# **ATTACHMENT 10**

# **ENVIRONMENTAL ASSESSMENT FORM**

Appendix D: Permittee Responsible Mitigation Plan

Revised June 2025

# Permittee-Responsible Mitigation Plan for the Tioga Pathway Project

# **Camp Brook PRM Site**

Elkland Borough, Tioga County, Pennsylvania National Fuel Gas Supply Corporation



#### February 2025 REVISED June 2025

#### **Prepared By:**

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### 1.0 Introduction

First Pennsylvania Resource, LLC. (FPR), a wholly-owned subsidiary of Resource Environmental Solutions (RES), is proposing this Permittee-Responsible Mitigation (PRM) Plan on behalf of National Fuel Gas Supply Corporation (NFGSC or Permittee) to compensate for unavoidable impacts to waters of the United States (U.S.) associated with the Tioga Pathway Project (Project). FPR has prepared this PRM Plan in accordance with the *Compensatory Mitigation for Losses of Aquatic Resources Final Rule* issued on April 10, 2008 as detailed in 33 CFR §332.4(c) of the Federal Register (Volume 73, Number 70). This document addresses the required mitigation that will be provided at FPR's Camp Brook Restoration Site PRM (CBRS or PRM Site). The proposed mitigation will offset temporary and permanent conversion impacts to non-EV scrub shrub (PSS) and palustrine forested (PFO) wetlands, and permanent fill impacts to non-EV Palustrine Emergent Wetland (PEM) occurring in Tioga and Potter Counties, Pennsylvania (PA) through vegetative enhancement of existing wetlands.

The PRM Site, located in Elkland Borough, Tioga County, PA, is approximately 1.5 miles northeast of Hazel Hurst and 8.5 miles southwest of Smethport, PA. A site location map that shows the location of the PRM is provided as Figure 1: PRM Location Map (Appendix A: Figures). Figure 2: HUC-12 Watershed Map also depicts the approximate distance of the proposed PRM Site in relation to the Project.

The physical address and approximate center coordinates of the PRM Site are provided in Table 1 below.

Table 1: PRM Site Location Information					
Physical Address:	Intersection of Camp Brook Road and Mutton Hill Road				
Coordinates:	41°59'29.49"N 77°19'40.72"W				
	41.991551, -77.327972				

Driving directions to CBRS from Williamsport, PA are as follows:

Head south on Market St toward W 3rd St (0.2 mi)

Slight right to merge onto I-180 W/US-15 N/US- 220 S toward Lock Haven/Mansfield (0.3 mi)

Merge onto I-180 W/US-15 N/US-220 S (1.6 mi)

Keep right at the fork to continue US-15 N, follow signs for Mansfield (60.6 mi)

Take exit 196 for PA-49 toward Elkland/Lawrenceville (0.6 mi)

Turn left onto PA-49 W/State Rte 49 W (11.6 mi)

Turn right onto T566/Tuscarora Rd (Continue to follow Tuscarora Rd) (0.3 mi)

Continue onto Camp Brook Rd (0.9 mi)

Turn right onto Mutton Hill Rd/T572 (171 ft) (access to the site will be on the right)

FPR and the Permittee request to be contacted prior to visiting the PRM Site, as landowner coordination is required.

FPR will act as the mitigation services agent (Agent) on behalf of the Permittee. On behalf of the Permittee, FPR will be responsible for implementation of the PRM plan in addition to meeting performance standards, monitoring, and long-term management of the property as described in 33 CFR §332.3(I). The Permittee will remain responsible for legal duties and responsibilities associated with wetland mitigation

as necessary in accordance with PA Department of Environmental Protection (DEP) Chapter 105 Rules and Regulations regarding wetland replacement criteria guidelines and 33 CFR § 332.3.

# 2.0 Objectives

Compensatory mitigation is required as a result of unavoidable impacts to PEM, PSS, and PFO wetland conversion and fill impacts associated with the Project. Resource impacts requiring mitigation are outlined in Table 2: Objectives Summary Table. The impact ratios presented in Table 2 are based on previously permitted projects of similar nature.

Table 2: Objectives Summary Table										
PRM Site Pre- and Post-Resources				Mitigation Needs Summary						
Resource		Existing Acres*	Proposed Acres	Resource	Conversion Impact Area (Acres)	Fill Impacts	Mitigation Ratio	PRM Mitigation Need(Acres)	Mitigation Bank Credits Applied	
	PEM	<b>EM</b> 4.78	-	EV PSS	-	-	NA	-	-	
Wetland				Non-EV PSS	1.907	-	1:1	1.907-	-	
(Acres)	PSS	-	-	Non-EV PFO	1.145	-	2:1	2.290	-	
	PFO	0.78	5.56	Non-EV PEM	-	0.002	2 :1*	0.004	-	
	Totals 5.56 5.56				3.05	0.002		4.20		

<sup>\*</sup> Standard mitigation typically requires a 1:1 ratio for permanent loss of PEM wetlands. RES is proposing to over mitigate via a higher ratio in order to develop additional PFO wetlands in lieu of reestablishing such a small amount of PEM.

Regulated aquatic resource impacts associated with the proposed Project will occur within the Upper Susquehanna Watershed (8-Digit Hydrologic Unit Code (HUC) #02050104) of the Tioga-Cowanesque Rivers Watershed (Subbasin 4). Compensatory mitigation required for the Project within this watershed is due to permanent conversion of PSS and PFO wetlands to PEM wetlands within the Project footprint. In addition, 0.002 acre of PEM wetland loss will occur due to fill. Consistent with the Compensatory Mitigation Final Rule ("Final Rule"), which establishes mitigation credits as the preferred method of compensatory mitigation for impacts to aquatic resources of the U.S. (332.3(b)(2)), the Permittee first sought to purchase approved mitigation credits from an existing mitigation bank, however bank credits are not anticipated to be available in the amounts or time frame needed for the entire Project. As the required approved mitigation credits will not be available within the Tioga-Cowanesque Watershed, and because no In Lieu Fee programs are active within the Watershed, Permittee Responsible Mitigation (PRM) is proposed to offset the wetland conversion impacts associated with the Project.

The PRM site will be located at an appropriate off-site restoration location within Tioga County and within the Tioga-Cowanesque Rivers Subbasin (Appendix A: Figures. Figure 1). RES currently has land control of the proposed PRM site, which is characterized by anthropomorphically-degraded (primarily as a result of grazing/agriculture) emergent wetlands.

At the proposed PRM site, the wetland enhancement process will involve diligent invasive species management and native seeding and planting efforts. If wetland enhancement areas will require initial weed controls, that work will be conducted either early or late in the growing season, while native species are dormant, with mowing and/or chemical herbicide to control non-native and/or invasive species. After this initial treatment, spot spraying and follow-up control will be completed on an as-needed basis. Invasive shrub species, if present, will be cut, and the cut stumps treated with a dicot specific chemical herbicide applied directly to the cut surface. Follow-up control will be applied in a similar manner, again with a dicot-specific chemical herbicide. After the initial weed control efforts, the site will be prepared

for planting. A variety of large and small native trees and shrubs will be installed in the wetland enhancement areas and these areas will be seeded with a native seed mix. Trees and shrubs will be planted at an approximate density of 300 stems/acre and per their hydrologic needs and adaptability, with trees and shrubs that are able to tolerate wetter conditions installed in and around the lower gradient areas and more facultative species installed within the slightly higher wetland areas.

#### 3.0 Site Selection

## 3.1 Mitigation Banking

Consistent with the Compensatory Mitigation Final Rule ("Final Rule"), which establishes mitigation bank credits as the preferred method of compensatory mitigation for impacts to aquatic resources of the U.S. (332.3(b)(2)), the Permittee first sought to purchase approved mitigation credits from a mitigation bank within the Tioga-Cowanesque Rivers Subbasin (Subbasin 4) to compensate for the anticipated conversion and fill wetland impacts resulting from the Project. Credits within the required subbasin are limited at the existing USRMB I and II Mitigation Banks within Subbasin 4, RES does not anticipate that enough bank credits will be available within the Project's permitting timeframe.

#### 3.2 In-Lieu Fee

In-Lieu fee crediting was not an option for the Project because no active In-Lieu fee programs were or are available.

#### 3.3 On-Site Mitigation

To minimize impacts to aquatic features and habitat areas, the Permittee implemented construction and engineering avoidance and minimization measures within the limit of disturbance (LOD) and permanent easements to the greatest extent practicable. While some onsite mitigation is being proposed, due to space constraints complete onsite mitigation was deemed impractical.

In addition, completing on-site mitigation would also create multiple, small, spatially separate PRM projects. These smaller isolated projects have been shown to be less ecologically beneficial, have a lower likelihood for long-term success and are more susceptible to invasive species due to increased edge effect. They also create an increased number of maintenance plans to be reviewed, increasing the long-term regulatory burden on the agencies by requiring reviews and field visits to multiple small restoration sites.

The Permittee therefore has determined that the on-site mitigation opportunities are less conducive to complying with the "no net loss" and/or "watershed approach" policy(s) commensurate with the Final Rule.

#### 3.4 Local Watershed Restoration

The Project is predominantly linear, replacing 3.84 miles and installing 19.48 miles of steel pipeline. The linear portion of the project occurs within the same HUC 08 watershed (Subbasin 4) as the selected mitigation site, with the remaining auxiliary impacts located in neighboring HUC 08 watersheds (Subbasins 14 and 16). It would not be feasible or ecologically beneficial to distribute the mitigation locally across small piecemeal sites in all the impacted watersheds.

#### 3.5 Selected Mitigation Site

The selected PRM site is strategically located in the floodplains of a watershed that will benefit from the wetland enhancement efforts while ensuring optimal replacement of functions and values lost as a result of the Project. The existing conditions of the PRM Site wetland area make this an attractive site from a mitigation perspective. The PRM Site has been degraded through anthropogenic alterations including

historic agricultural activities, and pasture use. Surrounding land uses consist of residential homes, with large tracts of agricultural land and supporting infrastructure (livestock buildings such as farms and sheds). The streams within the PRM Site are unnamed tributaries (UNTs) to Tributary 31028 To Camp Book (PA DEP Historic Streams GIS Data, 2004) and are designated as Warm Water Migratory Fisheries (WWF-MF) (PA Code: Title 25: Chapter 93) and listed as impaired for aquatic life from agriculture and siltation. Camp Brook (HUC 02050104, Subbasin 4) has been classified by the PA Natural Heritage Program (PNHP) Aquatic Community Classification (ACA) as a Tier 2 Enhancement watershed, making this watershed a prime candidate for restoration.

Currently, the PRM Site is characteristic of a degraded PEM. The past land use practices have ditched streams, drained wetlands, and introduced invasive/non-native species such as musk thistle (*Carduus nutans*), Canada thistle (*Cirsium arvense*), European buckthorn (*Rhamnus cathartica*), bush honeysuckle (*Lonicera maackii*), autumn olive (*Elaeagnus umbellata*), narrow leaved cattail (*Typha angustifolia*), reed canary grass (*Phalaris arundinacea*), multiflora rose (*Rosa multiflora*), and Japanese barberry (*Berberis thubergii*). The PRM Site will build upon many of the critical components of the Final Rule including the likelihood for success and sustainability, potential to maximize ecological uplift, the significance of the restored resources within the watershed, and the proximity of the impact and mitigation sites from a watershed perspective. Providing functional benefits such as improvements to wildlife habitat, flood flow conveyance and alteration, nutrient removal/retention, invasive species removal, and long-term land protection will support healthy flora and fauna and aquatic resources within the watershed. The likelihood of success and long-term ecological uplift were the most important factors that the Permittee considered.

The Permittee concluded that due to the ecological demands of the Project, entrusting the logistical and environmental aspects of compensatory mitigation through an offsite Permittee Responsible Mitigation developed by FPR would ensure the greatest likelihood of success and most effectively address watershed needs through off-site mitigation.

#### 3.6 Congruence with Watershed Needs

The Natural Areas Inventory (NAI) of Tioga County Pennsylvania (June 2006) identifies that the Cowanesque River – Camp Brook watersheds have large sections of agriculture along the stream corridor(s) and recommends managing runoff from agricultural and urban sources through the implementation of storm water management, restoration of riparian buffer zones, and exclusion of livestock. The NAI further describes that much of the biodiversity within Osceola Township can be maintained through the avoidance of draining or damming wetlands, reduction in forest fragmentation, installation of forested buffers along water ways, and protection of existing forested buffers, which will provide direct benefits to the township and larger Susquehanna River basin.

The on-site existing conditions of the PRM Site make it a very attractive mitigation site for restoration opportunities like those described above. Tributaries within the proposed PRM Site are first order in nature, are primarily characteristic of headwaters and exhibit degradation due to agricultural activities. The Camp Brook watershed is rural and heavily influenced by agricultural practices which has resulted in ongoing water quality degradation. Land cover within the PRM Site is primarily agricultural (pasture/hay and cultivated crops) (Appendix A, Figure 5 Series: National Land Cover Series).

The headwater springs and seeps that feed existing wetlands and the main tributary emerge from the mountain hills on the western side of the PRM Site and drain through cattle grazing pasture with poor management practices, contributing to continued water quality degradation.

Using a single site for the scale of mitigation requirements for the PRM presents a unique opportunity to maximize functional lift at a larger scale using a holistic watershed or systematic restoration approach. The PRM Site will build upon many of the critical components of the Final Rule including the likelihood for success and sustainability, potential to maximize ecological uplift, and the significance of the restored resources within the watershed. Providing functional benefits such as improvements to wildlife habitat, flood flow conveyance and alteration, nutrient removal/retention, invasive/non-native species removal, and long-term land protection will support healthy flora/fauna and aquatic resources within the watershed. The likelihood of success and long-term ecological uplift were the most important factors that the Permittee and Agent considered in developing the proposed mitigation approach.

# 4.0 Site Protection Instrument(s)

The PRM Site will be protected by a Site Protection Instrument (SPI) that will be executed in advance of the proposed activities outlined in this mitigation plan. The SPI will ensure the long-term protection of the site in the form of a deed of restrictive covenant that shall remain in effect in perpetuity. The SPI will be recorded with the county courthouse after USACE/PADEP permit approval and with subsequent approval from the Permittee to move forward with mitigation. A sample of an SPI that would be filed upon permit approval is included as Appendix B: Example Site Protection Instrument. The SPI restricts activities that are incompatible with the objectives of the PRM Plan.

FPR will act as the initial long-term steward unless another qualified, watershed-focused, entity is willing to assume long-term stewardship responsibilities. FPR's heirs, assigns, or purchasers will be responsible for protecting lands contained within the PRM Site in accordance with the terms of the PRM plan, unless the lands are transferred or sold to a local, state, or federal resource agency or non-profit conservation organization.

Entrusting the PRM to a third-party SPI holder may commence only when FPR, the Permittee, and the agencies have mutually concluded that the PRM Site has achieved all its objectives and sufficiently satisfied performance standards, as described in Section 8.0: Performance Standards.

#### 5.0 Baseline Data

Baseline data was developed through site evaluations, the aquatic resource delineation for the larger CBRS (Appendix C) and agency coordination to determine the potential to impact rare and/or threatened and endangered species. Baseline information presented in further detail in the following sections includes:

- Land use characterization
- Geotechnical/soil investigations and surveys
- Soil characterization
- Wetland delineation and waterbody identifications
- Hydrologic investigations
- Topographic and boundary surveys
- Vegetative community characterizations
- Habitat assessments
- Rare, threatened and/or endangered species review
- Watershed research
- Extensive photo and field note documentation

The following discussions present the findings of the baseline data review. The data were assessed and used to guide the proposed restoration approaches, as described in Section 6.0 Determination of Mitigation Needs.

#### 5.1 Land Use

Historically, this region was heavily used for logging and agriculture (Appendix A, Figure 6 Series: Historic Map Series). The land within and surrounding the PRM Site has sustained extensive cultivation, grazing, selective logging, and/or clear cutting for over half a century. The land within the site boundaries is predominately utilized for grazing pasture and cultivated crops (Appendix A, Figure 5 Series: NLCD Series). The main tributary and historic wetlands were straightened, bermed, and/or ditched to keep fields dry. Narrow riparian corridors exist along these existing channelized streams and ditches, but these corridors exist in a heavily degraded state and are riddled with invasive species (Appendix A, Figure 3: Existing Conditions Map; Appendix E: Representative Site Photos). The ecological resources found within the PRM Site have been and continue to be degraded through anthropogenic alterations including historic and ongoing agricultural activities, in addition to the modification of native vegetative community structure and diversity.

#### 5.2 Geology and Soils

The PRM Site is in the Glaciated High Plateau of the Appalachian Plateaus geographic province within the Lock Haven Formation geologic unit of the Devonian age, containing lithologic constituents of mudstone, siltstone, sandstone, and conglomerate. Based on the United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) Web Soil Survey, the PRM Site is underlain by Chenango gravelly loam, Chippewa silt loam, Orrville silt loam, Volusia channery silt loams, Water, and Wayland silty clay loam (NRCS 2017). Most of the soils can be characterized as hydric – partially hydric farmland soils compromised of loamy till from sedimentary rock, loamy alluvium from sandstone and shale, or glacial outwash from sedimentary rock (NRCS 2017). Refer to Figure 7: Soils Map (Appendix A) for additional information and Table 3 below.

	Table 3: Soil Series <sup>1</sup>								
Cail	Soil Series Description	Soil Series		Depth to Restrictive Features			Destate		
Soil Series Symbol		Setting (Landform)	Farmland Classification	Depth to Any Soil Restrictive Layer (inches)	Depth to Water Table (inches)	Natural Drainage Class	Hydric Rating Percentage (%) <sup>2</sup>	Hydrologic Soil Group	% Site
LoD	Lordstown channery loam, 20 to 30 percent slopes	Mountains, hills	Not prime farmland	20 to 40	More than 80 inches	Well drained	0	С	0
Ow	Orrville silt loam	Floodplains	Farmland of statewide importance	40 to 70	12 to 30	Somewhat poorly drained	15	B/D	39.6
Wa	Wayland silty clay loam	Floodplains	Farmland of statewide importance	40 to 60	0	Very poorly drained	100	C/D	58.4

#### 5.3 Environmental Resource Identification

FPR conducted a wetland and watercourse investigation of the entire CBRS, which contains the proposed PRM Site, in June 2021 and October 2021 to identify the extents of the existing wetland and watercourse resources within the CBRS. Wetland delineations were completed following the 1987 Army Corps Wetland Delineation Manual (USACE, 1987) and the Northcentral and Northeast Regional Supplement Version 2 (USACE, 2012). Resources were identified and geographically located using handheld global positioning satellite systems (GPS) technology. Results from the environmental survey are described briefly. Detailed descriptions, data forms, photographs and additional mapping are included in the Wetland Delineation and Watercourse Report (Appendix C). Table 4: Identified Resources presents features delineated within the PRM Site boundaries.

Table 4: Identified Resources						
Resource	Class	Acres/Footage				
	PEM	4.78				
Wetland	PFO	0.78				
	Total	5.56				

Figure 3A: Existing Conditions Map (Appendix A) shows the delineated resources within PRM Site of the CBRS. Additionally, Figure 8: Topographic Map highlights the topographic contours and elevations at the PRM Site used to aid in the delineation. The CBRS, which has a contributing drainage of approximately 0.49 square miles, drains to a direct tributary to Camp Brook. A drainage area and FEMA floodway map is provided in Appendix A: Figures, as Figure 9: FEMA Map.

#### 5.4 Wetlands

The PRM Site contains PEM and PFO wetlands totaling 5.56 acres in size. Table 4: Identified Resources provides a breakdown of the acreage of the wetlands within the PRM Site. Figure 3B: Delineated Resources Map (Appendix A: Figures), shows the locations of the wetlands within the proposed PRM Site, and additional information is provided in the wetland delineation report provided as Appendix C. Please note the scope of the wetland delineation report extends outside the PRM Site's limits.

Primary and secondary hydrology indicators consistently documented across the PRM Site include surface water (A1), high water table (A2), saturation (A3), algal mat or crust (B4), water-stained leaves (B9), drainage patterns (B10), moss trim lines (B16), hydrogen sulfide odor (C1), oxidized rhizospheres on living roots (C3), geomorphic position (D2), microtopographic relief (D4), and FAC-neutral test (D5).

Dominant vegetation consistently found at the wetlands within the proposed PRM Site include: reed canarygrass, broad-leaved cat-tail (*Typha angustifolia*). Detailed vegetation data can be found in the attached wetland delineation report.

Dominant indicators of hydric soils found include hydrogen sulfide (A4), depleted matrix (F3) and redox dark surface (F6).

Wetlands within the PRM Site have been degraded from historic and on-going agricultural and farming activities. Wetlands were intentionally drained through ditching and the channelization of streams. Trees were cleared to maximize tillable land and pasture for grazing which in turn resulted in the drying of historically shaded damp soils. Berms were installed along streams and ditches to prevent the migration of water into tillable fields. Multiple watering holes and ponds were installed within wetlands to provide cattle access to water. Grazing and tilling practices throughout the PRM Site have compacted soils and introduced a magnitude of invasive species including musk thistle (*Carduus nutans*), Canada thistle

(Cirsium arvense), European buckthorn (Rhamnus cathartica), bush honeysuckle (Lonicera maackii), autumn olive (Elaeagnus umbellate), narrow leaved cattail (Typha angustifolia), reed canary grass (Phalaris arundinacea), multiflora rose (Rosa multiflora), and Japanese barberry (Berberis thubergii).

#### 5.5 Rare, Threatened and/or Endangered Species

A Pennsylvania Natural Diversity Index (PNDI) Environmental Review was completed for CBRS on February 20, 2025. The PNDI reviews indicated that no known impacts to threatened and endangered and/or special concern species and resources are anticipated within CBRS. Therefore, no coordination is required with the PNDI jurisdictional agencies. The Final PNDI receipt is provided in Appendix E: PNDI Receipt.

# **6.0 Determination of Mitigation Needs**

#### 6.1 Functional Impacts and Proposed Functional Uplift

A majority of the impacts being mitigated are a result of conversion from PFO to PEM systems, the loss of functions and values is limited to habitat and structural features. Hydrology and other ecosystem functions such as nutrient cycling, sediment retention, floodwater retention and storage of the impacted resources will remain. In addition, the overall impacts are the result of the accumulation of smaller impacts, therefore habitat is minimal.

The post-restoration wetland system at the PRM Site will exhibit a diverse plant community structure and will offer a greater and wider range of usable products for wildlife. This will improve the value and functionality of the habitat for various types and populations of animals typically associated with wetlands. Native vegetation will encourage a greater opportunity for a diverse vegetative community to develop. Furthermore, appropriate native vegetation will improve the ecological integrity of the enhanced wetland, as the wetland will build resilience and become self-sustaining and able to accommodate stress and change. The PRM Site therefore plays an important role in the larger ecological system and encompassing watershed.

Current functionality is expected to improve considerably because of restoration efforts. The expected functional ecological uplift the wetland will exhibit as a result of restoration efforts, in addition to the acreage calculations as described in Section 7.0 Mitigation Work Plan, will both meet the required mitigation ratio and offset the functions and values that will be lost at the impact site.

#### 6.2 Proposed Mitigation

In order to offset conversion impacts of PSS and PFO wetland to PEM and the loss of 0.002 acre of PEM wetland as a result of the Project, FPR will implement enhancement across 5.56 acres. Within the 5.56 acres an existing 0.78 acres of existing PFO will remain protected and 4.78 acres of degraded PEM wetland will be reforested through enhancement activities. Wetland enhancement activities will focus on the removal of non-native and invasive species, which will be replaced with planted native wetland shrubs and trees, and supplemental plantings as shown in Appendix F (Mitigation Plan). Over time, the trees and shrubs planted in formerly PEM wetland areas will undergo natural vegetative succession, developing into a dynamic PSS mosaic condition before ultimately maturing into a predominantly forested (PFO) condition across the site.

The primary invasive species that will be targeted are reed canary grass (Phalaris arundinacea) and multiflora rose (Rosa multiflora). Clearing the understory of invasive herbaceous plants will open up the understory for the application of the native seed mix; which in the enhancement areas will be a mixed

facultative-obligate seed mix to include species which will more adequately respond to the microtopographic variations and associated hydrology noted onsite (Appendix F: Mitigation Plan).

# 7.0 Mitigation Work Plan

#### 7.1 Wetland Enhancement Approach

Restoration activities will include vegetative enhancement and protection of the wetland resources within the bounds of the PRM Site. Appendix F (Mitigation Plan) shows the proposed restoration activities and proposed planting/seeding lists for the PRM Site. Ecological lift will be achieved by protecting the area from anthropogenic activities, restoring historic habitat conditions, planting and seeding of native plant species to restore the native plant community, and controlling invasive species.

The restoration work will focus on the establishment of a forested wetland complex throughout the enhancement area. The proposed PFO wetland system is anticipated to exhibit a PFO dominated wetland mosaic at maturity and include pockets of PEM and PSS enclosed or surrounded by a forested canopy, adding to habitat heterogeneity and complexity. Based upon the noted hydrology on-site, trees and shrubs will be planted per their hydrologic needs and adaptability, with trees and shrubs that are able to tolerate wetter conditions installed in and around inundated and/or fully saturated areas. Woody plantings will be installed at an approximate rate of 350 stems per acre. The proposed planting schedule is identified in Table 5 and Appendix F.

SCIENTIFIC NAME	COMMON NAME	Type/Size	INDICATOR STATUS	NUMBER PER ACRE	QUANTITY
Acer saccharinum	Silver Maple	3-5 gallon, minimum 5'	FACW	20	90
Acer rubrum	Red Maple	3-5 gallon, minimum 5'	FAC	20	90
Alnus serrulata	Brookside Alder	1 gallon, minim 3'	OBL	30	135
Amelanchier canadensis	Canadian Service-Berry	1 gallon, minim 3'	FAC	30	135
Betula nigra	River Birch	3-5 gallon, minimum 5'	FACW	30	135
Carpinus caroliniana	American Hornbeam	1 gallon, minim 3'	FAC	20	90
Cephalanthus occidentalis	Common Buttonbush	1 gallon, minim 3'	OBL	20	90
Cornus amomum	Silky Dogwood	1 gallon, minim 3'	FACW	30	135
Lindera benzoin	Northern Spicebush	3-5 gallon, minimum 5'	FAC	20	90
Physocarpus opulifolius	Atlantic Ninebark	1 gallon, minim 3'	FACW	20	90
Platanus occidentalis	American Sycamore	3-5 gallon, minimum 5'	FACW	20	90
Quercus bicolor	Swamp White Oak	3-5 gallon, minimum 5'	FACW	20	90
Salix nigra	Black Willow	1 gallon, minim 3'	OBL	30	135
Quercus palustris	Pin Oak	3-5 gallon, minimum 5'	FACW	20	90
Viburnum dentatum	Southern Arrow-Wood	1 gallon, minim 3'	FAC	20	90
			TOTAL	350	1575

<sup>\*</sup>The proposed planting species, type and quantities are subject to change pending availability at the time of implementation.

A floodplain seed mix (Ernst Mix #154) will be applied to all wetlands, focusing on areas in which diversity is low, and in all areas in which invasive species control is implemented to ensure native vegetation replaces the invasives. Table 6 lists the Ernst 154 seed mix.

Table 6: Proposed Restoration Seed Mix (Ernst-154, Floodplain Mix)							
SCIENTIFIC NAME	COMMON NAME	INDICATOR STATUS	MIX DENSITY	SEEDING RATE (20 LBS/ AC)			
Elymus virginicus	Virginia Wild Rye	FACW	20.00%	104.40			
Dichanthelium clandestinum	Deer-Tongue Rosette Grass	FAC	14.50%	75.69			
Andropogon gerardii	Big Bluestem	FAC	14.00%	73.08			
Sorghastrum nutans	Yellow Indian Grass	FACU	14.00%	73.08			
Carex vulpinoidea	Common Fox Sedge	OBL	10.00%	52.20			
Carex scoparia	Pointed Broom Sedge	FACW	6.30%	32.89			
Carex Iurida	Shallow Sedge	OBL	6.30%	32.89			
Verbena hastata	Simpler's-Joy	FACW	3.00%	15.66			
Juncus effusus	Lamp Rush	FACW	2.00%	10.44			
Asclepias incarnata	Swamp Milkweed	OBL	2.00%	10.44			
Zizia aurea	Golden Alexanders	FAC	2.00%	10.44			
Verbena urticifolia	White Vervain	FAC	1.00%	5.22			
Solidago rugosa	Wrinkle-Leaf Goldenrod	FAC	0.60%	3.13			
Symphyotrichum lanceolatum	White Panicled American-Aster	FACW	0.50%	2.61			
Helenium autumnale	Fall Sneezeweed	FACW	0.50%	2.61			
Symphyotrichum novae- angliae	New England American-Aster	FACW	0.50%	2.61			
Symphyotrichum puniceum	Purple-Stem American-Aster	OBL	0.50%	2.61			
Eupatorium perfoliatum	Common Boneset	FACW	0.40%	2.09			
Monarda fistulosa	Oswego-Tea	UPL	0.40%	2.09			
Euthamia graminifolia	Flat-Top Goldentop	FAC	0.40%	2.09			
Scirpus cyperinus	Cottongrass Bulrush	FACW	0.30%	1.57			
Lycopus americanus	Cut-Leaf Water- Horehound	OBL	0.30%	1.57			
Mimulus ringens	Allegheny Monkey-Flower	OBL	0.30%	1.57			
Lobelia siphilitica	Great Blue Lobelia	FACW	0.20%	1.04			
		Total	100%	522.00			

#### 7.2 Wetland Enhancement Sequence

The wetland enhancement process will involve diligent invasive species management and replanting efforts. Initial restoration work, specifically during Year 1, will involve the application of an aquatic approved chemical herbicide to the invasive species within the PRM Site. Conservation area signage will be installed to demarcate the PRM Site boundaries. The PRM Site will be treated either early or late in the growing season while native species are dormant to avoid adverse impacts to native vegetation present within the PRM Site. Following initial weed control efforts, and depending on the time of year and season, the initial seeding and planting will be conducted. If the time of year is late summer or fall, planting will

be postponed until the appropriate planting window. During the appropriate planting window, native seeding will be installed following a weed control event. Weed control activities will require follow-up monitoring to ensure effectiveness of the control method(s).

After the initial weed control efforts, the site will be prepared for planting, which may include some selective mowing to allow for the installation of native plant seed within the PEM wetlands. A variety of native trees and shrubs will be planted at the PRM Site, as summarized in Appendix F: Mitigation Plan and in Table 5. Please note that the specific list may change slightly based on time of year that planting occurs and stock availability.

The initial planting will be conducted in a manner that will allow for continued mechanical weed control of the newly seeded enhancement area during the first three years of establishment. This is to prevent weedy species from becoming established within the PRM Site while the native seeds germinate and grow, and to ensure enough light gets through to the establishing seeds, trees, and shrubs. Selective trimming may be used as needed to ensure enough light is getting through to developing tree seedlings.

As described above, a facultative floodplain seed mix (Ernst Mix #154) will be applied to all wetlands, focusing on areas in which diversity is low due to the presence of invasive species to ensure native vegetation replaces the invasive at an approximate rate of 20 lbs/acre). Woody planting material will consist of a mix of wetland tree and shrub species (1 gallon and 3-5 gallon containerized material) at an approximate rate of 300 stems/acre in the existing PEM wetlands.

All planted woody vegetation is subject to a 85 percent survivorship performance standard for the monitoring period beginning Year 2, with Year 1 results providing a baseline, as detailed in Section 8.0 Performance Standards. Tree tubes will be used as needed in order to minimize mortality due to herbivory; however, it is possible that some of the smaller sized tree material will be lost to herbivory and other natural causes. This will be documented during the yearly monitoring periods. After the first year, the mortality from smaller trees and shrubs that have been installed will be used to determine replanting needs for the PRM Site's second year of establishment. The replanting will occur in a random pattern within the original gridded matrix to eliminate the appearance of planted "rows" and return the area to its natural condition. If during the 5 Year monitoring period of the PRM Site, the planted woody plant survivorship falls below 85 percent, supplemental plantings may be required to bring the PRM Site back into compliance with that success criterion. Replanting will continue until PRM site has successful achieved the agreed upon performance standards.

#### 7.3 Maintenance Plan

The PRM site will be monitored and maintained by FPR. FPR will act as the willing agent to perform all duties associated with satisfying compensatory mitigation requirements. Through contractual agreement with the Permittee, FPR will commit to restoring, enhancing, and preserving wetland functions and maintain wetland habitats in accordance with the provisions in this PRM Plan.

Yearly maintenance will be documented in the annual monitoring reports along with a discussion of any anticipated maintenance events that will be needed the following year. In general, two to three site visits will be conducted annually during the first 3 years to monitor the PRM Site for invasive species and adapt the yearly maintenance plan as needed based upon these observations.

In general, maintenance will be heaviest during the first 3 years of establishment, and will entail mechanical weed control events, along with two or three chemical control events, all targeting invasive species. Maintenance will focus on controlling any pockets of invasive species that might still be present on-site and monitoring for the establishment of any new stands of invasive species. Control methods will

be targeted to deal with the individual species as they are found and will include both mechanical and chemical control. The Agent projects that by the 4th and 5th years, the intensity of management efforts required will drop off significantly as the native plant community will be relatively well established and resilient against the establishment and encroachment of invasive species.

In locations where wetland areas are too wet to allow mechanical access, manual chemical and mechanical weed control will be necessary. These areas can be threatened by more persistent perennial invasive species, specifically reed canary grass. Target weed control applied through spot application, coupled with mechanical weed control to stop any re-seeding will be the primary weed control techniques used in the wetter wetland areas.

#### 8.0 Performance Standards

In order to document and confirm acceptable mitigation performance of the proposed PRM site, the following performance thresholds will be achieved and maintained. Each of the following metrics will be evaluated by establishing a 0.10 (35' radius) acre vegetation assessment plot at a rate of 2 plots per acre (12 plots total). Plot data will be used to establish quantifiable assessment of the success of the site. Professional judgement and visual assessments will be used to determine if the plot data is representative of the overall site.

- •Invasive Species- Invasive herbaceous plant coverage will not exceed 20 percent during Year 1 monitoring and 10 percent each year thereafter. Determined by a visual assessment of aerial coverage.
- Native Species- Hydrophytic herbaceous plant coverage will be at least 60 percent by the end of the first full monitoring year, 80% by the end of the second full monitoring year, and at least 85 percent each monitoring year thereafter. Determined by a visual assessment of aerial coverage.
- •Woody Survivorship- Planted woody survivorship will be maintained at 85% with at least 30% of the species being comprised of tree species.

# 9.0 Monitoring Requirements

On behalf of the Permittee, FPR will monitor the PRM Site to demonstrate compliance with the Performance Standards detailed in Section 8: Performance Standards. At a minimum, monitoring reports will include the following:

- 1. Visual description of the entire site.
- 2. Photographs of each monitoring plot.
- 3. Summary of quantitative vegetation data collected for each monitoring plot.
- 4.Discussion/conclusion reporting on the results of the quantitative vegetation analysis.
- 5.Summary of any completed or proposed corrective actions that have been taken or will be needed.

Monitoring reports will be submitted twice for the first three years after construction on a Spring/Fall schedule, commencing one growing season after planting is completed. After the first three years reports will be completed annually. Spring reports will be submitted to PADEP and USACE by August 31 and Fall reports will be submitted by December 31 of the monitoring years. If it is determined that performance standards have been adequately met early close out of the site may be requested.

In addition, FPR will complete an as-built planting plan to show the general locations and quantities of the vegetative material that was planted. On behalf of the Permittee, FPR will submit the as-built planting

plan as part of the first monitoring report to the regulating agencies following completion of the planting and first monitoring event for the PRM Site.

# 10.0 Long-Term Management Plan

To ensure the long-term sustainability of the project, FPR will perform maintenance and long-term management. It is anticipated that these activities will be minimal, as the project is designed to be self-sustaining with limited management activities. Long-term stewardship activities will include inspections, controlling invasive species, and boundary maintenance. Given the strong financial standing of the Permittee, no financial assurances are deemed necessary at this time.

PRM Site boundaries shall be marked with a metal post which reads "Conservation Area" to prevent casual trespass while allowing necessary access. During each site visit, notes will be made as to the condition of signs, crossings, and property boundaries. Recommendations to repair or replace signage, crossings, or property boundary markers will be made, if applicable.

FPR will be the initial designated Long-term Steward charged with long-term management and maintenance responsibilities. Once the site has met the Performance Standards detailed in Section 8.0 Performance Standards, FPR will continue to carry out the long-term management responsibilities at least every other year for ten years. Long-term management and maintenance responsibilities will then cease, and the site will remain protected into perpetuity by the terms of the site protection instrument. FPR may submit a request to the agencies to cease long-term management and maintenance responsibilities prior to the end of the ten-year period.

# 11.0 Adaptive Management Plan

An adaptive management plan including contingency, and remedial responsibilities will be implemented in the event monitoring reveals that certain performance standards have not been met. In the event of a deficiency, FPR will provide notice to the Permittee, PADEP, and USACE. The notice will include an explanation for the deficiency, potential remedial actions that could be undertaken, an assessment of risks, and an assessment of any adjustments that must be made to the maintenance and monitoring regime.

Ecological restoration is in its essence the practice of adaptive management. Due to the multitude of factors that affect a restoration project in a given year, the practitioner needs to be constantly assessing the site, and reacting to changing conditions as the site develops and matures. Usually, yearly variations are relatively minor and within the parameters of a given project's performance standards. These normal variations are noted through regular site visits, yearly monitoring reports, and yearly maintenance activities. Occasionally, rare instances arise which bring a project far outside of the defined range of its performance standards and more intensive remedial action is required. This adaptive management plan forecasts a few potential situations that could cause the proposed PRM Site to be well outside the range of its defined performance standards and how those instances would be addressed.

#### Wetland Vegetation

As the PRM Site is currently designed as a wetland enhancement site, all wetland areas have been delineated in accordance with the 1987 USACE Wetlands Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont (Version 2.0) (USACE, 2012). Restoration activities at the PRM Site are not anticipated to result in changes that will negatively affect the hydrology; therefore, risk of hydrology changing is not expected. As such, risk of the seeding or planting failing due to hydrology is not anticipated, unless there is an unexpected and extreme drought. In that instance, any failure would be noted in the

monitoring report, and replanting or reseeding would be conducted based on the results of the monitoring report.

Also of risk to wetland areas is a large-scale aggressive break out of invasive species. This risk is usually highest if grading is conducted in a restoration, as the exposed soil and lack of vegetative competition allows for easy succession by fast growing and aggressive invasive species such as reed canary grass. Since this PRM Project is using an enhancement approach, there is little to no risk of this happening. Invasive species will be controlled on a yearly basis.

#### Invasive Species and Native Dominance

If at any point there was an intensive colonization of upland or wetland invasive species, which brought the total percent of invasive species well above the allowed performance standards, remedial action will be needed. The management technique used will be dependent on the type of invasive species colonizing the site (i.e. annual, or perennial, primary reproduction through vegetative spread or through seed). If the species are annual they can be managed via maintenance mowing and mechanical weed control methods to stop them from re-seeding into the site. After the seed bank is depleted, they drop out of the vegetative matrix. If they are perennial in nature, chemical herbicides need to be used; mechanical weed control is still used to stop further spreading through seed if they are a species that has high germination rates.

Once the invasive species control has begun, additional seeding or planting will need to be conducted to re-introduce a native plant community into the area of concern. Depending on the type of invasive species (i.e. broad leaf or monocot), replanting and reseeding strategies can be used to allow for continued chemical control of the invasive species in the area while still allowing the native species to germinate and develop.

The likelihood of this scenario is low; once established, native plant communities are actually quite resilient to invasion by invasive species as long as they are not disturbed or impacted. Invasive species issues on a restoration site tend to be most problematic during the first 2 years, because there is bare soil immediately available for germination and colonization immediately following construction, and there may be invasive species in the existing seed bank to germinate and establish. As previously stated, the primary restoration technique being used on this site is enhancement and therefore, the risk of this happening is extremely low.

In the event that the site is not meeting its performance standards for native herbaceous cover, additional seeding will be conducted. Again, the most important factor for establishing a healthy stand of wetland herbaceous species is proper maintenance during the first 2 to 3 years of establishment, specifically mowing in enhancement area. This ensures enough light is reaching the developing seedlings, while also eliminating competition from annual weedy species that may be trying to colonize the site. In the wetland areas, mowing cannot be conducted, but mechanical weed control with weed whips can be used.

#### Browse and Herbivory

As stated in section 7.2 (Wetland Enhancement Sequence) some level of herbivory is anticipated. Initial tree protection will occur through the use of tree tubes. Deer browse and rodent herbivory will be assessed throughout the maintenance and monitoring period. If it is determined that animal damage is preventing the performance standards from being achieved additional measures for tree protection such as installing more robust tree cages will be implemented. Replanting as necessary to achieve the performance standards not being met as a result of herbivory will also be completed to ensure performance standards are achieved prior to site close out.

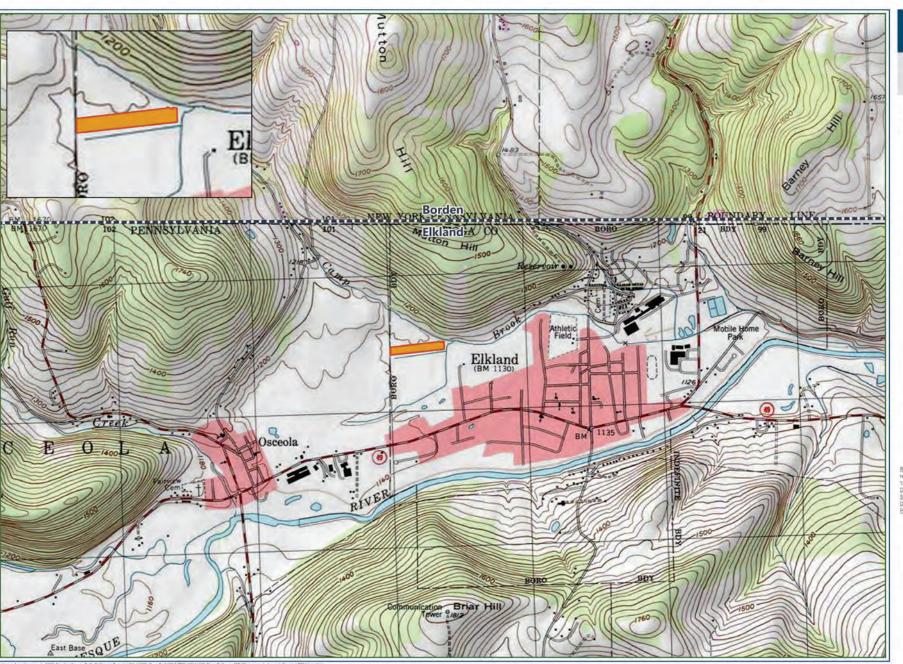
#### 12.0 References

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# APPENDIX A FIGURES



#### Figure 1 PRM Location

Tioga Pathway PRM Elkland Borough, Tioga County

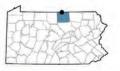
77.3275°W 41.9913°N

PRM Project Location

7.5 Minute Quadrangle Index



Reference: Project limits are approximate and do not reflect a survey. The PRM Project is located in the 124K.Elkland (ANDT-H-3) 7.5 USGS opportungle. Data Source: SSN USA. Topo Maps (SSN 2024) Spatial Reference, NADBS StatePlane PA N (th Data Esported: UZ/02/0225 Project Number; 111786





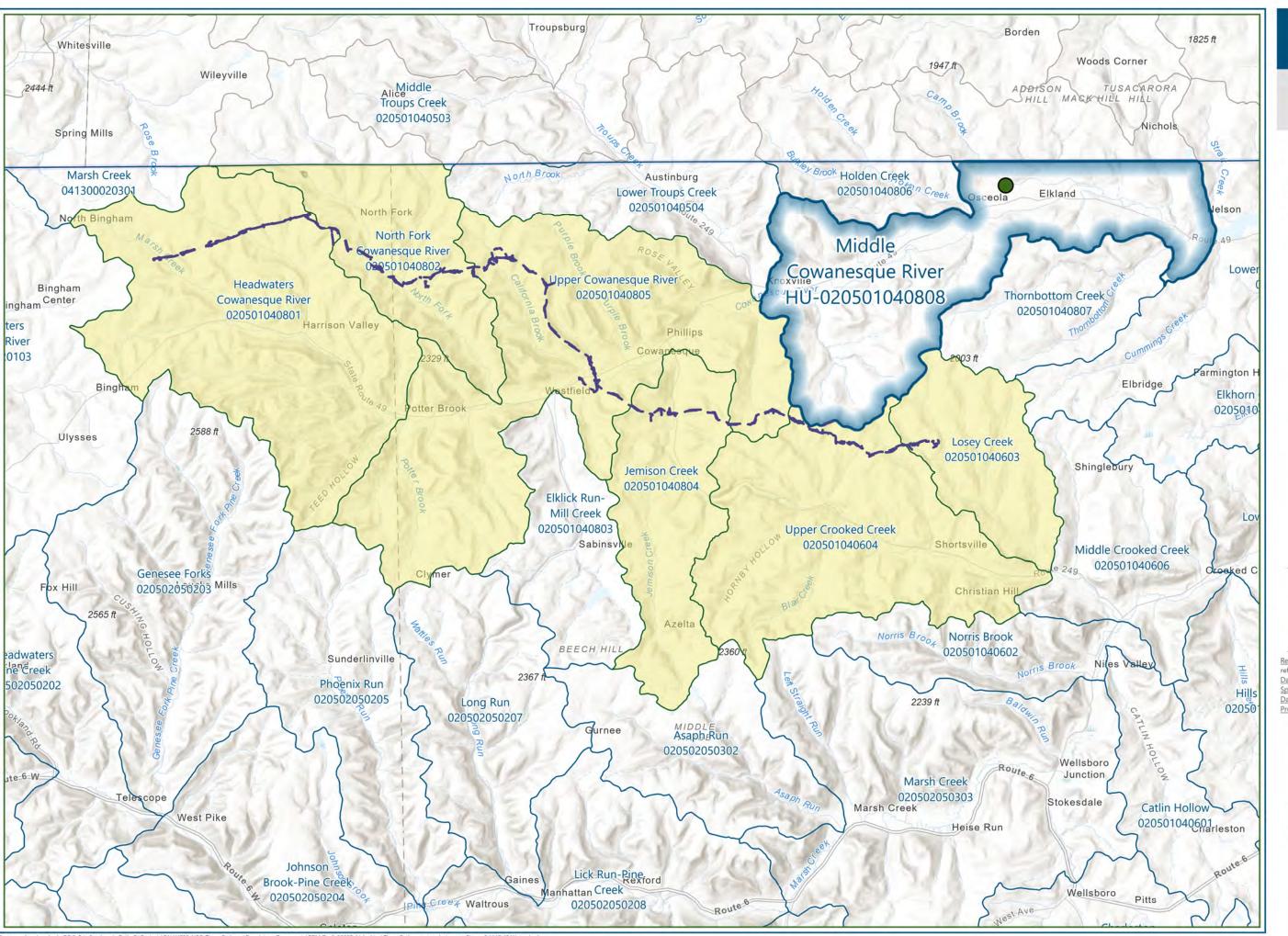


Figure 2 **HUC-12 Watershed** 

**Tioga Pathway PRM** Elkland Borough, Tioga County 77.3275°W 41.9913°N

PRM Project Location

Tioga Pathway Project Route

**HUC12 Watersheds** 

Impacted HUC12

N 1 in = 11,000 ft when printed at 11x17\*



5,500 11,000

Reference: Project limits are approximate and do not Data Source: USGS (2023); ESRI (2024) Spatial Reference: NAD83 StatePlane PA N (ft)

Date Exported: 2/21/2025







# Figure 3A Existing Conditions

**Tioga Pathway PRM** Elkland Borough, Tioga County

77.3275°W 41.9913°N

Proposed Conservation Area (±5.65 AC)

Parcel Boundaries

**NHD Streams** 

○ Stream

**NWI Wetlands** 

Freshwater Emergent

Freshwater Forested/Shrub

Freshwater Pond

Riverine

N 1 in = 150 ft when printed at 11x17"



Reference: Project limits are approximate and do not

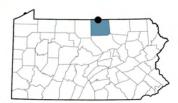
reflect a survey.

Data Source: PEMA Imagery (2024); USGS (2023);
USFWS (2022)

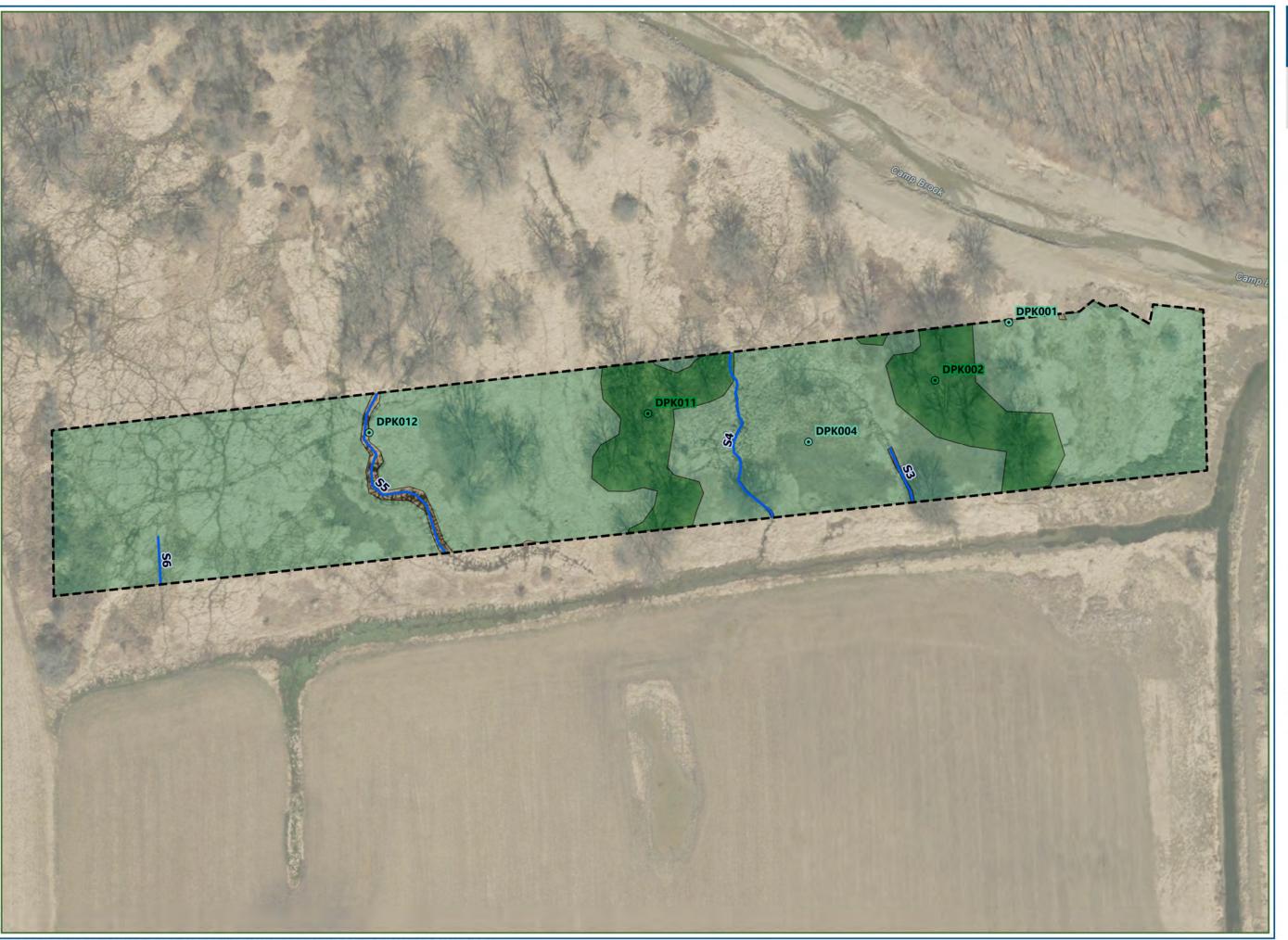
Spatial Reference: NAD83 StatePlane PA N (ft)

Date Exported: 12/13/2024

Project Number: 111788







# Figure 3B

Delineated Resources

**Tioga Pathway PRM** Elkland Borough, Tioga County

77.3275°W 41.9913°N

Proposed Conservation Area (±5.65 AC)

Data Points

Wetland

PEM | Palustrine Emergent

PFO | Palustrine Forested

Delineated Streams (±609.96 LF)

Stream Type

Perennial (±609.96 LF)

Delineated Wetlands (±5.56 AC)

Class

PEM | Palustrine Emergent (±4.78 AC)

PFO | Palustrine Forested (±0.78 AC)

1 in = 100 ft when printed at 11x17\*





Reference: Project limits are approximate and do not reflect a survey. Only Delineated Resources within the Conservation Area is shown and used in summary calculations.

Data Source: PEMA Imagery (2024)
Spatial Reference: NAD83 StatePlane PA N (ft)
Date Exported: 5/21/2025
Project Number: 111788







## Figure 4 Ecological Inventory

**Tioga Pathway PRM** Elkland Borough, Tioga County

77.3275°W 41.9913°N

PRM Project Location

Public Water Supply Chapter 93 Designated Use Streams

CWF(COLD WATER FISHES)

HQ-CWF(HIGH QUALITY-COLD WATER FISHES)

TSF(TROUT STOCKING)

HQ-CWF(HIGH QUALITY-COLD WATER FISHES), WWF(WARM WATER FISHES)

**Conserved Lands** 

Local Conserved Lands



Natural Heritage Inventory



Core Habitat

N 1 in = 1.5 mi when printed at 11x17"



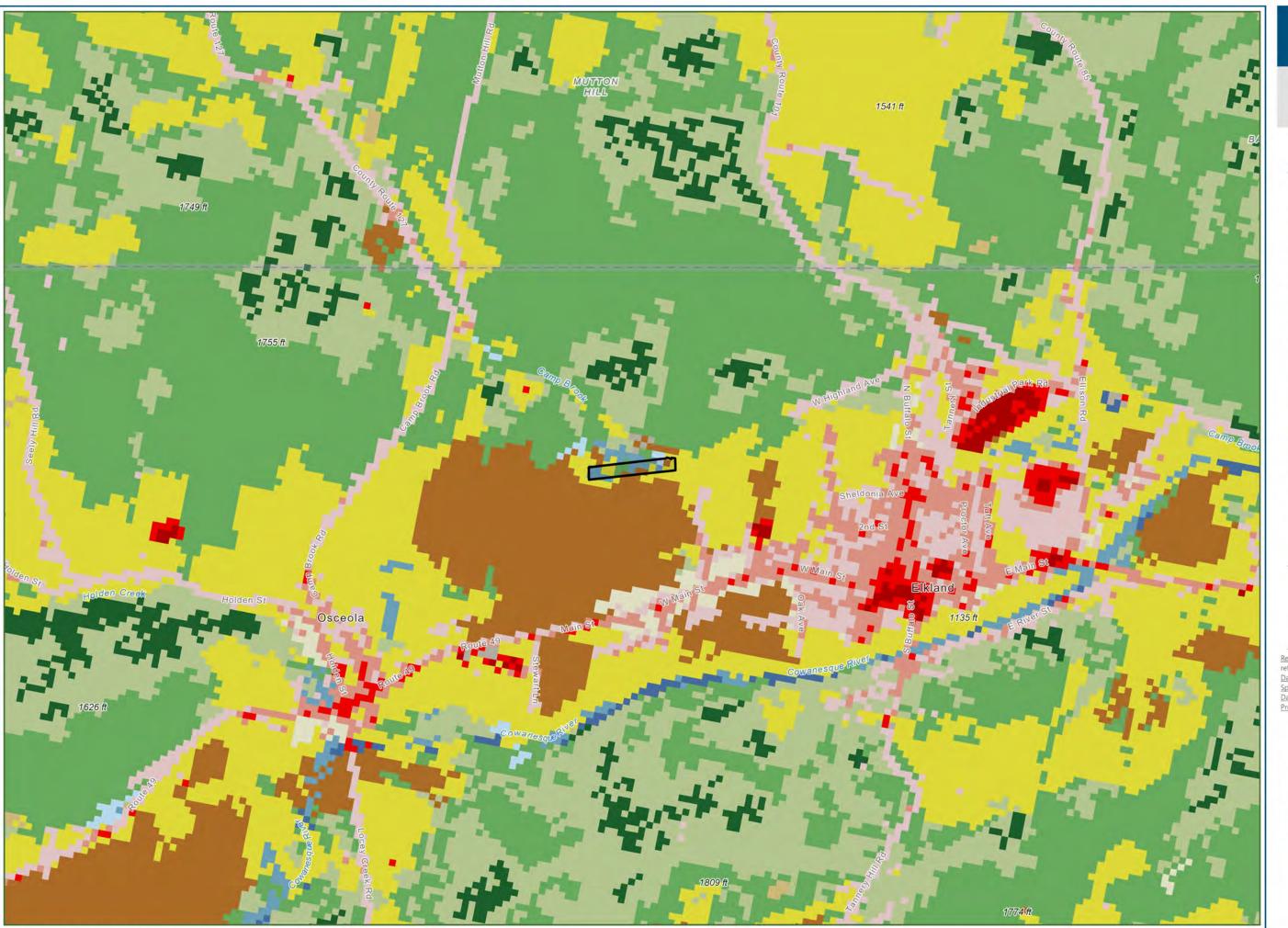
0 0.25 0.5 0.75 1

Reference: Project limits are approximate and do not

reflect a survey. <u>Data Source</u>; PEMA (2018); ESRI (2024); PADCNR (2020); PADEP (2022); WeConservePA (2024) Spatial Reference: NAD83 StatePlane PA N (ft) Date Exported: 12/13/2024 Project Number: 111788







# **Figure 5A** 2001 Land Cover

**Tioga Pathway PRM**Elkland Borough, Tioga County

77.3275°W 41.9913°N

Proposed Conservation Area (±5.65 AC)

2001 National Land Cover Database

Open Water

Developed, Open Space

Developed, Low Intensity

Developed, Medium Intensity

Developed, High Intensity

Barren Land

Deciduous Forest

Evergreen Forest

Mixed Forest

Shrub/Scrub

Herbaceous

Hay/Pasture

Cultivated Crops

Woody Wetlands

Emergent Herb. Wetlands

N 1 in = 0.25 mi when printed at 11x17\*

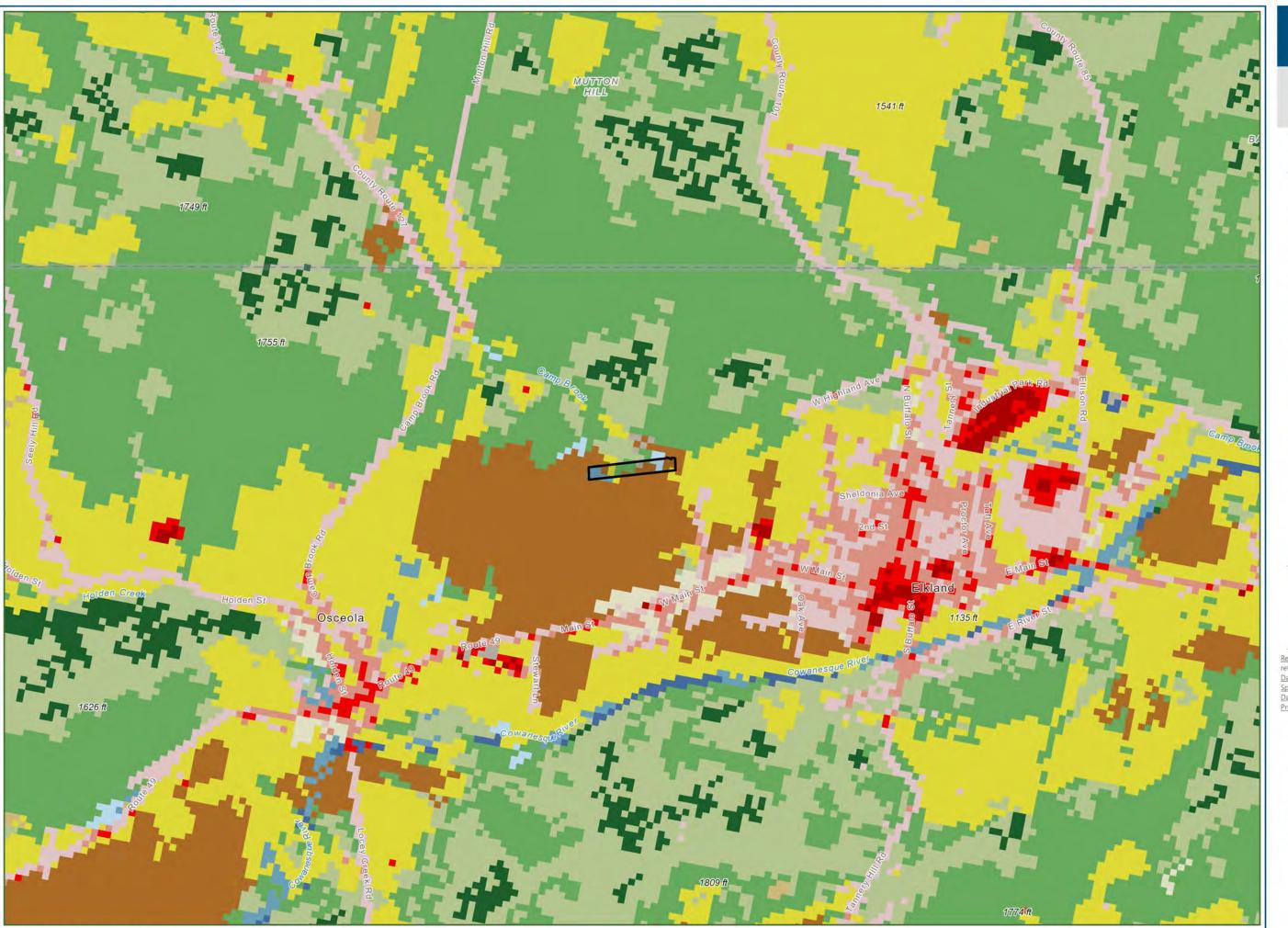


Reference: Project limits are approximate and do not reflect a survey.
Data Source: USGS (2001)

Data Source: USGS (2001) Spatial Reference: NAD83 StatePlane PA N (ft) Date Exported: 12/13/2024 Project Number: 111788







# **Figure 5B** 2011 Land Cover

**Tioga Pathway PRM**Elkland Borough, Tioga County

77.3275°W 41.9913°N

Proposed Conservation Area (±5.65 AC)

2011 National Land Cover Database

Open Water

Developed, Open Space

Developed, Low Intensity

Developed, Medium Intensity

Developed, High Intensity

Barren Land

Deciduous Forest

Evergreen Forest

Mixed Forest

Shrub/Scrub

Herbaceous

Hay/Pasture

Cultivated Crops

Woody Wetlands

Emergent Herbaceous Wetlands

N 1 in = 0.25 mi when printed at 11x17\*



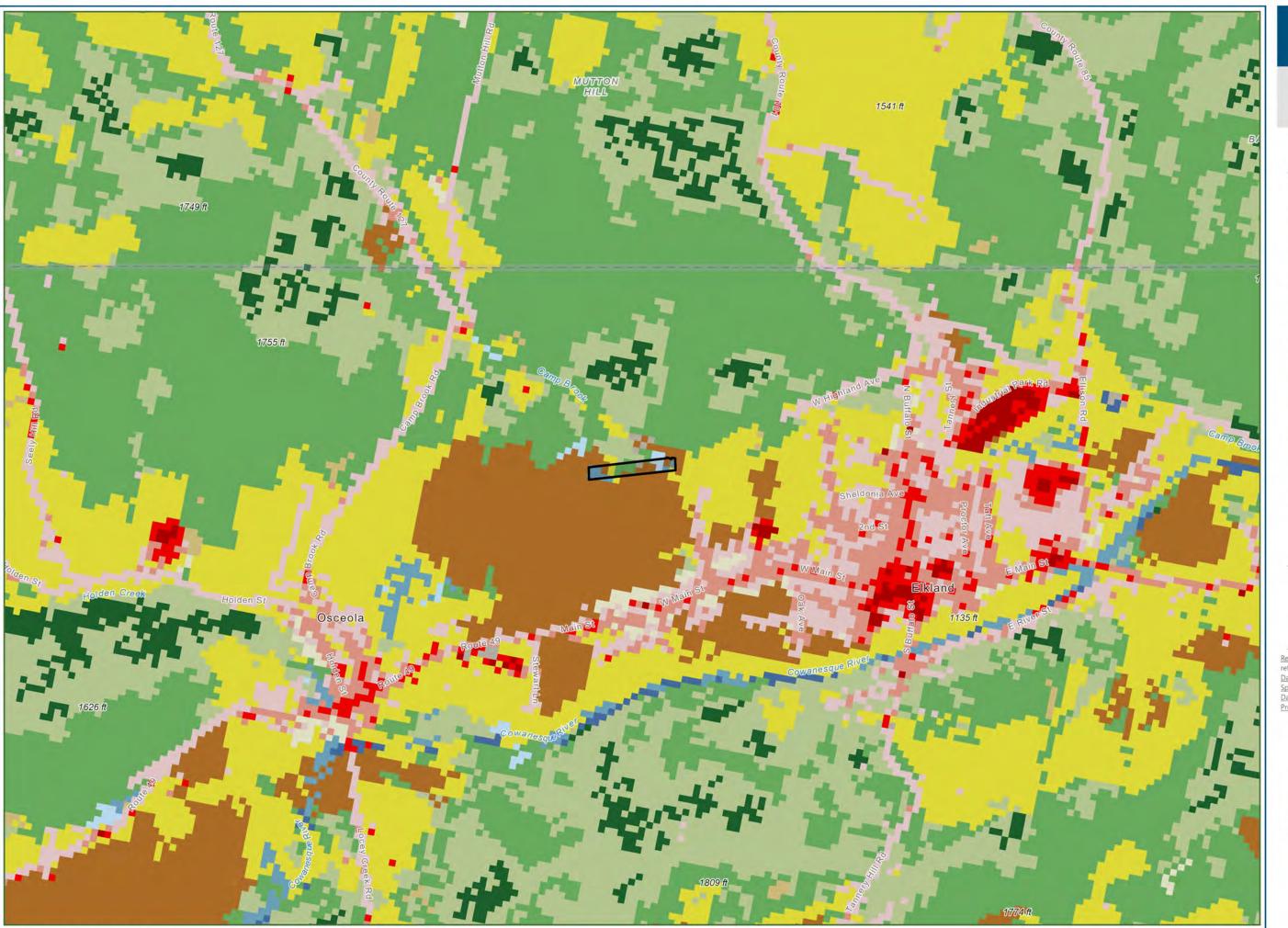
Reference: Project limits are approximate and do not reflect a survey.

Data Source: USGS (2011)

Data Source: USGS (2011)
Spatial Reference: NAD83 StatePlane PA N (ft)
Date Exported: 12/13/2024
Project Number: 111788







# **Figure 5C** 2021 Land Cover

**Tioga Pathway PRM**Elkland Borough, Tioga County

77.3275°W 41.9913°N

Proposed Conservation Area (±5.65 AC)

2021 National Land Cover Database

Open Water

Developed, Open Space

Developed, Low Intensity

Developed, Medium Intensity

Developed, High Intensity

Barren Land

Deciduous Forest

Evergreen Forest

Mixed Forest

Shrub/Scrub

Herbaceous

Hay/Pasture

Cultivated Crops

Woody Wetlands

Emergent Herbaceous Wetlands

N 1 in = 0.25 mi when printed at 11x17"



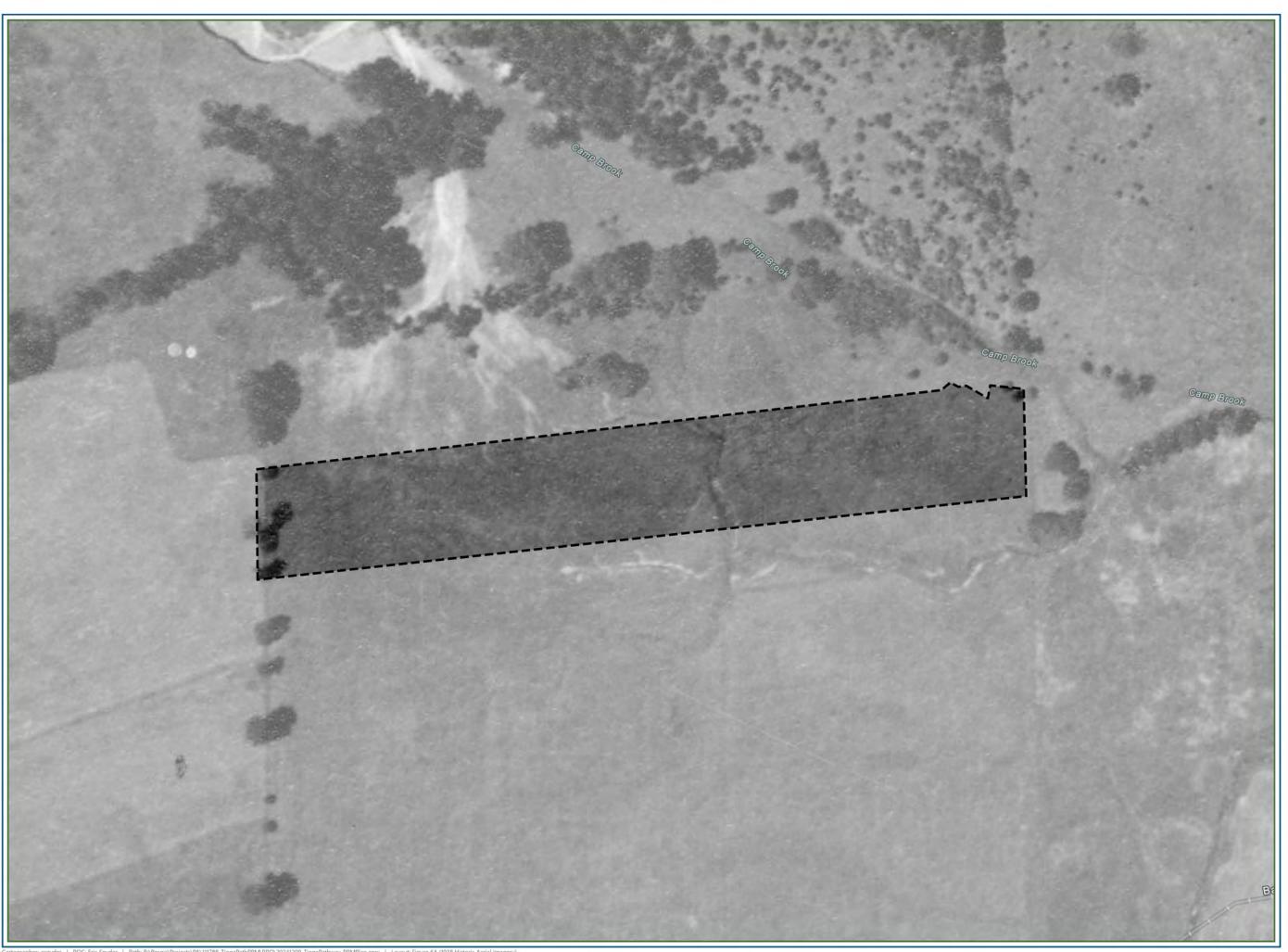
Reference: Project limits are approximate and do not reflect a survey.

Data Source: USGS (2021)

Data Source: USGS (2021) Spatial Reference: NAD83 StatePlane PA N (ft) Date Exported: 12/13/2024 Project Number: 111788







**Figure 6A** 1938 Historic Aerial Imagery

**Tioga Pathway PRM** Elkland Borough, Tioga County

77.3275°W 41.9913°N

Proposed Conservation Area (±5.65 AC)

N 1 in = 150 ft when printed at 11x17"



Reference: Project limits are approximate and do not reflect a survey. The background aerial image was acquired on 08/05/1938. Present day roads and location labels are shown for reference.

Data Source: ESRI Hybrid Reference (2024)

Spatial Reference: NAD83 StatePlane PA N (ft)

Date Exported: 12/13/2024

Project Number: 111788







**Figure 6B** 1952 Historic Aerial Imagery

**Tioga Pathway PRM** Elkland Borough, Tioga County

77.3275°W 41.9913°N

Proposed Conservation Area (±5.65 AC)

N 1 in = 150 ft when printed at 11x17"



Reference: Project limits are approximate and do not reflect a survey. The background aerial image was acquired on 08/25/1952. Present day roads and location labels are shown for reference.

Data Source: ESRI Hybrid Reference (2024)

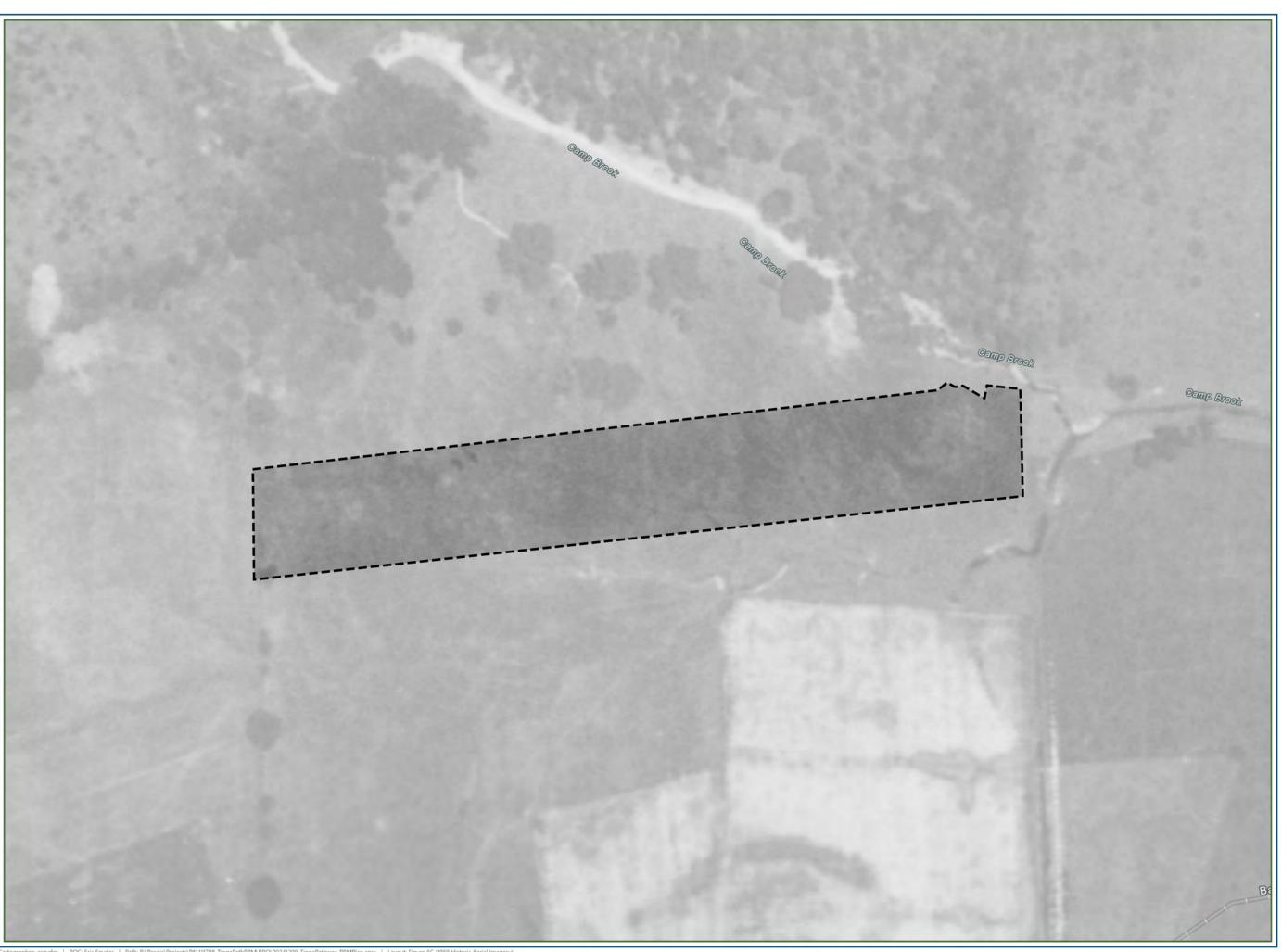
Spatial Reference: NAD83 StatePlane PA N (ft)

Date Exported: 12/13/2024

Project Number: 111788







**Figure 6C** 1959 Historic Aerial Imagery

**Tioga Pathway PRM** Elkland Borough, Tioga County

77.3275°W 41.9913°N

Proposed Conservation Area (±5.65 AC)

N 1 in = 150 ft when printed at 11x17"



0 25 50 100 150 ---

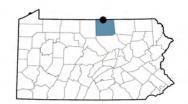
Reference: Project limits are approximate and do not reflect a survey. The background aerial image was acquired on 06/08/1959. Present day roads and location labels are shown for reference.

Data Source: ESRI Hybrid Reference (2024)

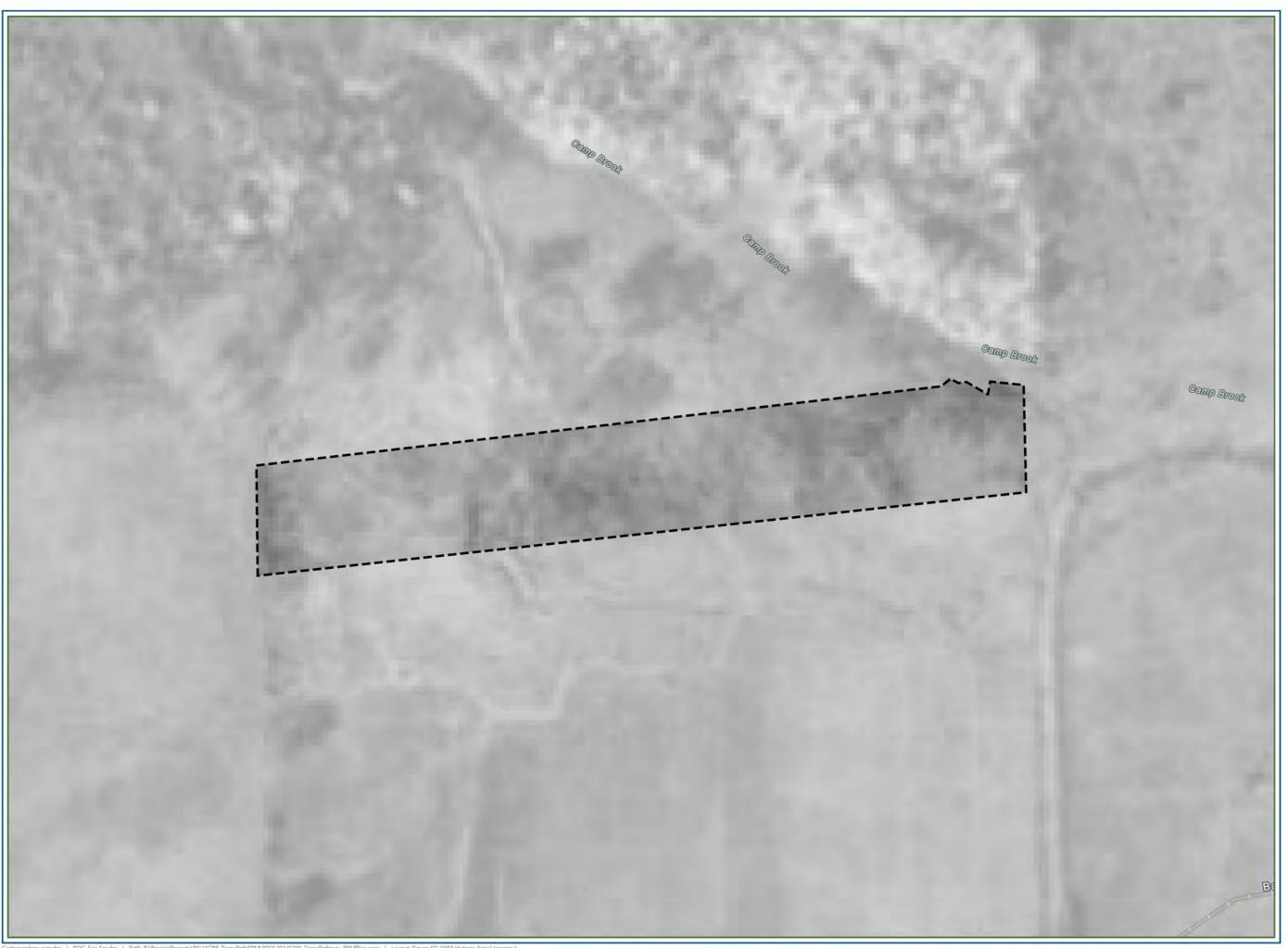
Spatial Reference: NAD83 StatePlane PA N (ft)

Date Exported: 12/13/2024

Project Number: 111788







# Figure 6D

1969 Historic Aerial Imagery

**Tioga Pathway PRM** Elkland Borough, Tioga County

77.3275°W 41.9913°N

Proposed Conservation Area (±5.65 AC)

N 1 in = 150 ft when printed at 11x17"



0 25 50 100 150 ---

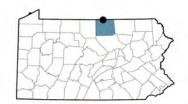
Reference: Project limits are approximate and do not reflect a survey. The background aerial image was acquired on 10/09/1969. Present day roads and location labels are shown for reference.

Data Source: ESRI Hybrid Reference (2024)

Spatial Reference: NAD83 StatePlane PA N (ft)

Date Exported: 12/13/2024

Project Number: 111788







# **Figure 6E** 2018 Extant Aerial Imagery

**Tioga Pathway PRM** 

Elkland Borough, Tioga County 77.3275°W 41.9913°N

Proposed Conservation Area (±5.65 AC)

N 1 in = 150 ft when printed at 11x17"



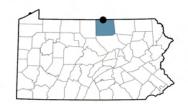
Reference: Project limits are approximate and do not reflect a survey. The background aerial image was acquired in 2018. Present day roads and location labels are shown for reference.

Data Source: PEMA Imagery (2018); ESRI Hybrid Reference (2024)

Spatial Reference: NAD83 StatePlane PA N (ft)

Date Exported: 12/13/2024

Project Number: 111788







**Figure 7**Soil Survey

**Tioga Pathway PRM**Elkland Borough, Tioga County

77.3275°W 41.9913°N

Proposed Conservation Area (±5.65 AC)

N 1 in = 150 ft when printed at 11x17"



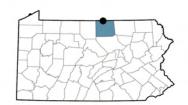
Reference: Project limits are approximate and do not reflect a survey. Hydric ratings are based on the SSURGO "Hydric Classification-Presence" field.

Data Source: PEMA Imagery (2018); ESRI Hybrid Reference (2024); USDA SSURGO (2024)

Spatial Reference: NAD83 StatePlane PA N (ft)

Date Exported: 12/13/2024

Project Number: 111788







## Figure 8 Topography

**Tioga Pathway PRM** Elkland Borough, Tioga County

77.3275°W 41.9913°N

Proposed Conservation Area (±5.65 AC)

Contours (10ft)

Contours (2ft)

N 1 in = 150 ft when printed at 11x17"



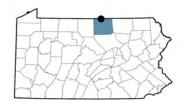
Reference: Project limits are approximate and do not reflect a survey.

Data Source: PEMA Imagery (2018); ESRI Hybrid Reference (2024)

Spatial Reference: NAD83 StatePlane PA N (ft)

Date Exported: 12/13/2024

Project Number: 111788







# Figure 9 FEMA Flood Hazards

**Tioga Pathway PRM** Elkland Borough, Tioga County

77.3275°W 41.9913°N

Proposed Conservation Area (±5.65 AC)

NFHL Flood Hazard Zones

1% Annual Chance Flood

N 1 in = 150 ft when printed at 11x17"



Reference: Project limits are approximate and do not reflect a survey.

Data Source: PEMA Imagery (2018); ESRI Hybrid Reference (2024); FEMA (2024)

Spatial Reference: NAD83 StatePlane PA N (ft)

Date Exported: 12/13/2024

Project Number: 111788





## APPENDIX B SITE PROTECTION INSTRUMENT

## **DECLARATION OF RESTRICTIVE COVENANT FOR CONSERVATION**

This DECLARATION OF RESTRICTIVE COVENANTS FOR CONSERVATION
("Declaration") is made and entered into as of [date] by and between FIRST PENNSYLVANIA
RESOURCE, L.L.C., a Pennsylvania limited liability company, with a business address at 33
Terminal Way, Pittsburgh, PA 15219 ("Grantee") and , an [individual/
corporation/other organization] with a mailing address at [ ] ("Grantor").
RECITALS
WHEREAS, Grantor owns certain real estate located in County(ies),
Pennsylvania, consisting of acres, more or less, as described more specifically in
Exhibit A hereto (the "Property"); and
WHEREAS, Grantee is a Pennsylvania company in the business of stream and wetland
mitigation in the Commonwealth of Pennsylvania; and
WHEREAS, the Grantor has agreed to make a acre portion of the Property,
delineated in <b>Exhibit B</b> , where certain [stream and/or] wetland resources exist or may be created
and/or enhanced (the "Conservation Area"), subject to this Declaration; and
77 3 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -

WHEREAS, the Grantor agrees to the creation of the Conservation Area described herein and intends that the Conservation Area shall be preserved and maintained in perpetuity in an enhanced or natural condition, which will include functioning [streams and/or] wetlands; and

WHEREAS, the Conservation Area, or a portion thereof, is intended to be used in the future as mitigation for impacts to waters of the United States and/or waters of the Commonwealth of Pennsylvania authorized under U.S. Army Corps of Engineers ("Corps" to include any successor agency) or Pennsylvania Department of Environmental Protection ("PADEP" to include any successor agency) permit(s). Before, or at the time a Corps or PADEP permit or verification or a Mitigation Banking Instrument approves using this Conservation Area as mitigation: (1) the Mitigation Plan approved/required by such permit or Banking Instrument must contain a legal description of the portion of the Conservation Area to be used as mitigation or a Mitigation Bank; and (2) Grantee must record an addendum to this Declaration containing a legal description of the portion of the Conservation Area associated with each permit or Mitigation Bank, which references the applicable Corps and/or PADEP permit/verification number(s) or Mitigation Bank Site Name and any associated Corps/PADEP authorization/approval number(s). A form of the addendum to be used is attached to this Declaration as **Exhibit C**; and

WHEREAS, in recognition of the continuing benefit to the Property, and for the protection of waters of the United States and scenic, resource, environmental, and general property values, the Grantor and Grantee have agreed to place certain restrictive covenants on the Property, in order that the Conservation Area shall remain substantially in its natural condition forever; and

WHEREAS,	the Grantor	and C	Grantee agr	ree ar	nd acknov	wledge that	this Declara	tion,
including the rights a	authorized to G	rantee	herein, sha	ıll be a	assignable	and transfe	rrable to Gran	tee's
subsequent heirs,	successors,	and	assigns,	[if	Holder	known:	including	the
	]; and		_	_			_	
[If Holder k	nown: WHEF	REAS.	the			. a 501	(c)(3) tax-exc	empt
entity registered wit	h the Bureau o	f Chai	ritable Orga					
State, is a holder of	this Declaration	n] and						

WHEREAS, this Declaration is constructed and covenanted to meet the requirements for conservation easements under the Pennsylvania Conservation and Preservation Easements Act, Act 29 of 2001, and as amended thereafter; and

NOW, THEREFORE, for good and valuable consideration and in consideration of the mutually held interests in enhancement and preservation of the environment, as well as the terms, conditions, and restrictions contained herein, and pursuant to the laws of the Commonwealth of Pennsylvania, Grantor does agree to the following terms and conditions:

### A. **PURPOSE**

The purpose of this Declaration is:

- (1) To preserve, protect, and enhance the native flora, fauna, soils, water table, aquifer, drainage patterns, wetland resources and other related environmental functions and values of the Conservation Area;
- (2) To maintain the natural view shed of the Conservation Area in its native, enhanced, scenic and open condition;
- (3) To assure that the Conservation Area, including its air space, streams and other aquatic resources on or beneath the Conservation Area, and including, but not limited to, subsurface aquifers, springs, and the water table, will be maintained in perpetuity in its natural condition, as that may be enhanced, as provided herein; and
- (4) To prevent any use of the Conservation Area that threatens to or will impair, interfere with, or otherwise negatively affect its natural resource functions and values.

Grantor and Grantee [If known: and Holder] intend and agree that this Declaration will confine the use of the Conservation Area to such activities as are consistent with the purposes set forth herein.

## B. ACCESS

In order to achieve the purposes of this Declaration, the following rights are created in accordance with Pennsylvania law:

- (1) The Grantee shall have the right and Grantor acknowledges the right of [the holder(s) of this Declaration,] the Corps, the PADEP, and other government agencies with legal authority to enter upon the Property for purposes related to this Declaration, to inspect the Conservation Area at reasonable times to monitor compliance with this Declaration. Except in cases of a threat of a physical or public safety emergency, such entry shall, when practicable, be upon reasonable prior notice to Grantor or its successors and assigns, and such entry shall not unreasonably interfere with the Grantor's or its successors' and assigns' use and quiet enjoyment of the Property.
- (2) The Grantor, Grantee, [holder(s) of this Conservation Declaration,] the Corps, the PADEP and other government agencies with legal authority to enter upon the Property for purposes related to this Declaration, each shall have the right to enter upon the Property to access the Conservation Area at reasonable times and upon prior notice to the Grantor; and upon notice and written approval by the Corps may take appropriate environmental or conservation management measures within the Conservation Area consistent with the terms and purposes of this Declaration, including, but not limited to:
  - (a) planting of native vegetation (i.e. trees, shrubs, grasses, and forbs); and
  - (b) restoring, altering or maintaining the topography, hydrology, drainage, structural integrity, streambed(s), streambank(s), water quantity, water quality, any relevant feature of a stream, wetland, water body, or vegetative buffer within the Conservation Area.
- (3) The Grantor and Grantee, [holder(s) of this Declaration], the Corps, PADEP, and other government agencies with legal authority to enter upon the Property for purposes related to this Declaration, shall each have the right to enforce the terms of this Declaration by appropriate legal proceedings in accordance with applicable law so as to prevent any activity on or use of the Property that is inconsistent with the purposes of this Declaration and to require the restoration of such areas or features of the Conservation Area that may be impaired or damaged by an inconsistent activity or use.

## C. **DURATION**

This Declaration shall remain in effect in perpetuity, shall run with the land regardless of ownership or use, and is binding upon and shall inure to the benefit of the Grantor and Grantee's [if known – and holder's] heirs, executors, administrators, successors, representatives, devisees, and assigns, as the case may be, as long as said party shall have any interest in any portion(s) of the Conservation Area.

### D. **RESTRICTIONS**

Any activity in or use of the Conservation Area that is inconsistent with the purposes of this Declaration by the Grantor; subsequent property owner(s); and the personal representatives, heirs, successors, and assigns of either the Grantor or subsequent property owner(s), is prohibited. Without limiting the generality of the foregoing, and except when an approved purpose under B.(2) above, or as necessary to accomplish mitigation approved under the any permit(s) reliant upon this Declaration, the following activities and uses are expressly prohibited in, on, over, or under the Conservation Area, subject to the express terms and conditions below:

- (1) **Structures**. The construction of man-made structures including, but not limited to, the construction, removal, placement, preservation, maintenance or alteration of any buildings, roads, utility lines, billboards, or other advertising. This restriction does not include deer stands, bat boxes, bird nesting boxes, bird feeders, duck blinds, and the placement of signs for safety purposes or boundary demarcation.
- (2) **Demolition**. The demolition of fencing structures constructed by the Grantee for the purpose of demarcation of the Conservation Area or for public safety.
- (3) **Soils**. The removal, excavation, disturbance, or dredging of soil, sand, peat, gravel, or aggregate material of any kind; or any change in the topography of the land, including any discharges of dredged or fill material, ditching, extraction, drilling, driving of piles, mining or excavation of any kind.
- (4) **Drainage**. The drainage or disturbance of any aquifer, the surface water level or the water table.
- (5) **Waste or Debris**. The storage, dumping, depositing, abandoning, discharging, or releasing of any gaseous, liquid, solid, or hazardous waste substance, materials or debris of whatever nature on, in, over, or underground or into surface or ground water.
- (6) **Non-Native Species**. The planting or introduction of non-native or invasive species.
- (7) **Herbicides, Insecticides, and Pesticides**. The use of herbicides, insecticides, or pesticides, or other chemicals, except for as may be necessary to control invasive species that threaten the natural character of the Conservation Area. State-approved municipal application programs necessary to protect public health and welfare are not included in this prohibition.
- (8) **Removal of Vegetation**. The mowing, cutting, pruning, removal; disturbance, destruction, or collection of any trees, shrubs, or other vegetation, except for pruning, cutting or removal for:
  - a) safety; or
  - b) control in accordance with accepted scientific forestry management practices for diseased or dead vegetation; or
  - c) control of non-native species and noxious weeds; or
  - d) scientific nature study.

- (9) **Agricultural Activities**. Unless currently used for agricultural or similarly related purposes, the conversion of, or expansion into, any portion of the Conservation Area for use of agricultural, horticultural, aquacultural, silvicultural, livestock production or grazing activities. This prohibition also includes conversion from one type of these activities to another (e.g. from agricultural to silvicultural).
- (10) **Subdivision of Conservation Area**. Subdivision of real property within the Conservation Area into multiple parcels.
- (11) **Other**. Other acts, uses, excavation, or discharges, which adversely affect fish or wildlife habitat or the preservation of lands, waterways, or other aquatic resources mentioned herein and located within the Conservation Area.

## E. INSPECTION, ENFORCEMENT AND ACCESS RIGHTS

As set forth in Section B, above, the Grantee, holder(s) of this Declaration, the Corps, PADEP and other government agencies with legal authority to enter upon the Property for purposes related to this Declaration have the right to enter the Property to observe the Conservation Area and to take actions necessary to verify compliance with and to enforce this Declaration. When practicable, such entry shall be upon prior reasonable notice to the property owner. No violation of this Declaration shall result in a forfeiture or reversion of title. In any enforcement action, an enforcing agency shall be entitled to a complete restoration for any violation, as well as other authorized judicial remedies such as civil penalties. Nothing herein shall be interpreted to limit the right of the Corps to modify, suspend, or revoke any permit issued or authorized by Corps.

## F. RECORDING AND EXECUTION BY PARTIES

Within thirty (30) calendar days of execution of this Agreement, the Grantee shall record this Declaration in the County office where land records are retained and shall provide proof of recordation to Grantor, the Corps, and PADEP within ten (10) business days of execution. Further, if anticipated activities in the Conservation Area are agreed upon for future phases of the site, as set forth in Section H (Reserved Rights) herein, the Grantee must submit plans to the Corps and PADEP for review and approval prior to any work in the Conservation Area.

## G. NOTICE OF TRANSFER OF PROPERTY INTERESTS

No transfer of the rights set forth in this Declaration, or action to void or modify this Declaration, including transfer of title to or establishment of any other legal claims over the Conservation Area or the underlying Property it occupies, shall occur without sixty (60) calendar days' prior written notice to the Corps and the PADEP.

## H. RESERVED RIGHTS

- (1) This Declaration will not prevent the Grantor, or any subsequent owner of the Property and/or portions of the Property, from making use of the area(s) outside of the Conservation Area or from uses that are consistent with the purposes of this Declaration, including, but not limited to the following:
- (a) **Existing Agreements**. Uses that Grantor is required to allow under valid, existing, recorded agreements are permitted, to the extent they do not interfere with, threaten, or degrade the Conservation Area and only to the extent they are consistent with the purposes of this Declaration. The Grantor[, holder(s) hereof,] and any holders of easements or other property rights for the operation and maintenance of pre-existing or project-related structures or infrastructure, such as roads, utilities, drainage ditches, or stormwater facilities that are present on, over, or under the Conservation Area, reserve the right, within the terms and conditions of their permits, agreements, and the law, to continue with such operation and maintenance. All pre-existing or approved project-related structures or infrastructure, if any, shall be shown on the accompanying plat map or approved plan and attached to this Declaration as **Exhibit D**.
- (b) Subsequent Agreements Allowing Subsurface Activity. Subject to review by Grantee [if holder known and holder of this Declaration], and only to the extent they are consistent with the purposes of this Declaration, agreements for the extraction of natural gas (regardless of source) or oil, and injection or release of water and other substances to facilitate such extraction, but excluding injection wells subject to state or federal underground injection control programs. The activities subject to such agreement may only occur at subterranean depths at which there can be no impairment of or detectable impact to water quality or quantity, native flora, fauna, soils, water table, aquifer, drainage patterns, and other related environmental functions and values of the Property, or on other resources described in this Declaration. No surface activities or uses, incident to such extraction are permitted in the Conservation Area. Grantor and Grantee shall provide the Corps and PADEP notice of Grantor's intent to enter into an agreement allowing subsurface activities at least sixty (60) days prior to executing the agreement.
- by the Corps and PADEP requires any related or unanticipated infrastructure modifications, utility relocation, drainage ditches, or stormwater controls within the identified Conservation Area, or if a situation requires measures to remove threat to life or property within the identified Conservation Area, said activities must be approved in writing by the Corps and PADEP subject to terms and conditions set forth in the written approval. Approval is subject to the Corps's and PADEP's discretion. If approved, said activities must be identified on an amended **Exhibit D** and must be recorded and specifically noted as an "amendment" and copies of the recorded **Amended Exhibit D** must be provided to the Corps and PADEP within sixty (60) days of Corps approval. Approval of said activity by the Corps is in addition to any Clean Water Act, Section 404 permit, or other authorization, which may be required in order to legally implement said activity. The Grantor and Grantee accept the obligation to place any other and/or subsequent responsible party on reasonable prior notice of their need to request such Corps approval.
- (3) Enhancements, Maintenance and Repair. This Declaration is not intended to prohibit future necessary or desired maintenance, repair, or enhancements to the

Property, where such actions are approved by the Corps and PADEP as appropriate, either through an approved mitigation plan (Section K below) or by a separate permit.

[I. The Grantor has mortgaged the Property subject to this Declaration. The lender has executed Subordination of Mortgage instruments related to the parcels subject of this Declaration for the sole purpose of subordinating their respective liens, dignity and priority interests to this Declaration. The executed Subordination of Mortgage instruments are attached hereto as **Exhibit** E: Mortgage Subordination Documents, and incorporated fully herein.]

### J. SEVERABILITY

If any portion of this Declaration, or the application thereof to any person or circumstance, is found to be invalid, the remainder of the provisions of this instrument, or application of such provision to persons or circumstances other than those as to which it is found to be invalid, shall not be affected thereby.

## K. MITIGATION

If the work required by a mitigation plan approved by the Corps and PADEP, including maintenance or remedial work, occurs within the Conservation Area, then the Grantee is allowed to construct and undertake the mitigation work in accordance with an authorized mitigation plan.

### L. ASSIGNMENT

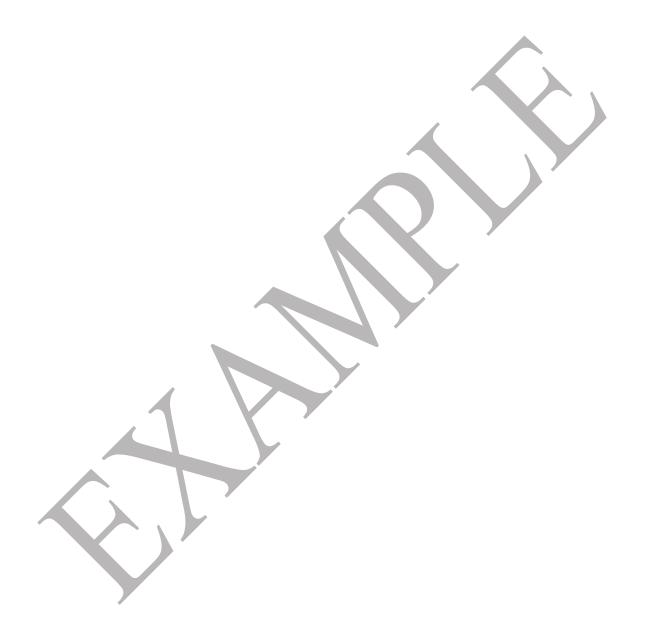
The Grantee [If Holder exists: and/or Holder each] is authorized to assign or transfer its rights and obligations under this Declaration to an organization that is a qualified organization under Section 170(h) of the Internal Revenue Code at the time of transfer.

## M. COAL RIGHTS NOTICE

The following notice is given to and accepted by Grantor for the purpose and with the intention of compliance with the requirements of the Pennsylvania Conservation and Preservation Easements Act. Nothing herein shall imply the presence or absence of workable coal seams or the severance of coal interests from the Property.

## **NOTICE:**

THIS DECLARATION may impair the development of coal interests including workable coal seams or coal interests which have been severed from the Property.



IN WITNESS WHEREOF, intending to be legally bound, the Parties have executed this Declaration the day and year first above written.

GRANTOR:	GRANTEE:
	First Pennsylvania Resource, L.L.C. a Pennsylvania limited liability company
	By: Resource Environmental Solutions, LLC, its sole manager
David L. Specht	By: Name:
	Title:
WITNESS:	WITNESS:
HOLDER:	WITNESS:
By:	

COMMONWEALTH OF PENNSY COUNTY OF	: SS
for the purposes therein contained.	fore me, a Notary Public for the Commonwealth aforesaid,, known to me or satisfactorily proven to be the person thin instrument, and acknowledged that he executed the same
IN WITNESS WHEREOF,	I have set my hand and official seal.
	Notary Public My commission expires:
[SEAL]	
COMMONWEALTH OF PENNSY	YLVANIA : SS :
personally appeared of the	fore me, a Notary Public for the Commonwealth aforesaid,, who acknowledged himself/herself to be theknown to me or satisfactorily proven bscribed to the within instrument, and acknowledged that he therein contained.
IN WITNESS WHEREOF,	I have set my hand and official seal.
	Notary Public My commission expires:

0363914-

[SEAL]

COMMONWEALTH OF PENNSYLVANIA	;
COUNTY OF	: SS :
On, before me, a No personally appeared, who of Resource Environmental So	tary Public for the Commonwealth aforesaid, o acknowledged himself/herself to be the blutions, LLC, as manager of First Pennsylvania
Resource, L.L.C., a Pennsylvania limited liability above, on behalf of the Grantee, being authorized to Declaration for the purposes herein contained.	company, and that s/he, in the capacity set forth
IN WITNESS WHEREOF, I have set my h	nand and official seal.
	Notary Public
FOE ALL	My commission expires:
[SEAL]	

## APPENDIX C WETLAND REPORT

# Wetland Delineation and Waterbody Identification Report

Camp Brook Restoration Site – 2022 Expansion Elkland Boro, Tioga County, Pennsylvania

## April 2022



## Prepared by:

FPR, LLC a wholly owned subsidiary of Resource Environmental Solutions, LLC 317 East Carson, Suite 242 Pittsburgh, Pennsylvania 15219





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#### 1.0 INTRODUCTION

First Pennsylvania Resource, LLC (FPR), a fully owned subsidiary of Resource Environmental Solutions, LLC (RES) conducted environmental field surveys on the Camp Brook Restoration Site – 2022 Expansion (Project or Site) Delineation Area on April 18<sup>th</sup>-22<sup>nd</sup>, located in Elkland Boro, Tioga County, Pennsylvania (PA) and 3 Parcels (~1,500 Feet) east of the Camp Brook Restoration Site located in Osceola Township. The purpose of the environmental field survey was to delineate and identify all wetlands and streams within the Delineation Area.

The following sections of this report describe the methods used to identify and delineate wetlands and streams present, the results of the field survey, and the associated documentation for streams and wetlands identified within the Delineation area.

### 2.0 METHODS

The United States Army Corps of Engineers (USACE) *Corps of Engineers Wetlands Delineation Manual* (Delineation Manual, Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region V. 2.0* (Regional Supplement, USACE, 2012) were used to identify wetlands that may be under the jurisdiction of the USACE or Pennsylvania Department of Environmental Protection (PADEP). Wetlands were delineated by evaluating three wetland indicators: hydrophytic vegetation, hydric soils, and wetland hydrology. Wetlands were classified using the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979). Plant species in all strata and stream habitats were used to evaluate the location and extent of wetlands, streams and water features that exist within the Delineation area. Classification of the vegetative indicator status is based on the *National Wetland Plant List:* 2016 Wetland Ratings, (Lichvar, Banks, Kirchner and Melvin 2016).

As regulated by Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act of 1899, streams were classified as perennial, intermittent, or ephemeral based upon presence of flow, estimated duration of flow, stream bed characteristics, and presence of aquatic biota. The USACE Jurisdictional Determination Form Instructional Guidebook (USACE, 2007) was used to determine stream classification and flow status.

The growing season in the Delineation Area is generally between April and October (USDA-NRCS-NWCC, 2002). Field observations were supplemented with a review of United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping, United States Department of Agriculture, Natural Resource Conservation Service (USDA-NRCS) soils mapping, and local landscape topography/morphology to provide a conservative determination of wetlands present within the study area. Professional judgment was used to determine whether hydrophytic vegetation and hydric soils existed within the identified wetlands. It is understood that USACE and state agencies have the final say in acceptance of this delineation.

As per the PA Department of Environmental Protection's (PADEP's) Wetland Delineation Policy (PA Code Title 25 Chapter 105, Statement of Policy 105.451), the PADEP has adopted the same methodology for identifying and delineating wetlands as used by the USACE. Since the Delineation area has the potential to include wetlands, all items required under Chapter 105.13(d)(1)(x) have been addressed in this report.

Each wetland and waterbody feature identified within the Delineation Area was given a unique map designation. The locations of wetland boundaries and stream channels were recorded using Trimble GEO 7XH/TDC150 model global positioning system (GPS) mapping grade units with the capability of sub-meter accuracy (Figure 2: Resource Location Map).

## 3.0 RESULTS

The Site is located within the Cowanesque River Watershed of the larger Upper Susquehanna River Subbasin within Elkland Boro, Tioga County, Pennsylvania. (Figure 1: Project Location Map). The Project contains a large headwater floodplain wetland complex, multiple depressional wetlands, a section of the



mainstem of Camp Brook, and several smaller tributaries that are fed by surface water runoff and groundwater. The surrounding area consists of active agriculture fields, small rural residential lots, and forested slopes to the north.

A review of available United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI, 2011) digital data indicated there are several NWI wetland habitats within the Delineation area. An examination of United States Geological Society (USGS) mapping for the Project indicated there are three blue-line streams (Camp Brook and two tributaries) located within the Delineation area (Figure 4. FEMA, NWI, and Chapter 93 Designation Map).

A review of the *Soil Survey of Tioga County, PA* (USDA, 2021) indicated that multiple soil types and hydric/partially hydric soils are present within the study area (Figure 3: Soils Map and Appendix E: Soils Found Within the Delineation area). The topography within the Project consists of a flat field at approximately 1,136 feet above mean sea level and a mountain side slope with the highest elevation located in the northern section of the Project at approximately 1,596 feet above mean sea level.

The Project is located within the Camp Brook drainage (USGS 8-Digit Hydrologic Unit Code (HUC) #02050104) of the Middle Cowanesque River watershed (12-Digit HUC # 020501040808), a sub-watershed of the larger Upper Susquehanna River Subbasin (USGS 6-Digit Hydrologic Unit Code (HUC) # 020501, Subbasin 04). A review of Federal Emergency Management Agency (FEMA) Flood Map Service Center website indicates that portions of streams within the Delineation Area are located within a designated Zone A (Figure 4. FEMA, NWI, and Chapter 93 Designation Map), which is subject to inundation by a 1-percentannual-chance flood event.

The waterbodies that flow across the Project are not submerged lands of the Commonwealth, within a PA coastal zone, designated/nominated for designation as a national or state wild or scenic river, or located in any reservoirs or federal/state parks/forests/recreational areas.

The wetlands identified in the Delineation Area are not classified as exceptional value, per PA Code Title 25, Chapter 105.17 (1), sub-paragraphs (ii, (iv), and (v).

The field-verified wetlands and streams are described and listed in the following sections of this report. Color photographs of these features are included as Appendix F: Photographs. Wetland/upland data forms are included in Appendix C: Wetland and Upland Data Forms. Stream data forms are included in Appendix D: Stream Data Forms.

#### 3.1 Wetlands

Several Palustrine Emergent (PEM) and Palustrine Forested (PFO) wetlands were found within the Delineation Area (Figure 2: Resource Location Map). Delineated wetlands are primarily fed by existing streams, groundwater upwelling zones, and surface water. Detailed information regarding the wetlands is outlined in Table 1: Wetlands Identified within the Delineation Area, and within wetland data forms in Appendix C: Wetland and Upland Data Forms. Photographs are provided in Appendix F: Photographs.

The dominant vegetation within the PEM/PFO wetland boundaries is invasive hydrophytic vegetation introduced from past agricultural land use. Identified PFO wetlands consist predominantly of stands of black willows (Salix nigra) and green ash (Fraxinus pennsylvanica). Wetlands within the Project have been degraded, drained, and/or altered due to historic and on-going agricultural land use practices causing past/present disturbances to soil, vegetation, and hydrology. Many wetland areas delineated within this agriculture area are missing hydrophytic vegetation due to corn production, however with the presence of hydrology, hydric soils, and the current vegetation disturbances, wetland delineators determined these areas to be wetland. Wetlands within the Project have been degraded, drained, and/or altered due to historic and on-going agricultural land use practices.

Uplands within the Delineation Area are characterized as either corn fields or early to mid-successional forested land to the north. Detailed information regarding uplands can be found within upland data forms in Appendix C: Wetland and Upland Data Forms.



#### 3.2 Waterbodies

Several waterbodies (Camp Brook and several unnamed headwater tributaries) were identified within the Delineation Area. Delineated waterbodies are perennial in nature. The origin of perennial streams is driven by headwater seeps, surface water, existing wetlands, and groundwater upwelling zones. Streams within the Delineation Area are predominately silt/gravel, apart from Camp Brook which is gravel/cobble dominated. Geomorphic instability and agricultural practices have contributed to siltation throughout stream reaches. Additionally, streams within the Site have been ditched or bermed to maximize agricultural land. Detailed information regarding the streams is outlined in Table 2: Waterbodies Identified within the Delineation Area, and within stream data forms in Appendix D: Stream Data Forms. Photographs are provided in Appendix F: Photographs.

The waterbodies within the Site have a designated protected aquatic life use of Warm Water Migratory Fisheries (WWF-MF) per PA Code, Title 25, Chapter 93 (Commonwealth of PA, 2015). The Pennsylvania Department of Environmental Protection (PADEP) does not list Camp Brook and its tributaries as having an Existing Use Classification (PADEP, 2017). Additionally, Camp Brook and its tributaries are not listed by the Pennsylvania Fish and Boat Commission (PFBC) as Approved Trout Waters (PFBC 2017) or Naturally Reproducing Wild Trout Streams. No PFBC Wild Trout Waters are located within or receive waters from the delineation area (PFBC 2017).

### 4.0 CONCLUSIONS

RES conducted multiple environmental field surveys of the Delineation area in April 2022 to identify wetlands and waterbodies within the Delineation Area. The Project contains a large headwater floodplain wetland complex, multiple depressional wetlands, a section of the mainstem of Camp Brook, and several smaller tributaries that are fed by surface water runoff, groundwater, and/or multiple springs/seeps that emerge from mountain side slopes to the west. The surrounding area consists of agriculture fields, small rural residential lots, and forested slopes to the north.

Several streams totaling 4,719.62 feet and 9 wetlands totaling 22.81 acres were identified and delineated within the Project study area.

All statements in this document pertaining to the jurisdictional status of streams and wetlands with regard to USACE and state regulations represent the opinion of FPR and are based on current USACE guidance. The jurisdictional status of these features may be confirmed by a USACE Jurisdictional Determination and/or by state agencies.

Respectfully submitted

Tony Yams

Shawyn Yeamans | Project Manager | FPR, LLC 317 East Carson, Suite 242A | Pittsburgh, PA 15219

Direct: **724.421.7621** 



## 5.0 REFERENCES

- Cowardin, D.M., Carter, V., Golet, F.C., and La Roe, E.T. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. Publication No. FWS/OBS-79/31. United States Department of the Interior, Fish and Wildlife Service, Washington, D.C.
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  <a href="https://www.nrcs.usda.gov/wps/portal/wcc/home/climateSupport/wetlandsClimateTables/growingSeasonDatesLength/">https://www.nrcs.usda.gov/wps/portal/wcc/home/climateSupport/wetlandsClimateTables/growingSeasonDatesLength/</a> Accessed April 2022
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## **APPENDIX A:** Tables

Table 1: Wetlands Identified Within the Delineation Area Table 2: Streams Identified Within the Delineation Area



	Table 1: Wetlands Identified within the Delineation Area											
Feature Designation <sup>1</sup>	Cowardin Classification <sup>2</sup>	HGM Classification, Subclassification	NWI Wetland <sup>3</sup>	Open ended?	Acreage in Study Area	Approximate Center Coordinates <sup>5</sup>						
						Latitude	Longitude					
W-1	PEM	Depression, Headwater Floodplain Complex	PEM1Ad and PEM1A	Yes	18.36	41.990659	-77.327826					
AA-T	PFO	Depression, Headwater Floodplain Complex	None	No	2.15	41.991964	-77.327558					
W-2	PEM	Depression	PFO1A	No	1.05	41.990719	-77.32747					
W-3	PEM	Depression	None	No	0.14	41.99033	-77.325693					
W-4	PEM	Depression	None	No	0.08	41.989952	-77.326809					
W-5	PEM	Depression	None	No	0.12	41.988915	-77.32665					
W-6	PEM	Depression	None	No	0.25	41.987499	-77.32757					
W-7	PEM	Depression	None	No	0.09	41.987677	-77.326834					
W-8	PEM	Depression	PEM1A	No	0.10	41.987582	-77.326396					
W-9	PEM	Depression	None	No	0.47	41.987329	-77.325553					
			Total Wo	etland Acreage	22.81							

### Notes:

- 1 RES map designation.
- 2 Palustrine system wetlands were classified as emergent (PEM), scrub shrub (PSS), forested (PFO), and/or open water (POW)
- National Wetlands Inventory wetland as mapped by the United States Fish and Wildlife Service 2011.
- 4 Extent of the wetland within the Delineation Area. Wetland may extend beyond these limits if noted as open ended.
- 5 North American Datum 1983.



	Table 2: Waterbodies Identified within the Delineation Area													
Feature Designation <sup>1</sup>	Waterbody	Stream Type	Designated Water Uses and Water Quality Criteria <sup>2</sup>	Statewide Existing Use Classification <sup>3</sup>	Wild Trout Waters <sup>4</sup>	Approved Trout Waters <sup>5</sup>	Active Channel Width (Feet)	Delineated Stream Length (Feet)	Within a FEMA Floodplain <sup>6</sup>	i Coordinates				
										Longitude	Latitude			
Stream 1 (S1)	UNT to Camp Brook	Perennial	WWF-MF	None	No	No	15	1,504.65	No	41.988137	-77.327529			
Stream 2 (S2)	UNT to Camp Brook	Perennial	WWF-MF	None	No	No	15	1,229.92	Yes	41.991171	-77.327385			
Stream 3 (S3)	UNT to Camp Brook	Perennial	WWF-MF	None	No	No	4	144.77	No	41.991398	-77.326376			
Stream 4 (S4)	UNT to Camp Brook	Perennial	WWF-MF	None	No	No	2	300.62	No	41.991559	-77.327116			
Stream 5 (S5)	UNT to Camp Brook	Perennial	WWF-MF	None	No	No	8	459.05	No	41.991318	-77.328361			
Stream 6 (S6)	UNT to Camp Brook	Perennial	WWF-MF	None	No	No	1	152.51	No	41.991109	-77.329494			
Camp Brook	Camp Brook	Perennial	WWF-MF	None	No	No	36	928.10	Yes	41.992647	-77.326687			
	Total Stream Length 4,719.62													

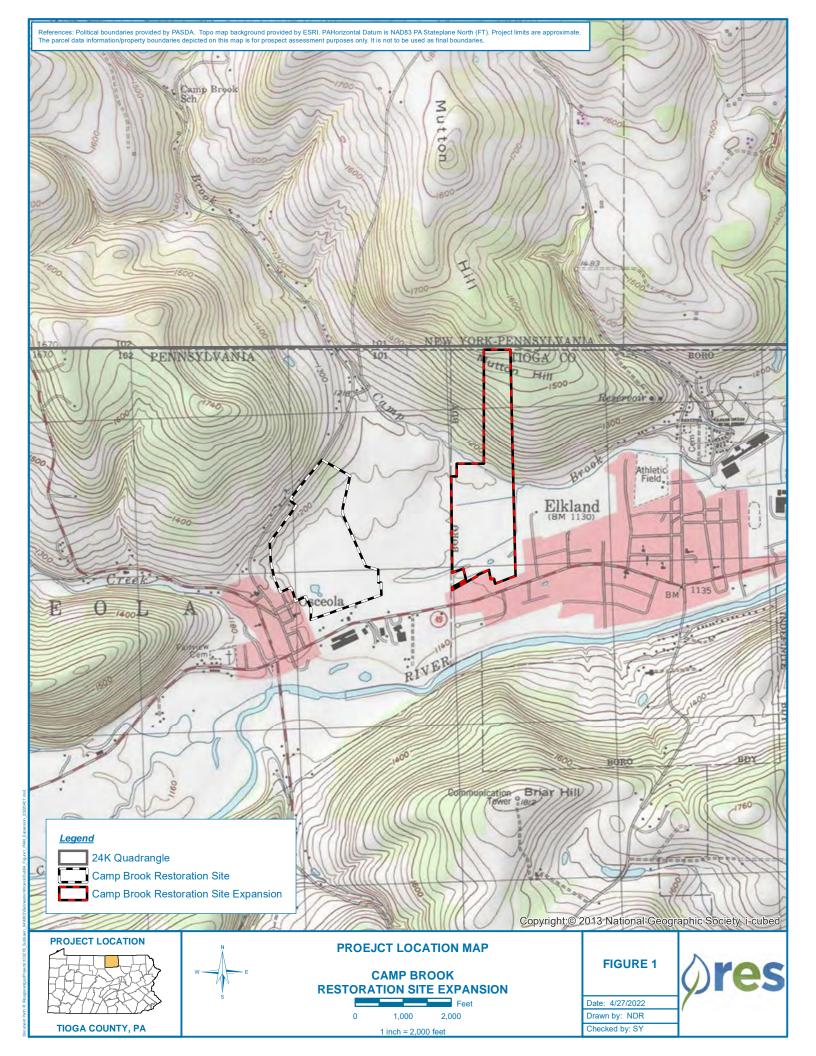
### Notes:

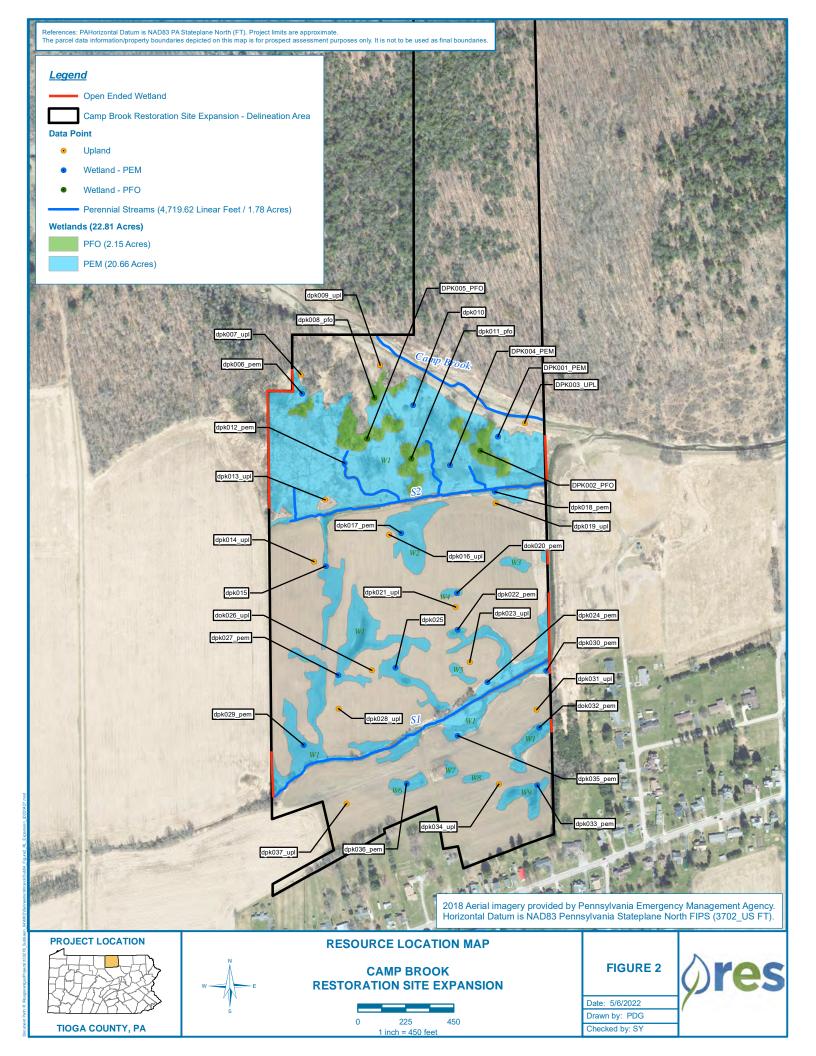
- 1 FPR map designation.
- As classified by PA Code Title 25 Chapter 93.9. WWF Migratory Fisheries (Warm Water Migratory Fisheries) . Waterbodies that do not have designated water uses are assessed per their receiving waterbody.
- As classified by the PA Department of Environmental Protection (September 22, 2020). Available at: http://files.dep.state.pa.us/Water/Drinking%20Water%20and%20Facility%20Regulation/WaterQualityPortalFiles/Existing%20Use/EU%20table%20list.pdf. Accessed April 2022.
- As classified under PA Code Title 58, Chapter 57.11 by the PA Fish and Boat Commission (PFBC) as a Class A Wild Trout Water, dated November 25, 2019 Available at: http://www.fishandboat.com/Fish/PennsylvaniaFishes/Trout/Documents/classa.pdf; or as a Stream Section that Supports Natural Reproduction of Trout, dated February 2017, Available at: http://www.fishandboat.com/Fish/PennsylvaniaFishes/Trout/Documents/trout\_repro.pdf. Accessed April 2022.
- Regional listings of 2021 Approved Trout Waters, including those being considered and/or officially proposed for listing as provided by the PFBC, Available at: https://pfbc.pa.gov/fishpub/summaryad/troutregs\_sw.htm. Accessed April 2022.
- 6 Waterbodies residing within the limits of a designated Federal Emergency Management Agency (FEMA) 100-year floodplain.

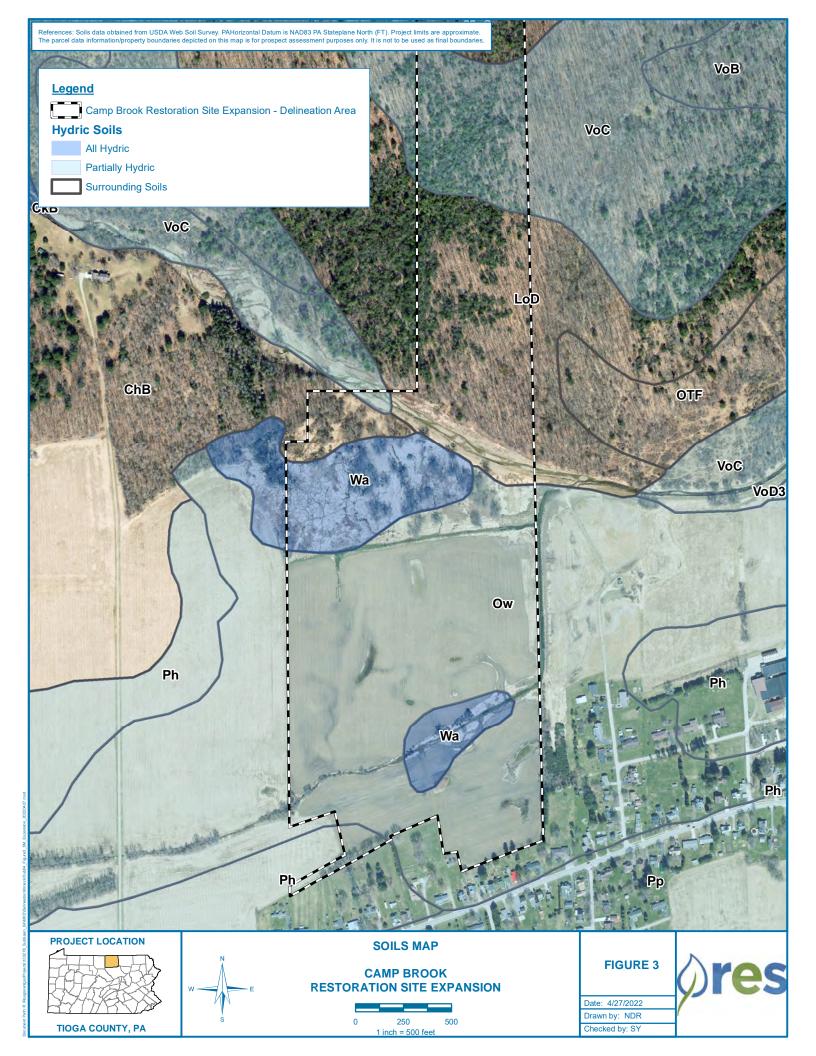


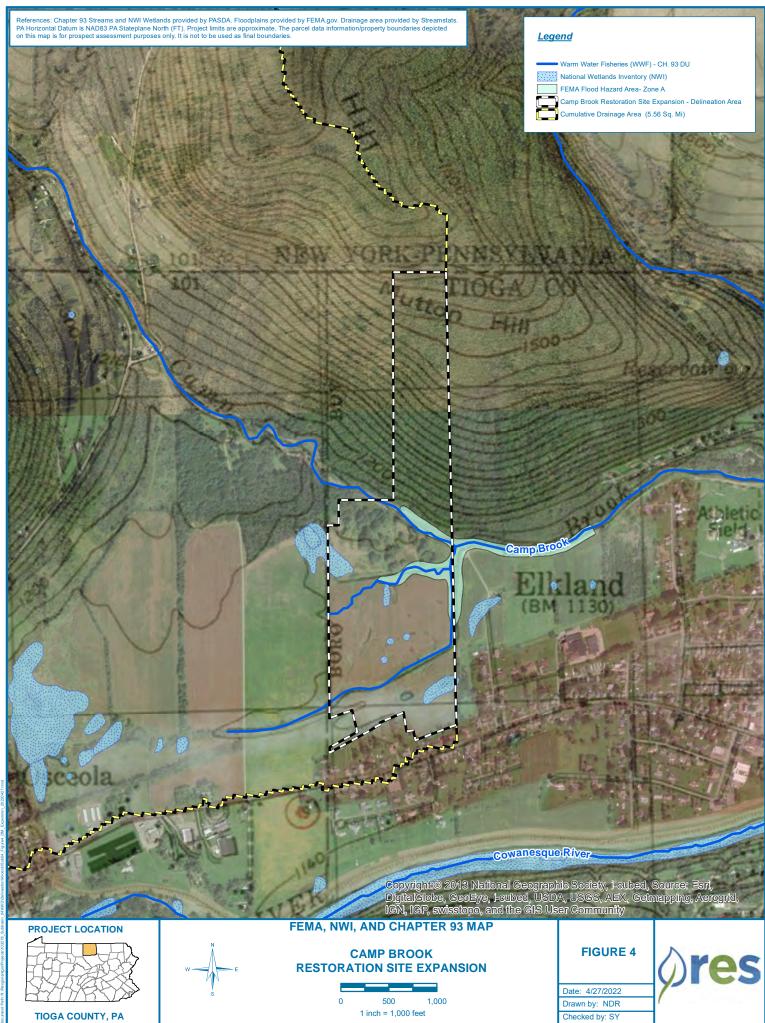
## APPENDIX B: FIGURES











Document Bath B (Bearin) and allocated

# **APPENDIX C:** Wetland and Upland Data Forms



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	CHK Subbas	sin 4 PRM	Ci	ity/County:	Osceola,	Tioga	Sampling Da	ate:	4/19/202	22
Applicant/Owner:	Resour	ce Environment	al Solutions		PA	PA Sampling Point:			1_PEM	
Investigator(s):	R. Barnhill,	F. Page	Se	ection, Towns	ship, Range:		_	d Townshi	р	
Landform (hillslope, terrace, e	etc.):	Plain	I	_ocal relief (c	concave, conve	ex, none):	None	Slope	e (%):	00-05
Subregion (LRR or MLRA)	LRR R:	MLRA 140	Lat.:	41.991976	Long.:	-77.3	25989	Datum:	NAD	83
Soil Map Unit Name:		Ow - O	Orville silt loam	n		NWI Clas	ssification:		N/A	
Are climatic/hydrologic condit	tions of the site	typical for this ti	ime of the ye	ar?	Yes (If n	o, explain ir	n Remarks.)	)	_	
Are vegetation No , s	soil No	, or hydrology	No	significantly o	disturbed?	Are "norn	nal circumst	tances" pr	esent?	Yes
Are vegetation No , s	soil No	, or hydrology	No	naturally prol	blematic?	(If need	ed, explain a	any answe	ers in rem	narks)
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.										
Hydrophytic vegetation prese	nt?	Yes								
Hydric soil present?		Yes	Is	the sampled	d area within a	a wetland?			Yes	
Indicators of wetland hydrolog	gy present?	Yes								
Remarks:										
Data point is located in a large PEM wetland located adjacent to Camp Brook stream and a large man-altered stream. Large man-made burm is dividing between PEM wetland and the Camp Brook stream.										
HYDROLOGY Wotland Hydrology Indicate						`acandany l	-disatore (n	-inimum o	f to road	··irad\
Wetland Hydrology Indicator Primary Indicators (minimum		rod: check all the	at annly)		<u> </u>		ndicators (m		r two requ	<u>ulrea</u> j
·	Of Othe 15 requir		,			•	oil Cracks (B	•		
Surface Water (A1)		Aquatic Fauna	` ,			•	Patterns (B16)	•		
X High Water Table (A2)		Marl Deposits	` '	<b>\</b>		•	Lines (B16)	,		
X Saturation (A3)		Hydrogen Sulfi			(03)	• 1	on Water Tab	,		
Water Marks (B1)		Oxidized Rhizo		-	(03)		urrows (C8)		······································	
Sediment Deposits (B2)		Presence of Re	`	. ,	0)	•	Visible on A			
Drift Deposits (B3)		Recent Iron Re		ileu solis (od	,	-	Stressed Pl	` '		
Algal Mat or Crust (B4)		Thin Muck Sur			^	•	ic Position (			
Iron Deposits (B5)	rial Imagany (R	Other (Explain	In Kemans,			•	quitard (D3) graphic Relie			
Inundation Visible on Aer Sparsely Vegetated Cond	<b>3</b> , (	,			Y		grapnic Relie ral Test (D5)	,		
Water-Stained Leaves (B	,	30)			^	FAC-INCUL	al rest (Do)	,		
Field Observations:	29)					$\overline{}$				
Surface water present?	Yes	No	X Dept	th (inches):		1				
Water table present?		X No	-	th (inches):	4"	i				
Saturation present?		X No	-	th (inches):	3"	We	tland Hydro	ology Pre	eant?	Yes
(includes capillary fringe)		X 110	Dopo	11 (11101100).			Ilania riya. J	nogy i is.		100
Describe recorded data (strea	am dalide, mor	itoring well, aeri	ial nhotos, pr	evious inspec	ctions) if avail	able.				
Describe recorded data (c. 55	illi gaago, me	itoring won, ac	al priotoc, p	301040 111020	JU0110 <sub>1</sub> , 11 a.c	abic.				
Remarks:										
Nemana.										
Significant Precipitation in past 72 hours.										

Tree Stratum	(Plot Size:	15x15 )	Absolute	Dominant	Indicator	Dominance Test Worksheet
1	(Flot Size.	13813	% Cover	Species?	Status	Number of Dominant
·						Species that are OBL,
2						FACW, or FAC:1 (A)
3						Total Number of Dominant
4						Species Across all Strata: 1 (B)
5						Percent of Dominant
			0	= Total Cove		Species that are OBL,
		of total cover:	0.0 20 Absolute	) % of total co Dominant	ver: 0.0 Indicator	FACW, or FAC: 100.00% (A/B)
Sapling/Shrub Stratur	n (Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet
1					UPL	Total % Cover of: Multiply by:
2						OBL species 1 x 1 = 1
3						FACW species 100 x 2 = 200
4						FAC species 0 x 3 = 0
5						FACU species 0 x 4 = 0
6						UPL species 1 x 5 = 5
7				<del></del>		Column totals 102 (A) 206 (B)
						·
8						Prevalence Index = B/A = 2.02
9				<del></del>		Hydrophytic Vegetation Indicators:
10						X 1-Rapid test for hydrophytic vegetation
	<b>-0</b> 0		0	= Total Cove		X 2-Dominance test is >50%
	50 %	of total cover:	0.0 20 Absolute	) % of total co Dominant	ver: 0.0 Indicator	X 3-Prevalence index is ≤3.0*
Herb Stratum	(Plot Size:	5x5 )	% Cover	Species?	Status	4-Morphogical adaptations* (provide supporting data in Remarks or on a
1 Phalaris arundi	nacea		100	Yes	FACW	separate sheet)
2 Lythrum salicar	ia		1	No	OBL	Problematic hydrophytic vegetation*
3 Artemisia vulga	ris		1	No	UPL	(explain)
4						*Indicators of hydric soil and wetland hydrology
5				<del></del>		must be present, unless disturbed or problematic
6						problematic
7						Definitions of Vegetation Strata:
8						Tree - Woody plants 3 in. (7.6 cm) or more in
9						diameter at breast height (DBH), regardless of
10						height.  Sapling/Shrub - Woody plants less than 3 in.
10			102	= Total Cove		(7.6 cm) DBH and greater than or equal to 3.28
	EO 0/	of total payars				ft (1 m) tall. <b>Herb</b> - All herbaceous (non-woody) plants,
		of total cover:	51.0 20 Absolute	) % of total co Dominant	ver: 20.4 Indicator	regardless of size, and woody plants less than
Woody Vine Stratum	(Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.
1						Woody vine - All woody vines greater than
2						3.28 ft in height.
3						
4						Hydrophytic
5						Vegetation Yes
			0	= Total Cove	r	Present?
	50 %	of total cover:	0.0 20	) % of total co	ver: 0.0	
Remarks: (Include ph						•
			·			

SOIL Sampling Point: DPK 001 PEM

Profile Desc	ription: (Describe	e to the	depth needed to	documen	t the ind	icator or	confirm the	absence of in	ndicators.)	
Depth	Matrix		Re	dox Featu	ıres					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture Silt Loam		Remarks	
0-4	10YR 4/3	98	7.5YR 4/4	2	С	М				
4-10	10YR 4/2	90	5YR 4/6	10	С	М	Silt Loam			
10-12	10YR 4/2	50	5YR 4/6	50	С	M	Silt Loam			
12-16	10YR 4/2	85	5YR 4/6	15	С	M	Silt Loam			
.2 .0	101111112		01111							
*Type: C=Coi	ncentration, D=De	pletion, R	M=Reduced Matri	x, MS=Ma	asked Sa	nd Grains	<u> </u>	**Location: F	PL=Pore Lining, M=Matrix	
Hydric Soil I									or Problematic Hydric Soils***:	
Histisol (			Poly	value Belo	w Surface	(S8) (LRR R	, MLRA 149B)		CK (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2)					) (LRR R, ML			rairie Redox (A16) (LRR K, L, R)	
Black His					-	(F1) (LRR I			cky Peat or Peat (S3) (LRR K, L, R)	
	n Sulfide (A4)				ed Matrix				face (S7) (LRR K, L, M)	
	I Layers (A5)			leted Mat		,			e Below Surface (S8) (LRR K, L)	
	I Below Dark Sufac	ce (A11)			Surface (I	=6)		-	k Surface (S9) (LRR K, L)	
	rk Surface (A12)	( )			rk Surface	•			iganese Masses (F12) (LRR N, MLRA 136)	
	lucky Mineral (S1)				ssions (F		Piedmont Floodplain Soils (F19) (MLRA 1498			
	leyed Matrix (S4)		_		,	,	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
	edox (S5)						Red Parent Material (F21)			
	Matrix (S6)					vegetation	on and			
Dark Sur	face (S7)			d or probl		present,	Other (Explain in Remarks)			
Restrictive L	ayer (if observed	):								
Type:										
Depth (inch	ies):						Нус	dric soil prese	ent? <u>Yes</u>	
Remarks:							<u> </u>	<u> </u>		

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Drainat/Cita	CHK Subba	oin 4 DDM		City/County:	Osceola,	Tions 9	ampling Date	: 4/19/20	222	
Project/Site: Applicant/Owner:		rce Environme	ental Saluti	• • •	State:	PA S	Sampling Date:		)2_PFO	
Investigator(s):	R. Barnhill,		Illai Soluti	Section, Towns		FA	Elkland T		Z_FI 0	
Landform (hillslope, terrace, etc		Plain			concave, conve	ov none).	None	Slope (%):	00-05	
,	_	MLRA 140	Lat.:	41.991803		-77.32			D 83	
Subregion (LRR or MLRA) Soil Map Unit Name:	LININ.		Orville silt		Long.:	NWI Class		N/A	J 63	
	on of the cite				Yes (If no			IN/A		
Are climatic/hydrologic conditio						o, explain in	*	ces" present?	Voc	
Are vegetation No , so		, or hydrology , or hydrology	-	′				y answers in rer	Yes	
Are vegetation No , so SUMMARY OF FINDINGS - At								/ dilawela ili ici	Ilains)	
			<u> </u>			// with 10222				
Hydrophytic vegetation present Hydric soil present?	. <b>?</b>	Yes Yes		le the sample	d area within a	2 wotland?		Yes		
·	· =recent?			is the sample.	a area willini a	1 Wellanu :		1 62		
Indicators of wetland hydrology Remarks:	present?	Yes	<u>·                                      </u>							
Data point is located adjacen	it to Camp Br	ook Stream in	a forested	l area dominated	by black willow	v with a very	open underst	tory.		
HYDROLOGY							"		1	
Wetland Hydrology Indicators		المبادعات التنا	tti - t - annlyt	`	_		•	mum of two red	<u>uired)</u>	
Primary Indicators (minimum of	f one is requi		,	1			il Cracks (B6)			
Surface Water (A1)		Aquatic Faur	, ,			_	atterns (B10)			
X High Water Table (A2)		Marl Deposit				Moss Trim L	, ,	, ,		
X Saturation (A3)		Hydrogen Su					Water Table	(C2)		
Water Marks (B1)		_		s on Living Roots		Crayfish Bu				
Sediment Deposits (B2)		Presence of						ial Imagery (C9	)	
Drift Deposits (B3)		_		in Tilled Soils (Co			Stressed Plant			
Algal Mat or Crust (B4)		Thin Muck S	· ·	•			c Position (D2	)		
Iron Deposits (B5)		Other (Explain	in in Rema	arks)		Shallow Aqu	` '			
Inundation Visible on Aeria							raphic Relief (l	D4)		
Sparsely Vegetated Conca	•	B8)				FAC-Neutra	ıl Test (D5)			
Water-Stained Leaves (B9	·)									
Field Observations:				1						
Surface water present?		X No		Depth (inches):	7"					
Water table present?		X No		Depth (inches):	8"	. [				
Saturation present?	Yes	No	X	Depth (inches):		Wetl	land Hydrolog	gy Present?	<u>Yes</u>	
(includes capillary fringe)										
Describe recorded data (stream	n gauge, mor	nitoring well, ae	rial photos	s, previous inspe	ctions), if availa	able:				
Remarks:										
		Signific	ant precip	oitation within the p	past 72 hours					

		• • •								
Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet				
1 Salix nigra	•		70	Yes	OBL	Number of Dominant				
2						Species that are OBL,	4	(A)		
3						FACW, or FAC:		. (7.)		
						Total Number of Dominant Species Across all Strata:	_	<b>(D)</b>		
4						Species Across all Strata.	5	(B)		
5						Percent of Dominant				
			70	= Total Cove		Species that are OBL,				
	50 %	6 of total cover:		% of total co		FACW, or FAC:	30.00%	(A/B)		
Sapling/Shrub Stratur	n (Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet	t			
1 Rosa multiflora	•	·	5	Yes	UPL	Total % Cover of:	Multiply	by:		
2						OBL species 70 x 1 =	70			
3						FACW species 80 x 2 =	160			
4						FAC species 1 x 3 =	3	•		
5						FACU species 0 x 4 =		•		
6						UPL species 5 x 5 =		•		
						· —		(D)		
7						``		(B)		
8						Prevalence Index = B/A =	1.65			
9				·		Hydrophytic Vegetation Indic				
10						1-Rapid test for hydrophyti	_	ion		
			5	= Total Cove		X 2-Dominance test is >50%	1			
	50 %	6 of total cover:		% of total co		X 3-Prevalence index is ≤3.0				
Herb Stratum	(Plot Size:	5x5 )	Absolute % Cover	Dominant Species?	Indicator Status	4-Morphogical adaptations supporting data in Remark				
1 Impatiens sp.	•	·	25	Yes	FACW	separate sheet)	.S 01 011 a			
2 Symphyotrichui	m sp.		25	Yes	FACW	Problematic hydrophytic ve	enetation	ŧ.		
3 Elymus virginic	us		20	Yes	FACW	(explain)	ogotation.			
4 Phalaris arundii			10	No	FACW	*Indicators of hydric soil and wetland hydrolog				
5 Rumex crispus			1	No	FAC	- must be present, unless disturbed or problematic				
6										
7						Definitions of Vegetation Str	ata:			
8						Tree - Woody plants 3 in. (7.6				
9						diameter at breast height (DBI height.	H), regard	less of		
10						Sapling/Shrub - Woody plants				
			81	= Total Cove	r	(7.6 cm) DBH and greater than	or equal	to 3.28		
	EO 0	6 of total cover:		% of total co		ft (1 m) tall. <b>Herb</b> - All herbaceous (non-wo	odv) plar	nts		
		o or total cover.	Absolute	Dominant	Indicator	regardless of size, and woody				
Woody Vine Stratum	(Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.				
1						Woody vine - All woody vines	greater tl	han		
2						3.28 ft in height.				
3										
4						Hydrophytic				
5						Vegetation	Yes			
			0	= Total Cove	 r	Present?				
	50 %	6 of total cover:		% of total co						
		55.51.				<u>I</u>				

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

Plants that were only identified to a genus level did not have specific characteristics to identify to the species level. These species were given a FACW indicator based on the common species found within this area to calculate to dominance and prevalance test.

SOIL Sampling Point: DPK002\_PFO

Profile Desc	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix	Re	Redox Features								
(Inches)	Color (moist)	%	Color (moist)	% Type*		Loc**	Texture		Remarks		
0-4	10YR 3/2	98	7.5YR 4/4	2	C	М	Silt Loam				
4-11	10YR 4/2	80	5YR 4/6	20	С	М	Silt Loam				
11-16	10YR 4/2	90	5YR 4/6	10	С	M	Silt Loam				
	101111112		5111 I/G								
*Tvpo: C=Co	ncentration, D=De	plotion B	M-Paduaad Matr	iv MS-M	aakad Sa	nd Crains		**Location: D	L=Pore Lining, M=Matrix		
		pielion, R	Rivi-Reduced Mati	IX, IVIS-IVI	askeu sa	na Grains	5		<b>U</b> .		
Hydric Soil I			D. (		0.1	(00)			r Problematic Hydric Soils***:		
Histisol (	,			value Belo					CK (A10) (LRR K, L, MLRA 149B)		
	pipedon (A2)			n Dark Su					rairie Redox (A16) (LRR K, L, R)		
Black His	` ,			my Muck			(, L)		icky Peat or Peat (S3) (LRR K, L, R)		
	n Sulfide (A4)			my Gleye		(F2)			face (S7) (LRR K, L, M)		
	Layers (A5)			oleted Mat	, ,			e Below Surface (S8) (LRR K, L)			
	Below Dark Sufac	ce (A11)		dox Dark S	-	•			k Surface (S9) (LRR K, L)		
	rk Surface (A12)			oleted Dar			Iron-Manganese Masses (F12) (LRR I				
	lucky Mineral (S1)		Rec	dox Depre	ssions (F	8)	Piedmont Floodplain Soils (F19) (MLRA 1				
	leyed Matrix (S4)								odic (TA6) (MLRA 144A, 145, 149B)		
	edox (S5)		***Indica	***Indicators of hydrophytic vegetation weltand hydrology must be present, disturbed or problematic					ent Material (F21)		
	Matrix (S6)		weltand						allow Dark Surface (TF12)		
	face (S7)		disturbe					Other (Ex	xplain in Remarks)		
	ayer (if observed	):									
Type:											
Depth (inch	ies):						Нус	ent? <u>Yes</u>			
Remarks:											

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:				City/County: Osceola, Tic						
Applicant/Owner: Resource Environmental S			al Solut		State:	PA	Sampling F		3_UPL	
Investigator(s): R. Barnhill, F. Page				Section, Towns	-		Elkland To	•		
Landform (hillslope, terrace, etc.):				Local relief (d		nvex, none	e): Convex	Slope (%):	00-05	
Subregion (LRR or MLRA)	LRR R: N	MLRA 140	Lat.:	41.992144	Long	j.: <u>-</u> -ī	77.32553 Da	atum: NAD	83	
Soil Map Unit Name:	LoD - Lor	dstown channe	ry loam,	, 20 to 30 percent	slopes	NWI	Classification:	R5UBH		
Are climatic/hydrologic condition	ons of the site	typical for this t	ime of t	the year?	Yes (I	f no, expla	in in Remarks.)	-		
Are vegetation No , so	oil Yes	, or hydrology	N	No significantly	disturbed?	Are "r	normal circumstand	ces" present?	Yes	
Are vegetation No, so	oil No	, or hydrology	P	No naturally pro	blematic?	(If ne	eeded, explain any	answers in rem	narks)	
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.										
Hydrophytic vegetation present	it?	No								
Hydric soil present?		No		Is the sample	d area withi	in a wetlar	vetland? No			
Indicators of wetland hydrology	y present?	No								
Remarks:	<del>. '</del>									
Data point is located within a known NWI however this location is on a man-made burm dividing Camp Brook and a large PEM/PFO wetland system.										
HYDROLOGY										
Wetland Hydrology Indicator						<u>Seconda</u>	ry Indicators (minir	mum of two requ	uired)	
Primary Indicators (minimum o	/)		Surface	e Soil Cracks (B6)						
Surface Water (A1)		Aquatic Fauna	a (B13)			Drainaç	ge Patterns (B10)			
High Water Table (A2)  Marl Deposits (B						Moss T	rim Lines (B16)			
Saturation (A3) Hydrogen Sulfi			ide Odc	or (C1)		Dry-Se	ason Water Table	(C2)		
Water Marks (B1)		Oxidized Rhiz	osphere	es on Living Roots	(C3)	Crayfis	h Burrows (C8)			
Sediment Deposits (B2)		Presence of Reduced Iron (C4)					tion Visible on Aeri	ial Imagery (C9)	ļ	
Drift Deposits (B3)		Recent Iron R	eductior	n in Tilled Soils (C	.6)	Stunted	d or Stressed Plant	ts (D1)		
Algal Mat or Crust (B4)		Thin Muck Sur	rface (C	7)	Geomo	orphic Position (D2)	2)			
Iron Deposits (B5)		Other (Explain	ı in Rem	narks)	Shallov	allow Aquitard (D3)				
Inundation Visible on Aeria	al Imagery (B7	- 7)				Microto	pographic Relief ([	D4)		
Sparsely Vegetated Conca	ave Surface (E	38)				FAC-N	eutral Test (D5)			
Water-Stained Leaves (B9	9)				_	_				
Field Observations:										
Surface water present?	Yes	No	Х	Depth (inches):						
Water table present?	Yes	No	Х	Depth (inches):						
Saturation present?	Yes	No	Х	Depth (inches):			Wetland Hydrolog	gy Present?	<u>No</u>	
(includes capillary fringe)				-		_				
Describe recorded data (strear	m gauge, mon	itoring well, aer	ial photo	os, previous inspe	ctions), if av	/ailable:				
		-	•		•					
Remarks:										

Tree	Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Work	sheet			
1			,	70 GOVC1	Орсоюз:	Otatus	Number of Dominant				
2							- Species that are OBL, FACW, or FAC:		1	(A)	
3							Total Number of Domin	ant —		• ` ′	
4							Species Across all Stra		3	(B)	
5										•	
_				0	= Total Cover	r	Percent of Dominant Species that are OBL,				
		50 %	% of total cover:	0.0 20	- ) % of total co	ver: 0.0	FACW, or FAC:	3	3.33%	(A/B)	
Sapli	ing/Shrub Stratur	m (Plot Size:	15x15 )	Absolute % Cover	Dominant	Indicator Status	Prevalence Index Wor				
1		(1 101 0120.	, ioxio	% Cover	Species?	UPL	Total % Cover of: Multiply			/ bv:	
2					ļ <del></del>		OBL species 0	- x 1 =	0		
3							FACW species 25	x 2 =	50	-	
4							FAC species 0	- x 3 =	0	•	
5							FACU species 45	x 4 =	180	•	
6							UPL species 30	x 5 =	150	•	
7							Column totals 100	(A)		(B)	
_							·	<b>-</b> ` ′	3.80	. (-,	
8 9							Prevalence Index = B/				
_							•			··an	
10_				0	= Total Cover		1-Rapid test for hyd		; vegetat	llon	
		50.0	% of total cover:		= Total Cover 0 % of total co		2-Dominance test is 3-Prevalence index		k		
Llarb	O44			Absolute	Dominant	Indicator	4-Morphogical adap			۵	
Herb	Stratum	(Plot Size:	5x5 )	% Cover	Species?	Status	supporting data in F				
1_	Poa pratensis			30	Yes	FACU	separate sheet)				
2_	Phalaris arundi	inacea		25	Yes	FACW	Problematic hydrop	hytic ve	getation'	*	
3	Artemisia vulga	aris		20	Yes	UPL	(explain)				
4	Vicia sativa			15	No	FACU	*Indicators of hydric so must be present, unless			/drology	
5	Lamium purpur	reum		5	No	UPL	problematic problematic				
6	Daucus carota			5	No	UPL	- Definitions of Vegetat	ion Stra	ata.		
7											
8							Tree - Woody plants 3 diameter at breast heig				
9							height.	•			
10							Sapling/Shrub - Wood (7.6 cm) DBH and grea				
				100	= Total Cover	r	ft (1 m) tall.				
		50 %	% of total cover:		0 % of total co		Herb - All herbaceous (				
Wood	dy Vine Stratum	(Plot Size:	)	Absolute % Cover	Dominant Species?	Indicator Status	regardless of size, and 3.28 ft tall.	woody F	iants ies	ss than	
1				70 00.5.	орожет.	Oldica	Woody vine - All wood	v vines	oreater t	han	
2							3.28 ft in height.	<i>y</i> ••••• ,	9		
3											
4							Urdranhytia				
5 -							Hydrophytic Vegetation		No		
3_				0	= Total Cover	<u> </u>	Present?				
		50 %	% of total cover:		- Total Cover - 0 % of total co						
Dem	arks: (Include ph				7 70 UI IUIAI GG	VEI. 0.0					
			•	,	assumed as	an UPL indic	cator status for the prevala	ance and	d domina	ace test.	

SOIL Sampling Point: DPK003\_UPL

Profile Desc	ription: (Describ	e to the o	depth needed to	documer	nt the ind	icator or	confirm th	e absence of in	dicators.)				
Depth	Matrix		R	edox Feati	ures								
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Т	exture	Remarks				
0-4	10YR 4/3	100					Silt Loam		Gravel and rocks present				
*Type: C=Co	l ncentration, D=De	nletion F	M-Reduced Mat	riv MS-M	acked Sa	nd Grains	<u> </u>	**Location: P	L=Pore Lining, M=Matrix				
Hydric Soil I		pietion, i	IVI-I Teduced IVIA	X, IVIO-IVI	askeu oa	ind Grains	-		r Problematic Hydric Soils***:				
			Do	harakta Dala	uu Curfaaa	(00)			•				
Histisol	` ,			lyvalue Beld					CK (A10) (LRR K, L, MLRA 149B)				
	pipedon (A2)			in Dark Su	,	•			airie Redox (A16) (LRR K, L, R)				
	stic (A3)			amy Muck	-		K, L)	cky Peat or Peat (S3) (LRR K, L, R)					
	n Sulfide (A4)		amy Gleye		(F2)			face (S7) (LRR K, L, M)					
	d Layers (A5)		pleted Ma			Polyvalue Below Surface (S8) (LRF							
	d Below Dark Sufa		dox Dark		•	Thin Dark Surface (S9) (LRR K, L)							
Thick Dark Surface (A12)				pleted Da					ganese Masses (F12) (LRR N, MLRA 136)				
Sandy Mucky Mineral (S1)		Re	dox Depre	essions (F	·8)			t Floodplain Soils (F19) (MLRA 149B)					
	Gleyed Matrix (S4)								Mesic Spodic (TA6) (MLRA 144A, 145, 149B)  Red Parent Material (F21)				
	Redox (S5)		***Indio	ators of hy	/drophytic	vegetati	on and		, ,				
Stripped	Matrix (S6)		weltand	d hydrolog	y must be			Very Sha	llow Dark Surface (TF12)				
	rface (S7)		disturb	ed or probl	ematic	T		Other (Ex	κplain in Remarks)				
Restrictive I	_ayer (if observed	l):											
Type:	Rock												
Depth (inch Remarks:	nes):	1"					H	ydric soil prese	nt? <u>No</u>				
		Dat	a point is located	l on a man	ı made be	erm prima	arily made of	cobble/gravel.					

Project/Site:	CHK Subb	asin 4 PRM		City/County:	Osceola	a, Tioga	Sampling Da	nto.	4/20/202	22
Applicant/Owner:		urce Environmer	ntal Solution	, ,	State:	PA	•	g Point:	DPK004	
Investigator(s):		ill, F. Page		Section, Towns				d Townshi		_1
Landform (hillslope, terrace, etc		Depressio		Local relief (c	-					00-05
Subregion (LRR or MLRA)	_	R: MLRA 140	Lat.:	41.99161	Long.		7.326819	Datum:	NAD	
Soil Map Unit Name:			Orrvile silt lo			_	lassification:	_		-
Are climatic/hydrologic condition	ns of the sit				Yes (If		n in Remarks.)			
Are vegetation No , soi		, or hydrology		significantly	`	-	ormal circumst		esent?	Yes
Are vegetation No , soi			-	naturally prol			eded, explain a	•	_	
SUMMARY OF FINDINGS - At	tach site m	— nap showing sa	mpling poi	nt locations, tr	ransects, im	portant fe	atures, etc.			
Hydrophytic vegetation present	?	Yes								
Hydric soil present?		Yes	,	Is the sampled	d area withi	n a wetland	d?	١	es/es	
Indicators of wetland hydrology	present?	Yes	;				i			_
Remarks:	·									
Data point is located in a PEN	√l depressio	nal area surrour	nded by PF0	) with standing	water. Data	a point is as	sociated with	Wetland00	)1K.	
Wetland Hydrology Indicators						Secondar	y Indicators (m	inimum of	two real	iired)
Primary Indicators (minimum of		uired: check all t	hat apply)				Soil Cracks (E		(110.55	11104,
X Surface Water (A1)	0110 10 .54	Aquatic Faun					e Patterns (B1	•		
X High Water Table (A2)		Marl Deposits	,				im Lines (B16)	•		ļ
X Saturation (A3)		Hydrogen Su		C1)			son Water Tal			ļ
Water Marks (B1)				on Living Roots	(C3)	_	Burrows (C8)	DIE (OZ)		ļ
` ′				-	(03)	_	on Visible on A	orial Imag	·an. (Ca)	
Sediment Deposits (B2) Drift Deposits (B3)		Presence of I		า Tilled Soils (C6	6)		or Stressed P	_	ery (Ca)	
Algal Mat or Crust (B4)		Thin Muck Su		Tilleu oona (od			phic Position (			
` '				ko)		_		DZ)		
Iron Deposits (B5) Inundation Visible on Aeria	l Imagery (	Other (Explai	N III Neman	(S)			Aquitard (D3) ographic Relie	√f (D/I)		
Sparsely Vegetated Conca					,		utral Test (D5)			
Water-Stained Leaves (B9)		(DO)				FAC-ING	uliai iesi (Do)			
Field Observations:	<u>)                                    </u>									
Surface water present?	Yes	X No	D	epth (inches):	1/2"					
Water table present?	Yes	X No		epth (inches):	7"					
Saturation present?	Yes	X No		epth (inches):	Surface	-   v	Vetland Hydro	loav Pres	ent?	Yes
(includes capillary fringe)				Jpur (	Canana	_	1011a1.a.i.y.a.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		132
Describe recorded data (stream	n qauge, mo	 onitoring well, aε	erial photos,	previous inspe	ctions), if av	ailable:				
,	. 9 5	, , , , , , , , , , , , , , , , , , ,	, .	,	,,					
Remarks:										
Significant precipitation past 72	! hours									

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1			70 COVE	Opedies:	Otatus	Number of Dominant
2						- Species that are OBL, FACW, or FAC: 2 (A)
3						( )
4						Total Number of Dominant Species Across all Strata: 2 (B)
5				İ ———		
5			0	= Total Cove		Percent of Dominant
	50.0	/ of total cover:		•		Species that are OBL, FACW, or FAC: 100.00% (A/B)
- " 'O' -t- Ott-		% of total cover:	0.0 20 Absolute	) % of total co Dominant	over: 0.0 Indicator	
Sapling/Shrub Stratu	Im (Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet
1					UPL	Total % Cover of: Multiply by:
2						OBL species <u>85</u> x 1 = <u>85</u>
3						FACW species 25 x 2 = 50
4						FAC species 0 x 3 = 0
5						FACU species 0 x 4 = 0
6						UPL species 0 x 5 = 0
7						Column totals 110 (A) 135 (B)
8						Prevalence Index = B/A = 1.23
9						Hydrophytic Vegetation Indicators:
10						X 1-Rapid test for hydrophytic vegetation
			0	= Total Cove	<u> </u>	X 2-Dominance test is >50%
	50 %	% of total cover:		) % of total co		X 3-Prevalence index is ≤3.0*
Herb Stratum			Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide
	(Plot Size:	5x5 )	% Cover	Species?	Status	supporting data in Remarks or on a
1 Typha angust			85	Yes	OBL	separate sheet)
2 Phalaris arund	dinacea		25	Yes	FACW	Problematic hydrophytic vegetation*
3						(explain)
4						*Indicators of hydric soil and wetland hydrology
5						- must be present, unless disturbed or problematic
6						
7						Definitions of Vegetation Strata:
8						Tree - Woody plants 3 in. (7.6 cm) or more in
9						<ul> <li>diameter at breast height (DBH), regardless of height.</li> </ul>
10						Sapling/Shrub - Woody plants less than 3 in.
			110	= Total Cove	<u></u>	(7.6 cm) DBH and greater than or equal to 3.28 ft (1 m) tall.
	50 %	% of total cover:		) % of total co		Herb - All herbaceous (non-woody) plants,
Woody Vine Stratun		101101010101	Absolute	Dominant	Indicator	regardless of size, and woody plants less than
	n (Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.
1						Woody vine - All woody vines greater than 3.28 ft in height.
2						3.20 it iii rieigiit.
3						
4						Hydrophytic
5						Vegetation <u>Yes</u>
			0	= Total Cove	r	Present?
	50 %	% of total cover:	0.0 20	- ) % of total co	over: 0.0	
Remarks: (Include p	hoto numbers h	ere or on a sepa	rate sheet.)			

SOIL Sampling Point: DPK004\_PEM

Profile Desc	ription: (Describe	e to the o	depth needed to	documen	t the ind	icator or	confirm the	absence of in	dicators.)			
Depth	Matrix		Re	dox Featı	ıres							
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks			
0-8	10YR 4/1	100	, ,				Silt Loam					
8-16	10YR 4/1	70	7.5YR 4/4	30	С	М	Silt Loam					
*Type: C=Co	ncentration, D=De	nletion R	I RM=Reduced Matr	x MS=M	asked Sa	nd Grains	2	**Location: P	L=Pore Lining, M=Matrix			
Hydric Soil I		piction, r	tw-reduced wat	X, WO-W	asked Ca	na Orain	<u> </u>		r Problematic Hydric Soils***:			
Histisol (			Poly	value Belo	w Surface	(S8) (LBB B	MI DA 440D)		ck (A10) (LRR K, L, MLRA 149B)			
`	,			n Dark Su					airie Redox (A16) (LRR K, L, R)			
	oipedon (A2)			my Muck					cky Peat or Peat (S3) (LRR K, L, R)			
				my Gleye			(, L)		face (S7) (LRR K, L, M)			
		oleted Ma		(1 2)			e Below Surface (S8) (LRR K, L)					
	Layers (A5)		lox Dark S		<b>-6</b> )			k Surface (S9) (LRR k, L)				
Depleted Below Dark Suface (A11)  Thick Dark Surface (A12)				leted Dar	-	•		ganese Masses (F12) (LRR N, MLRA 136)				
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)				lox Depre					t Floodplain Soils (F19) (MLRA 149B)			
	Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)		INEC	iox Debie	5510115 (1	0)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)					
	edox (S5)						Red Parent Material (F21)					
	Matrix (S6)			tors of hy					illow Dark Surface (TF12)			
				hydrology d or probl		present,	unless		·			
	face (S7)	N-	disturbe	u or probi	emanc			Other (E	xplain in Remarks)			
	ayer (if observed	);										
Type:							Llve	dria aail mraaa	.mt2 Voo			
Depth (inch Remarks:	les):						нус	dric soil prese	nt? <u>Yes</u>			
iveillains.												

									_			. 10.0 /		
Project/Site:		bbasin 4 PRM			City/County:		eola, Ti			oling Da	_	4/20/2		
Applicant/Owner:		source Enviror	nmental S			State:	_	PA		Samplin	_		)05_I	PFO
Investigator(s):		hill, F. Page			Section, Town		_			Osceola		•		
Landform (hillslope, terrace, etc			lain		Local relief (					none		ope (%):	_	0-05
Subregion (LRR or MLRA)	LRR	R: MLRA 140		at.:	41.99196	Lo	ong.:		.32824		Datum	_	AD 8	3
Soil Map Unit Name:			· Wayland		•			NWI Cla				N/A		
Are climatic/hydrologic conditio						Yes	_ ` '	, explain		,				
Are vegetation No, so		or hydr	0,	No	significantly							present?		Yes
Are vegetation No , so	il N	or hydro	ology	No	naturally pro	oblematic <sup>4</sup>	?	(If nee	ded, e	xplain a	iny ans	swers in re	emar	ks)
SUMMARY OF FINDINGS - At	tach site	map showin	g sampli	ing poin	t locations, t	transects	i, impor	rtant fea	itures,	etc.				
Hydrophytic vegetation present	ι?		Yes											
Hydric soil present?			Yes	ls	s the sample	ed area w	ithin a	wetland	<b>!</b> ?	_		Yes	_	
Indicators of wetland hydrology	present?	ı	Yes							•				_
Remarks:														
Data point is located in a PF0	O with larç	ge mature bla	ck willows	s with vei	ry minimal un	nderstory.	Data po	oint is as	ssociat	ed with	Wetla	nd001K		
HYDROLOGY														.,
Wetland Hydrology Indicators		المحالم بالدينا	-11 414 .	I A				-				n of two re	<u>equire</u>	<u>ed)</u>
Primary Indicators (minimum of	f one is re							Surface S		,	•			
X Surface Water (A1)	1		Fauna (B	,				Drainage		-	•			
X High Water Table (A2)	1		posits (B1	-				Moss Trir		, ,				
X Saturation (A3)	1		en Sulfide	-	-			Dry-Seas			le (C2)	)		
Water Marks (B1)	1				eres on Living Roots (C3)  ed Iron (C4)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)									
Sediment Deposits (B2)	1		e of Redu										;9)	
Drift Deposits (B3)	1	Recent I	ron Redu	action in T	Tilled Soils (C	26)		Stunted o				)1)		
Algal Mat or Crust (B4)	1	Thin Mu	ick Surfac	:e (С7)			C	Geomorp	hic Po	sition (I	D2)			
Iron Deposits (B5)	1	Other (E	Explain in	Remarks	3)		S	Shallow A	Aquitar	d (D3)				
Inundation Visible on Aeria	al Imagery	/ (B7)					I.	Microtopo	ograph	ic Relie	f (D4)			
Sparsely Vegetated Conca	ave Surfac	ce (B8)					XF	AC-Neu	ıtral Te	st (D5)				
Water-Stained Leaves (B9	1)													
Field Observations:													_	
Surface water present?	Yes	X	No	Der	pth (inches):	1/2	2"							
Water table present?	Yes	X	No	Der	pth (inches):	12'	"							
Saturation present?	Yes	X	No	Der	pth (inches):	9"		W	etland	l Hydro	logy P	resent?		Yes
(includes capillary fringe)														
Describe recorded data (stream	n gauge, r	nonitoring we	ll, aerial p	photos, p	revious inspe	ections), if	f availab	ole:						
Remarks:														

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet		
1 Salix nigra			90	Yes	OBL	Number of Dominant		
2						Species that are OBL, FACW, or FAC:	2	(A)
3						Total Number of Dominant		( )
4						Species Across all Strata:	2	(B)
5						Percent of Dominant		
			90	= Total Cove		Species that are OBL,		
		6 of total cover:	45.0 20 Absolute	) % of total co Dominant	ver: 18.0 Indicator	FACW, or FAC:	100.00%	(A/B)
Sapling/Shrub Stratu	m (Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Index Workshee	t	
1	•			·	UPL	Total % Cover of:	Multiply	by:
2						OBL species 95 x 1 =	95	
3						FACW species 85 x 2 =	170	
4						FAC species 0 x 3 =	0	
5						FACU species 15 x 4 =	60	
6						UPL species 0 x 5 =	0	
7						Column totals 195 (A)	325	(B)
8						Prevalence Index = B/A =	1.67	. ,
9						Hydrophytic Vegetation Indi	cators:	
10						X 1-Rapid test for hydrophyt	ic vegetat	ion
			0	= Total Cove	r	X 2-Dominance test is >50%		
	50 %	6 of total cover:	0.0 20	) % of total co	ver: 0.0	X 3-Prevalence index is ≤3.0	)*	
Herb Stratum	(Diet Cire)	EVE \	Absolute	Dominant	Indicator	4-Morphogical adaptations	s* (provide	)
	(Plot Size:	5x5 )	% Cover 80	Species?	Status	supporting data in Remark	s or on a	
1 Phalaris arundi			15	Yes No	FACU FACU	separate sheet)		
2 Rosa multiflora				INO		Problematic hydrophytic v (explain)	egetation*	f
3 Epilobium colo			5	No	OBL	, ,	otland by	drology
4 *Symphyotrich	um sp.		5	No	FACW	*Indicators of hydric soil and w must be present, unless distur		urology
5						problematic		
6						Definitions of Vegetation Str	ata:	
7						Tree - Woody plants 3 in. (7.6	cm) or m	ore in
8						diameter at breast height (DBI	,	
9						height. Sapling/Shrub - Woody plant	e leee tha	n 3 in
10						(7.6 cm) DBH and greater that		
			105	= Total Cove	r	ft (1 m) tall.		
	50 %	6 of total cover:	52.5 20 Absolute	) % of total co Dominant	ver: 21.0 Indicator	<b>Herb</b> - All herbaceous (non-working regardless of size, and woody		
Woody Vine Stratum	(Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.	p.a	
1						Woody vine - All woody vines	greater th	nan
2						3.28 ft in height.		
3								
4						Hydrophytic		
5						Vegetation	<u>Yes</u>	
			0	= Total Cove	r	Present?		
	50 %	6 of total cover:	0.0 20	) % of total co				

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

\*Only identified to a genus level, did not have adequate characteristics to identify to the species level. These species were given a FACW indicator based on the common species found within this area to calculate to dominance and prevalance test.

SOIL Sampling Point: DPK005\_PFO

Profile Desc	ription: (Describ	e to the o	denth needed to	documen	t the ind	icator or	confirm the	absence of in	ndicators )		
T TOTHE DESC		e to the t				icator or		abscrice of it	idicators.)		
Depth	Matrix			dox Featu	r		_				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**		ture	Remarks		
0-8	10YR 4/2	95	7.5YR 4/3	5	С	PL	Silt Loam				
8-16	10YR 4/1	80	7.5YR 4/3	20	С	М	Silt Loam				
*Type: C=Co	ncentration, D=De	pletion, R	M=Reduced Matri	x, MS=Ma	asked Sa	nd Grains	3	**Location: F	PL=Pore Lining, M=Matrix		
Hydric Soil I	ndicators:							Indicators fo	or Problematic Hydric Soils***:		
Histisol (	A1)		Poly	value Belo	w Surface	(S8) (LRR R	CK (A10) (LRR k, l, mlra 149b)				
	pipedon (A2)										
				my Muck							
Black Histic (A3)  Hydrogen Sulfide (A4)  Loamy Mucky Mine  Loamy Gleyed Mat							τ, Σ)		face (S7) (LRR K, L, M)		
<del>_</del>						(FZ)					
Stratified Layers (A5)  X Depleted Matrix (									e Below Surface (S8) (LRR K, L)		
Depleted		lox Dark S	-	•			k Surface (S9) (LRR K, L)				
Thick Dark Surface (A12)			Dep	leted Dar	k Surface	e (F7)		iganese Masses (F12) (LRR N, MLRA 136)			
Sandy M	Sandy Mucky Mineral (S1)		Red	lox Depre	ssions (F	8)	Piedmont Floodplain Soils (F19) (MLRA 149)				
Sandy G	leyed Matrix (S4)						Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
Sandy R	edox (S5)						Red Parent Material (F21)				
Stripped	Matrix (S6)			itors of hy hydrology				Very Sha	allow Dark Surface (TF12)		
Dark Sur	face (S7)			d or probl		present,	uniess		xplain in Remarks)		
	ayer (if observed	1)-						0 (2			
Type:	ayer (ii observed	·/-									
							11	luta 11	10 Yes		
Depth (inch	es):						Нус	dric soil prese	ent? <u>Yes</u>		
Remarks:											

Project/Site:	CHK Sub	bbasin 4 PRM	1		City/County:	Osceo	ola, Tioga				22	
Applicant/Owner:	Res	source Enviro	nmental	Solution	s	State:	PA	Samplin	ng Point:	DPK006	_PEM	
Investigator(s):	R. Barn	hill, F. Page		:	Section, Towns	ship, Range	э:	Osceol	la Townshi	íp		
Landform (hillslope, terrace, etc	c.):	P	lain		Local relief (	concave, co	onvex, none	e): None	Slope	e (%):	00-05	
Subregion (LRR or MLRA)	LRR	R: MLRA 14	0 L	_at.:	41.992544	Lon	g.: -7	7.329357	Datum:	NAD	83	
Soil Map Unit Name:	ChB	- Chenango	gravelly l	loam, 2 t	to 12 percent s	slopes	NWI (	Classification:		None		
Are climatic/hydrologic conditio	ns of the	site typical fo	r this time	e of the	year?	Yes (	(If no, expla	in in Remarks.)	)	-		
Are vegetation No, so	il N	or hydr	rology	No	significantly	disturbed?	Are "r	normal circumst	tances" pre	esent?	Yes	
Are vegetation No, so	il N	or hydr	rology	No	naturally pro	oblematic?	(If ne	eeded, explain	any answe	rs in rem	arks)	
SUMMARY OF FINDINGS - At	tach site	map showir	ıg sampl	ling poir	nt locations, t	ransects, i	mportant fe	eatures, etc.				
Hydrophytic vegetation present	t?		Yes	T								
Hydric soil present?			Yes		Is the sample	d area with	nin a wetlar	nd?		Yes		
Indicators of wetland hydrology	present?	·	Yes									
Remarks:												
Data point is located within a associated with Wetland001h		wetland surro	ounded b	y upland	d with second s	succesional	growth fore	est and a PFO v	wetland. Da	ata point	is	
HYDROLOGY												
Wetland Hydrology Indicators							Seconda	ry Indicators (m	ninimum of	two requ	<u>ıired)</u>	
Primary Indicators (minimum of	f one is re	quired; check	κ all that a	apply)		_		e Soil Cracks (E	,		ļ	
Surface Water (A1)	1	Aquatic	Fauna (E	313)		_	Drainaç	ge Patterns (B1	0)		ļ	
X High Water Table (A2)	1	Marl De	posits (B	15)			Moss T	rim Lines (B16)	)		ļ	
X Saturation (A3)	1	Hydroge	en Sulfide	e Odor (€	C1)	<u> </u>	Dry-Sea	ason Water Tal	ble (C2)			
Water Marks (B1)	1	X Oxidized	d Rhizosr	pheres o	on Living Roots	(C3)	Crayfis	h Burrows (C8)				
Sediment Deposits (B2)	1	Presenc	ce of Red	luced Iro	on (C4)		Saturat	Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3)	1	Recent	Iron Redi	uction in	Tilled Soils (C	(6)	Stunted	d or Stressed P	lants (D1)			
Algal Mat or Crust (B4)	1	Thin Mu	ick Surfac	ce (C7)			Geomo	orphic Position (	(D2)			
Iron Deposits (B5)	1	Other (E	Explain in	Remark	(s)		Shallov	v Aquitard (D3)				
Inundation Visible on Aeria	al Imagery	/ (B7)					Microto	pographic Relie	ef (D4)			
Sparsely Vegetated Conca	ave Surfac	ce (B8)					X FAC-No	eutral Test (D5)	)			
Water-Stained Leaves (B9	")											
Field Observations:												
Surface water present?	Yes		No	X De	epth (inches):							
Water table present?	Yes	X	No	De	epth (inches):							
Saturation present?	Yes	X	No	De	epth (inches):		<u> </u>	Wetland Hydro	ology Pres	sent?	Yes	
(includes capillary fringe)												
Describe recorded data (stream	n gauge, r	nonitoring we	∍ll, aerial	photos,	previous inspe	ections), if a	vailable:					
Remarks:												

VEGETATION - USE Scientific flames of	Jiaiits.						OII 16.	טו ועט	O_1 LIVI
Tree Stratum (Plot Size: 15x	15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Tes	st Works	sheet		
1		70 OOVC1	Орсоюз:	Otatus	Number of Dom				
2					Species that are FACW, or FAC:	,		3	(A)
3					Total Number of	f Domina	ant		
4					Species Across			5	(B)
5					Percent of Dom	inant			
		0	= Total Cove	r	Species that are	e OBL,			
50 % of tot	al cover:		% of total co		FACW, or FAC:		6	60.00%	(A/B)
Sapling/Shrub Stratum (Plot Size: 15x	15 )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Ind	ex Work	sheet		
1 Rhamnus cathartica		5	Yes	UPL	Total % Cover of	of:		Multiply	by:
2 Rosa multiflora		5	Yes	FACU	OBL species	35	x 1 =	35	
3 Cornus amomum		5	Yes	FACW	FACW species	27	x 2 =	54	
4					FAC species	60	x 3 =	180	
5					FACU species	5	x 4 =	20	
6					UPL species	5	x 5 =	25	
7					Column totals	132	(A)	314	(B)
8					Prevalence Ind	ex = B/A	<b>\</b> =	2.38	
9					Hydrophytic Ve	getation	n Indic	ators:	
10					1-Rapid test	for hydr	ophytic	c vegetat	ion
		15	= Total Cove	r	X 2-Dominand	e test is	>50%		
50 % of tot	al cover:	7.5 20	% of total co	ver: 3.0	X 3-Prevalence	e index i	is ≤3.0'	÷	
Herb Stratum (Plot Size: 5x	5 )	Absolute	Dominant	Indicator	4-Morphogic				)
1 Scirpus cyperinus		% Cover 25	Species? Yes	Status OBL	supporting of separate sh		emarks	or on a	
2 Juncus tenuis		25	Yes	FAC	<del></del>	,	ovtic vo	actation <sup>1</sup>	ŧ
3 Phalaris arundinacea		20	No	FACW	Problematic (explain)	пушорі	iylic ve	getation	
4 Agrimonia parviflora		20	No	FAC	*Indicators of hy	dric soil	and we	etland hy	drology
5 Rumex crispus		15	No	FAC	must be present	i, unless	disturb	ed or	
6 Juncus effusus		10	No	OBL	<b>'</b>				
7 *Impatiens sp.		2	No	FACW	Definitions of \	/egetation	on Stra	ıta:	
8					Tree - Woody p				
9					diameter at brea	ast neigh	t (DRH	), regard	less of
10					Sapling/Shrub				
		117	= Total Cove	r	(7.6 cm) DBH at ft (1 m) tall.	na greate	er than	or equal	10 3.28
50 % of tot	al cover:	58.5 20	% of total co		Herb - All herba				
Woody Vine Stratum (Plot Size:	)	Absolute % Cover	Dominant Species?	Indicator Status	regardless of siz	ze, and v	voody p	lants les	s than
1		70 00 001	Ороско:	Otatas	Woody vine - A	dl woodv	vines	areater tl	nan
2					3.28 ft in height.	-	,	<b>J</b>	
3									
4					Hydrophytic	:			
5					Vegetation			Yes	
		0	= Total Cove	r	Present?				
50 % of tot	al cover:		% of total co						

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

\*Only identified to a genus level did not have adequate characteristics to identify to the species level. These species were given a FACW indicator based on the common species found within this area to calculate to dominance and prevalance test.

SOIL Sampling Point: DPK006\_PEM

Profile Desc	ription: (Describe	e to the o	depth needed to	documen	t the ind	icator or	confirm the	absence of in	dicators.)		
Depth	Matrix		Re	dox Featu	ıres						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks		
0-4	10YR 3/2	100	,		31		Silt loam		With roots		
4-9	10YR 3/2	95	7.5YR 4/3	5	С	PL	Silt loam		With rock		
. 0	10111072		7.10 1.1 1.70								
± <b>T</b> 0.0	5.5							*** " 5			
• • • • • • • • • • • • • • • • • • • •	ncentration, D=De	pletion, R	RM=Reduced Matr	x, MS=M	asked Sa	nd Grains	<u> </u>		L=Pore Lining, M=Matrix		
Hydric Soil I	ndicators:								r Problematic Hydric Soils***:		
Histisol (	A1)		Poly	value Belo	w Surface	(S8) (LRR R	, MLRA 149B)	2 cm Mu	CK (A10) (LRR K, L, MLRA 149B)		
Histic Ep	ipedon (A2)		Thir	n Dark Su	rface (S9	(LRR R, ML	RA 149B)	Coast Pr	airie Redox (A16) (LRR K, L, R)		
Black His	stic (A3)		Loa	my Muck	y Mineral	(F1) (LRR	K, L)	5 cm Mu	cky Peat or Peat (S3) (LRR к, L, R)		
Hydroge	Loa	my Gleye	ed Matrix (	(F2)		Dark Sur	face (S7) (LRR K, L, M)				
Stratified	Layers (A5)	Dep	leted Mat	trix (F3)			Polyvalue	e Below Surface (S8) (LRR K, L)			
Depleted Below Dark Suface (A11)			X Red	lox Dark S	Surface (F	<del>-</del> 6)		k Surface (S9) (LRR K, L)			
Thick Dark Surface (A12)			Dep	leted Dar	k Surface	e (F7)	Iron-Manganese Masses (F12) (LR				
Sandy Mucky Mineral (S1)			Red	lox Depre	t Floodplain Soils (F19) (мLRA 149B)						
Sandy G	leyed Matrix (S4)							Mesic Sp	odic (TA6) (mlra 144a, 145, 149b)		
Sandy R	edox (S5)						Red Parent Material (F21)				
Stripped	Matrix (S6)			ntors of hy			ent, unless Very Shallow Dark Surface (TF1				
Dark Sur	face (S7)			d or probl		procent,	4111000	Other (Ex	xplain in Remarks)		
Restrictive L	ayer (if observed	):									
Type:	Rock										
Depth (inch	ies): 9	)"					Hye	dric soil prese	ent? Yes		
Remarks:	,							•			

Project/Site:	CHK Subbas	in 4 PRM		City/County:	Osceo	la, Tioga	Sampling Date:	4/20/202	22
Applicant/Owner:	Resourc	ce Environment	tal Solu	tions	State:	PA	Sampling Poi	oint: DPK007	7_UPL
Investigator(s):	R. Barnhill,	F. Page		Section, Towns	ship, Range	(C	Osceola Tov	wnship	
Landform (hillslope, terrace, e	tc.):	Rise		Local relief (	concave, co	nvex, none)	): None	Slope (%):	00-05
Subregion (LRR or MLRA)	LRR R: N	MLRA 140	Lat.:	41.992782	Long	j.: -77	7.329385 Datu	um: NAD	83
Soil Map Unit Name:	ChB - Cl	henango gravel	lly loam	, 2 to 12 percent s	slopes	NWI C	Classification:	N/A	
Are climatic/hydrologic condition	ons of the site	typical for this t	time of t	the year?	Yes (	If no, explair	n in Remarks.)		
Are vegetation No , se	oil No	, or hydrology	1	No significantly	disturbed?	Are "ne	ormal circumstance	s" present?	Yes
Are vegetation No , se	oil No	, or hydrology	1	No naturally pro	oblematic?	(If ne	eded, explain any a	inswers in rem	arks)
SUMMARY OF FINDINGS - A	ttach site mar	ρ showing san	npling <sub>l</sub>	point locations, t	ransects, ir	nportant fe	eatures, etc.		
Hydrophytic vegetation presen	nt?	No							
Hydric soil present?		No		Is the sample	d area with	in a wetlan	d?	No	
Indicators of wetland hydrolog	y present?	No							
Remarks:									
Data point is located in an u associated with Wetland 00 <sup>-</sup>	•	th a high perce	ntage o	f invasives, moder	rately thick ι	understory a	and rocky soil. Uplar	nd data point is	s
HYDROLOGY									
Wetland Hydrology Indicator						Secondar	ry Indicators (minimu	um of two requ	uired)
Primary Indicators (minimum o	of one is require	ed; check all th	at apply	<b>(</b> )		Surface	Soil Cracks (B6)		
Surface Water (A1)		Aquatic Fauna	a (B13)			Drainag	e Patterns (B10)		
High Water Table (A2)		Marl Deposits	(B15)			Moss Tr	rim Lines (B16)		
Saturation (A3)		Hydrogen Sulf	fide Odo	or (C1)		Dry-Sea	ason Water Table (C	22)	
Water Marks (B1)		Oxidized Rhiz	osphere	es on Living Roots	(C3)	Crayfish	Burrows (C8)		
Sediment Deposits (B2)		Presence of R	≀educed	Iron (C4)		Saturation	on Visible on Aerial	Imagery (C9)	
Drift Deposits (B3)		Recent Iron R	eduction	n in Tilled Soils (C	(6)	Stunted	or Stressed Plants	(D1)	
Algal Mat or Crust (B4)		Thin Muck Su	rface (C	7)		Geomor	rphic Position (D2)		
Iron Deposits (B5)		Other (Explain	າ in Rem	narks)		Shallow	Aquitard (D3)		
Inundation Visible on Aeri	al Imagery (B7	')				Microtop	pographic Relief (D4	4)	
Sparsely Vegetated Conc	ave Surface (B	38)				FAC-Ne	eutral Test (D5)		
Water-Stained Leaves (B	9)								
Field Observations:									
Surface water present?	Yes	No	Χ	Depth (inches):					
Water table present?	Yes	No	Χ	Depth (inches):					
Saturation present?	Yes	No	Х	Depth (inches):		v	Wetland Hydrology	Present?	<u>No</u>
(includes capillary fringe)									
Describe recorded data (stream	m gauge, moni	itoring well, aer	ial photo	os, previous inspe	ections), if av	/ailable:			
Remarks:							_		
1.01		Wetland hy	/drology	absent at the time	e of observa	ıtion.			

					1 0		
Tree	Stratum (Plot Size: 15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet		
1	Fraxinus pennsylvanica	40	Yes	FACW	Number of Dominant		
2	*Cratageous sp.	30	Yes	FACU	Species that are OBL, FACW, or FAC:	1 (A)	
3	Rhamnus cathartica	15	No	FAC			
4					Total Number of Dominant Species Across all Strata:	7 (B)	
5					_		
_		85	= Total Cove	r	Percent of Dominant Species that are OBL,		
	50 % of total cover:	42.5 20	· ) % of total co	ver: 17.0	1 = '	4.29% (A/B	)
Sapli	ng/Shrub Stratum (Plot Size: 15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet		
1	Berberis thunbergii	15	Yes	UPL	Total % Cover of:	Multiply by:	
2	Lonicera morrowii	35	Yes	FACU	OBL species 0 x 1 =	0	_
3					FACW species 40 x 2 =	80	
4					FAC species 30 x 3 =	90	
5					FACU species 145 x 4 =	580	
6					UPL species 15 x 5 =	75	
7					Column totals 230 (A)	825 (B)	
8					Prevalence Index = B/A =	3.59	
9					Hydrophytic Vegetation Indic		_
10					1-Rapid test for hydrophytic	c vegetation	
_		50	= Total Cove	r	2-Dominance test is >50%		
	50 % of total cover:	25.0 20	) % of total co	ver: 10.0	3-Prevalence index is ≤3.0	*	
Herb	Stratum (Plot Size: 5x5 )	Absolute	Dominant	Indicator	4-Morphogical adaptations	**	
1	Glechoma hederacea	% Cover	Species? Yes	Status FACU	supporting data in Remarks separate sheet)	s or on a	
2	*Viola sp.	20	Yes	FACU	<u> </u>		
					Problematic hydrophytic ve (explain)	getation"	
3_	Alliaria petiolata	15	No	FACU	*Indicators of hydric soil and w	etland hvdrolog	ıv
4_	Agrimonia parviflora  Rosa multiflora	15 5	No	FACU	must be present, unless disturb	, .	,
5 6	Rosa mullinora	5	No	FACU	problematic		
7					Definitions of Vegetation Stra	ata:	
, 8					Tree - Woody plants 3 in. (7.6	cm) or more in	
9					diameter at breast height (DBH	l), regardless o	f
10					height. Sapling/Shrub - Woody plants	less than 3 in.	
10_		85	= Total Cove	r	(7.6 cm) DBH and greater than	or equal to 3.2	:8
	50 % of total cover:		) % of total co		ft (1 m) tall. <b>Herb</b> - All herbaceous (non-wo	ody) plants,	
Wood	h. Viin a Ohra kana	Absolute	Dominant	Indicator	regardless of size, and woody		1
	(1 lot Size)	% Cover	Species?	Status	3.28 ft tall.		
1_	Vitis aestivalis	10	Yes	FACU	<b>Woody vine</b> - All woody vines 3.28 ft in height.	greater than	
2_					<u> </u>		_
3_							
4					Hydrophytic	No	
5					Vegetation Present?	<u>No</u>	
		10	= Total Cove				
	50 % of total cover:	5.0 20	) % of total co	ver: 2.0			

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

\*Only identified to a genus level, did not have adequate characteristics to identify to the species level. These species were given a FACU indicator based on the common species found within this area to calculate to dominance and prevalance test.

SOIL Sampling Point: DPK007\_UPL

Profile Desc	ription: (Describ	e to the o	depth needed to	documen	t the ind	icator or	confirm the	absence of in	dicators.)		
Depth	Matrix		Re	Redox Features							
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks		
0-5	10YR 4/3	100	,				Silt Loam				
5-13	10YR 4/3	100					Silt Loam		Gravel present		
									·		
*Type: C=Co	ncentration, D=De	nletion R	M=Reduced Matri	l iv MS=M	asked Sa	nd Grains	<u> </u>	**Location: P	L=Pore Lining, M=Matrix		
Hydric Soil I		pietion, r	IIII-I Teduced IVIali	IX, IVIO-IVI	askeu oa	nu Grains	•		r Problematic Hydric Soils***:		
-			Del	nalus Dala	uu Curfooo	(00)			•		
Histisol (	,			value Belo					CK (A10) (LRR K, L, MLRA 149B)		
	pipedon (A2)			n Dark Su	-				airie Redox (A16) (LRR K, L, R)		
Black His				my Muck			K, L)		cky Peat or Peat (S3) (LRR K, L, R)		
	n Sulfide (A4)			Loamy Gleyed Matrix (F2)  Dark Surface (S7) (LRR K, L, M)  Dark Surface (S7)							
	Layers (A5)	(011)	-	Depleted Matrix (F3)  Redox Dark Surface (F6)  Polyvalue Below Surface (S8) Thin Dark Surface (S9) (LRR K,							
	Below Dark Sufac	ce (ATT)							ganese Masses (F12) (LRR N, MLRA 136)		
	rk Surface (A12) lucky Mineral (S1)		-	oleted Dar							
	Red	lox Depre	essions (F	8)			t Floodplain Soils (F19) (MLRA 149B)				
Sandy G					Mesic Spodic (TA6) (MLRA 144A, 145, 149B)  Red Parent Material (F21)						
	edox (S5)		***Indica	***Indicators of hydrophytic vegetation and							
	Matrix (S6)					present,					
	face (S7)	,	disturbe	d or probl	ematic		Other (Explain in Remarks)				
	ayer (if observed	):									
Type:	Rock	<b></b>									
Depth (inch Remarks:	les): 1	3"					Ну	dric soil prese	ent? <u>No</u>		

Project/Site:	CHK Sub	bbasin 4 PRM	Л	(	City/County:	Osceol	la, Tioga	_	pling Da	_	4/21/202	
Applicant/Owner:	Res	source Enviro	onmental	Solutions	;	State:	PA	:	Sampling	g Point:	DPK008	3_PFO
Investigator(s):	R. Barn	hill, F. Page		s	Section, Towns	ship, Range	/E		Osceola	a Townsh	ıip	
Landform (hillslope, terrace, e	:tc.):	Р	Plain		Local relief (	concave, co	nvex, none	e):	None	Slop	e (%):	00-05
Subregion (LRR or MLRA)	LRR	R: MLRA 14	.0 L	Lat.:	41.992484	Long	j.: -7	77.3281	16	Datum:	NAD	83
Soil Map Unit Name:		Wa -	- Waylan	nd silty clay	y loam		NWI	Classific	ation:		N/A	
Are climatic/hydrologic conditi	ions of the	site typical fo	or this tim	ie of the y	ear?	Yes (I	If no, expla	ain in Re	marks.)			
Are vegetation No, s	soil N	lo , or hydi	rology	No	significantly	disturbed?	Are "r	normal c	ircumsta	ances" pr	esent?	Yes
Are vegetation No, s	soil N	lo , or hydi	rology	No	naturally pro	oblematic?	(If n	eeded,	explain a	ny answ	ers in rem	arks)
SUMMARY OF FINDINGS - A	Attach site	map showir	ng samp	ling poin	t locations, t	ransects, in	nportant f	eatures	, etc.			
Hydrophytic vegetation preser	nt?		Yes	1								
Hydric soil present?			Yes	l:	s the sample	d area with	in a wetla	nd?			Yes	
Indicators of wetland hydrolog	y present?	1	Yes									_
Remarks:	<del>.</del>											
Data point is located with a	PFO with v	ery large, ma	ature blac	ck willows	, and a large	mature cotto	onwood. Da	ata poin	t is asso	ciated wi	th Wetlan	d001K.
HYDROLOGY							Saganda	- India	-toro (mi	i-imum c	f two roa	راده ما)
Wetland Hydrology Indicators:         Secondary Indicators (minimum of two required)           Primary Indicators (minimum of one is required; check all that apply)         Surface Soil Cracks (B6)												
·	of one is re	: арріу) В13)		-			•	•				
Surface Water (A1)		_		_	erns (B10	-						
X High Water Table (A2)	1	Marl Deposits (B15) Moss Trim Lines (B16)										
X Saturation (A3)	1			e Odor (C	·	_			ater Tab	le (C2)		
Water Marks (B1)	1				n Living Roots	(C3)		sh Burrov				
Sediment Deposits (B2)	1			duced Iron							gery (C9)	
Drift Deposits (B3)	1	Recent	Iron Red	uction in	action in Tilled Soils (C6) Stunted or Stressed Plants (D1)							
Algal Mat or Crust (B4)	1	Thin Mu	uck Surfa	ice (C7)			Geomo	orphic Po	osition (E	)2)		
Iron Deposits (B5)	1	Other (F	Ξxplain in	n Remarks	3)		Shallov	w Aquita	rd (D3)			
Inundation Visible on Aer	ial Imagery	/ (B7)					Microto	opograpl	hic Relie	f (D4)		
Sparsely Vegetated Cond	cave Surfac	ce (B8)					X FAC-N	eutral T	est (D5)			
X Water-Stained Leaves (B	,9)											
Field Observations:												
Surface water present?	Yes	1	No	X Dep	pth (inches):							
Water table present?	Yes	X	No	Der	pth (inches):	11"						
Saturation present?	Yes	X	No	De	pth (inches):	9"		Wetlan	d Hydrol	logy Pre	sent?	Yes
(includes capillary fringe)												
Describe recorded data (strea	m gauge, r	nonitoring we	ell, aerial	photos, p	revious inspe	ections), if av	/ailable:					
Remarks:												
Nelliains.												

VEOLIATION - 03c scientific flames of plants.				Gumpinig Folini: Di 1(000_11 O
Tree Stratum (Plot Size: 15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1 Populus deltoides	40	Yes	FAC	Number of Dominant
2 Salix nigra	20	Yes	OBL	Species that are OBL, FACW, or FAC: 4 (A)
3 Robinia pseudoacacia	15	Yes	FACU	( )
4				Total Number of Dominant Species Across all Strata: 7 (B)
5				
	75	= Total Cove		Percent of Dominant
50 % of total cover:		% of total co		Species that are OBL, FACW, or FAC: 57.14% (A/B)
	Absolute	Dominant	Indicator	Prevalence Index Worksheet
Sapling/Shrub Stratum (Plot Size:15x15)	% Cover	Species?	Status	
1 Rosa mulitflora	15	Yes	UPL	Total % Cover of: Multiply by:
2				OBL species35 x 1 =35
3				FACW species 25 x 2 = 50
4				FAC species 40 x 3 = 120
5				FACU species <u>45</u> x 4 = <u>180</u>
6				UPL species15 x 5 =75
7				Column totals 160 (A) 460 (B)
8				Prevalence Index = B/A = 2.88
9				Hydrophytic Vegetation Indicators:
10				1-Rapid test for hydrophytic vegetation
	15	= Total Cove		X 2-Dominance test is >50%
50 % of total cover:		% of total co		X 3-Prevalence index is ≤3.0*
Hards Observes	Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide
(Flot Size)	% Cover	Species?	Status	supporting data in Remarks or on a
1 Phalaris arundinacea	20	Yes	FACW	separate sheet)
2 *Solidago sp.	20	Yes	FACU	Problematic hydrophytic vegetation*
3 Galium asprellum	15	Yes	OBL	(explain)
4 Rosa multiflora	10	No	FACU	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or
5 *Impatiens sp.	5	No	FACW	problematic
6				Definitions of Vegetation Strata:
7				_
8				<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
9				height.
10				Sapling/Shrub - Woody plants less than 3 in. (7.6 cm) DBH and greater than or equal to 3.28
	70	= Total Cove	r	ft (1 m) tall.
50 % of total cover:	35.0 20	% of total co	ver: 14.0	Herb - All herbaceous (non-woody) plants,
Woody Vine Stratum (Plot Size: )	Absolute	Dominant	Indicator	regardless of size, and woody plants less than 3.28 ft tall.
1	% Cover	Species?	Status	
				<b>Woody vine</b> - All woody vines greater than 3.28 ft in height.
2				
3				
4				Hydrophytic
5				Vegetation Yes Present?
	0	= Total Cove	r	i resent:
50 % of total cover:	0.0 20	% of total co	ver: 0.0	
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			
lequate characteristics to identify to a species level. I	Indicator stat	uses were as	sumed base	d on the common species found within this area to

SOIL Sampling Point: DPK008\_PFO

Profile Desc	ription: (Describ	e to the o	depth needed to	documen	t the ind	icator or	confirm the	absence of in	ndicators.)		
Depth	Matrix		Re	dox Featu	ıres						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	kture	Remarks		
0-3	10YR 3/1	100	, ,				Silt Loam				
3-10	10YR 4/2	100					Silt Loam		With roots and rocks		
10-16	10YR 4/2	95	7.5YR 6/8	5	С	М	Silty Clay I	_oam	With rock		
10 10							,,				
± <b>T</b> 0.0	5.5										
• • • • • • • • • • • • • • • • • • • •	ncentration, D=De	pletion, R	RM=Reduced Mati	ix, MS=M	asked Sa	nd Grains	3		PL=Pore Lining, M=Matrix		
Hydric Soil I	ndicators:								or Problematic Hydric Soils***:		
Histisol (A1) Polyvalue Below Surface						(S8) (LRR R	, MLRA 149B)	2 cm Mu	CK (A10) (LRR K, L, MLRA 149B)		
Histic Ep	ipedon (A2)		Thi	n Dark Su	rface (S9	) (LRR R, ML	RA 149B)	Coast Pr	airie Redox (A16) (LRR K, L, R)		
Black His	stic (A3)	Loa	amy Muck	y Mineral	(F1) (LRR I	(, L)	5 cm Mu	cky Peat or Peat (S3) <sub>(LRR K, L, R)</sub>			
Hydroge	n Sulfide (A4)	Loa	amy Gleye	d Matrix	(F2)		Dark Sur	face (S7) (LRR K, L, M)			
Stratified	Layers (A5)	X De	pleted Ma	trix (F3)			Polyvalu	e Below Surface (S8) (LRR к, L)			
Depleted	l Below Dark Sufa	Re	Redox Dark Surface (F6)  Thin Dark Surface (S9) (LRR K, L								
Thick Da	rk Surface (A12)	De	Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LR								
Sandy M	ucky Mineral (S1)	Re	dox Depre	ssions (F	8)		Piedmon	t Floodplain Soils (F19) (мLRA 149в)			
Sandy G	leyed Matrix (S4)				Mesic Spodic (TA6) (MLRA 144A, 145, 149B)						
Sandy R	edox (S5)						Red Pare	ent Material (F21)			
Stripped	Matrix (S6)			ators of hy			ation and tt, unless  Very Shallow Dark Surface (TF12)				
Dark Sur	face (S7)			d or probl		present,	unicss	Other (E	xplain in Remarks)		
	ayer (if observed	):							, ,		
Type:	,										
Depth (inch	es):						Hvo	dric soil prese	ent? Yes		
Remarks:							,	co p. coc	<u></u>		

Project/Site:	CHK Subbas	oin 4 DRM		City/County:	Elkland	d, Tioga	Sampling Date:	4/21/202	22		
Applicant/Owner:		ce Environment	tal Salut	_	State:	PA	Sampling Date:  Sampling Poin				
Investigator(s):	Resource Resource R. Barnhill,		al Solut	Section, Towns			Elkland Town		)_UFL		
Landform (hillslope, terrace, e		Plain		Local relief (	-			lope (%):	00-05		
Subregion (LRR or MLRA)		MLRA 140	Lat.:	41.9929	Long	7.328013 Datun	_				
Soil Map Unit Name:				1, 2 to 12 percent s			Classification:	N/A	00		
Are climatic/hydrologic conditi							in in Remarks.)	14/1			
-	soil No	, or hydrology		No significantly		•	ormal circumstances"	'nresent?	Yes		
	soil No	, or hydrology		No naturally pro			eeded, explain any ans	_			
SUMMARY OF FINDINGS - A									- ,		
Hydrophytic vegetation preser	nt?	No	$\top$								
Hydric soil present?		No		Is the sample	d area withi	n a wetlan	ıd?	No			
Indicators of wetland hydrolog	yy present?	No									
Remarks:											
Upland data point is located Wetland001K.	l moderately op	en area with se	econd sı	uccessional growt	h of black lo	custs. Upla	and data point is assoc	ciated with			
HYDROLOGY											
Wetland Hydrology Indicato							ry Indicators (minimun	n of two requ	<u>uired)</u>		
Primary Indicators (minimum	of one is requir			/)			Surface Soil Cracks (B6)				
Surface Water (A1)		Aquatic Fauna	` ,				je Patterns (B10)		ļ		
High Water Table (A2)		Marl Deposits	, ,		_		rim Lines (B16)		ļ		
Saturation (A3)		Hydrogen Sulf			_	-	ason Water Table (C2	)			
Water Marks (B1)		_		es on Living Roots	(C3)	_ ′	n Burrows (C8)				
Sediment Deposits (B2)		Presence of R									
Drift Deposits (B3)		_		uction in Tilled Soils (C6)  Stunted or Stressed Plants (D1)					ļ		
Algal Mat or Crust (B4)		Thin Muck Sur		•			rphic Position (D2)				
Iron Deposits (B5)		Other (Explain	in Rem	narks)			Aquitard (D3)				
Inundation Visible on Aer					_		pographic Relief (D4)				
Sparsely Vegetated Cond	•	38)				FAC-Ne	eutral Test (D5)				
Water-Stained Leaves (B	9)					<del></del>					
Field Observations:						_					
Surface water present?	Yes	No _	X	Depth (inches):							
Water table present?	Yes	No _	X	Depth (inches):							
Saturation present?	Yes	No	Х	Depth (inches):		_   '	Wetland Hydrology P	resent?	<u>No</u>		
(includes capillary fringe)		20 2		*							
Describe recorded data (strea	m gauge, mon	itoring well, aeri	al photo	os, previous inspe	ctions), it av	ailable:					
Remarks:											
		Wetland hy	drology	y absent at the time	e of observa	tion					

Tree Stratum (Plot Size: 15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1 Robinia pseudoacacia	40	Yes	FACU	Number of Dominant
2				Species that are OBL, FACW, or FAC:  0 (A)
3				
4				Total Number of Dominant Species Across all Strata: 3 (B)
5				( ,
	40	= Total Cove		Percent of Dominant
50 % of total cover:	-	% of total co		Species that are OBL, FACW, or FAC: 0.00% (A/B)
Canling/Chruh Ctratum	Absolute	Dominant	Indicator	Prevalence Index Worksheet
·	% Cover	Species?	Status	
1			UPL	Total % Cover of: Multiply by:
2				OBL species 0 x1 = 0
3				FACW species 20 x 2 = 40
4				FAC species 15 x 3 = 45
5				FACU species 105 x 4 = 420
6				UPL species 30 x 5 = 150
7				Column totals(A)(B)
8				Prevalence Index = B/A = 3.85
9				Hydrophytic Vegetation Indicators:
10				1-Rapid test for hydrophytic vegetation
	0	= Total Cove	r	2-Dominance test is >50%
50 % of total cover:		% of total co		3-Prevalence index is ≤3.0*
Herb Stratum (Plot Size: 5x5 )	Absolute % Cover	Dominant Species?	Indicator Status	4-Morphogical adaptations* (provide
1 Artemisia vulgaris	30	Yes	UPL	supporting data in Remarks or on a separate sheet)
2 Galium mollugo	30	Yes	FACU	<del></del>
				Problematic hydrophytic vegetation* (explain)
3 Phalaris arundinacea	20	No No	FACW	*Indicators of hydric soil and wetland hydrology
4 Glechoma hederacea	20	No	FACU	must be present, unless disturbed or
5 Urtica dioica	15	No	FAC	problematic
6 Alliaria petiolata	15	No	FACU	Definitions of Vegetation Strata:
7				Tree - Woody plants 3 in. (7.6 cm) or more in
8				diameter at breast height (DBH), regardless of
9				height.  Sapling/Shrub - Woody plants less than 3 in.
10	100			(7.6 cm) DBH and greater than or equal to 3.28
	130	= Total Cove		ft (1 m) tall. <b>Herb</b> - All herbaceous (non-woody) plants,
50 % of total cover:	65.0 20 Absolute	% of total co Dominant	ver: 26.0 Indicator	regardless of size, and woody plants less than
Woody Vine Stratum (Plot Size:)	% Cover	Species?	Status	3.28 ft tall.
1				Woody vine - All woody vines greater than
2				3.28 ft in height.
3				
4				Hydrophytic
5				Vegetation <u>No</u>
	0	= Total Cove		Present?
50 % of total cover:	0.0 20	% of total co	ver: 0.0	
Remarks: (Include photo numbers here or on a sepa				1
·	,			

SOIL Sampling Point: DPK009\_UPL

Depth (Inches)		e to the t	depth needed to	documer	nt the ind	icator or	confirm the	absence of in	dicators.)		
(Inches)	Depth Matrix			edox Feat	ures						
0-5	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks		
	10YR 4/2	100					Silt loam		Roots present		
5-14	10YR 4/2	100					Silt loam		Rock and roots present; 50% rock		
									·		
*Type: C=Co	L ncentration, D=De	nletion R	M=Reduced Mat	riy MS=M	asked Sa	nd Grains	<u> </u>	**Location: F	PL=Pore Lining, M=Matrix		
Hydric Soil I		piction, r	IIII—I CCCCCC IVIAI	11, 110-11	asked oa	na Orani			or Problematic Hydric Soils***:		
			Po	lyvalue Beld	ow Surface	(89)			ck (A10) (LRR K, L, MLRA 149B)		
Histisol (									airie Redox (A16) (LRR K, L, R)		
Histic Epipedon (A2)  Black Histic (A3)				in Dark Su	-				` '		
				amy Muck	•	. ,	K, L)		cky Peat or Peat (S3) (LRR K, L, R)		
	n Sulfide (A4)		amy Gleye		(F2)			face (S7) (LRR K, L, M)			
	l Layers (A5)			Depleted Matrix (F3)  Polyvalue Below Surface (S8)							
	d Below Dark Sufa		dox Dark		•			k Surface (S9) (LRR K, L)			
	ark Surface (A12)			pleted Da					ganese Masses (F12) (LRR N, MLRA 136)		
Sandy M	Re	dox Depre	essions (F	(8)	Piedmont Floodplain Soils (F19) (MLRA 1498)  Mesic Spedic (TA6) (MLRA 145 479)						
Sandy G					Mesic Spodic (TA6) (MLRA 144A, 145, 149B)						
Sandy R	ledox (S5)		***Indic	ators of h	vdrophytic	: vegetati	on and		ent Material (F21)		
Stripped Matrix (S6)					y must be		t, unless Very Shallow Dark Surface (TF12)				
	Matrix (S6)		weitand	, ,			Other (Explain in Remarks)				
Stripped Dark Su	rface (S7)			ed or prob	lematic	1		Other (E.	xplain in Remarks)		
Stripped Dark Su		l):			lematic			Other (E.	xplain in Remarks)		
Stripped Dark Su	rface (S7)  Layer (if observed Rock				lematic						
Stripped Dark Su	rface (S7)  Layer (if observed Rock	l): 4"			lematic		Ну	dric soil prese			

D 1	01.114.00.151	in 4 DDM		Ott.:/Occuptor	- Udana	T:	0 lin n D-4	4/04/	2220	
Project/Site:		pasin 4 PRM	rt al Cale	City/County:	Elkland,		Sampling Date			
Applicant/Owner:		urce Environme	entai Solu		State:	PA	Sampling		010_PEM	
Investigator(s):		ill, F. Page		Section, Towns	-			Township	00.05	
Landform (hillslope, terrace, et	_	Depressi		_	concave, conv		Concave	_ ` ` `	00-05	
Subregion (LRR or MLRA)	LKK K	R: MLRA 140	Lat.:	41.992383	Long.:				AD 83	
Soil Map Unit Name:			•	ty clay loam	V-a (lf.)	_	assification:	N/A		
Are climatic/hydrologic condition						•	in Remarks.)	······································	. Vaa	
Are vegetation No , so		<b>—</b> ′′′		No significantly				nces" present?		
Are vegetation No, so	oil No	, or hydrolog	ју <u></u>	No naturally pro	blematic?	(IT need	ded, explain ai	ny answers in r	emarks)	
SUMMARY OF FINDINGS - A	ttach site m	nap showing s	ampling	point locations, tr	ransects, imp	ortant feat	tures, etc.			
Hydrophytic vegetation presen	it?	Ye	;S							
Hydric soil present?		Ye	:S	Is the sample	d area within	a wetland	? _	Yes		
Indicators of wetland hydrology	y present?	Ye	s							
Remarks:										
Data point is located within a	a large open	PEM dominate	ed by P. a	rundinacea. Data p	oint is associa	ated with W	/etland001K.			
HYDROLOGY							<u> </u>			
Wetland Hydrology Indicator										
·	of one is requ			• •		_	Soil Cracks (B6	,		
Surface Water (A1) Aquatic Fauna (B13) Drainage Patterns (B10)										
X High Water Table (A2)		Marl Deposits (B15) Moss Trim Lines (B16)								
X Saturation (A3)		Hydrogen S	ulfide Od	or (C1)		Dry-Seaso	on Water Table	e (C2)		
Water Marks (B1)		Oxidized Rh	nizosphere	es on Living Roots	(C3)	Crayfish E	Burrows (C8)			
Sediment Deposits (B2)		Presence of	f Reduced	lron (C4)		Saturation	า Visible on Ae	erial Imagery (C	(9)	
Drift Deposits (B3)		Recent Iron	Reductio	ction in Tilled Soils (C6)  Stunted or Stressed Plants (D1)						
Algal Mat or Crust (B4)		Thin Muck S	Surface (C	27)	X	Geomorpl	hic Position (D	2)		
Iron Deposits (B5)		Other (Expla	ain in Ren	narks)		Shallow A	Aquitard (D3)			
Inundation Visible on Aeri	al Imagery (	B7)				Microtopo	graphic Relief	(D4)		
Sparsely Vegetated Conc	ave Surface	(B8)				FAC-Neut	tral Test (D5)			
Water-Stained Leaves (B9	Э)									
Field Observations:	_			_						
Surface water present?	Yes	No	X	Depth (inches):						
Water table present?	Yes	X No		Depth (inches):	2"					
Saturation present?	Yes	X No		Depth (inches):	Surface	We	etland Hydrol	ogy Present?	Yes	
(includes capillary fringe)										
Describe recorded data (strear	n gauge, mo	onitoring well, a	erial phot	os, previous inspe	ctions), if avail	lable:				
Remarks:										

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1			70 00 001	орсоюз:	Otatus	Number of Dominant
2						Species that are OBL, FACW. or FAC: 1 (A)
3						· · · · · · · · · · · · · · · · · · ·
						Total Number of Dominant
4						Species Across all Strata: 2 (B)
5						Percent of Dominant
			0	= Total Cove	r	Species that are OBL,
	50 %	% of total cover:		% of total co		FACW, or FAC: 50.00% (A/B)
Sapling/Shrub Stra	atum (Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet
1 Rhamnus ca	•	,	5	Yes	UPL	Total % Cover of: Multiply by:
2						OBL species 0 x 1 = 0
3						FACW species 100 x 2 = 200
3						· · ·
4						FAC species 0 x 3 = 0
5						FACU species 10 x 4 = 40
6						UPL species 5 x 5 = 25
7						Column totals 115 (A) 265 (B)
8						Prevalence Index = B/A = 2.30
9						Hydrophytic Vegetation Indicators:
10						1-Rapid test for hydrophytic vegetation
			5	= Total Cove		2-Dominance test is >50%
	50 º	% of total cover:		% of total co		X 3-Prevalence index is ≤3.0*
	30 7	o or total cover.	Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide
Herb Stratum	(Plot Size:	5x5 )	% Cover	Species?	Status	supporting data in Remarks or on a
1 Phalaris arui	ndinacea		100	Yes	FACW	separate sheet)
2 Dipsacus ful	llonum		10	No	FACU	Problematic hydrophytic vegetation*
3						(explain)
4						*Indicators of hydric soil and wetland hydrology
						must be present, unless disturbed or
5						problematic
6						Definitions of Vegetation Strata:
7						Tree - Woody plants 3 in. (7.6 cm) or more in
8						diameter at breast height (DBH), regardless of
9						height.
10						Sapling/Shrub - Woody plants less than 3 in. (7.6 cm) DBH and greater than or equal to 3.28
			110	= Total Cove	r	ft (1 m) tall.
	50 %	% of total cover:	55.0 20	% of total co		Herb - All herbaceous (non-woody) plants,
Woody Vine Stratu	ım (Plot Size:	1	Absolute	Dominant	Indicator	regardless of size, and woody plants less than 3.28 ft tall.
	(1 101 0120.		% Cover	Species?	Status	
•						Woody vine - All woody vines greater than 3.28 ft in height.
2						0.20 K III Holgini.
3						
4						Hydrophytic
5						Vegetation <u>Yes</u>
			0	= Total Cove	r	Present?
	50 %	% of total cover:	0.0 20	% of total co	ver: 0.0	
Remarks: (Include	photo numbers h	ere or on a sepa	rate sheet.)			•

SOIL Sampling Point: DPK010\_PEM

Profile Desc	ription: (Describe	e to the	depth needed to	documen	t the ind	icator or	confirm the	absence of in	dicators.)		
Depth	Matrix		Re	dox Featı	ıres						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks		
0-5	10YR 4/2	100	,		71		Silt loam				
5-11	10YR 4/2	90	7.5YR 4/4	10	С	М	Silt loam		Rock present		
•	101111112						- Cint (Cum)		, took process		
*Type: C=Co	ncentration, D=De	pletion, R	RM=Reduced Matr	ix, MS=M	asked Sa	nd Grains	<u> </u>		L=Pore Lining, M=Matrix		
Hydric Soil I	ndicators:							Indicators fo	r Problematic Hydric Soils***:		
Histisol (	A1)		Poly	value Belo	w Surface	(S8) (LRR R	, MLRA 149B)	2 cm Mu	CK (A10) (LRR K, L, MLRA 149B)		
Histic Ep	ipedon (A2)			n Dark Su	•			Coast Pr	airie Redox (A16) (LRR K, L, R)		
Black His	stic (A3)		Loa	my Muck	y Mineral	(F1) (LRR I	۲, L)	5 cm Mu	cky Peat or Peat (S3) <sub>(LRR K, L, R)</sub>		
Hydroge	n Sulfide (A4)		Loa	my Gleye	ed Matrix	(F2)		Dark Sur	face (S7) (LRR K, L, M)		
Stratified	Layers (A5)		X Dep	oleted Ma	trix (F3)			Polyvalue	e Below Surface (S8) (LRR к, L)		
Depleted	l Below Dark Sufac	ce (A11)	Red	Redox Dark Surface (F6)  Thin Dark Surface (S9) (LRR K							
Thick Da	rk Surface (A12)		Dep	oleted Dar	k Surface	e (F7)		Iron-Man	ganese Masses (F12) (LRR N, MLRA 136)		
Sandy M	ucky Mineral (S1)		Red	dox Depre	ssions (F	(8)		Piedmon	t Floodplain Soils (F19) (MLRA 149B)		
Sandy G	leyed Matrix (S4)						Mesic Sp	oodic (TA6) (mlra 144a, 145, 149b)			
Sandy R	edox (S5)						Red Pare	ent Material (F21)			
Stripped	Matrix (S6)			ators of hy hydrology				Very Sha	allow Dark Surface (TF12)		
Dark Sur	face (S7)			d or probl		present,	Other (Explain in Remarks)				
	ayer (if observed	):						·	,		
Type:	Rock	•									
Depth (inch		1"					Hve	dric soil prese	ent? Yes		
Remarks:	1	•					,	unio com proce	<u></u>		

Project/Site:	CHK Sub	bbasin 4 PRI	М		City/County:	Osceola	, Tioga	Sampling Da	ate:	4/21/202	22
Applicant/Owner:	Res	source Enviro	onmental	I Solutions	j	State:	PA	Samplin	g Point:	DPK011	I_PFO
Investigator(s):	R. Barn	nhill, F. Page	)	S	Section, Towns	ship, Range:		Osceol	a Townsh	p	
Landform (hillslope, terrace, e	tc.):	F	Plain		Local relief (c	concave, con	vex, none):	None	Slope	e (%):	00-05
Subregion (LRR or MLRA)	LRR	R: MLRA 14	40 I	Lat.:	41.991701	Long.:	-77	.327483	Datum:	NAD	83
Soil Map Unit Name:		Wa	- Waylan	nd silty cla	y loam		NWI CI	lassification:		N/A	
Are climatic/hydrologic condition	ons of the	site typical fo	or this tim	ne of the y	<u>/ear?</u>	Yes (If	no, explain	n in Remarks.)			
Are vegetation No, se	oil N	or hyd	drology	No	significantly	disturbed?	Are "no	ormal circumst	ances" pr	esent?	Yes
Are vegetation No, se	oil N	or hyd	drology	No	naturally prol	blematic?	(If nee	eded, explain a	any answe	rs in rem	arks)
SUMMARY OF FINDINGS - A	ttach site	map showi	ng samp	oling poin	t locations, tr	ransects, im	portant fea	atures, etc.			
Hydrophytic vegetation presen	nt?		Yes								
Hydric soil present?			Yes	l l	s the sampled	d area withir	ı a wetland	1?	•	Yes	
Indicators of wetland hydrolog	y present?	,	Yes								<b>—</b>
Remarks:											
Data point is located within a PFO with very large mature black willows that are fairly spaced out with an open understory. Data point is associated with Wetland001K.											
HYDROLOGY								· , ,			
Wetland Hydrology Indicator											
Primary Indicators (minimum of one is required; check all that apply)  Surface Soil Cracks (B6)									ļ		
Surface Water (A1) Aquatic Fauna (B13) Drainage Patterns (B10)									ļ		
X High Water Table (A2)	1	Marl Deposits (B15) Moss Trim Lines (B16)								ļ	
X Saturation (A3)	1			de Odor (C	•		_	son Water Tab			
Water Marks (B1)	1	Oxidize	ed Rhizos	spheres or	n Living Roots	(C3)		Burrows (C8)			ļ
Sediment Deposits (B2)	1	Presen	ice of Red	duced Iron	ı (C4)		Saturatio	on Visible on A	erial Imaç	jery (C9)	
Drift Deposits (B3)	1	Recent	Iron Red	duction in	ction in Tilled Soils (C6) Stunted or Stressed Plants (D1)					ļ	
Algal Mat or Crust (B4)	1	Thin M	luck Surfa	ace (C7)			Geomorp	phic Position (	D2)		
Iron Deposits (B5)	1		Explain ir	n Remarks	s)			Aquitard (D3)			
Inundation Visible on Aeri	ial Imagery	/ (B7)					Microtope	ographic Relie	ef (D4)		
Sparsely Vegetated Conc	ave Surfac	ce (B8)				X	FAC-Neu	utral Test (D5)	1		
X Water-Stained Leaves (B	9)										
Field Observations:			_								
Surface water present?	Yes		No	X De	epth (inches):						
Water table present?	Yes	X	No	De	epth (inches):	3"					
Saturation present?	Yes	X	No	De	epth (inches):	Surface	w	etland Hydro	logy Pres	sent?	<u>Yes</u>
(includes capillary fringe)											
Describe recorded data (stream	m gauge, r	nonitoring w	ell, aerial	l photos, p	revious inspec	ctions), if ava	ilable:				
Remarks:								,			

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1		<u> </u>	70 00 001	орожов:	Otatas	Number of Dominant
2						Species that are OBL, FACW, or FAC:  2 (A)
3						Total Number of Dominant
4						Species Across all Strata: 2 (B)
5						Percent of Dominant
			0	= Total Cove		Species that are OBL,
		of total cove	er: 0.0 20 Absolute	) % of total co Dominant	over: 0.0 Indicator	FACW, or FAC: 100.00% (A/B)
Sapling/Shrub Stra	atum (Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet
1 Salix nigra			75	Yes	OBL	Total % Cover of: Multiply by:
2						OBL species75 x 1 =75
3						FACW species 110 x 2 = 220
4						FAC species 0 x 3 = 0
5						FACU species 2 x 4 = 8
6						UPL species 0 x 5 = 0
7						Column totals 187 (A) 303 (B)
8						Prevalence Index = B/A = 1.62
9						Hydrophytic Vegetation Indicators:
10						X 1-Rapid test for hydrophytic vegetation
			75	= Total Cove	r	X 2-Dominance test is >50%
	50 %	of total cove	er: 37.5 20	) % of total co	over: 15.0	X 3-Prevalence index is ≤3.0*
Herb Stratum	(Plot Size:	5x5 )	Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide
1 Phalaris aru	- · · · · ·	)	% Cover 85	Species? Yes	Status FACW	supporting data in Remarks or on a separate sheet)
2 Onoclea ser			10	No	FACW	·  <del></del> - '
3 *Symphyotri			10	No	FACW	Problematic hydrophytic vegetation* (explain)
4 *Impatiens s	· · · · · · · · · · · · · · · · · · ·		5	No	FACW	*Indicators of hydric soil and wetland hydrology
5 Rosa multifle	•		2	No	FACU	must be present, unless disturbed or
6	ora			110	1700	problematic
7						Definitions of Vegetation Strata:
8						Tree - Woody plants 3 in. (7.6 cm) or more in
9						diameter at breast height (DBH), regardless of height.
10						Sapling/Shrub - Woody plants less than 3 in.
				= Total Cove		(7.6 cm) DBH and greater than or equal to 3.28 ft (1 m) tall.
	50 %	of total cove		) % of total co		Herb - All herbaceous (non-woody) plants,
Woody Vine Stratu		,	Absolute	Dominant	Indicator	regardless of size, and woody plants less than
,	Im (Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.
2						Woody vine - All woody vines greater than 3.28 ft in height.
3						1
4						Hydrophytic Vegetation Yes
5						Present?
	_		0	= Total Cove		
	50 %	of total cove	er: 0.0 20	) % of total co	over: 0.0	1

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

\*Identified to a genus level did not have adequate characteristics to identify to the species level. These species were given a FACW indicator based on the common species found within this area to calculate to dominance and prevalance test.

SOIL Sampling Point: DPK011\_PFO

Duefile Dese	nintian. (Daganik	- 4- 4b-	James and all to		4 41- 0 1- 0- 01	4 - 4 - 4		-b	- diastana \		
Profile Desc	ription: (Describ	e to the d	_			icator or	confirm the	absence of in	idicators.)		
Depth	Matrix	1	Re	dox Featu	ıres						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	xture	Remarks		
0-4	10YR 4/2	100					Silt loam				
4-10	10YR 4/2	90	7.5YR 4/3	10	С	М	Silt loam		Rock present		
10-13	10YR 4/2	98	7.5YR 4/3	2	С	М	Silt loam		Rock present		
*Type: C=Co	ncentration, D=De	pletion, R	M=Reduced Matr	x, MS=Ma	asked Sa	nd Grains	3	**Location: F	PL=Pore Lining, M=Matrix		
Hydric Soil I	ndicators:							Indicators fo	r Problematic Hydric Soils***:		
Histisol (			Poly	value Belo	w Surface	(S8) (I BB B	MI DA 140D)		ck (A10) (lrr k, l, mlra 149b)		
	-								` '		
	pipedon (A2)			n Dark Su					airie Redox (A16) (LRR K, L, R)		
Black Histic (A3) Loamy Mucky Minera											
Hydroge	Hydrogen Sulfide (A4) Loamy Gleyed Matrix							Dark Sur	face (S7) (LRR K, L, M)		
Stratified	I Layers (A5)		X Dep	leted Mat	trix (F3)		Polyvalue Below Surface (S8) (LRR K, L)				
Depleted	l Below Dark Sufa	ce (A11)	Red	lox Dark S	Surface (F	<del>-</del> 6)	Thin Dark Surface (S9) (LRR K, L)				
Thick Da	rk Surface (A12)		Dep	leted Dar	k Surface	e (F7)		ganese Masses (F12) (LRR N, MLRA 136)			
Sandy M	lucky Mineral (S1)		Red	lox Depre	ssions (F	8)		Piedmon	t Floodplain Soils (F19) (MLRA 149B)		
Sandy G	leyed Matrix (S4)		_	·	,	,		Mesic Sr	oodic (TA6) (MLRA 144A, 145, 149B)		
	edox (S5)						Red Parent Material (F21)				
				ators of hy			ation and				
	Matrix (S6)			hydrology		present,	unless		· · ·		
	face (S7)		disturbe	d or probl	ematic			Other (E	xplain in Remarks)		
Restrictive L	ayer (if observed	l):									
Type:	Rock										
Depth (inch	nes): 1	3"					Hye	dric soil prese	ent? <u>Yes</u>		
Remarks:											

Project/Site:	CHK Sub	bbasin 4 PRM			City/County:	Osce	eola, Tio	oga	Sampl	ling Dat	te:	4/21/20	
Applicant/Owner:	Res	source Enviror	nmental S	Solutions	;	State:		PA	Sa	ampling	g Point:	DPK01	12_PEM
Investigator(s):	R. Barn	hill, F. Page		S	Section, Town	ıship, Ranç	ge:		C	)sceola	Towns	hip	
Landform (hillslope, terrace, et	.c.):	Pl	ain		Local relief (	(concave, c	convex,	, none):		None	Slo	pe (%):	00-05
Subregion (LRR or MLRA)	LRR	R: MLRA 140	) L:	.at.:	41.99165	Lor	ng.:	-77.3	328631		Datum:	NA	D 83
Soil Map Unit Name:		Wa -	Wayland	d silty clay	y loam		ı	NWI Cla	assificat	tion:		N/A	
Are climatic/hydrologic condition	ons of the	site typical for	r this time	e of the y	ear?	Yes	(If no,	explain i	in Rem	arks.)			
Are vegetation No , so	oil N	lo , or hydro	ology	No	significantly	disturbed?	? /	Are "nor	mal cir	cumsta	ınces" p	oresent?	Yes
Are vegetation No, so	oil N	lo , or hydro	ology	No	naturally pro	oblematic?	ı	(If need	ded, ex	plain a	ny ansv	wers in rei	marks)
SUMMARY OF FINDINGS - A	ttach site	map showin	g sampl	ing poin	t locations, t	transects,	import	tant feat	tures, e	etc.			
Hydrophytic vegetation present	t?		Yes										
Hydric soil present?			Yes	ls	s the sample	ed area wit	thin a v	wetland <sup>*</sup>	?			Yes	
Indicators of wetland hydrology	y present?		Yes										
Remarks:													
Data point is located in a larg near this data point. Data po	• .		-		ea. A large dr	rainage fea	ature wi	th a larg	je volur	ne of w	<i>ı</i> ater flo	ws north	to south
HYDROLOGY													
Wetland Hydrology Indicator												of two red	quired)
Primary Indicators (minimum o	f one is re							urface S		,	•		
Surface Water (A1)			Fauna (B	,				rainage		-	)		
X High Water Table (A2)			posits (B1	•				loss Trim		` '			
X Saturation (A3)				e Odor (C	•			ry-Seaso			le (C2)		
Water Marks (B1)					n Living Roots	s (C3)	C	rayfish E	3urrows	s (C8)			
Sediment Deposits (B2)		Presence	e of Redu	uced Iron	ı (C4)		Sa	aturation	า Visible	e on A	erial Ima	agery (C9	))
Drift Deposits (B3)		Recent I	ron Redu	uction in 7	Tilled Soils (C	26)	St	tunted o	r Stres	sed Pla	ants (D1	1)	
Algal Mat or Crust (B4)		Thin Mu	ck Surfac	ce (C7)			G	eomorph	hic Pos	sition (D	)2)		
Iron Deposits (B5)			xplain in	Remarks	3)			hallow A		. ,			
Inundation Visible on Aeria	al Imagery	(B7)					M	licrotopo	graphic	c Relief	(D4)		
Sparsely Vegetated Conca	ave Surfac	:e (В8)					X F	AC-Neut	tral Tes	st (D5)			
Water-Stained Leaves (B9	<del>)</del> )												
Field Observations:													
Surface water present?	Yes	N	No :	X Dep	pth (inches):								
Water table present?	Yes	X N	No	Der	pth (inches):	11"							
Saturation present?	Yes	X	No	Der	pth (inches):	6"		We	etland	Hydrol	ogy Pr	esent?	<u>Yes</u>
(includes capillary fringe)													
Describe recorded data (strear	n gauge, n	nonitoring we	ו, aerial ן	photos, p	revious inspe	ections), if a	availab	le:					
Remarks:													

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant	Indicator	Dominance Test Worksheet
1	(1 101 0120.	, ioxio	% Cover	Species?	Status	Number of Dominant
2						Species that are OBL, FACW, or FAC: 1 (A)
3						
4						Total Number of Dominant Species Across all Strata: 1 (B)
4						Species Across all Strata: 1 (B)
5						Percent of Dominant
			0	= Total Cove		Species that are OBL,
		of total cover:	0.0 20 Absolute	) % of total co Dominant	ver: 0.0 Indicator	FACW, or FAC: 100.00% (A/B)
Sapling/Shrub Stratur	n (Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet
1						Total % Cover of: Multiply by:
2						OBL species 0 x 1 = 0
3						FACW species 100 x 2 = 200
4						FAC species 0 x 3 = 0
5						FACU species 10 x 4 = 40
6						UPL species 0 x 5 = 0
7						Column totals 110 (A) 240 (B)
8						Prevalence Index = B/A = 2.18
9						Hydrophytic Vegetation Indicators:
10						X 1-Rapid test for hydrophytic vegetation
			0	= Total Cove	r	X 2-Dominance test is >50%
	50 %	of total cover:	0.0 20	) % of total co	ver: 0.0	X 3-Prevalence index is ≤3.0*
Herb Stratum	(Diet Size)	EvE \	Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide
	(Plot Size:	5x5 )	% Cover	Species?	Status	supporting data in Remarks or on a
1 Phalaris arundi	nacea		100	Yes	FACW	separate sheet)
2 *Solidago sp.			10	No No	FACU	Problematic hydrophytic vegetation* (explain)
4						*Indicators of hydric soil and wetland hydrology
5						must be present, unless disturbed or problematic
6						
7						Definitions of Vegetation Strata:
8						Tree - Woody plants 3 in. (7.6 cm) or more in
9						diameter at breast height (DBH), regardless of height.
10						Sapling/Shrub - Woody plants less than 3 in.
			110	= Total Cove	r	(7.6 cm) DBH and greater than or equal to 3.28 ft (1 m) tall.
	50 %	of total cover:	55.0 20	) % of total co	ver: 22.0	Herb - All herbaceous (non-woody) plants,
Woody Vine Stratum		,	Absolute	Dominant	Indicator	regardless of size, and woody plants less than
,	(Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.
1						Woody vine - All woody vines greater than 3.28 ft in height.
2						0.20 it in neight.
3						
4						Hydrophytic
5						Vegetation <u>Yes</u> Present?
			0	= Total Cove	r	1.000
	50 %	of total cover:	0.0 20	) % of total co	ver: 0.0	
Remarks: (Include ph	oto numbers he	ere or on a sepa	arate sheet.)			

\*Identified to a genus level did not have adequate characteristics to identify to the species level. These species were given a FACU indicator based on the common species found within this area to calculate to dominance and prevalance test.

SOIL Sampling Point: DPK012\_PEM

Profile Desc	ription: (Describ	e to the o	depth needed to	documen	t the ind	icator or	confirm the	absence of in	adicators.)			
	Matrix	0 10 1110 1		dox Featu		iouto: o.						
Depth (Inches)		0/			r	1**	Т		Damandra			
` /	Color (moist)	%	Color (moist)	%	Type*	Loc**		xture	Remarks			
0-7	10YR 4/2	80	7.5YR 4/4	20	С	PL	Silt loam		Organics present			
7-16	10YR 4/1	90	10YR 5/4	10	С	М	Silt loam					
*Type: C=Co	ncentration, D=De	pletion, R	M=Reduced Matri	x, MS=Ma	asked Sa	nd Grains	<u> </u>	**Location: F	PL=Pore Lining, M=Matrix			
Hydric Soil I		,		,					or Problematic Hydric Soils***:			
Histisol (			Poly	value Belo	w Surface	(S8) (LRR R	MI DA 440D)		ck (A10) (LRR K, L, MLRA 149B)			
	•					(00) (LRR R			·			
	ipedon (A2)								rairie Redox (A16) (LRR K, L, R)			
Black Histic (A3) Loamy Mucky Minera							K, L)		cky Peat or Peat (S3) (LRR K, L, R)			
	n Sulfide (A4)			my Gleye		(F2)			face (S7) (LRR K, L, M)			
	Layers (A5)			leted Mat			Polyvalue Below Surface (S8) (LRR K,					
	Below Dark Sufa	ce (A11)	Red	ox Dark S	Surface (l	<del>-</del> 6)	Thin Dark Surface (S9) (LRR K, L)					
Thick Da	rk Surface (A12)		Dep	leted Dar	k Surface	e (F7)	<u> </u>					
Sandy M	ucky Mineral (S1)		Red	ox Depre	ssions (F	8)		Piedmon	t Floodplain Soils (F19) (MLRA 149B)			
Sandy G	leyed Matrix (S4)							Mesic Sp	oodic (TA6) (mlra 144a, 145, 149b)			
Sandy R	edox (S5)							Red Pare	ent Material (F21)			
Stripped	Matrix (S6)					vegetati present,		Very Sha	allow Dark Surface (TF12)			
Dark Sur	face (S7)			d or probl		prosent,	unicoo	Other (E	xplain in Remarks)			
	ayer (if observed	D:						·	, , , , , , , , , , , , , , , , , , ,			
Type:		•										
Depth (inch	es).						Hve	dric soil prese	ent? <u>Yes</u>			
Remarks:							,	unio com proce	<u>100</u>			

Project/Site:	CHK Subbas	sin 4 PRM		City/County:	Osceola	a, Tioga	Sampling Date:	4/21/202	22	
Applicant/Owner:		ce Environment	ital Solut		State:	PA	Sampling Poi			
Investigator(s):	R. Barnhill,			Section, Towns			Osceola Tov		_	
Landform (hillslope, terrace, e		Rise		-	concave, con		: Convex	Slope (%):	00-05	
Subregion (LRR or MLRA)	LRR R:	MLRA 140	Lat.:	41.991172			7.328975 Datu	_	83	
Soil Map Unit Name:		Wa - Wayl	land silty	, clay loam		_	lassification:	N/A		
Are climatic/hydrologic condit	tions of the site	-		-	Yes (If	— no, explair	n in Remarks.)			
Are vegetation No , s	soil No	, or hydrology		No significantly	disturbed?	Are "no	ormal circumstance	s" present?	Yes	
Are vegetation No , s	soil No	, or hydrology	N	No naturally pro	oblematic?	(If ne	eded, explain any a	nswers in rem	arks)	
SUMMARY OF FINDINGS -	Attach site ma	p showing sar	– npling բ	ooint locations, to	ransects, im	portant fe	atures, etc.			
Hydrophytic vegetation prese	nt?	No								
Hydric soil present?		No		Is the sample	d area withii	n a wetlan	d?	No		
Indicators of wetland hydrolog	gy present?	No								
Remarks:										
Upland data point is located	d an upland incl	lusion surround	led by a	PEM wetland. Up	land data poi	int is assoc	iated with Wetland0	001K.		
HYDROLOGY							<del></del>			
Wetland Hydrology Indicato				-			y Indicators (minimu	um of two requ	<u>uired)</u>	
Primary Indicators (minimum	of one is requir			<b>'</b> )			Soil Cracks (B6)			
Surface Water (A1)		Aquatic Fauna	` ,				e Patterns (B10)			
High Water Table (A2)		Marl Deposits	, ,				im Lines (B16)			
Saturation (A3)		Hydrogen Sulf					son Water Table (C	2)		
Water Marks (B1)		_		es on Living Roots	(C3)	_ ′	Burrows (C8)			
Sediment Deposits (B2)		Presence of R		` ,			Saturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3)				n in Tilled Soils (C	;6)		or Stressed Plants	(D1)		
Algal Mat or Crust (B4)		Thin Muck Su	rface (C	7)		Geomor	phic Position (D2)			
Iron Deposits (B5)		Other (Explain	າ in Rem	ıarks)			Aquitard (D3)			
Inundation Visible on Ae						Microtop	oographic Relief (D4	1)		
Sparsely Vegetated Con-	cave Surface (E	38)				FAC-Ne	utral Test (D5)			
Water-Stained Leaves (E	39)									
Field Observations:										
Surface water present?	Yes	No	Χ	Depth (inches):						
Water table present?	Yes	No	Х	Depth (inches):						
Saturation present?	Yes	No	Χ	Depth (inches):		_ v	Vetland Hydrology	Present?	<u>No</u>	
(includes capillary fringe)										
Describe recorded data (strea	am gauge, mon	itoring well, aer	ial photo	os, previous inspe	ections), if ava	ailable:				
Remarks:										
			Wetlan	nd hydrology is abs	sent					

VEGETATION - 03e 3	Cientine nan	ico oi piarito.						Di 10	10_01 L
Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Tes	t Workshe	et	
1 Acer saccharum	,		5	Yes	FACU	Number of Domi			
2						Species that are FACW, or FAC:	OBL,	0	(A)
3							5		_ (,,)
4						Total Number of Species Across		3	(B)
5							•		_ (D)
<u> </u>			5	= Total Cove		Percent of Domin			
	50.0	% of total cover:		) % of total co		Species that are FACW, or FAC:	OBL,	0.00%	(A/B)
Cambinar/Charle Ctuations		o or total cover.	Absolute	Dominant	Indicator				(٨/٥)
Sapling/Shrub Stratum	Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Inde	x worksn	eet	
1 Rosa multiflora			5	Yes	FACU	Total % Cover of	<u>f:</u>	Multiply	y by:
2						OBL species	0 x	1 = 0	_
3						FACW species	20 x 2	2 = 40	_
4						FAC species	0 x 3	3 =0	_
5						FACU species	75 x	4 = 300	_
6						UPL species	20 x	5 = 100	_
7						Column totals	115 (A)	440	(B)
8						Prevalence Inde	ex = B/A =	3.83	='
9						Hydrophytic Ve	getation Ir	ndicators:	
10						1-Rapid test	for hydrop!	hytic vegeta	tion
			5	= Total Cove	r	2-Dominance	e test is >5	0%	
	50 %	% of total cover:	2.5 20	) % of total co	ver: 1.0	3-Prevalence	e index is ≤	£3.0*	
Herb Stratum	(Plot Size:	EvE \	Absolute	Dominant	Indicator	4-Morphogic	al adaptation	ons* (provid	е
	(Plot Size.	5x5 )	% Cover	Species?	Status	supporting d		arks or on a	ì
1 *Solidago sp.			30	Yes	FACU	separate she	•		
2 Monarda fistulos	<u> </u>		20	No	FACU	Problematic (explain)	hydrophytic	c vegetation	ı*
3 Phalaris arundin	acea		20	No	FACW	, , ,	data a di an		
4 Asclepias syriac	а		20	No	UPL	*Indicators of hyd must be present,			yarology
5 Achillea millefoli	um		15	No	FACU	problematic	,		
6						Definitions of V	egetation	Strata:	
7						Troe Woody pla	onto 2 in /	7 6 om) or n	aoro in
8						Tree - Woody pla diameter at brea			
9						height.	• ,	, .	
10						Sapling/Shrub - (7.6 cm) DBH an			
			105	= Total Cove	r	ft (1 m) tall.	-		
	50 %	% of total cover:		% of total co		Herb - All herbac regardless of size			
Woody Vine Stratum	(Plot Size:	)	Absolute % Cover	Dominant Species?	Indicator Status	3.28 ft tall.	e, and woo	idy piants le	55 tilali
1			75 0010.		014140	Woody vine - Al	l woodv vir	nes greater f	than
2						3.28 ft in height.		.ee greater	
3									
4						Hudrophytic			
5						Hydrophytic Vegetation		<u>No</u>	
J			0	= Total Cove		Present?			
	FO 0	/ of total							
	50 %	% of total cover:	0.0 20	) % of total co	ver: 0.0				

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

\*Identified to a genus level, did not have adequate characteristics to identify to the species level. These species were given a FACU indicator based on the common species found within this area to calculate to dominance and prevalance test.

SOIL Sampling Point: DPK013\_UPL

Profile Desc	ription: (Describ	e to the o	depth needed to	documen	t the ind	icator or	confirm the	absence of in	dicators.)			
Depth	Matrix		Re	dox Featı	ıres							
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks			
0-16	10YR 4/3	100	,		7.		Silt loam					
*Type: C=Co	ncentration, D=De	pletion, R	M=Reduced Matr	x, MS=M	asked Sa	nd Grains	5	**Location: P	PL=Pore Lining, M=Matrix			
Hydric Soil I	ndicators:							Indicators fo	r Problematic Hydric Soils***:			
Histisol (	A1)		Poly	value Belo	w Surface	(S8) (LRR R	, MLRA 149B)	2 cm Mu	CK (A10) (LRR K, L, MLRA 149B)			
Histic Ep	pipedon (A2)		Thi	n Dark Su	ırface (S9	) (LRR R, ML	RA 149B)	Coast Pr	airie Redox (A16) (LRR к, L, R)			
Black His	stic (A3)		Loa	my Muck	y Mineral	(F1) (LRR	(, L)	5 cm Mu	cky Peat or Peat (S3) <sub>(LRR K, L, R)</sub>			
Hydroge	Hydrogen Sulfide (A4) Loamy Gleyed Matri						Dark Surface (S7) (LRR K, L, M)					
Stratified	Stratified Layers (A5)  Depleted Matrix (F3)						Polyvalue Below Surface (S8) (LRR K, L)					
 Depleted	l Below Dark Sufa	ce (A11)	Red	lox Dark S	Surface (I	<del>-</del> 6)	Thin Dark Surface (S9) (LRR K, L)					
	rk Surface (A12)			leted Dar		•		Iron-Man	ganese Masses (F12) (LRR N, MLRA 136)			
	lucky Mineral (S1)			lox Depre					t Floodplain Soils (F19) (MLRA 149B)			
	leyed Matrix (S4)				(	-,			DODIC (TA6) (MLRA 144A, 145, 149B)			
	edox (S5)								ent Material (F21)			
	Matrix (S6)						ation and					
	face (S7)			hydrology d or probl		present,	unless		xplain in Remarks)			
	ayer (if observed	١-	distarbe	a or probi	Ciliatio			Other (L	xpiairi iii ixemarks)			
	.ayer (ii observed	)-										
Type:	\						Here	luia aail uuaaa				
Depth (inch Remarks:	ies):						нус	dric soil prese	ent? <u>No</u>			
Nemarks.												

- : ::=::								1/0//00		
•	CHK Subbasi			City/County:		a, Tioga	Sampling Date:			
Applicant/Owner:		ce Environmen	tal Solut		State:	PA	Sampling Po		4_UPL	
Investigator(s):	R. Barnhill,			Section, Towns			Osceola To			
Landform (hillslope, terrace, etc	_	Plain		Local relief (d				Slope (%):	00-05	
Subregion (LRR or MLRA)	LRR R: M	MLRA 140	Lat.:	41.990373	Long			tum: NAC	) 83	
Soil Map Unit Name:			Orrvile si				Classification:	N/A		
Are climatic/hydrologic condition		-					in in Remarks.)	Ī		
Are vegetation Yes, soi	il Yes	, or hydrology	Y	es significantly			ormal circumstance		Yes	
Are vegetation No , soi	il No	, or hydrology		No naturally pro	blematic?	(If ne	eeded, explain any	answers in rem	narks)	
SUMMARY OF FINDINGS - At	tach site mar	ρ showing sar	mpling p	point locations, ti	ransects, in	nportant fe	atures, etc.			
Hydrophytic vegetation present	?	No								
Hydric soil present?		No		Is the sample	d area withi	n a wetlan	ıd?	No		
Indicators of wetland hydrology	present?	No								
Remarks:	<u>·</u>									
Data point is located in an ac Upland data point is associate	-		ıydrology	y, and vegetation a	are all severa	ally disturbe	ed due to active ag	ıricultural practi	ices.	
HYDROLOGY										
Wetland Hydrology Indicators	<b>š</b> :					<u>Secondar</u>	ry Indicators (minim	num of two req	uired)	
Primary Indicators (minimum of	one is require	ed; check all th	nat apply	/)		Surface	e Soil Cracks (B6)			
Surface Water (A1)		Aquatic Fauna	a (B13)			Drainag	ge Patterns (B10)			
High Water Table (A2)		Marl Deposits	; (B15)			Moss Tr	rim Lines (B16)			
Saturation (A3)		Hydrogen Sul	fide Odc	or (C1)		Dry-Sea	ason Water Table (	(C2)		
Water Marks (B1)		Oxidized Rhiz	zosphere	es on Living Roots	(C3)	Crayfish	n Burrows (C8)			
Sediment Deposits (B2)		Presence of F	Reduced	Iron (C4)		Saturati	Saturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3)		Recent Iron R	Reduction	n in Tilled Soils (Co	6)	Stunted	l or Stressed Plants	s (D1)		
Algal Mat or Crust (B4)		Thin Muck Su	ırface (C	;7)		Geomor	rphic Position (D2)			
Iron Deposits (B5)		Other (Explain	n in Rem	narks)		Shallow	/ Aquitard (D3)			
Inundation Visible on Aeria	ıl Imagery (B7	· ')				Microtor	pographic Relief (D	04)		
Sparsely Vegetated Conca	ve Surface (B	38)				FAC-Ne	eutral Test (D5)			
Water-Stained Leaves (B9)	)				_					
Field Observations:										
Surface water present?	Yes	No	Х	Depth (inches):						
Water table present?	Yes	No	Х	Depth (inches):						
Saturation present?	Yes	No	Х	Depth (inches):		V	Wetland Hydrolog	y Present?	<u>No</u>	
(includes capillary fringe)				-		_				
Describe recorded data (stream	ı gauge, moni	itoring well, aer	rial photo	os, previous inspe	ctions), if av	ailable:				
Remarks:			Wetlar	nd hydrology is abs	sent					

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1	(	,	/0 COVE	орешев:	Glatus	Number of Dominant	
2						- Species that are OBL, FACW, or FAC:	(A)
3							١٠/
4						Total Number of Dominant Species Across all Strata: 1	(B)
5							(=)
			0	= Total Cover		Percent of Dominant	İ
	50 % o	f total cover:		_ Total cover 0 % of total co		Species that are OBL, FACW, or FAC: 0.00%	(A/B)
Capling/Chruh Stra			Absolute	Dominant	Indicator	Prevalence Index Worksheet	(^, _,
Sapling/Shrub Stra	(Plot Size:	15x15 )	% Cover	Species?	Status		İ
1					UPL	Total % Cover of: Multiply b	oy:
2						OBL species 0 x 1 = 0	İ
3						FACW species 0 x 2 = 0	İ
4						FAC species 0 x 3 = 0	l
5						FACU species 0 x 4 = 0	İ
6						UPL species 0.25 x 5 = 1.25	
7						Column totals 0.25 (A) 1.25 (E	B)
8						Prevalence Index = B/A = 5.00	
9						Hydrophytic Vegetation Indicators:	
10						1-Rapid test for hydrophytic vegetatio	n n
			0	= Total Cover	ſ	2-Dominance test is >50%	İ
	50 % of	f total cover:	0.0 20	= 0 % of total co	ver: 0.0	3-Prevalence index is ≤3.0*	
Herb Stratum	(Plot Size:	5x5 )	Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide	
	(Plut Size.	5x5 )	% Cover	Species?	Status	supporting data in Remarks or on a	
1 *Zea maize			25%	Yes	UPL	separate sheet)	
2				<b></b>		Problematic hydrophytic vegetation*	
3						(explain)	
4						*Indicators of hydric soil and wetland hydr must be present, unless disturbed or	rology
5						problematic	
6						Definitions of Vegetation Strata:	
7							
8						Tree - Woody plants 3 in. (7.6 cm) or mor diameter at breast height (DBH), regardle	
9						height.	
10						Sapling/Shrub - Woody plants less than (7.6 cm) DBH and greater than or equal to	
			0.25	= Total Cover	ſ	ft (1 m) tall.	3 3.20
	50 % of	f total cover:	0.1 20	= 0 % of total co	ver: 0.1	Herb - All herbaceous (non-woody) plants	
Woody Vine Stratu	ım (Plot Size:	)	Absolute	Dominant	Indicator	regardless of size, and woody plants less 3.28 ft tall.	than
1	(FIOL OIZO.		% Cover	Species?	Status		
						Woody vine - All woody vines greater that 3.28 ft in height.	an
2				<b></b>		0.20 1	
3						.	
4						Hydrophytic	
5						Vegetation No Present?	
			0	= Total Cover	i	Fiesent:	
	50 % of	f total cover:	0.0 20	0 % of total co	ver: 0.0		
Remarks: (Include	photo numbers here	or on a sepa	rate sheet.)				
*Zea maize does n	ot appear on the NC	NE NWPL an	ıd is assume	ed to have an !	JPL indicato	or status for the prevalance and dominace te	est.
i							

SOIL Sampling Point: DPK014\_UPL

Profile Desc	ription: (Describ	e to the o	depth needed to	documen	t the ind	icator or	confirm the	absence of in	ndicators.)
Depth	Matrix		Re	dox Featı	ıres				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	kture	Remarks
0-13	10YR 4/3	100	,		7.		Silt loam		
13-16	10YR 4/2	90	7.5YR 4/3	10	С	М	Silt loam		
*Typo: C=Co	lncentration, D=De	plotion P	M-Poducod Matr	l MS-M	askod Sa	nd Grains		**Location: E	PL=Pore Lining, M=Matrix
• • • • • • • • • • • • • • • • • • • •		pietion, R	IIII-Reduced Mati	IX, IVIO-IVI	askeu Sa	nu Grains	•		Ŭ.
Hydric Soil I			D .		0 (	(00)			or Problematic Hydric Soils***:
Histisol (	,			value Belo		, ,			CK (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)			n Dark Su	•				rairie Redox (A16) (LRR K, L, R)
Black His				my Muck			(, L)		cky Peat or Peat (S3) (LRR к, L, R)
	n Sulfide (A4)			my Gleye		(F2)			face (S7) (LRR K, L, M)
	I Layers (A5)		Dep	oleted Ma	trix (F3)				e Below Surface (S8) (LRR к, L)
	l Below Dark Sufa	ce (A11)	Red	lox Dark S	Surface (l	<del>-</del> 6)			k Surface (S9) (LRR K, L)
	rk Surface (A12)		Dep	oleted Dar	rk Surface	e (F7)		Iron-Man	iganese Masses (F12) (LRR N, MLRA 136)
Sandy M	lucky Mineral (S1)		Red	dox Depre	essions (F	8)			it Floodplain Soils (F19) (мLRA 149в)
Sandy G	leyed Matrix (S4)							Mesic Sp	DODIC (TA6) (MLRA 144A, 145, 149B)
Sandy R	edox (S5)		***Indica	ators of hy	,dronbytic	voqotati	on and	Red Pare	ent Material (F21)
Stripped	Matrix (S6)			hydrology				Very Sha	allow Dark Surface (TF12)
Dark Sur	face (S7)		disturbe	d or probl	ematic			Other (E	xplain in Remarks)
Restrictive L	ayer (if observed	l):							
Type:									
Depth (inch	ies):						Нус	dric soil prese	ent? <u>No</u>
Remarks:									
				H	ydric soil	absent			

Project/Site:	CHK Subb	pasin 4 PRM		City/County:	Osceola	ı, Tioga	Sampling Da	te:	4/21/202	22
Applicant/Owner:	Reso	ource Environme	ntal Solution	ons	State:	PA	Samplin	g Point:	DPK015	_PEM
Investigator(s):	R. Barnhi	ill, F. Page		Section, Towns	ship, Range:		Osceola	a Township		
Landform (hillslope, terrace, e	etc.):	Drainagev	vay	Local relief (	concave, con	vex, none):	Conca	/e Slope	(%):	00-05
Subregion (LRR or MLRA)	LRR R	R: MLRA 140	Lat.:	41.99032	Long.:	: -77	.328965	Datum:	NAD	83
Soil Map Unit Name:		Ow -	Orrville silt	t loam		NWI CI	assification:		N/A	
Are climatic/hydrologic conditi	ions of the si	te typical for this	s time of th	ie year?	Yes (If	no, explain	in Remarks.)	_		
Are vegetation Yes, s	soil Yes	, or hydrolog	gy Ye	es significantly	disturbed?	Are "no	rmal circumsta	ances" pres	sent?	Yes
Are vegetation No, s	soil No	, or hydrolog	gy No	o naturally pro	oblematic?	(If nee	eded, explain a	ny answer	s in rema	arks)
SUMMARY OF FINDINGS - A	Attach site m	nap showing sa	ampling po	oint locations, t	ransects, im	portant fea	atures, etc.			
Hydrophytic vegetation preser	nt?	Yes	s							
Hydric soil present?		Yes	s	Is the sample	d area withir	n a wetland	l?	Ye	es	
Indicators of wetland hydrolog	y present?	Yes	s				•			
Remarks:										
Data point is located in an a Data point is associated wit			hydrology,	, and vegetation a	are severely o	disturbed du	ue to the activ	e agricultur	al practi	ces.
HYDROLOGY							,			
Wetland Hydrology Indicato			:				Indicators (m		wo requ	<u>iired)</u>
Primary Indicators (minimum	of one is requ						Soil Cracks (B	•		
Surface Water (A1)		Aquatic Fau	` ,		X	_	Patterns (B10	•		ļ
High Water Table (A2)		Marl Deposit	, ,				m Lines (B16)			
X Saturation (A3)		Hydrogen Si				son Water Tab	le (C2)			
Water Marks (B1)				s on Living Roots	(C3)	Crayfish	Burrows (C8)			
Sediment Deposits (B2)		Presence of	Reduced I	Iron (C4)	X	Saturatio	n Visible on A	erial Image	ery (C9)	
Drift Deposits (B3)		Recent Iron	Reduction	in Tilled Soils (C	(6)	Stunted of	or Stressed Pl	ants (D1)		ļ
Algal Mat or Crust (B4)		Thin Muck S	Surface (C7	<sup>'</sup> )		Geomorp	hic Position (I	D2)		ļ
Iron Deposits (B5)		Other (Expla	ain in Rema	arks)			Aquitard (D3)			
Inundation Visible on Aer	ial Imagery (	B7)				Microtope	ographic Relie	f (D4)		
Sparsely Vegetated Cond	cave Surface	(B8)				FAC-Neu	ıtral Test (D5)			
Water-Stained Leaves (B	9)									
Field Observations:										
Surface water present?	Yes	No	Х	Depth (inches):						
Water table present?	Yes	X No		Depth (inches):	16"					
Saturation present?	Yes	X No		Depth (inches):	11"	w	etland Hydro	logy Prese	ent?	Yes
(includes capillary fringe)										
Describe recorded data (strea	⊪m gauge, mo	onitoring well, a	erial photos	s, previous inspe	ections), if ava	ıilable:				
Remarks:										

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1						Number of Dominant	
2						Species that are OBL,	(A)
3				<del></del>			_ (A)
						Total Number of Dominant	<b>(D)</b>
4						Species Across all Strata: 3	_ (B)
5						Percent of Dominant	
			0	= Total Cove		Species that are OBL,	
		of total cover:		% of total co		FACW, or FAC: 66.67%	(A/B)
Sapling/Shrub Strat	tum (Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet	
1	_			·	UPL	Total % Cover of: Multip	ly by:
2						OBL species 0 x 1 = 0	
3						FACW species 35 x 2 = 70	
4						FAC species 0 x 3 = 0	
5						FACU species 0 x 4 = 0	
6						UPL species 20 x 5 = 100	
7						Column totals 55 (A) 170	(B)
8						Prevalence Index = B/A = 3.09	
9						Hydrophytic Vegetation Indicators:	
10						1-Rapid test for hydrophytic vegeta	ation
			0	= Total Cove	r	X 2-Dominance test is >50%	
	50 %	of total cover:	0.0 20	% of total co	ver: 0.0	3-Prevalence index is ≤3.0*	
Herb Stratum	(Plot Size:	5x5 )	Absolute % Cover	Dominant Species?	Indicator Status	4-Morphogical adaptations* (provide	
1 *Zea maize			20	Yes	UPL	supporting data in Remarks or on a separate sheet)	a
2 Phalaris arun	dinacea		20	Yes	FACW	Problematic hydrophytic vegetation	n*
3 **Echinchloa	SD.		15	Yes	FACW	(explain)	
4	<u>,                                      </u>					*Indicators of hydric soil and wetland h	ydrology
5						must be present, unless disturbed or problematic	
6						Definitions of Vegetation Strata:	
7						Tree - Woody plants 3 in. (7.6 cm) or r	more in
8						diameter at breast height (DBH), regar	
9						height. Sapling/Shrub - Woody plants less th	an 3 in
10						(7.6 cm) DBH and greater than or equa	
			55	= Total Cove		ft (1 m) tall.	
	50 %	of total cover:		) % of total co Dominant	ver: 11.0 Indicator	<b>Herb</b> - All herbaceous (non-woody) plater regardless of size, and woody plants leads	
Woody Vine Stratur	<sup>m</sup> (Plot Size:	)	Absolute % Cover	Species?	Status	3.28 ft tall.	oce than
1	_					Woody vine - All woody vines greater	than
2						3.28 ft in height.	
3							
4						Hydrophytic	
5						Vegetation <u>Yes</u>	
			0	= Total Cove	r	Present?	
	50 %	of total cover:	0.0 20	) % of total co	ver: 0.0		
Danis and an illustration							

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

<sup>\*</sup>Z. maize does not appear on the NCNE NWPL and is assumed to have an UPL indicator status for the prevalance and dominance test.

<sup>\*\*</sup>Identified to a genus level did not have adequate characteristics to identify at the time of survey. These species were given a FACW indicator based on the common species found within the area to calculate the dominance and prevalance test.

SOIL Sampling Point: DPK015\_PEM

Profile Desc	ription: (Describe	e to the o	depth needed to	documen	t the ind	icator or	confirm the	absence of in	dicators.)		
Depth	Matrix		Re	dox Featu	ıres						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	xture	Remarks		
0-7	10YR 5/1	90	7.5YR 4/3	10	С	М	Silty Clay I	Loam			
7-12	10YR 5/1	75	7.5YR 4/6	25	С	М	Silty Clay I	Loam			
12-16	10YR 5/1	95	7.5YR 4/6	5	С	М	Silty Clay I	Loam			
*Tvpe: C=Co	ncentration, D=De	pletion. R	I RM=Reduced Matr	ix. MS=M	asked Sa	nd Grains	<u> </u>	**Location: P	L=Pore Lining, M=Matrix		
Hydric Soil I				,					r Problematic Hydric Soils***:		
Histisol (			Poly	∕value Belo	w Surface	(S8) (LBB B	MI PA 149R)		CK (A10) (LRR K, L, MLRA 149B)		
`	,			n Dark Su					airie Redox (A16) (LRR K, L, R)		
	otic (A2)			my Muck	cky Peat or Peat (S3) (LRR K, L, R)						
Black His	n Sulfide (A4)			ımy Gleye			ν, Ε)		face (S7) (LRR K, L, M)		
	Layers (A5)			oleted Mat		(12)			e Below Surface (S8) (LRR K, L)		
					=e)			` '			
	l Below Dark Sufao ark Surface (A12)		dox Dark soleted Dar	-	•			rk Surface (S9) (LRR k, L) nganese Masses (F12) (LRR n, MLRA 136)			
	lucky Mineral (S1)				t Floodplain Soils (F19) (MLRA 149B)						
	leyed Matrix (S4)		Rec								
	edox (S5)						Mesic Spodic (TA6) (MLRA 144A, 145, 149B)  Red Parent Material (F21)				
	Matrix (S6)			ators of hy			ation and				
				hydrology d or probl		present,	other (Explain in Remarks)				
	face (S7)	\-	disturbe	d of probl	emanc			Other (Ex	xpiairi iri Remarks)		
	ayer (if observed	):									
Type:	\						Una				
Depth (inch Remarks:	ies):						нус	dric soil prese	ent? <u>Yes</u>		
ricinants.											

Drainat/Cita	CHK Subbas	in 4 DDM		City/County:	Elklan	d Tiogo	Sampling Date:	4/21/20	22		
Project/Site:	CHK Subbasi	ce Environment	tal Salut	City/County:	_	d, Tioga PA	Sampling Date:	4/21/202			
Applicant/Owner: Investigator(s):	Resource R. Barnhill, I		al Soluti	Section, Towns	State:		Sampling Point Elkland Towns		)_UFL		
Landform (hillslope, terrace, et		Plain		Local relief (d				ope (%):	00-05		
Subregion (LRR or MLRA)		MLRA 140	Lat.:	41.990718			77.32787 Datum	_			
Soil Map Unit Name:	LIXIX IX. IV		Drrvile sil		Long		Classification:	N/A	65		
Are climatic/hydrologic condition	one of the site				Yes (I		in in Remarks.)	IN//A			
Are vegetation Yes, so		, or hydrology		'es significantly			normal circumstances"	nresent?	Yes		
Are vegetation No , so		, or hydrology		No naturally pro			eeded, explain any ans				
SUMMARY OF FINDINGS - A		_, , ,				·		Weis in io	ains		
Hydrophytic vegetation present		No	· —								
Hydric soil present?		No		Is the sample	d area with	in a wetlan	nd?	No			
Indicators of wetland hydrology	/ present?	No		-					<b>-</b>		
Remarks:	<u> </u>										
Data point is located in an ac Upland data point is associat	•		/drology	γ, and vegetation a	are severely	disturbed o	due to the active agrice	ultural practi	ices.		
HYDROLOGY									·		
Wetland Hydrology Indicators:  Secondary Indicators (minimum of two required)											
Primary Indicators (minimum o	f one is require			<b>'</b> )			e Soil Cracks (B6)				
Surface Water (A1)		Aquatic Fauna	` ,				ge Patterns (B10)				
High Water Table (A2)		Marl Deposits	. ,				rim Lines (B16)				
Saturation (A3)		Hydrogen Sulf					ason Water Table (C2)	1			
Water Marks (B1)		Oxidized Rhizo	osphere	heres on Living Roots (C3) Crayfish Burrows (C8)							
Sediment Deposits (B2)		Presence of R		` ,			Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3)		-		n in Tilled Soils (C	6)	Stunted	l or Stressed Plants (D	1)			
Algal Mat or Crust (B4)		Thin Muck Sur	face (C	7)		Geomoi	rphic Position (D2)				
Iron Deposits (B5)		Other (Explain	in Rem	ıarks)	_		Aquitard (D3)				
Inundation Visible on Aeria						Microto	pographic Relief (D4)				
Sparsely Vegetated Conca	•	,8)				FAC-Ne	eutral Test (D5)				
Water-Stained Leaves (B9	1)										
Field Observations:											
Surface water present?	Yes	No	Х	Depth (inches):							
Water table present?	Yes	No	Х	Depth (inches):							
Saturation present?	Yes	No	Х	Depth (inches):		_   \	Wetland Hydrology P	resent?	<u>No</u>		
(includes capillary fringe)											
Describe recorded data (stream	n gauge, monit	toring well, aeri	al photo	os, previous inspe	ctions), if av	/ailable:					
Remarks:											
		1	Wetland	d hydrology was al	bsent						

Tree Stratum	(Plot Size:	15x15 )	Absolute	Dominant	Indicator	Dominance Test Worksheet	
1	(1 101 0120.	, ioxio	% Cover	Species?	Status	Number of Dominant	
2						Species that are OBL, FACW, or FAC:  0	(A)
3							
4						Total Number of Dominant Species Across all Strata: 1	(B)
5							
			0	= Total Cove	er	Percent of Dominant	
	50 %	% of total cove		) % of total co		Species that are OBL, FACW, or FAC: 0.00%	(A/B)
Sapling/Shrub Stratu			Absolute	Dominant	Indicator	Prevalence Index Worksheet	( 4 - )
apining/ornida otrate	"" (Plot Size:	15x15 )	% Cover	Species?	Status		inly by
						·  <del></del>	ply by:
2						OBL species 0 x 1 = 0	
3						FACW species $0 \times 2 = 0$	
4						FAC species $0 \times 3 = 0$	_
5						FACU species 0 x 4 = 0	
6						UPL species $0.25 \times 5 = 1.2$	
/						Column totals 0.25 (A) 1.2	5 (B)
8						Prevalence Index = B/A = 5.00	
9						Hydrophytic Vegetation Indicators	:
10						1-Rapid test for hydrophytic vege	etation
			0	= Total Cove	er	2-Dominance test is >50%	
	50 %	6 of total cove	r: 0.0 20 Absolute	) % of total co Dominant	over: 0.0 Indicator	3-Prevalence index is ≤3.0*	
Herb Stratum	(Plot Size:	5x5 )	% Cover	Species?	Status	4-Morphogical adaptations* (prov supporting data in Remarks or or	
1 *Zea maize	_		25%	Yes	UPL	separate sheet)	
2						Problematic hydrophytic vegetati	on*
3						(explain)	
4						*Indicators of hydric soil and wetland	
5						<ul> <li>must be present, unless disturbed or problematic</li> </ul>	
6							
7					1	Definitions of Vegetation Strata:	
8					-	Tree - Woody plants 3 in. (7.6 cm) or	
9					-	diameter at breast height (DBH), reg	ardiess of
10						Sapling/Shrub - Woody plants less	
			0.25	= Total Cove	r	(7.6 cm) DBH and greater than or eq ft (1 m) tall.	uai to 3.28
	50 %	6 of total cove	r: 0.1 20	) % of total co	over: 0.1	Herb - All herbaceous (non-woody) p	
Woody Vine Stratum	(Plot Size:	)	Absolute	Dominant	Indicator	regardless of size, and woody plants 3.28 ft tall.	less than
1	(1 101 0120.		% Cover	Species?	Status	Woody vine - All woody vines greate	ar than
2						3.28 ft in height.	i tilali
3							
4						Hydrophytic Vegetation <u>No</u>	
5				Tatalo		Present?	
	=	/ -£4 · !	0	= Total Cove			
	50 %	6 of total cove	r: 0.0 20	) % of total co	over: 0.0		

SOIL Sampling Point: DPK016\_UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)												
Depth	Matrix		Re	Redox Features								
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks			
0-11	10YR 4/3	100	,		31		Silty clay l	oam				
11-16	10YR 5/3	100					Silty clay l					
							,, -					
*Tv:nov C=Cov	acontration D=Da	platian D	M-Daduard Matri		aakad Ca	nd Crains		**Location: D	U-Doro Lining M-Matrix			
	*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains **Location: PL=Pore Lining, M=Matrix  Hydric Soil Indicators: Indicators for Problematic Hydric Soils***:											
						(0.0)			•			
Histisol (	•			value Belo					ck (A10) (LRR K, L, MLRA 149B)			
Histic Ep	ipedon (A2)			n Dark Su					airie Redox (A16) (LRR к, L, R)			
Black His	stic (A3)		Loa	my Mucky	y Mineral	(F1) (LRR I	(, L)	cky Peat or Peat (S3) (LRR K, L, R)				
Hydroge	n Sulfide (A4)		Loa	my Gleye	d Matrix (	(F2)			face (S7) (LRR K, L, M)			
	Layers (A5)			leted Mat					e Below Surface (S8) (LRR к, L)			
Depleted	l Below Dark Sufa	Red	lox Dark S	Surface (F	<del>-</del> 6)		k Surface (S9) (LRR K, L)					
Thick Da	rk Surface (A12)		Dep	leted Dar	k Surface	e (F7)		Iron-Man	ganese Masses (F12) (LRR N, MLRA 136)			
Sandy M	ucky Mineral (S1)		Red	lox Depre	ssions (F	8)		Piedmon	t Floodplain Soils (F19) (мLRA 149в)			
Sandy G	leyed Matrix (S4)							Mesic Sp	oodic (TA6) (MLRA 144A, 145, 149B)			
Sandy R	edox (S5)		***Indiag	tors of hy	drophytic	vogototi	Red Parent Material (F21)					
Stripped	Matrix (S6)		weltand	hydrology	must be	present,	unless	Very Sha	allow Dark Surface (TF12)			
Dark Sur	face (S7)			d or probl				Other (Ex	xplain in Remarks)			
Restrictive L	ayer (if observed	):										
Type:												
Depth (inch	es):						Hye	dric soil prese	ent? <u>No</u>			
Remarks:												
				H	ydric soil	absent						

Project/Site:		CHK	Subbasii	n 4 PRM		City/County:	Osceo	ola, Tioga	a Sa	mpling Da	ate:	4/21/202	22
Applicant/Owner:			Resourc	e Environme	ental Solut	tions	State:	P/	A	Samplin	ng Point:	DPK017	7_PEM
Investigator(s):		R. I	Barnhill, F	F. Page		Section, Towns	= ship, Range	э:		Osceol	la Townsh	ıip	
Landform (hillslop	pe, terrace	, etc.):		Depression	on	Local relief (d	concave, co	onvex, no	one):	Conca	ve Slop	e (%):	00-05
Subregion (LRR	or MLRA)	L	RR R: M	/ILRA 140	Lat.:	41.990737	Long	g.:	-77.327	664	Datum:	NAD	83
Soil Map Unit Na	me:			Ow -	Orrville si	ilt loam		NW	VI Classi	fication:		PFO1A	
Are climatic/hydro	ologic cond	ditions of	the site t	ypical for this	s time of t	he year?	Yes (	(If no, exp	plain in F	Remarks.)			
Are vegetation	Yes	, soil	Yes	, or hydrolog	Jy Y	es significantly	disturbed?	Are	norma "	l circumst	tances" pr	esent?	Yes
Are vegetation	No	, soil	No	, or hydrolog	Jy N	No naturally pro	blematic?	(If	f needed	, explain a	any answ	ers in rem	narks)
SUMMARY OF F	INDINGS	- Attach	site map	showing sa	ampling <b>r</b>	point locations, tr	ransects, i	mportan	t feature	es, etc.			
Hydrophytic vege	tation pres	sent?		No	,								
Hydric soil preser	nt?			Yes	s	Is the sample	d area with	nin a wet	land?			Yes	
Indicators of wetl	and hydrol	logy prese	ent?	Yes	s								
Remarks:													
Wetland is mis delineators ass	Data point is located in an active agriculture field. Soils, hydrology, and vegetation are severely disturbed due to the active agricultural practices. Wetland is missing hydrophytic vegetation, however with the presence of hydrology, hydric soils, and current vegetation disturbances, wetland delineators assumed this area to be a wetland. Data point is associated with Wetland002K. Point resides in a PFO1A NWI, although this area is no longer forested.												
HYDROLOGY													
_	Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)												uired)
Primary Indicator	s (minimur	m of one	is require	ed; check all	that apply	<i>'</i> )	_	Surfa	ace Soil	Cracks (B	36)		
Surface Wat	er (A1)			Aquatic Fau	na (B13)		_	Drair	nage Pat	terns (B1	0)		
High Water	Γable (A2)			Marl Deposit	` '		_			nes (B16)	•		
X Saturation (A	•			Hydrogen Su			-			Water Tal			
Water Marks	, ,					es on Living Roots	(C3)			rows (C8)			
Sediment De		<u>'</u> )		Presence of			-					gery (C9)	1
Drift Deposit	` ,			•		n in Tilled Soils (C	6)				lants (D1)		
Algal Mat or		,		Thin Muck S	,	•	-		•	Position (	. ,		
Iron Deposits	` '			Other (Expla	in in Rem	ıarks)	-			tard (D3)			
Inundation V							-			phic Relie	` '		
X Sparsely Ve	_		ırface (B≀	8)				FAC	-Neutral	Test (D5)	)		
Water-Staine		(B9)											
Field Observation		V		No	V	Dentis (imphas)							
Surface water pre		Ye	_	No No	Х	Depth (inches):	16"						
Water table prese		Ye				Depth (inches):	16"		\A/a4la	ا النظور	- I Dro	10	Yee
Saturation preser		Ye	es X	X No		Depth (inches):	11"		Wella	na nyara	ology Pre	sent r	<u>Yes</u>
(includes capillar		roam dall	ce monit	toring well a	orial photo	os, previous inspe	ctions) if a	vailable:					
Describe records	u uata (Sti	taili yau	Je, mom	.Offing wen, a	aliai prioce	JS, previous mapo	Clions, n a	Vallabic.					
Remarks:													
Nemano.													

VEGETATION - 030	30101111110 Halli	so or plants.				oumping rount.	DITO	/_: LIVI
Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet		
1			70 COVE	Opedies:	Status	Number of Dominant		
2						<ul><li>Species that are OBL, FACW, or FAC:</li></ul>	1	(A)
3						·		. (, ,)
4						Total Number of Dominant Species Across all Strata:	2	(B)
5						-		. (5)
			0	= Total Cove		Percent of Dominant		
	50 %	of total cover:		) % of total co		Species that are OBL, FACW, or FAC:	50.00%	(A/B)
Capling/Chrub Ctrati			Absolute	Dominant	Indicator			(٨/٥)
Sapling/Shrub Stratu	(Plot Size: _	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet		
1						Total % Cover of:	Multiply	/ by:
2						OBL species 0 x 1 =	0	
3						FACW species 20 x 2 =	40	-
4						FAC species 0 x 3 =	0	
5						FACU species 0 x 4 =	0	
6						UPL species 20 x 5 =	100	_
7						Column totals 40 (A)	140	(B)
8						Prevalence Index = B/A =	3.50	-
9						Hydrophytic Vegetation Indic	ators:	
10						1-Rapid test for hydrophytic	c vegetat	tion
			0	= Total Cove	r	2-Dominance test is >50%		
	50 %	of total cover:	0.0 20	) % of total co	ver: 0.0	3-Prevalence index is ≤3.0	*	
Herb Stratum	(Plot Size:	5x5 )	Absolute	Dominant	Indicator	4-Morphogical adaptations		
1 *Zea maize	(I lot Size.	)	% Cover	Species? Yes	Status UPL	supporting data in Remark separate sheet)	s or on a	
2 **Echinchloa	en.		20	Yes	FACW	·  <del></del>		
	sμ.		20	165	TACW	Problematic hydrophytic ve (explain)	getation	*
3						*Indicators of hydric soil and w	atland hy	,drology
4						must be present, unless disturb		diology
5						problematic		
6						Definitions of Vegetation Stra	ata:	
7						Tree - Woody plants 3 in. (7.6	cm) or m	oro in
8						diameter at breast height (DBF	,	
9						height.	, loop the	n 2 in
10						Sapling/Shrub - Woody plants (7.6 cm) DBH and greater than		
			40	= Total Cove	r	ft (1 m) tall.		
	50 %	of total cover:		% of total co	ver: 8.0 Indicator	<b>Herb</b> - All herbaceous (non-wo regardless of size, and woody)		
Woody Vine Stratum	n (Plot Size:	)	Absolute % Cover	Dominant Species?	Status	3.28 ft tall.	piants icc	33 triair
1	_			·		Woody vine - All woody vines	greater t	han
2						3.28 ft in height.	-	
3								
4						Hydrophytic		
5						Vegetation	<u>No</u>	
<u> </u>			0	= Total Cove		Present?	_	
	EO 0/	of total cover	-	•				
Remarks: (Include n		of total cover:		) % of total co	ver: 0.0			

<sup>\*</sup>Z. maize does not appear on the NCNE NWPL and is assumed as an UPL indicator status for the prevalance and dominance test.

<sup>\*\*</sup>Identified to a genus level, did not have adequate characteristics to identify at the time of survey. These species were given a FACW indicator based on the common species found within the area to calculate the dominance and prevalance test.

SOIL Sampling Point: DPK017\_PEM

Profile Desc	ription: (Describe	e to the	depth needed to	documen	t the ind	icator or	confirm the	absence of in	dicators.)		
Depth	Matrix		Re	dox Featı	ıres						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks		
0-9	10YR 4/1	100	, ,				Silty Clay	Loam			
9-16	10YR 4/1	90	10YR 4/3	10	С	М	Silty Clay				
							, ,				
*Type: C=Co	ncentration, D=De	nletion F	I RM=Reduced Matr	l ix MS=M	asked Sa	nd Grains		**Location: P	L=Pore Lining, M=Matrix		
Hydric Soil I		piction, r	Troduced Mail	IX, 1010 101	aonea ea	na Orame	,		r Problematic Hydric Soils***:		
Histisol (			Poly	value Belo	w Surface	(S8) (LBB B	MI DA 440D)		ck (A10) (LRR K, L, MLRA 149B)		
`	,			n Dark Su					airie Redox (A16) (LRR K, L, R)		
	oipedon (A2)								` '		
Black His	n Sulfide (A4)			Loamy Mucky Mineral (F1) (LRR K, L)  Loamy Gleyed Matrix (F2)  5 cm Mucky Peat or Peat (S3  Dark Surface (S7) (LRR K, L, M)							
	Layers (A5)			oleted Ma		(12)			e Below Surface (S8) (LRR K, L)		
	l Below Dark Sufa		dox Dark S		<b>-6</b> )		k Surface (S9) (LRR k, L)				
	rk Surface (A12)			•	•		ganese Masses (F12) (LRR N, MLRA 136)				
	ucky Mineral (S1)										
	leyed Matrix (S4)		INEC	Redox Depressions (F8) Piedmont Floodplain Soils (F19) Mesic Spodic (TA6) (MLRA 144A, 145,							
	edox (S5)				odic (TA6) (MLRA 144A, 145, 149B) nt Material (F21)						
	Matrix (S6)			ators of hy			ation and				
				hydrology d or probl		present,	unless		·		
	face (S7)	۸.	disturbe	u or probi	emano			Other (E)	xplain in Remarks)		
	ayer (if observed	);									
Type:							Ш	dria aail mraaaa	.mt2 Voo		
Depth (inch Remarks:	les):						пу	dric soil prese	nt? <u>Yes</u>		
iveillaiks.											

Project/Site:	CHK Sub	basin 4 PRM		City/County:	Elklan	nd, Tioga	Sampling Da	ate:	4/21/202	22	
Applicant/Owner:	Res	ource Environm	nental Solu	ıtions	State:	PA	Samplir	ng Point:	DPK018	_PEM	
Investigator(s):	R. Barnl	hill, F. Page		Section, Towns	ship, Range	ə:	Elklan	d Township	þ		
Landform (hillslope, terrace, e	etc.):	Drainage	eway	Local relief (	concave, co	onvex, none)	): Conca	ve Slope	÷ (%):	00-05	
Subregion (LRR or MLRA)	LRR	R: MLRA 140	Lat.:	41.991267	Z Long	g.: -77	7.326046	Datum:	NAD	83	
Soil Map Unit Name:		Ow	- Orrville s	silt loam		NWI C	Classification:	ı	R5UBH		
Are climatic/hydrologic conditi	ions of the s	site typical for th	nis time of	the year?	Yes (	(If no, explai	n in Remarks.)	)	_		
Are vegetation No, s	soil Ye	, or hydrolo	ogy	Yes significantly	disturbed?	Are "n	ormal circums	tances" pre	esent?	Yes	
Are vegetation No, s	soil No	o , or hydrolo	ogy	No naturally pro	oblematic?	(If ne	eded, explain	any answe	rs in rem	arks)	
SUMMARY OF FINDINGS - A	Attach site	map showing	sampling	point locations, t	ransects, ii	mportant fe	atures, etc.				
Hydrophytic vegetation preser	nt?	Y	'es								
Hydric soil present?		Υ	'es	Is the sample	d area with	nin a wetlan	ıd?	Y	⁄es		
Indicators of wetland hydrolog	y present?	Υ	'es							<b>-</b>	
Remarks:											
Data point is located next to a large man-made drainage area with very shallow banks on a very low gradient slope. Surrounding area consist of P. arundinacea and a large active agriculture field. Data point is associated with Wetland001K.											
HYDROLOGY  Wetland Hydrology Indicators:  Secondary Indicators (minimum of two required)											
Wetland Hydrology Indicato			" #b of appl	A					two requ	<u>ıırea)</u>	
Primary Indicators (minimum	of one is red			• •	-		Soil Cracks (E	•			
Surface Water (A1)		Aquatic Fa	` ,		-		je Patterns (B1	•			
X High Water Table (A2)		Marl Depos	` '		-		rim Lines (B16	•			
X Saturation (A3)			Sulfide Odd		-	-	ason Water Tal				
Water Marks (B1)				pheres on Living Roots (C3) Crayfish Burrows (C8)							
Sediment Deposits (B2)			of Reduced		_		Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3)				on in Tilled Soils (C	;6)		Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4)			Surface (C		_		rphic Position (	` '			
Iron Deposits (B5)			olain in Ren	narks)	_		Aquitard (D3)				
Inundation Visible on Aer							pographic Relie				
Sparsely Vegetated Cond		e (B8)				X FAC-Ne	eutral Test (D5)	)			
Water-Stained Leaves (B	,9)										
Field Observations:				_							
Surface water present?	Yes	No		Depth (inches):							
Water table present?	Yes	X No		Depth (inches):	11"						
Saturation present?	Yes	X No		Depth (inches):	8"	v	Wetland Hydro	ology Pres	ent?	<u>Yes</u>	
(includes capillary fringe)											
Describe recorded data (strea	m gauge, m	nonitoring well,	aerial phot	os, previous inspe	ections), if a	vailable:					
Remarks:											

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Workshop  Number of Dominant	eet
2						Species that are OBL, FACW, or FAC:	2 (A
3						Total Number of Dominant Species Across all Strata:	2 (E
5			0	= Total Cove	er	Percent of Dominant Species that are OBL,	
	50 %	% of total cover:		% of total co		FACW, or FAC:	100.00% (A/
Sapling/Shrub Stra	tum (Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksh	
1					UPL	Total % Cover of:	Multiply by:
2						·I · —	1 = 25
3						·I · · ——	2 = 100
4						·  <u></u>	3 = 0
5						·	4 =0
6						UPL species 0 x	5 = 0
7						Column totals 75 (A)	125 (B)
8						Prevalence Index = B/A =	1.67
9						Hydrophytic Vegetation II	ndicators:
10						X 1-Rapid test for hydrop	hytic vegetation
			0	= Total Cove	er	X 2-Dominance test is >5	60%
	50 %	% of total cover:	0.0 20	) % of total co	over: 0.0	X 3-Prevalence index is ≤	£3.0*
Herb Stratum	(Plot Size:	5x5 )	Absolute	Dominant	Indicator	4-Morphogical adaptati	
1 Phalaris arur	·	)	% Cover 50	Species? Yes	Status FACW	supporting data in Rem separate sheet)	arks or on a
2 Nasturtium o			20	Yes	OBL	·	
3 Juncus effus			5	No	OBL	Problematic hydrophyti (explain)	c vegetation*
4 5						*Indicators of hydric soil an must be present, unless dis problematic	
6 7						Definitions of Vegetation	Strata:
8						Tree - Woody plants 3 in. (	•
9						diameter at breast height (I	DBH), regardless
10						height. Sapling/Shrub - Woody pl	ants less than 3 i
			75	= Total Cove		(7.6 cm) DBH and greater t	han or equal to 3
	50.0	% of total cover:		) % of total co		ft (1 m) tall. <b>Herb</b> - All herbaceous (non	-woody) plants.
Maady Vina Stratu		o or total cover.	Absolute	Dominant	Indicator	regardless of size, and woo	
Woody Vine Stratu	m (Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.	
1						Woody vine - All woody vin	nes greater than
2						3.28 ft in height.	
3							
4						Hydrophytic	
5						Vegetation	Yes
			0	= Total Cove	er	Present?	
	50 %	% of total cover:	0.0 20	) % of total co	over: 0.0		
Remarks: (Include	photo numbers h	ere or on a sepa	arate sheet.)			l	
		·	,				

SOIL Sampling Point: DPK018\_PEM

Profile Desc	rofile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
T TOTHE DESC		e to the t				icator or	COMMIN THE	abscrice of in	laicators.)		
Depth (lands)	Matrix			dox Featu			_				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**		dure	Remarks		
0-8	10YR 4/2	80	7.5YR 3/3	20	С	М	Silt Loam				
8-16	10YR 4/2	95	7.5YR 3/3	5	С	М	Silt Loam				
*Type: C=Co	l ncentration, D=De	nletion R	M=Reduced Matri	v MS=M:	asked Sa	nd Grains	•	**Location: F	L=Pore Lining, M=Matrix		
		pietion, iv	IVI-Reduced Matri	X, IVIO-IVI	askeu oa	nu Grains	•				
Hydric Soil Indicators:  Histisol (A1)  Polyvalue Below Surface (S8) (LRR R, MLRA 149B)  2 cm Muck (A10) (LRR K, L, MLRA 149B)											
									CK (A10) (LRR K, L, MLRA 149B)		
Histic Ep	pipedon (A2)								airie Redox (A16) (LRR к, L, R)		
Black His	stic (A3)		Loa	my Muck	y Mineral	(F1) (LRR I	(, L)	5 cm Mu	cky Peat or Peat (S3) (LRR к, L, R)		
Hydroge	n Sulfide (A4)		Loa	my Gleye	d Matrix (	(F2)		Dark Sur	face (S7) (LRR K, L, M)		
Stratified	l Layers (A5)		X Dep	leted Mat	trix (F3)			Polyvalu	e Below Surface (S8) (LRR к, L)		
Depleted	l Below Dark Sufa	Red	ox Dark S	Surface (F	<del>-</del> 6)		Thin Dar	k Surface (S9) (LRR K, L)			
Thick Da	rk Surface (A12)		Dep	leted Dar	k Surface	e (F7)		Iron-Man	ganese Masses (F12) (LRR N, MLRA 136)		
Sandy M	lucky Mineral (S1)		Red	ox Depre	ssions (F	8)		Piedmon	t Floodplain Soils (F19) (мLRA 149B)		
Sandy G	leyed Matrix (S4)							Mesic Sp	oodic (TA6) (mlra 144a, 145, 149b)		
Sandy R	edox (S5)						Red Parent Material (F21)				
	Matrix (S6)			tors of hy			ation and the unless Very Shallow Dark Surface (TF12)				
	face (S7)			nyarology d or probl		present,	uniess		xplain in Remarks)		
	ayer (if observed	1)-		•				0 11.0. (2			
Type:	ayer (ii observed	·/·									
							Llve	luia aail muaaa			
Depth (inch Remarks:	ies):						нус	dric soil prese	ent? <u>Yes</u>		
1											

Project/Site:	CHK Subbasi	in 4 PRM		City/County:	Flkland	d, Tioga	Sampling Date:	4/21/202	22		
Applicant/Owner:		ce Environment	tal Solu	- ,	State:	PA	Sampling Point				
Investigator(s):	R. Barnhill,		idi Ge	Section, Towns			Elkland Towns		<i></i>		
Landform (hillslope, terrace, etc		Plain		Local relief (c				ope (%):	00-05		
Subregion (LRR or MLRA)		MLRA 140	Lat.:	41.991113			7.326035 Datum	_			
Soil Map Unit Name:			Orrville si				Classification:	N/A			
Are climatic/hydrologic condition	ns of the site	typical for this	time of t	the year?	Yes (I		n in Remarks.)				
Are vegetation Yes , soi		, or hydrology		es significantly			ormal circumstances"	present?	Yes		
Are vegetation No , soi	il No	, or hydrology		No naturally pro		(If ne	eded, explain any ans	wers in rem	arks)		
SUMMARY OF FINDINGS - Att	tach site mar	p showing sar	npling r	point locations, to	ransects, in	nportant fe	atures, etc.				
Hydrophytic vegetation present	?	No	$\Box$								
Hydric soil present?		No		Is the sample	d area withi	n a wetlan	d?	No			
Indicators of wetland hydrology	present?	No							<b>-</b>		
Remarks:	·										
Data point is located in an ac Upland data point is associate	•		ydrology	y, and vegetation a	are severely	disturbed d	lue to the active agrice	ıltural practi	ices.		
HYDROLOGY											
Wetland Hydrology Indicators							y Indicators (minimum	ı of two requ	<u>uired)</u>		
Primary Indicators (minimum of	one is require			<i>(</i> )			Soil Cracks (B6)				
Surface Water (A1)		Aquatic Fauna	, ,				e Patterns (B10)				
High Water Table (A2)		Marl Deposits	, ,				rim Lines (B16)				
Saturation (A3)		Hydrogen Sulf					ason Water Table (C2)	1			
Water Marks (B1)				es on Living Roots	(C3)	Burrows (C8)					
Sediment Deposits (B2)		Presence of R		` ,			Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3)		-		n in Tilled Soils (C	6)		or Stressed Plants (D	1)			
Algal Mat or Crust (B4)		Thin Muck Su	rface (C	<b>;7)</b>	_	Geomor	rphic Position (D2)				
Iron Deposits (B5)		Other (Explain	າ in Rem	narks)	_		Aquitard (D3)				
Inundation Visible on Aeria							oographic Relief (D4)				
Sparsely Vegetated Conca	•	38)				FAC-Ne	eutral Test (D5)				
Water-Stained Leaves (B9)	)										
Field Observations:						_					
Surface water present?	Yes	No	Х	Depth (inches):							
Water table present?	Yes	No	Х	Depth (inches):							
Saturation present?	Yes	No	Х	Depth (inches):		v	Wetland Hydrology P	resent?	<u>No</u>		
(includes capillary fringe)											
Describe recorded data (stream	ı gauge, moni	toring well, aer	ial photo	os, previous inspe	ctions), if av	ailable:					
Remarks:											
			Wetla	and hydrology abse	ent						

TEGETATION - 030	301011tillo Ilaili	oo oi piurito.					DI IXO	. <u></u>
Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet		
1	-		23.0.			Number of Dominant		
2						Species that are OBL, FACW, or FAC:	1	(A)
3						Total Number of Dominant		
4						Species Across all Strata:	2	(B)
5						Percent of Dominant		
			0	= Total Cove	r	Species that are OBL,		
		of total cover:		) % of total co		FACW, or FAC:	50.00%	(A/B)
Sapling/Shrub Stratu	m (Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet	:	
1				,		Total % Cover of:	Multiply	/ by:
2						OBL species 0 x 1 =	0	
3						FACW species 30 x 2 =	60	•
4						FAC species 0 x 3 =	0	-
5						FACU species 0 x 4 =	0	•
6						UPL species 25 x 5 =	125	•
7						Column totals 55 (A)	185	(B)
8						Prevalence Index = B/A =	3.36	• * *
9						Hydrophytic Vegetation Indic	cators:	
10						1-Rapid test for hydrophyti	c vegetat	tion
			0	= Total Cove	r	2-Dominance test is >50%	_	
	50 %	of total cover:	0.0 20	) % of total co	ver: 0.0	3-Prevalence index is ≤3.0	*	
Herb Stratum	(Plot Size:	5x5 )	Absolute	Dominant	Indicator	4-Morphogical adaptations		
1 *Zea maize	(Flot Size.	3X3 )	% Cover 25	Species? Yes	Status UPL	supporting data in Remark separate sheet)	s or on a	
2 **Echinchloa s	·n		30	Yes	FACW	·   —		
3	<i>ρ.</i>		30	163	TACVV	Problematic hydrophytic ve (explain)	egetation	*
4						*Indicators of hydric soil and w		drology
5						must be present, unless disturbed problematic	bed or	
6						Definitions of Vegetation Str	ata:	
7 8						Tree - Woody plants 3 in. (7.6	cm) or m	ore in
9						<ul> <li>diameter at breast height (DBH height.</li> </ul>	H), regard	lless of
10						Sapling/Shrub - Woody plants	s less tha	ın 3 in.
			55	= Total Cove	r	(7.6 cm) DBH and greater than	or equa	l to 3.28
	50 %	of total cover:	(	) % of total co		ft (1 m) tall. <b>Herb</b> - All herbaceous (non-wo	ody) plar	nts,
Woody Vine Stratum		or total cover.	Absolute	Dominant	Indicator	regardless of size, and woody		
,	(Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.		
1						Woody vine - All woody vines 3.28 ft in height.	greater t	han
3								
4						Hydrophytic		
5						Vegetation	<u>No</u>	
			0	= Total Cove		Present?		
	50 º/	of total cover:	(	- Total Cove ) % of total co				
Remarks: (Include of				, /0 OI (O(a) CO	vei. U.U	<u> </u>		

<sup>\*</sup>Z. maize does not appear on the NCNE NWPL and is assumed to have an UPL indicator status for the prevalance and dominance test.

<sup>\*\*</sup>Identified to a genus level did not have adequate characteristics to identify at the time of survey. These species were given a FACW indicator based on the common species found within the area to calculate the dominance and prevalance test.

SOIL Sampling Point: DPK019\_UPL

Profile Desc	ription: (Describ	e to the	depth needed to	documer	t the ind	icator or	confirm the	absence of in	dicators.)	
Depth	Matrix	Re	dox Feat	ıres						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks	
0-8	10YR 4/3	100					Silty Clay	Loam		
8-16	10YR 5/3	100					Silty Clay			
							, ,			
*T: ::: 0-0-:	nantustian D-Da	un la tiana D	NA-Dadua ad Mate	iv MC=M	ankad Ca	nd Conin		**!+: D	U - Dono Limino MANAMANIA	
• • • • • • • • • • • • • • • • • • • •	ncentration, D=De	pletion, R	M=Reduced Matr	IX, MS=M	аѕкес Ѕа	nd Grains	S		L=Pore Lining, M=Matrix	
Hydric Soil I									r Problematic Hydric Soils***:	
Histisol (	,			value Belo					CK (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2)			hin Dark Surface (S9) (LRR R, MLRA 149B)  Damy Mucky Mineral (F1) (LRR K, L)  Coast Prairie Redox (A16)  5 cm Mucky Peat or Peat (					` '	
Black His	stic (A3)		Loa	my Muck	y Mineral	(F1) (LRR	K, L)		cky Peat or Peat (S3) (LRR K, L, R)	
Hydroge	n Sulfide (A4)		Loa	my Gleye	ed Matrix	(F2)		Dark Sur	face (S7) (LRR K, L, M)	
Stratified	I Layers (A5)		Dep	oleted Ma	trix (F3)			e Below Surface (S8) (LRR к, L)		
Depleted	l Below Dark Sufa	ce (A11)	Red	dox Dark (	Surface (F	<del>-</del> 6)	Thin Dark Surface (S9) (LRR K, L)			
Thick Da	rk Surface (A12)		Dep	Depleted Dark Surface (F7) Iron-Manganese Masses (F12						
Sandy M	lucky Mineral (S1)		Red	dox Depre	ssions (F	8)		Piedmon	t Floodplain Soils (F19) (MLRA 149B)	
Sandy G	leyed Matrix (S4)			Mesic Spodic (TA6) (MLRA 144A, 1					oodic (TA6) (mlra 144a, 145, 149b)	
Sandy R	edox (S5)		***!!!			4 - 4:		Red Pare	ent Material (F21)	
Stripped	Matrix (S6)			ators of hy hydrology				Very Sha	illow Dark Surface (TF12)	
Dark Sur	face (S7)			d or probl		p. 000,		Other (Ex	xplain in Remarks)	
Restrictive L	ayer (if observed	l):								
Type:										
Depth (inch	ies):						Hye	dric soil prese	nt? <u>No</u>	
Remarks:										

Project/Site:		CHK Subbasin 4 PRM				City/County:	Elkla	and, Tiog	ga _ S	Sampling Da	ate:	4/21/20	22
Applicant/Owner:			Resourc	ce Environme	ntal Sol	utions	State:		PA	Samplin	ng Point:	DPK020	0_PEM
Investigator(s):		R. E	Barnhill, F	F. Page		Section, Towns	ship, Rang	je:		Elklan	ndTownsh	ip	
Landform (hillslop	e, terrace,	, etc.):		Depression	on	Local relief (c	concave, c	convex,	none):	Conca	ve Slop	oe (%):	00-05
Subregion (LRR o	or MLRA)	L	RR R: N	/ILRA 140	Lat.:	41.989966	Lor	ng.:	-77.32	26707	Datum:	NAC	83
Soil Map Unit Nar	ne:			Ow -	Orrville	silt loam		N	√WI Clas	sification:		N/A	
Are climatic/hydro	ologic cond	litions of	the site t	ypical for this	s time of	f the year?	Yes	(If no, e	explain ir	n Remarks.)	)		
Are vegetation	Yes ,	, soil	Yes	, or hydrolog	Jy	Yes significantly of	disturbed?	? 4	Are "norm	nal circumst	tances" p	resent?	Yes
Are vegetation	No ,	, soil	No	, or hydrolog	Jy	No naturally prob	blematic?		(If neede	ed, explain	any answ	ers in ren	narks)
SUMMARY OF F	INDINGS -	- Attach	site map	showing sa	ampling	point locations, tr	ansects,	importa	ant featı	ıres, etc.			
Hydrophytic veget	tation pres	ent?		Yes	s								
Hydric soil presen	ıt?			Yes	s	Is the sampled	d area wit	hin a w	etland?			Yes	
ndicators of wetland hydrology present? Yes													
Remarks:													
Wetland is miss	sing hydror	phytic ve	getation,	however with	h the pre	gy, and vegetation a esence of hydrology, associated with Wetl	, hydric so	oils, and			•	•	
HYDROLOGY													
Wetland Hydrolo	gy Indica	tors:						Sec	ondary Ir	ndicators (m	<u>ninimum (</u>	of two req	uired)
Primary Indicators	s (minimun	n of one i	s require	ed; check all	that app	oly)		Su	ırface So	oil Cracks (E	36)		
Surface Wate	er (A1)			Aquatic Faur	na (B13)	)		Dr	ainage P	Patterns (B1	0)		
High Water T	able (A2)			Marl Deposit	ts (B15)		ļ	Mo	oss Trim	Lines (B16	)		
Saturation (A	.3)			Hydrogen Su	ulfide Oc	dor (C1)		Dr	y-Seaso	n Water Tal	ble (C2)		
Water Marks	(B1)			Oxidized Rh	izospher	neres on Living Roots (C3) Crayfish Burrows (C8)							
Sediment De	posits (B2	)		Presence of	Reduce	ed Iron (C4)		X Sa	aturation	Visible on A	Aerial Ima	gery (C9)	)
Drift Deposits	s (B3)			Recent Iron	Reduction	on in Tilled Soils (C6	3)	Stu	unted or	Stressed P	lants (D1	)	
X Algal Mat or 0	Crust (B4)			Thin Muck S	`	,	ļ	X Ge	eomorphi	ic Position (	(D2)		
Iron Deposits	` '			Other (Expla	ain in Re	marks)	ļ	Sh	nallow Ad	quitard (D3)			
Inundation Vi		`	· , ,	,			ļ			raphic Relie	` '		
X Sparsely Veg			ırface (B	8)			ļ	FA	\C-Neutra	al Test (D5)	)		
Water-Staine	d Leaves	(B9)											
Field Observatio						_							
Surface water pre		Ye	s	No	X	Depth (inches):							
Water table prese		Ye		No	X	Depth (inches):							
Saturation presen		Ye	s	No	X	Depth (inches):			Wet	tland Hydro	ology Pre	sent?	<u>Yes</u>
(includes capillary									<u> </u>				
Describe recorded	data (stre	eam gaug	je, monit	oring well, a	erial pho	otos, previous inspec	ctions), if a	available	e:				
Remarks:													

Tree Stratum	(Plot Size:	15v15 \	Absolute	Dominant	Indicator	Dominance Test Worksheet
	(Plot Size.	15x15 )	% Cover	Species?	Status	Number of Dominant
1						Species that are OBL,
2						FACW, or FAC: (A)
3						Total Number of Dominant
4						Species Across all Strata: 1 (B)
5						Percent of Dominant
			0	= Total Cove	r	Species that are OBL,
	50 %	of total cover:		% of total co		FACW, or FAC: 0.00% (A/B)
Sapling/Shrub Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet
1	_		70 OOVCI	орсоюз:	Otatus	Total % Cover of: Multiply by:
2						OBL species 0 x 1 = 0
3						FACW species 0 x 2 = 0
4						·  —— ——
4						· · · · · · · · · · · · · · · · · · ·
5						FACU species 0 x 4 = 0
6						UPL species 20 x 5 = 100
7						Column totals 20 (A) 100 (B)
8						Prevalence Index = B/A = 5.00
9						Hydrophytic Vegetation Indicators:
10						1-Rapid test for hydrophytic vegetation
			0	= Total Cove	r	2-Dominance test is >50%
	50 %	of total cover:	0.0 20	% of total co	ver: 0.0	3-Prevalence index is ≤3.0*
Herb Stratum			Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide
	(Plot Size:	5x5 )	% Cover	Species?	Status	supporting data in Remarks or on a
1 *Zea maize			20	Yes	UPL	separate sheet)
2						Problematic hydrophytic vegetation*
3						x <sup>(explain)</sup>
4						*Indicators of hydric soil and wetland hydrology
5						must be present, unless disturbed or problematic
6						
7						Definitions of Vegetation Strata:
8						Tree - Woody plants 3 in. (7.6 cm) or more in
9						diameter at breast height (DBH), regardless of
10						height.  Sapling/Shrub - Woody plants less than 3 in.
10			20	= Total Cove		(7.6 cm) DBH and greater than or equal to 3.28
	<b>50</b> 0/		20			ft (1 m) tall. <b>Herb</b> - All herbaceous (non-woody) plants,
	50 %	of total cover:	10.0 20 Absolute	) % of total co Dominant	ver: 4.0 Indicator	regardless of size, and woody plants less than
Woody Vine Stratum	(Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.
1						Woody vine - All woody vines greater than
2						3.28 ft in height.
3						
4						
						Hydrophytic Vegetation Yes
5						Present?
			0	= Total Cove		
D		of total cover:		% of total co	ver: 0.0	
Remarks: (Include pho				4 - 1	Di in di i	Abber Contleanness Library
r∠. maize does not ap	pear on the NC	NE NWPL and	ı ıs assumed	to nave an U	L indicator :	status for the prevalance and dominance test.

SOIL Sampling Point: DPK020\_PEM

Profile Desc	rintion: (Describ	e to the o	denth needed to	documen	t the ind	icator or	confirm the	absence of in	dicators.)		
Profile Description: (Describe to the depth needed to document the i						ioutor or		45001100 01 111			
Depth (Inches)		0/				1 ++	т	4	Danis and a		
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**		kture	Remarks		
0-5	10YR 4/1	100					Silty Clay I				
5-16	10YR 4/1	90	10YR 5/6	10	С	М	Silty Clay I	_oam			
*Type: C=Co	ncentration, D=De	pletion, R	M=Reduced Matri	x, MS=Ma	asked Sa	nd Grains	<u> </u>	**Location: P	L=Pore Lining, M=Matrix		
Hydric Soil I	ndicators:	-						Indicators fo	r Problematic Hydric Soils***:		
Histisol (			Poly	value Belo	w Surface	(S8) (LRR R	. MLRA 149B)		ck (A10) (lrr k, l, mlra 149b)		
	pipedon (A2)			n Dark Su					airie Redox (A16) (LRR K, L, R)		
Black Hi				my Mucky					cky Peat or Peat (S3) (LRR K, L, R)		
				my Gleye			ν, Ε)				
	n Sulfide (A4)			-		(Г2)	Dark Surface (S7) (LRR K, L, M) Polyvalue Below Surface (S8) (LRR I				
	Layers (A5)	(0.44)		leted Mat		-0)			` '		
	Below Dark Sufa	ce (A11)		lox Dark S	-		Thin Dark Surface (S9) (LRR K, L)				
	ark Surface (A12)			leted Dar			Iron-Manganese Masses (F12) (LR				
	lucky Mineral (S1)		Rec	lox Depre	ssions (F	8)			t Floodplain Soils (F19) (MLRA 149B)		
	leyed Matrix (S4)				oodic (TA6) (mlra 144a, 145, 149b)						
	edox (S5)		***Indica	***Indicators of hydrophytic vegetation and					ent Material (F21)		
	Matrix (S6)		weltand	hydrology	must be				allow Dark Surface (TF12)		
Dark Su	rface (S7)		disturbe	d or probl	ematic			Other (Ex	xplain in Remarks)		
Restrictive L	ayer (if observed	):									
Type:											
Depth (inch	nes):						Нус	dric soil prese	ent? <u>Yes</u>		
Remarks:											

Drainot/Cito:	CHK Subbas	in 4 DDM		City/County:	Elklone	Tiogo	Compling Date:	4/21/201	22
•	CHK Subbasi	ce Environmen	tal Salut	City/County:		d, Tioga PA	Sampling Date:	4/21/202 : DPK021	
Applicant/Owner: Investigator(s):	R. Barnhill,		lai Soiui	Section, Towns	State:		Sampling Point Elkland Towns		I_UFL
Landform (hillslope, terrace, etc		Rise		Local relief (c				ope (%):	00-05
Subregion (LRR or MLRA)		MLRA 140	Lat.:	41.989782			7.326736 Datum	· ` ` ′ -	
Soil Map Unit Name:	LIXIX IX. IV		Drrville si		Long		Classification:	N/A	65
Are climatic/hydrologic condition	ne of the site				Yes (If		n in Remarks.)	IN/A	
Are vegetation Yes, soi		, or hydrology		es significantly			ormal circumstances"	nresent?	Yes
Are vegetation No , soi		, or hydrology		No naturally pro			eded, explain any ans	_	
SUMMARY OF FINDINGS - Att		_, , 0,							,
Hydrophytic vegetation present	?	No							
Hydric soil present?		No		Is the sample	d area withi	n a wetlan	d?	No	
Indicators of wetland hydrology	present?	No							<b>—</b>
Remarks:	·								
Data point is located in an act Upland data point is associate	•		ydrology	γ, and vegetation a	are severely	disturbed d	lue to the active agricu	ıltural practi	ices.
HYDROLOGY						2	·	<i>.</i>	
Wetland Hydrology Indicators		المراحدات الد	- 4	<b>x</b>			y Indicators (minimum	of two requ	<u>uired)</u>
Primary Indicators (minimum of	one is require			<b>'</b> )			Soil Cracks (B6)		
Surface Water (A1)		Aquatic Fauna	, ,			_	e Patterns (B10)		ļ
High Water Table (A2)		Marl Deposits	, ,				rim Lines (B16)		
Saturation (A3)		Hydrogen Sulf				_	ason Water Table (C2)		ļ
Water Marks (B1)				es on Living Roots	(C3)		Burrows (C8)		ļ
Sediment Deposits (B2)		Presence of R		` ,			on Visible on Aerial Im	• • • •	
Drift Deposits (B3)		_		n in Tilled Soils (Co	6)		or Stressed Plants (D	1)	
Algal Mat or Crust (B4)		Thin Muck Su	-				rphic Position (D2)		ļ
Iron Deposits (B5)		Other (Explain	ı in Rem	ıarks)			Aquitard (D3)		
Inundation Visible on Aeria							pographic Relief (D4)		
Sparsely Vegetated Conca	•	i8)				FAC-Ne	eutral Test (D5)		
Water-Stained Leaves (B9)	)								
Field Observations:			.,	<b>-</b> ,		_			
Surface water present?	Yes	No	X	Depth (inches):					
Water table present?	Yes	No	X	Depth (inches):		4			
Saturation present?	Yes	No No	Х	Depth (inches):		_   v	Wetland Hydrology P	resent?	<u>No</u>
(includes capillary fringe)				<u> </u>					
Describe recorded data (stream	gauge, moni	toring well, aer	ial photo	os, previous inspe	ctions), if ava	ailable:			
Remarks:									
			Wetla	and hydrology abse	ent				

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1			70 COVEI	оресіез:	Status	Number of Dominant	
2						Species that are OBL, FACW, or FAC:  1	(A)
3						Total Number of Dominant	
4						Species Across all Strata: 2	(B)
5						Percent of Dominant	
			0	= Total Cove		Species that are OBL,	
		of total cover	: 0.0 20 Absolute	) % of total co Dominant	ver: 0.0 Indicator	FACW, or FAC: 50.00% (	(A/B)
Sapling/Shrub Stra	itum (Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet	
1	_			·		Total % Cover of: Multiply by	y:
2						OBL species 0 x 1 = 0	
3						FACW species 30 x 2 = 60	
4						FAC species 0 x 3 = 0	
5						FACU species 0 x 4 = 0	
6						UPL species 25 x 5 = 125	
7						Column totals 55 (A) 185 (E	3)
8						Prevalence Index = B/A = 3.36	•
9						Hydrophytic Vegetation Indicators:	
10						1-Rapid test for hydrophytic vegetation	n
			0	= Total Cove	r	2-Dominance test is >50%	•
	50 %	of total cover		) % of total co		3-Prevalence index is ≤3.0*	
Herb Stratum			Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide	
	(Plot Size:	5x5 )	% Cover	Species?	Status	supporting data in Remarks or on a	
1 *Zea maize			25	Yes	UPL	separate sheet)	
2 **Ranunculu	s sp.		30	Yes	FACW	Problematic hydrophytic vegetation* (explain)	
3						*Indicators of hydric soil and wetland hydro	ology
4						<ul> <li>must be present, unless disturbed or</li> </ul>	Jiogy
5						problematic	
6			_			Definitions of Vegetation Strata:	
/						Tree - Woody plants 3 in. (7.6 cm) or more	e in
8			_			diameter at breast height (DBH), regardles	
9			_			height. Sapling/Shrub - Woody plants less than 3	3 in
10						(7.6 cm) DBH and greater than or equal to	
			55	= Total Cove	r	ft (1 m) tall.	
	50 %	of total cover	: 27.5 20 Absolute	) % of total co		Herb - All herbaceous (non-woody) plants regardless of size, and woody plants less	
Woody Vine Stratu	ım (Plot Size:	)	% Cover	Dominant Species?	Indicator Status	3.28 ft tall.	ti idi i
1	_			·		Woody vine - All woody vines greater that	n
2						3.28 ft in height.	
3							
4						Hydrophytic	
5						Vegetation <u>No</u>	
<u> </u>			0	= Total Cove	r	Present?	
	50 %	of total cover		) % of total co			
	30 /0	or total cover	. 0.0 20	, ,0 01 total CC	7.01. 0.0		

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

<sup>\*</sup>Z. maize does not appear on the NCNE NWPL and is assumed to have UPL indicator status for the prevalance and dominance test.

<sup>\*\*</sup>Identified to a genus level, did not have adequate characteristics identify to species at the time of survey. These species were given a FACW indicator based on the common species found within the area to calculate the dominance and prevalance test.

SOIL Sampling Point: DPK021\_UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth	Matrix	Re	dox Featu	ıres							
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks		
0-7	10YR 4/3	100	,		31		Silty Loam	1			
7-14	10YR 5/3	100					Silty Clay		Rock Present		
	10111070						July July				
*T 0 0		1 5			1 10	10 :		*** (* 5			
	ncentration, D=De	pletion, R	M=Reduced Matri	x, MS=Ma	asked Sa	nd Grains	<u> </u>		L=Pore Lining, M=Matrix		
Hydric Soil I									r Problematic Hydric Soils***:		
Histisol (	A1)			value Belo					CK (A10) (LRR K, L, MLRA 149B)		
Histic Ep	pipedon (A2)			<del>_</del>					airie Redox (A16) (LRR к, L, R)		
Black His	stic (A3)		Loa	my Muck	y Mineral	(F1) (LRR I	LRR K, L) 5 cm Mucky Peat or Peat (S3) (LI				
Hydroge	n Sulfide (A4)		Loa	my Gleye	d Matrix	(F2)		Dark Sur	face (S7) (LRR K, L, M)		
Stratified	l Layers (A5)		Dep	leted Mat	trix (F3)			e Below Surface (S8) (LRR к, L)			
Depleted	l Below Dark Sufac	ce (A11)	Red	lox Dark S	Surface (I	<del>-</del> 6)		Thin Dar	k Surface (S9) (LRR K, L)		
Thick Da	rk Surface (A12)		Dep	leted Dar	k Surface	e (F7)	Iron-Manganese Masses (F12) (LRR N, MLR				
Sandy M	lucky Mineral (S1)		Red	Redox Depressions (F8) Piedmont Floodplain Soils (F1							
Sandy G	leyed Matrix (S4)			Mesic Spodic (TA6) (MLRA 144A,							
Sandy R	edox (S5)		****	***Indicators of hydrophytic vegetation and							
Stripped	Matrix (S6)		***Indica weltand	itors of hy hydrology	drophytic must be	vegetation	on and unless	Very Sha	allow Dark Surface (TF12)		
Dark Sur	face (S7)			d or probl		procent,	4111000	Other (Ex	xplain in Remarks)		
Restrictive L	ayer (if observed	):									
Type:	Rock										
Depth (inch	nes): 1	4"					Hy.	dric soil prese	ent? <u>No</u>		
Remarks:	,							•	<del>-</del>		

Project/Site:	CHK Subbasin 4 PRM				City/County: Elkland, Tioga				Sampling D	ate:	4/21/20	)22	
Applicant/Owner:			Resourc	ce Environme	ental Sol	utions	State	e:	PA	Samplii	ng Point:	DPK02	2_PEM
Investigator(s):		R. E	Barnhill, F	F. Page		Section, Tov	 vnship, Ra	ange:		Elklar	ndTownsh	nip	
Landform (hillslope	e, terrace	, etc.):		Depression	on	Local relie	f (concave	e, convex	k, none):	Conca	ave Slo	pe (%):	00-05
Subregion (LRR o	r MLRA)	L	RR R: N	MLRA 140	Lat.:	41.98949	32	Long.:	-77.	.326697	Datum:	NAI	D 83
Soil Map Unit Nan	ne:			Ow -	Orrville	silt loam			NWI Cla	assification:		PEM1A	
Are climatic/hydro	logic cond	litions of	the site t	ypical for this	s time of	f the year?	Yes	(If no	, explain	in Remarks.	)		
Are vegetation	Yes ,	, soil	Yes	, or hydrolog	Jy	Yes significant	ly disturbe	ed?	Are "no	rmal circums	tances" p	resent?	Yes
Are vegetation	No ,	, soil	No	, or hydrolog	ly	No naturally p	roblemati	ic?	(If nee	eded, explain	any ansv	vers in ren	narks)
SUMMARY OF FI	NDINGS -	- Attach	site map	showing sa	ampling	point locations	, transect	ts, impo	rtant fea	itures, etc.			
Hydrophytic veget	ation pres	ent?		Yes	s								
Hydric soil presen	t?			Yes	s	Is the samp	led area v	within a	wetland	l?		Yes	
Indicators of wetla	ind hydrol	ogy prese	ent?	Yes	s								
Remarks:													
Wetland is miss	sing hydro	phytic ve	getation,	however with	h the pre	gy, and vegetatio esence of hydrolo associated with W	gy, hydric	soils, ar			•		
HYDROLOGY													
Wetland Hydrolo	gy Indica	tors:						<u>Se</u>	condary	Indicators (n	<u>ninimum</u>	of two rea	uired)
Primary Indicators	(minimur	n of one i	s require	∍d; check all f	that app	oly)			Surface S	Soil Cracks (E	36)		
Surface Wate	er (A1)			Aquatic Faur	na (B13՝	)			)rainage	Patterns (B1	10)		
High Water T	able (A2)			Marl Deposit	ts (B15)			N	∕loss Trir	m Lines (B16	<b>;</b> )		
Saturation (A	3)			Hydrogen Su	ulfide Oc	dor (C1)			วry-Seas	son Water Ta	ble (C2)		
Water Marks	(B1)			Oxidized Rh	izosphe	neres on Living Roots (C3) Crayfish Burrows (C8)							
Sediment Dep	posits (B2	.)		Presence of	Reduce	ed Iron (C4)		X	3aturatio	n Visible on A	Aerial Ima	agery (C9)	)
Drift Deposits	; (B3)			Recent Iron	Reduction	on in Tilled Soils	(C6)		Stunted o	or Stressed P	lants (D1	i)	
X Algal Mat or 0	Crust (B4)			Thin Muck S	`	` ,		X	Зеотогр	hic Position	(D2)		
Iron Deposits	, ,			Other (Expla	ain in Re	marks)			3hallow A	Aquitard (D3)	1		
Inundation Vis										ographic Reli	` ,		
X Sparsely Veg			ırface (B	8)				F	FAC-Neu	ıtral Test (D5	·)		
Water-Staine	d Leaves	(B9)											
Field Observation			_										
Surface water pres		Ye	_	No	X	Depth (inches)							
Water table prese		Ye	_	No	X	Depth (inches)							
Saturation present		Ye	s	No	X	Depth (inches)	:		W	etland Hydro	ology Pr	esent?	<u>Yes</u>
(includes capillary													
Describe recorded	l data (stre	eam gaug	je, monit	toring well, a	erial pho	otos, previous ins	pections),	if availal	ole:				
<b>-</b>													
Remarks:													

Tree Stratum	(Plot Size:	15x15 )	Absolute	Dominant	Indicator	Dominance Test Worksheet
1	(FIUL 3126.	100.10	% Cover	Species?	Status	Number of Dominant
2						- Species that are OBL, FACW. or FAC: 0 (A)
3						
3 4						Total Number of Dominant Species Across all Strata: 1 (B)
•						Species Across all Strata: 1 (B)
5				Tatal Caus		Percent of Dominant
	FO 0/			= Total Cove		Species that are OBL,
		of total cover:	0.0 20 Absolute	) % of total co Dominant	over: 0.0 Indicator	FACW, or FAC: 0.00% (A/B)
Sapling/Shrub Stratun	n (Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet
1						Total % Cover of: Multiply by:
2						OBL species 0 x 1 = 0
3						FACW species 0 x 2 = 0
4						FAC species 0 x 3 = 0
5						FACU species 0 x 4 = 0
6						UPL species 25 x 5 = 125
7						Column totals 25 (A) 125 (B)
8					-	Prevalence Index = B/A = 5.00
9						Hydrophytic Vegetation Indicators:
10						1-Rapid test for hydrophytic vegetation
			0	= Total Cove		2-Dominance test is >50%
	50 %	6 of total cover:		) % of total co		3-Prevalence index is ≤3.0*
Herb Stratum			Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide
	(Plot Size:	5x5 )	% Cover	Species?	Status	supporting data in Remarks or on a
1 *Zea maize			25	Yes	UPL	separate sheet)
2						Problematic hydrophytic vegetation*
3						X (explain)
4						*Indicators of hydric soil and wetland hydrology
5						<ul> <li>must be present, unless disturbed or problematic</li> </ul>
6						
7						Definitions of Vegetation Strata:
8					-	Tree - Woody plants 3 in. (7.6 cm) or more in
9						<ul> <li>diameter at breast height (DBH), regardless of height.</li> </ul>
10						Sapling/Shrub - Woody plants less than 3 in.
			25	= Total Cove	r	(7.6 cm) DBH and greater than or equal to 3.28 ft (1 m) tall.
	50 %	of total cover:		) % of total co		Herb - All herbaceous (non-woody) plants,
Woody Vine Stratum		\	Absolute	Dominant	Indicator	regardless of size, and woody plants less than
	(Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.
1						Woody vine - All woody vines greater than 3.28 ft in height.
2						3.20 it in neight.
3						.
4						Hydrophytic
5						Vegetation <u>Yes</u> - Present?
			0	= Total Cove	r	Fresent?
	50 %	of total cover:	0.0 20	) % of total co	over: 0.0	
Remarks: (Include pho						
*Z. maize does not ap	pear on the NC	CNE NWPL and	is assumed	to have an Ul	PL indicator :	status for the prevalance and dominance test.

SOIL Sampling Point: DPK022\_PEM

Profile Desc	ription: (Describe	e to the	depth needed to	documen	nt the ind	icator or	confirm the	absence of in	dicators.)	
Depth	Matrix		Re	dox Featı	ures					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks	
0-7	10YR 4/1	80	7.5YR 4/4	20	С	М	Silty Clay	Loam		
7-16	10YR 4/1	90	7.5YR 3/4	10	С	М	Silty Clay	Loam		
*Type: C=Co	ncentration, D=De	pletion, R	RM=Reduced Matri	x, MS=M	asked Sa	nd Grains	 S	**Location: P	L=Pore Lining, M=Matrix	
Hydric Soil I								Indicators fo	r Problematic Hydric Soils***:	
Histisol (			Poly	value Belo	ow Surface	(S8) (LRR R	, MLRA 149B)		ck (A10) (lrr k, l, mlra 149b)	
`	pipedon (A2)				ırface (S9				airie Redox (A16) (LRR K, L, R)	
Black His	. , ,				y Mineral				cky Peat or Peat (S3) (LRR K, L, R)	
	n Sulfide (A4)				ed Matrix		. ,		face (S7) (LRR K, L, M)	
	Layers (A5)			leted Ma		(- –)		e Below Surface (S8) (LRR K, L)		
	Below Dark Sufa	ce (A11)			Surface (I	<del>-</del> 6)		k Surface (S9) (LRR k, L)		
	rk Surface (A12)	( ,				•		ganese Masses (F12) (LRR N, MLRA 136)		
	lucky Mineral (S1)		-	Depleted Dark Surface (F7)  Redox Depressions (F8)  Iron-Manganese Masses (F12)  Piedmont Floodplain Soils (F19)						
	leyed Matrix (S4)			Mesic Spodic (TA6) (MLRA 144A, 1						
	edox (S5)			Red Parent Material (F						
	Matrix (S6)				/drophytic		ation and the transfer of the			
	face (S7)			nyarology d or probl		present,	uniess		xplain in Remarks)	
	ayer (if observed	):						· · · · · · · · · · · · · · · · · ·	<b>4</b> ······	
Type:	,	<i>,</i> -								
Depth (inch	nes):						Hv	dric soil prese	ent? Yes	
Remarks:								co p. coo		

Designat/Cita	CLIK Subbas	in 4 DDM		City/County:	Elkland	Lingo	Compling Date:	4/21/20	00		
•	CHK Subbasi	ce Environmen	tal Salur	City/County:		d, Tioga PA	Sampling Date:	4/21/202 : DPK023			
Applicant/Owner: Investigator(s):	R. Barnhill,		lai Soiul	Section, Towns	State:		Sampling Point Elkland Towns		3_UFL		
Landform (hillslope, terrace, etc		Plain		Local relief (d				ope (%):	00-05		
Subregion (LRR or MLRA)		MLRA 140	Lat.:	41.989074			7.32649 Datum	_			
Soil Map Unit Name:	LIXIX IX. IV		Drrville si		Long.		Classification:	N/A	00		
Are climatic/hydrologic condition	ne of the site				Yes (If		n in Remarks.)	IN/A			
Are vegetation Yes, soi		, or hydrology		res significantly			ormal circumstances"	nresent?	Yes		
Are vegetation No , soi		, or hydrology		No naturally pro			eded, explain any ans				
SUMMARY OF FINDINGS - Att						•			,		
Hydrophytic vegetation present	?	No	$\overline{}$								
Hydric soil present?		No		Is the sample	d area withi	n a wetlan	d?	No			
Indicators of wetland hydrology	present?	No							<b>—</b>		
Remarks:	·										
Data point is located in an ac Upland data point is associate	-		ydrology	y, and vegetation a	are severely	disturbed d	lue to the active agricu	ultural practi	ices.		
HYDROLOGY											
Wetland Hydrology Indicators						Secondar	y Indicators (minimum	ı of two requ	uired)		
Primary Indicators (minimum of	one is require	ed; check all th	nat apply	/)			Soil Cracks (B6)		ļ		
Surface Water (A1)		Aquatic Fauna	, ,			_	e Patterns (B10)				
High Water Table (A2)		Marl Deposits	` ,				rim Lines (B16)				
Saturation (A3)		Hydrogen Sul				-	ason Water Table (C2)	1			
Water Marks (B1)		Oxidized Rhiz	osphere	es on Living Roots	(C3)	Crayfish	Burrows (C8)		ļ		
Sediment Deposits (B2)		Presence of F	Reduced	l Iron (C4)		Saturation	turation Visible on Aerial Imagery (C9)				
Drift Deposits (B3)		Recent Iron R	eduction	n in Tilled Soils (C	6)	Stunted	or Stressed Plants (D	1)			
Algal Mat or Crust (B4)		Thin Muck Su	ırface (C	7)		Geomor	rphic Position (D2)		ļ		
Iron Deposits (B5)		Other (Explain	n in Rem	narks)			Aquitard (D3)				
Inundation Visible on Aeria						Microtop	pographic Relief (D4)				
Sparsely Vegetated Conca	ve Surface (B	38)				FAC-Ne	eutral Test (D5)				
Water-Stained Leaves (B9)	)										
Field Observations:											
Surface water present?	Yes	No	Х	Depth (inches):							
Water table present?	Yes	No	Х	Depth (inches):							
Saturation present?	Yes	No	Х	Depth (inches):		_	Wetland Hydrology P	resent?	<u>No</u>		
(includes capillary fringe)											
Describe recorded data (stream	gauge, moni	toring well, aer	ial photo	os, previous inspe	ctions), if ava	ailable:					
Remarks:											
			Wetla	and hydrology abse	ent						

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1	(1 101 0	,	% COVE	Species:	Status	Number of Dominant
2						Species that are OBL, FACW. or FAC:  0 (A)
3						
4						. Total Number of Dominant Species Across all Strata: 1 (B)
5						openies Anioss an oraca.
5			0	= Total Cove		Percent of Dominant
	EO 0	' aftatal aguar		-		Species that are OBL,
5 " /OL !: Otro-to		% of total cover:	: 0.0 20 Absolute	0 % of total co Dominant	over: 0.0 Indicator	FACW, or FAC: 0.00% (A/B)
Sapling/Shrub Stratum	<sup>1</sup> (Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet
1						Total % Cover of: Multiply by:
2						OBL species0 x 1 =0
3						FACW species 0 x 2 = 0
4						FAC species 0 x 3 = 0
5						FACU species 0 x 4 = 0
6						UPL species 25 x 5 = 125
7						Column totals 25 (A) 125 (B)
8						Prevalence Index = B/A = 5.00
9						Hydrophytic Vegetation Indicators:
10						1-Rapid test for hydrophytic vegetation
			0	= Total Cove	<u></u>	2-Dominance test is >50%
	50 %	% of total cover:		0 % of total co		3-Prevalence index is ≤3.0*
Herb Stratum			Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide
	(Plot Size:	5x5 )	% Cover	Species?	Status	supporting data in Remarks or on a
1 *Zea maize			25	Yes	UPL	separate sheet)
2						Problematic hydrophytic vegetation*
3					. <u></u>	(explain)
4						*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or
5						problematic
6						Definitions of Vagatation Strata.
7						Definitions of Vegetation Strata:
8						Tree - Woody plants 3 in. (7.6 cm) or more in
9						<ul> <li>diameter at breast height (DBH), regardless of height.</li> </ul>
10						Sapling/Shrub - Woody plants less than 3 in.
			25	= Total Cove	er	(7.6 cm) DBH and greater than or equal to 3.28 ft (1 m) tall.
	50 %	% of total cover:	: 12.5 20	- 0 % of total co	over: 5.0	Herb - All herbaceous (non-woody) plants,
Woody Vine Stratum		`	Absolute	Dominant	Indicator	regardless of size, and woody plants less than
	(Plot Size:	,	% Cover	Species?	Status	3.28 ft tall.
1						Woody vine - All woody vines greater than 3.28 ft in height.
2						0.20 K in Holgiti.
3						.
4						Hydrophytic
5					·- <u></u>	Vegetation <u>No</u> Present?
	<del></del>	<del>_</del>	0	= Total Cove	÷r	Fieseiit?
		% of total cover:		0 % of total co	over: 0.0	
Remarks: (Include pho						
*Z. maize does not ap	pear on the N	CNE NWPL and	d is assumed	to have an U	PL indicator :	status for the prevalance and dominance test.

SOIL Sampling Point: DPK023\_UPL

Profile Desc	ription: (Describ	e to the o	depth needed to	documen	t the ind	icator or	confirm the a	absence of in	dicators.)			
Depth	Matrix		Re	dox Featı	ıres							
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ture	Remarks			
0-14	10YR 4/2	100	, ,		7.		Silty Loam					
14-16	10YR 4/2	90	7.5YR 4/4	10	С	М	Silty Clay Lo	oam				
	1011111/2							-				
*Type: C=Co	ncentration, D=De	pletion, R	RM=Reduced Matr	ix, MS=M	asked Sa	nd Grains		L=Pore Lining, M=Matrix				
Hydric Soil I	ndicators:		_					Indicators fo	r Problematic Hydric Soils***:			
Histisol (	A1)		Poly	value Belo	w Surface	(S8) (LRR R	, MLRA 149B)	2 cm Mu	CK (A10) (LRR K, L, MLRA 149B)			
Histic Ep	pipedon (A2)		Thi	n Dark Su	ırface (S9	) (LRR R, ML	RA 149B)	Coast Pr	airie Redox (A16) (LRR K, L, R)			
Black His	stic (A3)		Loa	my Muck	y Mineral	(F1) (LRR I	(, L)	5 cm Mu	cky Peat or Peat (S3) (LRR K, L, R)			
Hydroge	n Sulfide (A4)		Loa	my Gleye	ed Matrix	(F2)		Dark Sur	face (S7) (LRR к, L, м)			
Stratified	l Layers (A5)		Dep	oleted Ma	trix (F3)			Polyvalue	e Below Surface (S8) (LRR к, L)			
Depleted	l Below Dark Sufa	ce (A11)	Red	ox Dark s	Surface (I	<del>-</del> 6)		Thin Dar	k Surface (S9) <sub>(LRR K, L)</sub>			
Thick Da	rk Surface (A12)		Dep	leted Dar	k Surface	e (F7)		Iron-Man	nganese Masses (F12) (LRR N, MLRA 136)			
Sandy M	lucky Mineral (S1)		Red	dox Depre	ssions (F	8)		t Floodplain Soils (F19) (MLRA 149B)				
Sandy G	leyed Matrix (S4)		_					Mesic Sp	podic (TA6) (MLRA 144A, 145, 149B)			
	edox (S5)							Red Pare	ent Material (F21)			
	Matrix (S6)			ators of hy				Very Sha	allow Dark Surface (TF12)			
	face (S7)			hydrology d or probl		present,	uniess		xplain in Remarks)			
	ayer (if observed	D:							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Type:	, (	·,-										
Depth (inch	166).						Hyd	ric soil prese	ent? <u>No</u>			
Remarks:	103).						Tiyu	ne son prese	<u>NO</u>			
				Н	ydric soil	absent						
				• •	yano con	aboon						

				_			- ,		
Project/Site:	CHK Subb	pasin 4 PRM		City/County:	Elkland	I, Tioga	Sampling Date:	4/21/2022	
Applicant/Owner:	Reso	ource Environme	ntal Solut	tions	State:	PA	Sampling Po	int: DPK024_F	PEM
Investigator(s):	R. Barnh	ill, F. Page		Section, Towns	ship, Range:		Elkland Tow	vnship	
Landform (hillslope, terrace, e	etc.):	Drainagew	<i>ı</i> ay	Local relief (d	concave, con	ıvex, none)	): Concave	Slope (%): 00	0-05
Subregion (LRR or MLRA)	LRR F	R: MLRA 140	Lat.:	41.988815	Long.	.: -77	7.326192 Datu	um: NAD 83	3
Soil Map Unit Name:		Ow -	Orrville si	ilt loam		NWI C	Classification:	R2UBH	
Are climatic/hydrologic condit	ions of the si	te typical for this	time of t	he year?	Yes (If	no, explair	n in Remarks.)		
Are vegetation Yes , s	soil Yes	s , or hydrolog	y Y	es significantly	disturbed?	Are "no	ormal circumstance	s" present?	Yes
Are vegetation No , s	soil No	, or hydrolog	y <u> </u>	No naturally pro	blematic?	(If ne	eded, explain any a	nswers in remark	ks)
SUMMARY OF FINDINGS - A	Attach site n	nap showing sa	ımpling r	point locations, tr	ransects, im	portant fe	atures, etc.		
Hydrophytic vegetation prese	nt?	Yes	3						
Hydric soil present?		Yes	<b>š</b>	Is the sample	d area withir	n a wetlan	d?	Yes	
Indicators of wetland hydrolog	gy present?	Yes	3						_
Remarks:									
Data point is located on the practices. Data point is ass			; field. So	ils, hydrology, and	l vegetation a	are severel	y disturbed due to t	he active agricul	ltural
HYDROLOGY									-
Wetland Hydrology Indicato						Secondar	y Indicators (minimu	um of two require	ed)
Primary Indicators (minimum	of one is req	uired; check all t	that apply	<i>(</i> )		Surface	Soil Cracks (B6)		
Surface Water (A1)		Aquatic Faur	na (B13)		×	K Drainage	e Patterns (B10)		
X High Water Table (A2)		Marl Deposit	.s (B15)			Moss Tr	rim Lines (B16)		
X Saturation (A3)		Hydrogen Su	ılfide Odc	or (C1)		Dry-Sea	ason Water Table (C	22)	
Water Marks (B1)		Oxidized Rhi	zosphere	es on Living Roots	(C3)	Crayfish	Burrows (C8)		
Sediment Deposits (B2)		Presence of	Reduced	Iron (C4)		Saturation	on Visible on Aerial	Imagery (C9)	
Drift Deposits (B3)		Recent Iron	Reductior	n in Tilled Soils (Co	6)	Stunted	or Stressed Plants	(D1)	
Algal Mat or Crust (B4)		Thin Muck S	urface (C	7)		Geomor	rphic Position (D2)		
Iron Deposits (B5)		Other (Expla	in in Rem	narks)		Shallow	Aquitard (D3)		
Inundation Visible on Aer	rial Imagery (	(B7)				Microtop	oographic Relief (D4	4)	
Sparsely Vegetated Cond	cave Surface	; (B8)				FAC-Ne	eutral Test (D5)		
Water-Stained Leaves (E	39)								
Field Observations:									
Surface water present?	Yes	No	Χ	Depth (inches):					
Water table present?	Yes	X No		Depth (inches):	5"				
Saturation present?	Yes	X No		Depth (inches):	Surface	v	Wetland Hydrology	Present?	Yes
(includes capillary fringe)									
Describe recorded data (strea	am gauge, mo	onitoring well, as	erial photo	os, previous inspe	ctions), if ava	ailable:			
Remarks:									
Tromanio.									

Number of Dominant   Number of Dominant   Species   Status   Species   Spe	Tree Stratum	(Plot Size:	15x15 )	Absolute	Dominant	Indicator	Dominance Test Worksheet
Sepoles that are OBL   FACW, or FAC   1 (A)		(Flot Size.	13813	% Cover	Species?	Status	
Total Number of Dominant   Species Across all Strate   2 (B)	·						
Species Across all Stratus   Species Across all Stratus   2 (B)							FACW, or FAC:
Saping/Shrub Stratum (Plot Size: 15x15 )   Absolute   Dominant Indicator Species that are OBL, FacW, or Fac: 50,00% (A/B)							
Percent of Dominant   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species   Status   Species   Status   Species   Status   Species   Status   Species   Status   Species   Status   Species   Status   Species   Status   Species   Status   Species   Speci					· <del></del>		Species Across all Strata: 2 (B)
So	5						Percent of Dominant
Sapiling/Shrub Stratum   (Piot Size: 15x15   )					= Total Cove	-	· ·
Sapingshrub Stratum			of total cover:				FACW, or FAC: 50.00% (A/B)
OBL species   0   x1   0	Sapling/Shrub Stratu	m (Plot Size:	15x15 )				Prevalence Index Worksheet
Fac Stratum	1						Total % Cover of: Multiply by:
## FAC species 0 x 3 = 0	2						OBL species 0 x 1 = 0
FACU species 0 x4 = 0  FACU species 25 x5 = 125  Column totals 75 (A) 225 (B)  Prevalence Index = B/A = 3.00  Prevalence Index = B/A = 3.00  Prevalence Index = B/A = 3.00  Prevalence Index = B/A = 3.00  Hydrophytic Vegetation Indicators:  1-Rapid test for hydrophytic vegetation  1-Rapid test for hydrophytic vegetation  Facultine  Facultine  Findicator  Facultine  Findicator  Species?  Facultine  Facultine  Free veloce Index = B/A = 3.00  Prevalence Index = B/A = 3.00  Prevalence Index = B/A = 3.00  Hydrophytic Vegetation Indicators:  1-Rapid test for hydrophytic vegetation  Facultine  Fa	3						FACW species 50 x 2 = 100
Column totals   Column tota	4						FAC species 0 x 3 = 0
Column totals   Tolar   Colu	5						·
Column totals 75 (A) 225 (B)  Resulting the color of the	6						·
Prevalence Index = B/A = 3.00	7						·
Hydrophytic Vegetation Indicators:   1-Rapid test for hydrophytic vegetation	8						·
1-Rapid test for hydrophytic vegetation  1-Rapid test for hydrophytic vegetation  2-Dominance test is >50%  3-Prevalence index is ≤3.0*  4-Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet.)  1 Phalaris arundinacea							
Continue   Continue					<del></del>		
Herb Stratum (Plot Size: 5x5 )   Absolute % Cover   South Status   Status				0	= Total Cove	r	·   <del></del>
Herb Stratum (Plot Size: 5x5 )		50 %	of total cover:	0.0 20	) % of total co	over: 0.0	X 3-Prevalence index is ≤3.0*
Problematic hydrophytic vegetation* (explain)  2 *Zea maize	Herh Stratum			Absolute	Dominant		·  <del></del>
25 Yes UPL  Problematic hydrophytic vegetation* (explain)  *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  Definitions of Vegetation Strata:  Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/Shrub - Woody plants less than 3 in. (7.6 cm) DBH and greater than or equal to 3.28 ft (1 m) tall.  Woody Vine Stratum (Plot Size: )		· · · · · · · · · · · · · · · · · · ·	5X5 )				
Trotal Cover   Solution   Stratum   Plot Size:		inacea					separate sheet)
*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.  (7.6 cm) 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 a.28 ft tall.  Woody Vine Stratum (Plot Size:) Present?  Woody vine - All woody vines greater than 3 a.28 ft in height.  Hydrophytic Vegetation Yes  Yes  Present?  Remarks: (Include photo numbers here or on a separate sheet.)	2 *Zea maize			25	Yes	UPL	
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. (7.6 cm) 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 i.2.8 ft (1 m) tall.  Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height.  Woody vine Stratum (Plot Size: ) Dominant Indicator Species? Status    O	3						, ,
problematic  probl	4						
Definitions of Vegetation Strata:  Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/Shrub - Woody plants less than 3 in. (7.6 cm) 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 Vine Stratum (Plot Size: ) Dominant Species? Status    1	5						
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.    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. (7.6 cm) 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 Vine Stratum (Plot Size: )	6						Definitions of Vegetation Strata
diameter at breast height (DBH), regardless of height.    Total Cover	7						
height. Sapling/Shrub - Woody plants less than 3 in. (7.6 cm) 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 in. (7.6 cm) 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 vine - All woody vine - All woody vines greater than 3.28 ft in height.  Hydrophytic Vegetation Present?  Hydrophytic Vegetation Present?  Present?	8						
Total Cover Stratum (Plot Size:)	9						
Total Cover   Total Cover	10						
Woody Vine Stratum (Plot Size:)				75	= Total Cove	r	
Woody Vine Stratum (Plot Size:) % Cover Species? Status 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.  Hydrophytic Vegetation Present?  To a cover Species? Status 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.  Hydrophytic Vegetation Present?  Fresent?		50 %	of total cover:	37.5 20	% of total co	ver: 15.0	Herb - All herbaceous (non-woody) plants,
Woody vine - All woody vines greater than 3.28 ft in height.  Hydrophytic Vegetation Present?  To woody vine - All woody vines greater than 3.28 ft in height.  Hydrophytic Vegetation Present?  To woody vine - All woody vines greater than 3.28 ft in height.	Woody Vine Stratum	(Plot Size:	١				
3.28 ft in height.  Hydrophytic Vegetation Present?  Yes  Remarks: (Include photo numbers here or on a separate sheet.)	1	(I lot olze.		% Cover	Species?	Status	
Hydrophytic Vegetation Present?							
Hydrophytic Vegetation Present?    O							
Vegetation Present?    0	3						
Total Cover 50 % of total cover: 0.0 20 % of total cover: 0.0  Remarks: (Include photo numbers here or on a separate sheet.)	4						
0 = Total Cover50 % of total cover: 0.0 20 % of total cover: 0.0 Remarks: (Include photo numbers here or on a separate sheet.)	5						
Remarks: (Include photo numbers here or on a separate sheet.)				0	= Total Cove	r	
					% of total co	over: 0.0	
*∠. maize does not appear on the NCNE NWPL and is assumed to have an UPL indicator status for the prevalance and dominance test.						<u></u>	
	r'∠. maize does not a	ppear on the No	JNE NWPL and	ıs assumed	to have an U	PL Indicator	status for the prevalance and dominance test.

SOIL Sampling Point: DPK024\_PEM

Profile Desc	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth	Matrix		Re	dox Featu	ıres							
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks			
0-8	10YR 4/1	80	7.5YR 4/4	20	С	М	Silty Clay	Loam				
8-16	10YR 4/1	95	7.5YR 3/3	5	С	М	Silty Clay					
							, ,					
*Type: C=Co	ncentration, D=De	pletion, R	M=Reduced Matri	x, MS=Ma	asked Sa	nd Grains	 3	**Location: P	L=Pore Lining, M=Matrix			
Hydric Soil I		<u> </u>							r Problematic Hydric Soils***:			
Histisol (			Poly	value Belo	w Surface	(S8) (LRR R	, MLRA 149B)		CK (A10) (LRR K, L, MLRA 149B)			
	pipedon (A2)			n Dark Su					airie Redox (A16) (LRR K, L, R)			
Black His				my Mucky	•	•			cky Peat or Peat (S3) (LRR k, L, R)			
	n Sulfide (A4)			my Gleye					face (S7) (LRR K, L, M)			
	Layers (A5)			leted Mat		,		Polyvalue	e Below Surface (S8) (LRR K, L)			
	l Below Dark Sufa	ce (A11)		ox Dark S		<del>-</del> 6)		Thin Dar	k Surface (S9) (LRR K, L)			
	rk Surface (A12)	, ,		leted Dar	-			Iron-Man	ganese Masses (F12) (LRR N, MLRA 136)			
	lucky Mineral (S1)			ox Depre				Piedmon	nt Floodplain Soils (F19) (MLRA 149B)			
	leyed Matrix (S4)		_	·	,	,		Mesic Sp	odic (TA6) (MLRA 144A, 145, 149B)			
	edox (S5)							ent Material (F21)				
	Matrix (S6)		***Indica	tors of hy hydrology	drophytic	vegetation	on and	Very Sha	illow Dark Surface (TF12)			
Dark Sui	face (S7)			d or probl		present,	uniess		rplain in Remarks)			
	.ayer (if observed	):						,	,			
Type:	· `	<u>'</u>										
Depth (inch	ies):						Hy	dric soil prese	ent? <u>Yes</u>			
Remarks:	,							•	<del></del>			

Project/Site:	CHK	Subbasir	n 4 PRM		C	City/County:	EII	kland, Tid	oga	Sampling D	ate:	4/21/20	22
Applicant/Owner:		Resourc	e Environmen	ntal So	lutions		State	):	PA	Samplii	ng Point:	DPK025	5_PEM
Investigator(s):	R. E	Barnhill, F	F. Page		S	ection, Towns	<del>–</del> ship, Ra	inge:		— Elklan	nd Townsh	nip	
Landform (hillslope, terrac	ce, etc.):		Depression	n		Local relief (d	concave	, convex	(, none):	Conca	ave Slop	pe (%):	00-05
Subregion (LRR or MLRA	ı) <u>L</u>	RR R: M	1LRA 140	Lat.	:	41.989009	L	_ong.:	-77.3	327778	Datum:	NAD	83
Soil Map Unit Name:			Ow - 0	Orrville	silt loa	ım			NWI Cla	assification:		N/A	
Are climatic/hydrologic co	nditions of t	the site t	ypical for this	time o	of the ye	ear?	Yes	(If no,	, explain	in Remarks.	)		
Are vegetation Yes	, soil	Yes	, or hydrology	′	Yes	significantly	disturbe	∍d?	Are "nor	mal circums	tances" p	resent?	Yes
Are vegetation No	, soil	No	, or hydrology	′	No	naturally pro	blemati	c?	(If need	ded, explain	any answ	ers in rem	narks)
SUMMARY OF FINDING	S - Attach s	site map	showing sar	mpling	g point	locations, tr	ransect	s, impor	tant feat	tures, etc.			
Hydrophytic vegetation pr	esent?		No										
Hydric soil present?			Yes		Is	the sample	d area v	within a	wetland	?		Yes	
Indicators of wetland hydr	ology prese	ent?	Yes										
Remarks:													
Data point is located in Wetland is missing hydi delineators determined wetland cell.	rophytic veg	getation,	however with	the pr	esence	of hydrology	, hydric	soils, an	nd current	t vegetation	disturban	ces, wetla	and
HYDROLOGY													
Wetland Hydrology India	cators:							<u>Se</u>	condary	Indicators (n	ninimum (	of two req	uired)
Primary Indicators (minim	um of one i	s require	ed; check all th	nat app	ply)			S	Surface S	Soil Cracks (E	B6)		
Surface Water (A1)			Aquatic Fauna	a (B13	3)				)rainage	Patterns (B1	10)		
High Water Table (A2	2)		Marl Deposits	s (B15)	)			N	/loss Trin	n Lines (B16	<b>i</b> )		
Saturation (A3)			Hydrogen Sul	lfide O	Odor (C1) Dry-Season Water Table (C2)								
Water Marks (B1)			Oxidized Rhiz	zosphe	eres on	Living Roots	(C3)	C	Crayfish E	Burrows (C8)	)		
Sediment Deposits (E	32)		Presence of F	Reduce	ed Iron	(C4)		X S	aturation	n Visible on A	Aerial Ima	gery (C9)	
Drift Deposits (B3)			Recent Iron R	Reduct	ion in T	illed Soils (C	6)	S	Stunted o	r Stressed P	lants (D1	)	
X Algal Mat or Crust (B	4)		Thin Muck Su	ırface	(C7)			X	eomorpl	hic Position	(D2)		
Iron Deposits (B5)			Other (Explain	n in Re	emarks	.)		S	Shallow A	quitard (D3)	)		
Inundation Visible on	_	0 , ( ,	,					N	/licrotopo	graphic Reli	ef (D4)		
X Sparsely Vegetated 0		ırface (B8	3)					F	AC-Neut	tral Test (D5	)		
Water-Stained Leave	s (B9)												
Field Observations:													
Surface water present?	Ye	s	No	X		oth (inches):							
Water table present?	Ye	s	No	Х		oth (inches):							
Saturation present?	Ye	S	No	Х	Dep	oth (inches):			We	etland Hydro	ology Pre	sent?	Yes
(includes capillary fringe)													
Describe recorded data (s	rial ph	otos, pr	revious inspe	ctions),	if availab	ole:							
Remarks:												·	

Tree Stratum	(Plot Size:	15x15 )	Absolute	Dominant	Indicator	Dominance Test Worksheet
1	(FIUL SIZE.	100.10	% Cover	Species?	Status	Number of Dominant
2						- Species that are OBL, FACW. or FAC: 0 (A)
3						
4						Total Number of Dominant Species Across all Strata: 1 (B)
•						Species Across all Strata: 1 (B)
5				T-tal Cove		Percent of Dominant
	50 º/	fitted cover		= Total Cove		Species that are OBL, FACW, or FAC: 0.00% (A/B)
O II /Oli milla Otmatium		of total cover:	0.0 20 Absolute	0 % of total co Dominant	over: 0.0 Indicator	
Sapling/Shrub Stratum	<sup>1</sup> (Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet
1						Total % Cover of: Multiply by:
2						OBL species 0 x 1 = 0
3						FACW species 0 x 2 = 0
4						FAC species 0 x 3 = 0
5						FACU species 0 x 4 = 0
6						UPL species <u>25</u> x 5 = <u>125</u>
7						Column totals <u>25</u> (A) <u>125</u> (B)
8						Prevalence Index = B/A = 5.00
9						Hydrophytic Vegetation Indicators:
10						1-Rapid test for hydrophytic vegetation
			0	= Total Cove	r	2-Dominance test is >50%
	50 %	of total cover:	0.0 20	- 0 % of total co		3-Prevalence index is ≤3.0*
Herb Stratum	(Plot Size:	5x5 )	Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide
1 *Zea maize	(1 101 5.25.	,	% Cover 25	Species? Yes	Status UPL	supporting data in Remarks or on a separate sheet)
2				1.50		·  <del></del>
						Problematic hydrophytic vegetation*  (explain)
3						X (explain)  *Indicators of hydric soil and wetland hydrology
4						must be present, unless disturbed or
5						problematic
6						Definitions of Vegetation Strata:
						Tree - Woody plants 3 in. (7.6 cm) or more in
8						diameter at breast height (DBH), regardless of
9						height. Sapling/Shrub - Woody plants less than 3 in.
10			25	T 110		(7.6 cm) DBH and greater than or equal to 3.28
	F0.0			= Total Cove		ft (1 m) tall. <b>Herb</b> - All herbaceous (non-woody) plants,
		of total cover:	12.5 20 Absolute	0 % of total co Dominant	over: 5.0 Indicator	regardless of size, and woody plants less than
Woody Vine Stratum	(Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.
1						Woody vine - All woody vines greater than
2						3.28 ft in height.
3						
4						Hydrophytic
5						Vegetation <u>No</u>
			0	= Total Cove	r	Present?
	50 %	of total cover:	0.0 20	o % of total co	over: 0.0	
Remarks: (Include pho						
*Z. maize does not ap	pear on the NC	ONE NWPL and	is assumed	to have an U	PL indicator	status for the prevalance and dominance test.

SOIL Sampling Point: DPK025\_PEM

Profile Desc	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
	Matrix	0 10 1110 1		dox Featu		ioutor or			and and and and and and and and and and		
Depth		0/				1 ++	т		Danie order		
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**		xture	Remarks		
0-10	10YR 4/3	100					Silty Clay I				
10-16	10YR 4/1	85	10YR 5/4	15	С	М	Silty Clay I	Loam			
*Tuno: C=Co	L ncentration, D=De	nletien C	M-Daduaad Matri	v MC=M	aakad Ca	nd Crains		**Location: D	H = Doro Lining M=Metrix		
		pietion, R	IM=Reduced Matri	x, MS=M	asked Sa	nd Grains	· · · · · · · · · · · · · · · · · · ·		L=Pore Lining, M=Matrix		
Hydric Soil I	ndicators:								r Problematic Hydric Soils***:		
Histisol (	(A1)		Poly	value Belo	w Surface	(S8) (LRR R	, MLRA 149B)	2 cm Mu	CK (A10) (LRR K, L, MLRA 149B)		
Histic Ep	oipedon (A2)		Thir	n Dark Su	rface (S9	) (LRR R, ML	RA 149B)	Coast Pr	airie Redox (A16) (LRR K, L, R)		
Black Hi	stic (A3)		Loa	my Muck	y Mineral	(F1) (LRR I	(, L)	5 cm Mu	cky Peat or Peat (S3) <sub>(LRR K, L, R)</sub>		
Hydroge	n Sulfide (A4)		Loa	my Gleye	d Matrix (	(F2)		Dark Sur	face (S7) (LRR к, L, м)		
Stratified	Layers (A5)		X Dep	leted Mat	trix (F3)			Polyvalue	e Below Surface (S8) (LRR к, L)		
	Below Dark Sufa	ce (A11)		lox Dark S		<del>-</del> 6)		Thin Darl	k Surface (S9) (LRR K, L)		
	ark Surface (A12)	(,		leted Dar	-				ark Surface (S9) (LRR k, L) Inganese Masses (F12) (LRR n, mLRA 136		
	lucky Mineral (S1)			lox Depre					t Floodplain Soils (F19) (MLRA 149B)		
			Rec	iox Depie	5510115 (1	0)					
	sleyed Matrix (S4)						Mesic Spodic (TA6) (MLRA 144A, 145, 149  Red Parent Material (F21)				
	edox (S5)		***Indica	itors of hy	drophytic	vegetation	on and		· ·		
Stripped	Matrix (S6)		weltand	hydrology	must be				allow Dark Surface (TF12)		
Dark Su	rface (S7)		disturbe	d or probl	ematic	1		Other (Ex	xplain in Remarks)		
Restrictive L	ayer (if observed	l):									
Type:											
Depth (inch	nes):						Нус	dric soil prese	ent? <u>Yes</u>		
Remarks:						L					

				a contract of							
Project/Site:	CHK Subbasi			City/County:		la, Tioga	Sampling Da	_	4/21/202		
Applicant/Owner:		ce Environment	al Solut		State:	PA	Sampling	_	DPK026	_UPL	
Investigator(s):	R. Barnhill,	F. Page		Section, Towns				a Townshi <sub>l</sub>			
Landform (hillslope, terrace, etc		Plain		Local relief (d	concave, co	nvex, none	e): None	Slope	_	00-05	
Subregion (LRR or MLRA)	LRR R: N	MLRA 140	Lat.:	41.988969	Long	g.: <u>-7</u>	77.328185	Datum:	NAD	83	
Soil Map Unit Name:		Ow - O	rrville si	ilt loam		NWI	Classification:		N/A		
Are climatic/hydrologic conditio	ns of the site	typical for this t	ime of t	the year?	Yes (I	If no, expla	in in Remarks.)		_		
Are vegetation Yes , so	oil Yes	, or hydrology	Y	es significantly	disturbed?	Are "r	normal circumsta	ances" pre	esent?	Yes	
Are vegetation No, so	oil No	, or hydrology	١	No naturally pro	blematic?	(If ne	eeded, explain a	ny answe	rs in rem	arks)	
SUMMARY OF FINDINGS - At	tach site mar	ρ showing san	ոpling բ	point locations, tr	ransects, ir	mportant f	eatures, etc.				
Hydrophytic vegetation present	:?	No	$\Box$								
Hydric soil present?		Yes		Is the sampled	d area with	in a wetlar	nd?	ı	No		
Indicators of wetland hydrology	present?	No					-			_	
Remarks:	·										
Data point is located in an ac Upland data point is associat	-		ydrology	y, and vegetation a	are severely	≀ disturbed	due to the active	e agricultu	ral practi	ces.	
HYDROLOGY											
Wetland Hydrology Indicators						Seconda	ary Indicators (mi	<u>inimum of</u>	two requ	<u>ıired)</u>	
Primary Indicators (minimum of	f one is require	ed; check all th	at apply	/)		Surface	rface Soil Cracks (B6)				
Surface Water (A1)		Aquatic Fauna	a (B13)			Drainaç	ge Patterns (B10	))			
High Water Table (A2)		Marl Deposits	(B15)			Moss T	Trim Lines (B16)				
Saturation (A3)		Hydrogen Sulf	ide Odc	or (C1)		Dry-Sea	ason Water Tab	le (C2)			
Water Marks (B1)		Oxidized Rhize	osphere	es on Living Roots	(C3)	Crayfis	h Burrows (C8)				
Sediment Deposits (B2)		Presence of R	teduced	I Iron (C4)		Saturat	Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3)		Recent Iron R	eductior	n in Tilled Soils (Ce	6)	Stunted	d or Stressed Pla	ants (D1)			
Algal Mat or Crust (B4)		Thin Muck Sur	rface (C	77)		Geomo	orphic Position (D	<b>)</b> 2)			
Iron Deposits (B5)		Other (Explain	ı in Rem	narks)		Shallov	w Aquitard (D3)				
Inundation Visible on Aeria	al Imagery (B7	<u>'</u> )				Microto	pographic Relie	f (D4)			
Sparsely Vegetated Conca	ave Surface (B	38)				FAC-No	eutral Test (D5)				
Water-Stained Leaves (B9	ı)										
Field Observations:											
Surface water present?	Yes	No	Х	Depth (inches):							
Water table present?	Yes	No	Х	Depth (inches):							
Saturation present?	Yes	No	Х	Depth (inches):			Wetland Hydro	logy Pres	ent?	No	
(includes capillary fringe)				-		_					
Describe recorded data (stream	n gauge, moni	itoring well, aer	ial photo	os, previous insper	ctions), if av	vailable:					
Remarks:											
Remarks.			Wetla	and hydrology abse	ent						

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1	(1 101 0	,	% COVE	Species:	Status	Number of Dominant
2						Species that are OBL, FACW. or FAC:  0 (A)
3						
4						. Total Number of Dominant Species Across all Strata: 1 (B)
5						openies Anioss an oraca.
5			0	= Total Cove		Percent of Dominant
	EO 0	' aftatal aguar		-		Species that are OBL,
5 " /OL !: Otro-to		% of total cover:	: 0.0 20 Absolute	0 % of total co Dominant	over: 0.0 Indicator	FACW, or FAC: 0.00% (A/B)
Sapling/Shrub Stratum	<sup>1</sup> (Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet
1						Total % Cover of: Multiply by:
2						OBL species0 x 1 =0
3						FACW species 0 x 2 = 0
4						FAC species 0 x 3 = 0
5						FACU species 0 x 4 = 0
6						UPL species 25 x 5 = 125
7						Column totals 25 (A) 125 (B)
8						Prevalence Index = B/A = 5.00
9						Hydrophytic Vegetation Indicators:
10						1-Rapid test for hydrophytic vegetation
			0	= Total Cove	<u></u>	2-Dominance test is >50%
	50 %	% of total cover:		0 % of total co		3-Prevalence index is ≤3.0*
Herb Stratum			Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide
	(Plot Size:	5x5 )	% Cover	Species?	Status	supporting data in Remarks or on a
1 *Zea maize			25	Yes	UPL	separate sheet)
2						Problematic hydrophytic vegetation*
3					. <u></u>	(explain)
4						*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or
5						problematic
6						Definitions of Vagatation Strata.
7						Definitions of Vegetation Strata:
8						Tree - Woody plants 3 in. (7.6 cm) or more in
9						<ul> <li>diameter at breast height (DBH), regardless of height.</li> </ul>
10						Sapling/Shrub - Woody plants less than 3 in.
			25	= Total Cove	er	(7.6 cm) DBH and greater than or equal to 3.28 ft (1 m) tall.
	50 %	% of total cover:	: 12.5 20	- 0 % of total co	over: 5.0	Herb - All herbaceous (non-woody) plants,
Woody Vine Stratum		`	Absolute	Dominant	Indicator	regardless of size, and woody plants less than
	(Plot Size:	,	% Cover	Species?	Status	3.28 ft tall.
1						Woody vine - All woody vines greater than 3.28 ft in height.
2						0.20 K in Holgiti.
3						.
4						Hydrophytic
5					·- <u></u>	Vegetation <u>No</u> Present?
	<del></del>	<del>_</del>	0	= Total Cove	÷r	Fieseiit?
		% of total cover:		0 % of total co	over: 0.0	
Remarks: (Include pho						
*Z. maize does not ap	pear on the N	CNE NWPL and	d is assumed	to have an U	PL indicator :	status for the prevalance and dominance test.

SOIL Sampling Point: DPK026\_UPL

Profile Desc	ription: (Describ	e to the o	depth needed to	documer	nt the ind	icator or	confirm the	absence of in	dicators.)		
Depth	Matrix		Re	dox Feat	ures						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	xture	Remarks		
0-9	10YR 4/3	100	,		71		Silty Clay I	Loam			
9-15	10YR 4/2	95	10YR 3/3	5	С	М	Silty Clay I				
0.10	10111112		10111 0/0				Only Olay	Louin			
*Type: C=Co	ncentration, D=De	pletion, R	RM=Reduced Mat	ix, MS=M	asked Sa	nd Grains	5	**Location: P	L=Pore Lining, M=Matrix		
Hydric Soil I	ndicators:							Indicators fo	r Problematic Hydric Soils***:		
Histisol (	(A1)		Pol	yvalue Belo	w Surface	(S8) (LRR R	, MLRA 149B)	2 cm Mu	CK (A10) (LRR K, L, MLRA 149B)		
Histic Ep	pipedon (A2)			n Dark Su				Coast Pr	airie Redox (A16) (LRR K, L, R)		
Black His	stic (A3)		Loa	amy Muck	y Mineral	(F1) (LRR	(, L)	5 cm Mu	cky Peat or Peat (S3) (LRR K, L, R)		
Hydroge	n Sulfide (A4)		Loa	amy Gleye	ed Matrix	(F2)		Dark Sur	face (S7) (LRR к, L, м)		
Stratified	l Layers (A5)		X De	pleted Ma	trix (F3)			Polyvalue	e Below Surface (S8) (LRR к, L)		
Depleted	Below Dark Sufa	ce (A11)	Re	dox Dark	Surface (I	<del>-</del> 6)		Thin Darl	k Surface (S9) <sub>(LRR K, L)</sub>		
Thick Da	ark Surface (A12)		De	pleted Da	rk Surface	e (F7)		Iron-Man	nganese Masses (F12) (LRR N, MLRA 136)		
Sandy M	lucky Mineral (S1)		Re	dox Depre	essions (F	(8)		t Floodplain Soils (F19) (мLRA 149в)			
Sandy G	ileyed Matrix (S4)						oodic (TA6) (mlra 144a, 145, 149b)				
Sandy R	edox (S5)						Red Parent Material (F21)				
Stripped	Matrix (S6)			ators of hy hydrology				Very Sha	illow Dark Surface (TF12)		
Dark Sui	rface (S7)			ed or probl		present,	uniess		rplain in Remarks)		
	ayer (if observed	D:						,	,		
Type:	., .	,									
Depth (inch	nes).						Hve	dric soil prese	ent? Yes		
Remarks:	100).						1.13	uno son prese	<u>165</u>		

Project/Site:		CHK	( Subbasiı	n 4 PRM		City/County: Osceola, Tioga Sampling Date:					:	4/21/20	22		
Applicant/Owner:			Resourc	e Environme	ntal Sol	lutions		Sta	ate:	PA	Sa	ampling I	Point:	DPK02	7_PEM
Investigator(s):		R. I	Barnhill, F	F. Page		Sect	tion, Towns	<del>-</del> ıship, [	Range:		C	Osceola 1	- Fownsh		
Landform (hillslope	e, terrace,	, etc.):		Depression	on	Lo	ocal relief (d	conca	ave, conve	ex, none):	: 0	Concave	Slope	e (%):	00-05
Subregion (LRR o	r MLRA)		LRR R: M	ILRA 140	Lat.:	: 4	41.988918	i	Long.:	-77	.328761	D	atum:	NAC	) 83
Soil Map Unit Nam	ne:			Ow -	Orrville	silt loam				NWI CI	lassificat	tion:		N/A	
Are climatic/hydro	logic cond	litions of	the site t	ypical for this	s time o	f the year	r <b>?</b>	Y	es (If no	o, explain	າ in Rem	arks.)			
Are vegetation	Yes ,	, soil	Yes	, or hydrolog	Jy	Yes si	ignificantly	distur	rbed?	Are "no	ormal cire	cumstan	ces" pr	esent?	Yes
Are vegetation	No ,	, soil	No	, or hydrolog	Jy	No na	aturally pro	oblema	atic?	(If nee	eded, ex	plain any	y answe	ers in rem	narks)
SUMMARY OF FI	NDINGS -	- Attach	site map	showing sa	amplinç	g point lo	ocations, tr	ranse	ects, impo	ortant fea	atures, e	etc.			
Hydrophytic vegeta	ation pres	ent?		Yes	s										
Hydric soil present	t?			Yes	s	Is th	ne sampled	d area	a within a	a wetland	<b>1?</b>	_		Yes	
Indicators of wetla	nd hydrol	ogy pres	ent?	Yes	s										
Remarks:						<u> </u>			<u> </u>						
Data point is loc Data point is ass									verely dis	sturbed d	ue to the	e active a	agricultu	ural pract	tices.
HYDROLOGY	Indiaa	·								` andon	· I · · dioot	(min	·	f to to roa	(اد د انت ا
Wetland Hydrolog Primary Indicators			is require	ad check all	that anr	oly)				Surface				I two req	<u>uli eu j</u>
	•	II UI UIIC			• • •					Surface		, ,			
X Surface Water	` ,			Aquatic Faur	•	•				Drainage Moss Tri		, ,			
High Water Ta	. ,			Marl Deposit	. ,					Dry-Seas		,	(C2)		
Water Marks	•			Oxidized Rhi			vina Roots	· (C3)		Crayfish			(02)		
Sediment Dep	` '	<i>'</i> \		Presence of			_	(00)		Saturation			ial Imar	nary (C9)	١
Drift Deposits		)		Recent Iron		•	•	<b>`</b> 6)		Stunted				,	,
Algal Mat or C	` '			Thin Muck S			su oone (C.	,0,		Geomor			. ,		
Iron Deposits	, ,			Other (Expla	•	. ,				Shallow		•	.)		
Inundation Vis	` ,	erial Ima			alli in rac	manc,				Microtop	•	` ,	/D4)		
X Sparsely Veg			0 , ( ,	,						FAC-Net	•	•	,D-1,		
Water-Stained			,	-,						17.0	JUGI	n (50)			
Field Observation		( /								$\Box$					
Surface water pres		Υe	es X	X No		Depth	(inches):		1"						
Water table prese		Υe		No	X		(inches):								
Saturation present		Υe		No	Х		(inches):			l v	etland	Hydrolo	gy Pre	sent?	Yes
(includes capillary	ncludes capillary fringe)											-	•		
Describe recorded		eam gau	ge, monit	toring well, a	erial pho	otos, prev	ious inspe	ections	s), if availa	able:					
Remarks:															

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Tes	t Work	sheet		<u></u>
1	(	,	70 Cover	Species?	Status	Number of Dom	inant			
2						Species that are FACW, or FAC:	OBL,		2	(A)
3						Total Number of Species Across			3	(B)
5	50 %	of total cove	0 r: 0.0 20	= Total Cove		Percent of Domi Species that are FACW, or FAC:		6	6.67%	(A/B)
Sapling/Shrub Strat	IIM (Diet Gies	45.45	Absolute	Dominant	Indicator	Prevalence Ind	ex Wor			( ' /
	" (Plot Size:	15x15 )	% Cover	Species?	Status					
1						Total % Cover o			Multipl	y by:
2						OBL species	10	x 1 =	10	_
3						FACW species	15	x 2 =	30	_
4						FAC species	0	x 3 =	0	_
5						FACU species	0	x 4 =	0	_
6						UPL species	25	x 5 =	125	_
7						Column totals	50	(A)	165	(B)
8						Prevalence Ind	ex = B/A	4 =	3.30	
9						Hydrophytic Ve	getatio	n Indic	ators:	
10						1-Rapid test	for hyd	rophytic	vegeta	tion
			0	= Total Cove	r	X 2-Dominanc	e test is	s >50%		
	50 %	of total cove	r: 0.0 20	) % of total co	ver: 0.0	3-Prevalenc	e index	is ≤3.0'		
Herb Stratum	(Plot Size:	5x5 )	Absolute % Cover	Dominant	Indicator Status	4-Morphogic				
1 *Zea maize	(	<u> </u>	% Cover	Species? Yes	UPL	supporting of separate she		Remarks	s or on a	a
2 **Echinochloa	a sp		15	Yes	FACW		•	hytio yo	actation	.*
3 Eleocharis pa	<u> </u>		10	Yes	OBL	Problematic (explain)	пушорі	nytic ve	getatioi	•
4	indotrio .		10	100		*Indicators of hy	dric soil	l and we	etland h	ydrology
5						must be present	, unless	disturb	ed or	
6						problematic				
7						Definitions of V	'egetati	on Stra	ata:	
8						Tree - Woody pl		•	•	
9						diameter at brea	st heigh	nt (DBH	), regard	dless of
10						Sapling/Shrub				
			50	= Total Cove	r	(7.6 cm) DBH ar	nd great	er than	or equa	I to 3.28
	50 %	of total cove		) % of total co		Herb - All herba	ceous (	non-wo	ody) pla	nts,
Woody Vine Stratur		or total cove	Absolute	Dominant	Indicator	regardless of siz				
Woody Ville Stratur	n (Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.				
1 2						Woody vine - A 3.28 ft in height.		y vines	greater	than
3										
4						Hydrophytic			Ves	
5						Vegetation Present?			<u>Yes</u>	
			0	= Total Cove	r					
Danis des des la	50 %	of total cove	r: 0.0 20	) % of total co	ver: 0.0					

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

<sup>\*</sup>Z. maize does not appear on the NCNE NWPL and is assumed to have an UPL indicator status for the prevalance and dominance test.

<sup>\*\*</sup>Identified to a genus level, did not have adequate characteristics to identify at the time of survey. These species were given a FACW indicator based on the common species found within the area to calculate the dominance and prevalance test.

SOIL Sampling Point: DPK027\_PEM

Profile Desc	ription: (Describ	e to the o	lenth needed to	documen	t the ind	icator or	confirm the	absence of in	dicators )		
TOING DESC		e to the t				icator or		absence of in	dicators.)		
Depth (Inches)	Matrix	0/		dox Featu		Loc**	Т.,		Damanica		
` /	Color (moist)	%	Color (moist)	%	Type*	LOC		ture	Remarks		
0-9	10YR 4/3	100	10)/5 5/4	40			Silty Clay L				
7-16	10YR 4/2	90	10YR 5/4	10	С	M	Silty Clay L	_oam			
*Type: C=Co	ncentration, D=De	pletion, R	M=Reduced Matri	x, MS=M	asked Sa	nd Grains	5	**Location: P	L=Pore Lining, M=Matrix		
Hydric Soil I	ndicators:							Indicators fo	r Problematic Hydric Soils***:		
Histisol (	A1)		Poly	value Belo	w Surface	(S8) (LRR R	, MLRA 149B)	2 cm Mu	ck (A10) (lrr k, l, mlra 149b)		
Histic Ep	ipedon (A2)		Thir	n Dark Su	rface (S9	) (LRR R, ML	(LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, I				
Black His	stic (A3)		Loa	my Muck	y Mineral	(F1) (LRR I	(, L)	5 cm Mu	cky Peat or Peat (S3) <sub>(LRR K, L, R)</sub>		
Hydroge	n Sulfide (A4)		Loa	my Gleye	d Matrix (	(F2)		Dark Sur	face (S7) (LRR K, L, M)		
Stratified	Layers (A5)	X Dep	leted Mat	trix (F3)			Polyvalue	e Below Surface (S8) <sub>(LRR к, L)</sub>			
	l Below Dark Sufa		ox Dark S		<del>-</del> 6)	Thin Dark Surface (S9) (LRR K, L)					
	rk Surface (A12)	, ,		leted Dar	-	e (F7) Iron-Manganese Masses (F12) (LRR					
	ucky Mineral (S1)		ox Depre					t Floodplain Soils (F19) (MLRA 149B)			
	leyed Matrix (S4)			•	•	-,			oodic (TA6) (MLRA 144A, 145, 149B)		
	edox (S5)								ent Material (F21)		
	Matrix (S6)			tors of hy					allow Dark Surface (TF12)		
	face (S7)			hydrology d or probl		present,	unless		xplain in Remarks)		
	ayer (if observed	11.	distarbe	a or probr	Ciridao			Other (L	Apiaiii iii iteiriarks)		
Type:	ayer (ii observed	ı).									
	2001						Ши	dria aail mraaa			
Depth (inch Remarks:	ies):						нус	dric soil prese	ent? <u>Yes</u>		
itemans.											

					_		<b>.</b>			
Project/Site:	CHK Subbasi			City/County:		la, Tioga	Sampling Date:	4/21/202		
Applicant/Owner:		ce Environmen	tal Solut		State:	PA	Sampling Po		3_UPL	
Investigator(s):	R. Barnhill,			Section, Towns			Osceola To			
Landform (hillslope, terrace, etc		Plain		Local relief (				Slope (%):	00-05	
Subregion (LRR or MLRA)	LRR R: N	MLRA 140	Lat.:	41.989074	Long		77.32649 Datu	_	83	
Soil Map Unit Name:			Orrville si				Classification:	N/A		
Are climatic/hydrologic conditio	ns of the site	typical for this	time of t				in in Remarks.)			
Are vegetation Yes, so	oil Yes	, or hydrology	Y	es significantly	disturbed?	Are "n	e "normal circumstances" present? Yes			
Are vegetation No , so	oil No	, or hydrology	1	No naturally pro	blematic?	(If ne	eeded, explain any a	answers in rem	ıarks)	
SUMMARY OF FINDINGS - At	tach site mar	p showing sar	npling r	point locations, to	ransects, in	nportant fe	eatures, etc.			
Hydrophytic vegetation present	:?	No								
Hydric soil present?		Yes		Is the sample	d area with	in a wetlan	nd?	No		
Indicators of wetland hydrology	present?	No							<b>-</b>	
Remarks:	·									
Data point is located in an ac Upland data point is associat	-		ydrology	y, and vegetation a	are severely	disturbed o	due to the active ag	ricultural practi	ices.	
HYDROLOGY										
Wetland Hydrology Indicators						Secondar	ry Indicators (minim	um of two requ	<u>uired)</u>	
Primary Indicators (minimum of	f one is require	ed; check all th	ıat apply	/)	_	Surface	e Soil Cracks (B6)			
Surface Water (A1)		Aquatic Fauna	a (B13)			Drainag	ge Patterns (B10)			
High Water Table (A2)		Marl Deposits	(B15)			Moss Tr	rim Lines (B16)			
Saturation (A3)		Hydrogen Sulf	fide Odc	or (C1)		Dry-Sea	ason Water Table (C	C2)		
Water Marks (B1)		Oxidized Rhiz	osphere	es on Living Roots	(C3)	Crayfish	h Burrows (C8)			
Sediment Deposits (B2)		Presence of R	₹educed	Iron (C4)		Saturati	aturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3)		Recent Iron R	ceduction	n in Tilled Soils (C	6)	Stunted	stunted or Stressed Plants (D1)			
Algal Mat or Crust (B4)		Thin Muck Su	rface (C	7)		Geomor	eomorphic Position (D2)			
Iron Deposits (B5)		Other (Explain	n in Rem	narks)		Shallow	Shallow Aquitard (D3)			
Inundation Visible on Aeria	al Imagery (B7	<u>'</u> )				Microtor	pographic Relief (D	4)		
Sparsely Vegetated Conca	ave Surface (B	38)				FAC-Ne	eutral Test (D5)			
Water-Stained Leaves (B9	)				_					
Field Observations:										
Surface water present?	Yes	No	Х	Depth (inches):						
Water table present?	Yes	No	Х	Depth (inches):						
Saturation present?	Yes	No	Х	Depth (inches):		V	Wetland Hydrology	y Present?	No	
(includes capillary fringe)				-		_				
Describe recorded data (stream	ı gauge, moni	itoring well, aer	ial photo	os, previous inspe	ctions), if av	/ailable:				
Dautes										
Remarks:			Wetla	and hydrology abse	ent					

Sami	nlina	Point:	DPK028 UPL	
Oarri	pillig	i Ollit.	DENUZO UEL	_

		р						
Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet		
1						Number of Dominant		
2						Species that are OBL,	1	(A)
3						FACW, or FAC:	ı	· (A)
4						Total Number of Dominant Species Across all Strata:	2	(D)
5						Species Across all Strata.	2	(B)
5						Percent of Dominant		
			0	= Total Cove		Species that are OBL,		
		of total cover	0.0 20 Absolute	) % of total co Dominant	ver: 0.0 Indicator	FACW, or FAC: 50	0.00%	(A/B)
Sapling/Shrub Stratu	<sup>um</sup> (Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet		
1						Total % Cover of:	Multiply	/ by:
2						OBL species 0 x 1 =	0	_
3						FACW species 15 x 2 =	30	_
4						FAC species 0 x 3 =	0	•
5						FACU species 0 x 4 =	0	-
6						UPL species 35 x 5 =	175	=
7						Column totals 50 (A)	205	(B)
8						Prevalence Index = B/A =	4.10	
9						Hydrophytic Vegetation Indica	ators:	
10						1-Rapid test for hydrophytic	vegeta	tion
			0	= Total Cove	r	2-Dominance test is >50%		
	50 %	of total cover	0.0 20	) % of total co	ver: 0.0	3-Prevalence index is ≤3.0*		
Herb Stratum	(Plot Size:	5x5 )	Absolute	Dominant	Indicator	4-Morphogical adaptations*		
1 *Zea maize	(I lot Size.	)	% Cover	Species? Yes	Status UPL	supporting data in Remarks	or on a	
2 **Ranunculus	cn.		15	Yes	FACW	separate sheet)		
3	<i>δρ.</i>		15	165	TACV	Problematic hydrophytic ve (explain)	getation	*
4						*Indicators of hydric soil and we	etland hy	/drology
5						must be present, unless disturb	ed or	
6						problematic		
7						Definitions of Vegetation Stra	ıta:	
8						Tree - Woody plants 3 in. (7.6 c		
9						<ul> <li>diameter at breast height (DBH) height.</li> </ul>	), regard	lless of
10						Sapling/Shrub - Woody plants		
			50	= Total Cove	r	(7.6 cm) DBH and greater than	or equa	I to 3.28
	50.9%	of total cover		) % of total co		ft (1 m) tall. <b>Herb</b> - All herbaceous (non-woo	odv) plai	nts.
M		o oi total cover	Absolute	Dominant	Indicator	regardless of size, and woody p		
Woody Vine Stratun	<sup>1</sup> (Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.		
1						Woody vine - All woody vines of	greater t	han
2						3.28 ft in height.		
3								
4						Hydrophytic		
5						Vegetation	<u>No</u>	
			0	= Total Cove	r	Present?		
	50 %	of total cover		) % of total co				
Danis da Maria	المراجع المعالم معامل		arata alaat \	1 11 10 101 00	0.0	ı		

<sup>\*</sup>Z. maize does not appear on the NCNE NWPL and is assumed to have an UPL indicator status for the prevalance and dominance test.

<sup>\*\*</sup>Identified to a genus level, did not have adequate characteristics to identify at the time of survey. These species were given a FACW indicator based on the common species found within the area to calculate the dominance and prevalance test.

SOIL Sampling Point: DPK028\_UPL

Profile Desc	ription: (Describ	e to the	depth needed to	documer	t the ind	icator or	confirm the	absence of in	dicators.)	
Depth	Matrix		Re	dox Feat	ıres					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	xture	Remarks	
0-10	10YR 4/3	100	,		7.		Silty Clay I	Loam		
10-16	10YR 4/2	85	7.5YR 4/4	15	С	М	Silty Clay I			
	1011111/2		7.10.1.							
*Type: C=Co	ncentration, D=De	pletion, R	RM=Reduced Matr	ix, MS=M	asked Sa	nd Grains	S	**Location: P	L=Pore Lining, M=Matrix	
Hydric Soil I	ndicators:		_					Indicators fo	r Problematic Hydric Soils***:	
Histisol (	A1)		Poly	value Belo	w Surface	(S8) (LRR R	, MLRA 149B)	2 cm Mu	CK (A10) (LRR K, L, MLRA 149B)	
Histic Ep	pipedon (A2)		Thi	n Dark Su	ırface (S9	) (LRR R, ML	RA 149B)	Coast Pr	airie Redox (A16) (LRR K, L, R)	
Black His	stic (A3)		Loa	amy Muck	y Mineral	(F1) (LRR I	(, L)	5 cm Mu	cky Peat or Peat (S3) (LRR K, L, R)	
Hydroge	n Sulfide (A4)		Loa	my Gleye	ed Matrix	(F2)		Dark Sur	face (S7) (LRR к, L, м)	
Stratified	l Layers (A5)	X De	oleted Ma	trix (F3)			Polyvalue	e Below Surface (S8) (LRR к, L)		
Depleted	l Below Dark Sufa	Red	dox Dark	Surface (F	<del>-</del> 6)	Thin Dark Surface (S9) (LRR K, L)				
Thick Da	rk Surface (A12)		De	oleted Dai	k Surface	e (F7)		Iron-Man	ganese Masses (F12) (LRR N, MLRA 136)	
Sandy Mucky Mineral (S1)			Re	dox Depre	t Floodplain Soils (F19) (MLRA 149B)					
Sandy G	leyed Matrix (S4)			Mesic Spodic (TA6) (MLRA 144A, 145, 14						
	edox (S5)						Red Parent Material (F21)			
	Matrix (S6)			ators of hy				illow Dark Surface (TF12)		
	face (S7)			weltand hydrology must be present, unless disturbed or problematic  wery Snallow Dark Surface Other (Explain in Remarks)						
	ayer (if observed	D:						7 (=	<b>4</b> ·······	
Type:	, (	·,-								
Depth (inch	166).						Hv	dric soil prese	ent? Yes	
Remarks:	163).						1190	unc son prese	<u>165</u>	

5 · · · · · · · · · · · · · · · · · · ·	OLUC Outle	DDM		011 × 10 × 100 to 10	2	I There	2 m lim m	~ · · ·	1/04/00/			
Project/Site:	CHK Subbas		1 1 0 -1-4	City/County:		eola, Tioga	Sampling	_	4/21/202			
Applicant/Owner:		rce Environmer	ntal Soluti		_ State:	PA		oling Point:	DPK029	PEM		
Investigator(s):	R. Barnhill,			Section, Towns				eola Townsh		22.05		
Landform (hillslope, terrace, e		Depressio		Local relief (					e (%):	00-05		
Subregion (LRR or MLRA)	LRR R: I	MLRA 140	Lat.:	41.98802	Lor		-77.329366	Datum:	NAD	83		
Soil Map Unit Name:			Orrville sil			_	I Classification		N/A			
Are climatic/hydrologic conditi	ons of the site						lain in Remark	,	-			
	soil Yes	, or hydrology	y <u>Y</u>	es significantly			"normal circun		-	Yes		
Are vegetation No, s	soil No	, or hydrology	y N	naturally pro	oblematic?	(If	needed, expla	in any answ	ers in rem	arks)		
SUMMARY OF FINDINGS - A	Attach site ma	p showing sa	mpling p	ooint locations, to	ransects,	important	features, etc.					
Hydrophytic vegetation preser	nt?	Yes	;									
Hydric soil present?		Yes	;	Is the sample	d area wit	hin a wetl	and?		Yes			
Indicators of wetland hydrolog	y present?	Yes	,									
Remarks:												
Data point is located in an active agriculture field. Soils, hydrology, and vegetation are severally disturbed due to the active agricultural practices. Wetland is missing hydrophytic vegetation, however with the presence of hydrology, hydric soils, and current vegetation disturbances, wetland delineators determined this area to be a wetland. Data point is associated with Wetland004K. Saturation is visible on aerial imagery.												
HYDROLOGY												
Wetland Hydrology Indicato					ſ	Second	dary Indicators	(minimum c	of two requ	uired)		
Primary Indicators (minimum	of one is requir	red; check all t	hat apply	")		Surfa	ce Soil Cracks	(B6)				
Surface Water (A1)		Aquatic Faun	ıa (B13)			Drain	age Patterns (	B10)				
X High Water Table (A2)		Marl Deposits	s (B15)			Moss	Trim Lines (B	16)				
X Saturation (A3)		Hydrogen Su	ılfide Odo	or (C1)		Dry-S	Season Water <sup>-</sup>	Γable (C2)				
Water Marks (B1)		Oxidized Rhi	zosphere	oheres on Living Roots (C3) Crayfish Burrows (C8)								
Sediment Deposits (B2)		Presence of I	Reduced	Iron (C4)		X Satur	ation Visible o	n Aerial Ima	gery (C9)			
Drift Deposits (B3)		Recent Iron F	Reduction	n in Tilled Soils (C	;6)	Stunto	tunted or Stressed Plants (D1)					
X Algal Mat or Crust (B4)		Thin Muck Su	urface (C	7)		X Geom	Seomorphic Position (D2)					
Iron Deposits (B5)		Other (Explai	in in Rem	ıarks)		Shallo	hallow Aquitard (D3)					
Inundation Visible on Aer	ial Imagery (B	_ ` `		•			topographic R	,				
X Sparsely Vegetated Cond					Ī		Neutral Test ([					
Water-Stained Leaves (B	39)	,					•	,				
Field Observations:	•											
Surface water present?	Yes	No	Χ	Depth (inches):								
Water table present?		X No		Depth (inches):	12"							
Saturation present?		X No		Depth (inches):	10"		Wetland Hyd	drology Pre	sent?	Yes		
(includes capillary fringe)		_				_	-					
Describe recorded data (strea	m gauge, mor	nitoring well, as	erial photo	os, previous inspe	ections), if a	available:						
,	g g ,	,		,	,,							
Remarks:												
Tromanio.												

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator	Dominance Tes	t Work	sheet		<u> </u>
1	(1 101 0120.	, ioxio	% Cover	Species?	Status	Number of Domi	nant			
2						Species that are FACW, or FAC:	OBL,		1	(A)
3						Total Number of				
4						Species Across	all Strat	ta:	2	(B)
5						Percent of Domi	nant			
	FO 0/		0	= Total Cove		Species that are	OBL,	_	.0.000/	(A (D)
0 11 101 1 01 1		of total cove	r: 0.0 20 Absolute	) % of total co Dominant	ver: 0.0 Indicator	FACW, or FAC:			0.00%	(A/B)
Sapling/Shrub Stratu	Im (Plot Size: _	15x15 )	% Cover	Species?	Status	Prevalence Inde		ksneet		
1						Total % Cover of	f:	ı	Multiply	y by:
2						OBL species	0	x 1 =	0	_
3						FACW species	0	x 2 =	0	_
4						FAC species	30	x 3 =	90	_
5						FACU species	0	x 4 =	0	_
6						UPL species	25	x 5 =	125	_
7						Column totals	55	(A)	215	(B)
8						Prevalence Inde	ex = B/A	<b>4</b> =	3.91	
9						Hydrophytic Ve	getatio	n Indic	ators:	
10						1-Rapid test	for hyd	rophytic	: vegeta	tion
			0	= Total Cove	r	2-Dominance	e test is	s >50%		
	50 %	of total cove		) % of total co	ver: 0.0	3-Prevalence	e index	is ≤3.0*	ř	
Herb Stratum	(Plot Size:	5x5 )	Absolute % Cover	Dominant Species 2	Indicator	4-Morphogic				
1 *Zea maize	(1 101 0120.		% Cover 25	Species? Yes	Status UPL	supporting d separate she		≀emarks	or on a	a
2 **Panicum sp.			30	Yes	FAC	Problematic	hydrop	hytic ve	getation	1*
3						x (explain)		•		
4						*Indicators of hy				ydrology
5						must be present problematic	, unless	s disturb	ed or	
6										
7						Definitions of V	egetati	on Stra	ıta:	
8						Tree - Woody pla		•		
9						diameter at brea height.	st heigh	nt (DBH	), regard	dless of
10						Sapling/Shrub -				
			55	= Total Cove	r	(7.6 cm) DBH an ft (1 m) tall.	ıd great	er than	or equa	Il to 3.28
	50 %	of total cove	r: 27.5 20	) % of total co	ver: 11.0	Herb - All herbad	ceous (	non-wo	ody) pla	nts,
Woody Vine Stratum	) (Dist Ciss)	,	Absolute	Dominant	Indicator	regardless of siz	e, and v	woody p	olants le	ss than
•	<sup>1</sup> (Plot Size:		% Cover	Species?	Status	3.28 ft tall.				
1						Woody vine - Al 3.28 ft in height.	-	/ vines (	greater t	than
3										
4						Libration and the set				
						Hydrophytic Vegetation			Yes	
5			0	= Total Cove		Present?				
	FO 0/	of total		•						
Daniela de la deservación de la constante de l	50 %	of total cove	r: 0.0 20	) % of total co	ver: 0.0					

<sup>\*</sup>Z. maize does not appear on the NCNE NWPL and is assumed to have an UPL indicator status for the prevalance and dominance test.

<sup>\*\*</sup>Identified to a genus level, did not have adequate characteristics to identify at the time of survey. These species were given a FAC indicator based on the common species found within the area to calculate the dominance and prevalance test.

SOIL Sampling Point: DPK029\_PEM

Profile Desc	ription: (Describe	e to the o	depth needed to	documen	t the ind	icator or	confirm the	absence of in	dicators.)	
Depth	Matrix		Re	dox Featı	ıres					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	exture	Remarks	
0-16	10YR 4/1	90	7.5YR 4/4	10	С	М	Silty Clay	Loam		
*Type: C=Co	ncentration, D=De	bletion. R	I RM=Reduced Matri	x. MS=M	asked Sa	nd Grains	<u> </u> S	**Location: P	L=Pore Lining, M=Matrix	
Hydric Soil I		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,			_		r Problematic Hydric Soils***:	
Histisol (			Poly	value Belo	w Surface	(S8) (LRR R	R. MLRA 149B)		ck (A10) (lrr k, l, mlra 149b)	
`	pipedon (A2)				ırface (S9				airie Redox (A16) (LRR K, L, R)	
Black His					y Mineral				cky Peat or Peat (S3) (LRR K, L, R)	
	n Sulfide (A4)				ed Matrix (		,,		face (S7) (LRR K, L, M)	
	Layers (A5)			oleted Ma		(· <del>-</del> )			e Below Surface (S8) (LRR K, L)	
Depleted			Surface (F	<del>-</del> 6)			` '			
	irk Surface (A12)			rk Surface	•		Thin Dark Surface (S9) (LRR K, L)  Iron-Manganese Masses (F12) (LRR N, MLRA 13			
				ssions (F				t Floodplain Soils (F19) (MLRA 149B)		
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)				Mesic Spodic (TA6) (MLRA 144A, 145, 1						
	edox (S5)						ent Material (F21)			
	Matrix (S6)				/drophytic			allow Dark Surface (TF12)		
	face (S7)			weltand hydrology must be present, unless disturbed or problematic  wery Snallow Dark Surfact  Other (Explain in Remarks						
	ayer (if observed	١٠						Other (E	Aprail III ( Cinano)	
Type:	, (	<b>,-</b>								
Depth (inch	ies).						Hv	dric soil prese	ent? Yes	
Remarks:	100).						,	and den produ	<u></u>	

	5: "( 5 11			5:: /B /	=			: /22/2000		
Project/Site:	CHK Subba			City/County:		nd, Tioga	Sampling Date:	4/22/2022		
Applicant/Owner:		urce Environmer	ntal Solut		State:	PA	Sampling Po		1	
Investigator(s):	R. Barnhill			Section, Towns			Elkland Tov			
Landform (hillslope, terrace, et	_	Depressio		Local relief (				Slope (%): 00-05	5	
Subregion (LRR or MLRA)	LRR R:	: MLRA 140	Lat.:	41.988959	Lor		7.325173 Date			
Soil Map Unit Name:			Orrville si				Classification:	N/A		
Are climatic/hydrologic condition				-			in in Remarks.)			
Are vegetation Yes, so				'es significantly			normal circumstance			
Are vegetation No, so	oil No	, or hydrology	y <u> </u>	No naturally pro	blematic?	(If ne	eeded, explain any a	inswers in remarks)		
SUMMARY OF FINDINGS - A	ttach site m	ap showing sa	mpling r	ooint locations, to	ransects, i	important fe	eatures, etc.			
Hydrophytic vegetation presen	ıt?	Yes	;							
Hydric soil present?		Yes	,	Is the sample	d area witl	hin a wetlan	nd?	Yes		
Indicators of wetland hydrology	y present?	Yes	;							
Remarks:										
Data point is located betwee the active agricultural praction		•		•	. Soils, hyd	rology, and v	vegetation are sevel	rely disturbed due to	1	
HYDROLOGY										
Wetland Hydrology Indicator						Secondar	ry Indicators (minim	um of two required)		
Primary Indicators (minimum o	of one is requ	ired; check all t	hat apply	<b>'</b> )		Surface	e Soil Cracks (B6)			
Surface Water (A1)		Aquatic Faun	ıa (B13)			Drainag	ge Patterns (B10)			
X High Water Table (A2)		Marl Deposits	s (B15)			Moss Ti	rim Lines (B16)			
X Saturation (A3)		Hydrogen Su	ılfide Odc	or (C1)		Dry-Sea	ason Water Table (C	52)		
Water Marks (B1)		Oxidized Rhi	zosphere	es on Living Roots	(C3)	Crayfish	h Burrows (C8)			
Sediment Deposits (B2)		Presence of	Reduced	Iron (C4)		Saturati	aturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3)		Recent Iron F	Reductior	n in Tilled Soils (C	6)	Stunted	Stunted or Stressed Plants (D1)			
Algal Mat or Crust (B4)		Thin Muck St	urface (C	7)		X Geomo	Geomorphic Position (D2)			
Iron Deposits (B5)		Other (Explai	in in Rem	narks)		Shallow	Shallow Aquitard (D3)			
Inundation Visible on Aeri	al Imagery (F	37)				Microto	pographic Relief (D	4)		
Sparsely Vegetated Conc	ave Surface	(B8)				FAC-Ne	eutral Test (D5)			
Water-Stained Leaves (Bs	9)									
Field Observations:									_	
Surface water present?	Yes	No	Х	Depth (inches):						
Water table present?	Yes	X No		Depth (inches):	12"					
Saturation present?	Yes	X No		Depth (inches):	7"	\	Wetland Hydrology	/ Present? Yes		
(includes capillary fringe)									_	
Describe recorded data (stream	m gauge, mo	nitoring well, ae	rial photo	os, previous inspe	ections), if a	available:				
Remarks:									_	
T Company										

Tree Stratum	(Plot Size:	15x15 )	Absolute	Dominant	Indicator	Dominance Test Worksheet	_
1	(1 lot Size.	13×13	% Cover	Species?	Status	Number of Dominant	
2				<del></del>		Species that are OBL,	(A)
3							(八)
4						. Total Number of Dominant Species Across all Strata: 2	(B)
5						Species / torons an oriata.	(D)
5			0	= Total Cove		Percent of Dominant	
	50 W	of total agreement		•		Species that are OBL, FACW, or FAC: 50.00%	/ <b>A</b> / <b>D</b> \
		6 of total cover	: 0.0 20 Absolute	) % of total co Dominant	Indicator		(A/B)
Sapling/Shrub Stra	(Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet	
1				,		Total % Cover of: Multiply	by:
2				,		OBL species0 x 1 =0	
3						FACW species 15 x 2 = 30	
4						FAC species 0 x 3 = 0	
5						FACU species 0 x 4 = 0	
6						UPL species0 x 5 =0	
7						Column totals 15 (A) 30	(B)
8						Prevalence Index = B/A = 2.00	
9				·		Hydrophytic Vegetation Indicators:	
10				·		1-Rapid test for hydrophytic vegetati	on
			0	= Total Cove	r	2-Dominance test is >50%	
	50 %	6 of total cover	0.0 20	) % of total co	ver: 0.0	X 3-Prevalence index is ≤3.0*	
Herb Stratum	(Plot Size:	5x5 )	Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide	
1 *Panicum sp	•		% Cover	Species? Yes	Status FAC	supporting data in Remarks or on a separate sheet)	
1 *Panicum sp 2 Phalaris aru			15	Yes	FACW	·  '	
3	Turracea		15	162	FACVV	Problematic hydrophytic vegetation* (explain)	
4 5						*Indicators of hydric soil and wetland hydric must be present, unless disturbed or	drology
6						problematic  Definitions of Vegetation Strata:	
7							
8						Tree - Woody plants 3 in. (7.6 cm) or modiameter at breast height (DBH), regardle	
9						height.	
10						Sapling/Shrub - Woody plants less than (7.6 cm) DBH and greater than or equal	
			35	= Total Cove	r	ft (1 m) tall.	
	50 %	6 of total cover		% of total co		Herb - All herbaceous (non-woody) plan	
Woody Vine Stratu	ım (Plot Size:	)	Absolute % Cover	Dominant Species?	Indicator Status	regardless of size, and woody plants les 3.28 ft tall.	s than
1			70 00101	Оробіов:	Otatas	Woody vine - All woody vines greater th	an
2						3.28 ft in height.	
				<del></del>			
3			_	<del></del>			
4						Hydrophytic Yes	
5				T-4-1-0		Present?	
	<b>50.0</b>	/ - <b>f</b>	0	= Total Cove			
Damada (I. I. I.		6 of total cover		% of total co	ver: 0.0	1	
Remarks: (Include	prioto numbers h	ere or on a sep	parate sneet.)				

\*Identified to a genus level, did not have adequate characteristics to identify at the time of survey. These species were given a FAC indicator based on the common species found within the area to calculate the dominance and prevalance test.

SOIL Sampling Point: DPK030\_PEM

Profile Desc	ription: (Describe	e to the	depth needed to	documer	nt the ind	icator or	confirm the	absence of in	dicators.)			
Depth	Matrix		Re	dox Featı	ures							
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks			
0-7	10YR 4/2	75	7.5YR 4/4	25	С	М	Silt Loam					
7-16	10YR 5/1	85	7.5YR 3/3	15	С	М	Silt Loam					
*Type: C=Coi	ncentration, D=De	pletion, F	I RM=Reduced Matr	ix, MS=M	asked Sa	nd Grains	 3	**Location: P	L=Pore Lining, M=Matrix			
Hydric Soil I		· · ·							r Problematic Hydric Soils***:			
Histisol (			Poly	value Belo	ow Surface	(S8) (LRR R	, MLRA 149B)		ck (A10) (lrr k, l, mlra 149b)			
`	pipedon (A2)				ırface (S9				airie Redox (A16) (LRR K, L, R)			
Black His	. , ,				y Mineral				cky Peat or Peat (S3) (LRR k, L, R)			
	n Sulfide (A4)				ed Matrix		. ,		face (S7) (LRR K, L, M)			
	Layers (A5)			oleted Ma		(- –)			e Below Surface (S8) (LRR K, L)			
Depleted Below Dark Suface (A11) Redox Dark Surfa						<del>-</del> 6)	Thin Dark Surface (S9) (LRR K, L)					
					Depleted Dark Surface (F7)  Iron-Manganese Masses (F12)							
Sandy Mucky Mineral (S1)					essions (F				t Floodplain Soils (F19) (MLRA 149B)			
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)				Mesic Spodic (TA6) (MLRA 144A, 145, 1								
	edox (S5)								ent Material (F21)			
	Matrix (S6)				/drophytic				illow Dark Surface (TF12)			
	face (S7)			weltand hydrology must be present, unless disturbed or problematic  weltand hydrology must be present, unless disturbed or problematic  Other (Explain in Remarks								
	.ayer (if observed	):						,	,			
Type:	,	<u>'</u>										
Depth (inch	ies):						Hye	dric soil prese	ent? Yes			
Remarks:	,											

Project/Site:	CHK Subbasi	in 4 PRM		City/County:	Fikland	d, Tioga	Sampling Date:	4/22/202	22	
Applicant/Owner:		ce Environmen	ital Solu		State:	PA	Sampling Point			
Investigator(s):	R. Barnhill, I		tai ocia.	Section, Towns	_		Elkland Town		1_0, _	
Landform (hillslope, terrace, etc		Plain		Local relief (c				ope (%):	00-05	
Subregion (LRR or MLRA)		MLRA 140	Lat.:	41.988461	Long		7.325341 Datum	_		
Soil Map Unit Name:			Orrville si				Classification:	N/A		
Are climatic/hydrologic condition	ns of the site				Yes (I		n in Remarks.)			
Are vegetation Yes , soi		, or hydrology		es significantly			ormal circumstances"	present?	Yes	
Are vegetation No , soi		, or hydrology		No naturally pro			eded, explain any ans	· -		
SUMMARY OF FINDINGS - Att	tach site mar	p showing sar	ــــــ ۱ mpling							
Hydrophytic vegetation present	?	Yes	$\Box$							
Hydric soil present?		No		Is the sample	d area withi	n a wetlan	d?	No		
Indicators of wetland hydrology	present?	No							_	
Remarks:	-									
Data point is located in an ac Upland data point is associate	-		ydrology	y, and vegetation a	are severely	disturbed d	lue to the active agric	ıltural practi	ices.	
HYDROLOGY										
Wetland Hydrology Indicators							y Indicators (minimum	ı of two requ	<u>uired)</u>	
Primary Indicators (minimum of	one is require			/)			Soil Cracks (B6)			
Surface Water (A1)		Aquatic Fauna	, ,				e Patterns (B10)			
High Water Table (A2)		Marl Deposits	` ,				rim Lines (B16)			
Saturation (A3)		Hydrogen Sul					ason Water Table (C2)	1		
Water Marks (B1)				es on Living Roots	(C3)		Burrows (C8)			
Sediment Deposits (B2)		Presence of F		` ,			saturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3)		_		n in Tilled Soils (C	6)		tunted or Stressed Plants (D1)			
Algal Mat or Crust (B4)		Thin Muck Su	rface (C	<b>;</b> 7)			Geomorphic Position (D2)			
Iron Deposits (B5)		Other (Explain	າ in Rem	narks)			Shallow Aquitard (D3)			
Inundation Visible on Aeria							pographic Relief (D4)			
Sparsely Vegetated Conca	,	18)				FAC-Ne	eutral Test (D5)			
Water-Stained Leaves (B9)	)									
Field Observations:						_				
Surface water present?	Yes	No	X	Depth (inches):						
Water table present?	Yes	No	X	Depth (inches):			_			
Saturation present?	Yes	No	Х	Depth (inches):		_   v	Wetland Hydrology P	resent?	<u>No</u>	
(includes capillary fringe)							_			
Describe recorded data (stream	gauge, monit	toring well, aer	ial photo	os, previous inspe	ctions), if av	ailable:				
Remarks:										
			Wetla	and hydrology abse	ent					

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
1			70 COVE	орескез:	Status	Number of Dominant	
2						Species that are OBL, FACW, or FAC: 2	(A)
3						Total Number of Dominant Species Across all Strata: 3	(D)
4						Species Across all Strata: 3	(B)
5				T		Percent of Dominant	
			0	= Total Cove		Species that are OBL,	
		of total cover	r: 0.0 20 Absolute	) % of total co Dominant	ver: 0.0 Indicator		(A/B)
Sapling/Shrub Stra	atum (Plot Size: _	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet	
1						Total % Cover of: Multiply b	y:
2						OBL species 0 x 1 = 0	
3						FACW species 20 x 2 = 40	
4						FAC species 0 x 3 = 0	
5						FACU species 0 x 4 = 0	
6						UPL species 25 x 5 = 125	
7						Column totals 45 (A) 165 (B	В)
8						Prevalence Index = B/A = 3.67	
9						Hydrophytic Vegetation Indicators:	
10						1-Rapid test for hydrophytic vegetatio	n
			0	= Total Cove	r	X 2-Dominance test is >50%	
	50 %	of total cove	r: 0.0 20	% of total co	ver: 0.0	3-Prevalence index is ≤3.0*	
Herb Stratum	(Plot Size:	5x5 )	Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide	
1 *Zea maize	(1 101 0120.	OXO /	% Cover	Species? Yes	Status UPL	supporting data in Remarks or on a separate sheet)	
2 **Ranunculu	ie en		10	Yes	FACW	·  <del></del>	
						Problematic hydrophytic vegetation* (explain)	
3 **Echinochlo	oa sp.		10	Yes	FACW	*Indicators of hydric soil and wetland hydr	roloav
4						must be present, unless disturbed or	ology
5			_			problematic	
6						Definitions of Vegetation Strata:	
/						Tree - Woody plants 3 in. (7.6 cm) or mor	re in
8			_			diameter at breast height (DBH), regardle	
9			_			height. Sapling/Shrub - Woody plants less than	3 in
10						- (7.6 cm) DBH and greater than or equal to	
			45	= Total Cove		ft (1 m) tall.	
	50 %	of total cover	r: 22.5 20 Absolute	) % of total co Dominant	ver: 9.0 Indicator	Herb - All herbaceous (non-woody) plants regardless of size, and woody plants less	
Woody Vine Stratu	um (Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.	
1				·		Woody vine - All woody vines greater tha	an
2						3.28 ft in height.	
3							
4						- Hydrophytic	
5						Vegetation Yes	
			0	= Total Cove	r	Present?	
	50 %	of total cove		) % of total co			
			. 0.0 20				

<sup>\*</sup>Z. maize does not appear on the NCNE NWPL and is assumed to have an UPL indicator status for the prevalance and dominance test.

<sup>\*\*</sup>Identified to a genus level, did not have adequate characteristics to identify at the time of survey. These species were given a FACW indicator based on the common species found within the area to calculate the dominance and prevalance test.

SOIL Sampling Point: DPK031\_UPL

Profile Desc	ription: (Describ	e to the o	depth needed to	documen	t the ind	icator or	confirm the	absence of in	dicators.)			
Depth	Matrix		Re	Redox Features								
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks			
0-16	10YR 4/3	100	, ,		7.		Silty Loam					
							,					
*Type: C=Co	ncentration, D=De	pletion, R	RM=Reduced Matr	ix, MS=M	asked Sa	nd Grains	3	**Location: P	L=Pore Lining, M=Matrix			
Hydric Soil I	ndicators:							Indicators fo	r Problematic Hydric Soils***:			
Histisol (	A1)		Poly	value Belo	w Surface	(S8) (LRR R	, MLRA 149B)	2 cm Mu	CK (A10) (LRR K, L, MLRA 149B)			
Histic En	pipedon (A2)		Thi	n Dark Su	ırface (S9	) (LRR R, ML	RA 149B)	Coast Pr	airie Redox (A16) (LRR K, L, R)			
Black His				my Muck	•				cky Peat or Peat (S3) (LRR k, L, R)			
	n Sulfide (A4)			my Gleye			. ,		face (S7) (LRR K, L, M)			
	Layers (A5)			oleted Ma		()			e Below Surface (S8) (LRR K, L)			
	l Below Dark Sufa	oo (A11)		dox Dark S		=6\			k Surface (S9) (LRR K, L)			
	irk Surface (A12)	Se (ATT)				•			ganese Masses (F12) (LRR N, MLRA 136)			
				oleted Dar			Piedmont Floodplain Soils (F19) (MLI					
	lucky Mineral (S1)		Rec	dox Depre	essions (F	8)						
	leyed Matrix (S4)						Mesic Spodic (TA6) (MLRA 144A, 145, 149B)					
	edox (S5)		***Indica	ators of hy	/drophytic	vegetati	Red Parent Material (F21)  Very Shallow Dork Surface (TE12)					
Stripped	Matrix (S6)			hydrology				Very Sha	allow Dark Surface (TF12)			
Dark Sui	face (S7)		disturbe	d or probl	ematic	-		Other (Ex	xplain in Remarks)			
Restrictive L	ayer (if observed	):										
Type:												
Depth (inch	ies):						Hyd	Iric soil prese	ent? <u>No</u>			
Remarks:												
				H	ydric soil	absent						

Project/Site:		CHK	Subbasin	4 PRM		City/County: Elkland, Tioga Sampling Date:					4/22/20	)22	
Applicant/Owner:		l	Resource	Environme	ental Sol	utions	Sta	ate:	PA	Sampl	ing Poir	nt: DPK03	2_PEM
Investigator(s):		R. B	arnhill, F.	Page		Section, Towns	hip, F	Range:		Elkla	nd Tow	nship	
Landform (hillslop	oe, terrace	, etc.):		Depressi	ion	Local relief (c	onca	ve, conve	ex, none):	Conc	ave S	Slope (%):	00-05
Subregion (LRR o	or MLRA)	L	RR R: ML	RA 140	Lat.:	41.988227		Long.:	-77.	.325302	Datu	m: NAI	D 83
Soil Map Unit Na	me:			Ow -	Orrville	silt loam			NWI CI	assification:		PEM1A	
Are climatic/hydro	ologic con	ditions of t	he site typ	oical for thi	s time of	f the year?	Ye	es (If no	o, explain	in Remarks	.)		
Are vegetation	Yes	, soil	Yes ,	or hydrolog	ЭУ	Yes significantly	distur	bed?	Are "no	rmal circum	stances	s" present?	Yes
Are vegetation	No	, soil	No ,	or hydrolog	ЭУ	No naturally prol	olema	atic?	(If nee	eded, explair	any ar	nswers in rer	narks)
SUMMARY OF F	INDINGS	- Attach s	ite map s	showing s	ampling	point locations, tr	anse	cts, impo	ortant fea	ntures, etc.			
Hydrophytic vege	tation pre	sent?		Ye	s								
Hydric soil preser	nt?			Ye	s	Is the sampled	l area	a within a	a wetland	I?		Yes	
Indicators of wetla	and hydro	logy prese	nt?	Ye	s								
Remarks:					•								
Wetland is miss	sing hydro	phytic veg	etation, h	owever wit	h the pre	gy, and vegetation a esence of hydrology, associated with Wetl	hydr	ic soils, a	and currer	nt vegetation	disturb	oances, wetla	and
HYDROLOGY													
Wetland Hydrolo	gy Indica	itors:						<u>s</u>	econdary	Indicators (	minimu	m of two red	uired)
Primary Indicators	s (minimu	m of one is	s required	; check all	that app	oly)			Surface S	Soil Cracks	B6)		
X Surface Wate	er (A1)		А	quatic Fau	ına (B13	)			Drainage	Patterns (B	10)		
High Water 1	Γable (A2)		M	larl Deposi	its (B15)				Moss Tri	m Lines (B1	6)		
Saturation (A	(3)		Н	lydrogen S	ulfide O	dor (C1)			Dry-Seas	son Water Ta	able (C	2)	
Water Marks	(B1)		С	xidized Rh	nizosphe	eres on Living Roots (C3)  Crayfish Burrows (C8)							
Sediment De	posits (B2	2)	Р	resence of	f Reduce	ed Iron (C4)		X	Saturatio	n Visible on	Aerial I	Imagery (C9	)
Drift Deposits	s (B3)		R	ecent Iron	Reducti	on in Tilled Soils (Ce	6)		Stunted of	or Stressed	Plants (	(D1)	
Algal Mat or	Crust (B4)	)	Т	hin Muck S	Surface (	(C7)		X	Geomorp	hic Position	(D2)		
Iron Deposits	s (B5)		С	ther (Expla	ain in Re	emarks)			Shallow A	Aquitard (D3	)		
Inundation V	isible on A	verial Imag	ery (B7)						Microtope	ographic Re	ief (D4)	)	
X Sparsely Ve	getated Co	oncave Su	rface (B8)	)					FAC-Neu	ıtral Test (D	5)		
Water-Staine	ed Leaves	(B9)											
Field Observation	ns:												
Surface water pre	esent?	Yes	s X	No		Depth (inches):		1/2"					
Water table prese	ent?	Yes	3	No	Х	Depth (inches):							
Saturation preser	nt?	Yes	\$	No	Х	Depth (inches):			w	etland Hyd	rology	Present?	Yes
(includes capillary	y fringe)												
Describe recorde	d data (str	ream gaug	e, monito	ring well, a	erial pho	otos, previous inspec	tions	s), if availa	able:				
Remarks:													

VEGETATION - 03	e scientine nam	es or plants.				oumping rount.	DI IXOO	
Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet		
1	(**************************************		70 Cover	Species:	Status	Number of Dominant		
2						Species that are OBL,	1	(A)
3						FACW, or FAC:		(//)
4						Total Number of Dominant Species Across all Strata:	2	(D)
5						Opedes Across all Otrata.	2	(B)
5				- Total Cava		Percent of Dominant		
	50.0/		0	= Total Cove		Species that are OBL,	F0 000/	(A (D)
		of total cover	: 0.0 20 Absolute	) % of total co Dominant	over: 0.0 Indicator		50.00%	(A/B)
Sapling/Shrub Strat	tum (Plot Size: _	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet	:	
1						Total % Cover of:	Multiply	by:
2						OBL species 0 x 1 =	0	
3						FACW species 0 x 2 =	0	_
4						FAC species 30 x 3 =	90	•
5						FACU species 0 x 4 =	0	1
6						UPL species 25 x 5 =	125	1
7						Column totals 55 (A)	215	(B)
8				,		Prevalence Index = B/A =	3.91	
9						Hydrophytic Vegetation India		
10						1-Rapid test for hydrophyti		ion
10			0	= Total Cove		2-Dominance test is >50%	_	.1011
	EO 9/	of total cover		- rotal cove ) % of total co		3-Prevalence index is ≤3.0		
Llank Otractions	50 %	o oi totai covei	Absolute	Dominant	Indicator	4-Morphogical adaptations		۵.
Herb Stratum	(Plot Size:	5x5 )	% Cover	Species?	Status	supporting data in Remark		
1 *Zea maize			25	Yes	UPL	separate sheet)		
2 **Panicum sp	0.		30	Yes	FAC	Problematic hydrophytic ve	egetation*	ŧ.
3						x <sup>(explain)</sup>		
4						*Indicators of hydric soil and w	•	drology
5						must be present, unless disturble problematic	bed or	
6								
7						Definitions of Vegetation Str	ata:	
8						Tree - Woody plants 3 in. (7.6	cm) or m	ore in
9						<ul> <li>diameter at breast height (DBF height.</li> </ul>	l), regard	less of
10						Sapling/Shrub - Woody plants	s less tha	n 3 in.
			55	= Total Cove	r	(7.6 cm) DBH and greater than	า or equal	to 3.28
	50 %	of total cover		) % of total co		ft (1 m) tall. <b>Herb</b> - All herbaceous (non-wo	odv) plar	nts.
Mandy Vina Stratu		or total cover	Absolute	Dominant	Indicator	regardless of size, and woody		
Woody Vine Stratur	m (Plot Size: _	)	% Cover	Species?	Status	3.28 ft tall.		
1						Woody vine - All woody vines	greater th	han
2						3.28 ft in height.		
3								
4						Hydrophytic		
5						Vegetation	<u>Yes</u>	
			0	= Total Cove	r	Present?		
	50 %	of total cover	: 0.0 20	) % of total co	over: 0.0			

<sup>\*</sup>Z. maize does not appear on the NCNE NWPL and is assumed to have an UPL indicator status for the prevalance and dominance test.

<sup>\*\*</sup>Identified to a genus level, did not have adequate characteristics to identify at the time of survey. These species were given a FAC indicator based on the common species found within the area to calculate the dominance and prevalance test.

SOIL Sampling Point: DPK032\_PEM

Profile Desc	ription: (Describe	e to the o	depth needed to d	documen	t the ind	icator or	confirm the	absence of in	dicators.)		
Depth	Matrix		Re	dox Featı	ıres						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks		
0-6	10YR 4/2	75	7.5YR 4/4	25	C	М	Silt Loam		With gravel and coal		
6-17	10YR 4/1	90	7.5YR 3/3	10	С	М	Silt Loam		5		
0 11	1011(1)1	- 00	7.0111070				Oilt Eddini				
*Type: C=Co	ncentration, D=De	pletion, R	M=Reduced Matri	x, MS=M	asked Sa	nd Grains	3	**Location: F	PL=Pore Lining, M=Matrix		
Hydric Soil I	ndicators:							Indicators fo	r Problematic Hydric Soils***:		
Histisol (	(A1)		Poly	value Belo	w Surface	(S8) (LRR R	, MLRA 149B)	2 cm Mu	CK (A10) (LRR K, L, MLRA 149B)		
	pipedon (A2)		Thir	n Dark Su	ırface (S9	) (LRR R, ML	RA 149B)	Coast Pr	airie Redox (A16) (LRR K, L, R)		
Black Hi						(F1) (LRR			cky Peat or Peat (S3) (LRR K, L, R)		
	n Sulfide (A4)				ed Matrix		-, <b>-,</b>		face (S7) (LRR K, L, M)		
	I Layers (A5)			leted Ma		(1 2)			e Below Surface (S8) (LRR K, L)		
		(0.44)			` '	<b>-0</b> \			• •		
	Below Dark Sufac	ce (A11)			Surface (I				k Surface (S9) (LRR K, L)		
	ark Surface (A12)				k Surface		Iron-Manganese Masses (F12) (LRR				
	lucky Mineral (S1)		Red	lox Depre	essions (F	<sup>:</sup> 8)	Piedmont Floodplain Soils (F19) (MLR				
Sandy G	leyed Matrix (S4)						Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
Sandy R	edox (S5)		***Indio	toro of by	drophytic	vegetati	on and	Red Pare	ent Material (F21)		
Stripped	Matrix (S6)					present,		allow Dark Surface (TF12)			
Dark Su	rface (S7)			d or probl				Other (E	xplain in Remarks)		
Restrictive L	ayer (if observed	):									
Type:											
Depth (inch	nes):						Нус	dric soil prese	ent? <u>Yes</u>		
Remarks:	,							•			

Project/Site:		City/County: Elkland, Tioga Sampling Date: 4/22/2022					)22							
Applicant/Owner:	:		Resourc	e Environme	ntal Sol	lutions		St	tate:	PA	Sam	pling Point:	ing Point: DPK033_PEM	
Investigator(s):		R.	Barnhill, F	Page		S	ection, Town	- nship,	Range:		Elkl	land Towns	hip	
Landform (hillslop	pe, terrace	e, etc.):		Depression	on		Local relief (	(conca	ave, conve	ex, none):	Cor	ncave Slo	pe (%):	00-05
Subregion (LRR o	or MLRA)		LRR R: M	ILRA 140	Lat.:	:	41.987483	}	Long.:	-77	.325341	Datum:	NAE	D 83
Soil Map Unit Na	me:			Ow -	Orrville	silt loa	im			NWI CI	lassificatior	n:	N/A	
Are climatic/hydro	ologic con	ditions of	f the site t	ypical for this	time o	f the ye	ear?	Y	Yes (If no	o, explain	n in Remark	ks.)		
Are vegetation	Yes	, soil	Yes	, or hydrology	у	Yes	significantly	/ distu	ırbed?	Are "no	rmal circur	mstances" ¡	present?	Yes
Are vegetation	No	, soil	No	, or hydrology	у	No	naturally pro	oblem	natic?	(If nee	eded, expla	ain any ansv	wers in ren	narks)
SUMMARY OF F	INDINGS	- Attach	site map	showing sa	ımplinç	g point	locations, t	transe	ects, impo	ortant fea	atures, etc	:_		
Hydrophytic vege	etation pres	sent?		Yes	3									
Hydric soil preser	nt?			Yes	3	Is	s the sample	ed are	a within a	a wetland	1?		Yes	
Indicators of wetla	and hydro	logy pres	ent?	Yes	3									
Remarks:	_		_	_		_	_	_	_	_	_	<del>_</del>	_	_
Data point is lo Wetland is miss delineators dete	sing hydro	ophytic ve	egetation,	however with	h the pre	esence	e of hydrology	y, hyd	dric soils, a	and curre	nt vegetatio	on disturbar	nces, wetla	
HYDROLOGY														
Wetland Hydrolo	ogy Indica	ators:							<u>s</u>	econdary	/ Indicators	s (minimum	of two req	uired)
Primary Indicators	s (minimu	m of one	is require	d; check all t	that app	oly)				Surface	Soil Cracks	s (B6)		
X Surface Water	er (A1)			Aquatic Faur	na (B13	3)				Drainage	e Patterns (	(B10)		
High Water 1	Table (A2)	)		Marl Deposit	s (B15)	)				Moss Tri	im Lines (B	316)		
Saturation (A	43)			Hydrogen Su	ulfide O	dor (C1	1)			Dry-Seas	son Water	Table (C2)		
Water Marks	s (B1)			Oxidized Rhi	zosphe	res on	Living Roots	s (C3)	)	Crayfish	Burrows (C	C8)		
Sediment De	eposits (B2	2)		Presence of	Reduce	ed Iron	(C4)		X	Saturatio	on Visible o	on Aerial Im	agery (C9)	)
Drift Deposits	s (B3)			Recent Iron I	Reducti	ion in T	Γilled Soils (C	26)		Stunted	or Stressed	d Plants (D	1)	
X Algal Mat or	Crust (B4)	)		Thin Muck S	urface (	(C7)			X	Geomor	phic Positic	on (D2)		
Iron Deposits	s (B5)			Other (Expla	in in Re	emarks	;)			Shallow	Aquitard (D	)3)		
Inundation V	'isible on <i>F</i>	Aerial Ima	agery (B7)	)						Microtop	ographic R	telief (D4)		
X Sparsely Veg	getated Co	oncave S	urface (B	8)						FAC-Net	utral Test (I	D5)		
Water-Staine	ed Leaves	(B9)												
Field Observation	ons:													
Surface water pre	esent?	Y	es X	K No		Dep	oth (inches):		1/2"					
Water table prese	ent?	Y	es	No	X	Dep	oth (inches):							
Saturation preser	nt?	Y	es	No	X	Dep	oth (inches):			W	etland Hy	drology Pr	esent?	Yes
(includes capillary	y fringe)													
Describe recorde	d data (str	ream gau	ıge, monit	oring well, ac	erial pho	otos, pr	revious inspe	ection	s), if availa	able:				
Remarks:														

VEGETATION - 03	e selentine nam	es or plants.				Camping Cont.	DI INOS	) LIVI
Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet		
1			70 COVE	орескез:	Status	Number of Dominant		
2						Species that are OBL, FACW, or FAC:	0	(A)
3								• (71)
4						Total Number of Dominant Species Across all Strata:	1	(B)
5				<del></del>		- Species / toross air etrata.		. (5)
<u> </u>			0	= Total Cove		Percent of Dominant		
	50.9/	6 of total cover		- Total Cove 0 % of total co		Species that are OBL, FACW, or FAC:	0.00%	(A/B)
0 1:/011- 044		or total cover	Absolute	Dominant	Indicator			(A/D)
Sapling/Shrub Strat	um (Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Index Workshee	Σ	
1						Total % Cover of:	Multiply	/ by:
2						OBL species 0 x 1 =	= 0	_
3						FACW species 5 x 2 =	= 10	_
4						FAC species 0 x 3 =	0	_
5						FACU species 0 x 4 =	= 0	_
6						UPL species 25 x 5 =	125	-
7						Column totals 30 (A)	135	(B)
8						Prevalence Index = B/A =	4.50	•
9					-	Hydrophytic Vegetation Indi		
10					-	1-Rapid test for hydrophyt		tion
			0	= Total Cove	r	2-Dominance test is >50%	_	
	50 %	6 of total cover		. Otal cover 0 % of total co		3-Prevalence index is ≤3.0		
Herb Stratum			Absolute	Dominant	Indicator	4-Morphogical adaptations		e
Tield Stratum	(Plot Size:	5x5 )	% Cover	Species?	Status	supporting data in Remark		
1 *Zea maize			25	Yes	UPL	separate sheet)		
2 **Echinochloa	a sp.		5	No	FACW	Problematic hydrophytic v	egetation	*
3						x <sup>(explain)</sup>		
4						*Indicators of hydric soil and we must be present, unless distu		rdrology
5						problematic	ibeu oi	
6						Definitions of Variation St		
7						Definitions of Vegetation St	rata:	
8						Tree - Woody plants 3 in. (7.6		
9						diameter at breast height (DB height.	н), regard	liess of
10					-	Sapling/Shrub - Woody plant		
			30	= Total Cove	r	(7.6 cm) DBH and greater tha ft (1 m) tall.	n or equal	l to 3.28
	50 %	6 of total cover	15.0 20	- ) % of total co	over: 6.0	Herb - All herbaceous (non-w	oody) plar	nts,
Woody Vine Stratur	M (Diet Size)	,	Absolute	Dominant	Indicator	regardless of size, and woody	plants les	ss than
•	n (Plot Size:		% Cover	Species?	Status	3.28 ft tall.		
1						<b>Woody vine</b> - All woody vines 3.28 ft in height.	s greater t	han
2						5.20 Kill Holgitt.		
3								
4						Hydrophytic		
5					-	Vegetation Present?	<u>Yes</u>	
			0	= Total Cove	er	i resent:		
	50 %	6 of total cover	: 0.0 20	0 % of total co	over: 0.0			
		· · · · · · · · · · · · · · · · · · ·		·	·	·		

<sup>\*</sup>Z. maize does not appear on the NCNE NWPL and is assumed to have an UPL indicator status for the prevalance and dominance test.

<sup>\*\*</sup>Identified to a genus level, did not have adequate characteristics to identify at the time of survey. These species were given a FACW indicator based on the common species found within the area to calculate the dominance and prevalance test.

SOIL Sampling Point: DPK033\_PEM

Profile Desc	ription: (Describ	e to the c	lenth needed to	documen	t the ind	icator or	confirm the	absence of in	dicators.)		
	Matrix	0 10 1.10		dox Featu		ioutor or					
Depth (Inches)		0/				1 ++	т	4	Demonder		
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**		ture	Remarks		
0-7	10YR 4/2	90	7.5YR 3/3	10	С	М	Silt Loam				
7-16	10YR 4/2	98	7.5YR 3/3	2	С	М	Silt Loam				
*Type: C=Co	ncentration, D=De	pletion, R	M=Reduced Matri	x, MS=M	asked Sa	nd Grains	3	**Location: F	PL=Pore Lining, M=Matrix		
Hydric Soil I		,		,					r Problematic Hydric Soils***:		
Histisol (			Poly	value Belo	w Surface	(S8) (LBB B			ck (A10) (LRR k, l, MLRA 149B)		
	•			n Dark Su					airie Redox (A16) (LRR K, L, R)		
	pipedon (A2)								·		
Black His				my Muck			(, L)		cky Peat or Peat (S3) (LRR к, L, R)		
	n Sulfide (A4)			my Gleye		(F2)			face (S7) (LRR K, L, M)		
	Layers (A5)			leted Mat					e Below Surface (S8) (LRR к, L)		
	l Below Dark Sufa	ce (A11)	Red	ox Dark S	Surface (F	<del>-</del> 6)			k Surface (S9) <sub>(LRR K, L)</sub>		
Thick Da	rk Surface (A12)		Dep	leted Dar	k Surface	e (F7)		Iron-Man	nganese Masses (F12) (LRR N, MLRA 136)		
Sandy M	ucky Mineral (S1)		Red	ox Depre	ssions (F	8)		Piedmont Floodplain Soils (F19) (MLRA 149B)			
Sandy G	leyed Matrix (S4)							Mesic Sp	OOdic (TA6) (MLRA 144A, 145, 149B)		
Sandy R	edox (S5)							Red Pare	ent Material (F21)		
Stripped	Matrix (S6)			tors of hy hydrology				Very Sha	allow Dark Surface (TF12)		
Dark Sur	face (S7)			d or probl		present,	unicoo	Other (E	xplain in Remarks)		
	ayer (if observed	):						,	· · · · · · · · · · · · · · · · · · ·		
Type:		•									
Depth (inch	ies).						Hvd	ric soil prese	ent? <u>Yes</u>		
Remarks:							,	oo p. oo.	<u>100</u>		

Applicant/Owner: Resource Environmental Solutions State: PA Sampling Point: DPK034 Investigator(s): R. Barnhill, F. Page Section, Township, Range: Elitand Township Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): Slope (%): Description (LRR or MLRA) LRR R: MLRA 140 Lat: 41.997607 Long: -777,326 Datum: NAD 8 Soli Map Unit Name: Ow - Onrville silt loam NWI Classification: NAA receivation (Ves.), soil No. or hydrology Yes grantification (Ves.), soil No. or hydrology No. naturally problematic? (If needed, explain any answers in remarks.)  Are vegetation No. soil No. or hydrology No. naturally problematic? (If needed, explain any answers in remarks.)  Are vegetation present? No. Is the sampled area within a wetland? No. Indicators of wetland hydrology present? No. Is the sampled area within a wetland? No. Indicators of wetland hydrology present? No. Is the sampled area within a wetland? No. Indicators of wetland hydrology present? No. Is the sampled area within a wetland? No. Indicators of wetland hydrology present? No. Is the sampled area within a wetland? No. Indicators of wetland hydrology present? No. Is the sampled area within a wetland? No. Indicators of wetland hydrology indicators: Secondary indicators (minimum of two required; check all that apply)  Surface Water (A1) Aquatic Fauna (B13) Drainage Patterns (B10)  Surface Water (A1) Aquatic Fauna (B13) Drainage Patterns (B10)  Surface Water (A1) Aquatic Fauna (B13) Drainage Patterns (B10)  Surface Water (A1) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9)  Drift Deposits (B2) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9)  Drift Deposits (B3) Other (Explain in Remarks) Shallow Aquation (D2)  Field Observations: Vegetated Concave Surface (B8) Apply (inches): Shallow Aquation (D3)  Water Stable present? Yes No X Depth (inches): Water table present? Yes No X Depth (inches): Shallow Aquation (D3)  Wetland Hydrology Present?	Project/Site:	CHK Subbas	sin 4 PRM		City/County:	Fikland	d, Tioga	Sampling Date:	4/22/202	22		
Investigator(s):  R. Barrhill, F. Page Section, Township, Range: Landform (hillislope, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%s): Subregion (LRR or MLRA) Soil Map Unit Name:  Ov - Orrville sitt loam NVI Classification: N/A Are elimatichydrologic conditions of the site typical for this time of the year? Are vegetation Yes, soil Yes, soil No, or hydrology No, naturally problematic? Are vegetation No, soll No, or hydrology No, naturally problematic? Are vegetation present? No Is the sampled area within a wetland? No Indicators of wetland hydrology present? No Indicators of wetland hydrology present? No Indicators of wetland hydrology present? No Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Aqualic Fauna (B13) Surface Water				tal Soluti	•							
Landform (hillslope, terrace, etc.):  Subregion (LRR or MLRA)  LRR R: MLRA 140  Latt:  4.1,937507  Long:  7.7,326  Datum:  NAD 8  Slope (%):  Ox Ovr-Orville sittloam  NVI Classification:  NVIA  Are climatic/hydrologic conditions of the site typical for this time of the year?  Are vegetation  Yes , soil  No , or hydrology  No , or hydrology  No , or hydrology  No , or hydrology  No				ai Coia		_				+_0, _		
Subregion (LRR or MLRA) Soll Map Unit Name:  Ower-Orrville sitt Joan No Wil Classification: N/A  Are climaticihydrologic conditions of the site typical for this time of the year? Are vegetation No soll No or hydrology No naturally problematic? Are vegetation No soll No or hydrology No naturally problematic? Are vegetation present? Are vegetation present? Are vegetation present? Are vegetation present?  No ls the sampled area within a wetland?  No indicators of wetland hydrology present? No ls the sampled area within a wetland?  No indicators of wetland hydrology present?  Data point is located in an active agriculture field. Soils, hydrology, and vegetation are severely disturbed due to the active agricultural practice dupland data point is associated with Wetland008K & Wetland009K.  **HYDROLOGY**  Wetland Hydrology Indicators:  Data point is located in on active agriculture field. Soils, hydrology, and vegetation are severely disturbed due to the active agricultural practice dupland data point is associated with Wetland008K & Wetland009K.  **HYDROLOGY**  Wetland Hydrology Indicators:  Secondary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Aquatic Fauna (B13)  Aquatic Fauna (B13)  Darinage Patterns (B10)  Hydrogen Sutified Odor (C1)  Water Marks (B1)  Orinage Patterns (B10)  Aquatic Pauna (B13)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Saturation (Na)  Aquatic Rain Presence of Reduced Iron (C4)  Sediment Deposits (B3)  Aquatic Pauna (B10)  Aquatic Rain Presence of Reduced Iron (C4)  Sediment Deposits (B3)  Field Observations:  Surface water present?  Yes  No  No  Depth (inches):  Wetland Hydrology Present?  Yes  Surface water present?  Yes  No  No  Depth (inches):  Wetland Hydrology Present?  Wetland Hydrology Present?	. ,									00-05		
Soil Map Unit Name:    Ow - Orrville sitt loam				Lat.:			·		_			
Are edimatic/hydrologic conditions of the site typical for this time of the year?  Are vegetation Yes soil Yes or hydrology Yes significantly disturbed? Are "normal circumstances" present?  Are vegetation No soil No or hydrology No 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? No Is the sampled area within a wetland? No Indicators of wetland hydrology present? No Is the sampled area within a wetland?  Data point is located in an active agriculture field. Soils, hydrology, and vegetation are severely disturbed due to the active agricultural practice Upland data point is associated with Wetland008K & Wetland009K.  HYDROLOGY  Wetland Hydrology Indicators:  Secondary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Hydrogen Sulfide Odor (C1)  Saturation (A3)  Hydrogen Sulfide Odor (C1)  Saturation (A3)  Hydrogen Sulfide Odor (C1)  Sediment Deposits (B1)  Oxidized Rhizospheres on Living Roots (C3)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Sediment Deposits (B3)  Recent Iron Reduction in Tilled Soils (C6)  Into Deposits (B3)  Recent Iron Reduction in Tilled Soils (C6)  Into Deposits (B3)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Water-Stained Leaves (B8)  Field Observations:  Surface water present?  Yes No X Depth (inches):  Water table present?  Yes No X Depth (inches):  Wetland Hydrology Present?  Wetland Hydrology Present?  Wetland Hydrology Present?				_					_			
Are vegetation Yes soil Yes or hydrology No naturally problematic? Are "normal circumstances" present? (If needed, explain any answers in remain streams of the sample of	_	itions of the site				Yes (I						
Are vegetation No soil No or hydrology No naturally problematic? (If needed, explain any answers in remark SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic vegetation present? No Is the sampled area within a wetland? No Indicators of wetland hydrology present? No Is the sampled area within a wetland? No Indicators of wetland hydrology present? No Is the sampled area within a wetland? No Indicators of wetland hydrology present? No Is the sampled area within a wetland? No Indicators of wetland hydrology present? No Is the sampled area within a wetland? No Indicators of wetland hydrology present? No Is the sampled area within a wetland? No Indicators of wetland hydrology present? No Is the sampled area within a wetland? No Indicators of wetland hydrology present? No Is the sampled area within a wetland? No Indicators of wetland? No Indicators of wetland? No Is the sampled area within a wetland? No								•	present?	Yes		
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic vegetation present? No Is the sampled area within a wetland? No indicators of wetland hydrology present? No Is the sampled area within a wetland? No indicators of wetland hydrology present? No Is the sampled area within a wetland? No indicators of wetland hydrology present? No Is the sampled area within a wetland? No indicators of wetland hydrology present? No Is the sampled area within a wetland? No indicators is associated with Wetland008K & Wetland009K.  HYDROLOGY  Wetland Hydrology Indicators: Secondary Indicators (minimum of two required): Check all that apply Surface Soil Cracks (B6)  Surface Water (A1) Aquatic Fauna (B13) Drainage Patterns (B10)  High Water Table (A2) Mari Deposits (B15) Moss Trim Lines (B16)  Saturation (A3) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)  Water Marks (B1) Oxidized Rhizospheres on Living Roots (C3) Crayfish Burrows (C8)  Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9)  Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1)  Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2)  Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  FAC-Neutral Test (D5)  Water Stained Leaves (B9)  Field Observations:  Surface water present? Yes No X Depth (inches): Saturation present? Yes No X Depth (inches): Saturation present? Yes No X Depth (inches): Saturation present? Yes No X Depth (inches): Saturation present? Yes No X Depth (inches): Saturation present? Yes No X Depth (inches): Saturation present? Yes No X Depth (inches): Saturation present?			•									
Hydric soil present? No Indicators of wetland hydrology present? No Indicators of wetland hydrology present? No Indicators of wetland hydrology present?  Data point is located in an active agriculture field. Soils, hydrology, and vegetation are severely disturbed due to the active agricultural practice.  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Hydrogen Sulfide Odor (C1) Saturation (A3) Hydrogen Sulfide Odor (C1) Saturation (A3) Hydrogen Sulfide Odor (C1) Saturation (A3) Secondary Indicators (minimum of two required) Saturation (A3) Hydrogen Sulfide Odor (C1) Saturation (A3) Secondary Indicators (minimum of two required) Saturation (A3) Hydrogen Sulfide Odor (C1) Saturation (A3) Sediment Deposits (B2) Presence of Reduced Iron (C4) Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9)  Field Observations: Surface water present? Yes No X Depth (inches): Water table present? Yes No X Depth (inches): Wetland Hydrology Present? Wetland Hydrology Present? Wetland Hydrology Present? Wetland Hydrology Present?	SUMMARY OF FINDINGS -	Attach site ma	p showing san	npling p			nportant fe	atures, etc.				
Hydric soil present? No Is the sampled area within a wetland? No Indicators of wetland hydrology present? No Indicators of wetland hydrology present? No Indicators of wetland hydrology present? No Indicators of wetland hydrology present? No Indicators of wetland hydrology present? No Indicators of wetland point is located in an active agriculture field. Soils, hydrology, and vegetation are severely disturbed due to the active agricultural practice. Upland data point is associated with Wetland008K & Wetland009K.    Hydrology   Wetland Hydrology Indicators   Secondary Indicators (minimum of two required) (check all that apply)   Surface Soil Cracks (B6)	Hydrophytic vegetation pres	ent?	No	$\neg$								
Remarks:  Data point is located in an active agriculture field. Soils, hydrology, and vegetation are severely disturbed due to the active agricultural practice Upland data point is associated with Wetland008K & Wetland009K.  HYDROLOGY  Wetland Hydrology Indicators:  Secondary Indicators (minimum of two required; check all that apply)  Surface Soil Cracks (B6)  Surface Water (A1)  High Water Table (A2)  Marl Deposits (B15)  Saturation (A3)  Hydrogen Sulfide Odor (C1)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Sediment Deposits (B3)  Recent Iron Reduction in Tilled Soils (C6)  Iron Deposits (B5)  Unift Deposits (B5)  Other (Explain in Remarks)  Shallow Aquitard (D3)  Inundation Visible on Aerial Imagery (B7)  Microtopographic Relief (D4)  Sparsely Vegetated Concave Surface (B8)  Water Stained Leaves (B9)  Field Observations:  Surface water present?  Yes  No  X  Depth (inches):  Wetland Hydrology Present?  Wetland Hydrology Present?  Wetland Hydrology Present?  Wetland Hydrology Present?  Wetland Hydrology Present?	Hydric soil present?		No		Is the sample	d area withi	n a wetlan	d?	No			
Data point is located in an active agriculture field. Soils, hydrology, and vegetation are severely disturbed due to the active agricultural practice Upland data point is associated with Wetland008K & Wetland009K.  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Marl Deposits (B15)  Saturation (A3)  Hydrogen Sulfide Odor (C1)  Water Marks (B1)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Sediment Deposits (B3)  Recent Iron Reduction in Tilled Soils (C6)  Iron Deposits (B3)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Water-Stained Leaves (B9)  Field Observations:  Surface water present?  Yes  No  X  Depth (inches):  Saturation resent?  Yes  No  X  Depth (inches):  Wetland Hydrology Present?  Wetland Hydrology Present?  Wetland Hydrology Present?  Wetland Hydrology Present?	Indicators of wetland hydrolc	ogy present?	No									
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Accent Iron Reduction in Tilled Soils (C6)  Iron Deposits (B5)  Iron Deposits (B5)  Water-Stained Leaves (B9)  Field Observations:  Surface water yes No X Depth (inches):  Water data Hydrology Present?  Yes No X Depth (inches):  Wetland Hydrology Indicators (minimum of two requires Secondary Indicators (minimum of two requires Indicators (minimum of two requires Indicators (minimum of two requires Indicators (minimum of two requires Indicators (minimum of two requires Indicators (minimum of two requires Indicators (minimum of two requires Indicators (minimum of two requires Indicators (minimum of two requires Indicators (minimum of two requires Indicators (minimum of two requires Indicators (minimum of two require	Remarks:	·										
Wetland Hydrology Indicators:       Secondary Indicators (minimum of two required)         Primary Indicators (minimum of one is required; check all that apply)       Surface Soil Cracks (B6)         Surface Water (A1)       Aquatic Fauna (B13)       Drainage Patterns (B10)         High Water Table (A2)       Marl Deposits (B15)       Moss Trim Lines (B16)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Dry-Season Water Table (C2)         Water Marks (B1)       Oxidized Rhizospheres on Living Roots (C3)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Recent Iron Reduction in Tilled Soils (C6)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Thin Muck Surface (C7)       Geomorphic Position (D2)         Iron Deposits (B5)       Other (Explain in Remarks)       Shallow Aquitard (D3)         Inundation Visible on Aerial Imagery (B7)       Microtopographic Relief (D4)         Sparsely Vegetated Concave Surface (B8)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)         Field Observations:       No       X       Depth (inches):         Water table present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?         Wetlan	Upland data point is assoc					are severely	disturbed d	lue to the active agric	ultural practi	ices.		
Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Aquatic Fauna (B13)  Drainage Patterns (B10)  Moss Trim Lines (B16)  Saturation (A3)  Hydrogen Sulfide Odor (C1)  Water Marks (B1)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Other (Explain in Remarks)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Water Stained Leaves (B9)  Field Observations:  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)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  Water-Stained Leaves (B9)  Field Observations:  Surface water present?  Yes  No  X  Depth (inches):  Water table present?  Yes  No  X  Depth (inches):  Wetland Hydrology Present?  Wetland Hydrology Present?												
Surface Water (A1) Aquatic Fauna (B13) Drainage Patterns (B10) High Water Table (A2) Marl Deposits (B15) Moss Trim Lines (B16) Dry-Season Water Table (C2) Water Marks (B1) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9)  Field Observations: Surface water present? Yes No X Depth (inches): Water table present? Yes No X Depth (inches): Wetland Hydrology Present?  Wetland Hydrology Present?	,							•	1 of two requ	uired)		
High Water Table (A2)  Marl Deposits (B15)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Water-Stained Leaves (B9)  Field Observations:  Surface water present?  Water table present?  Yes  No  Marl Deposits (B15)  Moss Trim Lines (B16)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  Water-Stained Leaves (B9)  Field Observations:  Surface water present?  Yes  No  X  Depth (inches):  Water table present?  Yes  No  X  Depth (inches):  Wetland Hydrology Present?		ı of one is requir			)			` ,				
Saturation (A3)  Hydrogen Sulfide Odor (C1)  Dry-Season Water Table (C2)  Water Marks (B1)  Oxidized Rhizospheres on Living Roots (C3)  Crayfish Burrows (C8)  Sediment Deposits (B2)  Presence of Reduced Iron (C4)  Saturation Visible on Aerial Imagery (C9)  Drift Deposits (B3)  Recent Iron Reduction in Tilled Soils (C6)  Stunted or Stressed Plants (D1)  Algal Mat or Crust (B4)  Thin Muck Surface (C7)  Geomorphic Position (D2)  Iron Deposits (B5)  Other (Explain in Remarks)  Shallow Aquitard (D3)  Inundation Visible on Aerial Imagery (B7)  Microtopographic Relief (D4)  Sparsely Vegetated Concave Surface (B8)  FAC-Neutral Test (D5)  Field Observations:  Surface water present? Yes  No  X Depth (inches):  Water table present? Yes  No  X Depth (inches):  Water table present? Yes  No  X Depth (inches):  Wetland Hydrology Present?			<u> </u>	` '								
Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Water-Stained Leaves (B9)  Field Observations:  Surface water present?  Ves  No  X  Depth (inches):  Water table present?  Yes  No  X  Depth (inches):  Saturation Visible on Aerial Imagery (C9)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  Wetland Hydrology Present?  Wetland Hydrology Present?  Wetland Hydrology Present?			•	` ,		_		, ,		ļ		
Sediment Deposits (B2)  Drift Deposits (B3)  Recent Iron Reduction in Tilled Soils (C6)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Water-Stained Leaves (B9)  Field Observations:  Surface water present?  Yes  No  X  Depth (inches):  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)  Water-Stained Leaves (B9)  Field Observations:  Surface water present?  Yes  No  X  Depth (inches):  Saturation present?  Yes  No  X  Depth (inches):  Wetland Hydrology Present?  (includes capillary fringe)	` '		•				)					
Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1)  Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2)  Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3)  Inundation Visible on Aerial Imagery (B7) Microtopographic Relief (D4)  Sparsely Vegetated Concave Surface (B8) FAC-Neutral Test (D5)  Water-Stained Leaves (B9)  Field Observations:  Surface water present? Yes No X Depth (inches):  Water table present? Yes No X Depth (inches):  Saturation present? Yes No X Depth (inches):  Saturation present? Yes No X Depth (inches):  (includes capillary fringe)	` ′				-	(C3)	, ,					
Algal Mat or Crust (B4)  Iron Deposits (B5)  Other (Explain in Remarks)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Water-Stained Leaves (B9)  Field Observations:  Surface water present?  Water table present?  Yes  No  X  Depth (inches):  Saturation present?  Yes  No  X  Depth (inches):  Wetland Hydrology Present?  (includes capillary fringe)	. , ,	,	-		` ,			_				
Iron Deposits (B5)  Other (Explain in Remarks)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Water-Stained Leaves (B9)  Field Observations:  Surface water present? Yes No X Depth (inches):  Water table present? Yes No X Depth (inches):  Saturation present? Yes No X Depth (inches):  Water table present? Yes No X Depth (inches):  Saturation present? Yes No X Depth (inches):  Wetland Hydrology Present?	. ` '		_		`	6)		•	)1)	ļ		
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9)  Field Observations: Surface water present? Yes No X Depth (inches): Water table present? Yes No X Depth (inches): Saturation present? Yes No X Depth (inches): Wetland Hydrology Present? (includes capillary fringe)	` '		_	•	,			. ,				
Sparsely Vegetated Concave Surface (B8)  Water-Stained Leaves (B9)  Field Observations:  Surface water present? Yes No X Depth (inches):  Water table present? Yes No X Depth (inches):  Saturation present? Yes No X Depth (inches):  (includes capillary fringe)  FAC-Neutral Test (D5)  Wetland Hydrology Present?			_ ` '	in Rema	arks)			,				
Water-Stained Leaves (B9)  Field Observations:  Surface water present? Yes No X Depth (inches):  Water table present? Yes No X Depth (inches):  Saturation present? Yes No X Depth (inches):  Wetland Hydrology Present?  (includes capillary fringe)						_						
Field Observations:  Surface water present? Yes No X Depth (inches):  Water table present? Yes No X Depth (inches):  Saturation present? Yes No X Depth (inches):  (includes capillary fringe)  Wetland Hydrology Present?		•	38)				FAC-Ne	utral Test (D5)				
Surface water present? Yes No X Depth (inches):  Water table present? Yes No X Depth (inches):  Saturation present? Yes No X Depth (inches):  (includes capillary fringe)  Wetland Hydrology Present?		B9)										
Water table present?  Yes  No  X  Depth (inches):  Saturation present?  Yes  No  X  Depth (inches):  Wetland Hydrology Present?  (includes capillary fringe)							_					
Saturation present? Yes No X Depth (inches): Wetland Hydrology Present?  (includes capillary fringe)	•											
(includes capillary fringe)	•				• ` ` ` ′			_				
	·	Yes	No	X	Depth (inches):		_   v	Vetland Hydrology P	resent?	<u>No</u>		
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Describe recorded data (stre	am gauge, mon	itoring well, aeri	al photos	s, previous inspec	ctions), if av	ailable:					
Remarks:  Wetland hydrology absent	Remarks:			Wetlar	nd hvdrology abs	ent						
Trouble hydrology about				VV Gaa.	iu nyurology axza	zin.						

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Workshee	t	
1 2	(	,	76 COVE	Species !	Status	Number of Dominant - Species that are OBL, FACW, or FAC:	0	(A)
3						Total Number of Dominant Species Across all Strata:	2	(B)
5	50 %	of total cover		= Total Cove ) % of total co	ver: 0.0	Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)
Sapling/Shrub Stratu	um (Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Workshee	∍t	
1			70 OOVC1	Орсскоз:	Otatus	Total % Cover of:	Multiply	v by:
2						OBL species 0 x 1 :		, ,
3						FACW species 5 x 2	= 10	-
4						FAC species 0 x 3 =		-
5						FACU species 0 x 4		_
6						UPL species 35 x 5	-	_
7						Column totals 40 (A)	185	(B)
8						Prevalence Index = B/A =	4.63	_(=)
9						Hydrophytic Vegetation Ind		
10						1-Rapid test for hydrophy		tion
10			0	= Total Cove		2-Dominance test is >509	_	uon
	50.9/	of total cover		) % of total co		3-Prevalence index is ≤3.		
Herb Stratum  1 *Zea maize	(Plot Size:	5x5 )	Absolute % Cover	Dominant Species? Yes	Indicator Status UPL	4-Morphogical adaptation supporting data in Remar separate sheet)	ıs* (provide	e I
2 *Lamium purp	uroum		10	Yes	UPL	·  <del></del>		
						Problematic hydrophytic (explain)	/egetation	*
3 **Ranunculus 4	sp.		5	No	FACW	*Indicators of hydric soil and must be present, unless distu		/drology
6						problematic		
7						Definitions of Vegetation St	:rata:	
8						Tree - Woody plants 3 in. (7.6 diameter at breast height (DB	•	
10			40	= Total Cove		height.  Sapling/Shrub - Woody plan  (7.6 cm) DBH and greater tha		
Woody Vine Stratum		of total cover		) % of total co Dominant Species?		ft (1 m) tall.  Herb - All herbaceous (non-wregardless of size, and woody 3.28 ft tall.		
1 2			73 55151			Woody vine - All woody vine 3.28 ft in height.	s greater t	han
3 4 5	50 %	o of total cover	0 : 0.0 20	= Total Cove		Hydrophytic Vegetation Present?	<u>No</u>	

<sup>\*</sup>Plants do not appear on the NCNE NWPL and is assumed to have an UPL indicator status for the prevalance and dominance test.

<sup>\*\*</sup>Identified to a genus level, did not have adequate characteristics to identify at the time of survey. These species were given a FACW indicator based on the common species found within the area to calculate the dominance and prevalance test.

SOIL Sampling Point: DPK034\_UPL

Profile Desc	ription: (Describ	e to the o	depth needed to	documen	t the ind	icator or	confirm the	absence of in	dicators.)		
Depth	Matrix		Re	Redox Features							
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	xture	Remarks		
0-16	10YR 3/1	100	,		7.		Silty Loam		With coal fragments throughout		
							,		3 3		
*Type: C=Co	ncentration, D=De	pletion, R	M=Reduced Matr	ix, MS=M	asked Sa	nd Grains	8	**Location: P	L=Pore Lining, M=Matrix		
Hydric Soil I	ndicators:							Indicators fo	r Problematic Hydric Soils***:		
Histisol (	A1)		Poly	value Belo	w Surface	(S8) (LRR R	, MLRA 149B)	2 cm Mu	CK (A10) (LRR K, L, MLRA 149B)		
Histic Ep	pipedon (A2)		Thi	n Dark Su	ırface (S9	) (LRR R, ML	RA 149B)	Coast Pr	airie Redox (A16) (LRR к, L, R)		
Black His	stic (A3)		Loa	my Muck	y Mineral	(F1) (LRR	K, L)	5 cm Mu	cky Peat or Peat (S3) <sub>(LRR K, L, R)</sub>		
Hydroge	n Sulfide (A4)		Loa	my Gleye	ed Matrix	(F2)		Dark Sur	face (S7) (LRR K, L, M)		
Stratified	Layers (A5)		Dep	oleted Ma	trix (F3)			Polyvalue	e Below Surface (S8) (LRR к, L)		
	l Below Dark Sufa	ce (A11)		dox Dark S		=6)		Thin Darl	k Surface (S9) (LRR K, L)		
	rk Surface (A12)	,		oleted Dar		•			ganese Masses (F12) (LRR N, MLRA 136)		
	lucky Mineral (S1)			dox Depre			Piedmont Floodplain Soils (F19)				
	leyed Matrix (S4)			on Dopio	1) 5115155	<b>O</b> )			podic (TA6) (mlra 144a, 145, 149b)		
	edox (S5)								ent Material (F21)		
	Matrix (S6)						etation and				
				hydrology d or probl		present,	unless		· · ·		
	face (S7)		disturbe	u or probi	ешанс			Other (Ex	xplain in Remarks)		
	ayer (if observed	):									
Type:	,										
Depth (inch Remarks:	ies):						Нус	dric soil prese	ent? <u>No</u>		
Remarks.					اند د داداد،	-14					
				H	ydric soil	absent					

Project/Site:	CHK Subba	asin 4 PRM	Elklan	nd, Tioga	Sampling D	ate:	4/22/202	22			
Applicant/Owner:	Resou	urce Environmer	ntal Solutio	ons	State:	PA	Samplii	ng Point:	DPK035	_PEM	
Investigator(s):	R. Barnhill	I, F. Page		Section, Towns	ship, Range	э:	Elklan	d Townshi	р		
Landform (hillslope, terrace, e	etc.):	Depressio	n	Local relief (	concave, co	onvex, none	): Conca	ve Slope	e (%):	00-05	
Subregion (LRR or MLRA)	LRR R:	: MLRA 140	Lat.:	41.988132	Long	g.: -7	7.326797	Datum:	NAD	83	
Soil Map Unit Name:		Wa - Way	yland silty o	clay loam		NWIC	Classification:		N/A		
Are climatic/hydrologic conditi	ions of the site	e typical for this	time of the	e year?	Yes (	If no, explai	in in Remarks.	)			
Are vegetation Yes , s	soil Yes	, or hydrology	y Ye	es significantly	disturbed?	Are "n	ormal circums	tances" pre	esent?	Yes	
Are vegetation No, s	soil No	, or hydrology	y No	o naturally pro	blematic?	(If ne	eded, explain	any answe	rs in rem	arks)	
SUMMARY OF FINDINGS - A	Attach site ma	ap showing sa	mpling po	oint locations, te	ransects, i	mportant fe	eatures, etc.				
Hydrophytic vegetation preser	nt?	No									
Hydric soil present?		Yes	,	Is the sample	d area with	nin a wetlan	nd?	,	Yes		
Indicators of wetland hydrolog	y present?	Yes	,							<b>-</b>	
Remarks:	<u></u>										
Data point is located in an a Wetland is missing hydroph delineators determined this	nytic vegetation	n, however with	the prese	ence of hydrology	, hydric soil	ls, and curre	ent vegetation	disturbanc	es, wetlar		
HYDROLOGY							. ,				
Wetland Hydrology Indicato							ry Indicators (n		two requ	<u>ıired)</u>	
Primary Indicators (minimum	of one is requ	ired; check all t	hat apply)			Surface	Soil Cracks (E	36)			
Surface Water (A1)		Aquatic Faun	ıa (B13)		_	Drainag	je Patterns (B1	0)			
X High Water Table (A2)		Marl Deposits	s (B15)		_	Moss T	rim Lines (B16	)			
X Saturation (A3)		Hydrogen Su	Ifide Odor	(C1)	_	Dry-Sea	ason Water Ta	ble (C2)			
Water Marks (B1)		Oxidized Rhi	zospheres	on Living Roots	(C3)	Crayfish	n Burrows (C8)	i			
Sediment Deposits (B2)		Presence of	Reduced I	ron (C4)		X Saturation Visible on Aerial Imagery (C9)					
Drift Deposits (B3)		Recent Iron F	Reduction	in Tilled Soils (C	6)	Stunted	or Stressed P	lants (D1)			
X Algal Mat or Crust (B4)		Thin Muck Su	urface (C7	")		X Geomo	rphic Position	(D2)			
Iron Deposits (B5)		Other (Explai	in in Rema	arks)		Shallow	/ Aquitard (D3)				
Inundation Visible on Aer	ial Imagery (E	37)				Microto	pographic Reli	ef (D4)			
X Sparsely Vegetated Cond	cave Surface (	(B8)				FAC-Ne	eutral Test (D5	)			
Water-Stained Leaves (B	,9)										
Field Observations:	_										
Surface water present?	Yes	No	X	Depth (inches):							
Water table present?	Yes	X No		Depth (inches):	12"						
Saturation present?	Yes	X No		Depth (inches):	9"	\	Wetland Hydro	ology Pres	sent?	Yes	
(includes capillary fringe)											
Describe recorded data (strea	s, previous inspe	ctions), if a	vailable:								
Remarks:											

Number of Dominant   Species that are OBL,   FACW, or FAC:   O. 00   (A)	Tree Stratum	(Plot Size: 15x15 )	Absolute	Dominant	Indicator	Dominance Test Worksheet
Sepecies that are OBL,   FACW, or FAC:   0		(1101 0126. 10x10 )	% Cover	Species?	Status	Number of Dominant
Total Number of Dominant Species Across all Strata: 1 (B) Percent of Dominant Species Across all Strata: 1 (B) Percent of Dominant Species Strata: 1 (B) Percent Of Dominant Species Strata: 1 (B) Percent Of Dominant Species Strata: 1 (B) Percent Of Dominant Species Strata: 1 (B) Percent Of Dominant Species Strata: 1 (B) Per						1 '
Species Across all Strata: 1 (B)   Species Across						
D						
Percent of Dominant   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species that are OBL   Species   Status   Species   Status   Species   Status   Species   Status   Species   Status   Species   Status   Species   Status   Species   Status   Species   S	•					Openies Across an otrata.
Septing/Shrub Stratum	3		0	- Total Cava	<u> </u>	
Saping/Shrub Stratum		EO % of total agyor.	-			
Total % Cover of:    Multiply by:   OBL species   0	0 11 101 1 01 1					· /
OBL species   0	Sapling/Shrub Stratum	(Plot Size: 15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet
FACW species 0 x2 = 0 FAC species 0 x3 = 0 FACU species 0 x3 = 0 FACU species 0 x3 = 0 FACU species 0 x4 = 0 F	1					Total % Cover of: Multiply by:
FAC species 0 x3 = 0 FACU species 0 x4 = 0 F	2					OBL species0 x 1 =0
FACU species	3					FACW species 0 x 2 = 0
Column totals   25   x5 =   125   Column totals   25   (A)   125   (B)	4					FAC species 0 x 3 = 0
Column totals \$\frac{25}{25}\$ (A) \$\frac{125}{125}\$ (B)  Prevalence Index = B/A = 5.00  Hydrophytic Vegetation Indicators:  1-Rapid test for hydrophytic vegetation  1-Rapid test for hydrophytic vegetat	5					FACU species 0 x 4 = 0
Prevalence Index = B/A = 5.00  Prevalence Index = B/A = 5.00  Hydrophytic Vegetation Indicators:  1-Rapid test for hydrophytic vegetation  2-Dominance test is >50%  3-Prevalence index is >3.0°  4-Mosolute % Cover Species?  1	6					UPL species 25 x 5 = 125
Hydrophytic Vegetation Indicators:   1-Rapid test for hydrophytic vegetation	7					Column totals 25 (A) 125 (B)
1-Rapid test for hydrophytic vegetation 2-Dominance test is >50% 3-Prevalence index is ≤3.0* 3-Prevalence index i	8					Prevalence Index = B/A = 5.00
Solid to total cover   Solid total cover	9					Hydrophytic Vegetation Indicators:
Solid to total cover   Solid total cover	10					1-Rapid test for hydrophytic vegetation
Absolute % Cover 25 Yes UPL  **Zea maize**  **Zea maize**  **Problematic hydrophytic vegetation** **X (explain)* **Y (explain)* **X (explain)* **X (explain)* **X (explain)* **X (explain)* **Y (explain)* **X (explain)* **Y (explain)* **X (explain)* **Y (explain)			0	= Total Cove	r	<del></del>
Problematic hydrophytic vegetation*   Problematic hydrophytic hydrophytic hydrophytic hydrophytic hydrophytic hydrophytic hydrophytic hydrophyti		50 % of total cover:	0.0 20	% of total co	ver: 0.0	3-Prevalence index is ≤3.0*
Yes   Status   Supporting data in Remarks or on a separate sheet	Herb Stratum	(Dist Circ. FuE )				4-Morphogical adaptations* (provide
Problematic hydrophytic vegetation*  X (explain)  *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  Definitions of Vegetation Strata:  Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sol % of total cover:  50 % of total cover:  1 2.5 20 % of total cover:  Absolute  Cover Species?  Status  Problematic hydrophytic vegetation*  X (explain)  *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  Definitions of Vegetation Strata:  Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/Shrub - Woody plants less than 3 in. (7.6 cm) 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 vine - All woody vines greater than 3.28 ft in height.  Hydrophytic  Vegetation  Present?  No  Remarks: (Include photo numbers here or on a separate sheet.)		(Plot Size: 5x5)		•		
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. (7.6 cm) DBH and greater than or equal to 3.28 ft (1 m) tall.  Present?  Noody Vine Stratum (Plot Size: )			25	res	UPL	I— '
*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.  SaplingShrub - Woody plants 1 indicator (7.6 cm) 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 in. (7.6 cm) DBH and greater than or equal to 3.28 ft (1 m) tall.  Woody Vine Stratum (Plot Size: ) Dominant Indicator Species? Status  Owner All woody vine - All woody vines greater than 3.28 ft in height.  Woody vine - All woody vines greater than 3.28 ft in height.  Hydrophytic Vegetation No Present?  No of total cover: 0.0 over total cover: 0.0 over weet to the problematic or pro	2					(avalain)
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. (7.6 cm) 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 in. 2.8 ft tall.  Power species? Status  Woody vine - All woody vines greater than 3.28 ft in height.  Woody vine - All woody vines greater than 3.28 ft in height.  Hydrophytic Vegetation No Present?  Woody vine - All woody vines present in height.  No Present?	3					^
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. (7.6 cm) 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 Vine Stratum (Plot Size: ))  Cover Species? Status  Dominant Indicator Species? Status  Woody vine - All woody vines greater than 3.28 ft in height.  Woody vine - All woody vines greater than 3.28 ft in height.  Hydrophytic Vegetation No Present?  Wegetation Present?	4					
Definitions of Vegetation Strata:  Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/Shrub - Woody plants less than 3 in. (7.6 cm) 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.  Proposition of Vegetation Strata:  Tree - Woody plants 3 in. (7.6 cm) DBH, regardless of height.  Sapling/Shrub - Woody plants less than 3 in. (7.6 cm) 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 vine - All woody vines greater than 3.28 ft in height.  Hydrophytic  Vegetation Present?  Hydrophytic  Vegetation Present?	5					
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.    25	6					Definitions of Vegetation Strata:
diameter at breast height (DBH), regardless of height.    25	7					
height.  Sapling/Shrub - Woody plants less than 3 in.  (7.6 cm) 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.  Power Species? Status    1	8					` ` '
25 = Total Cover    12.5   20 % of total cover:   5.0	9					height.
Semarks: (Include photo numbers here or on a separate sheet.)   Semarks: (Include photo numbers here or on a separate sheet.	10					
Absolute % Cover Species? Status    Absolute % Cover Species? Status   Indicator Species? Status   Woody vine - All woody vines greater than 3.28 ft in height.			25	= Total Cove	r	ft (1 m) tall.
Noody Vine Stratum (Plot Size: ) % Cover Species? Status 3.28 ft tall.  Woody vine - All woody vines greater than 3.28 ft in height.  Hydrophytic Vegetation Present?  O = Total Cover 50 % of total cover: 0.0 20 % of total cover: 0.0		50 % of total cover:				
Woody vine - All woody vines greater than 3.28 ft in height.  Hydrophytic Vegetation Present?  O = Total Cover  50 % of total cover: 0.0 20 % of total cover: 0.0	Woody Vine Stratum	(Plot Size:				•
2 3.28 ft in height.  3 Hydrophytic Vegetation Present?  50 % of total cover: 0.0 20 % of total cover: 0.0	1		70 00001	орсою.	Otatus	Woody vine - All woody vines greater than
Hydrophytic Vegetation Present?    O = Total Cover   0.0   20 % of total cover: 0.0   0.0	2					
Hydrophytic Vegetation Present?    O = Total Cover   0.0   20 % of total cover: 0.0   0.0	2					
Vegetation Present?    0						
Total Cover 50 % of total cover: 0.0 20 % of total cover: 0.0 Present?    O						
50 % of total cover: 0.0 20 % of total cover: 0.0  Remarks: (Include photo numbers here or on a separate sheet.)	5					
Remarks: (Include photo numbers here or on a separate sheet.)		<b>FO</b> 07 - 57 - 1	-			
	Domonko (Instituto d			% of total co	ver: 0.0	<u> </u>
2. maizo doce not appear on the MONE MANT E and is assumed to have an OFE indicator status for the prevalance and dominance test.		· · · · · · · · · · · · · · · · · · ·		to have on LII	DI indicator	status for the prevalance and dominance test
	Z. maize does not app	JOGE OF THE INCINE INVVEL AND	เอ ผออนกาธน	O HAVE All UI	L mulcator :	status for the prevalance and dominance test.

SOIL Sampling Point: DPK035\_PEM

Profile Desc	ription: (Describe	e to the	depth needed to	documen	t the ind	icator or	confirm the	absence of in	dicators.)
Depth	Matrix		Re	dox Featı	ıres				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks
0-4	10YR 4/1	90	7.5YR 3/3	10	С	М	Silt Loam		
4-16	10YR 4/1	80	7.5YR 3/3	20	С	М	Silty Clay	Loam	
*Type: C=Co	ncentration, D=De	nletion R	I RM=Reduced Matr	L x MS=M	I asked Sa	nd Grains	<u> </u>	**Location: P	L=Pore Lining, M=Matrix
Hydric Soil I		piotion, r	Troduced Mail	IX, 1010 101	aonea ea	na Orame	,		r Problematic Hydric Soils***:
Histisol (			Poly	value Belo	w Surface	(58) (155.5	MI DA 440D)		ck (A10) (LRR K, L, MLRA 149B)
`	,				ırface (S9				airie Redox (A16) (LRR K, L, R)
	oipedon (A2)				y Mineral				cky Peat or Peat (S3) (LRR K, L, R)
Black His	n Sulfide (A4)				ed Matrix		N, L)		face (S7) (LRR K, L, M)
	Layers (A5)			oleted Ma		(Г2)			e Below Surface (S8) (LRR K, L)
	l Layers (A5) I Below Dark Sufa	oo (A11)				<b>-6</b> )			k Surface (S9) (LRR k, L)
	rk Surface (A12)	Se (ATT)			Surface (l				ganese Masses (F12) (LRR N, MLRA 136)
	lucky Mineral (S1)				rk Surface				t Floodplain Soils (F19) (MLRA 149B)
			Rec	iox Debre	ssions (F	0)			
	leyed Matrix (S4)								odic (TA6) (MLRA 144A, 145, 149B)
	edox (S5)		***Indica	tors of hy	/drophytic	vegetation	on and		ent Material (F21)
	Matrix (S6)				/ must be	present,	unless		illow Dark Surface (TF12)
	face (S7)		disturbe	d or probl	ematic			Other (E)	xplain in Remarks)
	ayer (if observed	):							
Type:	,								
Depth (inch	es):						Ну	dric soil prese	ent? <u>Yes</u>
Remarks:									

Project/Site:		CHK S	Subbas	sin 4 PRM		City/Co	ounty:	Elklan	nd, Tioga	a Sa	mpling Da	ate:	4/22/20	)22
Applicant/Owner:		F	Resourc	ce Environme	ental Sol	utions		State:	P	PA	Samplir	ng Point:	DPK03	6_PEM
Investigator(s):		R. Ba	arnhill,	F. Page		Section	ı, Towns	hip, Range	e:		Elklan	d Townsh	nip	
Landform (hillslop	oe, terrace	, etc.):		Depression	on	Local	relief (c	oncave, co	onvex, n	one):	Conca	ive Slop	pe (%):	00-05
Subregion (LRR	or MLRA)	LF	RR R: N	MLRA 140	Lat.:	41.9	987514	Long	g.:	-77.327	759	Datum:	NAD	D 83
Soil Map Unit Na	me:			Wa - Wa	yland sil	lty clay loam			NWI Classification: N/A					
Are climatic/hydro	ologic cond	ditions of th	ne site f	typical for this	s time of	f the year?		Yes (	If no, ex	xplain in F	Remarks.)	)		
Are vegetation	Yes ,	, soil	Yes	, or hydrolog	ay	Yes signif	ficantly c	disturbed?	Ar	e "norma	I circums	tances" p	resent?	Yes
Are vegetation	No ,	, soil	No	, or hydrolog	ĵу	No natur	ally prob	olematic?	(1	If needed	, explain	any answ	vers in ren	narks)
SUMMARY OF F	INDINGS	- Attach s	ite mar	p showing sa	ampling	point locat	tions, tra	ansects, ir	mportai	nt feature	es, etc.			
Hydrophytic vege	tation pres	ent?		No	,									
Hydric soil preser	nt?			Yes	s	Is the s	sampled	l area with	iin a we	tland?		_	Yes	
Indicators of wetla	and hydrol	ogy preser	nt?	Yes	s									
Remarks:														
Data point is located in an active agriculture field. Soils, hydrology, and vegetation is are severely disturbed due to the active agricultural practices. Wetland is missing hydrophytic vegetation, however with the presence of hydrology, hydric soils, and current vegetation disturbances, wetland delineators determined this area to be a wetland. Data point is associated with Wetland006K.														
HYDROLOGY														
Wetland Hydrolo	ogy Indica	tors:		_		_	_		Seco	ndary Ind	icators (m	ninimum (	of two req	uired)
Primary Indicator	s (minimur	n of one is	require	ed; check all	that app	oly)			Surf	face Soil	Cracks (E	36)		
Surface Wat	er (A1)			Aquatic Fau	na (B13)	)			Drai	inage Pat	tterns (B1	10)		
High Water	Γable (A2)			Marl Deposit	ts (B15)				Mos	ss Trim Li	nes (B16	<b>(</b> )		
Saturation (A	43)			Hydrogen St	ulfide Oc	dor (C1)			Dry-	-Season \	Water Ta	ble (C2)		
Water Marks	; (B1)		X	Oxidized Rh	izosphe	res on Living	ן Roots (	(C3)	Cra	yfish Burr	ows (C8)	)		
Sediment De	posits (B2	.)		Presence of	Reduce	d Iron (C4)			Satu	uration Vi	sible on A	Aerial Ima	agery (C9)	)
Drift Deposits	s (B3)			Recent Iron	Reducti	on in Tilled S	3oils (C6	5)	Stur	nted or St	tressed P	lants (D1	)	
X Algal Mat or	Crust (B4)			Thin Muck S	3urface (	(C7)	X Geomorphic Position (D2)							
Iron Deposits	s (B5)			Other (Expla	ain in Re	:marks)			Shallow Aquitard (D3)					
Inundation V	isible on A	erial Imag	ery (B7	<b>'</b> )					Mici	rotopogra	phic Reli	ef (D4)		
X Sparsely Ve	getated Co	ncave Sur	face (B	38)					FAC	C-Neutral	Test (D5)	)		
Water-Staine	ed Leaves	(B9)												
Field Observation	ons:		_											
Surface water pre	esent?	Yes		No	X	Depth (inc	ches):							
Water table prese	ent?	Yes		No	Х	Depth (inc	ches):							
Saturation preser		Yes		No	Х	Depth (inc	ches):			Wetla	nd Hydro	ology Pre	esent?	Yes
(includes capillary														
Describe recorde	d data (stre	eam gauge	∍, moni	toring well, a	erial pho	otos, previous	s inspec	tions), if av	vailable:	:				
Remarks:														

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet
1	(	,	% Cover	Species?	Status	Number of Dominant
2						Species that are OBL, FACW. or FAC:  0 (A)
3						
4						. Total Number of Dominant Species Across all Strata: 1 (B)
						Species Across all Strata: 1 (B)
5				T 4-1 0-14-		Percent of Dominant
	50.0		0	= Total Cove		Species that are OBL,
		% of total cover:	0.0 20 Absolute	) % of total co Dominant	over: 0.0 Indicator	FACW, or FAC: 0.00% (A/B)
Sapling/Shrub Stratum	<sup>1</sup> (Plot Size:	15x15 )	% Cover	Species?	Status	Prevalence Index Worksheet
1						Total % Cover of: Multiply by:
2						OBL species0 x 1 =0
3						FACW species 0 x 2 = 0
4						FAC species 0 x 3 = 0
5						FACU species 0 x 4 = 0
6						UPL species 25 x 5 = 125
7						Column totals 25 (A) 125 (B)
8						Prevalence Index = B/A = 5.00
9						Hydrophytic Vegetation Indicators:
10						1-Rapid test for hydrophytic vegetation
			0	= Total Cove		2-Dominance test is >50%
	50 %	% of total cover:		) % of total co		3-Prevalence index is ≤3.0*
Herb Stratum			Absolute	Dominant	Indicator	4-Morphogical adaptations* (provide
	(Plot Size:	5x5 )	% Cover	Species?	Status	supporting data in Remarks or on a
1 *Zea maize			25	Yes	UPL	separate sheet)
2						Problematic hydrophytic vegetation*
3						x <sup>(explain)</sup>
4						*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or
5						problematic
6						Definitions of Vagatation Strata.
7						Definitions of Vegetation Strata:
8						Tree - Woody plants 3 in. (7.6 cm) or more in
9						<ul> <li>diameter at breast height (DBH), regardless of height.</li> </ul>
10						Sapling/Shrub - Woody plants less than 3 in.
			25	= Total Cove		(7.6 cm) DBH and greater than or equal to 3.28 ft (1 m) tall.
	50 %	% of total cover:	12.5 20	) % of total co	over: 5.0	Herb - All herbaceous (non-woody) plants,
Woody Vine Stratum		\ \	Absolute	Dominant	Indicator	regardless of size, and woody plants less than
	(Plot Size:	,	% Cover	Species?	Status	3.28 ft tall.
1						Woody vine - All woody vines greater than 3.28 ft in height.
2						0.20 K in Holgiti.
3						.
4						Hydrophytic
5						Vegetation <u>No</u> Present?
	<del></del>		0	= Total Cove	·r	Fresent?
		% of total cover:		) % of total co	over: 0.0	
Remarks: (Include pho						
*Z. maize does not ap	pear on the N	CNE NWPL and	d is assumed	to have an U	PL indicator :	status for the prevalance and dominance test.

SOIL Sampling Point: DPK036\_PEM

Profile Desc	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix		Re	dox Featu	ıres					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	xture	Remarks	
0-10	10YR 4/1	90	7.5YR 3/3	8	С	М	Silt Loam			
			7.5YR 4/4	2	С	PL				
10-16	10YR 4/1	98	7.5YR 3/3	2	С	PL	Silt Loam			
*Type: C=Co	l ncentration, D=De	nletion R	M=Reduced Matr	l iv MS=M:	asked Sa	nd Grains		**Location: P	L=Pore Lining, M=Matrix	
Hydric Soil I		piction, r	IIII-reduced Mati	ix, 1010-1016	asked Ca	na Orani	,		or Problematic Hydric Soils***:	
-			Poly	value Belo	w Surface	(89) # == =			ck (A10) (LRR K, L, MLRA 149B)	
Histisol (	,								•	
	pipedon (A2)			n Dark Su	•	•			airie Redox (A16) (LRR K, L, R)	
Black His				my Muck			(, L)		cky Peat or Peat (S3) (LRR к, L, R)	
	n Sulfide (A4)			my Gleye		(F2)			face (S7) (LRR K, L, M)	
	Layers (A5)			oleted Mat	. ,				e Below Surface (S8) (LRR K, L)	
	l Below Dark Sufa	ce (A11)		dox Dark S		•			k Surface (S9) (LRR K, L)	
	rk Surface (A12)			oleted Dar					ganese Masses (F12) (LRR N, MLRA 136)	
	lucky Mineral (S1)		Red	dox Depre	ssions (F	(8)			t Floodplain Soils (F19) (MLRA 149B)	
	leyed Matrix (S4)							Mesic Sp	OOdic (TA6) (MLRA 144A, 145, 149B)	
	edox (S5)		***Indic	***Indicators of hydrophytic vegetation			on and		ent Material (F21)	
Stripped	Matrix (S6)			hydrology				Very Sha	allow Dark Surface (TF12)	
Dark Sui	face (S7)		disturbe	d or probl	ematic	•		Other (Ex	xplain in Remarks)	
Restrictive L	ayer (if observed	l):								
Type:										
Depth (inch	ies):						Hye	dric soil prese	ent? <u>Yes</u>	
Remarks:										

				-: . <u>-</u> ,	_					
Project/Site:	CHK Subbas			City/County:		ola, Tioga	Sampling Da		4/22/202	
Applicant/Owner:		ce Environment	al Solut		State:	PA	Samplin	-	DPK037	_UPL
Investigator(s):	R. Barnhill,			Section, Towns				la Townshi		
Landform (hillslope, terrace, e		Plain		Local relief (				_ `	_	00-05
Subregion (LRR or MLRA)	LRR R: N	MLRA 140	Lat.:	41.987265	Long		77.328628	Datum:	NAD	83
Soil Map Unit Name:			rrville si				Classification:		N/A	
Are climatic/hydrologic conditi	ions of the site						ain in Remarks.)		-	
	soil Yes	, or hydrology	Y	es significantly			normal circumst	•	_	Yes
Are vegetation No, s	soil No	, or hydrology		No naturally pro	blematic?	(If n	eeded, explain a	any answe	rs in rem	arks)
SUMMARY OF FINDINGS - A	Attach site ma	p showing san	ոpling բ	point locations, to	ransects, ir	mportant f	eatures, etc.			
Hydrophytic vegetation preser	nt?	No								
Hydric soil present?		No		Is the sample	d area with	in a wetla	nd?	ľ	No	
Indicators of wetland hydrolog	gy present?	No					•			_
Remarks:	<u> </u>									
Data point is located in an a Upland data point is associa	•		ydrology	y, and vegetation a	are severely	/ disturbed	due to the activ	e agricultu	ıral practi	ces.
HYDROLOGY										
Wetland Hydrology Indicato						<u>Seconda</u>	ary Indicators (m	<u>inimum of</u>	two requ	<u>iired)</u>
Primary Indicators (minimum	of one is requir	ed; check all the	at apply	/)		Surface	e Soil Cracks (B	36)		
Surface Water (A1)		Aquatic Fauna	ı (B13)			Draina	ge Patterns (B1	0)		
High Water Table (A2)		Marl Deposits	(B15)			Moss T	Γrim Lines (B16)	)		
Saturation (A3)		Hydrogen Sulf	ide Odc	or (C1)		Dry-Se	ason Water Tab	ole (C2)		
Water Marks (B1)		Oxidized Rhize	osphere	es on Living Roots	(C3)	Crayfis	sh Burrows (C8)			
Sediment Deposits (B2)		Presence of R	leduced	I Iron (C4)		Saturat	tion Visible on A	terial Imag	jery (C9)	
Drift Deposits (B3)		Recent Iron Re	eductior	n in Tilled Soils (C	6)	Stunted	unted or Stressed Plants (D1)			
Algal Mat or Crust (B4)		Thin Muck Sur	rface (C	7)		Geomo	orphic Position (	D2)		
Iron Deposits (B5)		Other (Explain	in Rem	narks)		Shallov	w Aquitard (D3)			
Inundation Visible on Aer	rial Imagery (B7	7)				Microto	opographic Relie	ef (D4)		
Sparsely Vegetated Cond	cave Surface (E	38)				FAC-N	eutral Test (D5)	)		
Water-Stained Leaves (B	39)									
Field Observations:										
Surface water present?	Yes	No	Χ	Depth (inches):						
Water table present?	Yes	No	Х	Depth (inches):						
Saturation present?	Yes	No	Х	Depth (inches):			Wetland Hydro	ology Pres	sent?	<u>No</u>
(includes capillary fringe)						_ L				
Describe recorded data (strea	ım gauge, mon	itoring well, aeri	ial photo	os, previous inspe	ctions), if av	vailable:				
Remarks:										
Remains.			Wetla	and hydrology abse	ent					
				, 0,						

Tree Stratum	(Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	:	
1	(	,	70 COVEI	Species:	Status	Number of Dominant		
2						Species that are OBL, FACW, or FAC:	1	(A)
3						Total Number of Dominant		• ` ′
4						Species Across all Strata:	2	(B)
5						Percent of Dominant		
			0	= Total Cove	r	Species that are OBL,		
	50 %	6 of total cover		% of total co		FACW, or FAC:	50.00%	(A/B)
Sapling/Shrub Strat	ium (Plot Size:	15x15 )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Workshee	et	
1	·-			,		Total % Cover of:	Multiply	/ by:
2						OBL species 0 x 1 :	= 0	
3						FACW species 35 x 2	= 70	•
4						FAC species 0 x 3 =	0	•
5						FACU species 0 x 4	= 0	-
6						UPL species 25 x 5	125	-
7						Column totals 60 (A)	195	(B)
8						Prevalence Index = B/A =	3.25	•
9						Hydrophytic Vegetation Ind	icators:	
10						1-Rapid test for hydrophy	tic vegetat	tion
			0	= Total Cove	r	2-Dominance test is >50%	6	
	50 %	6 of total cover	: 0.0 20	) % of total co	ver: 0.0	3-Prevalence index is ≤3.	0*	
Herb Stratum	(Plot Size:	5x5 )	Absolute	Dominant	Indicator	4-Morphogical adaptation		
1 *Zea maize	(1 101 0126.	<u> </u>	% Cover 25	Species? Yes	Status UPL	supporting data in Remar separate sheet)	ks or on a	
2 **Ranunculus	S SD.		20	Yes	FACW	Problematic hydrophytic v	vogotation	*
3 Cardamine p	<u> </u>		10	No	FACW	(explain)	regetation	
4 **Echinochloa			5	No	FACW	*Indicators of hydric soil and	wetland hy	drology
5	<u></u>		-		17.077	must be present, unless disturblematic	rbed or	
6								
7						Definitions of Vegetation St	rata:	
8						Tree - Woody plants 3 in. (7.6	•	
9						<ul> <li>diameter at breast height (DB height.</li> </ul>	H), regard	lless of
10						Sapling/Shrub - Woody plan		
			60	= Total Cove	r	(7.6 cm) DBH and greater that ft (1 m) tall.	n or equa	I to 3.28
	50 %	6 of total cover		) % of total co		Herb - All herbaceous (non-w	oody) plar	nts,
Woody Vine Stratu			Absolute	Dominant	Indicator	regardless of size, and woody	plants les	ss than
,	m (Plot Size:	)	% Cover	Species?	Status	3.28 ft tall.		
1 2						Woody vine - All woody vine: 3.28 ft in height.	s greater t	han
3				<u> </u>				
4						Hydrophytic Vegetation	No	
5						Present?	<u>.10</u>	
	50.0	/ <b>~f</b> b~bc l ~ ~ ·	0	= Total Cove				
	50 %	6 of total cover	: 0.0 20	) % of total co	ver: 0.0			

<sup>\*</sup>Plants do not appear on the NCNE NWPL and is assumed to have an UPL indicator status for the prevalance and dominance test.

<sup>\*\*</sup>Identified to a genus level, did not have adequate characteristics to identify at the time of survey. These species were given a FACW indicator based on the common species found within the area to calculate the dominance and prevalance test.

SOIL Sampling Point: DPK037\_UPL

Profile Desc	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix		Re	dox Featu	ıres					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Rema	ırks
0-9	10YR 3/2	100			31		Silt loam			
9-16	10YR 4/3	100					Silt loam			
0.0	101111110									
*T C-C-	tustion D-D-	alatian D	MA-Daduard Matri	. MC-M	andra d Ca	d Oi		**!+i	N -Dana Linina M-I	Antoix
	ncentration, D=De	pietion, R	M=Reduced Matri	x, MS=Ma	asked Sa	nd Grains	<u> </u>		PL=Pore Lining, M=I	
Hydric Soil I									or Problematic Hyd	
Histisol (	A1)			value Belo					ck (A10) (LRR K, L, MLR	
Histic Ep	ipedon (A2)			n Dark Su					rairie Redox (A16) (L	
Black His	stic (A3)		Loa	my Mucky	y Mineral	(F1) (LRR I	(, L)		cky Peat or Peat (S	-
	n Sulfide (A4)		Loa	my Gleye	d Matrix (	(F2)			face (S7) (LRR K, L, M)	
	Layers (A5)			leted Mat					e Below Surface (S	<i>'</i>
	l Below Dark Sufa	ce (A11)		lox Dark S	-	-			k Surface (S9) (LRR )	•
	rk Surface (A12)		Dep	leted Dar	k Surface	e (F7)			iganese Masses (F	
Sandy M	ucky Mineral (S1)		Red	lox Depre	ssions (F	8)		Piedmon	t Floodplain Soils (I	=19) (MLRA 149B)
Sandy G	leyed Matrix (S4)							Mesic Sp	oodic (TA6) (mlra 144)	A, 145, 149B)
Sandy R	edox (S5)		***Indica	itors of hy	/drophytic	vegetati	on and	Red Pare	ent Material (F21)	
Stripped	Matrix (S6)		weltand	hydrology	must be	present,	unless	Very Sha	allow Dark Surface (	(TF12)
Dark Sur	face (S7)		disturbe	d or probl	ematic			Other (E	xplain in Remarks)	
Restrictive L	ayer (if observed	):								
Type:										
Depth (inch	es):						Hy	dric soil prese	ent?	<u>No</u>
Remarks:										
				H	ydric soil	absent				

# **APPENDIX D: Stream Data Forms**



#### Stream Classification Data Form

Stream Name/Code:	Camp Book Perennial
Sampling Location:	Camp Brook Restoration Site
Date/Time:	6/22/2021, 9:00 AM EST
Investigators:	J. Twill, K. Knopsnider, R. Barnhill

Pho	tos	GPS Point					
DS	US	GF3 FOIIIL					
Photos 1 -2	Photos 1 -2	Multiple					

Weather C	onditions:	5-Day Precipitation?				
	Sunny		Yes	X		
Х	Partly Cloudy		No			
	Cloudy					
	Rain					

Watershed Characteristics					
X	Forest				
X	Pasture				
	Old Field				
X	Open Field				
X	Wetland				
X	Mixed Used				
	Industrial				
	Mining				
	Residential				

Recommended USACE JD Status		
	TNW	
Х	RPW	
	Non-RPW	

Stream Type:		
X	Perennial	
	Intermittent	
	Ephemeral	

Macroinvertebrate Observations			
Physidae			
Leuctridae			

Other Observations
Tadpoles and fish present

Stream Hydrology			
Estimated Flow (gpm)	50-100		
Wetted Width (ft)	15-30		
Water Depth (ft)	1-5		

Hydrology Source(s)			
X	Spring		
Х	Seep		
Х	Run-off		
	Pond		

Substrate Type(s)		
	Bedrock	
Χ	Boulder	
Х	Cobble	
Х	Gravel	
	Sand	
	Silt	
	Clay	
	Artificial	

Channel Embeddedness			
Completely (100 %)			
X	Mostly (75 %)		
	Halfway (50 %)		
	Little/None (0-33%)		

Channel Conditions		
15-30	Active Width (ft)	
X Bed/Banks		
X	Alluvial Channel	
Х	Eroded Channel	
	Debris -filled	
	Terrestrial Vegetation	

Page: 1/1

#### Stream Classification Data Form

Stream Name/Code:	S1, S2, S3, S4, S5, S6 Perennial			
Sampling Location:	Camp Brook Restoration Site			
Date/Time:	6/22/2021, 9:00 AM EST			
Investigators:	J. Twill, K. Knopsnider, R. Barnhill			

GPS Point	Photos	
GF3 FOIIIt	US	DS
Multiple	Photos 3-10	Photos 3-10

Weather C	Weather Conditions:		5-Day Precipitation?	
	Sunny		Yes	X
Х	Partly Cloudy		No	
	Cloudy			
	Rain			

Watershed Characteristics			
	Forest		
Х	Pasture		
	Old Field		
Х	Open Field		
Х	Wetland		
Х	Mixed Used		
	Industrial		
	Mining		
	Residential		

Recommended USACE JD Status				
TNW				
Х	RPW			
	Non-RPW			

Stream Type:		
Х	Perennial	
	Intermittent	
	Ephemeral	

Ma	acroinvertebrate Observatio	ns
	Physidae	
	Leuctridae	

Other Observations				
Tadpoles and fish present				

Stream Hydrology					
Estimated Flow (gpm) 10-50					
Wetted Width (ft)	1-15				
Water Depth (ft)	1-5				

Hydrology Source(s)					
X Spring					
Х	Seep				
X	Run-off				
	Pond				

Substrate Type(s)				
	Bedrock			
	Boulder			
	Cobble			
X	Gravel			
	Sand			
Х	Silt			
Х	Clay			
	Artificial			

Channel Embeddedness				
Completely (100 %)				
Х	Mostly (75 %)			
Halfway (50 %)				
Little/None (0-33%)				

Channel Conditions				
1-15 Active Width (ft)				
X Bed/Banks				
X Alluvial Channel				
X	Eroded Channel			
	Debris -filled			
	Terrestrial Vegetation			

Page: 1/1

## APPENDIX E: Soils Found Within the Delineation Area



Soils Found Within the Delineation Area <sup>1</sup>										
				Soil Limitations						
Soil Series Symbol		Cail Carios Catting	Farmland	Depth to Restrictive Features				Undvologie Coil		%
	Soil Series Description	Soil Series Setting (Landform)	Classification	Depth to Any Soil Restrictive Layer (inches)	Depth to Water Table (inches)	Natural Drainage Class	Hydric	Hydrologic Soil Group	Acres	% Area
MdC	Mardin channery silt loam, 8 to 15 percent slopes	Mountains, hills	Farmland of statewide importance	14 to 26	13-24	Moderately well drained	No	D	0.5	0.5
MaC	Mardin channery silt loam, 8 to 15 percent slopes	Mountains, hills	Farmland of statewide importance	14 to 26	13-24	Moderately well drained	No	D	4.4	4.3
LoD	Lordstown channery loam, 20 to 30 percent slopes	Mountains, hills	Not prime farmland	20 to 40	>80	Well drained	No	С	22.4	22.1
VoC	Volusia channery silt loam, 8 to 15 percent slopes	Mountains, hills	Farmland of statewide importance	10 to 22	6 to 18	Somewhat poorly drained	Yes	D	10.4	10.2
ChB	Chenango gravelly loam, 2 to 12 percent slopes	Outwash terraces	Prime farmland	40 to 120	>80	Well drained	No	А	3	3
Wa	Wayland silty clay loam	Floodplains	Farmland of statewide importance	40 to 60	0	Very poorly drained	Yes	C/D	13	12.9
Ow	Orrville silt loam	Floodplains	Farmland of statewide importance	40 to 70	12 to 30	Somewhat poorly drained	No	B/D	46.6	46
Ph	Philo silt loam	Floodplains	Prime farmland	40 to 70	18 to 36	Moderately well drained	Yes	С	1.1	1.1

#### Notes:

- 1. Soils data obtained from the following: Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed (April 2022).
- 2. This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

# **Appendix F: Photographs**



# **Stream Photographs**





Photo 1: Camp Brook, Perennial, Facing Upstream



Photo 2: Camp Brook, Perennial, Facing Downstream



Photo 3: Stream S1, Perennial, Facing Upstream Through Emergent Wetland 1 Complex, Large Presence of Invasive Reed Canary Grass



Photo 4: Stream S1, Perennial, Facing Downstream Through Emergent Wetland 1
Complex



Photo 5: Stream S3, Perennial, Facing Upstream



Photo 6: Stream S4, Perennial, Facing Upstream



Photo 7: Stream S3, Perennial, Facing Upstream



Photo 8: Stream S4, Perennial, Facing Downstream



Photo 9: Stream S5, Perennial, Facing Upstream



Photo 10: Stream S6, Perennial, Facing Downstream

# Wetland Photographs





Photo 1: Representative Disturbed PEM Overview, Wetland W1-PEM, Sampling Point DPK025, Facing South, Hydrology and Disturbance of Vegetation/Soil from Crop Planting



Photo 2: Soil Core, Wetland W1-PEM, Sampling Point DPK015 Showing Hydric F3
Depleted Matrix Indicator



Photo 3: Representative Open Field PEM Overview, Wetland W1-PEM, Sampling Point DPK012, Facing North, Hydrophytic Reed Canary Grass Monoculture



Photo 4: High Water Table Hydrology of Wetland W1-PEM, Sampling Point DPK010



Photo 5: Drainage Patterns Hydrology of Wetland W1-PEM, DP031, Facing East



Photo 6: Representative of Wetland Lacking Hydrophytic Vegetation Due to Severe Disturbance, W1-PEM, DPK022, Note Surface Water



Photo 7: Representative PFO Overview, Wetland W1-PFO, Sampling Point DPK011, Facing South, Note Water-Stained Leaves



Photo 8: Soil Core of Wetland W1-PFO, Sampling Point DPK008, Showing F3
Depleted Matrix Hydric Soil Indicator



Photo 9: High Water Table Hydrology of Wetland WK001-PFO, Sampling Point DPK011



Photo 10: Representative PEM Overview, Wetland 2-PEM, Sampling Point DPK017, Facing South



Photo 11: Soil Core of Wetland W2-PEM, Sampling Point DPK017 Showing F3
Depleted Matrix Hydric Soil Indicator



Photo 12: Representative PEM Overview, Wetland 4-PEM, Sampling Point DPK020, Facing West



Photo 13: Soil Core of Wetland W4-PEM, Sampling Point DPK020 Showing F3
Depleted Matrix Hydric Soil Indicator



Photo 14: Representative PEM Overview, Wetland 6-PEM, Sampling Point DPK036, Facing East, Note Severe Disturbance and Lacking Hydrophytic Vegetation



Photo 15: Soil Core of Wetland W6-PEM, Sampling Point DPK036 Showing F3
Depleted Matrix Hydric Soil Indicator With Oxidized Rhizospheres On Living Roots



Photo 16: : Representative PEM Overview, Wetland 9-PEM, Sampling Point DPK033, Facing South, Note Surface Water and Severe Disturbance



Photo 17: Soil Core of Wetland W9-PEM, Sampling Point DPK033 Showing F3
Depleted Matrix Hydric Soil Indicator



Photo 18: Algal Mat or Crust Hydrology of Wetland W9-PEM, DPK033

# APPENDIX D PRM SITE PHOTOGRAPHS



Photograph 1: Overview of existing PEM wetland dominated by *Phalaris arundinacea* (reed canary grass) within the proposed PRM site.



Photograph 2: Additional view of existing PEM wetlands at the boundary with PFO components within the proposed PRM site.



Photograph 3: Invasive dominated PEM wetlands within the proposed PRM site.

# APPENDIX E PNDI RECEIPT

#### Project Search ID: PNDI-756828

### 1. PROJECT INFORMATION

Project Name: Camp Brook Restoration Site - Phase 2

Date of Review: 2/20/2025 09:50:59 AM

Project Category: Habitat Conservation and Restoration, Wetland Restoration, Wetland Creation, or Wetland

**Enhancement** 

Project Area: 106.19 acres

County(s): Tioga

Township/Municipality(s): Elkland Borough

ZIP Code:

Quadrangle Name(s): **ELKLAND** Watersheds HUC 8: **Tioga** 

Watersheds HUC 12: MIddle Cowanesque River

Decimal Degrees: 41.992112, -77.327072

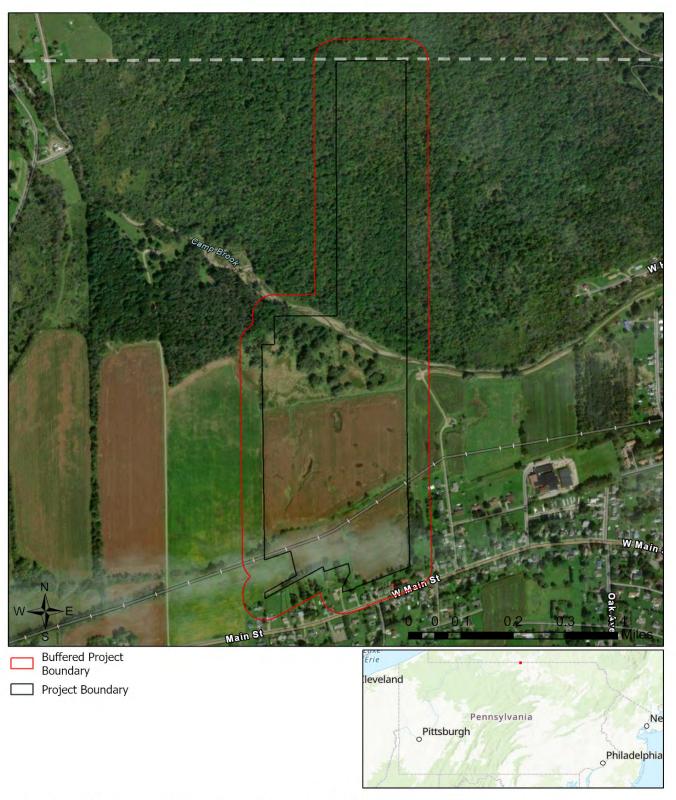
Degrees Minutes Seconds: 41° 59' 31.6042" N, 77° 19' 37.4580" W

### 2. SEARCH RESULTS

Agency	Results	Response		
PA Game Commission	No Known Impact	No Further Review Required		
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required		
PA Fish and Boat Commission	No Known Impact	No Further Review Required		
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required		

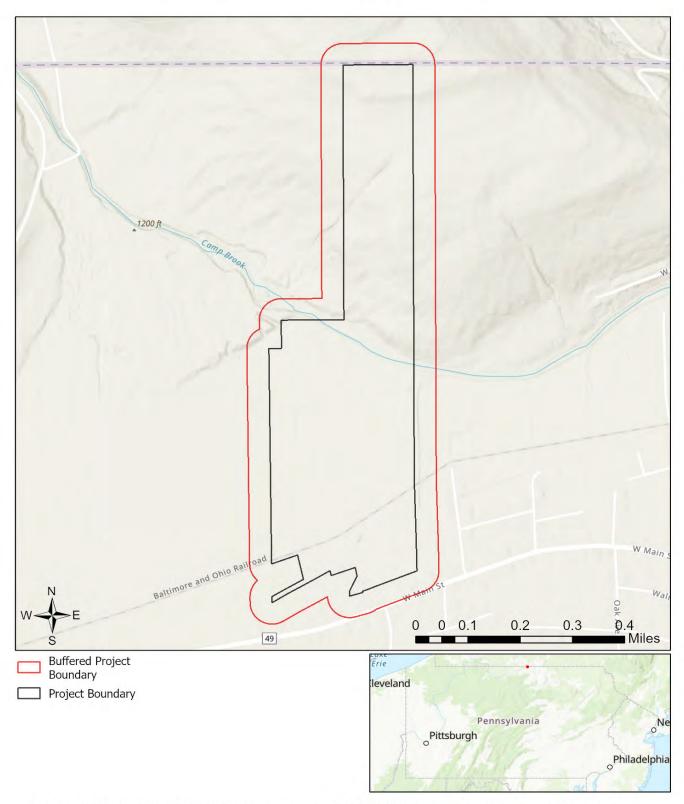
As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

### Camp Brook Restoration Site - Phase 2



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

### Camp Brook Restoration Site - Phase 2



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

### 3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

### **PA Game Commission**

### **RESPONSE:**

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

## PA Department of Conservation and Natural Resources RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

### **PA Fish and Boat Commission**

### **RESPONSE:**

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

## U.S. Fish and Wildlife Service RESPONSE:

No impacts to **federally** listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq. is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

### 4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at https://conservationexplorer.dcnr.pa.gov/content/resources.

Project Search ID: PNDI-756828

### Project Search ID: PNDI-756828

### 5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (<a href="www.naturalheritage.state.pa.us">www.naturalheritage.state.pa.us</a>). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

### 6. AGENCY CONTACT INFORMATION

## PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section 400 Market Street, PO Box 8552 Harrisburg, PA 17105-8552

Email: RA-HeritageReview@pa.gov

#### **PA Fish and Boat Commission**

Division of Environmental Services 595 E. Rolling Ridge Dr., Bellefonte, PA 16823

Email: RA-FBPACENOTIFY@pa.gov

#### U.S. Fish and Wildlife Service

Pennsylvania Field Office Endangered Species Section 110 Radnor Rd; Suite 101 State College, PA 16801 Email: IR1\_ESPenn@fws.gov

**NO Faxes Please** 

#### **PA Game Commission**

Bureau of Wildlife Management Division of Environmental Review 2001 Elmerton Avenue, Harrisburg, PA 17110-9797

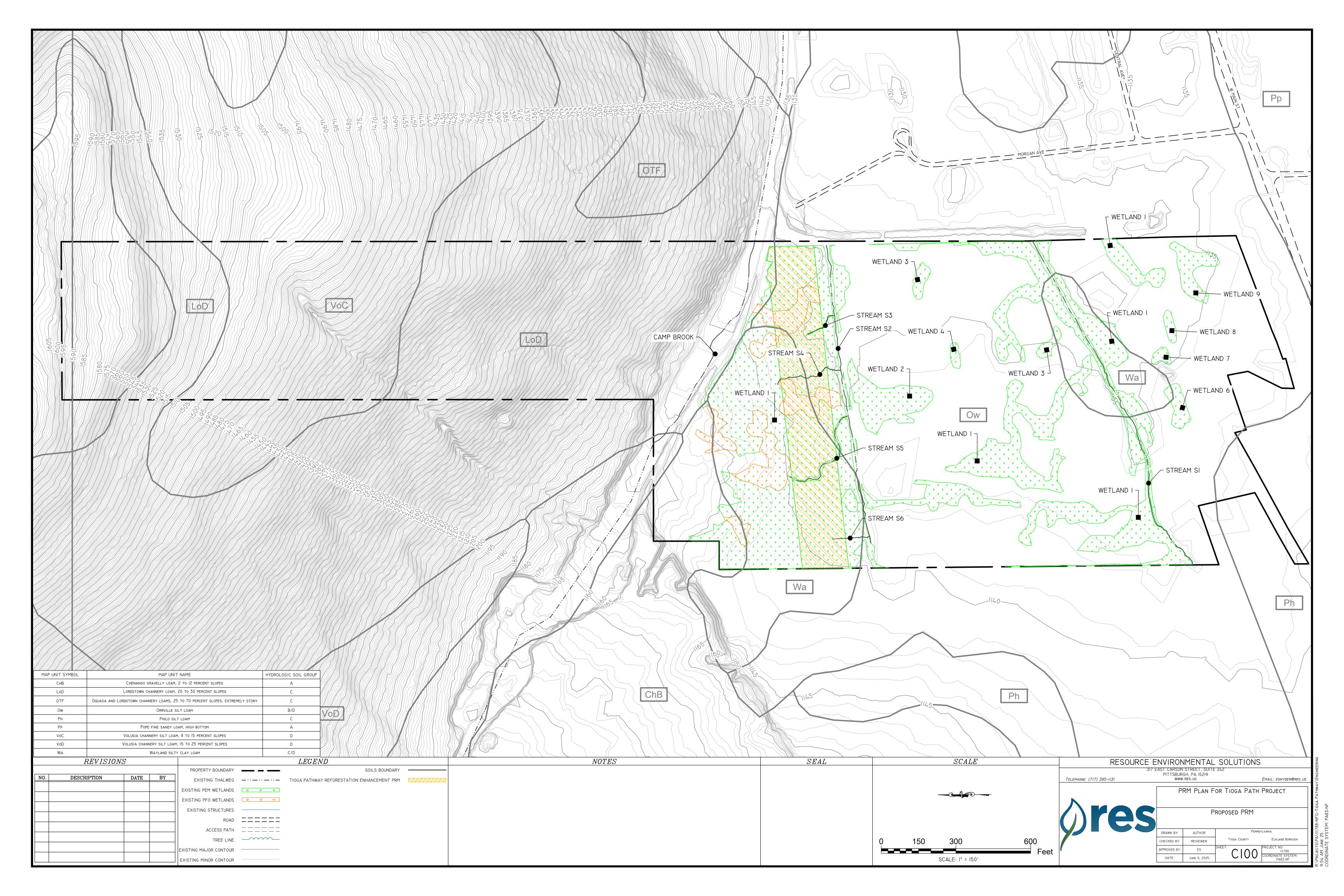
Email: RA-PGC PNDI@pa.gov

**NO Faxes Please** 

### 7. PROJECT CONTACT INFORMATION

Name: Paul Golubic	
Company/Business Name: Resource Environr	nental Solutions, LLC
Address:_317 East Carson Street, Suite 242_	
City, State, Zip: Pittsburgh, PA 15219	
Phone:(_ <b>412</b> _) <b>303-2163</b>	Fax:()
Email:_pgolubic@res.us	
size/configuration, project type, answers to que	nined in this receipt (including project location, project stions) is true, accurate and complete. In addition, if the project type answers to any questions that were asked during this online review all review.
	2/20/2025
applicant/project proponent signature	date

# APPENDIX F MITIGATION PLAN



A. GENERAL:

I. PLANT DETAILS ARE INCORPORATED INTO THIS SPECIFICATION BY REFERENCE.

2.1. SUPPLIER CERTIFICATION: THE SUPPLIER OF ALL SEEDS AND/OR VEGETATION SHALL CERTIFY THAT ORIGIN OF THE SEEDS FROM WHICH THE PLANTS OR SEEDS WERE PRODUCED IS FROM THE EASTERN OR CENTRAL PORTIONS OF THE U.S. PRIOR TO PLANTING. 2.2. INSTALLER QUALIFICATIONS: ENGAGE AN EXPERIENCED INSTALLER, WHO HAS SUCCESSFULLY COMPLETED RESTORATION PLANTING PROJECTS SIMILAR IN SIZE AND COMPLEXITY TO THIS PROJECT. 2.3. INSTALLER'S FIELD SUPERVISION: INSTALLER TO MAINTAIN AN EXPERIENCED FULL-TIME SUPERVISOR ON THE PROJECT SITE WHEN PLANTING IS IN

3. PLANT MATERIALS

3.I. PROVIDE PLANT MATERIALS OF QUANTITY, SIZE, GENUS AND SPECIES INDICATED ON THE CONSTRUCTION DRAWINGS.

4. ALL PLANT MATERIALS AND WORK SHALL COMPLY WITH RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z60.1 2004 AMERICAN STANDARD FOR NURSERY STOCK. ALL SEEDS MUST MEET APPLICABLE STATE AND FEDERAL REGULATIONS AND MUST INCLUDE LABELING INDICATING SUPPLIER, FORMULATION, GERMINATION RATES AND SEED DATE. LABELS FROM ALL SEED INSTALLED ARE TO BE KEPT AND SUPPLIED TO OWNER AT COMPLETION OF PROJECT.

DO NOT MAKE SUBSTITUTIONS UNLESS APPROVED BY THE PROJECT MANAGER. REQUESTS FOR SUBSTITUTIONS MUST BE MADE IN WRITING TO THE PROJECT MANAGER AND APPROVED TO INSTALLATION. INCLUDE REASONS WHY THE SUBSTITUTIONS ATE BEING REQUESTED.

5. PROJECT ENGINEER MAY INSPECT PLANT MATERIALS EITHER AT PLACE OF GROWTH OR ON SITE DURING PLANTING ACTIVITIES, FOR COMPLIANCE WITH REQUIREMENTS FOR GENUS, SPECIES, VARIETY, SIZE, AND QUALITY. MATERIAL FOUND TO BE UNACCEPTABLE WILL BE REJECTED AND THE CONTRACTOR WILL BE REQUIRED TO SUPPLY REPLACEMENT MATERIAL WITHIN TIME FRAME (I.E., I WEEK). REJECTED MATERIAL SHALL BE IMMEDIATELY REMOVED FROM PROJECT

SITE. UNACCEPTABLE MATERIAL IS DEFINED AS THE FOLLOWING: 5.1. PLANTS WITH BENT TRUNKS OR MULTIPLE LEADERS, UNLESS CHARACTERISTIC FOR THE SPECIES;

MORE THAN 6 HOURS AFTER DELIVERY, FOLLOW STORAGE INSTRUCTIONS AS SHOWN IN TUBELING TREE PLANTING DETAIL.

5.2. PLANTS WITH DISEASED TRUNKS, STEMS, OR LEAVES; 5.3. PLANTS WITH PEST-INFESTED TRUNKS, STEMS, OR LEAVES;

5.4. PLANTS OF INSUFFICIENT SIZE; 5.5. PLANTS WITH WRONG SPECIES/SUB-SPECIES; AND 5.6. PLANTS HAVING ROOT GIRDLING IN THE CONTAINER.

6.I. PROTECT BARK, BRANCHES, AND ROOT SYSTEMS FROM SUN SCALD, DRYING, SWEATING, WHIPPING, AND OTHER HANDLING AND TYING DAMAGE. DO NOT BEND OR BIND-TIE TREES OR SHRUBS IN SUCH A MANNER AS TO DESTROY THEIR NATURAL SHAPE. PROVIDE PROTECTIVE COVERING OF PLANTS DURING DELIVERY. DO NOT DROP PLANTS DURING DELIVERY. 6.2. DELIVER PLANT MATERIALS AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED AND PLANT IMMEDIATELY. IF PLANTING IS DELAYED

6.3. DO NOT REMOVE CONTAINER-GROWN STOCK FROM CONTAINERS UNTIL PLANTING TIME. 6.4. SEED: SEED SHOULD BE CLEAN AND DRY. DO NOT USE SEED THAT HAS BECOME MOIST DURING DELIVERY OR STORAGE. IF SEED NEEDS TO BE TEMPORALLY STORED IT SHOULD BE STORED IN A COOL, DRY PLACE.

7.I. EXAMINE THE SUB-GRADE AND TOPSOIL, AND VERIFY THE ELEVATIONS PRIOR TO INSTALLING PLANT ON SEED MATERIAL. ALL SOIL AMENDMENTS AND CONDITIONING SHALL BE COMPLETED PRIOR TO SEEDING AND PLANT MATERIAL INSTALLATION, DO NOT PROCEED WITH THE WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN A MANNER ACCEPTABLE TO THE INSTALLER.

7.2. CALL PENNSYLVANIA ONE CALL SYSTEM AT I-800-242-1776, 72 HOURS PRIOR TO ANY EXCAVATION. DETERMINE LOCATION OF UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER WHICH WILL AVOID POSSIBLE DAMAGE. HAND EXCAVATE AS REQUIRED.

8. PLANTING AND SEEDING RESTRICTIONS 8.I. PLANTS SHALL BE PLANTED DURING UNFROZEN SOIL CONDITIONS SEPTEMBER 15TH - MAY 15TH. PLANT INSTALLATION OUTSIDE OF THIS TIME PERIOD

SHALL NOT OCCUR UNLESS APPROVED BY THE PROJECT CONSTRUCTION MANAGER AND MAY REQUIRE ADDITIONS TO THE SCOPE OF WORK, SUCH AS WATERING 8.2. SEEDING SHALL BE COMPLETED DURING SEPTEMBER 15-MAY 15 TO THE GREATEST EXTENT POSSIBLE. DORMANT WINTER SEEDING SHALL NOT BE CONDUCTED WITH MORE THAN 2" OF SNOW ON THE GROUND AT THE TIME OF SEEDING. DUE TO THE SCHEDULE OF THE PROJECT, SOME PERMANENT SEEDING OUTSIDE THIS TIME PERIOD WILL BE NECESSARY. THE CONTRACTOR WILL BE RESPONSIBLE FOR REMEDIAL SEEDING IN UNDER-PERFORMING AREAS DUE TO SEEDING OUTSIDE OF THIS TIME PERIOD. A COVER CROP SHALL BE SOWN AT THE TIME OF PERMANENT SEEDING TO PROVIDE QUICKER GERMINATION AND

8.3. THESE LIMITS MAY NOT BE MODIFIED UNLESS APPROVED BY THE PROJECT ENGINEER IN ADVANCE, WITH THE RISK OF SURVIVAL BORNE SOLELY BY THE CONTRACTOR.

9.I. WARRANTY PERIOD IS FOR ONE (I) YEAR AFTER DATE OF FINAL ACCEPTANCE AND COVERS DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH, EXCEPT FOR DEFECTS RESULTING FROM NEGLECT BY OWNER, ABUSE OR DAMAGE BY OTHERS, OR UNUSUAL PHENOMENA OR INCIDENTS WHICH ARE BEYOND CONTRACTOR'S CONTROL.

9.2. CONTRACTOR SHALL GUARANTEE A MINIMUM SURVIVAL RATE FOR THE WARRANTY PERIOD OF 85% FOR BALLED AND BURLAPPED, CONTAINER

GROWN, AND TUBELINGS, AND 75% FOR BARE ROOT AND LIVE STAKES. 9.3. IF SURVIVAL RATES ARE LESS THAN THE ABOVE WARRANTY RATES, THE CONTRACTOR SHALL REPLACE THE QUANTITY OF DEFECTIVE OR DEAD PLANTS UP TO THE ORIGINAL CONSTRUCTION DRAWING SPECIFIED PLANT QUANTITY. WARRANTY PLANTINGS SHALL OCCUR WITHIN THE NEXT PLANTING WINDOW (SEPTEMBER 15TH -JUNE 15TH, EXCLUDING FROZEN SOIL CONDITIONS) FOLLOWING THE END OF THE APPLICABLE WARRANTY PERIOD. 9.4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY DURING THE WARRANTY PERIOD TO PROVIDE WRITTEN NOTICE OF ANY MAINTENANCE PRACTICE TO THE OWNER, WHICH IN THEIR OPINION WILL AFFECT THE GUARANTEE IF NOT REMEDIED PROMPTLY. THE PROJECT ENGINEER WILL RENDER AN OPINION OF ANY CONFLICT IF NECESSARY.

10.1. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL PLANT MATERIAL THROUGH FINAL ACCEPTANCE AND WARRANTY PERIOD.

INSTALL PLANT MATERIALS IN ACCORDANCE WITH THE SPECIFICATIONS AND DETAILS OF THE CONSTRUCTION DRAWINGS FOLLOWING THE ADDITION OF SOIL AMENDMENTS, SEEDING, AND INSTALLATION OF APPLICABLE EROSION CONTROL FABRIC.

I.I. PLANTING OF CONTAINER GROWN MATERIAL SHALL OCCUR IN ACCORDANCE WITH LOCATIONS AND/OR PATTERNS SPECIFIC TO THE CONSTRUCTION I.2. PLANTING HOLES SHALL BE AT LEAST TWICE THE DIAMETER AND DUG TO THE SAME DEPTH AS THE CONTAINER IN WHICH THEY ARE GROWN. DO NOT REMOVE PLANT MATERIAL FROM CONTAINER UNTIL IMMEDIATELY BEFORE INSTALLATION. EXAMINE THE ROOTS TO SEE IF THEY ARE POT BOUND. CAREFULLY SEPARATE ANY POT BOUND OR CRAMPED ROOTS AND SPREAD THEM OUT WHEN PLACING THE PLANT WITHIN THE HOLE SO THAT THE ROOTS CAN GROW WITHOUT FURTHER CONSTRICTION OF THE ROOT BALL.

I.3. SET PLANT MATERIALS PLUMB AND CENTERED WITHIN HOLE, ENSURING THAT THE TOP OF THE ROOT BALL IS SLIGHTLY ELEVATED ABOVE THE SURROUNDING SOIL ELEVATIONS. BACKFILL AROUND ROOT BALL WITH SUITABLE NATIVE SOIL, MAINTAINING PLUMB, AND GENTLY TAMPING BACKFILL LAYERS TO ELIMINATE VOIDS. WATER IS BACKFILL LAYERS TO THE POINT OF SOIL SATURATION. 1.4. FOLLOWING THE BACKFILLING, ADD EXISTING SOIL TO BRING THE FINAL GRADE IN THE PLANTING HOLE TO THE SURROUNDING SOIL SURFACE. RAKE

THE UNUSED EXISTING SOIL OUTSIDE THE PLANTING HOUSE, TAKING CARE NOT TO MOUND THE SOIL OR TO SIGNIFICANTLY ALTER THE EXISTING GRADES. 2.I. IT SHOULD BE ANTICIPATED THAT THE SOIL MAY BE COMPACTED MORE THAN OPTIMAL FOR PLANTING AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO RIP SOIL TO ASSURE OPTIMAL PLANTING CONDITION. SOIL SHALL BE RIPPED TO A DEPTH OF 9-12".

2.2. BAREROOT MATERIAL SHALL BE TREATED WITH ROOT DIP ACCORDING TO THE MANUFACTURERS RECOMMENDATION PRIOR TO PLANTING. MATERIALS SHALL BE PLANTED IMMEDIATELY OR OTHERWISE STORED PER THE MANUFACTURER'S RECOMMENDATIONS. 3.I. LIVE STAKE MATERIAL SHALL BE KEPT MOIST ACCORDING TO MANUFACTURES RECOMMENDATIONS. DO NOT ALLOW THE LIVE STAKES TO DRY OUT PRIOR TO INSTALLATION.

3.2. MATERIAL SHALL BE PLANTED ACCORDING TO THE DETAIL PROVIDED. THE USE OF A PUNCH/PLANTING BAR, AUGER, REBAR, OR WATER-JET MAY BE USED TO PRE-DRILL HOLE IF NECESSARY. TAMP SOIL AROUND STAKE FOLLOWING INSTALL. 4. SEEDING 4.1. SEEDING SHALL OCCUR AS SHOWN ON THE PLANTING PLAN. IN ACCORDANCE WITH THE CURRENT VERSION OF THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL SEED SHALL BE APPLIED PRIOR TO INSTALLATION OF ANY

EROSION CONTROL FABRIC. AREAS APPLIED WITH HERBICIDE MAY BE SEEDED 7 DAYS AFTER APPLICATION. 4.2. SOW SEED WITH A SPREADER OR A HYDROSEED MACHINE WITH MANUFACTURER RECOMMENDED BINDING AGENT. IN AREAS WITH DENSE EXISTING VEGETATION, INSTALL SEED WITH A NATIVE NO-TILL DRILL SEEDER. DO NOT BROADCAST DROP SEED WHEN WIND VELOCITY EXCEEDS 5 MPH. EVENLY

DISTRIBUTE SEED BY SOWING EQUAL QUANTITIES IN TWO DIRECTIONS AT RIGHT ANGLES TO EACH OTHER. 4.3. DO NOT USE WET SEED OR SEED THAT IS MOLDY OR OTHERWISE DAMAGED IN TRANSIT OR STORAGE. 4.4. SOW SEED PRIOR TO INSTALLATION OF EROSION CONTROL FABRIC WHERE APPLICABLE.

4.5. IF BROADCAST, ROLL SEEDED AREAS LIGHTLY, AND WATER WITH A FINE SPRAY. 4.6. PROTECT SEEDED AREAS AGAINST EROSION BY SPREADING STRAW MULCH IMMEDIATELY FOLLOWING COMPLETION OF SEEING OPERATIONS IF OTHER EROSION CONTROL MEASURES ARE NOT OTHERWISE SPECIFIED. SPREAD UNIFORMLY AT A RATE OF 2 TONS PER ACRE (90 LB. PERI,000 S.F.) TO FORM A CONTINUOUS BLANKET OVER SEEDED AREAS. SPREAD BY HAND, BLOWER, OR OTHER SUITABLE EQUIPMENT. ANCHOR STRAW MULCH BY CRIMPING INTO TOPSOIL BY SUITABLE MECHANICAL EQUIPMENT.

4.7 STRAW EROSION CONTROL BLANKET IS A SUITABLE ALTERNATIVE TO BE USED INSTEAD OF BLOWN OR CRIMPED STRAW.

LOCATION 5.I. ALL PLANT MATERIAL IS TO BE INSTALLED AS SHOWN ON THE PLANTING PLANS FOR THE PROTOTYPE.

5.2. UPLAND TREE PLANTINGS ARE TO BE INSTALLED IN A 9X9 GRID PATTERN. 5.3. FLOODPLAIN PLANTINGS ARE TO BE INSTALLED IN A CLUMPED FASHION WITH A MINIMUM OF 3' SPACING BETWEEN PLANTS. PLANTS ARE TO BE INSTALLED BASED UPON THE HYDROLOGIC TOLERANCES AND SITE CONDITIONS AFTER CONSTRUCTION IS COMPLETED. 5.4. ALL LIVE STAKES ARE TO BE INSTALLED ALONG STREAM BANKS, POOLS, AND FLOODPLAIN POOLS BASED UPON SPACING INDICATED IN THE

PLANT PROTECTION 6.1. ALL PLANTS TO INCLUDE A 4' TREE CAGE AS INDICATED ON DETAIL PL-1, SHEET C100.

### CARE OF SEEDLING UNTIL PLANTED

SEEDLINGS SHOULD BE PLANTED IMMEDIATELY. IF IT IS NECESSARY TO STORE MOSS-PACKED SEEDLINGS FOR MORE THAN 2 WEEKS, ONE PINT OF WATER PER PKG. SHOULD BE ADDED. IF CLAY-TREATED, DO NOT ADD WATER TO PKG. PACKAGES MUST BE SEPARATED TO PROVIDE VENTILATION TO PREVENT "HEATING". SEPARATING PACKAGES WITH WOOD STRIPS AND STORE OUT OF THE WIND IN A SHADED, COOL, (NOT FREEZING) LOCATION.

### CARE OF SEEDLING DURING PLANTING

WET BURLAP ONLY.

WHEN PLANTING, ROOTS MUST BE KEPT MOIST UNTIL TREES ARE IN THE GROUND. DO NOT CARRY SEEDLINGS IN YOUR HAND EXPOSED TO THE AIR AND SUN. KEEP MOSS-PACKED SEEDLINGS IN A CONTAINER PACKED WITH WET MOSS OR FILLED WITH THICK MUDDY WATER. COVER CLAY-TREATED SEEDLINGS WITH

Proposed Planting Schedule for Tioga Pathway PRM Site*					
SCIENTIFIC NAME	COMMON NAME	Type/Size INDICATOR STATUS		NUMBER PER ACRE	QUANTITY
Acer saccharinum	Silver Maple	3-5 gallon, minimum 5'	FACW	20	90
Acer rubrum	Red Maple	3-5 gallon, minimum 5'	FAC	20	90
Alnus serrulata	Brookside Alder	1 gallon, minim 3'	OBL 30		135
Amelanchier canadensis	Canadian Service-Berry	1 gallon, minim 3'	FAC	30	135
Betula nigra	River Birch	3-5 gallon, minimum 5'	FACW	30	135
Carpinus caroliniana	American Hornbeam	1 gallon, minim 3'	FAC	20	90
Cephalanthus occidentalis	Common Buttonbush	1 gallon, minim 3'	OBL	20	90
Cornus amomum	Silky Dogwood	1 gallon, minim 3'	FACW	30	135
Lindera benzoin	Northern Spicebush	3-5 gallon, minimum 5'	FAC	20	90
Physocarpus opulifolius	Atlantic Ninebark	1 gallon, minim 3'	FACW	20	90
Platanus occidentalis	American Sycamore	3-5 gallon, minimum 5'	FACW	20	90
Quercus bicolor	Swamp White Oak	3-5 gallon, minimum 5'	FACW	20	90
Salix nigra	Black Willow	1 gallon, minim 3'	OBL	30	135
Quercus palustris	Pin Oak	3-5 gallon, minimum 5'	FACW 20		90
Viburnum dentatum	Viburnum dentatum Southern 1 gallon, minim 3' FAC		FAC	20	90
			TOTAL	350	1575

<sup>\*</sup>The proposed planting species, type and quantities are subject to change pending availability at the time of implementation.

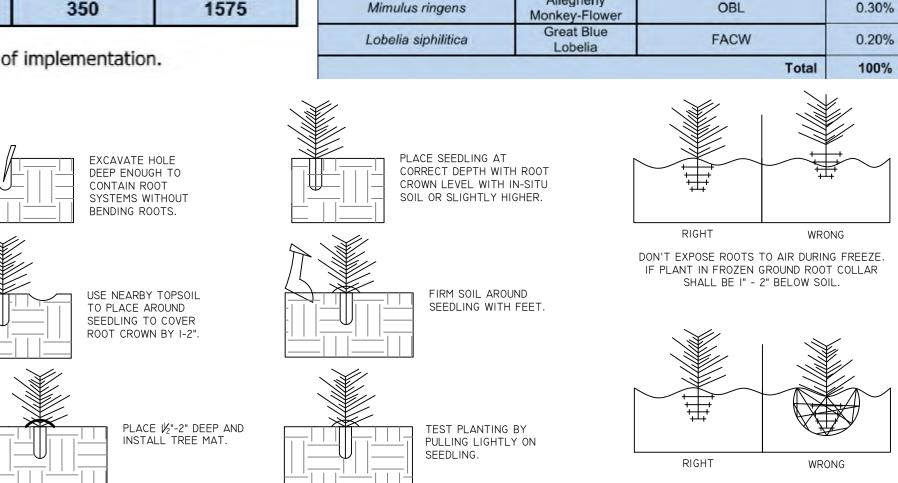
4' TREE CAGE

4' TREE CAGE TO BE INSTALLED AROUND ALL

PROTECTIVE TREE CAGE DETAIL

NOT TO SCALE

TREES AND SHRUBS.



SCIENTIFIC NAME

Elymus virginicus

Dichanthelium clandestinum

Andropogon gerardii

Sorghastrum nutans

Carex vulpinoidea

Carex scoparia

Carex lurida

Verbena hastata

Juncus effusus

Asclepias incarnata

Zizia aurea

Verbena urticifolia

Solidago rugosa

Symphyotrichum lanceolatun

Helenium autumnale

Symphyotrichum novae-

Symphyotrichum puniceum

Eupatorium perfoliatum

Monarda fistulosa

Euthamia graminifolia

Scirpus cyperinus

Lycopus americanus

NAME

Virginia Wild Rye

Deer-Tongue

Big Bluestem

Grass

Common Fox

Pointed Broom

Shallow Sedge

Simpler's-Joy

Lamp Rush

Milkweed

Golden

Alexanders

White Vervain

Wrinkle-Leaf

White Panicled

American-Aster

Fall

Sneezeweed

New England

American-Aster

Purple-Stem

Common

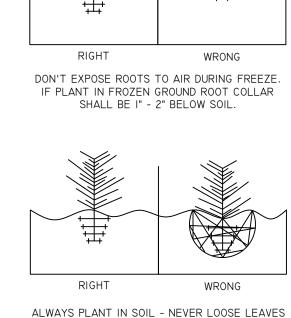
Oswego-Tea

Goldentop

Cottongrass

Cut-Leaf Water-

Horehound Allegheny



OR DEBRIS, PACK SOIL TIGHTLY.

Proposed Restoration Seed Mix (Ernst-154, Floodplain Mix)

DENSITY

20.00%

14.50%

14.00%

14.00%

10.00%

6.30%

6.30%

3.00%

2.00%

2.00%

2.00%

1.00%

0.60%

0.50%

0.50%

0.50%

0.50%

0.40%

0.40%

0.40%

0.30%

0.30%

INDICATOR STATUS

FACW

FAC

FAC

FACU

OBL

FACW

OBL

FACW

FACW

OBL

FAC

FAC

FAC

FACW

FACW

FACW

OBL

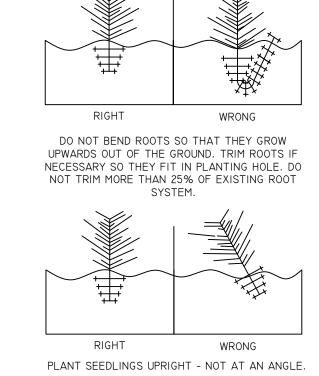
FACW

UPL

FAC

FACW

OBL



SEEDING RATE

(20 LBS/ AC)

104.40

75.69

73.08

73.08

52.20

32.89

32.89

15.66

10.44

10.44

10.44

5.22

3.13

2.61

2.61

2.61

2.61

2.09

2.09

2.09

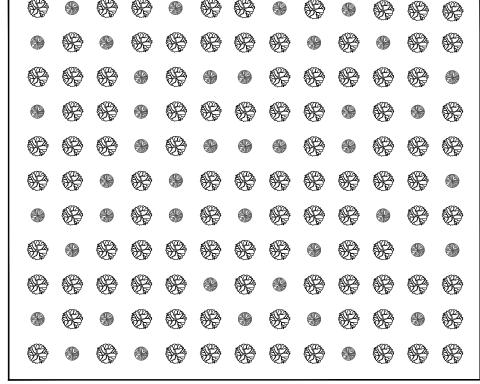
1.57

1.57

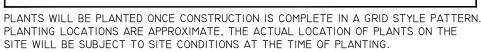
1.57

1.04

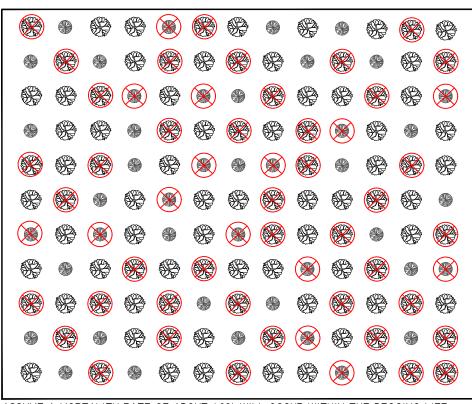
CONTAINER & TUBELING PLANTING DETAIL NOT TO SCALE



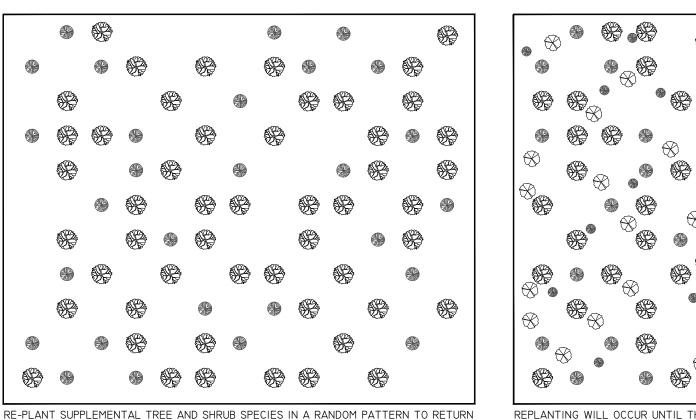
TREE CAGE TO BE SECURED WITH A MINIMUM OF TWO 5' PINE STAKES /



CIOI



ASSUME A MORTALITY RATE OF ABOUT 40% WILL OCCUR WITHIN THE BEGGING LIFE CYCLE OF THE SITE, CAUSING THE GRID PATTERN TO DISSIPATE. ACTUAL MORTALITY TO BE VERIFIED DURING MONITORING.



REPLANTING WILL OCCUR UNTIL THE SITE RETURNS TO THE REQUIRED DENSITIES PER ACRE AND THE SITE HAS BEEN CLOSED OUT

MATRIX PLANTING PLAN DETA	١L
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THE SITE TO THE REQUIRED DENSITIES PER ACRE.

NOT TO SCALE

REVISIONS	LEGEND	NOTES	SEAL	SCALE	RESOURCE ENVIRONMENTAL SOLUTIONS	
NO. DESCRIPTION DATE BY	TUBELING				317 EAST CARSON STREET, SUITE 242 PITTSBURGH, PA 15219 TELEPHONE: (717) 385-1131 WWW.RES.US EMAIL: ESNYDER@RES.US	
	TUBELING				F	PRM PLAN FOR TIOGA PATH PROJECT
	SHRUB				Nec	PLANTING DETAILS
	REPLANTED TUBELING				DRAWN BY:	AUTHOR PENNSYLVANIA
	REPLANTED SHRUB				CHECKED BY:  APPROVED BY	: REVIEWER TIOGA COUNTY ELKLAND BOROUGH
	SHRUB W				DATE:	SILET   SILE