPARE TOPSOIL FOR SEEDING AND MULCHING MATERIAL AND APPLICATION OF SEED, MULCH AND FERTILIZER/LIME AS REQUIRED BY THE DESIGN DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHMENT OF A UNIFORM, PERENNIAL VEGETATIVE COVER WITH A DENSITY OF EIGHTY (80) PERCENT, INCLUDING RESEEDING, REMULCHING, AND/OR RE-FERTILIZING OF BARE AREAS, AS NEEDED. APPROVED MULCH SHALL BE APPLIED TO ALL AREAS SEEDED AS DIRECTED BY THE DU FIELD ENGINEER. REFER TO DU SPECIFICATION 402. PAYMENT WILL BE BASED ON PLANNED ACRES.
13. BID ITEM FOR PLANTING PREPARATION - HEAVY DISKING SHALL INCLUDE THE MATERIAL, EQUIPMENT, AND LABOR REQUIRED TO TILL THE WETLAND AREAS EXCLUDING THE EARTHEN BERM AND DITCH PLUGS. REFER TO THE PLANTING PLAN (DRAWING 12) FOR ADDITIONAL NOTES, REQUIREMENTS, AND SPECIFIED AREAS. PAYMENT WILL BE BASED ON PLANNED ACRES.
14. DEWATERING AND WATER MANAGEMENT IS THE CONTRACTOR'S RESPONSIBILITY, AND IS CONSIDERED INCIDENTAL TO THE PROJECT.
15. INVASIVE SPECIES ERADICATION TO BE COMPLETED BY OTHERS IN SEPARATE CONTRACT.

SPECIFICATIONS

101 GENERAL CONDITIONS
102 SUPPLEMENTAL CONDITIONS
201 MOBILIZATION
202 SITE PREPARATION
204 EMBANKMENT CONSTRUCTION
205 CONSTRUCTED TOPOGRAPHY
206 WATER
312 TILE DRAIN LOCATION AND REMOVAL
401 SOIL EROSION AND POLLUTION CONTROL
402 SEEDING AND MULCHING
403 PLANTING PREPARATION- HEAVY DISKING
404 TRAFFIC MAINTENANCE AND CONTROL

SEQUENCE OF CONSTRUCTION:

1. HOLD PRE-CONSTRUCTION MEETING.
2. NOTIFY SEDIMENT CONTROL INSPECTOR 24 HOURS PRIOR TO START OF CONSTRUCTION.
3. INSTALL STABILIZED CONSTRUCTION ACCESS.
4. PERFORM GRUBBING REQUIRED FOR INSTALLATION OF PERIMETER CONTROLS.
5. INSTALL PERIMETER CONTROLS, NOTIFY SEDIMENT CONTROL INSPECTOR, AND OBTAIN APPROVAL BEFORE PROCEEDING FURTHER.
6. PERFORM SITE PREPARATION WORK AND CLEARING, STOCKPILE TOPSOIL TO BE USED LATER.
7. COMPLETE TILE EXPLORATION AND REMOVE DRAINAGE TILES WHERE ENCOUNTERED.
8. COMPLETE CONSTRUCTION OF LOW BERM AND DITCH PLUGS UTILIZING MATERIAL FROM DESIGNATED BORROW AREAS.
9. SPREAD TOPSOIL BACK ACROSS ALL DISTURBED AREAS.
10. COMPLETE WETLAND AREA SEEDING PREPARATION, STANDARD UPLAND SEED MIX PLANTING AND STABILIZATION
11. NOTIFY SEDIMENT CONTROL INSPECTOR AFTER COMPLETION OF PLANTING AND STABILIZATION. OBTAIN APPROVAL TO REMOVE TEMPORARY SEDIMENT AND EROSION CONTROLS FOR PROJECT AFTER ESTABLISHMENT OF AT LEAST 80% UNIFORM DENSITY OF PERMANENT VEGETATION.
12. CONTRACTOR WILL REMOVE ALL TEMPORARY EROSION CONTROL MEASURES UPON APPROVAL FROM DESIGNATED INSPECTOR.

NOTES:

NOTIFY THE ENGINEER IMMEDIATELY OF ANY SEDIMENT AND EROSION CONTROL CONCERNS THAT ARISE (E.G., INADEQUATE MEASURES, DAMAGED MEASURES, MAJOR STORM EVENTS, OFF-SITE EROSION OR SEDIMENTATION POTENTIALLY ASSOCIATED WITH SITE ACTIVITIES).

SURVEY CONTROL DATA

POINT #	NORTHING	EASTING	ELEVATION (FT)	TYPE
50	1016291.31	1272851.29	996.70	CAPPED REBAR
51	1016147.99	1272816.22	992.33	CAPPED REBAR
56	1014466.94	1272227.99	969.46	X IN CONCRETE
57	1013404.09	1272227.99	970.92	X IN CONCRETE

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Professional Engineer's No.: .
State: NY

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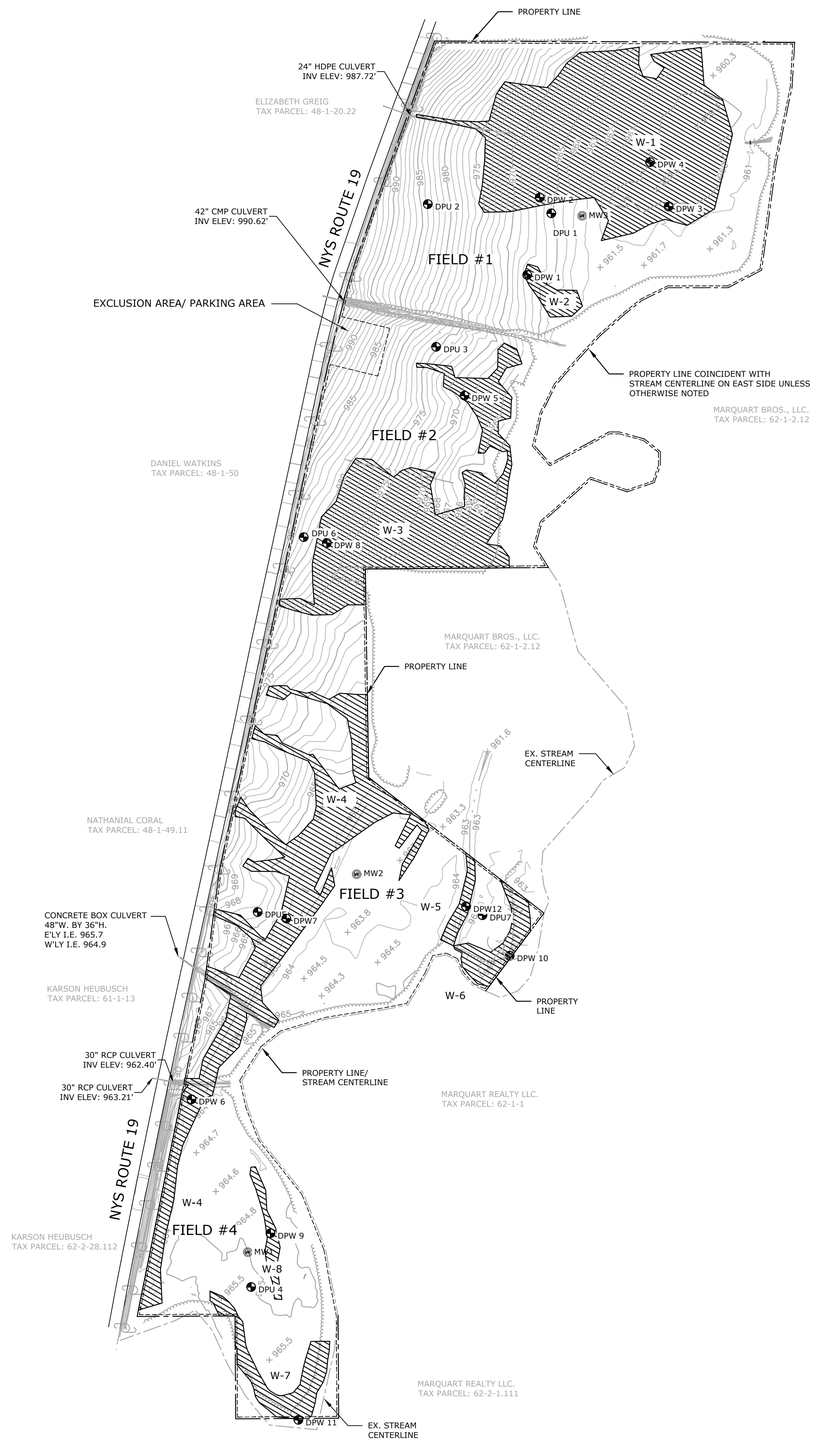
SPECIFICATIONS & NOTES
OATKA CREEK ILF
MITIGATION SITE
TOWN OF WARSAW
WYOMING CO., NEW YORK

Revision	Sheet	Revisions	Date	By

CAD FILE: NY-224-2 Cover
DESIGNED BY: PR
DRAWN BY: NB
SURVEYED BY: GB & JP
BIOLOGIST: PR
DATE: 11-22-19
PROJECT NUMBER: US-US-224-2
GLARO-NY2-069-2

G:\TMPro\DU\Oatka Creek\Working CADD Files\NY-224-2 Cover.dwg, 11/25/2019 12:06 PM, Baxter, Nick, Specifications, None



WETLAND INVENTORY TABLE		
WETLAND NAME	WETLAND TYPE	WETLAND (ACRES)
W-1	PEM	6.36
W-2	PEM	0.25
W-3	PEM	3.99
W-4	PEM	3.89
W-5	PEM	0.18
W-6	PFO	0.46
W-7	PFO	0.66
W-8	PEM	0.21

NOTES:
1. SEE DRAWING 4 FOR ADDITIONAL BASEMAP INFORMATION.
2. WETLAND DELINEATION PERFORMED BY DUCKS UNLIMITED MAY 2019.

N

GRAPHIC SCALE

200 0 100 200 400 800

1 inch = 200feet

LEGEND

- EXISTING DITCH ℄
- EXISTING SPOT ELEVATION
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING TREE LINE
- EDGE OF PAVEMENT
- PROPERTY LINE
- CONSERVATION EASEMENT BOUNDARY (COINCIDENT WITH PROPERTY LINE EXCEPT AT EXCLUSION AREA)
- EXISTING STREAM CENTERLINE
- EXISTING OVERHEAD ELECTRIC
- UTILITY POLE
- EXISTING GUY WIRE
- EXISTING BENCHMARK
- EXISTING MONITORING WELL
- FOUND PROPERTY CORNER
- SURVEY CONTROL
- DPU UPLAND DATAPOINT
- DPW WETLAND DELINEATION DATAPOINT
- EXISTING DELINEATED WETLAND

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TOWN OF WARSAW
WYOMING CO., NEW YORK

Revision	Sheet	Revisions	Date	By
1	3	WETLAND #1 BOUNDARY	07/19/2019	GB

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SOIL BORINGS

SOIL BORING # DPW1 ELEV. 966.4

0 TO 15" SILTY CLAY
15-24" CLAY
WATER PRESENT AT THE SURFACE.

SOIL BORING # DPW2 ELEV. 966.6

0-11" SILTY CLAY
11-22" CLAY
WATER TABLE AT 4"

SOIL BORING # DPW3 ELEV. 960.22

0-17" SILTY CLAY LOAM
17-26" BORING TERMINATED AT 26"
WATER TABLE NOT SEEN

SOIL BORING # DPW4 ELEV. 960.0

0-10" CLAY
10-20" BORING TERMINATED AT 20"
WATER TABLE AT 15"

SOIL BORING # DPW5 ELEV. 969.0

0-8" CLAY
8-21" SANDY CLAY
WATER TABLE AT 3.5"

SOIL BORING # DPW6 ELEV. 964.0

0-6" SILTY CLAY
6-21" CLAY
WATER TABLE AT 10"

SOIL BORING # DPW7 ELEV. 963.1

0-10" SILTY CLAY LOAM
10-26" SILTY CLAY
WATER TABLE AT SURFACE

SOIL BORING # DPW8 ELEV. 978.0
0-20" SILTY CLAY
WATER TABLE AT SURFACE

SOIL BORING # DPW9 ELEV. 964.3

0-8" SILTY CLAY
8-21" SILTY CLAY LOAM
WATER TABLE AT 18"

SOIL BORING # DPW10 ELEV. 963.9
0-27" SILTY CLAY LOAM
WATER TABLE NOT SEEN

SOIL BORING # DPW11 ELEV. 965.5

0-24" SILTY CLAY LOAM
WATER TABLE NOT SEEN

SOIL BORING # DPW12 ELEV. 962.7
0-10" SILTY CLAY
10-22" SILTY CLAY LOAM
WATER TABLE AT 15.5"

SOIL BORING # DPU1 ELEV. 965.2

0-21" SILTY CLAY
WATER TABLE AT 24"

SOIL BORING # DPU2 ELEV. 983.8
0-20" CLAY LOAM
WATER TABLE NOT SEEN

SOIL BORING # DPU3 ELEV. 975.4
0-11" CLAY
11-20" SANDY CLAY LOAM
WATER TABLE NOT SEEN

SOIL BORING # DPU4 ELEV. 965.2

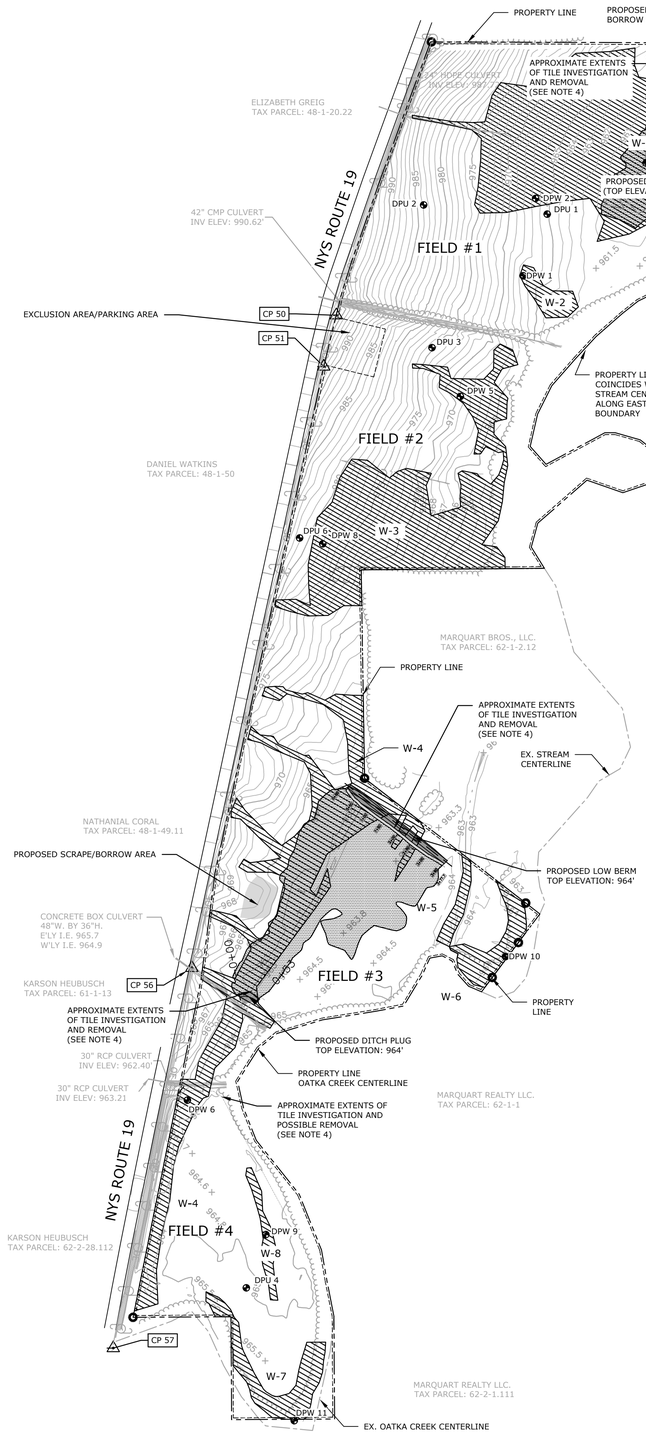
0-20" SILTY CLAY LOAM
WATER TABLE NOT SEEN

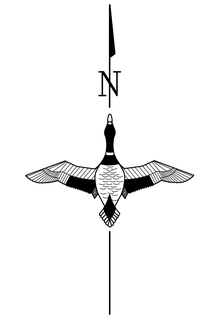
SOIL BORING # DPU5 ELEV. 966.5
0-10" CLAY LOAM
10-21" SILTY CLAY
WATER TABLE AT 19"

SOIL BORING # DPU6 ELEV. 981.2
0-7" SILTY CLAY LOAM
7-21" SANDY LOAM
WATER TABLE NOT SEEN

SOIL BORING # DPU7 ELEV. 964.2
0-21" SILTY CLAY LOAM
WATER TABLE NOT SEEN

BORINGS WERE PROGRESSED BETWEEN OCTOBER 18TH AND 26TH 2018 WITH A HAND AUGER. MATERIAL CLASSIFICATIONS AND OBSERVATIONS WERE MADE DURING THE SUBSURFACE EXPLORATION AT THE SITE AND ARE NOT BASED ON LABORATORY TEST DATA. CONDITIONS BETWEEN LOCATIONS EXPLORED MAY DIFFER FROM THE CONDITIONS DESCRIBED ON THESE PLANS.





LEGEND

- EXISTING DITCH
- EXISTING SPOT ELEVATION
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING TREE LINE
- EDGE OF PAVEMENT
- EXISTING ROAD
- APPROXIMATE PROPERTY LINE
- CONSERVATION EASEMENT BOUNDARY (COINCIDENT WITH PROPERTY LINE EXCEPT AT EXCLUSION AREA)
- EXISTING STREAM CENTERLINE
- EXISTING OVERHEAD ELECTRIC
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- DPU UPLAND DATAPOINT
- DPW WETLAND DELINEATION DATAPOINT
- EXISTING PROPERTY CORNER
- EXISTING SURVEY CONTROL
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED FULL SERVICE LEVEL (FSL)
- PROPOSED SCRAPE/BORROW AREA
- PROPOSED LOW BERM OR DITCH PLUG
- EXISTING DELINEATED WETLAND

Notes:

1. FIELD SURVEY PERFORMED BY DUCKS UNLIMITED ON DECEMBER 3RD THROUGH THE 5TH, 2018. SURVEY WAS COLLECTED USING TRIMBLE R10 GPS RECEIVERS BY RTK METHOD. ALL SURVEY SHOWN HEREIN WAS OBTAINED UTILIZING FIXED HEIGHT STAFFS.
2. HORIZONTAL DATUM IS NAD83 NEW YORK STATE PLANE COORDINATES, WEST ZONE, US SURVEY FEET. VERTICAL DATUM IS NORTH AMERICA VERTICAL DATUM 1988 (NAVD88). SITE CONTROL ESTABLISHED WITH NYSNET REALTIME NETWORK AND VERIFIED WITH ONLINE POSITIONING USER SERVICE (OPUS).
3. PROPERTY LINE BASED ON BOUNDARY RETRACEMENT SURVEY BY ECO STRATEGIES ENGINEERING AND SURVEYING DATED 5/14/2018.
4. TILE LOCATION BASED ON FIELD OBSERVATION AND IS APPROXIMATE ONLY. CONTRACTOR TO VERIFY TILE LOCATION AT THE TIME OF CONSTRUCTION BASED ON FIELD OBSERVATION BY DU.

GRAPHIC SCALE

200 0 100 200 400 800

1 inch = 200feet

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DUCKS UNLIMITED

OVERALL SITE PLAN
OATKA CREEK ILF
MITIGATION SITE
TOWN OF WARSAW
WYOMING CO., NEW YORK

By	Date	Revisions	Sheet	Revision

CAD FILE: NY-224-2 OVERALL_SITE_PLAN
DESIGNED BY: PR
DRAWN BY: NB
SURVEYED BY: GB & JP
BIOLOGIST: PR
DATE: 11-22-19
PROJECT NUMBER: US-US-224-2
GLARO-NY2-069-4

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G:\TMProj\DU\Oatka Creek\Working CADD Files\NY-224-2 OVERALL_SITE_PLAN.dwg, 11/25/2019 12:25 PM, Baxter, Nick, Overall Site Plan (PERMIT), None

LEGEND

- EXISTING DITCH
- EXISTING SPOT ELEVATION
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING TREE LINE
- EDGE OF PAVEMENT
- EXISTING ROAD
- APPROXIMATE PROPERTY LINE
- CONSERVATION EASEMENT BOUNDARY (COINCIDENT WITH PROPERTY LINE EXCEPT AT EXCLUSION AREA)
- EXISTING STREAM CENTERLINE
- OE EXISTING OVERHEAD ELECTRIC
- ST EXISTING STORM SEWER
- EXISTING GUY WIRE
- MW-1 EXISTING WELL
- FOUND PROPERTY CORNER
- SURVEY CONTROL
- EXISTING UTILITY POLE
- PROPOSED DIKE
- PROPOSED CHANNEL/DITCH
- (000) PROPOSED MAJOR CONTOUR
- (000) PROPOSED MINOR CONTOUR
- EXISTING DELINEATED WETLAND
- PROPOSED LOW BERM OR DITCH PLUG
- PROPOSED FULL SERVICE LEVEL (FSL)
- PROPOSED SCRAPE/BORROW AREA (SEE NOTE 3)

NOTES:

1. REFER TO THE OVERALL SITE PLAN FOR ADDITIONAL BASEMAP INFORMATION.
2. REFER TO DRAWING 11 FOR DITCH PLUG DETAILS.

GRAPHIC SCALE

50 0 25 50 100 200

1 inch = 50 feet

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Professional Engineer's No.	State NY		

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SITE PLAN FIELD 1
OATKA CREEK ILF
MITIGATION SITE
TOWN OF WARSAW
WYOMING CO., NEW YORK

Revision	Sheet	Revisions	Date	By

CAD FILE: Site Plan 1,2,3,4

DESIGNED BY: PR

DRAWN BY: NB

SURVEYED BY: GB & JP

BIOLOGIST: PR

DATE: 11-22-19

PROJECT NUMBER: US-US-224-2

GLARO-NY2-069-5

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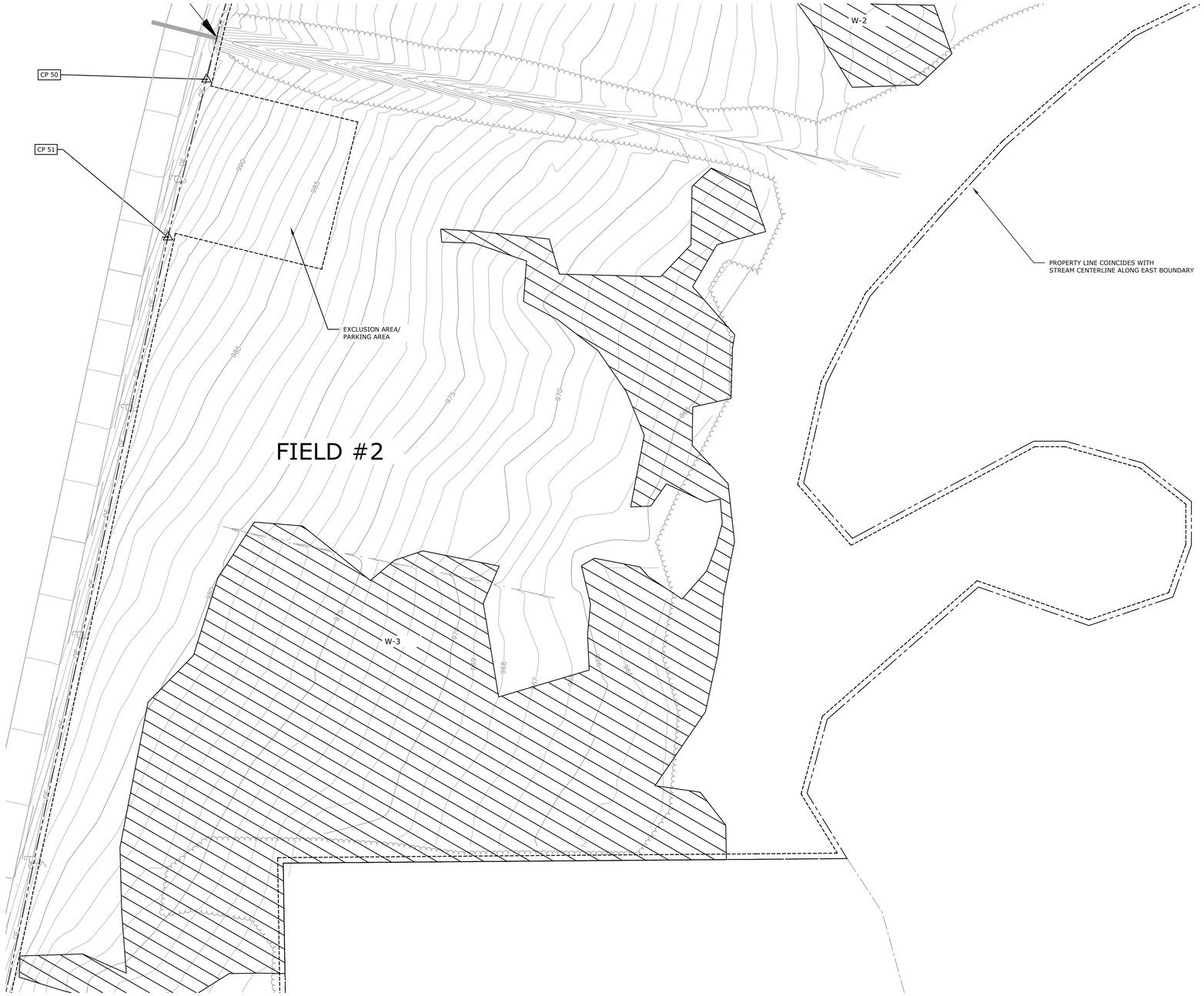

LEGEND

- EXISTING DITCH
- EXISTING SPOT ELEVATION
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING TREE LINE
- EDGE OF PAVEMENT
- EXISTING ROAD
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- CONSERVATION EASEMENT BOUNDARY (COINCIDENT WITH PROPERTY LINE EXCEPT AT EXCLUSION AREA)
- EXISTING STREAM CENTERLINE
- EXISTING OVERHEAD ELECTRIC
- EXISTING GUY WIRE
- EXISTING PROPERTY CORNER
- EXISTING SURVEY CONTROL
- EXISTING UTILITY POLE
- PROPOSED DIKE
- PROPOSED CHANNEL/DITCH
- EXISTING DELINEATED WETLAND

N

NOTES:

1. REFER TO THE OVERALL SITE PLAN FOR ADDITIONAL BASEMAP INFORMATION.

GRAPHIC SCALE

50 0 25 50 100 200

1 inch = 50 feet

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Professional Engineer's No.
State NY

ARCADIS Project No.
30034617

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DUCKS UNLIMITED

SITE PLAN FIELD 2
OATKA CREEK ILF
MITIGATION SITE
TOWN OF WARSAW
WYOMING CO., NEW YORK

Revision	Sheet	Revisions	Date	By

CAD FILE: Site Plan 1,2,3,4
DESIGNED BY: PR
DRAWN BY: NB
SURVEYED BY: GB & JP
BIOLOGIST: PR
DATE: 11-22-19
PROJECT NUMBER: US-US-224-2
GLARO-NY2-069-6

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LEGEND

- EXISTING DITCH
- EXISTING SPOT ELEVATION
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING TREE LINE
- EDGE OF PAVEMENT
- EXISTING ROAD
- APPROXIMATE PROPERTY LINE
- CONSERVATION EASEMENT BOUNDARY (COINCIDENT WITH PROPERTY LINE EXCEPT AT EXCLUSION AREA)
- EXISTING STREAM CENTERLINE
- EXISTING OVERHEAD ELECTRIC
- EXISTING GUY WIRE
- MW-1 EXISTING WELL
- EXISTING PROPERTY CORNER
- EXISTING SURVEY CONTROL
- EXISTING UTILITY POLE
- PROPOSED DIKE
- PROPOSED CHANNEL/DITCH
- PROPOSED SCRAPE/BORROW AREA (SEE NOTE 3)
- PROPOSED LOW BERM OR DITCH PLUG
- PROPOSED FULL SERVICE LEVEL (FSL)
- EXISTING DELINEATED WETLAND

NOTES:

1. REFER TO THE OVERALL SITE PLAN FOR ADDITIONAL BASEMAP INFORMATION.
2. REFER TO DRAWING 9 FOR LOW BERM SECTIONS AND DETAILS.
3. ACTUAL CUT DEPTH AND EXTENTS OF PROPOSED BORROW AREAS MAY VARY AS NEEDED TO OBTAIN NECESSARY MATERIAL QUANTITY FOR LOW BERM AND DITCH PLUG CONSTRUCTION. REFER TO DETAIL 3 ON DRAWING 11 FOR PLUG DIMENSIONS. BORROW AREAS SHALL BE RESTORED TO SLOPES OF 4H:1V OR FLATTER.

GRAPHIC SCALE

50 0 25 50 100 200

1 inch = 50 feet

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Professional Engineer's No.

State: NY

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DUCKS UNLIMITED

SITE PLAN FILED 3
OATKA CREEK ILF
MITIGATION SITE
TOWN OF WARSAW
WYOMING CO., NEW YORK

Revision	Sheet	Revisions	Date	By

CAD FILE: Site Plan 1,2,3,4

DESIGNED BY: PR

DRAWN BY: NB

SURVEYED BY: GB & JP

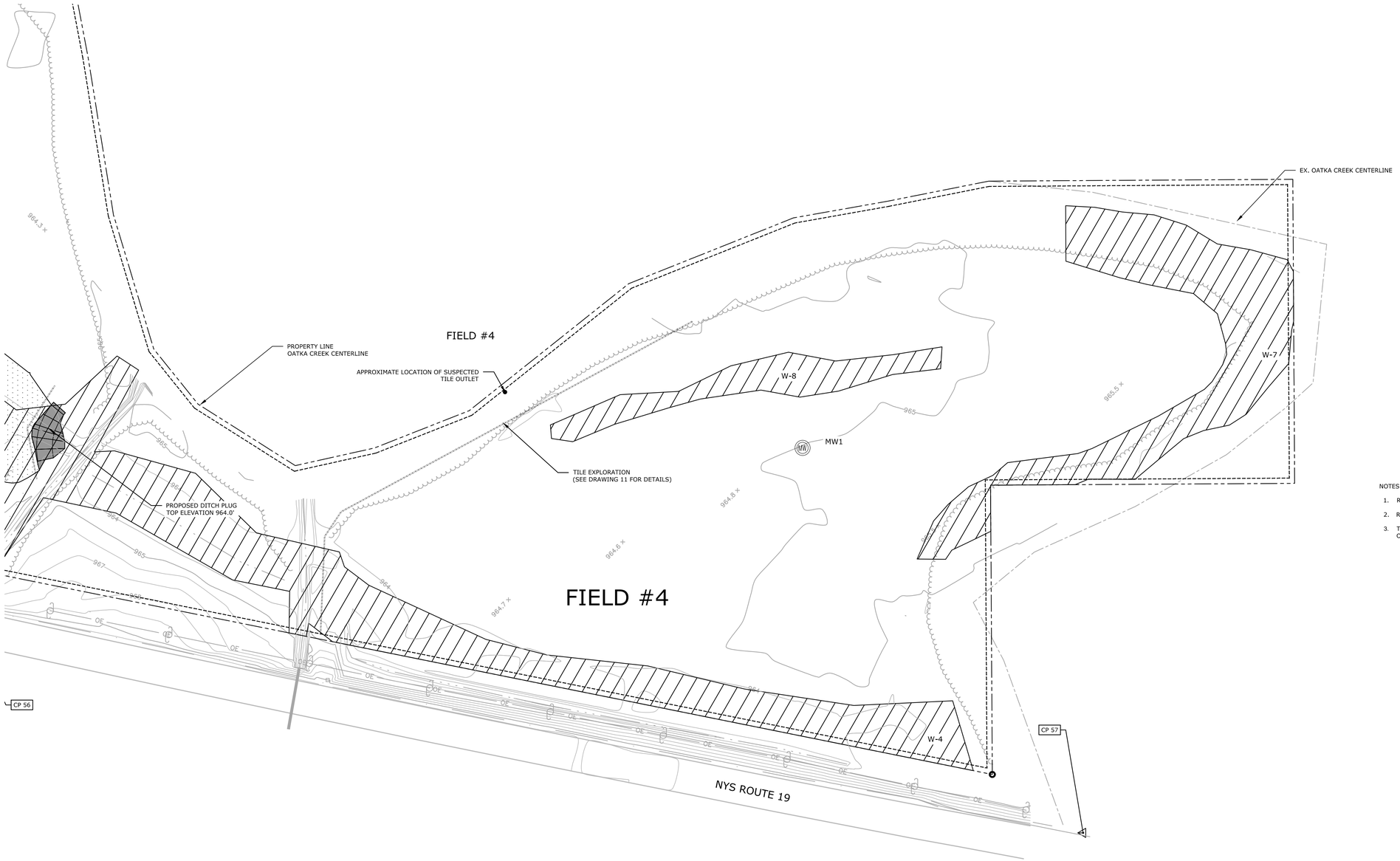
BIOLOGIST: PR

DATE: 11-22-19

PROJECT NUMBER: US-US-224-2

GLARO-NY2-069-7

G:\TMProj\DU\Oatka Creek\Working CADD Files\Site Plan 1,2,3,4.dwg, 11/22/2019 4:39 PM, Baxter, Nick, Site Plan Field 3 (CONST), None



LEGEND

- EXISTING DITCH
- EXISTING SPOT ELEVATION
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING TREE LINE
- EDGE OF PAVEMENT
- EXISTING ROAD
- APPROXIMATE PROPERTY LINE
- EXISTING OVERHEAD ELECTRIC
- EXISTING GUY WIRE
- MW-1 EXISTING WELL
- EXISTING PROPERTY CORNER
- EXISTING SURVEY CONTROL
- EXISTING UTILITY POLE
- PROPOSED DIKE
- PROPOSED CHANNEL/DITCH
- PROPOSED EMBANKMENT OR DITCH PLUG
- EXISTING DELINEATED WETLAND

NOTES:

1. REFER TO THE OVERALL SITE PLAN FOR ADDITIONAL BASEMAP INFORMATION.
2. REFER TO DRAWING 9 FOR LOW BERM SECTIONS AND DETAILS.
3. TILE EXPLORATION LOCATIONS DEPICTED ON THIS PLAN ARE APPROXIMATE AND BASED ON FIELD OBSERVATION OF SUSPECTED TILE OUTLET.

N

GRAPHIC SCALE

50 0 25 50 100 200

1 inch = 50 feet

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DUCKS UNLIMITED

SITE PLAN FIELD 4
OATKA CREEK ILF
MITIGATION SITE
TOWN OF WARSAW
WYOMING CO., NEW YORK

Revision	Sheet	Revisions	Date	By

CAD FILE: Site Plan 1,2,3,4
DESIGNED BY: PR
DRAWN BY: NB
SURVEYED BY: GB & JP
BIOLOGIST: PR
DATE: 11-22-19
PROJECT NUMBER: US-US-224-2
GLARO-NY2-069-8

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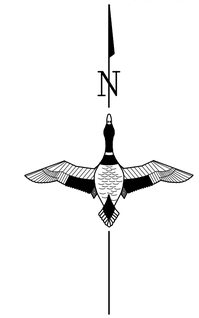
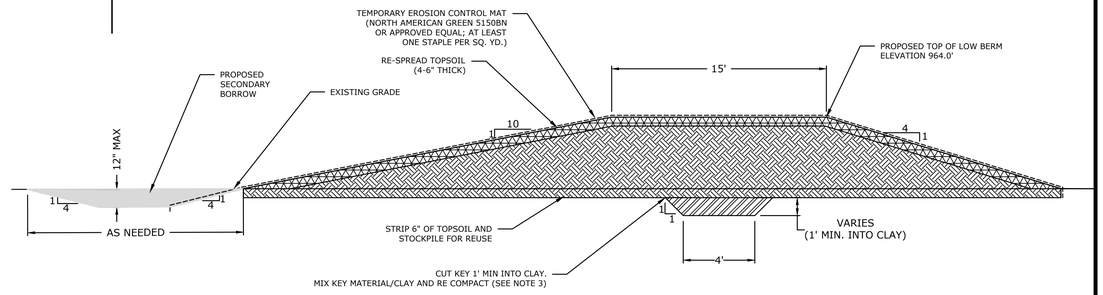
GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 feet



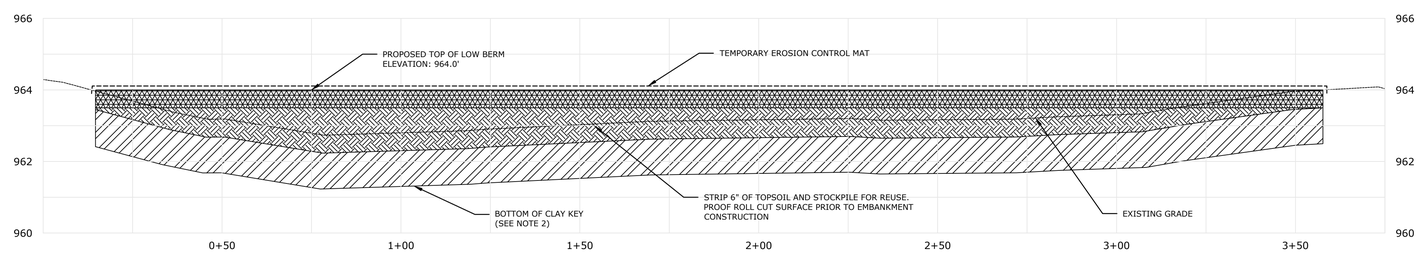


TYPICAL LOW BERM DETAIL

NOT TO SCALE

LEGEND

- EXISTING DITCH
- EXISTING SPOT ELEVATION
- EXISTING TREE LINE
- EDGE OF PAVEMENT
- EXISTING ROAD
- APPROXIMATE PROPERTY LINE
- CONSERVATION EASEMENT BOUNDARY (COINCIDENT WITH PROPERTY LINE EXCEPT AT EXCLUSION AREA)
- EXISTING STREAM CENTERLINE
- EXISTING OVERHEAD ELECTRIC
- EXISTING GUY WIRE
- MW-1 EXISTING WELL
- EXISTING PROPERTY CORNER
- PROPOSED DIKE
- PROPOSED CHANNEL/DITCH
- PROPOSED SCRAPE/BORROW AREA
- PROPOSED LOW BERM
- PROPOSED FULL SERVICE LEVEL (FSL)
- CLAY KEY
- FILL
- TOPSOIL



LOW BERM PROFILE

25X VERTICAL EXAGGERATION

HORIZONTAL SCALE

20 0 10 20 40

1 inch = 20 feet

VERTICAL SCALE

2 0 1 2 4

1 inch = 2 feet

NOTES:

1. CONTRACTOR SHALL UTILIZE THE PROPOSED BORROW AREA TO THE EXTENT POSSIBLE TO MINIMIZE DISTURBANCE ADJACENT TO THE LOW BERM. A 12" MAXIMUM CUT DEPTH MAY BE UTILIZED IN THE VICINITY OF THE LOW BERM (PROPOSED SECONDARY BORROW) TO OBTAIN ADDITIONAL FILL IF NEEDED.

1. DEPTH OF CLAY KEY SHOWN ON THIS SHEET IS APPROXIMATE. ACTUAL DEPTH TO BE DETERMINED IN FIELD BASED ON DEPTH TO CLAY SOILS AND TYPICAL LOW BERM DETAIL ON THIS DRAWING.

2. KEY SHALL BE CUT A MINIMUM 1 FOOT INTO CLAY. CONTRACTOR SHALL MIX EXCAVATED KEY MATERIAL AND BACKFILL IN 6" COMPACTED LIFTS. KEY SHALL BE COMPACTED TO NON-YIELDING CONDITION.

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FOR PERMIT

ARCADIS Design & Consultancy for natural and built assets

ARCADIS OF NEW YORK, INC.

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Professional Engineer's Name: THOMAS STEINER

Professional Engineer's No.

State: NY

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DUCKS UNLIMITED

PLAN AND PROFILE FOR
LOW BERM AREA
OATKA CREEK ILF
MITIGATION SITE
TOWN OF WARSAW
WYOMING CO., NEW YORK

Revision	Sheet	Revisions	Date	By

CAD FILE: Site Plan 1,2,3,4

DESIGNED BY: PR

DRAWN BY: NB

SURVEYED BY: GB & JP

BIOLOGIST: PR

DATE: 11-22-19

PROJECT NUMBER: US-US-224-2

GLARO-NY2-069-9

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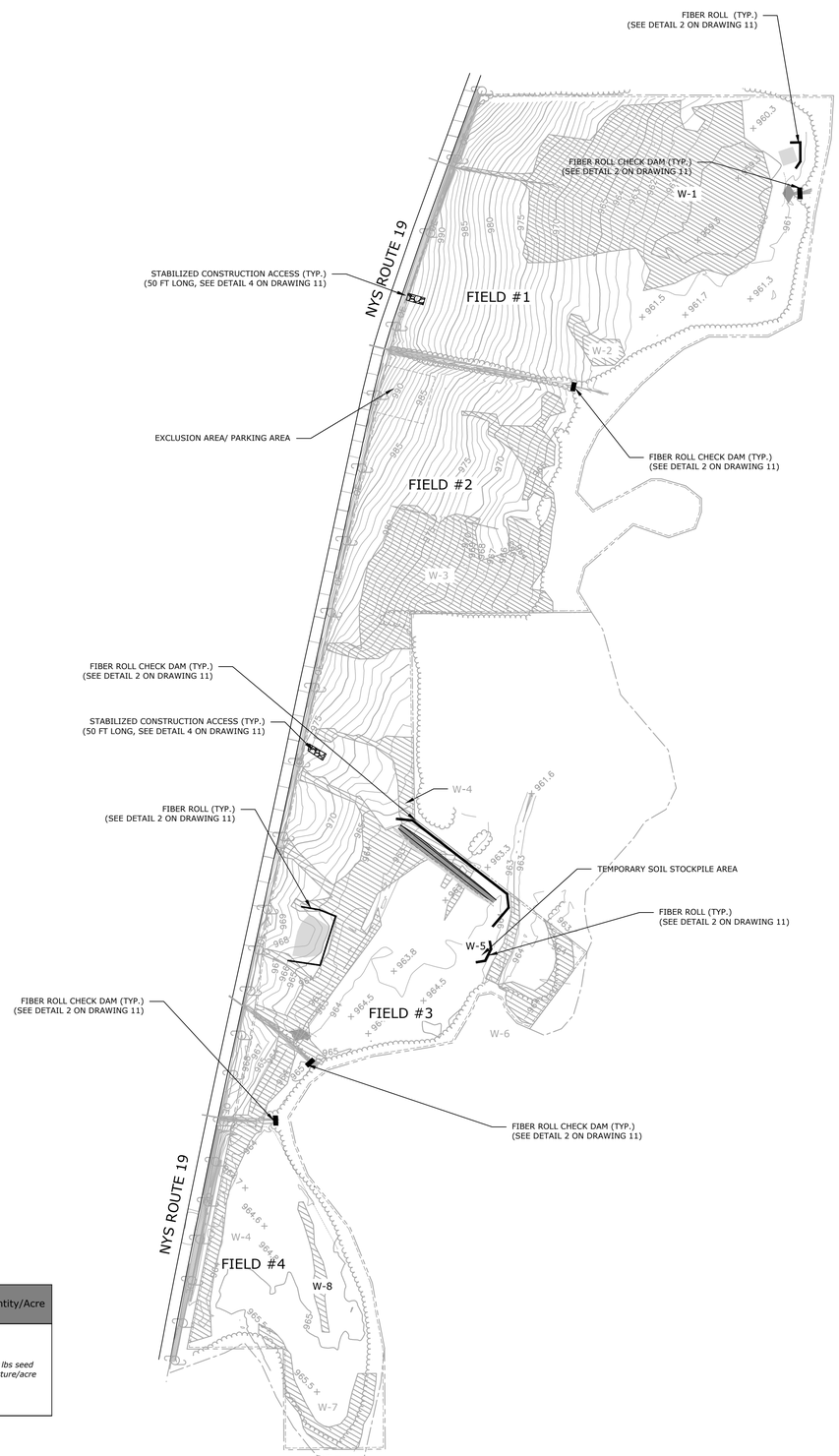
G:\TMProj\DU\Oatka Creek\Working CADD Files\Site Plan 1,2,3,4.dwg, 11/25/2019 12:20 PM, Baxter, Nick, Low Berm Plan and Profile, None



LEGEND

- EXISTING DITCH
- EXISTING SPOT ELEVATION
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING TREE LINE
- EDGE OF PAVEMENT
- EXISTING ROAD
- APPROXIMATE PROPERTY LINE
- CONSERVATION EASEMENT BOUNDARY (COINCIDENT WITH PROPERTY LINE EXCEPT AT EXCLUSION AREA)
- EXISTING STREAM CENTERLINE
- EXISTING OVERHEAD ELECTRIC
- EXISTING GUY WIRE
- PROPOSED FIBER ROLL (SEE DETAIL 2 ON DRAWING 11)
- PROPOSED DIKE
- PROPOSED SILT FENCE (SEE DETAIL 1 ON DRAWING 11)
- PROPOSED CHANNEL/DITCH
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED SCRAPE/BORROW AREA
- PROPOSED LOW BERM OR DITCH PLUG
- EXISTING DELINEATED WETLAND
- PROPOSED TEMPORARY CONSTRUCTION ACCESS (SEE DETAIL 5 ON DRAWING 11)

NOTES:

1. ANY AREAS DISTURBED BY THE CONTRACTOR THAT ARE NOT DENOTED ON THE PLANS (SUCH AS FOR STAGING OR ACCESS) SHALL BE LOOSENED TO A DEPTH OF AT LEAST 6 INCHES AND STABILIZED WITH SEED AND MULCH AT END OF USE, AT NO ADDITIONAL COST.
2. SILT FENCE MAY BE UTILIZED IN LIEU OF FIBER ROLL FOR TEMPORARY STOCKPILE AND BORROW AREAS.

GRAPHIC SCALE

200 0 100 200 400 800

1 inch = 200feet

Target Area	Plant Species Common Name	Plant Species Scientific Name	Wetland Indicator Status	Percent by Weight/ Stems per Acre	Propagule Type	Quantity/Acre
Standard Upland Seed Mix	creeping red fescue	*Festuca rubra*	FACU	62%	seed mix	*48 lbs seed mixture/acre*
	perennial ryegrass	*Lolium perenne*	FACU	11%		
	annual ryegrass	*Lolium multiflorum*	FACU	11%		
	birdsfoot trefoil	*Lotus corniculatus*	FACU	16%		

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EROSION AND SEDIMENT CONTROL PLAN
OATKA CREEK ILF MITIGATION SITE
TOWN OF WARSAW
WYOMING CO., NEW YORK

Revision	Sheet	Revisions	Date	By

CAD FILE: NY-224-2 OVERALL_SITE_PLAN
DESIGNED BY: PR
DRAWN BY: NB
SURVEYED BY: GB & JP
BIOLOGIST: PR
DATE: 11-22-19
PROJECT NUMBER: US-US-224-2
GLARO-NY2-069-10

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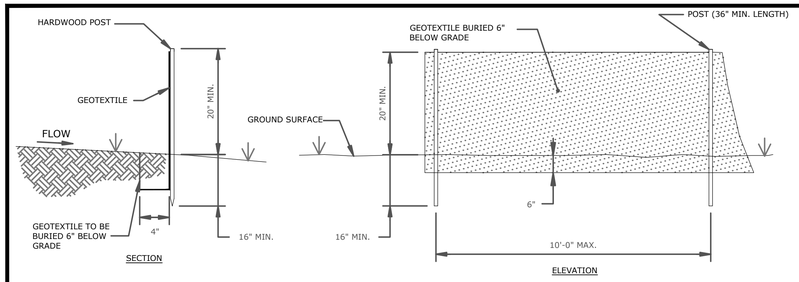
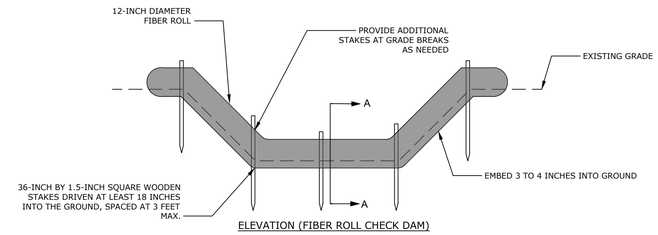


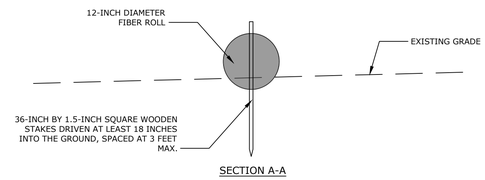
NOTES:

1. GEOTEXTILE FABRIC TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED AROUND A POST AND STAPLED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
3. THE INTEGRITY OF SILT FENCING SHALL BE MAINTAINED AS NEEDED FOR THE PROJECT DURATION AND UNTIL ADEQUATE VEGETATIVE GROWTH IS ESTABLISHED.
4. MATERIAL SHALL BE REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE. AT A MINIMUM, SILT ACCUMULATIONS SHALL BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF OF THE HEIGHT OF SILT FENCE.

SILT FENCE (1)

NOT TO SCALE



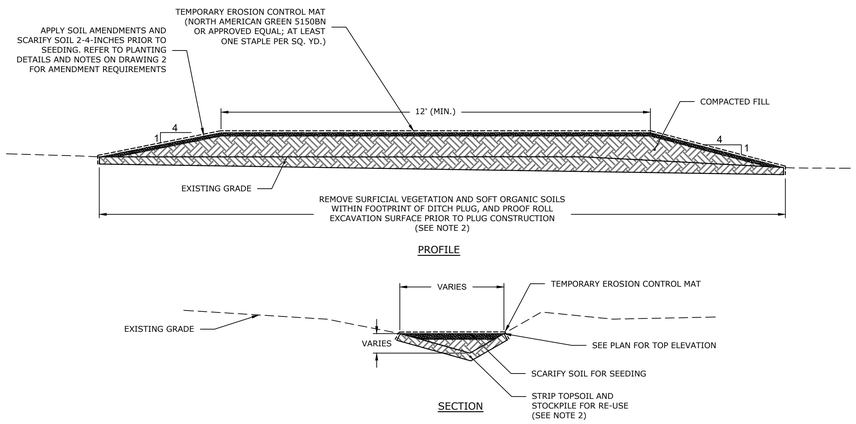


NOTES:

1. CONTRACTOR TO PROVIDE PRE-FILLED FIBER ROLLS. MANUFACTURER INFORMATION ON FILL TO BE PROVIDED UPON SUBMITTAL.

FIBER ROLL (2)

NOT TO SCALE

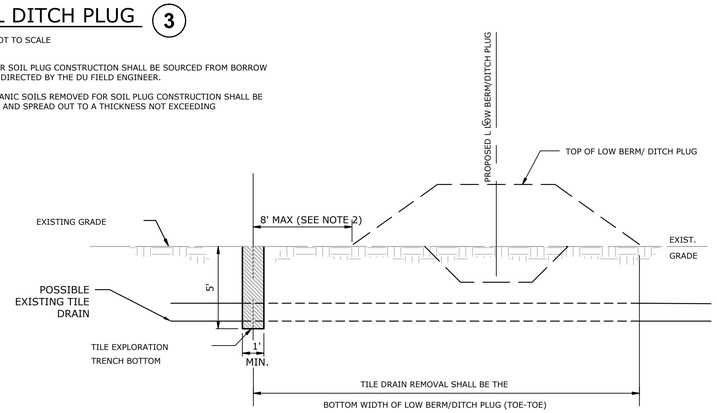


TYPICAL DITCH PLUG (3)

NOT TO SCALE

NOTES:

1. SOIL FILL MATERIAL TO BE UTILIZED FOR SOIL PLUG CONSTRUCTION SHALL BE SOURCED FROM BORROW LOCATION INDICATED ON PLANS OR AS DIRECTED BY THE DU FIELD ENGINEER.
2. SURFICIAL VEGETATION AND SOFT ORGANIC SOILS REMOVED FOR SOIL PLUG CONSTRUCTION SHALL BE RELOCATED TO A NEARBY UPLAND AREA AND SPREAD OUT TO A THICKNESS NOT EXCEEDING APPROXIMATELY 4-INCHES.

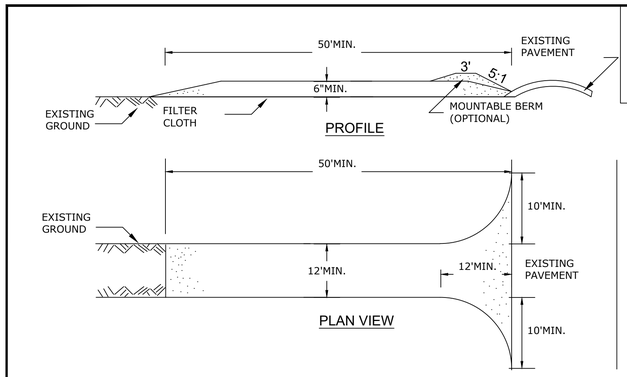


NOTES:

1. THIS DETAIL APPLIES TO THE LOW BERM AND DITCH PLUGS AS SHOWN ON THE PLANS. TILE EXPLORATION AND REMOVAL IN OTHER AREAS SIMILAR.
2. TILE EXPLORATION SHALL OCCUR WITHIN THE LIMITS OF BORROW (WHERE APPLICABLE) TO MINIMIZE DISTURBANCE IN THE VICINITY OF CONSTRUCTED FEATURES.

TILE DRAIN EXPLORATION DETAIL (5)

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

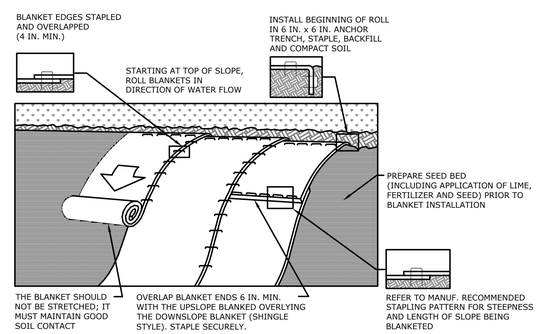
1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ACCESS SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

STABILIZED CONSTRUCTION ACCESS

STABILIZED CONSTRUCTION ACCESS (4)

NOT TO SCALE



NOTES:

SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

EROSION CONTROL BLANKET (6)

NOT TO SCALE

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DUCKS UNLIMITED

CONSTRUCTION DETAILS
OATKA CREEK ILF
MITIGATION SITE
TOWN OF WARSAW
WYOMING CO., NEW YORK

Revision	Sheet	Revisions	Date	By

CAD FILE: Construction Details
DESIGNED BY: PR
DRAWN BY: NB
SURVEYED BY: GB & JP
BIOLOGIST: PR
DATE: 11-22-19
PROJECT NUMBER: US-US-224-2
GLARO-NY2-069-11

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NOTES: SEEDING PEM, PSS, PFO, AND UPLAND BUFFER

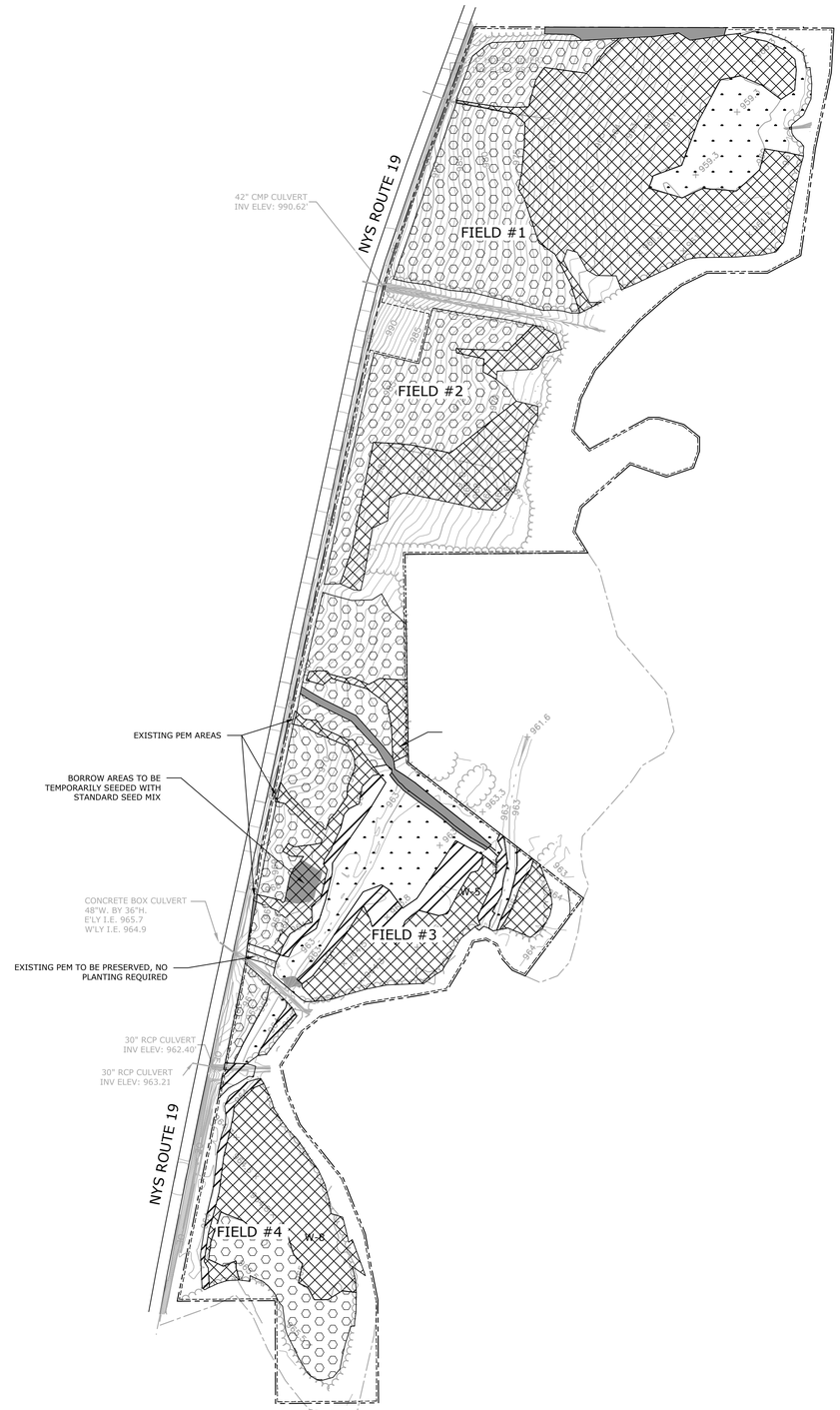
1. DUCKS UNLIMITED WILL PROVIDE AND APPLY THE WETLAND SEED MIX (MATERIAL SEED) FOR THE PEM, PSS, AND PFO AREAS TO BE SEEDED. THE APPLICATION RATE IS 15-20 LB/AC.

2. UNDISTURBED PEM, PSS, AND PFO AREAS TO BE SEEDED SHALL BE PREPARED PRIOR TO SEEDING. PREPARATION SHALL INCLUDE CLEARING (I.E., MOWING) AND HEAVY DISKING OF ALL WETLAND AREAS IDENTIFIED ON THIS PLANTING PLAN. THE FOLLOWING AREAS SHALL NOT BE CLEARED AND DISKED: IN WETLAND 1, AREAS THAT ARE TOO WET FOR EQUIPMENT ACCESS, AREAS WITHIN THE PROTECTIVE ROOT ZONE (I.E, CANOPY) OF EXISTING TREES, THE DITCH PLUGS AND EMBANKMENT AREA, AND WITHIN 5-FT OF THE TOP OF EXISTING DITCH BANKS.

3. HEAVY DISKING SHALL BE DONE SUCH THAT A MINIMUM OF 6 INCHES OF SURFACE SOIL SHALL BE IN A LOOSE CONDITION. A MINIMUM OF TWO PASSES (PERPENDICULAR TO EACH OTHER, WITH THE LAST PASS RUNNING PARALLEL TO THE CONTROLS) WITH A CHISEL PLOW, HEAVY OFFSET DISK, OR OTHER APPROVED TILLAGE EQUIPMENT IS REQUIRED; ADDITIONAL PASSES MAY BE NECESSARY TO ACHIEVE THE DESIRED SURFACE ROUGHNESS. AFTER SEEDING, NO EQUIPMENT WILL BE ALLOWED TO ACCESS THE WETLAND AREAS FOR PLANTINGS OR OTHER ACTIVITIES. ANY EQUIPMENT MOVEMENT OVER SEEDED AREAS SHOULD BE MINIMIZED TO THE EXTENT PRACTICABLE. MULCH WILL NOT BE REQUIRED FOR AREAS RECEIVING ONLY DISKING UNLESS ORDERED BY THE ENGINEER. REFER TO CONSTRUCTION NOTES ON SHEET 2.

4. UNDER ITEM 402 FOR STANDARD SEED MIX, THE CONTRACTOR IS RESPONSIBLE FOR PREPARING THE SOIL SURFACE, PROVIDING AND APPLYING THE SPECIFIED GRASS SEED, AND STABILIZING DISTURBED SURFACES WITH MULCH (MULCH 2 TONS PER ACRE). REFER TO SEEDING SUMMARY, DU SPECIFICATION 402, AND CONSTRUCTION NOTES ON SHEET 2 FOR ADDITIONAL REQUIREMENTS.

5. SHRUB AND TREE PLANTINGS ARE NOT INCLUDED IN THIS CONTRACT.



LEGEND

- EXISTING TREELINE
- EXISTING EDGE OF PAVEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- APPROXIMATE PROPERTY LINE
- CONSERVATION EASEMENT BOUNDARY (COINCIDENT WITH PROPERTY LINE EXCEPT AT EXCLUSION AREA)
- EXISTING STREAM CENTERLINE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING UTILITY POLE
- PEM
- PSS
- PFO
- STANDARD SEED MIX
- UPLAND BUFFER

SEEDING SUMMARY

SEED MIX	SEEDING DATE	SEEDING RATE	FERTILIZER	LIME	MULCH
Standard Upland Seed Mix	March 1 to November 1	48 lbs / acre	1.0 lbs/ 1000 FT^2	75 lbs/1000 FT^2	2 tons/acre Straw
Wetland Seed Mix (See Note 1)	March 1 to November 1	15-20 lbs / acre	NA	NA	NA
Temporary Seed Mix (Annual Rye Grass)	March 1 - Oct 1	30 lbs / acre	NA	NA	2 tons/acre Straw
Winter Temporary Seed Mix (Winter Rye Grass)	Oct 1-Nov 1	100 lbs / acre	NA	NA	2 tons/acre Straw

SEEDING/PLANTING AREA	ACREAGE
PEM	5.10
PFO	17.77
PSS	2.11
UPLAND BUFFER	13.85

N

GRAPHIC SCALE

200 0 100 200 400 800

1 inch = 200 feet

811 Know what's below. Call before you dig.

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DUCKS UNLIMITED

PLANTING PLAN
OATKA CREEK ILF
MITIGATION SITE
TOWN OF WARSAW
WYOMING CO., NEW YORK

Revision	Sheet	Revisions	Date	By

CAD FILE: ny-224-2 planting_plan
DESIGNED BY: PR
DRAWN BY: NB
SURVEYED BY: GB & JP
BIOLOGIST: PR
DATE: 11-22-19
PROJECT NUMBER: US-US-224-2
GLARO-NY2-069-12

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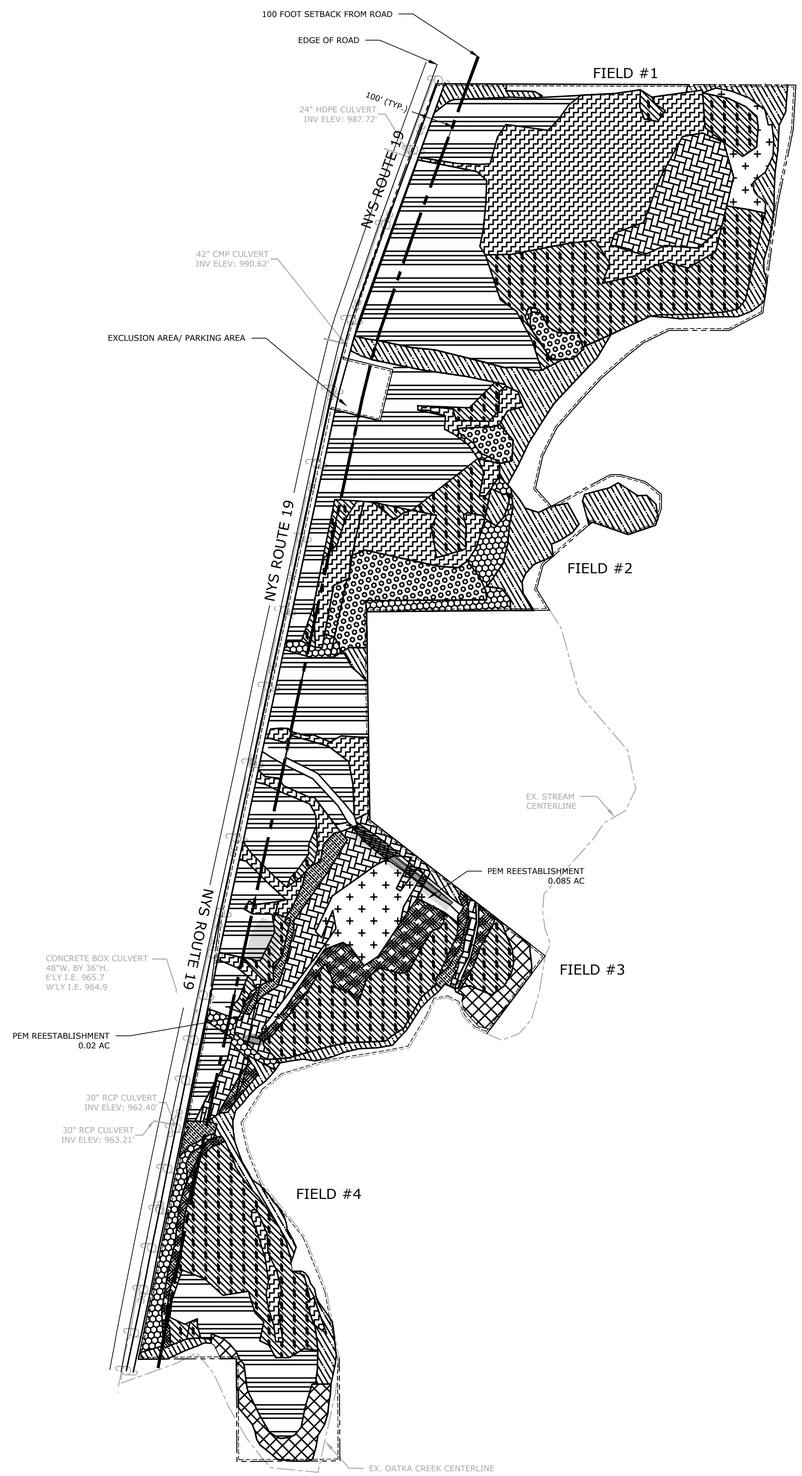

LEGEND

- EXISTING EDGE OF PAVEMENT
- APPROXIMATE PROPERTY LINE
- EXISTING TELEPHONE LINE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING UTILITY POLE
- 100 FOOT SETBACK FROM ROAD
- CONSERVATION EASEMENT BOUNDARY (COINCIDENT WITH PROPERTY LINE EXCEPT AT EXCLUSION AREA)
- EXISTING STREAM CENTERLINE
- PEM REESTABLISHMENT
  AREA INSIDE 100 FT SETBACK: 0.009 AC
  AREA OUTSIDE 100 FT SETBACK: 1.78 AC
- PEM REHABILATION
  AREA INSIDE 100 FT SETBACK: 0.04 AC
  AREA OUTSIDE 100 FT SETBACK: 3.04 AC
- PEM PRESERVATION
  AREA INSIDE 100 FT SETBACK: 0.96 AC
  AREA OUTSIDE 100 FT SETBACK: 0.59 AC
- PSS REESTABLISHMENT
  AREA INSIDE 100 FT SETBACK: 0.17 AC
  AREA OUTSIDE 100 FT SETBACK: 1.30 AC
- PSS REHABILITATION
  AREA INSIDE 100 FT SETBACK: 0.13 AC
  AREA OUTSIDE 100 FT SETBACK: 0.52 AC
- PFO REESTABLISHMENT
  AREA INSIDE 100 FT SETBACK: 0.15 AC
  AREA OUTSIDE 100 FT SETBACK: 9.80 AC
- PFO PRESERVATION
  AREA INSIDE 100 FT SETBACK: 0.00 AC
  AREA OUTSIDE 100 FT SETBACK: 1.12 AC
- PFO REHABILITATION
  AREA INSIDE 100 FT SETBACK: 0.25 AC
  AREA OUTSIDE 100 FT SETBACK: 7.42 AC
- UPLAND BUFFER REHABILITATION
  AREA INSIDE 100 FT SETBACK: 3.43 AC
  AREA OUTSIDE 100 FT SETBACK: 10.50 AC
- UPLAND BUFFER PRESERVATION
  AREA INSIDE 100 FT SETBACK: 0.19 AC
  AREA OUTSIDE 100 FT SETBACK: 4.64 AC
- WETLAND IMPACT
  AREA INSIDE 100 FT SETBACK: 0.00 AC
  AREA OUTSIDE 100 FT SETBACK: 0.12 AC
- PEM ENHANCEMENT
  AREA INSIDE 100 FT SETBACK: 0.00 AC
  AREA OUTSIDE 100 FT SETBACK: 1.78 AC
- LOW BERM AND DITCH PLUG FOOTPRINTS
- PROPOSED SCRAPE/BORROW AREA

N

GRAPHIC SCALE

200 0 100 200 400 800

1 inch = 200feet

811 Know what's **below.** **Call** before you dig.

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FOR PERMIT

ARCADIS Design & Consultancy for natural and built assets

ARCADIS OF NEW YORK, INC.

NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW

Professional Engineer's Name: **THOMAS STEINER**
Professional Engineer's No.
State: NY

ARCADIS Project No. 30034617

ARCADIS
One Lincoln Center
110 West Fayette Street, Suite 300
Syracuse NY 13202
Tel: 315.446.9120

GREAT LAKES/ATLANTIC REGIONAL OFFICE
7322 NEWMAN BOULEVARD, BUILDING 1
DEXTER, MICHIGAN 48130
(734) 623-2000 www.ducks.org

DUCKS UNLIMITED

CREDIT GENERATION PLAN
OATKA CREEK ILF
MITIGATION SITE
TOWN OF WARSAW
WYOMING CO., NEW YORK

Revision	Sheet	Revisions	Date	By

CAD FILE: NY-224-2 CREDIT GEN
DESIGNED BY: PR
DRAWN BY: NB
SURVEYED BY: GB & JP
BIOLOGIST: PR
DATE: 11-22-19
PROJECT NUMBER: US-US-224-2
GLARO-NY2-069-13

NOTICE: Construction site safety is the sole responsibility of the contractor. Ducks Unlimited, Inc. shall not assume any responsibility for the safety of the work performed, persons engaged in the work, nearby structures, or of other persons on-site.

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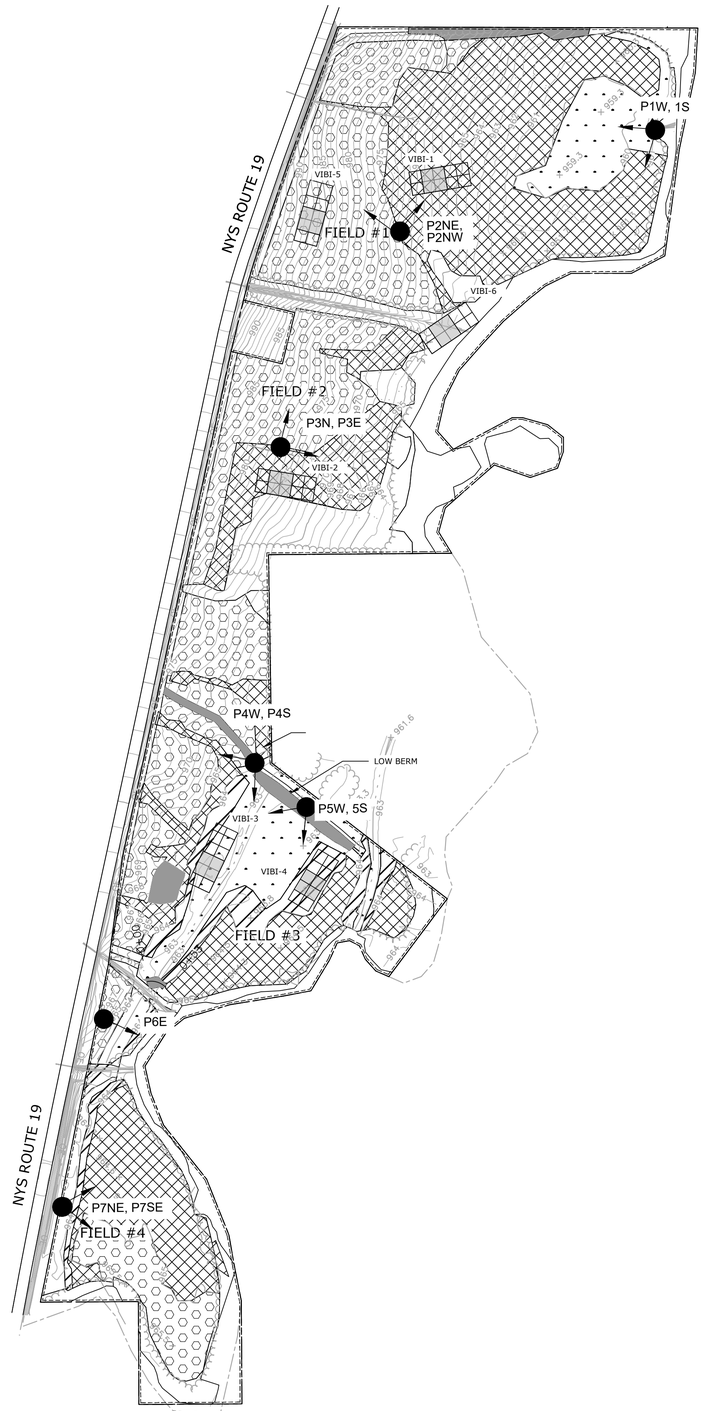
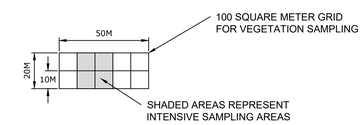
G:\TMProj\DU\Oatka Creek\Working CAD\ Files\NY-224-2 CREDIT GEN.dwg, 11/22/2019 4:41 PM, Baxter, Nick, Credit Generation Plan (PERMIT), None



LEGEND

- EXISTING TREELINE
- EXISTING EDGE OF PAVEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- APPROXIMATE PROPERTY LINE
- CONSERVATION EASEMENT BOUNDARY (COINCIDENT WITH PROPERTY LINE EXCEPT AT EXCLUSION AREA)
- EXISTING STREAM CENTERLINE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- P1 PHOTO POINT LOCATION
- PEM
- PSS
- PFO
- STANDARD SEED MIX
- UPLAND BUFFER



TYPICAL VIBI MONITORING PLOT

N

GRAPHIC SCALE

200 0 100 200 400 800

1 inch = 200 feet

811 Know what's **below.** **Call** before you dig.

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FOR PERMIT

ARCADIS Design & Consultancy for natural and built assets

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Professional Engineer's Name: THOMAS STEINER
Professional Engineer's No.
State: NY

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DUCKS UNLIMITED

MONITORING PLAN
OATKA CREEK ILF
MITIGATION SITE
TOWN OF WARSAW
WYOMING CO., NEW YORK

Revision	Sheet	Revisions	Date	By

CAD FILE: NY-224-2 Monitoring Plan
DESIGNED BY: PR
DRAWN BY: NB
SURVEYED BY: GB & JP
BIOLOGIST: PR
DATE: 11-22-19
PROJECT NUMBER: US-US-224-2
GLARO-NY2-069-14

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G:\TMProj\DU\Oatka Creek\Working CADD Files\NY-224-2 Monitoring Plan.dwg, 11/25/2019 7:17 AM, Baxter, Nick, Monitoring Plan (PERMIT), None

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

November 05, 2018

Mr. Edward Farley
Ducks Unlimited
159 Dwight Park Circle, Suite 205
Syracuse, NY 13209

Re: USACE
Oatka Creek Mitigation Site
Sayre Road at County Route 19, Towns of Warsaw & Middlebury, Wyoming County, NY
18PR07146

Dear Mr. Farley:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking. This recommendation pertains only to the Area of Potential Effects (APE) examined during the above-referenced investigation. It is not applicable to any other portion of the project property. Should the project design be changed SHPO recommends further consultation with this office.

If further correspondence is required regarding this project, please refer to the project number (PR) noted above. If you have any questions, I can be reached at 518-268-2218 or via e-mail at Josalyn.Ferguson@parks.ny.gov.

Sincerely,

Josalyn Ferguson (B.A., M.A.)
Historic Preservation Specialist/Archaeology via e-mail only

Appendix D. Threatened and Endangered Species Review

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To: December 04, 2019
Consultation Code: 05E1NY00-2020-SLI-0849
Event Code: 05E1NY00-2020-E-02630
Project Name: Oatka Creek Mitigation Site

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/

eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2020-SLI-0849

Event Code: 05E1NY00-2020-E-02630

Project Name: Oatka Creek Mitigation Site

Project Type: LAND - RESTORATION / ENHANCEMENT

Project Description: Shallow grading and berm construction within agricultural fields will restore/enhance 26.4 acres of wetlands. An additional 13.9 acres of cropland will be planted to upland forest. There are no plans to cut trees at the site.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.78520449730422N78.11920463463798W

Counties: Wyoming, NY

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Appendix E. Default and Closure Provisions

Default

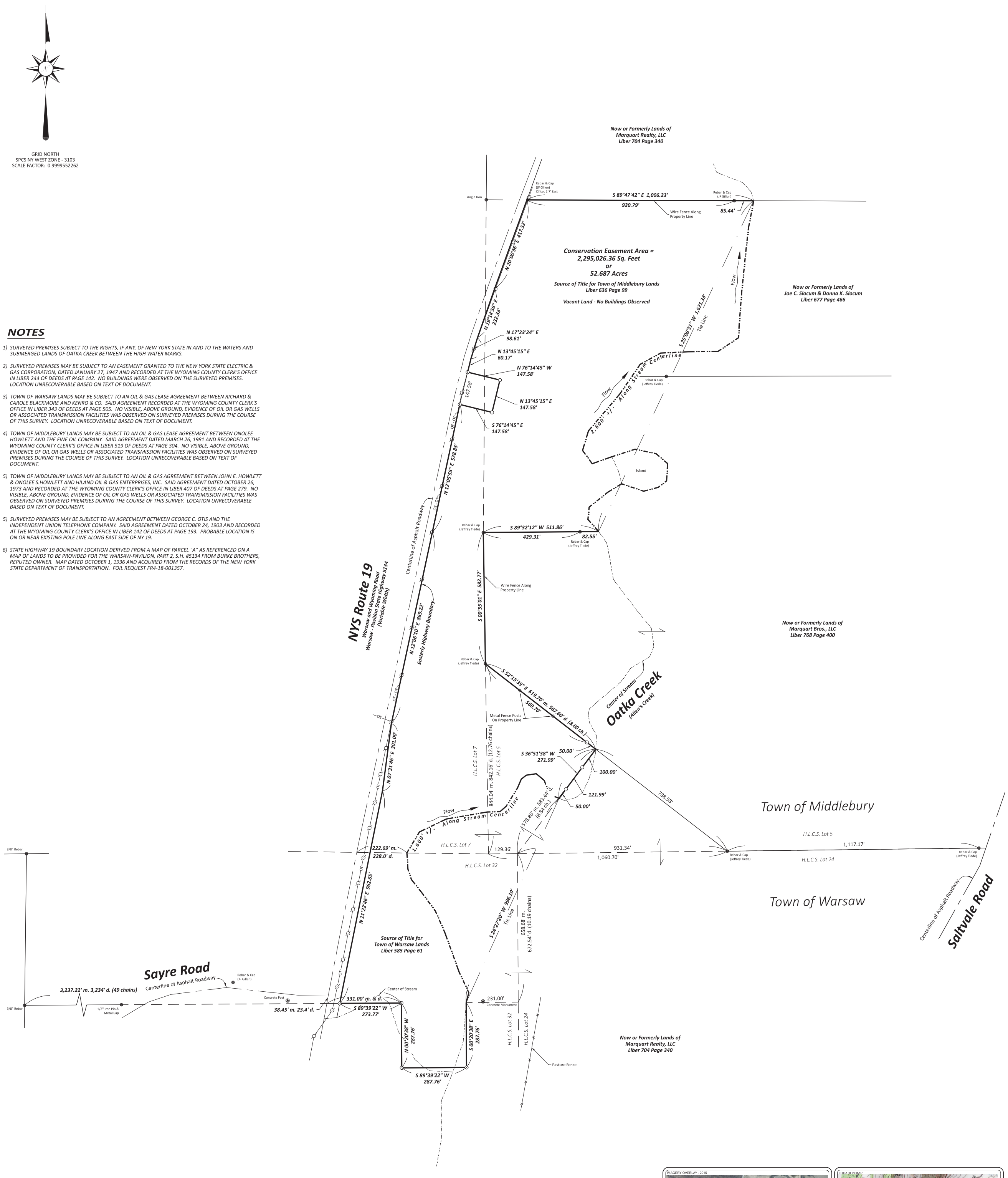
If the IRT determines that the Sponsor is in material default of any provision of the Instrument or an approved mitigation plan, the IRT, acting through the USACE, shall provide notice of the specific circumstances or actions which constitute a default(s) in writing to the Sponsor and providing a reasonable period of time to cure the default. If the Sponsor does not remedy the default or provide a remedial action plan acceptable to the IRT in a timely manner, the USACE may take appropriate action. Such actions may include, but are not limited to, suspending credit sales, decreasing available credits, approving the use of funds at an alternate location, taking enforcement actions, calling upon financial assurances, or terminating the Instrument. In the event that the DU-NY-ILF program is terminated, DU is responsible for fulfilling any remaining obligations for credits sold. Default closure procedures for either the entire ILF Instrument or a specific service area may proceed within thirty (30) days upon written notification by either the Buffalo and New York District Engineers or Ducks Unlimited. In the event that either the ILF Instrument or a specific service area is closed, DU is responsible for fulfilling any remaining obligations for credits sold prior to closure unless the obligation is specifically transferred to another entity as agreed to by the District Engineer and DU. DU shall be reimbursed from the ILF program account for all costs incurred in fulfilling the remaining obligations. The Corps may direct DU to use these funds to purchase credits from another source of third-party mitigation or disburse funds to a governmental or non-profit natural resource management entity willing to undertake further compensation activities. The Corps itself cannot accept directly, retain, or draw upon those funds in the event of a default.

Instrument Closure Provisions

Any funds remaining in the program account after the mitigation obligations are satisfied must be used for the restoration and/or preservation of aquatic resources and associated upland buffers within the service area in which the funds reside unless otherwise approved by the District Engineer.

The final release of credits will take place once the IRT concurs that all the performance standards and obligations have been met and the final wetland delineation has been verified. The final number of mitigation credits will be based upon attainment of performance standards and a wetlands delineation completed by DU or its affiliates and verified by USACE following the final monitoring year. Final closure of the ILF Site will take place after all approved mitigation credits have been sold. DU shall continue to comply with the sale reporting requirements of the Instrument Amendment until such time as all credits have been sold. Should DU request the ILF Site be formally closed prior to sale of all released credits, the remaining unsold credits will be forfeited by the site and no further sales may occur.

Appendix F. Conservation Easement Boundary



NOTES

1) SURVEYED PREMISES SUBJECT TO THE RIGHTS, IF ANY, OF NEW YORK STATE IN AND TO THE WATERS AND SUBMERGED LANDS OF OATKA CREEK BETWEEN THE HIGH WATER MARKS.

2) SURVEYED PREMISES MAY BE SUBJECT TO AN EASEMENT GRANTED TO THE NEW YORK STATE ELECTRIC & GAS CORPORATION, DATED JANUARY 27, 1947 AND RECORDED AT THE WYOMING COUNTY CLERK'S OFFICE IN LIBER 244 OF DEEDS AT PAGE 142. NO BUILDINGS WERE OBSERVED ON THE SURVEYED PREMISES. LOCATION UNRECOVERABLE BASED ON TEXT OF DOCUMENT.

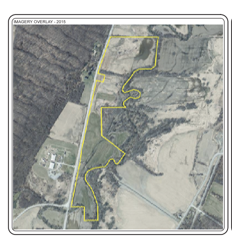
3) TOWN OF WARSAW LANDS MAY BE SUBJECT TO AN OIL & GAS LEASE AGREEMENT BETWEEN RICHARD & CAROLE BLACKMORE AND KENRO & CO. SAID AGREEMENT RECORDED AT THE WYOMING COUNTY CLERK'S OFFICE IN LIBER 343 OF DEEDS AT PAGE 505. NO VISIBLE, ABOVE GROUND, EVIDENCE OF OIL OR GAS WELLS OR ASSOCIATED TRANSMISSION FACILITIES WAS OBSERVED ON SURVEYED PREMISES DURING THE COURSE OF THIS SURVEY. LOCATION UNRECOVERABLE BASED ON TEXT OF DOCUMENT.

4) TOWN OF MIDDLEBURY LANDS MAY BE SUBJECT TO AN OIL & GAS LEASE AGREEMENT BETWEEN ONOLEE HOWLETT AND THE FINE OIL COMPANY. SAID AGREEMENT DATED MARCH 26, 1981 AND RECORDED AT THE WYOMING COUNTY CLERK'S OFFICE IN LIBER 519 OF DEEDS AT PAGE 304. NO VISIBLE, ABOVE GROUND, EVIDENCE OF OIL OR GAS WELLS OR ASSOCIATED TRANSMISSION FACILITIES WAS OBSERVED ON SURVEYED PREMISES DURING THE COURSE OF THIS SURVEY. LOCATION UNRECOVERABLE BASED ON TEXT OF DOCUMENT.

5) TOWN OF MIDDLEBURY LANDS MAY BE SUBJECT TO AN OIL & GAS AGREEMENT BETWEEN JOHN E. HOWLETT & ONOLEE S.HOWLETT AND HILAND OIL & GAS ENTERPRISES, INC. SAID AGREEMENT DATED OCTOBER 26, 1973 AND RECORDED AT THE WYOMING COUNTY CLERK'S OFFICE IN LIBER 407 OF DEEDS AT PAGE 279. NO VISIBLE, ABOVE GROUND, EVIDENCE OF OIL OR GAS WELLS OR ASSOCIATED TRANSMISSION FACILITIES WAS OBSERVED ON SURVEYED PREMISES DURING THE COURSE OF THIS SURVEY. LOCATION UNRECOVERABLE BASED ON TEXT OF DOCUMENT.

5) SURVEYED PREMISES MAY BE SUBJECT TO AN AGREEMENT BETWEEN GEORGE C. OTIS AND THE INDEPENDENT UNION TELEPHONE COMPANY. SAID AGREEMENT DATED OCTOBER 24, 1903 AND RECORDED AT THE WYOMING COUNTY CLERK'S OFFICE IN LIBER 142 OF DEEDS AT PAGE 193. PROBABLE LOCATION IS ON OR NEAR EXISTING POLE LINE ALONG EAST SIDE OF NY 19.

6) STATE HIGHWAY 19 BOUNDARY LOCATION DERIVED FROM A MAP OF PARCEL "A" AS REFERENCED ON A MAP OF LANDS TO BE PROVIDED FOR THE WARSAW-PAVILION, PART 2, S.H. #5134 FROM BURKE BROTHERS, REPUTED OWNER. MAP DATED OCTOBER 1, 1936 AND ACQUIRED FROM THE RECORDS OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION. FOIL REQUEST FR4-18-001357.



THIS MAP IS HEREBY CERTIFIED TO:

1) ***Wetlands America Trust, Inc.;***
2) ***Conboy, McKay, Bachman & Kendall, LLP;***
3) ***Stewart Title Insurance Company.***

CERTIFICATIONS ON THIS BOUNDARY SURVEY MAP SIGNIFY THAT THE MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC. THE CERTIFICATION IS LIMITED TO THE PERSONS FOR WHOM THE BOUNDARY SURVEY MAP IS PREPARED, TO THE TITLE COMPANY, TO THE GOVERNMENTAL AGENCY, AND TO THE LENDING INSTITUTION LISTED ON THIS BOUNDARY SURVEY MAP.

THE LOCATION OF UNDERGROUND IMPROVEMENTS OR ENCROACHMENTS ARE NOT ALWAYS KNOWN AND OFTEN MUST BE ESTIMATED. IF ANY UNDERGROUND IMPROVEMENTS OR ENCROACHMENTS EXIST OR ARE SHOWN, THE IMPROVEMENTS OR ENCROACHMENTS ARE NOT COVERED BY THIS CERTIFICATE.

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LEGEND

- FOUND IRON STAKE
- SET REBAR & CAP
- FOUND MONUMENT
- BENCHMARK
- UTILITY POLE
- LAND HOOK - COMMON OWNERSHIP
- POST
- H.L.C.S. — HOLLAND LAND COMPANY'S SURVEY
- m. — MEASURED DISTANCE
- d. — DEEDED DISTANCE
- FENCE
- OVERHEAD ELECTRIC
- OVERHEAD TELEPHONE

0 200 400 600

NO.	REVISIONS	DATE
1	REMOVE CHANNEL IMPROVEMENT EASEMENT	10/31/2019

PROJECT

MAP OF A CONSERVATION EASEMENT
FOR
DUCKS UNLIMITED, INC.
NEW YORK STATE ROUTE 19
TOWNS OF WARSAW & MIDDLEBURY
PART OF LOTS 5 & 7 - SECTION 5 - TOWN 10 - RANGE 1, MIDDLEBURY, & LOT 32, TOWN 9, RANGE 1, WARSAW, OF THE HOLLAND LAND COMPANY'S SURVEY

SEAL MATTHEW R. ROBINSON

NY LICENSE 050938

ecoSTRATEGIES
ENGINEERING & SURVEYING
1890 East Main Street, Falconer, NY 14733
phone 716.664.5603 - fax 716.664.6648 - ecostrategiespllc.com

DATE OF SURVEY	DATE OF MAP	REF	SCALE	DRAWN BY
04/30/2018	05/04/2018	S18-031	1" = 200'	MRR

Appendix G. Budget

For construction of phase 1 ILF area, covering all of land acquisition. DU has the ability to finance land acquisition for 5 year before paying back the loan.

Oatka Creek

Activity	Unit	Unit Cost	Quantity	Total Cost
Land Purchase/Easement Cost	LS	$70,000.00	1	$70,000
Land Purchase Acquisition repayment to WAT for access to unencumbered acquisition capital to extend credits available for delivery (6.5% annually)	LS/Year	$4,550.00	5	$22,750.00
Taxes (Years)	LS/Year	$2,000.00	5	$10,000
Closing Cost per Transaction	LS	$17,851.00	1	$17,851
Site Identification & Land Acquisition	LS	$21,953.70	1	$21,954
Mitigation Plan (Site visit IRT, permitting)	LS	$134,310.60	1	$134,311
Construction and Planting Staff Cost	LS	$38,789.43	1	$38,789
Construction and Planting Contractor Cost	LS	$178,194.53	1	$178,195
Monitoring	LS	$10,988.63	10	$109,886
Adaptive Management	LS	$4,230.27	10	$42,303
Long Term Protection Endowment (CE)	LS	$59,171.83	1	$59,172
Long Term Stewardship Endowment (SE)	LS	$112,618.41	1	$112,618
Financial Assurances	LS/Year	$10,523.72	1	$10,524
Subtotal				**$828,352**
Contingency Fund		10%		$82,835
Total				**$911,187**