

Section 3 - Appendix 8

Inventory and Delineation of Wetlands and Watercourses along the New Hampshire Portion of the Northeast Energy Direct Project

This Appendix was formatted in its entirety as part of the Final FERC 7(c) Application, filed on November 20, 2015 (PF-14-22-000), Environmental Reports, Volume I; therefore, appendix references and page numbers contained within this document are not consistent with this permit application.

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**INVENTORY AND DELINEATION OF WETLANDS AND
WATERCOURSES
ALONG THE NEW HAMPSHIRE PORTION OF THE
NORTHEAST ENERGY DIRECT PROJECT**

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1.0 INTRODUCTION

This report provides a summary of wetland and watercourse inventories and delineations conducted along the New Hampshire portion of the proposed Northeast Energy Direct Project (“NED Project” or “Project”). The proposed project, as currently configured, would involve the construction of approximately 420-miles of new pipeline and pipeline looping (i.e., the installation of additional pipe to adjacent to the existing pipeline) in Pennsylvania, New York, Massachusetts, New Hampshire and Connecticut. The entire proposed NED Project facilities are as follows:

- Approximately 41 miles of pipeline looping on Tennessee’s 300 Line in Pennsylvania;
- Approximately 133 miles of new pipeline to be generally co-located with the certificated Constitution Pipeline Project (“Constitution”)¹ in Pennsylvania and New York (extending from Tennessee’s existing 300 Line near Auburn, Pennsylvania to Wright, New York);
- Approximately 54 miles of pipeline generally co-located with Tennessee’s existing 200 Line and an existing utility corridor in New York;
- Approximately 64 miles of pipeline generally co-located with an existing utility corridor in Massachusetts;
- Approximately 70 miles of pipeline generally co-located with an existing utility corridor in New Hampshire (extending southeast to Dracut, Massachusetts);
- Approximately 58 miles of various laterals and a pipeline loop in Massachusetts, New Hampshire, and Connecticut to serve local markets;
- Construction of nine new compressor stations and 15 new meter stations, and modifications to existing compressor and meter stations throughout the Project area; and
- Construction of appurtenant facilities, including mainline valves (“MLVs”), cathodic protection, and pig facilities through the Project area.

The Project is proposed by Tennessee Gas Pipeline Company (“Tennessee”), a wholly-owned subsidiary of Kinder Morgan, Inc. and a major supplier of natural gas to utilities and power generators in the Northeast. The New Hampshire Portion of the Project consists consist of approximately 70 miles of 30-inch-diameter pipeline, beginning at the Massachusetts/New Hampshire border and extending east to the Massachusetts/New Hampshire border north of Dracut, Massachusetts (as part of the Wright to Dracut Pipeline Segment). Portions of the Wright to Dracut Pipeline Segment will be located in New York, Massachusetts, and New Hampshire. Approximately 57 miles of this new proposed mainline pipeline (beginning at the Massachusetts/New Hampshire border) will be generally co-located with an existing utility corridor to the extent practical, feasible, and in compliance with existing law. The remainder of the proposed mainline pipeline facilities in New Hampshire will be new pipeline right-of-way (“ROW”).

¹ On December 2, 2014, the Commission issued an Order Issuing Certificates and Approving Abandonment, Constitution Pipeline Company, LLC, 149 FERC 61,199 (2014), for the Constitution Pipeline Project, which adopted the recommendations from the Constitution “Final Environmental Impact Statement: Constitution Pipeline and Wright Interconnect Projects,” FERC Environmental Impact Statement (“EIS”) No. 0249F, Docket Numbers CP13-499-000, CP13-502-000, and PF12-9-000 (“Constitution Final EIS [“FEIS”]”) issued October 24, 2014. Information contained within this WDR related to the Constitution Pipeline Project was based on the routing included in the FEIS, as approved by the certificate order.

The proposed Project pipeline facilities in New Hampshire also include portions of the Fitchburg Lateral Extension and the Haverhill Lateral (described in the discussion of Massachusetts pipeline facilities in Resource Report 1). Approximately 2.02 miles of the 9.27-mile Haverhill Lateral and 5.08 miles of the 13.97-mile Fitchburg Lateral Extension will be located in New Hampshire. The remaining portions of these laterals will be located in Massachusetts.

In addition to the pipeline facilities, the NED Project includes construction of one new compressor station in New Hampshire. A summary of Project facilities in New Hampshire is detailed in Table 2f-1. Additional NED Project facilities include use of access roads and contractor yards.

This report discusses the methods used to identify boundaries of both the state and federal wetlands and watercourses encountered along the New Hampshire portion of the Project and summarizes the findings of the surveys. Onsite and offsite wetland and watercourse investigations in New Hampshire were conducted between April 23, 2015, and September 29, 2015. It contains wetland data between Wright to Dracut Pipeline Segment (New Hampshire Portion), Segment I, MP 0.00 to MP 28.76, Wright to Dracut Pipeline Segment (New Hampshire Portion), Segment J, MP 0.00 to MP 41.69, Haverhill Lateral (New Hampshire Portion), Segment P MP 6.95 to MP 8.99, and Fitchburg Lateral Extension (New Hampshire Portion), Segment Q, MP 0.00 to MP 5.08. Because the route determination and survey access permission process are ongoing, additional delineation submissions will be necessary to complete the process of jurisdictional boundary line verification and approval.

Tables listing wetlands and watercourses identified during the course of the surveys are located in Appendix 2f-A. The tables include only those field-delineated wetlands and waterbodies which are located within the Project workspace and will be impacted by construction or operation of the Project. Additional wetlands and watercourses identified in the survey corridor but not impacted by the proposed Project configuration will be included in any future delineation submissions. Appendix 2f-B and Appendix 2f-C contain the wetland and watercourse mapping associated with the Project. Appendix 2f-D contains the field data forms which were used to document the wetland delineations, including representative wetland photographs. Appendix 2f-E contains the field data forms which were used to document the watercourse delineations, including representative watercourse photographs.

**Table 2f-1
Summary of Project Facilities in New Hampshire**

Facility Name	Facility Type	New / Modified	Associated Pipeline ¹	County	Segment ²	Milepost ³	Length (miles) ⁴
New Hampshire							
Wright to Dracut Pipeline Segment	Pipeline	New	N/A	Cheshire	I	N/A	28.76
Wright to Dracut Pipeline Segment	Pipeline	New	N/A	Hillsborough	J	N/A	36.85
Wright to Dracut Pipeline Segment	Pipeline	New	N/A	Rockingham	J	N/A	4.84
Haverhill Lateral	Pipeline	New	N/A	Rockingham	P	N/A	2.04
Fitchburg Lateral Extension	Pipeline	New	N/A	Hillsborough	Q	N/A	5.08
Market Path Mid Station 4	Compressor Station	New	Wright to Dracut Pipeline Segment	Hillsborough	J	5.81	N/A
Merrimack	Meter Station	New	Wright to Dracut Pipeline Segment	Hillsborough	J	25.70	N/A
200-2 Check	Meter Station	New	Wright to Dracut Pipeline Segment	Rockingham	J	34.45	N/A
New Hampshire Subtotal							77.57

¹ N/A-Not Applicable for proposed pipelines. This column indicates the associated pipeline segment for each aboveground facility (compressor stations, meter stations, and regulators).

² Each segment is associated with its own set of mileposts beginning at MP 0.00.

³ N/A-Not Applicable for proposed pipeline facilities. Mileposts are provided for the existing compressor station and the existing and new meter stations located along new proposed pipeline segments only. Mileposts are not provided for meter stations located along TGP's existing system.

⁴ N/A-Not Applicable for aboveground facilities (compressor stations, meter stations, and regulators). Pipeline length applies only to the proposed pipeline facilities as reflected on the alignment sheets.

2.0 WETLAND AND WATERCOURSE REGULATIONS

Wetlands and watercourses subject to state or federal jurisdiction based upon the Federal Clean Water Act and the New Hampshire Department of Environmental Services (“NHDES”) Revised Statutes Annotated (“RSA”) 482-A Fill and Dredge in Wetlands Act and its implementing regulations and mapping requirements are identified.

2.1 SECTION 404 – CLEAN WATER ACT

Wetlands, springs, and other waters of the United States are regulated under Section 404 of the Federal Clean Water Act ([“CWA”] 33 U.S.C. 1341) by the U.S. Army Corps of Engineers (“USACE”). Under 33 Code of Federal Regulations (“CFR”) Part 328.3(a), the term “waters of the U.S.” include:

1. All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce, including any such waters:
 - i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - iii. Which are used or could be used for industrial purpose by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under the definition;
5. Tributaries of waters identified in paragraphs (a) (1) through (4) of this section;
6. The territorial seas;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1) through (6) of this section.
8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with USEPA.

The term “wetlands” means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR 328.3(b)).

Under 33 CFR 328.4(c), the limits of federal jurisdiction for non-tidal waters of the United States extend to:

1. the ordinary high water mark In the absence of adjacent wetlands; or
2. beyond the ordinary high water mark to the limit of the adjacent wetlands when adjacent wetlands are present; or
3. to the limit of the wetland when the water of the United States consists only of wetlands

Wetlands and waterbodies meeting these criteria are subject to federal jurisdiction under Section 404 of the Federal Clean Water Act.

2.2 NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES REGULATIONS

In New Hampshire, wetlands and watercourses are regulated by the Department of Environmental Services (“NHDES”) under the Fill and Dredge in Wetlands Act (RSA 482-A) and the Shoreland Water Quality Protection Act (RSA 483-B). The NHDES Wetlands Bureau oversees NHDES’s regulation of impacts to freshwater and coastal wetlands, surface waters and their banks, dunes, the tidal buffer zone, and areas adjacent to state-designated prime wetlands.

Under Section 482-A:2 of the New Hampshire Fill and Dredge in Wetlands Act, a wetland is defined as “an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” The 12 primary wetland functions are ecological integrity, wetland-dependent wildlife habitat, fish and aquatic life habitat, scenic quality, educational potential, wetland-based recreation, flood storage, groundwater recharge, sediment trapping, nutrient trapping/retention/transformation, shoreline anchoring, and noteworthiness” (NHDES 2015).

Under section 482-A:15 and administrative rule Env-Wt 700, individual municipalities may elect to designate wetlands as “prime wetlands” if, after thorough analysis, it is determined that high-quality wetlands are present. Typically, a wetland receives this designation because of its large size, unspoiled character and ability to sustain populations of rare or threatened plant and animal species. Field and desktop data are used for the evaluation process. After high value wetlands are identified, the municipality holds a public hearing before the residents of the community to vote on the designation. Once the municipality approves the wetlands for designation as prime, the municipality provides to the NHDES Wetlands Bureau a copy of the study and tax maps with the designated prime wetlands identified. NHDES reviews the submission from the municipality to ensure that it is complete and in accordance with Env-Wt 702.03. Once the town's prime wetland submission is considered complete and approved, NHDES will apply the law and rules that are applicable to any future projects that are within the prime wetland or the 100 foot prime wetland buffer.

Under Section 483-B:2 of the Shoreland Water Quality Protection Act, public waters are defined as “(a) All lakes, ponds, and artificial impoundments greater than 10 acres in size; (b) Coastal waters, being all waters subject to the ebb and flow of the tide, including the Great Bay Estuary and the associated tidal rivers; and (c) Rivers, meaning all year-round flowing waters of fourth order or higher and all rivers and river segments designated as protected under RSA 483:15. Stream order is determined using the New Hampshire hydrography dataset archived by the Geographically Referenced Analysis and Information Transfer System (“GRANIT”) at the Complex Systems Research Center of the University of New Hampshire, and developed by GRANIT in collaboration with the NHDES. A listing of the streams of fourth order and higher is prepared and periodically updated by the GRANIT at the Complex Systems Research Center of the University of New Hampshire.”

3.0 WETLAND AND WATERBODY DELINEATION PROCEDURES

This report describes area surrounding the current proposed Project Route located in the following counties and township in the State of New Hampshire:

- Cheshire County – Winchester, Richmond, Troy, Fitzwilliam, and Rindge
- Hillsborough County – New Ipswich, Greenville, Mason, Milford Brookline, Amherst, Merrimack, Litchfield, Hudson, and Pelham
- Rockingham County – Londonderry, Windham, and Salem

The attached alignment sheets with wetland and waterbody locations (Appendix 2f-C) identify the Project location in Cheshire, Hillsborough, and Rockingham Counties and major mileposts along the proposed alignment.

Identification of regulated wetland and waterbody boundaries occurred within a 400-foot-wide survey corridor centered over the proposed pipeline (200 feet either side of the pipe centerline) when traversing greenfield, and a 250-foot wide survey corridor where the proposed pipeline is co-located with an existing utility (50 feet on the utility side, and 200 feet on the non-utility side), from April 23, 2015, through September 29, 2015 (Study Area). Only land parcels where survey access permission was granted by landowners were surveyed. Therefore, many wetlands identified within the Study Area are incomplete and end at no-access parcel boundaries. Survey access has been granted by approximately 25 percent of landowners in the Study Area in New Hampshire. Table 1.2-6 in Resource Report 1 identifies areas where survey permission has not been granted. As of September 29, 2015, surveys have been completed on approximately 12.38 miles (16 percent) of the Study Area in New Hampshire.

For the purpose of this state-specific report, all of the features identified within the Study Area have been refined to only those features falling within the limits of the Project workspace corridor. These features fall within either the limits of both the temporary workspace and permanent right-of-way (“ROW”) or partially within either one of these areas.

This report does not detail survey of all temporary and permanent access roads and some ancillary facilities listed in Section 1.0. Once these areas are identified, access permission is granted, and the sites are surveyed, they will be listed and described as part of the Study Area within subsequent submittals.

3.1 WETLAND DELINEATION PROCEDURES

The term wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR 328.3(b)). Under 33 CFR 328.4(c), the limits of federal jurisdiction for non-tidal waters of the United States extend to:

1. the ordinary high water mark In the absence of adjacent wetlands; or
2. beyond the ordinary high water mark to the limit of the adjacent wetlands when adjacent wetlands are present; or

3. to the limit of the wetland when the water of the United States consists only of wetlands

The wetland delineation methods (“1987 Corps Manual”, USACE Environmental Laboratory 1987 and “NC/NE Regional Supplement”; USACE 2012) were used to identify and delineate wetlands along the proposed Project alignment in New Hampshire. The NHDHS does not have its own wetlands delineation manual, and the same 1987 Corps Manual is used when identifying and delineating wetlands in New Hampshire. For consistency in wetland delineation methods and in application of current approved professional standards for wetland delineation, all wetlands were delineated using the 1987 Corps Manual and NC/NE Regional Supplement, which is acceptable to the NHDES.

3.2 WATERBODY DELINEATION PROCEDURES

Under 33 CFR 328.4(c), “the limits of federal jurisdiction for non-tidal waters of the United States, in the absence of adjacent wetlands, is the ordinary high water mark.” Waterbody types were classified as perennial, intermittent, or ephemeral, as defined in 72 F.R. 11196-11197. Perennial streams (“P”) were categorized as waterbodies that have flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow and runoff from rainfall is a supplemental source of water for perennial streams. Intermittent streams (“I”) were categorized as waterbodies that have flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water and runoff from rainfall is a supplemental source of water for stream flow. Ephemeral streams (“E”) were categorized as waterbodies that have flowing water only during, and for short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for ephemeral streams and runoff from rainfall is the primary source of water for stream flow. Preliminary waterbody classifications were made during initial field surveys and were confirmed based on a desktop analysis of USGS hydrographic dataset (US Department of the Interior 2014). Additionally, each waterbody was reviewed for the water quality standard (Env-Wq 1700) and classification assigned by NHDES to surface waters as described in New Hampshire RSA 485-A:8 using a desktop review of the available GIS data layers.

3.3 PRE-SURVEY DESKTOP INVESTIGATIONS

Prior to the commencement of field surveys, information from multiple sources was reviewed to determine the potential extent of wetlands within the survey areas. Pre-survey information reviewed included: USGS topographical quadrangles, National Wetland Inventory Maps, Natural Resource Conservation Service – Web Soil Surveys, and the NH Wetland Mapper.

3.4 FIELD SURVEYS

During the field investigations along the ROWs, the boundary between the water resource (wetland and/or watercourse) and non-regulated area were delineated and marked with survey flagging hung on vegetation at approximately 15 to 30-foot intervals. For wetlands, vegetation, soils, and hydrology data were assessed during the field surveys to determine if the wetland parameters were satisfied. The “top of bank” was used to demarcate the limits of a watercourse when no wetlands were adjacent to the channel. Data plots documenting the wetland boundaries were established at specific locations within each wetland series. Field data summary sheets were completed at each data plot for the wetland and watercourse resource surveys (see Appendix 2f-D and Appendix 2f-E). Each wetland and waterbody was given a unique alphanumeric designation to assist in field survey location and documentation using the feature

identification nomenclature in Table 2f-2 (County, team, feature, and feature number). The Boundary Line and Flag Number are identified in one number representing both features. For example, FT-B-W003-101 is interpreted as “Fitzwilliam, Team B, Wetland Feature 003, Boundary Line 100, Flag Number 101. Mileposts on field data summary sheets are reported in feet.

Table 2f-2
Feature Identification Nomenclature
Town Abbreviation – Team # – Feature IDXXX – Flag # (wetlands & waterbodies)
and Start/End designation (if applicable)

County	Town	Abbreviation	Team	Feature	Feature Number	Boundary Line	Flag Number	
Cheshire	Fitzwilliam	FT	A – Z A1–Z1	W–Wetland	001, 002, 003, etc.	100, 200, 300, etc.	101, 102, 103, etc. 201, 202, 203, etc.	
	Richmond	RI						
	Rindge	RN						
	Troy	TR						
	Winchester	WC						
Hillsborough	Amherst	AM						S – Stream
	Brookline	BK						
	Greenville	GN						
	Hudson	HD						
	Litchfield	LT						
	New Ipswich	NI						
	Mason	MS						
	Merrimack	MR						
	Milford	ML						
	Pelham	PH						
Rockingham	Londonderry	LD						
	Salem	SA						
	Windham	WD						

The specific methods for characterizing and evaluating vegetation, hydrology, and soils for a wetland determination were performed as follows:

- *Soils:* At the center of each data plot, the soil profile was recorded to determine the hydric soil status. Borings were taken with a hand-held auger to depths necessary to accurately determine a soil’s hydric status (typically 18-24 inches below ground surface). The information collected for each soil profile included soil horizons, depth, texture, color, and the presence or absence of redoximorphic features. Colors of the soil matrix and redox features were identified using Munsell Soil Color Charts. All hydric soil determinations were based on criteria established in the USACE Northcentral and Northeast Regional Supplement (2012), along with *Field Indicators of Hydric Soils in the United States* (NRCS 2010). Additionally, the presence of any saturation and/or standing water encountered during the soil profile description was noted. The wetland soil indicators are listed in Table 2f-3.

Table 2f-3
Wetland Soil Indicators for the Northcentral and Northeast Region

Hydric Soil Indicators		Indicators for Problematic Hydric Soil
Histosol (A1)	Dark Surface (S7) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)	Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Histic (A3)	Loamy Mucky Mineral (F1) (LRR K, L)	5cm Mucky Peat or Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L, M)
Stratified Layers (A5)	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	Thin Dark Surface (S9) (LRR K, L, R)
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	Iron-Mg Masses (F12) (LRR K, L, R)
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Gleyed Matrix (S4)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Redox (S5)		Red Parent Material (F21)
Stripped Matrix (S6)		Very Shallow Dark Surface (TF12)

- *Vegetation:* Species abundance in both non-wetland and wetland communities was visually estimated. Dominant trees and shrubs/saplings were recorded within a 30-foot and 15-foot radius, respectively, from the center of each documentation plot. Woody vines were recorded within a 30-foot radius plot. Dominant herbaceous vegetation was recorded within a 5-foot radius plot. Plant species were identified using appropriate botanical reference material for the region. The hydrophytic indicator status of each species was identified using the National Wetland Plant List: 2014 Update of Wetland Ratings (Lichvar *et al.* 2014, U.S. Army Corps of Engineers 2014). Indicators of hydrophytic vegetation are satisfied if by the rapid assessment if all dominant species are rated as OBL or FACW (Indicator 1), the dominance test if more than 50% of the dominant species are OBL, FACW, and/or FAC (Indicator 2), or the prevalence index is less than or equal to 3.0 (Indicator 3) based on the USACE NCNE Regional Supplement (USACE 2012).
- *Hydrology:* Site hydrology was evaluated during field surveys by initially observing whether the soil at the surface was inundated or saturated. If the ground surface was dry, the depth to freestanding groundwater or saturated soil was measured, and the presence or absence of other

indicators of wetland hydrology (e.g., drift lines, water-stained leaves, etc.) was noted. The wetland hydrology criterion was met if one or more primary or two or more secondary field indicators were present (USACE 2012). The wetland hydrology indicators are listed in Table 2f-4.

**Table 2f-4
Wetland Hydrology Indicators for the Northcentral and Northeast Region**

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

Wetland and watercourse flag positions and data plot locations were field located using a Global Positioning System (“GPS”) handheld Trimble® Yuma® tablet computer unit coupled with AECOM’s proprietary mobile Geographic Information System (“GIS”) field application software, Environmental Mobile Application for Projects (“EMAP”). The collected GPS data points were then differentially corrected by post processing and plotted out on aerial photograph imagery.

3.5 WETLAND CLASSIFICATION

While in the field, the various wetlands and watercourses were classified according to the “Cowardin system” as Palustrine Forested (“PFO”), Palustrine Emergent (“PEM”), Palustrine Scrub-Shrub (“PSS”) and Palustrine Open Water (“POW”), as further described below. In some cases, a wetland complex contained more than one wetland classification type. In those situations, each wetland type is listed and the first classification type represents the more dominant characteristic.

- **Palustrine Forested Wetlands (PFO)**

Forested wetlands are characterized by woody vegetation that is six meters (approximately 20 feet) tall or taller and normally includes an overstory of trees, an understory of young trees and/or shrubs and an herbaceous layer.

- **Palustrine Scrub-Shrub Wetlands (PSS)**

Scrub-shrub wetlands are typically dominated by woody vegetation less than six meters (approximately 20 feet) tall. Scrub-shrub land types may represent a successional stage leading to a forested wetland and includes shrubs, saplings, and trees or shrubs that are small and/or stunted due to environmental conditions.

- **Palustrine Emergent Wetlands (PEM)**

Emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes not including mosses and lichens. These wetlands maintain the same appearance year after year, and are typically dominated by perennial plants that are present for the majority of the growing season.

- **Palustrine Open Water (POW)**

Areas of permanent open water that border on palustrine systems are referred to as POW. Areas of open water may exist as man-made or natural waterbodies.

3.6 POST-SURVEY DESKTOP ANALYSIS

The wetland and watercourse boundaries were plotted on aerial imagery and subsequently reviewed and confirmed. The aerial-based wetland plans in Appendix 2f-C: Alignment Sheets with Wetland and Waterbody Locations, show the locations of the delineated resources relative to the proposed limits of the Project in New Hampshire. Water quality designations were determined using New Hampshire GRANIT mapping resources.

4.0 RESULTS

Appendix 2f-A includes Tables 2f-A1 and 2f-A2 highlighting the wetlands and watercourses identified during these investigations. Appendix 2f-B and Appendix 2f-C provide project mapping depicting the locations of the inventoried wetlands and watercourses; Appendix 2f-C includes the wetlands and watercourses data forms; and Appendix 2f-D provides representative site photographs of wetlands and watercourses located within the New Hampshire study area.

As illustrated in Tables 2f-A1 and 2f-A2 (Appendix 2f-A), a total of 66 wetlands and 31 watercourses were identified in association with the New Hampshire study area during the April 23, 2015, through September 29, 2015, investigations. A total of 38 wetlands examined in this study are classified either wholly or in-part as PFO. A total of 31 wetlands examined during this study are classified either wholly or in-part as PSS, and another 21 wetlands examined during this study are classified either wholly, or in-part as PEM. The wetland totals include only those field-delineated wetlands and waterbodies which are located within the Project workspace and will be impacted by construction or operation of the Project. Additional wetlands and watercourses identified in the survey corridor but not impacted by the proposed Project configuration will be included in any future delineation submissions.

4.1 WETLAND VEGETATION

The wetlands inventoried during the course of these investigations ranged from the drier PFO wetlands, to PEM wetlands and deepwater habitat. Common species encountered in the various PFO wetlands during the investigations included: red maple (*Acer rubrum*), American elm (*Ulmus americana*), northern arrowwood (*Viburnum dentatum*), spicebush (*Lindera benzoin*), arrowleaf tearthumb (*Persicariasagittatum*), skunk cabbage (*Symplocarpus foetidus*), sensitive fern (*Onoclea sensibilis*), winterberry (*Ilex verticillata*), cinnamon fern (*Osmundastrum cinnamomeum*), poison ivy (*Toxicodendron radicans*), jewelweed (*Impatiens capensis*), and swamp white oak (*Quercus bicolor*).

Common vegetation species encountered during the PSS wetland investigations included: red maple, multiflora rose (*Rosa multiflora*), silky dogwood (*Cornus amomum*), northern arrowwood, arrowleaf tearthumb, sensitive fern, jewelweed, woolgrass (*Scirpus cyperinus*), and reed canary grass (*Phalaris arundinacea*).

Common vegetation types found within the PEM wetland areas included: common cattail (*Typha latifolia*), jewelweed, arrowleaf tearthumb, woolgrass, willow (*Salix* spp.), arrowwood, meadowsweet (*Spiraea latifolia*), purple loosestrife (*Lythrum salicaria*), lurid sedge (*Carex lurida*), aster spp. (*Symphyotrichum* spp.), goldenrods (*Solidago* spp.), soft rush (*Juncus effusus*), Joe-Pye-weed (*Eutrochium maculatum*), sedges (*Carex* spp.) and sensitive fern. See Appendix 2f-D for additional details and site specific information for each wetland area.

4.2 WETLAND SOILS

Multiple soil types representing a wide variety of soil series designations were identified during this wetland and watercourse inventory. Soils described in the various wetlands appear to have formed in parent material including glacial till, glaciolacustrine sediments and glacial outwash. The soil types were identified as poorly drained to very poorly drained mineral soil with varying degrees of organics, and

included fine sandy loams, silt loams, sandy loams and mucks. Many areas were also identified as frequently flooded. Poor drainage was noted in areas with the presence of deep organic soils, sapric material in the surface layers, high organic contents in the topsoil and/or prolonged standing water. Additionally, varying degrees of stoniness and rockiness were observed. In the more developed and industrial portions of the study area, the wetland soils were often described as, or officially mapped as, disturbed.

See Appendix 2f-D and Resource Report 7 for additional soils details and site specific information for each wetland area.

4.3 WATERCOURSES

The watercourses encountered during this inventory varied greatly in type, size and character. Some of the streams that were inventoried are natural, whereas others were anthropic. Silty sediments, sand, rock, gravel, riprap, and/or cobble bottoms dominated the natural stream beds that were inventoried. The shape, height, susceptibility to erosion and direction of flow of the individual watercourses also varied. Anthropic watercourses that were inventoried included those with culverts and corrugated and smooth drainage pipes, retention ponds, and anthropic farm ponds.

See Appendix 2f-E for additional details and site specific information for each watercourse area.

5.0 REFERENCES

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APPENDIX 2f-A

Tables

Table 2f-A1 Wetlands Identified Along the New Hampshire Portion of the Northeast Energy Direct Project

Table 2f-A2 Waterbodies Identified Along the New Hampshire Portion of the Northeast Energy Direct Project

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Table 2f-A1
Wetlands Identified Along the New Hampshire Portion of the Northeast Energy Direct Project

Facility Name	Segment ¹	Milepost ²	Wetland Identification Number ³	Wetland Class ⁴	Hydrophytic Vegetation Indicator ⁵	Wetland Hydrology Indicator ⁶	Hydric Soil Indicator ⁷	Wetland Description
Pipeline Facilities								
Wright to Dracut Pipeline Segment	I	3.91	WC-X-W004-PFO	PFO	DT	A2 A3	F3	Flat, Also associated with Access Road NED-TAR-H-2101
Wright to Dracut Pipeline Segment	I	3.97	WC-X-W004A-PFO	PFO	DT	A2 A3 B10	F3	Slope - mid
Wright to Dracut Pipeline Segment	I	10.72	RI-D-W004-PFO	PFO	DT PI	C3 A3 D2	S5	Depression
Wright to Dracut Pipeline Segment	I	10.73	RI-D-W004-PSS	PSS	DT PI	C3 A3 D2	S5	Depression, Vegetation, soils and hydrology disturbed by existing utility easement
Wright to Dracut Pipeline Segment	I	10.83	RI-D-W005-PFO	PFO	DT PI	A2 C3 A3	F3	Depression
Wright to Dracut Pipeline Segment	I	10.83	RI-D-W005-PEM	PEM	DT PI	A2 C3 A3	F3	Depression, Vegetation, soils and hydrology all disturbed by existing utility easement
Wright to Dracut Pipeline Segment	I	11.04	RI-Y-W003-PEM	PEM	DT PI	A2 A3	A3	Slope - mid
Wright to Dracut Pipeline Segment	I	11.39	RI-L-W002-PFO	PFO	DT PI	A3 B10	F3	Depression
Wright to Dracut Pipeline Segment	I	11.63	RI-D-W001-PFO	PFO	DT PI	A2 A3	A3	Depression
Wright to Dracut Pipeline Segment	I	11.64	RI-D-W001-PEM	PEM	DT PI	A2 A3 B9	A11 F3 A12	Depression
Wright to Dracut Pipeline Segment	I	11.71	RI-Y-W001-PEM	PEM	DT PI	A2 A3 D5	F6	Slope - mid
Wright to Dracut Pipeline Segment	I	11.72	RI-Y-W001-PFO	PFO	DT	A2 A3	A3	Depression
Wright to Dracut Pipeline Segment	I	11.75	RI-L-W001-PFO	PFO	DT PI	A3 A1	F3	Depression, Disturbed with logging activity
Wright to Dracut Pipeline Segment	I	11.87	TR-Y-W008-PEM	PEM	DT PI	A3 A1	F3 F6	Depression
Wright to Dracut Pipeline Segment	I	11.91	TR-D-W003-PFO	PFO	DT	A2 A3 B9 D2	A11	Depression
Wright to Dracut Pipeline Segment	I	11.91	TR-D-W003-PEM	PEM	DT	A2 A3	F3	Slope - toe
Wright to Dracut Pipeline Segment	I	11.94	TR-Y-W007-PFO	PFO	DT	A2 A1 D4	A11 F3	Depression
Wright to Dracut Pipeline Segment	I	12.00	TR-D-W001-PSS	PSS	DT PI	A3 D2	F3	Depression
Wright to Dracut Pipeline Segment	I	12.16	TR-L-W001-PFO	PFO	DT	A2 A3 A1 B9	F6	Depression
Wright to Dracut Pipeline Segment	I	12.18	TR-G-W001-PFO	PFO	DT	A2 A3 B10 D2	F3	Depression
Wright to Dracut Pipeline Segment	I	12.23	TR-L-W002-PFO	PFO	DT	A2 A3 B9 D5	F6	Hilltop
Wright to Dracut Pipeline Segment	I	13.29	TR-X-W004-PSS	PSS	DT PI	A2 A3 A1	F6	Slope - toe
Wright to Dracut Pipeline Segment	I	13.38	TR-X-W001-PEM	PEM	DT PI	A2 A3	F3	Depression
Wright to Dracut Pipeline Segment	I	13.42	TR-X-W001-PEM	PEM	DT PI	A2 A3	F3	Depression
Wright to Dracut Pipeline Segment	I	13.47	TR-X-W002-PEM	PEM	DT PI	A3	S5	Depression, Also associated with Access Road NED-TAR-I-0600
Wright to Dracut Pipeline Segment	I	13.58	TR-X-W003-PEM	PEM	DT PI	A2 A3	F6	Depression
Wright to Dracut Pipeline Segment	I	13.66	TR-Y-W003-PFO	PFO	DT	A2 A3 B9	S1	Depression
Wright to Dracut Pipeline Segment	I	13.69	TR-Y-W002-PSS	PSS	DT PI	A2 A3	A4	Slope - toe
Wright to Dracut Pipeline Segment	I	13.73	TR-Y-W001-PSS	PSS	DT PI	A3	S5	Depression
Wright to Dracut Pipeline Segment	I	14.6	FT-X-W001-PFO	PFO	DT PI	A2 B10	F6	Depression
Wright to Dracut Pipeline Segment	I	14.69	FT-X-W001-PEM	PEM	DT PI	C3 A3	A11	Slope - toe

Table 2f-A1
Wetlands Identified Along the New Hampshire Portion of the Northeast Energy Direct Project

Facility Name	Segment ¹	Milepost ²	Wetland Identification Number ³	Wetland Class ⁴	Hydrophytic Vegetation Indicator ⁵	Wetland Hydrology Indicator ⁶	Hydric Soil Indicator ⁷	Wetland Description
Wright to Dracut Pipeline Segment	I	15.25	FT-X-W002-PSS	PSS	DT PI	A2	F3	Depression
Wright to Dracut Pipeline Segment	I	16.84	FT-T-W007-PSS	PSS	DT PI	A2 A3	A3	Depression
Wright to Dracut Pipeline Segment	I	17.03	FT-T-W006-PFO	PFO	DT PI	A2 C1 A3	A1	Depression
Wright to Dracut Pipeline Segment	I	17.04	FT-T-W006-PSS	PSS	DT PI	A2 A3	S5	Depression
Wright to Dracut Pipeline Segment	I	17.2	FT-T-W001-PFO	PFO	DT PI	A2 A3	A1	Flat
Wright to Dracut Pipeline Segment	I	17.33	FT-T-W002-PSS	PSS	DT	A3	A2	Depression
Wright to Dracut Pipeline Segment	I	17.39	FT-T-W005-PFO	PFO	DT	B9	S6	Depression
Wright to Dracut Pipeline Segment	I	26.91	RN-L-W001-PFO	PFO	DT PI	A2 A3 D5 D4	A11	Depression
Wright to Dracut Pipeline Segment	J	5.17	NI-V-W009-PEM	PEM	RT DT PI	A2 C3 A3 B10 D4	F3	Slope - toe
Wright to Dracut Pipeline Segment	J	5.43	NI-V-W003-PEM	PEM	RT DT PI	A2 A3 B10 D5 D4	A1	Flat
Wright to Dracut Pipeline Segment	J	5.46	NI-V-W003-PSS	PSS	RT DT PI	A2 A3 B10 D5 D4	A1	Flat
Wright to Dracut Pipeline Segment	J	5.50	NI-V-W003-PFO	PFO	RT DT PI	A2 A3 A1 B10 D5 D4	F3	Flat
Wright to Dracut Pipeline Segment	J	5.90	NI-R-W001-PFO	PFO	MA	A2 A3	F3	Flat, Associated with stream S001 and S002. Also associated with Market Path Mid Station 4.
Wright to Dracut Pipeline Segment	J	7.65	GN-M-W001-PSS	PSS	DT PI	A2 C3 C4 A3 B10 D5 D2	A11	Slope - toe, Associated with GN-M-S001 and its tributaries
Wright to Dracut Pipeline Segment	J	14.87	BK-M-W002-PFO	PFO	MA	A2 A3 B8 B9 D5 D4 D3	A1	Depression
Wright to Dracut Pipeline Segment	J	26.8	LT-G-W001-PSS	PSS	DT PI	A3 D2	S5	Depression
Wright to Dracut Pipeline Segment	J	27.08	LT-G-W003-PSS	PSS	DT PI	A3 D4	S5	Depression
Wright to Dracut Pipeline Segment	J	27.08	LT-G-W003-PFO	PFO	DT PI	A3 B9 D4	S5	Depression
Wright to Dracut Pipeline Segment	J	27.28	LT-G-W004-PEM	PEM	DT PI	A3 D2	S5	Depression, Manmade retention basin
Wright to Dracut Pipeline Segment	J	27.38	LT-G-W005-PSS	PSS	DT PI	A3 B9 D4	S5	Depression, PSS in existing powerline corridor
Wright to Dracut Pipeline Segment	J	27.39	LT-G-W005-PFO	PFO	DT PI	A3 D2 D4	S5	Depression
Wright to Dracut Pipeline Segment	J	27.71	LT-G-W008-PSS	PSS	DT	A3 D2 D4	S5	Depression
Wright to Dracut Pipeline Segment	J	28.48	LT-L-W002-PEM	PEM	DT PI	A2 A3 D5	A3	Slope - mid
Wright to Dracut Pipeline Segment	J	28.71	LT-L-W002-PFO	PFO	DT PI	A2 C1 A3 D5 D4	A3	Slope - mid
Wright to Dracut Pipeline Segment	J	28.86	LT-L-W002-PSS	PSS	DT PI	A2 A3 D5	A3	Slope - mid
Wright to Dracut Pipeline Segment	J	29.29	LD-L-W002-PEM	PEM	RT DT PI	A2 C1 A3 D5 D2	A3	Stream fringe, Also associated with Access Road NED-TAR-J-2300
Wright to Dracut Pipeline Segment	J	30.05	LD-L-W003-PFO	PFO	DT	B9 D5 D4	F3 F6	Depression
Wright to Dracut Pipeline Segment	J	30.16	LD-L-W007-PFO	PFO	DT PI	A2 A3 D2	F6	Depression
Wright to Dracut Pipeline Segment	J	30.17	LD-L-W007-PEM	PEM	DT PI	A2 A3 D5 D2	A3	Depression
Wright to Dracut Pipeline Segment	J	32.31	HD-T-W001-PEM	PEM	RT DT PI	A2 A3	S1	Depression
Wright to Dracut Pipeline Segment	J	32.47	HD-Y-W001-PFO	PFO	DT PI	C4 A3	A11 F7 F3 F6	Depression
Wright to Dracut Pipeline Segment	J	32.49	HD-G-W005-PEM	PEM	DT PI	D5 D2	S5	Depression
Wright to Dracut Pipeline Segment	J	32.84	HD-G-W003-PSS	PSS	DT PI	A3 B10 D4	F3	Depression

Table 2f-A1
Wetlands Identified Along the New Hampshire Portion of the Northeast Energy Direct Project

Facility Name	Segment ¹	Milepost ²	Wetland Identification Number ³	Wetland Class ⁴	Hydrophytic Vegetation Indicator ⁵	Wetland Hydrology Indicator ⁶	Hydric Soil Indicator ⁷	Wetland Description
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¹ Each segment is associated with its own set of mileposts beginning at 0.00

² Mileposts for Contractor Yards and Access Roads are given as nearest MP, which indicates the point at which the Access Road or Contractor Yard connects with the pipeline construction ROW, or closest MP to the construction ROW if there is no direct connection.

³ Wetland series number generated to identify wetlands within and adjacent to the Project corridor in accordance with the feature identification nomenclature described in Table 2f-2.

⁴ Wetlands classification according to Cowardin et al 1979; PEM = Palustrine Emergent Wetland; PFO = Palustrine Forested Wetland; PSS = Palustrine Scrub-Shrub Wetland; POW = Palustrine Open Water; Other = accommodates all other wetland types.

⁵ RT = Rapid Test (all dominant species are rated as OBL or FACW); DT=Dominance Test (more than 50% of the dominant species are OBL, FACW, and/or FAC); PI = Prevalence Index is less than or equal to 3.0.

⁶ Wetland Hydrology Indicators are described in Table 2f-4.

⁷ Hydric Soil Indicators are described in Table 2f-3.

Table 2f-A2
Waterbodies Identified Along the New Hampshire Portion of the Northeast Energy Direct Project

Facility Name	Segment ¹	Nearest Milepost ²	Waterbody Identification Number ³	Waterbody Name ⁴	Waterbody Frequency Type ⁵	Water Quality Designation/Fishery Classification ⁶	Crossing Length (ft) ⁷
Pipeline Facilities							
Wright to Dracut Pipeline Segment	I	3.88	WC-X-S001	Roaring Brook	I	B/CWF	0
Wright to Dracut Pipeline Segment	I	11.13	RI-Y-S001	UNT to Tully Brook	I	B	2
Wright to Dracut Pipeline Segment	I	11.49	RI-L-S001	UNT to Tully Brook	P	B	2
Wright to Dracut Pipeline Segment	I	11.65	TR-Y-S003	UNT to Tully Brook	E	B	3
Wright to Dracut Pipeline Segment	I	11.65	TR-Y-S003A	UNT to Tully Brook	I	B	0
Wright to Dracut Pipeline Segment	I	11.74	TR-Y-S002	UNT to Tully Brook	I	B	5
Wright to Dracut Pipeline Segment	I	12.04	TR-G-S002	Nester Brook	P	B/CWF	11
Wright to Dracut Pipeline Segment	I	12.27	TR-L-S001A	UNT to Nester Brook	I	B	3
Wright to Dracut Pipeline Segment	I	13.04	TR-X-S004	UNT to Nester Brook	I	B	18
Wright to Dracut Pipeline Segment	I	13.17	TR-X-S002	UNT to Nester Brook	P	B	5
Wright to Dracut Pipeline Segment	I	13.19	TR-X-S001	UNT to Nester Brook	E	B	0
Wright to Dracut Pipeline Segment	I	13.38	TR-Y-S001	UNT to Nester Brook	P	B	18
Wright to Dracut Pipeline Segment	I	14.31	FT-X-S001	UNT to Quarry Brook	P	B	0
Wright to Dracut Pipeline Segment	I	17.23	FT-T-S001	UNT to Scott Brook	NF	B	0
Wright to Dracut Pipeline Segment	J	5.27	NI-V-S003	UNT to Greenville Reservoir	I	B	0
Wright to Dracut Pipeline Segment	J	5.75	NI-R-S002	UNT to Souhegan River	I	B	4
Wright to Dracut Pipeline Segment	J	6.12	NI-R-S001	UNT to Souhegan River	I	B	15
Wright to Dracut Pipeline Segment	J	7.78	GN-M-S001	UNT to Souhegan River	P	B	2
Wright to Dracut Pipeline Segment	J	29.26	LD-L-S001	Nesenkeag Brook	P	B/CWF	0
Wright to Dracut Pipeline Segment	J	29.27	LD-L-S001A	Nesenkeag Brook	I	B/CWF	4
Wright to Dracut Pipeline Segment	J	30.08	LD-L-S002	UNT to Nesenkeag Brook	NF	B	69
Wright to Dracut Pipeline Segment	J	31.39	LD-Y-S001	UNT to Chase Brook	I	B	0
Wright to Dracut Pipeline Segment	J	32.32	HD-T-S001	UNT to Robinson Pond	NF	B	3
Wright to Dracut Pipeline Segment	J	32.85	HD-G-S002	UNT to Robinson Pond	I	B	3
Wright to Dracut Pipeline Segment	J	32.99	HD-G-S001	UNT to Robinson Pond	I	B	0
Wright to Dracut Pipeline Segment	J	33.94	HD-L-S001	Beaver Brook	P	B/CWF	44
Wright to Dracut Pipeline Segment	J	34.21	WD-K-S001	UNT to Beaver Brook	NF	B	0
Wright to Dracut Pipeline Segment	J	34.93	WD-D-S002	UNT to Beaver Brook	P	B	17
Wright to Dracut Pipeline Segment	J	36.27	PH-K-S001	UNT to Beaver Brook	NF	B	0
Wright to Dracut Pipeline Segment	J	37.94	PH-Y-S001	UNT to Beaver Brook	I	B	2
Wright to Dracut Pipeline Segment	J	38.74	PH-X-S001	Golden Brook	P	B	0

Table 2f-A2
Waterbodies Identified Along the New Hampshire Portion of the Northeast Energy Direct Project

Facility Name	Segment ¹	Nearest Milepost ²	Waterbody Identification Number ³	Waterbody Name ⁴	Waterbody Frequency Type ⁵	Water Quality Designation/Fishery Classification ⁶	Crossing Length (ft) ⁷
Aboveground Facilities							
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Contractor Yards							
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Access Roads							
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

¹ Each segment is associated with its own set of mileposts beginning at 0.00

² Mileposts for Contractor Yards and Access Roads are given as nearest MP, which indicates the point at which the Access Road or Contractor Yard connects with the pipeline construction ROW, or closest MP to the construction ROW if there is no direct connection.

³ Waterbody series number generated to identify waterbodies within and adjacent to the Project corridor in accordance with the feature identification nomenclature described in Table 2f-2.

⁴ Unnamed tributary: waterbody is not mapped as a tributary on available GIS data layers; tributary name will be identified based on review of USGS topographical mapping in the final filing.

⁵ P = perennial; I = intermittent; E = Ephemeral; NF = No Flow; AP = Artificial Path; C = Connector

⁶ Water quality classifications were identified through a desktop review of available GIS data layers.

⁷ Existing waterbodies will not be impacted. Any improvements to existing culverts will be permitted as necessary.

APPENDIX 2f-B

Wetland and Waterbody Locations Identified on USGS 7.5 Minute Topographic Map Excerpts

(provided under separate cover in Volume II, Appendix E of the FERC Environmental Report)

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APPENDIX 2f-C

Wetland and Waterbody Locations Identified on Aerial Alignment Sheets

(provided under separate cover in Volume II, Appendix F, of the FERC Environmental Report)

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APPENDIX 2f-D

Army Corps of Engineers Wetland Data Sheets and Photographs

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WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 20643.1	County: Cheshire	Date: 06/19/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: WC-X-W004-PFO
Investigators: HALE MZUMMO	Quad Name: West Swanzey		Township: Winchester	
Logbook No.: 1	Logbook Pg.: 33	Tract: 23696		

Landform (hillslope, terrace, etc.): Flat Local Relief: Concave Convex None Slope%: .

Subregion (LRR): Middle Atlantic Lat: 42.755011 Long: -72.346929 Datum: NAD83

Soil Map Unit Name: Monadnock fine sandy loam, 8 to 15 percent slopes NWI Classification: Not mapped

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

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

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p>Secondary Indicators (2 or more required)</p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 7 Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe) </p>	<p style="text-align: center;">Wetland Hydrology Present?</p> <p style="text-align: center;"><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	15	NO	FACU
<i>Acer rubrum</i>	80	YES	FAC
Total Cover:	95		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	30	YES	FACU
<i>Tsuga canadensis</i>	30	YES	FACU
<i>Acer pensylvanicum</i>	5	NO	FACU
<i>Vaccinium corymbosum</i>	20	YES	FACW
Total Cover:		85	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Osmundastrum cinnamomeum</i>	10	YES	FACW
<i>Gaultheria procumbens</i>	5	NO	FACU
<i>Coptis trifolia</i>	20	YES	FACW
<i>Pinus strobus</i>	10	YES	FACU
<i>Sphagnum sp</i>	25	NA	NONE
<i>Osmunda regalis</i>	10	YES	OBL
Total Cover:		80	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 63 (A/B)

Prevalence Index Worksheet:

Total % Cover of: Multiply by:

OBL Species: 10 x 1 = 10

FACW Species: 50 x 2 = 100

FAC Species: 80 x 3 = 240

FACU Species: 95 x 4 = 380

UPL Species: 0 x 5 = 0

Column Totals: 235 (A) 730 (B)

Prevalence Index = B/A = 3.11

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100					SANDY LOAM	
2-9	10YR 3/1	100					SANDY LOAM	
9-20	10YR 4/1	98	10YR 5/8	5	C	M	SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



E

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED	Milepost: 20727.9	County: Cheshire	Date: 06/19/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: WC-X-W004-UPL
Investigators: HALE MZUMMO	Quad Name: West Swanzey	Township: Winchester	
Logbook No.: 1	Logbook Pg.: 35	Tract: 23696	

Landform (hillslope, terrace, etc.): Flat Local Relief: Concave Convex None Slope%.: 0-2

Subregion (LRR): Middle Atlantic Lat: 42.755122 Long: -72.346788 Datum: NAD83

Soil Map Unit Name: Lyme and Moosilauke soils, 0 to 5 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present? Yes No

Hydric Soil Present? Yes No

Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	40	YES	FAC
<i>Pinus strobus</i>	40	YES	FACU
Total Cover:	80		

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula alleghaniensis</i>	5	NO	FAC
<i>Fagus grandifolia</i>	20	YES	FACU
<i>Tsuga canadensis</i>	5	NO	FACU
Total Cover:	30		

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	15	YES	FACU
<i>Quercus rubra</i>	5	NO	FACU
<i>Pinus strobus</i>	15	YES	FACU
<i>Osmundastrum cinnamomeum</i>	15	YES	FACW
<i>Vaccinium angustifolium</i>	5	NO	FACU
Total Cover:	55		

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>15</u>	x 2 = <u>30</u>
FAC Species: <u>45</u>	x 3 = <u>135</u>
FACU Species: <u>105</u>	x 4 = <u>420</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>165 (A)</u>	<u>585 (B)</u>
Prevalence Index = B/A = <u>3.55</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 2/2	100					SANDY LOAM	
1-4	10YR 3/3	100					SANDY LOAM	
4-10	10YR 3/2	100					SANDY LOAM	
10-15	10YR 4/4	100					SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED	Milepost: 20963.8	County: Cheshire	Date: 08/17/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: WC-X-W004A-PFO
Investigators: sh tc	Quad Name: West Swanzey	Township: Winchester	
Logbook No.: 1	Logbook Pg.: 115	Tract: 23696	

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 20

Subregion (LRR): Middle Atlantic Lat: 42.756165 Long: -72.346645 Datum: NAD83

Soil Map Unit Name: Lyme and Moosilauke soils, 0 to 5 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Moss Trim Lines (B16)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

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

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	70	YES	FACU
<i>Acer rubrum</i>	20	YES	FAC
Total Cover:	90		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Persicaria pensylvanica</i>	7	YES	FACW
<i>Persicaria sagittata</i>	10	YES	OBL
Total Cover: 17			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>10</u>	x 1 = <u>10</u>
FACW Species: <u>7</u>	x 2 = <u>14</u>
FAC Species: <u>20</u>	x 3 = <u>60</u>
FACU Species: <u>70</u>	x 4 = <u>280</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>107 (A)</u>	<u>364 (B)</u>
Prevalence Index = B/A = <u>3.40</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3/1	100					FINE SANDY LOAM	
3-14	10YR 4/1	80	10YR 4/6 10YR 3/1	5 15	C CS	M	FINE SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Rock
14

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED		Milepost: 20915.8	County: Cheshire	Date: 08/17/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: WC-X-W004A-UPL
Investigators: sh tc		Quad Name: West Swanzey		Township: Winchester
Logbook No.: 1	Logbook Pg.: 117	Tract: 23696		
Landform (hillslope, terrace, etc.): Slope - mid		Local Relief: <input type="checkbox"/> Concave <input checked="" type="checkbox"/> Convex <input type="checkbox"/> None		Slope%.: 20
Subregion (LRR): Middle Atlantic	Lat: 42.756075	Long: -72.346778	Datum: NAD83	
Soil Map Unit Name: Monadnock fine sandy loam, 8 to 15 percent slopes			NWI Classification: Not mapped	

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):	
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): 1	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):	
(includes capillary fringe)	

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	20	YES	FACU
<i>Fagus grandifolia</i>	40	YES	FACU
<i>Acer rubrum</i>	15	NO	FAC
<i>Tsuga canadensis</i>	20	YES	FACU
Total Cover:	95		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	20	YES	FACU
<i>Hamamelis virginiana</i>	10	YES	FACU
<i>Tsuga canadensis</i>	10	YES	FACU
Total Cover:		40	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer pensylvanicum</i>	20	YES	FACU
Total Cover:		20	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>15</u>	x 3 = <u>45</u>
FACU Species: <u>140</u>	x 4 = <u>560</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>155 (A)</u>	<u>605 (B)</u>
Prevalence Index = B/A = <u>3.90</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 3/1	100			CS		FINE SANDY LOAM	
1-4	10YR 4/3	100			CS		FINE SANDY LOAM	
4-15	10YR 4/6	100					FINE SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



W

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 56626.2	County: Cheshire	Date: 08/28/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: RI-D-W004-PFO
Investigators: PB	Quad Name: Troy	Township: Richmond	
Logbook No.: 6	Logbook Pg.: 115	Tract: 24381	

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.790845 Long: -72.241486 Datum: NAD83

Soil Map Unit Name: Marlow fine sandy loam, 15 to 25 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	8	NO	FACU
<i>Acer rubrum</i>	25	YES	FAC
<i>Betula alleghaniensis</i>	25	YES	FAC
Total Cover:		58	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	5	NO	FACU
<i>Tsuga canadensis</i>	2	NO	FACU
<i>Acer rubrum</i>	25	YES	FAC
<i>Betula alleghaniensis</i>	8	YES	FAC
Total Cover:		40	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Solidago gigantea</i>	10	YES	FACW
<i>Coptis trifolia</i>	5	NO	FACW
<i>Dichanthelium clandestinum</i>	15	YES	FACW
<i>Eurybia divaricata</i>	1	NA	NONE
<i>Onoclea sensibilis</i>	3	NO	FACW
<i>Carex lurida</i>	5	NO	OBL
<i>Dryopteris intermedia</i>	3	NO	FAC
Total Cover:		42	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>5</u>	x 1 = <u>5</u>
FACW Species: <u>33</u>	x 2 = <u>66</u>
FAC Species: <u>86</u>	x 3 = <u>258</u>
FACU Species: <u>15</u>	x 4 = <u>60</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>139 (A)</u>	<u>389 (B)</u>
Prevalence Index = B/A = <u>2.80</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 4/2	75	5YR 4/6	25	C	M,PL	SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input checked="" type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED		Milepost: 56651.2	County: Cheshire	Date: 08/28/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-D-W004-PSS
Investigators: PB	Quad Name: Troy		Township: Richmond	
Logbook No.: 6	Logbook Pg.: 114	Tract: 24381		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 4

Subregion (LRR): Middle Atlantic Lat: 42.790952 Long: -72.241422 Datum: NAD83

Soil Map Unit Name: Marlow fine sandy loam, 15 to 25 percent slopes, very stony NWI Classification: Not mapped

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

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

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No

Field Wetland Classification: PSS

Remarks: Vegetation, soils and hydrology disturbed by existing utility easement

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input checked="" type="checkbox"/> Geomorphic Position (D2)																																
<input type="checkbox"/> Shallow Aquitard (D3)																																
<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p style="text-align: center;">Wetland Hydrology Present?</p> <p style="text-align: center;"><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	20	YES	FAC
<i>Fraxinus pennsylvanica</i>	5	YES	FACW
Total Cover:	25		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	2	NO	FACU
<i>Spiraea alba</i>	25	YES	FACW
<i>Acer rubrum</i>	15	YES	FAC
<i>Spiraea tomentosa</i>	10	NO	FACW
Total Cover:		52	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Dichanthelium clandestinum</i>	30	YES	FACW
<i>Solidago gigantea</i>	8	NO	FACW
<i>Onoclea sensibilis</i>	5	NO	FACW
<i>Doellingeria umbellata</i>	15	YES	FACW
<i>Osmundastrum cinnamomeum</i>	5	NO	FACW
<i>Carex crinita</i>	10	NO	OBL
<i>Carex lurida</i>	3	NO	OBL
Total Cover:		76	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>13</u>	x 1 = <u>13</u>
FACW Species: <u>103</u>	x 2 = <u>206</u>
FAC Species: <u>35</u>	x 3 = <u>105</u>
FACU Species: <u>2</u>	x 4 = <u>8</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>153 (A)</u>	<u>332 (B)</u>
Prevalence Index = B/A = <u>2.17</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 4/2	75	5YR 4/6	25	C	M,PL	SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input checked="" type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 56746.5	County: Cheshire	Date: 08/28/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-D-W004-UPL
Investigators: PB		Quad Name: Troy	Township: Richmond	
Logbook No.: 6	Logbook Pg.: 116	Tract: 24381		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 5

Subregion (LRR): Middle Atlantic Lat: 42.790930 Long: -72.241052 Datum: NAD83

Soil Map Unit Name: Marlow fine sandy loam, 15 to 25 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	25	YES	FACU
<i>Tsuga canadensis</i>	30	YES	FACU
<i>Quercus rubra</i>	15	NO	FACU
Total Cover:	70		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	20	YES	FACU
<i>Tsuga canadensis</i>	10	NO	FACU
Total Cover:		30	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Medeola virginiana</i>	1	NO	FACU
Total Cover:		1	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>101</u>	x 4 = <u>404</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>101 (A)</u>	<u>404 (B)</u>
Prevalence Index = B/A = <u>4.00</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2							ORGANIC	
2-13	10YR 4/3	100					SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown ROCK 13	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 57191.9	County: Cheshire	Date: 08/28/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-D-W005-PFO
Investigators: PB		Quad Name: Troy	Township: Richmond	
Logbook No.: 6	Logbook Pg.: 119	Tract: 24381		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.791170 Long: -72.239426 Datum: NAD83

Soil Map Unit Name: Marlow fine sandy loam, 15 to 25 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
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<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 3</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	10	NO	FAC
<i>Betula alleghaniensis</i>	30	YES	FAC
<i>Quercus rubra</i>	5	NO	FACU
<i>Fraxinus pennsylvanica</i>	20	YES	FACW
Total Cover:	65		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	3	NO	FACU
<i>Acer rubrum</i>	10	YES	FAC
<i>Acer pensylvanicum</i>	3	NO	FACU
<i>Betula alleghaniensis</i>	8	YES	FAC
Total Cover:		24	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Rubus hispidus</i>	8	NO	FACW
<i>Persicaria sagittata</i>	5	NO	OBL
<i>Coptis trifolia</i>	5	NO	FACW
<i>Osmundastrum cinnamomeum</i>	25	YES	FACW
Total Cover:		43	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>5</u>	x 1 = <u>5</u>
FACW Species: <u>58</u>	x 2 = <u>116</u>
FAC Species: <u>58</u>	x 3 = <u>174</u>
FACU Species: <u>11</u>	x 4 = <u>44</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>132 (A)</u>	<u>339 (B)</u>
Prevalence Index = B/A = <u>2.57</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6							ORGANIC	
6-12	10YR 3/1	90	5YR 4/6	10	C	M,PL	SILT	
12-18	10YR 4/2	90	5YR 4/6	10	C	M,PL	SILT	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED		Milepost: 57196.4	County: Cheshire	Date: 08/28/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-D-W005-PEM
Investigators: PB	Quad Name: Troy		Township: Richmond	
Logbook No.: 6	Logbook Pg.: 118	Tract: 24381		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.791252 Long: -72.239432 Datum: NAD83

Soil Map Unit Name: Marlow fine sandy loam, 15 to 25 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks: Vegetation, soils and hydrology all disturbed by existing utility easement

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Moss Trim Lines (B16)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 4	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	5	YES	FACU
<i>Betula alleghaniensis</i>	15	YES	FAC
Total Cover:	20		

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	10	YES	FAC
<i>Spiraea alba</i>	5	YES	FACW
Total Cover:		15	

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Osmundastrum cinnamomeum</i>	20	YES	FACW
<i>Solidago gigantea</i>	5	NO	FACW
<i>Persicaria sagittata</i>	5	NO	OBL
<i>Carex crinita</i>	5	NO	OBL
<i>Typha latifolia</i>	3	NO	OBL
<i>Eupatorium perfoliatum</i>	3	NO	FACW
<i>Carex lurida</i>	3	NO	OBL
<i>Coptis trifolia</i>	10	YES	FACW
<i>Onoclea sensibilis</i>	15	YES	FACW
<i>Rubus hispidus</i>	5	NO	FACW
Total Cover:		74	

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>16</u>	x 1 = <u>16</u>
FACW Species: <u>63</u>	x 2 = <u>126</u>
FAC Species: <u>25</u>	x 3 = <u>75</u>
FACU Species: <u>5</u>	x 4 = <u>20</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>109 (A)</u>	<u>237 (B)</u>
Prevalence Index = B/A = <u>2.17</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4							ORGANIC	
4-13	10YR 3/1	90	5YR 4/6	10	C	M,PL	SILT	
13-18	10YR 4/2	90	5YR 4/6	10	C	M,PL	SILT	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 57215.2	County: Cheshire	Date: 08/28/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-D-W005-UPL
Investigators: PB		Quad Name: Troy	Township: Richmond	
Logbook No.: 6	Logbook Pg.: 120	Tract: 24381		
Landform (hillslope, terrace, etc.): Slope - mid		Local Relief: <input type="checkbox"/> Concave <input checked="" type="checkbox"/> Convex <input type="checkbox"/> None	Slope%.: 4	
Subregion (LRR): Middle Atlantic	Lat: 42.791070	Long: -72.239307	Datum: NAD83	
Soil Map Unit Name: Marlow fine sandy loam, 15 to 25 percent slopes, very stony			NW1 Classification: Not mapped	

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

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

Are Vegetation Soil or Hydrology naturally problematic?
 No

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

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula nigra</i>	5	NO	FACW
<i>Acer pensylvanicum</i>	5	NO	FACU
<i>Acer saccharum</i>	10	NO	FACU
<i>Quercus rubra</i>	10	NO	FACU
<i>Fagus grandifolia</i>	40	YES	FACU
Total Cover:		70	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer pensylvanicum</i>	5	NO	FACU
<i>Acer saccharum</i>	5	NO	FACU
<i>Fagus grandifolia</i>	25	YES	FACU
<i>Betula nigra</i>	5	NO	FACW
<i>Acer rubrum</i>	5	NO	FAC
Total Cover:		45	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Corallorhiza wisteriana</i>	1	NO	FACU
Total Cover:		1	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>10</u>	x 2 = <u>20</u>
FAC Species: <u>5</u>	x 3 = <u>15</u>
FACU Species: <u>101</u>	x 4 = <u>404</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>116 (A)</u>	<u>439 (B)</u>
Prevalence Index = B/A = <u>3.78</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3							ORGANIC	
3-5	10YR 4/3	100					SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown ROCK 15	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



E

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 58277.5	County: Cheshire	Date: 08/27/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-Y-W003-PEM
Investigators: PB	Quad Name: Troy		Township: Richmond	
Logbook No.: 1	Logbook Pg.: 95	Tract: 24372		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave
 Convex
 None Slope%.: 5

Subregion (LRR): Middle Atlantic Lat: 42.791845 Long: -72.235487 Datum: NAD83

Soil Map Unit Name: Peru fine sandy loam, 8 to 15 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
<input type="checkbox"/> Surface Soil Cracks (B6)																																
<input type="checkbox"/> Drainage Patterns (B10)																																
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<input type="checkbox"/> Crayfish Burrows (C8)																																
<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)																																
<input type="checkbox"/> Stunted or Stressed Plants (D1)																																
<input type="checkbox"/> Geomorphic Position (D2)																																
<input type="checkbox"/> Shallow Aquitard (D3)																																
<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 4</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	---

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	10	YES	FACU
<i>Betula alleghaniensis</i>	10	YES	FAC
<i>Acer rubrum</i>	10	YES	FAC
Total Cover:	30		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	2	NO	FACU
<i>Acer rubrum</i>	5	YES	FAC
<i>Betula alleghaniensis</i>	10	YES	FAC
<i>Acer pensylvanicum</i>	2	NO	FACU
Total Cover:		19	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Osmundastrum cinnamomeum</i>	20	YES	FACW
<i>Phragmites australis</i>	5	NO	FACW
<i>Onoclea sensibilis</i>	2	NO	FACW
<i>Carex echinata</i>	20	YES	OBL
<i>Spiraea alba</i>	10	NO	FACW
<i>Glyceria canadensis</i>	1	NO	OBL
<i>Carex crinita</i>	10	YES	OBL
<i>Solidago rugosa</i>	10	YES	FAC
<i>Doellingeria umbellata</i>	2	NO	FACW
<i>Rubus hispidus</i>	5	NO	FACW
Total Cover:		85	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 89 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>31</u>	x 1 = <u>31</u>
FACW Species: <u>44</u>	x 2 = <u>88</u>
FAC Species: <u>45</u>	x 3 = <u>135</u>
FACU Species: <u>14</u>	x 4 = <u>56</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>134 (A)</u>	<u>310 (B)</u>
Prevalence Index = B/A = <u>2.31</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-15	10YR 2/1	100					ORGANIC	
15-20	10YR 5/2	95	10YR 4/6	5	C	M	SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 58230.6	County: Cheshire	Date: 08/27/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: RI-Y-W003-UPL
Investigators: PB	Quad Name: Troy	Township: Richmond	
Logbook No.: 6	Logbook Pg.: 106	Tract: 24372	

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 5

Subregion (LRR): Middle Atlantic Lat: 42.791763 Long: -72.235641 Datum: NAD83

Soil Map Unit Name: Peru fine sandy loam, 8 to 15 percent slopes, very stony NWI Classification: Not mapped

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

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

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p style="text-align: center;">Wetland Hydrology Present?</p> <p style="text-align: center;"><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula alleghaniensis</i>	15	YES	FAC
<i>Acer rubrum</i>	15	YES	FAC
Total Cover:	30		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer pensylvanicum</i>	30	YES	FACU
<i>Acer rubrum</i>	15	YES	FAC
<i>Quercus rubra</i>	10	NO	FACU
<i>Rubus allegheniensis</i>	5	NO	FACU
<i>Aralia nudicaulis</i>	5	NO	FACU
Total Cover:		65	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Dryopteris marginalis</i>	15	YES	FACU
<i>Eurybia divaricata</i>	5	NO	FACU
<i>Polygonatum biflorum</i>	10	YES	FACU
<i>Maianthemum canadense</i>	3	NO	FACU
Total Cover:		33	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>45</u>	x 3 = <u>135</u>
FACU Species: <u>83</u>	x 4 = <u>332</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>128 (A)</u>	<u>467 (B)</u>
Prevalence Index = B/A = <u>3.65</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3							ORGANIC	
3-18	10YR 4/4	100					SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED		Milepost: 60135.9	County: Cheshire	Date: 08/26/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-L-W002-PFO
Investigators: NF CM		Quad Name: Troy	Township: Richmond	
Logbook No.: 2015-7	Logbook Pg.: 124	Tract: 24372		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 10

Subregion (LRR): Middle Atlantic Lat: 42.792690 Long: -72.228653 Datum: NAD83

Soil Map Unit Name: Berkshire fine sandy loam, 15 to 25 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Moss Trim Lines (B16)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):	
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	5	NO	FACU
<i>Acer rubrum</i>	20	YES	FAC
<i>Betula alleghaniensis</i>	15	YES	FAC
Total Cover:	40		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	10	YES	FAC
Total Cover:		10	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Lycopus americanus</i>	10	YES	OBL
<i>Carex crinita</i>	15	YES	OBL
<i>Carex lurida</i>	10	YES	OBL
<i>Persicaria sagittata</i>	15	YES	OBL
Total Cover:		50	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>50</u>	x 1 = <u>50</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>45</u>	x 3 = <u>135</u>
FACU Species: <u>5</u>	x 4 = <u>20</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100 (A)</u>	<u>205 (B)</u>
Prevalence Index = B/A = <u>2.05</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-15	2.5Y 4/1	95	7.5YR 5/8	5	C	M	SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown HARDP AN 15	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SOUTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 60186.5	County: Cheshire	Date: 08/26/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-L-W002-UPL
Investigators: NF CM		Quad Name: Troy	Township: Richmond	
Logbook No.: 2015-7	Logbook Pg.: 127	Tract: 24372		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 5

Subregion (LRR): Middle Atlantic Lat: 42.792912 Long: -72.228526 Datum: NAD83

Soil Map Unit Name: Berkshire fine sandy loam, 15 to 25 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	10	YES	FAC
<i>Quercus rubra</i>	10	YES	FACU
<i>Tsuga canadensis</i>	15	YES	FACU
Total Cover:	35		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	10	YES	FAC
Total Cover:		10	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>HAY SENTED FERN</i>	20	YES	FACU
<i>Lycopodium lagopus</i>	10	YES	FACU
<i>Fagus grandifolia</i>	10	YES	FACU
Total Cover:		40	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 29 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>20</u>	x 3 = <u>60</u>
FACU Species: <u>65</u>	x 4 = <u>260</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>85 (A)</u>	<u>320 (B)</u>
Prevalence Index = B/A = <u>3.76</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	2.5Y 4/1	100					SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



EAST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 61430.5	County: Cheshire	Date: 08/26/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-D-W001-PFO
Investigators: DC		Quad Name: Troy	Township: Richmond	
Logbook No.: 1	Logbook Pg.: 85	Tract: 24372		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 5

Subregion (LRR): Middle Atlantic Lat: 42.793673 Long: -72.224008 Datum: NAD83

Soil Map Unit Name: Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	2	NO	FACU
<i>Acer rubrum</i>	40	YES	FAC
<i>Betula nigra</i>	10	NO	FACW
<i>Pinus strobus</i>	3	NO	FACU
Total Cover:	55		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium corymbosum</i>	5	NO	FACW
<i>Fagus grandifolia</i>	10	YES	FACU
<i>Betula alleghaniensis</i>	10	YES	FAC
<i>Quercus rubra</i>	2	NO	FACU
Total Cover:		27	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Gaultheria procumbens</i>	1	NO	FACU
<i>Osmundastrum cinnamomeum</i>	30	YES	FACW
<i>Aralia nudicaulis</i>	5	NO	FACU
<i>Dryopteris intermedia</i>	10	YES	FAC
Total Cover:		46	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>45</u>	x 2 = <u>90</u>
FAC Species: <u>60</u>	x 3 = <u>180</u>
FACU Species: <u>23</u>	x 4 = <u>92</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>128 (A)</u>	<u>362 (B)</u>
Prevalence Index = B/A = <u>2.83</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	100					ORGANIC	
10-15	10YR 3/1	100					FINE SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



W

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 61440.8	County: Cheshire	Date: 08/26/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-D-W001-PEM
Investigators: PB	Quad Name: Troy		Township: Richmond	
Logbook No.: 6	Logbook Pg.: 97	Tract: 24372		
Landform (hillslope, terrace, etc.): Depression		Local Relief: <input checked="" type="checkbox"/> Concave <input type="checkbox"/> Convex <input type="checkbox"/> None		Slope%.: 2
Subregion (LRR): Middle Atlantic	Lat: 42.793727	Long: -72.223985	Datum: NAD83	
Soil Map Unit Name: Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes			NWI Classification: Not mapped	

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 4</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	5	NO	FACU
<i>Quercus rubra</i>	3	NO	FACU
<i>Acer rubrum</i>	30	YES	FAC
Total Cover:	38		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	2	NO	FAC
<i>Vaccinium corymbosum</i>	10	YES	FACW
<i>Pinus strobus</i>	1	NO	FACU
<i>Spiraea alba</i>	20	YES	FACW
<i>Spiraea tomentosa</i>	10	YES	FACW
Total Cover:		43	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Dennstaedtia punctilobula</i>	5	NO	UPL
<i>Rubus hispidus</i>	30	YES	FACW
<i>Osmundastrum cinnamomeum</i>	40	YES	FACW
Total Cover:		75	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>110</u>	x 2 = <u>220</u>
FAC Species: <u>32</u>	x 3 = <u>96</u>
FACU Species: <u>9</u>	x 4 = <u>36</u>
UPL Species: <u>5</u>	x 5 = <u>25</u>
Column Totals: <u>156 (A)</u>	<u>377 (B)</u>
Prevalence Index = B/A = <u>2.42</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4							ORGANIC	
4-13	10YR 3/1	100					SILT	
13-18	10YR 5/1	93	7.5YR 4/6	7	D	M	SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



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WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 61358.8	County: Cheshire	Date: 08/26/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-D-W001-UPL
Investigators: PB	Quad Name: Troy		Township: Richmond	
Logbook No.: 6	Logbook Pg.: 98	Tract: 24372		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 10

Subregion (LRR): Middle Atlantic Lat: 42.793555 Long: -72.224247 Datum: NAD83

Soil Map Unit Name: Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	30	YES	FACU
<i>Acer rubrum</i>	25	YES	FAC
<i>Quercus rubra</i>	20	YES	FACU
Total Cover:	75		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	35	YES	FACU
<i>Sassafras albidum</i>	5	NO	FACU
Total Cover:		40	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Parathelypteris noveboracensis</i>	2	YES	FAC
Total Cover:		2	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>27</u>	x 3 = <u>81</u>
FACU Species: <u>90</u>	x 4 = <u>360</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>117 (A)</u>	<u>441 (B)</u>
Prevalence Index = B/A = <u>3.77</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2							ORGANIC	
2-16	5YR 5/6	100					SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown ROCK 16	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 61819.0	County: Cheshire	Date: 09/01/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-Y-W001-PEM
Investigators: BH JW		Quad Name: Troy	Township: Richmond	
Logbook No.: 10	Logbook Pg.: 46	Tract: 24372		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 5

Subregion (LRR): Middle Atlantic Lat: 42.793880 Long: -72.222589 Datum: NAD83

Soil Map Unit Name: Berkshire fine sandy loam, 15 to 25 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
<input type="checkbox"/> Surface Soil Cracks (B6)																																
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 14</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula alleghaniensis</i>	25	YES	FAC
Total Cover:		25	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Spiraea alba</i>	10	YES	FACW
Total Cover:		10	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Osmunda claytoniana</i>	15	YES	FAC
<i>Dennstaedtia punctilobula</i>	15	YES	UPL
<i>Calamagrostis perplexa</i>	5	NO	FACW
<i>Rubus hispidus</i>	40	YES	FACW
<i>Pteridium aquilinum</i>	10	NO	FACU
Total Cover:		85	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>55</u>	x 2 = <u>110</u>
FAC Species: <u>40</u>	x 3 = <u>120</u>
FACU Species: <u>10</u>	x 4 = <u>40</u>
UPL Species: <u>15</u>	x 5 = <u>75</u>
Column Totals: <u>120 (A)</u>	<u>345 (B)</u>
Prevalence Index = B/A = <u>2.88</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/1	95	10YR 4/6	5	C	M	LOAM	
8-20	10YR 4/1	85	10YR 4/6 10YR 2/1	10 5	C C	M M	LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



EAST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 61868.0	County: Cheshire	Date: 08/26/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-Y-W001-PFO
Investigators: DC		Quad Name: Troy	Township: Richmond	
Logbook No.: 1	Logbook Pg.: 82	Tract: 24372		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.793785 Long: -72.222374 Datum: NAD83

Soil Map Unit Name: Berkshire fine sandy loam, 15 to 25 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	15	YES	FACU
<i>Pinus strobus</i>	10	NO	FACU
<i>Acer rubrum</i>	40	YES	FAC
Total Cover:	65		

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	15	YES	FAC
<i>Tsuga canadensis</i>	5	YES	FACU
Total Cover:		20	

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Thelypteris palustris</i>	10	NO	FACW
<i>Pteridium aquilinum</i>	10	NO	FACU
<i>Rubus hispidus</i>	10	NO	FACW
<i>Osmunda claytoniana</i>	70	YES	FAC
Total Cover:		100	

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>20</u>	x 2 = <u>40</u>
FAC Species: <u>125</u>	x 3 = <u>375</u>
FACU Species: <u>40</u>	x 4 = <u>160</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>185 (A)</u>	<u>575 (B)</u>
Prevalence Index = B/A = <u>3.11</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	100					ORGANIC	
10-24	10YR 3/2	100					SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input checked="" type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)	

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



E

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 62017.4	County: Cheshire	Date: 08/26/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-L-W001-PFO
Investigators: NF CM		Quad Name: Troy	Township: Richmond	
Logbook No.: 2015-7	Logbook Pg.: 122	Tract: 24372		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.793837 Long: -72.221820 Datum: NAD83

Soil Map Unit Name: Berkshire fine sandy loam, 15 to 25 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks: DISTURBED WITH LOGGING ACTIVITY

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	25	YES	FAC
<i>Betula alleghaniensis</i>	25	YES	FAC
<i>Quercus rubra</i>	5	NO	FACU
<i>Tsuga canadensis</i>	10	NO	FACU
Total Cover:	65		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula alleghaniensis</i>	5	YES	FAC
<i>Tsuga canadensis</i>	5	YES	FACU
Total Cover:		10	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Juncus effusus</i>	10	NO	OBL
<i>Osmunda claytoniana</i>	30	YES	FAC
<i>Carex lurida</i>	5	NO	OBL
<i>Eupatorium perfoliatum</i>	5	NO	FACW
<i>Dennstaedtia punctilobula</i>	5	NO	UPL
Total Cover:		55	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>15</u>	x 1 = <u>15</u>
FACW Species: <u>5</u>	x 2 = <u>10</u>
FAC Species: <u>85</u>	x 3 = <u>255</u>
FACU Species: <u>20</u>	x 4 = <u>80</u>
UPL Species: <u>5</u>	x 5 = <u>25</u>
Column Totals: <u>130 (A)</u>	<u>385 (B)</u>
Prevalence Index = B/A = <u>2.96</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	2.5Y 4/1	90	10YR 5/6	10	C	M	SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

HARDP
 AN
 10

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



WEST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 61990.6	County: Cheshire	Date: 08/26/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: RI-L-W001-UPL
Investigators: BH CM		Quad Name: Troy	Township: Richmond	
Logbook No.: 2015-9	Logbook Pg.: 122	Tract: 24372		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 10

Subregion (LRR): Middle Atlantic Lat: 42.793944 Long: -72.221953 Datum: NAD83

Soil Map Unit Name: Berkshire fine sandy loam, 15 to 25 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	30	YES	FACU
<i>Pinus strobus</i>	30	YES	FACU
<i>Quercus rubra</i>	30	YES	FACU
Total Cover:	90		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	15	YES	FACU
Total Cover:		15	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Mitchella repens</i>	20	YES	FACU
<i>Lycopodium lagopus</i>	5	NO	FACU
SOLAMONS SEAL	5	NO	FACU
Total Cover:		30	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>135</u>	x 4 = <u>540</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>135 (A)</u>	<u>540 (B)</u>
Prevalence Index = B/A = <u>4.00</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/1	100					SILT LOAM	
4-12	10YR 4/3	100					LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	<input type="checkbox"/> Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

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12

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



WEST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 62669.8	County: Cheshire	Date: 08/26/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-Y-W008-PEM
Investigators: DC		Quad Name: Troy	Township: Richmond	
Logbook No.: 1	Logbook Pg.: 81	Tract: 24372		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.794197 Long: -72.219440 Datum: NAD83

Soil Map Unit Name: Lyme and Moosilauke soils, 0 to 5 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	5	YES	FAC
Total Cover:		5	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Juncus biflorus</i>	10	YES	FACW
<i>Carex lurida</i>	15	YES	OBL
<i>Cladium mariscoides</i>	10	YES	OBL
Total Cover:		35	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>25</u>	x 1 = <u>25</u>
FACW Species: <u>10</u>	x 2 = <u>20</u>
FAC Species: <u>5</u>	x 3 = <u>15</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>40 (A)</u>	<u>60 (B)</u>
Prevalence Index = B/A = <u>1.50</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 2/1	100					ORGANIC	
6-15	10YR 3/2	60	10YR 4/3 10YR 2/1	10 30	C C	M M	FINE SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

TR-D-W003-UPL is associated upland plot

PHOTOS



SW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 62878.2	County: Cheshire	Date: 08/26/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-D-W003-PFO
Investigators: PB	Quad Name: Troy		Township: Troy	
Logbook No.: 6	Logbook Pg.: 94	Tract: 23327		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.794394 Long: -72.218703 Datum: NAD83

Soil Map Unit Name: Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)																															
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 2</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	15	YES	FACU
<i>Betula alleghaniensis</i>	35	YES	FAC
<i>Acer rubrum</i>	15	YES	FAC
Total Cover:	65		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	5	YES	FACU
<i>Viburnum lantanoides</i>	5	YES	FACU
<i>Acer rubrum</i>	8	YES	FAC
Total Cover:		18	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Osmundastrum cinnamomeum</i>	5	YES	FACW
<i>Monotropa uniflora</i>	1	NO	FACU
<i>Trientalis borealis</i>	5	YES	FAC
<i>Dendrolycopodium obscurum</i>	1	NO	FACU
Total Cover:		12	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 63 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>5</u>	x 2 = <u>10</u>
FAC Species: <u>63</u>	x 3 = <u>189</u>
FACU Species: <u>27</u>	x 4 = <u>108</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>95 (A)</u>	<u>307 (B)</u>
Prevalence Index = B/A = <u>3.23</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6							ORGANIC	
6-14	10YR 3/1	100					SILT	
14-18	10YR 5/1	93	5YR 4/6	7	C	M	SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



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WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 62895.9	County: Cheshire	Date: 08/26/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: TR-D-W003-PEM
Investigators: DC	Quad Name: Troy	Township: Troy	
Logbook No.: 1	Logbook Pg.: 79	Tract: 23327	

Landform (hillslope, terrace, etc.): Slope - toe Local Relief: Concave
 Convex
 None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.794515 Long: -72.218671 Datum: NAD83

Soil Map Unit Name: Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 3</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 3 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	20	YES	FAC
<i>Tsuga canadensis</i>	30	YES	FACU
Total Cover:	50		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	10	YES	FACU
<i>Fagus grandifolia</i>	10	YES	FACU
Total Cover:		20	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Rubus hispidus</i>	10	YES	FACW
<i>Thelypteris palustris</i>	10	YES	FACW
<i>Osmundastrum cinnamomeum</i>	10	YES	FACW
<i>Dichantheium clandestinum</i>	10	YES	FACW
Total Cover:		40	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 63 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>40</u>	x 2 = <u>80</u>
FAC Species: <u>20</u>	x 3 = <u>60</u>
FACU Species: <u>50</u>	x 4 = <u>200</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>110 (A)</u>	<u>340 (B)</u>
Prevalence Index = B/A = <u>3.09</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/3	100					ORGANIC	
6-12	10YR 4/1	90	10YR 5/1	10	D	M	CLAY	
12-24	10YR 5/1	95	10YR 4/6	5	C	M	CLAY	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 62799.6	County: Cheshire	Date: 08/26/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-D-W003-UPL
Investigators: PB	Quad Name: Troy		Township: Troy	
Logbook No.: 6	Logbook Pg.: 95	Tract: 23327		
Landform (hillslope, terrace, etc.): Hilltop		Local Relief: <input type="checkbox"/> Concave <input checked="" type="checkbox"/> Convex <input type="checkbox"/> None		Slope%.: 2
Subregion (LRR): Middle Atlantic	Lat: 42.794423	Long: -72.219011	Datum: NAD83	
Soil Map Unit Name: Lyme and Moosilauke soils, 0 to 5 percent slopes, very stony			NWI Classification: Not mapped	

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

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

Are Vegetation Soil or Hydrology naturally problematic?
 No

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

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula alleghaniensis</i>	10	NO	FAC
<i>Acer rubrum</i>	10	NO	FAC
<i>Tsuga canadensis</i>	45	YES	FACU
<i>Quercus rubra</i>	10	NO	FACU
Total Cover:		75	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	20	YES	FACU
<i>Betula alleghaniensis</i>	5	YES	FAC
Total Cover:		25	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Dryopteris marginalis</i>	1	NO	FACU
Total Cover:		1	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>25</u>	x 3 = <u>75</u>
FACU Species: <u>76</u>	x 4 = <u>304</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>101 (A)</u>	<u>379 (B)</u>
Prevalence Index = B/A = <u>3.75</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4							ORGANIC	
4-13	10YR 3/4	100					SILT	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

ROCK

13

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED		Milepost: 63045.0	County: Cheshire	Date: 08/25/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-Y-W007-PFO
Investigators: dc tc		Quad Name: Troy	Township: Troy	
Logbook No.: 1	Logbook Pg.: 87	Tract: 23327		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.794401 Long: -72.218069 Datum: NAD83

Soil Map Unit Name: Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	
Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0	
Saturation Present? (includes capillary fringe) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0	

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	30	YES	FAC
<i>Tsuga canadensis</i>	30	YES	FACU
Total Cover:	60		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	5	YES	FACU
Total Cover:		5	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Thelypteris palustris</i>	10	YES	FACW
<i>Osmunda claytoniana</i>	10	YES	FAC
<i>Acer rubrum</i>	10	YES	FAC
<i>Coptis trifolia</i>	5	NO	FACW
Total Cover:		35	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>15</u>	x 2 = <u>30</u>
FAC Species: <u>50</u>	x 3 = <u>150</u>
FACU Species: <u>35</u>	x 4 = <u>140</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100 (A)</u>	<u>320 (B)</u>
Prevalence Index = B/A = <u>3.20</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/1	100					FINE SANDY LOAM	
3-20	10YR 3/1	90	10YR 5/1	10	D	M	FINE SANDY LOAM	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ² Location: PL=Pore Lining, M=Matrix								
Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)					Indicators for Problematic Hydric Soils³:			
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)			<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)			<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)			<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)		
<input type="checkbox"/> Stratified Layers (A5)			<input checked="" type="checkbox"/> Depleted Matrix (F3)			<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)		
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Redox Dark Surface (F6)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)		
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)						<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
<input type="checkbox"/> Sandy Redox (S5)						<input type="checkbox"/> Red Parent Material (F21)		
<input type="checkbox"/> Stripped Matrix (S6)						<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)						<input type="checkbox"/> Other (Explain in Remarks)		
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.								
Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown						Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Remarks:								
Description of Habitat Characteristics, Aquatic Diversity or General Comments:								
Wetland Quality: <input type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low				Isolated Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown				
General Comments:								

PHOTOS



NE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 63366.9	County: Cheshire	Date: 08/25/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: TR-D-W001-PSS
Investigators: PB	Quad Name: Troy	Township: Troy	
Logbook No.: 6	Logbook Pg.: 87	Tract: 23327	

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 3

Subregion (LRR): Middle Atlantic Lat: 42.794744 Long: -72.216880 Datum: NAD83

Soil Map Unit Name: Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Castanea dentata</i>	10	NA	NA
Total Cover:		10	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	50	YES	FAC
<i>Spiraea tomentosa</i>	5	NO	FACW
<i>Spiraea alba</i>	20	YES	FACW
<i>Castanea dentata</i>	5	NA	NA
Total Cover:		80	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Parathelypteris noveboracensis</i>	10	NO	FAC
<i>Osmundastrum cinnamomeum</i>	25	YES	FACW
<i>Sphagnum sp.</i>	30	NA	NONE
<i>Fragaria virginiana</i>	5	NO	FACU
Total Cover:		70	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>50</u>	x 2 = <u>100</u>
FAC Species: <u>60</u>	x 3 = <u>180</u>
FACU Species: <u>5</u>	x 4 = <u>20</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>115 (A)</u>	<u>300 (B)</u>
Prevalence Index = B/A = <u>2.61</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 3/1	90	5YR 4/6	10	C	M	SILT	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown ROCK 16	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 63382.4	County: Cheshire	Date: 08/25/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: TR-D-W001-UPL
Investigators: dc	Quad Name: Troy	Township: Troy	
Logbook No.: 1	Logbook Pg.: 87	Tract: 23327	

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 20

Subregion (LRR): Middle Atlantic Lat: 42.794826 Long: -72.216908 Datum: NAD83

Soil Map Unit Name: Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	10	NO	FACU
<i>Acer saccharum</i>	25	YES	FACU
<i>Tsuga canadensis</i>	50	YES	FACU
Total Cover:	85		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	10	YES	FACU
Total Cover:		10	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>95</u>	x 4 = <u>380</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>95 (A)</u>	<u>380 (B)</u>
Prevalence Index = B/A = <u>4.00</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/3	100					ORGANIC	
6-9	10YR 4/1	80					SAND	
9-10	5YR 3/6	100					FINE SANDY LOAM	
10-24	5YR 3/3	100					FINE SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 64228.7	County: Cheshire	Date: 08/25/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-L-W001-PFO
Investigators: BH	Quad Name: Troy		Township: Troy	
Logbook No.: 9L	Logbook Pg.: 104	Tract: 23328		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.795103 Long: -72.213716 Datum: NAD83

Soil Map Unit Name: Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input checked="" type="checkbox"/> Surface Water (A1)</td> <td><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input checked="" type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 2</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p style="text-align: center;">Wetland Hydrology Present?</p> <p style="text-align: center;"><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula alleghaniensis</i>	50	YES	FAC
<i>Acer rubrum</i>	20	YES	FAC
<i>Acer saccharum</i>	10	NO	FACU
Total Cover:	80		

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula alleghaniensis</i>	10	YES	FAC
<i>Fagus grandifolia</i>	5	YES	FACU
Total Cover:		15	

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Osmunda claytoniana</i>	10	YES	FAC
<i>Coptis trifolia</i>	10	YES	FACW
Total Cover:		20	

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>10</u>	x 2 = <u>20</u>
FAC Species: <u>90</u>	x 3 = <u>270</u>
FACU Species: <u>15</u>	x 4 = <u>60</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>115 (A)</u>	<u>350 (B)</u>

Prevalence Index = B/A = 3.04

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/1	85	10YR 4/6	15	C	M	LOAM	
12-18	10YR 4/1	70	10YR 2/1 10YR 6/7	20 10	C	M	LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 64265.6	County: Cheshire	Date: 08/25/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: TR-L-W001-UPL
Investigators: BH	Quad Name: Troy	Township: Troy	
Logbook No.: 9L	Logbook Pg.: 106	Tract: 23328	

Landform (hillslope, terrace, etc.): Hilltop Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.795155 Long: -72.213639 Datum: NAD83

Soil Map Unit Name: Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer saccharum</i>	25	YES	FACU
<i>Fagus grandifolia</i>	15	NO	FACU
<i>Acer rubrum</i>	10	NO	FAC
<i>Pinus strobus</i>	30	YES	FACU
Total Cover:		80	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	40	YES	FACU
Total Cover:		40	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Lycopodium lagopus</i>	15	YES	FACU
<i>Mitchella repens</i>	10	YES	FACU
<i>Trientalis borealis</i>	5	NO	FAC
Total Cover:		30	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>15</u>	x 3 = <u>45</u>
FACU Species: <u>135</u>	x 4 = <u>540</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>150 (A)</u>	<u>585 (B)</u>
Prevalence Index = B/A = <u>3.90</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/1	100					SILT LOAM	
4-8	10YR 4/6	100					LOAM	
8-12	10YR 6/1	50	10YR 4/7	50			SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

COBBL
E
12

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 64336.4	County: Cheshire	Date: 08/25/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-G-W001-PFO
Investigators: NF CM		Quad Name: Troy	Township: Troy	
Logbook No.: 2015-7	Logbook Pg.: 114	Tract: 23328		
Landform (hillslope, terrace, etc.): Depression		Local Relief: <input checked="" type="checkbox"/> Concave	<input type="checkbox"/> Convex	<input type="checkbox"/> None Slope%.: 3
Subregion (LRR): Middle Atlantic	Lat: 42.795300	Long: -72.213412	Datum: NAD83	
Soil Map Unit Name: Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes			NWI Classification: Not mapped	

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

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

Are Vegetation
 Soil
 or Hydrology
 naturally problematic?
 No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input checked="" type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	30	YES	FAC
<i>Pinus strobus</i>	5	NO	FACU
<i>Betula alleghaniensis</i>	20	YES	FAC
Total Cover:		55	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium corymbosum</i>	10	YES	FACW
<i>Betula alleghaniensis</i>	10	YES	FAC
<i>Acer pensylvanicum</i>	10	YES	FACU
Total Cover:		30	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Thelypteris noveboracensis</i>	5	NO	FAC
<i>Osmunda claytoniana</i>	50	YES	FAC
Total Cover:		55	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>10</u>	x 2 = <u>20</u>
FAC Species: <u>115</u>	x 3 = <u>345</u>
FACU Species: <u>15</u>	x 4 = <u>60</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>140 (A)</u>	<u>425 (B)</u>
Prevalence Index = B/A = <u>3.04</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/1	90	10YR 5/8	10	C	M	SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown HARDP AN 10	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED		Milepost: 64568.8	County: Cheshire	Date: 08/25/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-L-W002-PFO
Investigators: BH	Quad Name: Troy		Township: Troy	
Logbook No.: 9L	Logbook Pg.: 108	Tract: 23328		
Landform (hillslope, terrace, etc.): Hilltop		Local Relief: <input checked="" type="checkbox"/> Concave <input type="checkbox"/> Convex <input type="checkbox"/> None		Slope%.: 2
Subregion (LRR): Middle Atlantic	Lat: 42.795228	Long: -72.212505	Datum: NAD83	
Soil Map Unit Name: Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes			NWI Classification: Not mapped	

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Moss Trim Lines (B16)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):	
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	40	YES	FAC
<i>Acer saccharum</i>	40	YES	FACU
Total Cover:	80		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium corymbosum</i>	20	YES	FACW
<i>Betula alleghaniensis</i>	5	NO	FAC
<i>Tsuga canadensis</i>	5	NO	FACU
Total Cover:		30	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Carex intumescens</i>	20	YES	FACW
<i>Osmunda claytoniana</i>	5	NO	FAC
<i>Coptis trifolia</i>	5	NO	FACW
<i>Vaccinium angustifolium</i>	5	NO	FACU
Total Cover:		35	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>45</u>	x 2 = <u>90</u>
FAC Species: <u>50</u>	x 3 = <u>150</u>
FACU Species: <u>50</u>	x 4 = <u>200</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>145 (A)</u>	<u>440 (B)</u>

Prevalence Index = B/A = 3.03

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	2.5Y 2/1	90	10YR 4/6	10	C	M	LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown COBBL E 16	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 64617.3	County: Cheshire	Date: 08/25/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: TR-L-W002-UPL
Investigators: BH	Quad Name: Troy	Township: Troy	
Logbook No.: 9L	Logbook Pg.: 110	Tract: 23328	

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 5

Subregion (LRR): Middle Atlantic Lat: 42.795331 Long: -72.212351 Datum: NAD83

Soil Map Unit Name: Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	20	YES	FACU
<i>Fagus grandifolia</i>	10	NO	FACU
<i>Tsuga canadensis</i>	30	YES	FACU
<i>Pinus strobus</i>	20	YES	FACU
Total Cover:	80		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	10	YES	FACU
Total Cover:		10	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Trientalis borealis</i>	5	NO	FAC
<i>Vaccinium angustifolium</i>	25	YES	FACU
Total Cover:		30	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>5</u>	x 3 = <u>15</u>
FACU Species: <u>115</u>	x 4 = <u>460</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>120 (A)</u>	<u>475 (B)</u>
Prevalence Index = B/A = <u>3.96</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/6	100		0			LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown COBBL E 12	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



E

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 70149.8	County: Cheshire	Date: 07/31/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-X-W004-PSS
Investigators: tc sh		Quad Name: Troy		Township: Troy
Logbook No.: 1	Logbook Pg.: 95	Tract: 23335		
Landform (hillslope, terrace, etc.): Slope - toe		Local Relief: <input checked="" type="checkbox"/> Concave <input type="checkbox"/> Convex <input type="checkbox"/> None		Slope%.: 75
Subregion (LRR): Middle Atlantic	Lat: 42.799278	Long: -72.192907	Datum: NAD83	
Soil Map Unit Name: Lyman-Tunbridge-Rock outcrop complex, 25 to 50 percent slopes			NWI Classification: Not mapped	

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

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

Are Vegetation Soil or Hydrology naturally problematic?
 No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input checked="" type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input type="checkbox"/> Geomorphic Position (D2)																																
<input type="checkbox"/> Shallow Aquitard (D3)																																
<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 1</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 8</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula alleghaniensis</i>	15	YES	FAC
<i>Tsuga canadensis</i>	35	YES	FACU
Total Cover:	50		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Frangula alnus</i>	15	YES	FAC
<i>Betula alleghaniensis</i>	15	YES	FAC
Total Cover:		30	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Frangula alnus</i>	10	NO	FAC
<i>Solidago rugosa</i>	10	NO	FAC
<i>Carex crinita</i>	25	YES	OBL
<i>Sphagnum sp.</i>	10	NA	NONE
<i>Glyceria striata</i>	25	YES	OBL
<i>Dryopteris carthusiana</i>	10	NO	FACW
Total Cover:		90	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>50</u>	x 1 = <u>50</u>
FACW Species: <u>10</u>	x 2 = <u>20</u>
FAC Species: <u>65</u>	x 3 = <u>195</u>
FACU Species: <u>35</u>	x 4 = <u>140</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>160 (A)</u>	<u>405 (B)</u>
Prevalence Index = B/A = <u>2.53</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	95	10YR 5/8	5	C	PL	FINE SANDY LOAM	
10-18	10YR 3/1	90	10YR 4/1	10	D	M	FINE SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown YES 18	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 70146.4	County: Cheshire	Date: 07/31/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: TR-X-W004-UPL
Investigators: sh tc	Quad Name: Troy	Township: Troy	
Logbook No.: 1	Logbook Pg.: 97	Tract: 23335	

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 100

Subregion (LRR): Middle Atlantic Lat: 42.799177 Long: -72.192872 Datum: NAD83

Soil Map Unit Name: Lyman-Tunbridge-Rock outcrop complex, 25 to 50 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? Yes No

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

VEGETATION

Tree Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula lenta</i>	5	NO	FACU
<i>Tsuga canadensis</i>	55	YES	FACU
<i>Acer saccharum</i>	20	YES	FACU
<i>Betula alleghaniensis</i>	20	YES	FAC
Total Cover:	100		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	20	YES	FACU
<i>Tsuga canadensis</i>	20	YES	FACU
Total Cover:		40	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 20 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>20</u>	x 3 = <u>60</u>
FACU Species: <u>120</u>	x 4 = <u>480</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>140 (A)</u>	<u>540 (B)</u>
Prevalence Index = B/A = <u>3.86</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100					FINE SANDY LOAM	
2-6	10YR 3/4	100					FINE SANDY LOAM	
6-15	10YR 2/2	75	10YR 3/4	25			FINE SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED		Milepost: 70868.4	County: Cheshire	Date: 08/06/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-X-W001-PEM
Investigators: SH-DC		Quad Name: Troy	Township: Troy	
Logbook No.: 1	Logbook Pg.: 102	Tract: 23335		
Landform (hillslope, terrace, etc.): Depression		Local Relief: <input checked="" type="checkbox"/> Concave <input type="checkbox"/> Convex <input type="checkbox"/> None	Slope%.: 2	
Subregion (LRR): Middle Atlantic	Lat: 42.799719	Long: -72.190283	Datum: NAD83	
Soil Map Unit Name: Moosilauke fine sandy loam	NW1 Classification: Not mapped			

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Moss Trim Lines (B16)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 5	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
NO TREES			
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Ilex verticillata</i>	5	NO	FACW
<i>Frangula alnus</i>	10	NO	FAC
<i>Alnus incana</i>	40	YES	FACW
Total Cover:		55	

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Persicaria sagittata</i>	5	NO	OBL
<i>Carex lupulina</i>	20	YES	OBL
<i>Dulichium arundinaceum</i>	20	YES	OBL
<i>Eupatorium perfoliatum</i>	5	NO	FACW
<i>Juncus effusus</i>	20	YES	OBL
<i>Lysimachia terrestris</i>	5	NO	OBL
<i>Spiraea alba</i>	20	YES	FACW
Total Cover:		95	

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>70</u>	x 1 = <u>70</u>
FACW Species: <u>70</u>	x 2 = <u>140</u>
FAC Species: <u>10</u>	x 3 = <u>30</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>150 (A)</u>	<u>240 (B)</u>

Prevalence Index = B/A = 1.60

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/2	100						
10-18	10YR 4/1	90	10YR 5/6	10	C	M		

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

NO

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS

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WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 70788.5	County: Cheshire	Date: 08/06/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-X-W001-UPL
Investigators: SH, DC		Quad Name: Troy	Township: Troy	
Logbook No.: 1	Logbook Pg.: 101	Tract: 23335		
Landform (hillslope, terrace, etc.): Flat		Local Relief: <input type="checkbox"/> Concave <input checked="" type="checkbox"/> Convex <input type="checkbox"/> None		Slope%.: 0
Subregion (LRR): Middle Atlantic	Lat: 42.799709	Long: -72.190593	Datum: NAD83	
Soil Map Unit Name: Moosilauke fine sandy loam	NW1 Classification: PFO5Fb			

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	80	YES	FACU
<i>Fagus grandifolia</i>	20	YES	FACU
Total Cover:		100	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula alleghaniensis</i>	5	NO	FAC
<i>Tsuga canadensis</i>	25	YES	FACU
Total Cover:		30	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Gaultheria procumbens</i>	3	NO	FACU
<i>Fagus grandifolia</i>	20	YES	FACU
<i>Tsuga canadensis</i>	5	NO	FACU
<i>Betula alleghaniensis</i>	3	NO	FAC
Total Cover:		31	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>8</u>	x 3 = <u>24</u>
FACU Species: <u>153</u>	x 4 = <u>612</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>161 (A)</u>	<u>636 (B)</u>
Prevalence Index = B/A = <u>3.95</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 3/2	100						
1-11	10YR 5/8	100						Refusal at 11"

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown
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Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



EAST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 71122.7	County: Cheshire	Date: 08/07/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: TR-X-W002-PEM
Investigators: DC/SH	Quad Name: Troy	Township: Troy	
Logbook No.: 1	Logbook Pg.: 75	Tract: 23335	

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.800122 Long: -72.189469 Datum: NAD83

Soil Map Unit Name: Adams loamy sand, 8 to 15 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input type="checkbox"/> Geomorphic Position (D2)																																
<input type="checkbox"/> Shallow Aquitard (D3)																																
<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	20	YES	FACU
Total Cover:		20	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Alnus incana</i>	5	YES	FACW
<i>Betula populifolia</i>	5	YES	FAC
<i>Salix bebbiana</i>	15	YES	FACW
Total Cover:		25	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Onoclea sensibilis</i>	10	YES	FACW
<i>Carex scoparia</i>	5	NO	FACW
<i>Spiraea tomentosa</i>	10	YES	FACW
<i>Eupatorium perfoliatum</i>	5	NO	FACW
<i>Juncus effusus</i>	10	YES	OBL
<i>Scirpus cyperinus</i>	15	YES	OBL
<i>Carex lurida</i>	15	YES	OBL
Total Cover:		70	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 89 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>40</u>	x 1 = <u>40</u>
FACW Species: <u>50</u>	x 2 = <u>100</u>
FAC Species: <u>5</u>	x 3 = <u>15</u>
FACU Species: <u>20</u>	x 4 = <u>80</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>115 (A)</u>	<u>235 (B)</u>
Prevalence Index = B/A = <u>2.04</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 3/2	100					ORGANIC	
1-4	5Y 4/1	100					SAND	
4-16	10YR 5/1	75	5YR 4/6	25	C	M	SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



LOOKING NE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 71189.4	County: Cheshire	Date: 08/07/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-X-W002-UPL
Investigators: SH/DC		Quad Name: Troy	Township: Troy	
Logbook No.: 1	Logbook Pg.: 76	Tract: 23335		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.800285 Long: -72.189282 Datum: NAD83

Soil Map Unit Name: Adams loamy sand, 8 to 15 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	5	YES	FACU
<i>Betula populifolia</i>	5	YES	FAC
Total Cover:		10	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fragaria virginiana</i>	30	YES	FACU
<i>Trifolium pratense</i>	20	YES	FACU
<i>Rubus hispidus</i>	10	NO	FACW
<i>Spiraea alba</i>	5	NO	FACW
Total Cover:		65	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>15</u>	x 2 = <u>30</u>
FAC Species: <u>5</u>	x 3 = <u>15</u>
FACU Species: <u>55</u>	x 4 = <u>220</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>75 (A)</u>	<u>265 (B)</u>
Prevalence Index = B/A = <u>3.53</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 5/3	100					SAND	
6-15	10YR 4/2	100					SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



LOOKING WEST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 71697.7	County: Cheshire	Date: 08/07/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-X-W003-PEM
Investigators: SH, DC		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 105	Tract: 27641		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.800565 Long: -72.187413 Datum: NAD83

Soil Map Unit Name: Becket fine sandy loam, 8 to 15 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
<input type="checkbox"/> Surface Soil Cracks (B6)																																
<input type="checkbox"/> Drainage Patterns (B10)																																
<input type="checkbox"/> Moss Trim Lines (B16)																																
<input type="checkbox"/> Dry-Season Water Table (C2)																																
<input type="checkbox"/> Crayfish Burrows (C8)																																
<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)																																
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<input type="checkbox"/> Geomorphic Position (D2)																																
<input type="checkbox"/> Shallow Aquitard (D3)																																
<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 2</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	10	YES	FACU
<i>Quercus rubra</i>	5	YES	FACU
<i>Acer rubrum</i>	10	YES	FAC
Total Cover:	25		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	5	NO	FACU
<i>Betula populifolia</i>	30	YES	FAC
Total Cover:		35	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Scirpus cyperinus</i>	20	YES	OBL
<i>Carex lurida</i>	5	NO	OBL
<i>Panicum sagittata</i>	5	NO	OBL
<i>Carex crinita</i>	50	YES	OBL
<i>Glyceria striata</i>	10	NO	OBL
<i>Onoclea sensibilis</i>	3	NO	FACW
Total Cover:		93	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>90</u>	x 1 = <u>90</u>
FACW Species: <u>3</u>	x 2 = <u>6</u>
FAC Species: <u>40</u>	x 3 = <u>120</u>
FACU Species: <u>20</u>	x 4 = <u>80</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>153 (A)</u>	<u>296 (B)</u>
Prevalence Index = B/A = <u>1.93</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 2/1	100					ORGANIC	
6-15	10YR 3/1	95	10YR 5/6	5	C	M	FINE SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



FACING NORTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 71726.5	County: Cheshire	Date: 08/07/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-X-W003-UPL
Investigators: SH, DC		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 106	Tract: 27641		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 20

Subregion (LRR): Middle Atlantic Lat: 42.800579 Long: -72.187306 Datum: NAD83

Soil Map Unit Name: Becket fine sandy loam, 8 to 15 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Prunus serotina</i>	10	NO	FACU
<i>Tsuga canadensis</i>	30	YES	FACU
<i>Acer rubrum</i>	15	YES	FAC
<i>Pinus strobus</i>	20	YES	FACU
Total Cover:	75		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula populifolia</i>	15	YES	FAC
<i>Prunus serotina</i>	5	NO	FACU
<i>Frangula alnus</i>	5	NO	FAC
<i>Fagus grandifolia</i>	15	YES	FACU
Total Cover:		40	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Maianthemum canadense</i>	15	YES	FACU
<i>Dennstaedtia punctilobula</i>	10	NO	UPL
<i>Dendrolycopodium obscurum</i>	5	NO	FACU
<i>Huperzia lucidula</i>	15	YES	FAC
<i>Gaultheria procumbens</i>	15	YES	FACU
<i>Quercus rubra</i>	5	NO	FACU
Total Cover:		65	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 38 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>50</u>	x 3 = <u>150</u>
FACU Species: <u>120</u>	x 4 = <u>480</u>
UPL Species: <u>10</u>	x 5 = <u>50</u>
Column Totals: <u>180 (A)</u>	<u>680 (B)</u>
Prevalence Index = B/A = <u>3.78</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 2/2							
1-3	10YR 6/1							
3-16	7.5YR 5/8							

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



FACING EAST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 72106.8	County: Cheshire	Date: 07/29/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-Y-W003-PFO
Investigators: DC		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 63	Tract: 24673		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.801028 Long: -72.186021 Datum: NAD83

Soil Map Unit Name: Sunapee fine sandy loam, 3 to 8 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 3</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	10	NO	FAC
<i>Prunus serotina</i>	10	NO	FACU
<i>Tsuga canadensis</i>	30	YES	FAC
<i>Pinus strobus</i>	25	YES	FACU
Total Cover:	75		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	20	YES	FAC
<i>Hamamelis virginiana</i>	20	YES	FACU
<i>Betula alleghaniensis</i>	2	NO	FAC
Total Cover:		42	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Thelypteris palustris</i>	20	YES	FACW
<i>Maianthemum canadense</i>	1	NO	FACU
<i>Impatiens capensis</i>	5	NO	FACW
<i>Coptis trifolia</i>	20	YES	FACW
Total Cover:		46	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>45</u>	x 2 = <u>90</u>
FAC Species: <u>62</u>	x 3 = <u>186</u>
FACU Species: <u>56</u>	x 4 = <u>224</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>163 (A)</u>	<u>500 (B)</u>
Prevalence Index = B/A = <u>3.07</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks: Hemlock swamp, shallow root systems, changes *Tsuga canadensis* to FAC indicator

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	100					ORGANIC	
10-24	10YR 3/1	100					SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input checked="" type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED		Milepost: 72145.8	County: Cheshire	Date: 07/29/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-Y-W003-UPL
Investigators: DC		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 64	Tract: 24673		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 4

Subregion (LRR): Middle Atlantic Lat: 42.800885 Long: -72.185795 Datum: NAD83

Soil Map Unit Name: Sunapee fine sandy loam, 3 to 8 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes No Depth (inches):

Water Table Present? Yes No Depth (inches):

Saturation Present? Yes No Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

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

VEGETATION

Tree Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	20	YES	FACU
<i>Prunus serotina</i>	10	NO	FACU
<i>Acer saccharum</i>	20	YES	FACU
<i>Picea rubens</i>	20	YES	FACU
Total Cover:	70		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	10	YES	FACU
Total Cover:		10	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Gaultheria procumbens</i>	2	NO	FACU
<i>Trientalis borealis</i>	1	NO	FAC
Total Cover:		3	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>35</u>	x 2 = <u>0</u>
FAC Species: <u>1</u>	x 3 = <u>3</u>
FACU Species: <u>82</u>	x 4 = <u>328</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>118 (A)</u>	<u>331 (B)</u>
Prevalence Index = B/A = <u>2.81</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/4	100					ORGANIC	
4-8	10YR 2/2	100					FINE SANDY LOAM	
8-10	10YR 4/1	100					LOAMY SAND	
10-16	5YR 4/6	100					SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



EAST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 72275.2	County: Cheshire	Date: 07/29/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-Y-W002-PSS
Investigators: DC		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 60	Tract: 24673		

Landform (hillslope, terrace, etc.): Slope - toe Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.801254 Long: -72.185465 Datum: NAD83

Soil Map Unit Name: Sunapee fine sandy loam, 3 to 8 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	15	YES	FACU
Total Cover:		15	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Spiraea tomentosa</i>	10	NO	FACW
<i>Frangula alnus</i>	50	YES	FAC
<i>Betula alleghaniensis</i>	10	NO	FAC
Total Cover:		70	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Solidago rugosa</i>	20	YES	FAC
<i>Scirpus cyperinus</i>	20	YES	OBL
<i>Carex crinita</i>	1	NO	OBL
<i>Carex lurida</i>	5	NO	OBL
<i>Rubus hispidus</i>	20	YES	FACW
Total Cover:		66	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>26</u>	x 1 = <u>26</u>
FACW Species: <u>30</u>	x 2 = <u>60</u>
FAC Species: <u>80</u>	x 3 = <u>240</u>
FACU Species: <u>15</u>	x 4 = <u>60</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>151 (A)</u>	<u>386 (B)</u>
Prevalence Index = B/A = <u>2.56</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/1	100					Mucky	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input checked="" type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	---

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 72274.2	County: Cheshire	Date: 07/29/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-Y-W002-UPL
Investigators: DC		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 59	Tract: 24673		

Landform (hillslope, terrace, etc.): Slope - toe Local Relief: Concave
 Convex
 None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.801057 Long: -72.185371 Datum: NAD83

Soil Map Unit Name: Sunapee fine sandy loam, 3 to 8 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p>Secondary Indicators (2 or more required)</p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): 0</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 12 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	40	YES	FACU
<i>Pinus strobus</i>	10	NO	FACU
<i>Acer saccharum</i>	20	YES	FACU
Total Cover:	70		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	10	YES	FACU
<i>Frangula alnus</i>	2	NO	FAC
<i>Quercus alba</i>	2	NO	FACU
<i>Fagus grandifolia</i>	10	YES	FACU
Total Cover:		24	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Trientalis borealis</i>	1	NO	FAC
<i>Mitchella repens</i>	20	YES	FACU
Total Cover:		21	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>45</u>	x 1 = <u>0</u>
FACW Species: <u>35</u>	x 2 = <u>0</u>
FAC Species: <u>3</u>	x 3 = <u>9</u>
FACU Species: <u>112</u>	x 4 = <u>448</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>195 (A)</u>	<u>457 (B)</u>
Prevalence Index = B/A = <u>2.34</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/2	100						
12-16	10YR 3/1	100	10YR 4/2	10	D	M		

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



WEST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 72519.7	County: Cheshire	Date: 07/29/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-Y-W001-PSS
Investigators: DC		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 54	Tract: 24673		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.801404 Long: -72.184570 Datum: NAD83

Soil Map Unit Name: Sunapee fine sandy loam, 3 to 8 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
--	--

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 24</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 3 (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Picea mariana</i>	5	YES	FACW
Total Cover:		5	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula alleghaniensis</i>	50	YES	FAC
<i>Frangula alnus</i>	20	YES	FAC
Total Cover:		70	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Scirpus cyperinus</i>	15	YES	OBL
<i>Rubus hispidus</i>	35	YES	FACW
<i>Carex lurida</i>	2	NO	OBL
<i>Solidago rugosa</i>	5	NO	FAC
<i>Spiraea tomentosa</i>	15	YES	FACW
Total Cover:		72	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>17</u>	x 1 = <u>17</u>
FACW Species: <u>55</u>	x 2 = <u>110</u>
FAC Species: <u>75</u>	x 3 = <u>225</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>147 (A)</u>	<u>352 (B)</u>
Prevalence Index = B/A = <u>2.39</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/2	100		0				
3-6	10YR 4/1	100	10YR 4/4	5	C	M		
6-18	10YR 4/1	100	10YR 3/1 10YR 4/4	10 5	D C	M M		

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NORTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 72513.7	County: Cheshire	Date: 07/29/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: TR-Y-W001-UPL
Investigators: DC		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 56	Tract: 24673		
Landform (hillslope, terrace, etc.): Slope - mid		Local Relief: <input checked="" type="checkbox"/> Concave <input type="checkbox"/> Convex <input type="checkbox"/> None	Slope%.: 2	
Subregion (LRR): Middle Atlantic	Lat: 42.801323	Long: -72.184553	Datum: NAD83	
Soil Map Unit Name: Sunapee fine sandy loam, 3 to 8 percent slopes, very stony			NWI Classification: Not mapped	

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

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

Are Vegetation Soil or Hydrology naturally problematic?
 No

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

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Populus sp.</i>	5	NA	NONE
<i>Pinus strobus</i>	5	NO	FACU
<i>Acer saccharum</i>	20	YES	FACU
<i>Tsuga canadensis</i>	20	YES	FACU
<i>Prunus serotina</i>	5	NO	FACU
Total Cover:		55	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula alleghaniensis</i>	15	YES	FAC
<i>Frangula alnus</i>	5	YES	FACU
<i>Fagus grandifolia</i>	2	NO	FACU
Total Cover:		22	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Rubus hispidus</i>	15	YES	FACW
Total Cover:		15	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>15</u>	x 2 = <u>30</u>
FAC Species: <u>15</u>	x 3 = <u>45</u>
FACU Species: <u>57</u>	x 4 = <u>228</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>87 (A)</u>	<u>303 (B)</u>
Prevalence Index = B/A = <u>3.48</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/2	100					Loam	
2-6	10YR 3/1						Loam	
6-8	10YR 4/1	50	10YR 3/1	50			Loam	
8-16	5YR 4/6						Sandy loam	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

HARDP
 AN
 8

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NORTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 77104.6	County: Cheshire	Date: 07/29/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: FT-X-W001-PFO
Investigators: sh trc		Quad Name: Troy	Township: Troy	
Logbook No.: 1	Logbook Pg.: 84	Tract: 23361		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.804616 Long: -72.168442 Datum: NAD83

Soil Map Unit Name: Lyme and Moosilauke soils, 0 to 5 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

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

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	50	YES	FAC
<i>Betula alleghaniensis</i>	15	YES	FAC
<i>Prunus serotina</i>	15	YES	FACU
Total Cover:	80		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Frangula alnus</i>	30	YES	FAC
Total Cover:		30	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Osmundastrum cinnamomeum</i>	20	YES	FACW
<i>Onoclea sensibilis</i>	60	YES	FACW
Total Cover:		80	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>80</u>	x 2 = <u>160</u>
FAC Species: <u>95</u>	x 3 = <u>285</u>
FACU Species: <u>15</u>	x 4 = <u>60</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>190 (A)</u>	<u>505 (B)</u>
Prevalence Index = B/A = <u>2.66</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/1	95	10YR 4/6	5	C	M		
12-18	10YR 3/1	95	10YR 5/6	5	C	M		

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NORTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 77541.1	County: Cheshire	Date: 07/29/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: FT-X-W001-PEM
Investigators: sh trc		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 82	Tract: 24651		

Landform (hillslope, terrace, etc.): Slope - toe Local Relief: Concave Convex None Slope%.: 15

Subregion (LRR): Middle Atlantic Lat: 42.804889 Long: -72.166795 Datum: NAD83

Soil Map Unit Name: Skerry fine sandy loam, 8 to 15 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Solidago rugosa</i>	5	NO	FAC
<i>Phalaris arundinacea</i>	95	YES	FACW
Total Cover: 100			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Clematis virginiana</i>	10	YES	FAC
Total Cover: 10			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>95</u>	x 2 = <u>190</u>
FAC Species: <u>15</u>	x 3 = <u>45</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>110 (A)</u>	<u>235 (B)</u>
Prevalence Index = B/A = <u>2.14</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-11	10YR 2/1	100					FINE SANDY LOAM	
11-18	10YR 4/1	95	10YR 5/6	5	C	M		

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 80536.3	County: Cheshire	Date: 08/26/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: FT-X-W002-PSS
Investigators: SH TC		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 2	Logbook Pg.: 2	Tract: 24634		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.808002 Long: -72.156518 Datum: NAD83

Soil Map Unit Name: Tunbridge-Berkshire complex, 8 to 15 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Ilex verticillata</i>	25	YES	FACW
Total Cover:		25	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Spiraea alba</i>	10	NO	FACW
<i>Juncus effusus</i>	20	YES	OBL
<i>Carex lurida</i>	20	YES	OBL
<i>Glyceria canadensis</i>	10	NO	OBL
<i>Rubus hispidus</i>	10	NO	FACW
<i>Thelypteris palustris</i>	25	YES	FACW
Total Cover:		95	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>50</u>	x 1 = <u>50</u>
FACW Species: <u>70</u>	x 2 = <u>140</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>120 (A)</u>	<u>190 (B)</u>

Prevalence Index = B/A = 1.58

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	100					SILT LOAM	
4-8	10YR 3/1	100					SILT LOAM	
8-16	10YR 4/1	70	10YR 5/8 10YR 3/1	10 20	C	M	SILT LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



EAST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 80510.7	County: Cheshire	Date: 08/26/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: FT-X-W002-UPL
Investigators: SH TC		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 2	Logbook Pg.: 4	Tract: 24634		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: _____

Subregion (LRR): Middle Atlantic Lat: 42.807950 Long: -72.156592 Datum: NAD83

Soil Map Unit Name: Tunbridge-Berkshire complex, 8 to 15 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover: _____			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Frangula alnus</i>	20	YES	FAC
Total Cover:		20	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Spiraea alba</i>	10	NO	FACW
<i>Solidago rugosa</i>	20	YES	FAC
<i>Betula populifolia</i>	10	NO	FAC
<i>Rubus hispidus</i>	60	YES	FACW
Total Cover:		100	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>70</u>	x 2 = <u>140</u>
FAC Species: <u>50</u>	x 3 = <u>150</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>120 (A)</u>	<u>290 (B)</u>
Prevalence Index = B/A = <u>2.42</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 2/1	100					SILT LOAM	
1-3	10YR 5/1	100					SILT LOAM	
3-4	10YR 2/1	100					SILT LOAM	
4-18	7.5YR 4/4	30					SILT LOAM	
4-18	7.5YR 3/4	60					SILT LOAM	
4-18	10YR 2/1	10					SILT LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown
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 18

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 88915.4	County: Cheshire	Date: 08/31/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: FT-T-W007-PSS
Investigators: BG, BE		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 65	Tract: 24612		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.792425 Long: -72.135262 Datum: NAD83

Soil Map Unit Name: Tunbridge-Berkshire complex, 8 to 15 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Larix laricina</i>	10	YES	FACW
<i>Spiraea tomentosa</i>	10	YES	FACW
<i>Spiraea alba</i>	20	YES	FACW
<i>Frangula alnus</i>	5	NO	FAC
<i>Rhododendron canadense</i>	10	YES	FACW
<i>Betula populifolia</i>	10	YES	FAC
<i>Kalmia angustifolia</i>	15	YES	FAC
Total Cover:		80	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Scirpus cyperinus</i>	20	YES	OBL
<i>Eriophorum virginicum</i>	10	YES	OBL
Total Cover:		30	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>30</u>	x 1 = <u>30</u>
FACW Species: <u>50</u>	x 2 = <u>100</u>
FAC Species: <u>30</u>	x 3 = <u>90</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>110 (A)</u>	<u>220 (B)</u>
Prevalence Index = B/A = <u>2.00</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 2/1	100					ORGANIC	MUCKY PEAT

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input checked="" type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown BOULD ERS 14	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



E

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED		Milepost: 88809.9	County: Cheshire	Date: 08/31/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: FT-T-W007-UPL
Investigators: BG, BE		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 70	Tract: 24612		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 40

Subregion (LRR): Middle Atlantic Lat: 42.792621 Long: -72.135552 Datum: NAD83

Soil Map Unit Name: Tunbridge-Berkshire complex, 8 to 15 percent slopes, very stony NWI Classification: PEM1E

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

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

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	5	NO	FAC
<i>Pinus strobus</i>	20	YES	FACU
<i>Betula populifolia</i>	35	YES	FAC
Total Cover:		60	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium angustifolium</i>	20	YES	FACU
<i>Rubus hispidus</i>	10	NO	FACW
<i>Maianthemum canadense</i>	5	NO	FACU
<i>Pteridium aquilinum</i>	30	YES	FACU
Total Cover:		65	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>10</u>	x 2 = <u>20</u>
FAC Species: <u>40</u>	x 3 = <u>120</u>
FACU Species: <u>75</u>	x 4 = <u>300</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>125 (A)</u>	<u>440 (B)</u>
Prevalence Index = B/A = <u>3.52</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 4/3	100					LOAMY SAND	
8-18	10YR 5/6	100					LOAMY SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 89939.3	County: Cheshire	Date: 08/31/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: FT-T-W006-PFO
Investigators: BG, BE		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 74	Tract: 24612		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.790437 Long: -72.132566 Datum: NAD83

Soil Map Unit Name: Monadnock fine sandy loam, 3 to 8 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 4</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Abies balsamea</i>	40	YES	FAC
<i>Betula alleghaniensis</i>	10	NO	FAC
<i>Acer rubrum</i>	40	YES	FAC
Total Cover:	90		

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Picea rubens</i>	10	YES	FACU
<i>Ilex verticillata</i>	20	YES	FACW
Total Cover:		30	

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Parathelypteris noveboracensis</i>	20	YES	FAC
<i>Coptis trifolia</i>	10	NO	FACW
<i>Frangula alnus</i>	20	YES	FAC
<i>Carex disperma</i>	30	YES	OBL
<i>Carex lurida</i>	20	YES	OBL
Total Cover:		100	

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 88 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>50</u>	x 1 = <u>50</u>
FACW Species: <u>30</u>	x 2 = <u>60</u>
FAC Species: <u>130</u>	x 3 = <u>390</u>
FACU Species: <u>10</u>	x 4 = <u>40</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>220 (A)</u>	<u>540 (B)</u>
Prevalence Index = B/A = <u>2.45</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-25	10YR 2/1	100					ORGANIC	MUCKY PEAT

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

OTHER AREAS WITH UP TO 40" ORGANIC

PHOTOS



E

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED		Milepost: 89982.3	County: Cheshire	Date: 08/31/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: FT-T-W006-PSS
Investigators: BG, BE		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 72	Tract: 24612		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 5

Subregion (LRR): Middle Atlantic Lat: 42.790429 Long: -72.132356 Datum: NAD83

Soil Map Unit Name: Monadnock fine sandy loam, 3 to 8 percent slopes, very stony NWI Classification: Not mapped

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

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

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:	Wetland Hydrology Present?
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 14 Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula populifolia</i>	20	YES	FAC
<i>Frangula alnus</i>	30	YES	FAC
<i>Larix laricina</i>	5	NO	FACW
<i>Juniperus communis</i>	5	NO	FACU
<i>Picea rubens</i>	5	NO	FACU
Total Cover:		65	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Rubus hispidus</i>	60	YES	FACW
<i>Athyrium filix-femina</i>	20	YES	FAC
<i>Eriophorum virginicum</i>	10	NO	OBL
Total Cover:		90	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>10</u>	x 1 = <u>10</u>
FACW Species: <u>65</u>	x 2 = <u>130</u>
FAC Species: <u>70</u>	x 3 = <u>210</u>
FACU Species: <u>10</u>	x 4 = <u>40</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>155 (A)</u>	<u>390 (B)</u>
Prevalence Index = B/A = <u>2.52</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	2.5Y 4/2	100					ORGANIC	MUCKY PEAT
2-18	2.5Y 6/1	95	10YR 4/6	5	C	M	LOAMY SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
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Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
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- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



E

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 90015.6	County: Cheshire	Date: 08/31/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: FT-T-W006-UPL
Investigators: BG, BE		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 76	Tract: 24612		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 25

Subregion (LRR): Middle Atlantic Lat: 42.790256 Long: -72.132407 Datum: NAD83

Soil Map Unit Name: Monadnock fine sandy loam, 3 to 8 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
<input type="checkbox"/> Surface Soil Cracks (B6)																																
<input type="checkbox"/> Drainage Patterns (B10)																																
<input type="checkbox"/> Moss Trim Lines (B16)																																
<input type="checkbox"/> Dry-Season Water Table (C2)																																
<input type="checkbox"/> Crayfish Burrows (C8)																																
<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)																																
<input type="checkbox"/> Stunted or Stressed Plants (D1)																																
<input type="checkbox"/> Geomorphic Position (D2)																																
<input type="checkbox"/> Shallow Aquitard (D3)																																
<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
--	--

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	40	YES	FACU
<i>Acer rubrum</i>	40	YES	FAC
<i>Abies balsamea</i>	10	NO	FAC
Total Cover:	90		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Abies balsamea</i>	10	YES	FAC
<i>Frangula alnus</i>	15	YES	FAC
<i>Ilex verticillata</i>	5	NO	FACW
<i>Pinus strobus</i>	10	YES	FACU
<i>Picea rubens</i>	5	NO	FACU
Total Cover:		45	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	5	NO	FACU
<i>Cypripedium acaule</i>	10	NO	FACW
<i>Cornus canadensis</i>	5	NO	FAC
<i>Vaccinium angustifolium</i>	40	YES	FACU
Total Cover:		60	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>15</u>	x 2 = <u>30</u>
FAC Species: <u>80</u>	x 3 = <u>240</u>
FACU Species: <u>100</u>	x 4 = <u>400</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>195 (A)</u>	<u>670 (B)</u>
Prevalence Index = B/A = <u>3.44</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 2/1	100					ORGANIC	
1-8	7.5YR 5/2	100					LOAMY FINE SAND	
8-16	10YR 4/6	100					LOAMY FINE SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 90806.9	County: Cheshire	Date: 08/27/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: FT-T-W001-PFO
Investigators: BG, BE	Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 42	Tract: 24582	

Landform (hillslope, terrace, etc.): Flat Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.788640 Long: -72.130422 Datum: NAD83

Soil Map Unit Name: Sunapee fine sandy loam, 3 to 8 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): N/A Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 6 Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Abies balsamea</i>	10	NO	FAC
<i>Acer rubrum</i>	20	YES	FAC
<i>Betula papyrifera</i>	5	NO	FACU
<i>Picea rubens</i>	30	YES	FACU
Total Cover:	65		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Abies balsamea</i>	30	YES	FAC
<i>Ilex verticillata</i>	30	YES	FACW
<i>Vaccinium corymbosum</i>	10	NO	FACW
<i>Betula alleghaniensis</i>	10	NO	FAC
<i>Picea rubens</i>	5	NO	FACU
<i>Pinus strobus</i>	10	NO	FACU
Total Cover:		95	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	5	NO	FAC
<i>Vaccinium angustifolium</i>	10	NO	FACU
<i>Ilex verticillata</i>	30	YES	FACW
<i>Parathelypteris noveboracensis</i>	10	NO	FAC
<i>Osmundastrum cinnamomeum</i>	50	YES	FACW
Total Cover:		105	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>120</u>	x 2 = <u>240</u>
FAC Species: <u>85</u>	x 3 = <u>255</u>
FACU Species: <u>60</u>	x 4 = <u>240</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>265 (A)</u>	<u>735 (B)</u>
Prevalence Index = B/A = <u>2.77</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 2/1	100					ORGANIC	MUCK

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown NO N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 90747.1	County: Cheshire	Date: 08/27/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: FT-T-W001-UPL
Investigators: BG, BE	Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 45	Tract: 24582	

Landform (hillslope, terrace, etc.): Flat Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.788870 Long: -72.130436 Datum: NAD83

Soil Map Unit Name: Sunapee fine sandy loam, 3 to 8 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	10	NO	FACU
<i>Fagus grandifolia</i>	10	NO	FACU
<i>Picea rubens</i>	20	YES	FACU
<i>Betula alleghaniensis</i>	10	NO	FAC
<i>Abies balsamea</i>	10	NO	FAC
<i>Acer rubrum</i>	20	YES	FAC
<i>Pinus strobus</i>	20	YES	FACU
Total Cover:		100	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Picea rubens</i>	40	YES	FACU
<i>Vaccinium corymbosum</i>	20	YES	FACW
<i>Frangula alnus</i>	10	NO	FAC
Total Cover:		70	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium angustifolium</i>	15	YES	FACU
<i>Rubus hispidus</i>	10	NO	FACW
<i>Mitchella repens</i>	10	NO	FACU
<i>Pteridium aquilinum</i>	30	YES	FACU
<i>Athyrium filix-femina</i>	15	YES	FAC
<i>Acer rubrum</i>	5	NO	FAC
<i>Gaultheria procumbens</i>	20	YES	FACU
<i>Cornus canadensis</i>	5	NO	FAC
Total Cover:		110	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 9 (B)

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>30</u>	x 2 = <u>60</u>
FAC Species: <u>75</u>	x 3 = <u>225</u>
FACU Species: <u>175</u>	x 4 = <u>700</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>280 (A)</u>	<u>985 (B)</u>
Prevalence Index = B/A = <u>3.52</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/1	100					ORGANIC	
3-6	2.5Y 5/2	100					SAND	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? Yes No Unknown

BEDRO
 CK
 6"

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



W

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 91494.2	County: Cheshire	Date: 08/27/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: FT-T-W002-PSS
Investigators: BG, BE	Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 53	Tract: 24582	

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.787598 Long: -72.128242 Datum: NAD83

Soil Map Unit Name: Berkshire and Monadnock soils, 8 to 15 percent slopes, extremely stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Frangula alnus</i>	90	YES	FAC
Total Cover:		90	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Frangula alnus</i>	10	NO	FAC
<i>Osmunda regalis</i>	40	YES	OBL
Total Cover:		50	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>40</u>	x 1 = <u>40</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>100</u>	x 3 = <u>300</u>
FACU Species: <u>0</u>	x 4 = <u>360</u>
UPL Species: <u>0</u>	x 5 = <u>400</u>
Column Totals: <u>140 (A)</u>	<u>1100 (B)</u>
Prevalence Index = B/A = <u>7.86</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/1	100					ORGANIC	MUCKY PEAT

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input checked="" type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown BEDRO CK 4	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 91498.1	County: Cheshire	Date: 08/27/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: FT-T-W002-UPL
Investigators: BG, BE		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 1	Logbook Pg.: 55	Tract: 24582		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 10

Subregion (LRR): Middle Atlantic Lat: 42.787553 Long: -72.128279 Datum: NAD83

Soil Map Unit Name: Berkshire and Monadnock soils, 8 to 15 percent slopes, extremely stony NWI Classification: Not mapped

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

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

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland?
 Yes
 No

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula alleghaniensis</i>	30	YES	FAC
<i>Pinus strobus</i>	20	YES	FACU
<i>Acer rubrum</i>	15	NO	FAC
<i>Quercus rubra</i>	30	YES	FACU
Total Cover:		95	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	10	YES	FACU
<i>Acer rubrum</i>	5	YES	FAC
Total Cover:		15	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium angustifolium</i>	15	YES	FACU
<i>Pteridium aquilinum</i>	10	NO	FACU
<i>Trientalis borealis</i>	15	YES	FAC
<i>Athyrium filix-femina</i>	10	NO	FAC
<i>Aralia nudicaulis</i>	15	YES	FACU
Total Cover:		65	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 38 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>75</u>	x 3 = <u>225</u>
FACU Species: <u>100</u>	x 4 = <u>400</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>175 (A)</u>	<u>625 (B)</u>
Prevalence Index = B/A = <u>3.57</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 4/2	100					SANDY LOAM	
2-10	10YR 4/6	100					SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 91824.3	County: Cheshire	Date: 08/27/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: FT-T-W005-PFO
Investigators: SH TC		Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 2	Logbook Pg.: 10	Tract: 24582		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.786856 Long: -72.127485 Datum: NAD83

Soil Map Unit Name: Berkshire and Monadnock soils, 8 to 15 percent slopes, extremely stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---	--

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Picea glauca</i>	30	YES	FACU
<i>Acer rubrum</i>	30	YES	FAC
<i>Pinus strobus</i>	30	YES	FACU
Total Cover:		90	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Ilex verticillata</i>	20	YES	FACW
<i>Betula alleghaniensis</i>	10	YES	FAC
<i>Abies balsamea</i>	20	YES	FAC
Total Cover:		50	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>20</u>	x 2 = <u>40</u>
FAC Species: <u>60</u>	x 3 = <u>180</u>
FACU Species: <u>60</u>	x 4 = <u>240</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>140 (A)</u>	<u>460 (B)</u>
Prevalence Index = B/A = <u>3.29</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks: HERB LAYER IS SPHAGNUM MOSS

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/1	100					FINE SANDY LOAM	
3-6	10YR 3/2	100					FINE SANDY LOAM	
6-14	10YR 5/1	100					FINE SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown
 REFUS
 AL
 14

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



WEST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 91837.7	County: Cheshire	Date: 08/27/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: FT-T-W005-UPL
Investigators: SH TC	Quad Name: Troy	Township: Fitzwilliam	
Logbook No.: 2	Logbook Pg.: 15	Tract: 24582	

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 5

Subregion (LRR): Middle Atlantic Lat: 42.786815 Long: -72.127484 Datum: NAD83

Soil Map Unit Name: Berkshire and Monadnock soils, 8 to 15 percent slopes, extremely stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	10	NO	FACU
<i>Quercus rubra</i>	30	YES	FACU
<i>Acer rubrum</i>	30	YES	FAC
<i>Abies balsamea</i>	30	YES	FAC
Total Cover:	100		

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	30	YES	FACU
<i>Abies balsamea</i>	30	YES	FAC
<i>Picea rubens</i>	30	YES	FACU
Total Cover:		90	

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pteridium aquilinum</i>	30	YES	FACU
<i>Vaccinium angustifolium</i>	30	YES	FACU
<i>Mitchella repens</i>	10	NO	FACU
Total Cover:		70	

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 38 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>90</u>	x 3 = <u>270</u>
FACU Species: <u>170</u>	x 4 = <u>680</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>260 (A)</u>	<u>950 (B)</u>
Prevalence Index = B/A = <u>3.65</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10Y 2/2	100					ORGANIC	
2-3	10Y 3/1	100					LOAM	
3-5	10YR 3/6	100					LOAM	
5-18	7.5YR 2.5/3	100					SILT LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 142076.0	County: Cheshire	Date: 09/01/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: RN-L-W001-PFO	
Investigators: BH JW	Quad Name: Peterborough South		Township: Rindge	
Logbook No.: 10	Logbook Pg.: 40	Tract: 23068		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.753201 Long: -71.979778 Datum: NAD83

Soil Map Unit Name: Lyme and Moosilauke soils, 0 to 5 percent slopes, very stony NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 14 Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	30	YES	FACU
<i>Acer rubrum</i>	30	YES	FAC
Total Cover:	60		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	15	YES	FAC
<i>Spiraea alba</i>	5	NO	FACW
<i>Betula alleghaniensis</i>	10	YES	FAC
Total Cover:		30	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Euthamia graminifolia</i>	5	NO	FAC
<i>Carex lurida</i>	5	NO	OBL
<i>Carex scoparia</i>	10	NO	FACW
<i>Juncus effusus</i>	5	NO	OBL
<i>Scirpus cyperinus</i>	5	NO	OBL
<i>Rubus hispidus</i>	30	YES	FACW
Total Cover:		60	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>15</u>	x 1 = <u>15</u>
FACW Species: <u>45</u>	x 2 = <u>90</u>
FAC Species: <u>60</u>	x 3 = <u>180</u>
FACU Species: <u>30</u>	x 4 = <u>120</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>150 (A)</u>	<u>405 (B)</u>
Prevalence Index = B/A = <u>2.70</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/1	100					ORGANIC	
8-14	10YR 4/1	100					FINE SANDY LOAM	
14-20	10YR 6/1	90	10YR 6/6	10	C	M	SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SOUTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other compressor station in existing row

Project/Site: NED		Milepost: 27323.5	County: Hillsborough	Date: 05/21/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: NI-V-W009-PEM
Investigators: keith	Quad Name: Greenville		Township: New Ipswich	
Logbook No.: 1	Logbook Pg.: 24-25	Tract: 23939		
Landform (hillslope, terrace, etc.): Slope - toe		Local Relief: <input checked="" type="checkbox"/> Concave <input type="checkbox"/> Convex <input type="checkbox"/> None	Slope%.: 3	
Subregion (LRR): Middle Atlantic	Lat: 42.781981	Long: -71.842643	Datum: NAD83	
Soil Map Unit Name: Monadnock stony fine sandy loam, 8 to 15 percent slopes			NWI Classification: Not mapped	

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

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Field Wetland Classification: PEM		
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Moss Trim Lines (B16)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Spiraea alba</i>	1	NO	FACW
<i>Carex spp</i>	50	NA	NONE
<i>Onoclea sensibilis</i>	2	NO	FACW
<i>Scirpus cyperinus</i>	30	YES	OBL
<i>Calamagrostis canadensis</i>	2	NO	OBL
Total Cover: 85			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>32</u>	x 1 = <u>32</u>
FACW Species: <u>3</u>	x 2 = <u>6</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>35 (A)</u>	<u>38 (B)</u>

Prevalence Index = B/A = 1.09

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is > 50%
- 3 - Prevalence Index is ≤ 3.0
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/2	95	7.5YR 4/6	5	D	M	SANDY LOAM	
6-20	10YR 3/1	90	7.5YR 4/6	10	D	M	SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	---

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other compressor station in existing row

Project/Site: NED	Milepost: 27396.2	County: Hillsborough	Date: 05/21/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: NI-V-W009-UPL
Investigators: keith	Quad Name: Greenville	Township: New Ipswich	
Logbook No.: 1	Logbook Pg.: 26-27	Tract: 23939	

Landform (hillslope, terrace, etc.): Slope - toe Local Relief: Concave Convex None Slope%.: 3

Subregion (LRR): Middle Atlantic Lat: 42.782020 Long: -71.842377 Datum: NAD83

Soil Map Unit Name: Monadnock stony fine sandy loam, 8 to 15 percent slopes NWI Classification: Not mapped

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

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

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
<u>Primary Indicators (minimum of one required; check all that apply)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)

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

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Spiraea alba</i>	5	NO	FACW
<i>Quercus rubra</i>	5	NO	FACU
<i>Rubus idaeus</i>	5	NO	FACU
<i>Dennsteadtia punctilobula</i>	60	YES	UPL
<i>Solidago rugosa</i>	2	NO	FAC
Total Cover: 77			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>5</u>	x 2 = <u>10</u>
FAC Species: <u>2</u>	x 3 = <u>6</u>
FACU Species: <u>10</u>	x 4 = <u>40</u>
UPL Species: <u>60</u>	x 5 = <u>300</u>
Column Totals: <u>77 (A)</u>	<u>356 (B)</u>

Prevalence Index = B/A = 4.62

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 4/2	100					SILT LOAM	
8-20	10YR 4/6	100					SILT LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:
 depth to saturated soil >20"

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



E

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 28685.6	County: Hillsborough	Date: 05/19/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: NI-V-W003-PEM
Investigators: KM, MV		Quad Name: Greenville	Township: New Ipswich	
Logbook No.: 1	Logbook Pg.: 13-14	Tract: 23939		

Landform (hillslope, terrace, etc.): Flat Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.782346 Long: -71.837567 Datum: NAD83

Soil Map Unit Name: Peacham stony muck NWI Classification: PEM1E

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Soil Cracks (B6)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Drainage Patterns (B10)</td> </tr> <tr> <td><input type="checkbox"/> Moss Trim Lines (B16)</td> </tr> <tr> <td><input type="checkbox"/> Dry-Season Water Table (C2)</td> </tr> <tr> <td><input type="checkbox"/> Crayfish Burrows (C8)</td> </tr> <tr> <td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td> </tr> <tr> <td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td> </tr> <tr> <td><input type="checkbox"/> Geomorphic Position (D2)</td> </tr> <tr> <td><input type="checkbox"/> Shallow Aquitard (D3)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Microtopographic Relief (D4)</td> </tr> <tr> <td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td> </tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input checked="" type="checkbox"/> Microtopographic Relief (D4)																																
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Calamagrostis canadensis</i>	20	YES	OBL
<i>Vaccinium macrocarpon</i>	50	YES	OBL
<i>Sphagnum sp</i>	70	NA	NONE
Total Cover: 140			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>70</u>	x 1 = <u>70</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>70 (A)</u>	<u>70 (B)</u>

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3/4	100					ORGANIC	
12-20	7.5YR 3/1	100					ORGANIC	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input checked="" type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 28840.6	County: Hillsborough	Date: 05/19/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: NI-V-W003-PSS
Investigators: KM, MV		Quad Name: Greenville	Township: New Ipswich	
Logbook No.: 1	Logbook Pg.: 11-12	Tract: 23939		
Landform (hillslope, terrace, etc.): Flat		Local Relief: <input type="checkbox"/> Concave <input checked="" type="checkbox"/> Convex <input type="checkbox"/> None		Slope%.: 0
Subregion (LRR): Middle Atlantic	Lat: 42.782337	Long: -71.836990	Datum: NAD83	
Soil Map Unit Name: Peacham stony muck	NW1 Classification: PEM1E			

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

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

Are Vegetation Soil or Hydrology naturally problematic?
 No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Soil Cracks (B6)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Drainage Patterns (B10)</td> </tr> <tr> <td><input type="checkbox"/> Moss Trim Lines (B16)</td> </tr> <tr> <td><input type="checkbox"/> Dry-Season Water Table (C2)</td> </tr> <tr> <td><input type="checkbox"/> Crayfish Burrows (C8)</td> </tr> <tr> <td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td> </tr> <tr> <td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td> </tr> <tr> <td><input type="checkbox"/> Geomorphic Position (D2)</td> </tr> <tr> <td><input type="checkbox"/> Shallow Aquitard (D3)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Microtopographic Relief (D4)</td> </tr> <tr> <td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td> </tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Ilex verticillata</i>	70	YES	FACW
<i>Spiraea alba</i>	10	NO	FACW
<i>Vaccinium corymbosum</i>	5	NO	FACW
Total Cover:		85	

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Spaghnum sp</i>	100	NA	NONE
<i>Calamagrostis canadensis</i>	5	YES	OBL
<i>Typha latifolia</i>	10	YES	OBL
Total Cover:		115	

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>15</u>	x 1 = <u>15</u>
FACW Species: <u>85</u>	x 2 = <u>170</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100 (A)</u>	<u>185 (B)</u>
Prevalence Index = B/A = <u>1.85</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

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

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



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WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 29043.2	County: Hillsborough	Date: 05/19/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: NI-V-W003-PFO
Investigators: KM, MV		Quad Name: Greenville	Township: New Ipswich	
Logbook No.: 1	Logbook Pg.: 15-16	Tract: 23939		

Landform (hillslope, terrace, etc.): Flat Local Relief: Concave Convex None Slope%.: 1

Subregion (LRR): Middle Atlantic Lat: 42.782808 Long: -71.836218 Datum: NAD83

Soil Map Unit Name: Peru stony loam, 0 to 8 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 2	
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 4	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	60	YES	FAC
<i>Betula populifolia</i>	25	YES	FAC
Total Cover:	85		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium corymbosum</i>	15	YES	FACW
<i>Ilex verticillata</i>	10	YES	FACW
Total Cover:		25	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Maianthemum canadense</i>	5	YES	FACU
<i>Dulichium arundinaceum</i>	3	YES	OBL
<i>Calamagrostis canadensis</i>	3	YES	OBL
<i>Sphagnum sp</i>	25	NA	NONE
<i>Carex spp</i>	1	NA	NONE
Total Cover:		37	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>6</u>	x 1 = <u>6</u>
FACW Species: <u>25</u>	x 2 = <u>50</u>
FAC Species: <u>85</u>	x 3 = <u>255</u>
FACU Species: <u>5</u>	x 4 = <u>20</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>121 (A)</u>	<u>331 (B)</u>
Prevalence Index = B/A = <u>2.74</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/1	100					ORGANIC	
6-9	10YR 4/1	100					SILT LOAM	
9-20	10YR 6/1	100					SILT LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
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Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
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- Iron-Manganese Masses (F12) (LRR K, L, R)
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- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



ESE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 28603.0	County: Hillsborough	Date: 05/19/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: NI-V-W003-UPL
Investigators: EL DC		Quad Name: Greenville	Township: New Ipswich	
Logbook No.: 1	Logbook Pg.: 15	Tract: 23939		
Landform (hillslope, terrace, etc.): Slope - mid		Local Relief: <input type="checkbox"/> Concave <input checked="" type="checkbox"/> Convex <input type="checkbox"/> None	Slope%.: 20	
Subregion (LRR): Middle Atlantic	Lat: 42.782568	Long: -71.837867	Datum: NAD83	
Soil Map Unit Name: Marlow stony loam, 3 to 8 percent slopes			NWI Classification: PEM1E	

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

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

Are Vegetation Soil or Hydrology naturally problematic?
 No

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

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
<input type="checkbox"/> Surface Soil Cracks (B6)																																
<input type="checkbox"/> Drainage Patterns (B10)																																
<input type="checkbox"/> Moss Trim Lines (B16)																																
<input type="checkbox"/> Dry-Season Water Table (C2)																																
<input type="checkbox"/> Crayfish Burrows (C8)																																
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<input type="checkbox"/> Shallow Aquitard (D3)																																
<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
---	--

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	2	NO	FAC
<i>Populus tremuloides</i>	10	YES	FACU
<i>Quercus rubra</i>	10	YES	FACU
<i>Betula populifolia</i>	7	YES	FAC
Total Cover:	29		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Spiraea alba</i>	2	NO	FACW
<i>Quercus rubra</i>	20	YES	FACU
<i>Acer rubrum</i>	2	NO	FAC
<i>Acer saccharum</i>	5	NO	FACU
Total Cover:		29	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Dennstaedtia punctilobula</i>	10	YES	UPL
<i>Rubus allegheniensis</i>	15	YES	FACU
<i>Osmunda claytoniana</i>	5	NO	FAC
<i>Solidago altissima</i>	2	NO	FACU
Total Cover:		32	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 17 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>2</u>	x 2 = <u>4</u>
FAC Species: <u>16</u>	x 3 = <u>48</u>
FACU Species: <u>62</u>	x 4 = <u>248</u>
UPL Species: <u>10</u>	x 5 = <u>50</u>
Column Totals: <u>90 (A)</u>	<u>350 (B)</u>
Prevalence Index = B/A = <u>3.89</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3/2	100					FINE SANDY LOAM	
1-0	10YR 3/2	100					ORGANIC	
3-5	10YR 4/3	100					FINE SANDY LOAM	
5-10	2.5Y 4/2	90		10			FINE SANDY LOAM	REDOX ENDS AT 8 INCHES
10-18	10YR 4/3	100					FINE SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



WEST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 31143.6	County: Hillsborough	Date: 04/24/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: NI-R-W001-PFO
Investigators: EL,JS,BE		Quad Name: Greenville	Township: New Ipswich	
Logbook No.: 1A	Logbook Pg.: 16	Tract: 23944		

Landform (hillslope, terrace, etc.): Flat Local Relief: Concave Convex None Slope%.: 10

Subregion (LRR): Middle Atlantic Lat: 42.782614 Long: -71.828409 Datum: NAD83

Soil Map Unit Name: Peru stony loam, 0 to 8 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks: ASSOCIATED WITH STREAM S001 AND S002

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 4</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	40	YES	FAC
<i>Tsuga canadensis</i>	60	YES	FACU
<i>Betula populifolia</i>	5	NO	FAC
<i>Betula alleghaniensis</i>	15	NO	FAC
Total Cover:	120		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	10	YES	FACU
<i>Betula alleghaniensis</i>	10	YES	FAC
Total Cover:		20	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>70</u>	x 3 = <u>210</u>
FACU Species: <u>70</u>	x 4 = <u>280</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>140 (A)</u>	<u>490 (B)</u>
Prevalence Index = B/A = <u>3.50</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks: USACE regional supp. supports eastern hemlock as a common wetland plant in the northeast. Many exhibit shallow roots and buttressed trunks.

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/1	100						Oa - organic texture
4-16	5Y 6/1	95	10YR 5/6	5	C	PL	VERY FINE SANDY LOAM	
16-20	5Y 6/1	70	7.5YR 3/3	30	C	M,PL	SANDY LOAM	SOME GRAVEL

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown

NO

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:
 DENSE SHADE IN PFO4 PORTION OF WETLAND

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:
 Large wetland extends throughout LL237

PHOTOS



EAST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 31436.9	County: Hillsborough	Date: 04/24/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: NI-R-W001-UPL
Investigators: EL,JS,BE		Quad Name: Greenville	Township: New Ipswich	
Logbook No.: 1A	Logbook Pg.: 14	Tract: 23965		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%: .

Subregion (LRR): Middle Atlantic Lat: 42.782024 Long: -71.827330 Datum: NAD83

Soil Map Unit Name: Peru stony loam, 0 to 8 percent slopes NWI Classification: Not mapped

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

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

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No

Field Wetland Classification: UPLAND PLOT

Remarks: FAILS TO MEET CRITERIA FOR DESIGNATION AS A WETLAND

HYDROLOGY

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

DRY UPLAND

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Kalmia angustifolia</i>	5	YES	FAC
<i>Alnus incana</i>	10	YES	FACW
<i>Vaccinium corymbosum</i>	5	YES	FACW
Total Cover:		20	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Rubus hispidus</i>	10	NO	FACW
<i>Pteridium aquilinum</i>	30	YES	FACU
<i>Vaccinium angustifolium</i>	20	YES	FACU
<i>Gaultheria procumbens</i>	10	NO	FACU
Total Cover:		70	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>25</u>	x 2 = <u>50</u>
FAC Species: <u>5</u>	x 3 = <u>15</u>
FACU Species: <u>60</u>	x 4 = <u>240</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>90 (A)</u>	<u>305 (B)</u>
Prevalence Index = B/A = <u>3.39</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks: SOME HYDROPHYTES, BUT NOT DOMINANT

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	70					SANDY LOAM	
0-2	7.5YR 2/1	30					SANDY LOAM	
2-3	7.5YR 4/2	100					SANDY LOAM	
3-5	5YR 3/3	100					SANDY LOAM	
5-18+	5YR 3/3	30					SANDY LOAM	SOME GRAVEL
5-18+	10YR 5/6	70					SANDY LOAM	SOME GRAVEL

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

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

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

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer Present? Yes No Unknown
 NO
 NONE

Hydric Soil Present? Yes No

Remarks:
 UPLAND SPODOSOL

Description of Habitat Characteristics, Aquatic Diversity or General Comments:
 EDGE COMMUNITY NEAR FOREST
 Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:
 SLOPE OF AN UPLAND KNOLL

PHOTOS



W

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 40406.0	County: Hillsborough	Date: 08/28/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: GN-M-W001-PSS
Investigators: CM MN		Quad Name: Greenville		Township: Greenville
Logbook No.: 7M	Logbook Pg.: 65	Tract: 22084		

Landform (hillslope, terrace, etc.): Slope - toe Local Relief: Concave
 Convex
 None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.787114 Long: -71.795546 Datum: NAD83

Soil Map Unit Name: Lyman-Tunbridge-Rock outcrop complex, 3 to 15 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks: ASSOCIATED WITH GN-M-S001 AND ITS TRIBUTARIES

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 8 Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 4 (includes capillary fringe)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Spiraea alba</i>	40	YES	FACW
<i>Salix nigra</i>	10	NO	OBL
<i>Spiraea tomentosa</i>	10	YES	FACW
<i>Quercus bicolor</i>	5	NO	FACW
<i>Acer rubrum</i>	5	YES	FAC
<i>Betula populifolia</i>	35	YES	FAC
<i>Betula lenta</i>	10	NO	FACU
Total Cover:		115	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Scirpus cyperinus</i>	10	YES	OBL
<i>Solidago uliginosa</i>	10	NO	OBL
<i>Scirpus sylvaticus</i>	15	YES	OBL
<i>Onoclea sensibilis</i>	5	YES	FACW
<i>Euthamia graminifolia</i>	10	YES	FAC
Total Cover:		50	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vitis riparia</i>	20	YES	FAC
Total Cover:		20	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>45</u>	x 1 = <u>45</u>
FACW Species: <u>60</u>	x 2 = <u>120</u>
FAC Species: <u>70</u>	x 3 = <u>210</u>
FACU Species: <u>10</u>	x 4 = <u>40</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>185 (A)</u>	<u>415 (B)</u>
Prevalence Index = B/A = <u>2.24</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100					ORGANIC	
2-12	10YR 4/1	75	10YR 2/1 10YR 4/4	15 10	C C	M PL	SILT LOAM	
12-18	10YR 4/1	30	10YR 6/1 10YR 4/4	60 10	D C	M M	SILT LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

GN-U-VP001 LOCATED WITHIN WETLAND
 Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED		Milepost: 40296.9	County: Hillsborough	Date: 08/28/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: GN-M-W001-UPL
Investigators: CM MN		Quad Name: Greenville		Township: Greenville
Logbook No.: 7M	Logbook Pg.: 64	Tract: 22084		
Landform (hillslope, terrace, etc.): Slope - mid		Local Relief: <input type="checkbox"/> Concave <input checked="" type="checkbox"/> Convex <input type="checkbox"/> None		Slope%.: 7
Subregion (LRR): Middle Atlantic		Lat: 42.786907	Long: -71.795939	Datum: NAD83
Soil Map Unit Name: Marlow stony loam, 15 to 35 percent slopes			NWI Classification: Not mapped	

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

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

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

VEGETATION

Tree Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer spicatum</i>	10	NO	FACU
<i>Acer rubrum</i>	5	NO	FAC
<i>Pinus strobus</i>	5	NO	FACU
<i>Quercus rubra</i>	5	NO	FACU
<i>Tsuga canadensis</i>	25	YES	FACU
Total Cover:	50		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	5	NO	FACU
<i>Vaccinium angustifolium</i>	10	NO	FACU
<i>Pinus strobus</i>	15	NO	FACU
<i>Betula populifolia</i>	15	NO	FAC
<i>Tsuga canadensis</i>	15	NO	FACU
<i>Kalmia latifolia</i>	20	YES	FACU
<i>Vaccinium corymbosum</i>	10	NO	FACW
<i>Acer rubrum</i>	10	NO	FAC
<i>Acer spicatum</i>	5	NO	FACU
<i>Betula lenta</i>	20	YES	FACU
<i>Fagus grandifolia</i>	5	NO	FACU
Total Cover:	130		

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Dendrolycopodium obscurum</i>	10	NO	FACU
<i>Pteridium aquilinum</i>	15	NO	FACU
<i>Lycopodium clavatum</i>	10	NO	FAC
Total Cover:	35		

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

<p>Dominance Test Worksheet:</p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>0 (A)</u></p> <p>Total Number of Dominant Species Across All Strata: <u>3 (B)</u></p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0 (A/B)</u></p>	<p>Prevalence Index Worksheet:</p> <p>Total % Cover of: Multiply by:</p> <p>OBL Species: <u>0</u> x 1 = <u>0</u></p> <p>FACW Species: <u>10</u> x 2 = <u>20</u></p> <p>FAC Species: <u>40</u> x 3 = <u>120</u></p> <p>FACU Species: <u>165</u> x 4 = <u>660</u></p> <p>UPL Species: <u>0</u> x 5 = <u>0</u></p> <p>Column Totals: <u>215 (A)</u> <u>800 (B)</u></p> <p style="text-align: center;">Prevalence Index = B/A = <u>3.72</u></p>
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<p>Hydrophytic Vegetation Indicators:</p> <p><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><input type="checkbox"/> 2 - Dominance Test is > 50%</p> <p><input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0</p> <p><input type="checkbox"/> 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation¹ (Explain)</p> <p>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p>	<p>Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	7.5YR 3/1	100					ORGANIC	
2-10	7.5YR 4/4	70	7.5YR 5/6	30	C	M	LOAM	

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

<p>Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</p> <p><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</p> <p><input type="checkbox"/> Red Parent Material (F21)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown</p> <p>ROCK</p> <p>10</p>	<p>Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 78524.5	County: Hillsborough	Date: 08/28/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: BK-M-W002-PFO
Investigators: CM MN		Quad Name: Milford	Township: Brookline	
Logbook No.: 7M	Logbook Pg.: 80	Tract: 24521		
Landform (hillslope, terrace, etc.): Depression		Local Relief: <input checked="" type="checkbox"/> Concave	<input type="checkbox"/> Convex	<input type="checkbox"/> None Slope%.: 0
Subregion (LRR): Middle Atlantic	Lat: 42.792100	Long: -71.661928	Datum: NAD83	
Soil Map Unit Name: Canton stony fine sandy loam, 15 to 25 percent slopes			NWI Classification: PFO4/1E	

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

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

Are Vegetation Soil or Hydrology naturally problematic?
 No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input checked="" type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input checked="" type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input checked="" type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
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<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
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<input checked="" type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 12</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula lenta</i>	5	NO	FACU
<i>Tsuga canadensis</i>	30	YES	FACU
<i>Pinus serotina</i>	5	NO	OBL
<i>Acer rubrum</i>	50	YES	FAC
Total Cover:		90	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Tsuga canadensis</i>	5	NO	FACU
<i>Acer rubrum</i>	5	NO	FAC
<i>Vaccinium corymbosum</i>	30	YES	FACW
<i>Betula lenta</i>	5	NO	FACU
<i>Kalmia latifolia</i>	20	YES	FACU
Total Cover:		65	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Osmundastrum cinnamomeum</i>	10	NO	FACW
<i>Spaghnum sp</i>	40	NA	NONE
<i>Thelypteris palustris</i>	5	NO	FACW
Total Cover:		55	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>5</u>	x 1 = <u>5</u>
FACW Species: <u>45</u>	x 2 = <u>90</u>
FAC Species: <u>55</u>	x 3 = <u>165</u>
FACU Species: <u>65</u>	x 4 = <u>260</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>170 (A)</u>	<u>520 (B)</u>
Prevalence Index = B/A = <u>3.06</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks: UPLAND SPECIES GROWING WITH SHALLOW ROOT SYSTEMS OR ON TOP OF HUMMOCKS OR BOULDERS

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/2	100					ORGANIC	
12-24	10YR 2/1	70	10YR 3/1	30	C	M	ORGANIC	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input checked="" type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown ROCK 24	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:
 BK-U-VP001 LOCATED WITHIN WETLAND
 Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:
 BK-M-MN001 BORDERS WETLAND; SHARES UPLAND DATA WITH BK-M-W001-UPL

PHOTOS



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WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 141518.6	County: Hillsborough	Date: 08/27/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: LT-G-W001-PSS
Investigators: NF CM	Quad Name: Nashua North	Township: Litchfield	
Logbook No.: 2015-7	Logbook Pg.: 130	Tract: 23759	

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave
 Convex
 None Slope%.: 3

Subregion (LRR): Middle Atlantic Lat: 42.831607 Long: -71.468492 Datum: NAD83

Soil Map Unit Name: Pipestone loamy sand, 0 to 3 percent slopes NWI Classification: PEM1E

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

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

Are Vegetation Soil or Hydrology naturally problematic?
 No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Morella pensylvanica</i>	5	NO	OBL
<i>Vaccinium macrocarpon</i>	15	YES	OBL
<i>Cephalanthus occidentalis</i>	25	YES	OBL
Total Cover:		45	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Solidago gigantea</i>	30	YES	FACW
<i>Agrostis gigantea</i>	15	NO	FACW
<i>Scirpus atrovirens</i>	20	YES	OBL
Total Cover:		65	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>65</u>	x 1 = <u>65</u>
FACW Species: <u>45</u>	x 2 = <u>90</u>
FAC Species: <u>15</u>	x 3 = <u>45</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>125 (A)</u>	<u>200 (B)</u>
Prevalence Index = B/A = <u>1.60</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	5YR 3/2	90	7.5YR 5/6	10	C	M	SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input checked="" type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown COUR SE FRAG MENTS 10	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



28-08-15 00:32:13

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WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 141458.5	County: Hillsborough	Date: 08/27/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LT-G-W001-UPL
Investigators: NF CM		Quad Name: Nashua North		Township: Litchfield
Logbook No.: 2015-7	Logbook Pg.: 135	Tract: 23759		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 3

Subregion (LRR): Middle Atlantic Lat: 42.831532 Long: -71.468695 Datum: NAD83

Soil Map Unit Name: Pipestone loamy sand, 0 to 3 percent slopes NWI Classification: Not mapped

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

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

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland?
 Yes No

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium angustifolium</i>	10	NO	FACU
<i>Phytolacca americana</i>	10	NO	FACU
<i>Acer rubrum</i>	5	NO	FAC
<i>Quercus alba</i>	15	YES	FACU
<i>Quercus rubra</i>	15	YES	FACU
Total Cover:		55	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Turf grass sp/</i>	20	NA	NONE
<i>Carex pennsylvanica</i>	15	YES	FACW
Total Cover:		35	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>15</u>	x 2 = <u>30</u>
FAC Species: <u>5</u>	x 3 = <u>15</u>
FACU Species: <u>50</u>	x 4 = <u>200</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>70 (A)</u>	<u>245 (B)</u>
Prevalence Index = B/A = <u>3.50</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	7.5YR 4/2	100					SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input checked="" type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



WEST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 142995.0	County: Hillsborough	Date: 08/28/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LT-G-W003-PSS
Investigators: NF CM		Quad Name: Nashua North		Township: Litchfield
Logbook No.: 2015-7	Logbook Pg.: 142	Tract: 23781		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 3

Subregion (LRR): Middle Atlantic Lat: 42.833049 Long: -71.463445 Datum: NAD83

Soil Map Unit Name: Deerfield loamy fine sand, 0 to 3 percent slopes NWI Classification: Not mapped

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

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

Are Vegetation Soil or Hydrology naturally problematic? No

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

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula alleghaniensis</i>	15	NO	FAC
<i>Acer rubrum</i>	30	YES	FAC
Total Cover:		45	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Maianthemum canadense</i>	5	NO	FACU
<i>Osmunda claytoniana</i>	50	YES	FAC
<i>Rubus hispidus</i>	5	NO	FACW
<i>Lycopodium sp.</i>	10	NA	NONE
<i>Vaccinium angustifolium</i>	5	NO	FACU
Total Cover:		75	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>15</u>	x 1 = <u>15</u>
FACW Species: <u>5</u>	x 2 = <u>10</u>
FAC Species: <u>95</u>	x 3 = <u>285</u>
FACU Species: <u>10</u>	x 4 = <u>40</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>125 (A)</u>	<u>350 (B)</u>
Prevalence Index = B/A = <u>2.80</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR 3/1	100					SILT LOAM	
3-18	2.5Y 6/2	95	2.5Y 6/8	5	C	M,PL	SANDY LOAM	

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

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input checked="" type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

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

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



WEST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED	Milepost: 142958.6	County: Hillsborough	Date: 08/28/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: LT-G-W003-PFO
Investigators: NF CM	Quad Name: Nashua North	Township: Litchfield	
Logbook No.: 2015-7	Logbook Pg.: 144	Tract: 23781	

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 3

Subregion (LRR): Middle Atlantic Lat: 42.832784 Long: -71.463478 Datum: NAD83

Soil Map Unit Name: Deerfield loamy fine sand, 0 to 3 percent slopes NWI Classification: PFO1/4E

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

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

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>	
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:	Wetland Hydrology Present?
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula alleghaniensis</i>	15	NO	FAC
<i>Pinus strobus</i>	10	NO	FACU
<i>Acer rubrum</i>	30	YES	FAC
Total Cover:	55		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium angustifolium</i>	10	YES	FACU
<i>Chamaedaphne calyculata</i>	15	YES	OBL
<i>Quercus bicolor</i>	5	NO	FACW
Total Cover:	30		

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Lycopodium sp.</i>	10	NA	NONE
<i>Chamaedaphne calyculata</i>	10	NO	OBL
<i>Osmunda claytoniana</i>	40	YES	FAC
<i>Carex pennsylvanica</i>	5	NO	FAC
Total Cover:	65		

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>25</u>	x 1 = <u>25</u>
FACW Species: <u>5</u>	x 2 = <u>10</u>
FAC Species: <u>90</u>	x 3 = <u>270</u>
FACU Species: <u>20</u>	x 4 = <u>80</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>140 (A)</u>	<u>385 (B)</u>
Prevalence Index = B/A = <u>2.75</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

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

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	2.5Y 3/1	100					ORGANIC	
4-18	10YR 5/2	95	10YR 5/6	5	C	M,PL	SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input checked="" type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



WEST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 144045.6	County: Hillsborough	Date: 08/28/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: LT-G-W004-PEM
Investigators: NF CM	Quad Name: Nashua North	Township: Litchfield	
Logbook No.: 2015-7	Logbook Pg.: 138	Tract: 23781	

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 20

Subregion (LRR): Middle Atlantic Lat: 42.833917 Long: -71.459710 Datum: NAD83

Soil Map Unit Name: Deerfield loamy fine sand, 0 to 3 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks: MANMADE RETENTION BASIN

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Polygonum pensylvanicum</i>	5	NO	FACW
<i>Juncus tenuis</i>	70	YES	FAC
Total Cover: 75			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>5</u>	x 2 = <u>10</u>
FAC Species: <u>70</u>	x 3 = <u>210</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>75 (A)</u>	<u>220 (B)</u>
Prevalence Index = B/A = <u>2.93</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR 3/1	100					SANDY LOAM	
3-18	5Y 5/1	90	2.5Y 5/6	10	C	M	SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NORTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 143923.8	County: Hillsborough	Date: 08/28/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LT-G-W004-UPL
Investigators: NF CM		Quad Name: Nashua North		Township: Litchfield
Logbook No.: 2015-7	Logbook Pg.: 141	Tract: 23781		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 3

Subregion (LRR): Middle Atlantic Lat: 42.833785 Long: -71.460130 Datum: NAD83

Soil Map Unit Name: Deerfield loamy fine sand, 0 to 3 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>BAYBERRY</i>	15	NO	FAC
<i>Viburnum lentago</i>	15	YES	FAC
<i>Acer rubrum</i>	35	YES	FAC
Total Cover:		65	

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula populifolia</i>	15	YES	FAC
<i>Quercus rubra</i>	10	YES	FACU
<i>Osmunda claytoniana</i>	25	YES	FAC
Total Cover:		50	

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>105</u>	x 3 = <u>315</u>
FACU Species: <u>10</u>	x 4 = <u>40</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>115 (A)</u>	<u>355 (B)</u>
Prevalence Index = B/A = <u>3.09</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR 3/2	100					SANDY LOAM	
3-18	2.5Y 6/4	100					SANDY LOAM	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ² Location: PL=Pore Lining, M=Matrix								
Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)								
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)			<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)			<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)			<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Depleted Matrix (F3)			<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Redox Dark Surface (F6)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)		
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)						<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
<input type="checkbox"/> Sandy Redox (S5)						<input type="checkbox"/> Red Parent Material (F21)		
<input type="checkbox"/> Stripped Matrix (S6)						<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)						<input type="checkbox"/> Other (Explain in Remarks)		
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.								
Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown						Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Remarks:								
Description of Habitat Characteristics, Aquatic Diversity or General Comments:								
Wetland Quality: <input type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low Isolated Wetland? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown								
General Comments:								

PHOTOS



WEST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 144573.4	County: Hillsborough	Date: 08/31/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LT-G-W005-PSS
Investigators: NF CM		Quad Name: Nashua North		Township: Litchfield
Logbook No.: 2015-8	Logbook Pg.: 20	Tract: 23781		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 3

Subregion (LRR): Middle Atlantic Lat: 42.834329 Long: -71.457824 Datum: NAD83

Soil Map Unit Name: Deerfield loamy fine sand, 0 to 3 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks: PSS IN EXSITING POWERLINE CORRIDOR

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	35	YES	FAC
<i>Spiraea alba</i>	20	YES	FACW
<i>Vaccinium corymbosum</i>	25	YES	FACW
Total Cover:		80	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Carex sp.</i>	20	NA	NONE
<i>Juncus tenuis</i>	10	NO	FAC
<i>Osmunda claytoniana</i>	30	YES	FAC
<i>Acer rubrum</i>	10	NO	FAC
Total Cover:		70	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>45</u>	x 2 = <u>90</u>
FAC Species: <u>85</u>	x 3 = <u>255</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>130 (A)</u>	<u>345 (B)</u>
Prevalence Index = B/A = <u>2.65</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR 2/1	100					SILT LOAM	
3-18	2.5Y 6/1	95	7.5YR 6/8	5	C	M,PL	SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input checked="" type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



31-08-15 22:47:26

EAST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 144607.6	County: Hillsborough	Date: 08/31/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LT-G-W005-PFO
Investigators: NF CM		Quad Name: Nashua North		Township: Litchfield
Logbook No.: 2015-8	Logbook Pg.: 22	Tract: 23781		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.834178 Long: -71.457629 Datum: NAD83

Soil Map Unit Name: Deerfield loamy fine sand, 0 to 3 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p>Secondary Indicators (2 or more required)</p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus bicolor</i>	15	YES	FACW
<i>Acer rubrum</i>	35	YES	FAC
<i>Pinus strobus</i>	10	NO	FACU
<i>Tsuga canadensis</i>	5	NO	FACU
Total Cover:	65		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	20	YES	FAC
<i>Vaccinium corymbosum</i>	25	YES	FACW
<i>Spiraea alba</i>	10	UNKNOWN	FACW
<i>Quercus bicolor</i>	10	UNKNOWN	FACW
<i>Pinus strobus</i>	5	NO	FACU
Total Cover:		70	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium corymbosum</i>	10	NO	FACW
<i>Dennstaedtia punctilobula</i>	10	NO	UPL
<i>Carex sp.</i>	10	NA	NONE
<i>Osmunda claytoniana</i>	35	YES	FAC
Total Cover:		65	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>70</u>	x 2 = <u>140</u>
FAC Species: <u>90</u>	x 3 = <u>270</u>
FACU Species: <u>20</u>	x 4 = <u>80</u>
UPL Species: <u>10</u>	x 5 = <u>50</u>
Column Totals: <u>190 (A)</u>	<u>540 (B)</u>
Prevalence Index = B/A = <u>2.84</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR 2/1	100					SILT LOAM	
3-18	2.5Y 6/1	95	7.5YR 5/8	5	C	M,PL	SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input checked="" type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



31-08-19 22:50:49

SOUTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 144331.1	County: Hillsborough	Date: 08/31/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: LT-G-W005-UPL
Investigators: NF CM	Quad Name: Nashua North	Township: Litchfield	
Logbook No.: 2015-8	Logbook Pg.: 23	Tract: 23781	

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 5

Subregion (LRR): Middle Atlantic Lat: 42.834134 Long: -71.458687 Datum: NAD83

Soil Map Unit Name: Deerfield loamy fine sand, 0 to 3 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Polygonum pensylvanicum</i>	90	YES	FACW
Total Cover: 90			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>90</u>	x 2 = <u>180</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>90</u>	x 4 = <u>360</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>180 (A)</u>	<u>540 (B)</u>
Prevalence Index = B/A = <u>3.00</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	2.5Y 5/2	100					SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown COUR SE FRAG MENTS 12	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NORTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 146325.5	County: Hillsborough	Date: 09/01/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: LT-G-W008-PSS
Investigators: NF CM	Quad Name: Nashua North	Township: Litchfield	
Logbook No.: 2015-8	Logbook Pg.: 28	Tract: 23824	

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.835943 Long: -71.451674 Datum: NAD83

Soil Map Unit Name: Windsor loamy sand, 0 to 3 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>0 (A)</u>	<u>0 (B)</u>
Prevalence Index = B/A = <u>0</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR 2.5/1	100					SILT LOAM	
3-18	2.5Y 6/1	95	7.5YR 5/8	5	C	M,PL	SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS

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WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 150360.9	County: Hillsborough	Date: 08/27/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LT-L-W002-PEM
Investigators: BH		Quad Name: Nashua North		Township: Litchfield
Logbook No.: 9L	Logbook Pg.: 140	Tract: 23927		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.839078 Long: -71.437697 Datum: NAD83

Soil Map Unit Name: Greenwood mucky peat NWI Classification: PSS1/EM1E

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 12</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p style="text-align: center;">Wetland Hydrology Present?</p> <p style="text-align: center;"><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Scirpus cyperinus</i>	10	NO	OBL
<i>Onoclea sensibilis</i>	10	NO	FACW
<i>Phragmites australis</i>	70	YES	FACW
<i>Osmunda claytoniana</i>	5	NO	FAC
Total Cover: 95			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>10</u>	x 1 = <u>10</u>
FACW Species: <u>80</u>	x 2 = <u>160</u>
FAC Species: <u>5</u>	x 3 = <u>15</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>95 (A)</u>	<u>185 (B)</u>
Prevalence Index = B/A = <u>1.95</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-22	10YR 2/1	100					ORGANIC	
22-24	10YR 5/1	100					FINE SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
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Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 151597.2	County: Hillsborough	Date: 08/27/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LT-L-W002-PFO
Investigators: BH		Quad Name: Nashua North		Township: Litchfield
Logbook No.: 9L	Logbook Pg.: 139	Tract: 23927		
Landform (hillslope, terrace, etc.): Slope - mid		Local Relief: <input checked="" type="checkbox"/> Concave <input type="checkbox"/> Convex <input type="checkbox"/> None		Slope%.: 2
Subregion (LRR): Middle Atlantic	Lat: 42.840157	Long: -71.433324	Datum: NAD83	
Soil Map Unit Name: Greenwood mucky peat		NWI Classification: PEM1/SS1E		

Are climatic / hydrologic conditions on the site typical for this time of year?:
 Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed?
 No
 Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic?
 No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input checked="" type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	40	YES	FACU
<i>Betula alleghaniensis</i>	20	YES	FAC
Total Cover:	60		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Photinia melanocarpa</i>	30	YES	FAC
Total Cover:		30	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Osmunda regalis</i>	15	YES	OBL
<i>Osmunda claytoniana</i>	5	NO	FAC
<i>Glyceria striata</i>	30	YES	OBL
<i>Onoclea sensibilis</i>	10	NO	FACW
<i>Impatiens capensis</i>	30	YES	FACW
<i>Symplocarpus foetidus</i>	10	NO	OBL
Total Cover:		100	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>55</u>	x 1 = <u>55</u>
FACW Species: <u>40</u>	x 2 = <u>80</u>
FAC Species: <u>55</u>	x 3 = <u>165</u>
FACU Species: <u>40</u>	x 4 = <u>160</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>190 (A)</u>	<u>460 (B)</u>
Prevalence Index = B/A = <u>2.42</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-26	10YR 2/1	100					ORGANIC	
26-30	10YR 5/1	100					FINE SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input checked="" type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 152381.3	County: Rockingham	Date: 08/27/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LT-L-W002-PSS
Investigators: BH		Quad Name: Nashua North		Township: Londonderry
Logbook No.: 9L	Logbook Pg.: 136	Tract: 24801		
Landform (hillslope, terrace, etc.): Slope - mid		Local Relief: <input checked="" type="checkbox"/> Concave <input type="checkbox"/> Convex <input type="checkbox"/> None		Slope%.: 2
Subregion (LRR): Middle Atlantic		Lat: 42.840771	Long: -71.430522	Datum: NAD83
Soil Map Unit Name:			NWI Classification: PEM1/SS1E	

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No
 Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
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<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Viburnum prunifolium</i>	20	YES	FACU
<i>Vaccinium corymbosum</i>	10	NO	FACW
<i>Lyonia ligustrina</i>	10	NO	FACW
<i>Cornus alba</i>	20	YES	FACW
Total Cover:		60	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Onoclea sensibilis</i>	10	YES	FACW
<i>Osmunda claytoniana</i>	5	NO	FAC
<i>Lythrum salicaria</i>	10	NO	OBL
<i>Spiraea tomentosa</i>	5	NO	FACW
<i>Typha latifolia</i>	20	YES	OBL
<i>Leersia oryzoides</i>	30	YES	OBL
<i>Solidago patula</i>	10	NO	OBL
<i>Erigeron annuus</i>	5	NO	FACU
Total Cover:		95	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>70</u>	x 1 = <u>70</u>
FACW Species: <u>55</u>	x 2 = <u>110</u>
FAC Species: <u>5</u>	x 3 = <u>15</u>
FACU Species: <u>25</u>	x 4 = <u>100</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>155 (A)</u>	<u>295 (B)</u>
Prevalence Index = B/A = <u>1.90</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-30	10YR 2/1	100					ORGANIC	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input checked="" type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 151257.8	County: Hillsborough	Date: 08/27/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LT-L-W002-UPL
Investigators: BH		Quad Name: Nashua North		Township: Litchfield
Logbook No.: 9L	Logbook Pg.: 138	Tract: 23927		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 5

Subregion (LRR): Middle Atlantic Lat: 42.839882 Long: -71.434532 Datum: NAD83

Soil Map Unit Name: Hinckley loamy sand, 3 to 8 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland?
 Yes No

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	20	YES	FACU
<i>Quercus alba</i>	25	YES	FACU
<i>Acer rubrum</i>	5	NO	FAC
Total Cover:	50		

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula populifolia</i>	20	YES	FAC
<i>Quercus alba</i>	30	YES	FACU
Total Cover:		50	

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Osmunda claytoniana</i>	5	NO	FAC
<i>Rubus hispidus</i>	25	YES	FACW
Total Cover:		30	

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>25</u>	x 2 = <u>50</u>
FAC Species: <u>30</u>	x 3 = <u>90</u>
FACU Species: <u>75</u>	x 4 = <u>300</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>130 (A)</u>	<u>440 (B)</u>
Prevalence Index = B/A = <u>3.38</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/1	100					SILT LOAM	
8-16	7.5YR 3/3	100					FINE SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED		Milepost: 154662.9	County: Rockingham	Date: 08/28/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LD-L-W002-PEM
Investigators: BH		Quad Name: Nashua North		Township: Londonderry
Logbook No.: 9L	Logbook Pg.: 152	Tract: 24837		
Landform (hillslope, terrace, etc.): Stream fringe		Local Relief: <input checked="" type="checkbox"/> Concave <input type="checkbox"/> Convex <input type="checkbox"/> None		Slope%.: 2
Subregion (LRR): Middle Atlantic	Lat: 42.842541	Long: -71.422363	Datum: NAD83	
Soil Map Unit Name: Chocorua Mucky Peat			NWI Classification: PEM1/SS1Eb	

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Moss Trim Lines (B16)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 12	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	

Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Carex lurida</i>	20	YES	OBL
<i>Scirpus cyperinus</i>	20	YES	OBL
<i>Leersia oryzoides</i>	60	YES	OBL
Total Cover: 100			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>100</u>	x 1 = <u>100</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100 (A)</u>	<u>100 (B)</u>

Prevalence Index = B/A = 1.00

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-25	10YR 2/1	100					ORGANIC	
25-30	10YR 5/1	100					SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input checked="" type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 154470.4	County: Rockingham	Date: 08/28/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LD-L-W002-UPL
Investigators: HB HG	Quad Name: Nashua North		Township: Londonderry	
Logbook No.: 9L	Logbook Pg.: 154	Tract: 24837		
Landform (hillslope, terrace, etc.): Slope - mid		Local Relief: <input checked="" type="checkbox"/> Concave	<input type="checkbox"/> Convex	<input type="checkbox"/> None
		Slope%.: 5		
Subregion (LRR): Middle Atlantic	Lat: 42.842182	Long: -71.422968	Datum: NAD83	
Soil Map Unit Name: Chocorua Mucky Peat	NW1 Classification: PEM1/SS1Eb			

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No
 Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe) </p>	<p>Wetland Hydrology Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	70	YES	FACU
Total Cover:		70	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	10	YES	FACU
<i>Quercus alba</i>	10	YES	FACU
<i>Quercus rubra</i>	10	YES	FACU
Total Cover:		30	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Mitchella repens</i>	30	YES	FACU
<i>Vaccinium angustifolium</i>	15	YES	FACU
<i>Gaultheria procumbens</i>	5	NO	FACU
Total Cover:		50	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>150</u>	x 4 = <u>600</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>150 (A)</u>	<u>600 (B)</u>
Prevalence Index = B/A = <u>4.00</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 5/3	100					FINE SANDY LOAM	
8-16	10YR 6/6	100					FINE SANDY LOAM	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ² Location: PL=Pore Lining, M=Matrix								
Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)								
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)			<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)			<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)			<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Depleted Matrix (F3)			<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Redox Dark Surface (F6)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)		
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)						<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
<input type="checkbox"/> Sandy Redox (S5)						<input type="checkbox"/> Red Parent Material (F21)		
<input type="checkbox"/> Stripped Matrix (S6)						<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)						<input type="checkbox"/> Other (Explain in Remarks)		
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.								
Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown						Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Remarks:								
Description of Habitat Characteristics, Aquatic Diversity or General Comments:								
Wetland Quality: <input type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low Isolated Wetland? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown								
General Comments:								

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 158643.4	County: Rockingham	Date: 08/29/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LD-L-W003-PFO
Investigators: TS JW		Quad Name: Nashua North		Township: Londonderry
Logbook No.: 10	Logbook Pg.: 4	Tract: 24828		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.840215 Long: -71.410185 Datum: NAD83

Soil Map Unit Name: Deerfield fine sandy loam 3-8% slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input checked="" type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)																															
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
<input type="checkbox"/> Surface Soil Cracks (B6)																																
<input type="checkbox"/> Drainage Patterns (B10)																																
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<input type="checkbox"/> Geomorphic Position (D2)																																
<input type="checkbox"/> Shallow Aquitard (D3)																																
<input checked="" type="checkbox"/> Microtopographic Relief (D4)																																
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	30	YES	FAC
<i>Betula papyrifera</i>	30	YES	FACU
Total Cover:	60		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	15	YES	FAC
<i>Hamamelis virginiana</i>	60	YES	FACU
Total Cover:		75	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Symplocarpus foetidus</i>	10	YES	OBL
<i>Carex crinita</i>	15	YES	OBL
<i>Hydrocotyle americana</i>	5	NO	OBL
<i>Onoclea sensibilis</i>	15	YES	FACW
Total Cover:		45	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>30</u>	x 1 = <u>30</u>
FACW Species: <u>15</u>	x 2 = <u>30</u>
FAC Species: <u>45</u>	x 3 = <u>135</u>
FACU Species: <u>90</u>	x 4 = <u>360</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>180 (A)</u>	<u>555 (B)</u>
Prevalence Index = B/A = <u>3.08</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/1	90	10YR 4/6	10	C	M	LOAM	
8-20	10YR 4/2	85	10YR 6/6 10YR 2/1	10 5	C C	M M	FINE SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NORTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 158616.3	County: Rockingham	Date: 08/29/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LD-L-W003-UPL
Investigators: TS JW		Quad Name: Nashua North		Township: Londonderry
Logbook No.: 10	Logbook Pg.: 6	Tract: 24834		
Landform (hillslope, terrace, etc.): Hilltop		Local Relief: <input type="checkbox"/> Concave <input checked="" type="checkbox"/> Convex <input type="checkbox"/> None		Slope%.: 2
Subregion (LRR): Middle Atlantic		Lat: 42.840241	Long: -71.410316	Datum: NAD83
Soil Map Unit Name: Chatfield-Hollis-Canton complex 3-8% slopes			NWI Classification: Not mapped	

Are climatic / hydrologic conditions on the site typical for this time of year?
 Yes
 No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed?
 No
 Are "Normal" Circumstances present?
 Yes
 No

Are Vegetation Soil or Hydrology naturally problematic?
 No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Populus grandidentata</i>	20	YES	FACU
<i>Betula papyrifera</i>	20	YES	FACU
<i>Quercus rubra</i>	40	YES	FACU
Total Cover:	80		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Hamamelis virginiana</i>	60	YES	FACU
<i>Quercus rubrum</i>	10	NO	FACU
Total Cover:		70	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Oxalis corniculata</i>	5	YES	FACU
Total Cover:		5	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Celastrus scandens</i>	15	YES	FACU
Total Cover:		15	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>10</u>	x 3 = <u>30</u>
FACU Species: <u>170</u>	x 4 = <u>680</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>180 (A)</u>	<u>710 (B)</u>
Prevalence Index = B/A = <u>3.94</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/3	100					SILT LOAM	
06-20	10YR 5/3	100					SILT LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NORTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 159267.8	County: Rockingham	Date: 08/30/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LD-L-W007-PFO
Investigators: BH JW		Quad Name: Nashua North		Township: Londonderry
Logbook No.: 10	Logbook Pg.: 22	Tract: 24770		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 5

Subregion (LRR): Middle Atlantic Lat: 42.838728 Long: -71.409025 Datum: NAD83

Soil Map Unit Name: Hinckley fine sandy loam 3-8% slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 12 Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	--

Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Populus tremuloides</i>	10	NO	FACU
<i>Acer rubrum</i>	40	YES	FAC
<i>Pinus strobus</i>	10	NO	FACU
Total Cover:	60		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Phalaris arundinacea</i>	80	YES	FACW
<i>Symplocarpus foetidus</i>	5	NO	OBL
<i>Lythrum salicaria</i>	5	NO	OBL
<i>Rumex crispus</i>	5	NO	FAC
Total Cover: 95			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vitis spp.</i>	10	NA	NONE
Total Cover: 10			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>10</u>	x 1 = <u>10</u>
FACW Species: <u>80</u>	x 2 = <u>160</u>
FAC Species: <u>45</u>	x 3 = <u>135</u>
FACU Species: <u>20</u>	x 4 = <u>80</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>155 (A)</u>	<u>385 (B)</u>
Prevalence Index = B/A = <u>2.48</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 2/1	85	10YR 4/6	15	C	M	LOAM	
14-24	10YR 2/1	70	5YR 4/6	30	C	M	FINE SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NORTHEAST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 159275.0	County: Rockingham	Date: 08/30/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LD-L-W007-PEM
Investigators: BH JW		Quad Name: Nashua North		Township: Londonderry
Logbook No.: 10	Logbook Pg.: 20	Tract: 24770		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 5

Subregion (LRR): Middle Atlantic Lat: 42.838666 Long: -71.409107 Datum: NAD83

Soil Map Unit Name: Hinckley fine sandy loam 3-8% slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 12</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Lythrum salicaria</i>	10	NO	OBL
<i>Phalaris arundinacea</i>	90	YES	FACW
Total Cover: 100			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>10</u>	x 1 = <u>10</u>
FACW Species: <u>90</u>	x 2 = <u>180</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100 (A)</u>	<u>190 (B)</u>
Prevalence Index = B/A = <u>1.90</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/1	100					ORGANIC	
12-24	10YR 3/1	90	10YR 4/6	10	C	M	LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input checked="" type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SOUTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 159308.4	County: Rockingham	Date: 08/30/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: LD-L-W007-UPL
Investigators: BH JW		Quad Name: Nashua North		Township: Londonderry
Logbook No.: 10	Logbook Pg.: 23	Tract: 24770		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 10

Subregion (LRR): Middle Atlantic Lat: 42.838655 Long: -71.408897 Datum: NAD83

Soil Map Unit Name: Hinckley fine sandy loam 3-8% slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
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<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Populus tremuloides</i>	30	YES	FACU
<i>Pinus strobus</i>	30	YES	FACU
<i>Betula papyrifera</i>	10	NO	FACU
Total Cover:	70		

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	5	NO	FACU
<i>Fraxinus americana</i>	5	NO	FACU
<i>Pinus strobus</i>	20	YES	FACU
Total Cover:	30		

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Maianthemum canadense</i>	5	NO	FACU
<i>Toxicodendron radicans</i>	10	YES	FAC
Total Cover:	15		

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>10</u>	x 3 = <u>30</u>
FACU Species: <u>105</u>	x 4 = <u>420</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>115 (A)</u>	<u>450 (B)</u>
Prevalence Index = B/A = <u>3.91</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100					SILT LOAM	
2-12	10YR 5/3	100					SILT LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:
 COBBKE REFUSAL @ 12IN

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



EAST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 170609.0	County: Hillsborough	Date: 09/01/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: HD-T-W001-PEM
Investigators: BG, BE	Quad Name: Nashua North	Township: Hudson	
Logbook No.: 1	Logbook Pg.: 84	Tract: 22217	

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.814061 Long: -71.383404 Datum: NAD83

Soil Map Unit Name: Borohemists, nearly level NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 6</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Glyceria canadensis</i>	15	NO	OBL
<i>Carex lacustris</i>	15	NO	OBL
<i>Sparganium angrocladum</i>	10	NO	OBL
<i>Calamagrostis canadensis</i>	90	YES	OBL
Total Cover: 130			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>130</u>	x 1 = <u>130</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>130 (A)</u>	<u>130 (B)</u>
Prevalence Index = B/A = <u>1.00</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	100					SAND	MUCKY SAND

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input checked="" type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 170692.8	County: Hillsborough	Date: 09/01/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: HD-T-W001-UPL
Investigators: BG, BE		Quad Name: Nashua North	Township: Hudson	
Logbook No.: 1	Logbook Pg.: 91	Tract: 22217		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 10

Subregion (LRR): Middle Atlantic Lat: 42.813847 Long: -71.383264 Datum: NAD83

Soil Map Unit Name: Borochemists, nearly level NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe) </p>	<p style="text-align: center;">Wetland Hydrology Present?</p> <p style="text-align: center;"><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
---	---

Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Spiraea alba</i>	5	NO	FACW
<i>Corylus americana</i>	60	YES	FACU
<i>Acer rubrum</i>	5	NO	FAC
<i>Alnus incana</i>	30	YES	FACW
Total Cover:		100	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Pteridium aquilinum</i>	30	YES	FACU
<i>Solidago canadensis</i>	20	YES	FACU
<i>Rubus hispidus</i>	10	NO	FACW
Total Cover:		60	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>45</u>	x 2 = <u>90</u>
FAC Species: <u>5</u>	x 3 = <u>15</u>
FACU Species: <u>110</u>	x 4 = <u>440</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>160 (A)</u>	<u>545 (B)</u>
Prevalence Index = B/A = <u>3.41</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	2.5Y 4/3	100					SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 171457.1	County: Hillsborough	Date: 07/17/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: HD-Y-W001-PFO
Investigators: DC		Quad Name: Nashua North		Township: Hudson
Logbook No.: 1	Logbook Pg.: 41	Tract: 22213		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%: .

Subregion (LRR): Middle Atlantic Lat: 42.812378 Long: -71.381212 Datum: NAD83

Soil Map Unit Name: Canton very stony fine sandy loam, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	40	YES	FAC
<i>Pinus strobus</i>	40	YES	FACU
<i>Pinus resinosa</i>	10	NO	FACU
Total Cover:	90		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	5	YES	FACU
<i>Fraxinus americana</i>	10	YES	FACU
<i>Viburnum dentatum</i>	5	YES	FAC
Total Cover:		20	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Onoclea sensibilis</i>	3	NO	FACW
<i>Carex crinita</i>	25	YES	OBL
<i>Maianthemum canadense</i>	1	NO	FACU
<i>Impatiens capensis</i>	1	NO	FACW
<i>Osmunda regalis</i>	25	YES	OBL
Total Cover:		55	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>50</u>	x 1 = <u>50</u>
FACW Species: <u>4</u>	x 2 = <u>8</u>
FAC Species: <u>45</u>	x 3 = <u>135</u>
FACU Species: <u>66</u>	x 4 = <u>264</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>165 (A)</u>	<u>457 (B)</u>
Prevalence Index = B/A = <u>2.77</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	100	10YR 4/1	5	D	M	SANDY LOAM	
4-11	10YR 3/1	100	10YR 5/1	5	D	M	SANDY LOAM	
11-18	10YR 4/1	100	10YR 5/1 10YR 4/6	5 10	D C	M M	VERY FINE SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 171468.0	County: Hillsborough	Date: 07/17/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: HD-Y-W001-UPL
Investigators: DC		Quad Name: Nashua North		Township: Hudson
Logbook No.: 1	Logbook Pg.: 42	Tract: 22213		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: _____

Subregion (LRR): Middle Atlantic Lat: 42.812322 Long: -71.381240 Datum: NAD83

Soil Map Unit Name: Canton very stony fine sandy loam, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	10	NO	FACU
<i>Pinus resinosa</i>	20	YES	FACU
<i>Acer rubrum</i>	10	NO	FAC
<i>Pinus strobus</i>	30	YES	FACU
<i>Fraxinus americana</i>	15	NO	FACU
Total Cover:		85	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fraxinus americana</i>	10	YES	FACU
<i>Pinus strobus</i>	5	NO	FACU
MALUS SP.	5	NO	FAC
CASTANEA DENTATA	15	YES	FACU
Total Cover:		35	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Maianthemum canadense</i>	3	NO	FACU
<i>Rubus hispida</i>	2	NO	FACW
<i>Celastrus scandens</i>	5	YES	FACU
<i>Osmunda claytoniana</i>	10	YES	FAC
Total Cover:		20	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 17 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>2</u>	x 2 = <u>4</u>
FAC Species: <u>25</u>	x 3 = <u>75</u>
FACU Species: <u>113</u>	x 4 = <u>452</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>140 (A)</u>	<u>531 (B)</u>
Prevalence Index = B/A = <u>3.79</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/3	100					FINE SANDY LOAM	
8-10	10YR 4/3	100					FINE SANDY LOAM	
10-18	10YR 5/3	98	10YR 4/6	2	C	M	FINE SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED	Milepost: 171567.2	County: Hillsborough	Date: 09/01/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: HD-G-W005-PEM
Investigators: NF CM	Quad Name: Nashua North	Township: Hudson	
Logbook No.: 2015-8	Logbook Pg.: 48	Tract: 22281	

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.811937 Long: -71.381286 Datum: NAD83

Soil Map Unit Name: Canton very stony fine sandy loam, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):	
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	

Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Salix discolor</i>	10	YES	FACW
<i>Acer rubrum</i>	10	YES	FAC
Total Cover:		20	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Juncus effusus</i>	10	NO	OBL
<i>Lythrum salicaria</i>	50	YES	OBL
<i>Scirpus cyperinus</i>	10	NO	OBL
<i>Spiraea alba</i>	10	NO	FACW
<i>Phalaris arundinacea</i>	10	NO	FACW
Total Cover:		90	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>70</u>	x 1 = <u>70</u>
FACW Species: <u>30</u>	x 2 = <u>60</u>
FAC Species: <u>10</u>	x 3 = <u>30</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>110 (A)</u>	<u>160 (B)</u>

Prevalence Index = B/A = 1.45

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	2.5Y 2/2	100					SANDY LOAM	
2-18	10YR 2/2	90	10YR 5/6	10	C	M	SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 173382.3	County: Hillsborough	Date: 09/01/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: HD-G-W003-PSS
Investigators: NF CM	Quad Name: Nashua North	Township: Hudson	
Logbook No.: 2015-8	Logbook Pg.: 42	Tract: 22279	

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave
 Convex
 None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.808194 Long: -71.376826 Datum: NAD83

Soil Map Unit Name: Canton very stony fine sandy loam, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes
 No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes
 No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Cornus racemosa</i>	45	YES	FAC
<i>Viburnum recognitum</i>	10	NO	FAC
<i>Salix discolor</i>	5	NO	FACW
Total Cover:		60	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Euthamia graminifolia</i>	10	NO	FAC
<i>Carex scoparia</i>	10	NO	FACW
<i>Osmunda claytoniana</i>	25	YES	FAC
<i>Onoclea sensibilis</i>	25	YES	FACW
<i>Cornus racemosa</i>	10	NO	FAC
<i>Solidago gigantea</i>	15	NO	FACW
Total Cover:		95	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>55</u>	x 2 = <u>110</u>
FAC Species: <u>100</u>	x 3 = <u>300</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>155 (A)</u>	<u>410 (B)</u>
Prevalence Index = B/A = <u>2.65</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3/2	100					SILT LOAM	
2-18	10YR 4/1	90	10YR 5/6	10	C	M	SILT LOAM	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ² Location: PL=Pore Lining, M=Matrix								
Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)								
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)			<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)			<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)			<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)		
<input type="checkbox"/> Stratified Layers (A5)			<input checked="" type="checkbox"/> Depleted Matrix (F3)			<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Redox Dark Surface (F6)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)		
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)						<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
<input type="checkbox"/> Sandy Redox (S5)						<input type="checkbox"/> Red Parent Material (F21)		
<input type="checkbox"/> Stripped Matrix (S6)						<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)						<input type="checkbox"/> Other (Explain in Remarks)		
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.								
Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown						Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Remarks:								
Description of Habitat Characteristics, Aquatic Diversity or General Comments:								
Wetland Quality: <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low Isolated Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown								
General Comments:								

PHOTOS



SW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 173704.0	County: Hillsborough	Date: 09/01/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: HD-G-W002-PFO
Investigators: NF CM		Quad Name: Nashua North		Township: Hudson
Logbook No.: 2015-8	Logbook Pg.: 40	Tract: 22177		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.807599 Long: -71.375921 Datum: NAD83

Soil Map Unit Name: Leicester-Walpole complex stony, 3 to 8 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	35	YES	FAC
<i>Quercus bicolor</i>	15	NO	FACW
<i>Fraxinus pennsylvanica</i>	10	NO	FACW
Total Cover:	60		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Ulmus americana</i>	15	YES	FACW
Total Cover:		15	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Persicaria sagittata</i>	10	NO	OBL
<i>Osmunda regalis</i>	30	YES	OBL
<i>Osmunda claytoniana</i>	20	YES	FAC
Total Cover:		60	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>40</u>	x 1 = <u>40</u>
FACW Species: <u>40</u>	x 2 = <u>80</u>
FAC Species: <u>55</u>	x 3 = <u>165</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>135 (A)</u>	<u>285 (B)</u>

Prevalence Index = B/A = 2.11

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR 2/2	100					SILT LOAM	
3-18	7.5YR 3/1	90	7.5YR 5/6	10	C	M	SILT LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NORTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 173737.9	County: Hillsborough	Date: 09/01/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: HD-G-W002-UPL
Investigators: NF CM		Quad Name: Nashua North		Township: Hudson
Logbook No.: 2015-8	Logbook Pg.: 37	Tract: 22177		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 3

Subregion (LRR): Middle Atlantic Lat: 42.807501 Long: -71.375883 Datum: NAD83

Soil Map Unit Name: Leicester-Walpole complex stony, 3 to 8 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland?
 Yes
 No

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus alba</i>	5	NO	FACU
<i>Pinus strobus</i>	25	YES	FACU
<i>Acer rubrum</i>	25	YES	FAC
Total Cover:	55		

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	20	YES	FACU
<i>Betula populifolia</i>	5	NO	FAC
Total Cover:		25	

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Osmunda claytoniana</i>	10	YES	FAC
<i>Trientalis borealis</i>	5	NO	FAC
<i>Acer rubrum</i>	5	NO	FAC
<i>Mitchella repens</i>	5	NO	FACU
<i>Quercus alba</i>	5	NO	FACU
Total Cover:		30	

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>50</u>	x 3 = <u>150</u>
FACU Species: <u>60</u>	x 4 = <u>240</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>110 (A)</u>	<u>390 (B)</u>
Prevalence Index = B/A = <u>3.55</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	7.5YR 3/3	100					SILT LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



EAST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 174182.3	County: Hillsborough	Date: 09/01/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: HD-G-W001-PSS
Investigators: NF CM		Quad Name: Windham	Township: Hudson	
Logbook No.: 2015-8	Logbook Pg.: 36	Tract: 22176		
Landform (hillslope, terrace, etc.): Depression		Local Relief: <input checked="" type="checkbox"/> Concave	<input type="checkbox"/> Convex	<input type="checkbox"/> None Slope%.: 2
Subregion (LRR): Middle Atlantic	Lat: 42.806529	Long: -71.374882	Datum: NAD83	
Soil Map Unit Name: Greenwood mucky peat		NWI Classification: PFO1E		

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No
 Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe) </p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	10	YES	FAC
Total Cover:		10	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Viburnum recognitum</i>	10	NO	FAC
<i>Vaccinium corymbosum</i>	50	YES	FACW
Total Cover:		60	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Lythrum salicaria</i>	20	YES	OBL
<i>Onoclea sensibilis</i>	15	YES	FACW
<i>Dennstaedtia punctilobula</i>	5	NO	UPL
<i>Osmunda claytoniana</i>	10	YES	FAC
<i>Boehmeria cylindrica</i>	10	YES	OBL
<i>Typha latifolia</i>	10	YES	OBL
<i>Salix discolor</i>	10	YES	FACW
Total Cover:		80	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>40</u>	x 1 = <u>40</u>
FACW Species: <u>75</u>	x 2 = <u>150</u>
FAC Species: <u>30</u>	x 3 = <u>90</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>5</u>	x 5 = <u>25</u>
Column Totals: <u>150 (A)</u>	<u>305 (B)</u>
Prevalence Index = B/A = <u>2.03</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	7.5YR 2/1	100					ORGANIC	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input checked="" type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input checked="" type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 174059.2	County: Hillsborough	Date: 09/01/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: HD-G-W001-UPL
Investigators: NF CM		Quad Name: Windham	Township: Hudson	
Logbook No.: 2015-8	Logbook Pg.: 33	Tract: 22176		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 5

Subregion (LRR): Middle Atlantic Lat: 42.806998 Long: -71.374827 Datum: NAD83

Soil Map Unit Name: Leicester-Walpole complex stony, 3 to 8 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland?
 Yes
 No

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
---	--

Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	20	YES	FACU
<i>Acer rubrum</i>	20	YES	FAC
<i>Fraxinus americana</i>	10	YES	FACU
<i>Quercus rubra</i>	10	YES	FACU
Total Cover:	60		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Dennstaedtia punctilobula</i>	25	YES	UPL
<i>Osmunda claytoniana</i>	15	YES	FAC
<i>Quercus alba</i>	10	YES	FACU
<i>Quercus rubra</i>	10	YES	FACU
Total Cover: 60			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>35</u>	x 3 = <u>105</u>
FACU Species: <u>60</u>	x 4 = <u>240</u>
UPL Species: <u>25</u>	x 5 = <u>125</u>
Column Totals: <u>120 (A)</u>	<u>470 (B)</u>
Prevalence Index = B/A = <u>3.92</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR 2/1	100					SANDY LOAM	
3-18	7.5YR 4/3	100					SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 179114.3	County: Hillsborough	Date: 08/31/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: HD-L-W001-PSS
Investigators: BH JW		Quad Name: Windham	Township: Hudson	
Logbook No.: 10	Logbook Pg.: 36	Tract: 22099		
Landform (hillslope, terrace, etc.): Slope - toe		Local Relief: <input checked="" type="checkbox"/> Concave	<input type="checkbox"/> Convex	<input type="checkbox"/> None Slope%.: 2
Subregion (LRR): Middle Atlantic	Lat: 42.795744	Long: -71.363811	Datum: NAD83	
Soil Map Unit Name: Rippowam fine sandy loam		NWI Classification: Not mapped		

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No
 Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
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<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 4</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	10	NO	FAC
Total Cover:		10	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Photinia melanocarpa</i>	20	YES	FAC
<i>Cornus alba</i>	40	YES	FACW
<i>Salix nigra</i>	5	NO	OBL
<i>Acer rubrum</i>	5	NO	FAC
Total Cover:		70	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Carex intumescens</i>	5	NO	FACW
<i>Phalaris arundinacea</i>	20	YES	FACW
<i>Persicaria amphibia</i>	5	NO	OBL
<i>Hydrocotyle americana</i>	10	NO	OBL
Total Cover:		40	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>20</u>	x 1 = <u>20</u>
FACW Species: <u>65</u>	x 2 = <u>130</u>
FAC Species: <u>35</u>	x 3 = <u>105</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>120 (A)</u>	<u>255 (B)</u>
Prevalence Index = B/A = <u>2.13</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	2.5Y 4/1	85	10YR 4/6	15	C	M	SANDY LOAM	
12-18	2.5Y 5/1	80	10YR 4/6 10YR 6/6	10 5	C C	M M	SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- | | |
|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input checked="" type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS

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WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 179226.6	County: Hillsborough	Date: 08/31/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: HD-L-W001-PEM
Investigators: BH JW		Quad Name: Windham	Township: Hudson	
Logbook No.: 10	Logbook Pg.: 34	Tract: 22099		
Landform (hillslope, terrace, etc.): Stream fringe		Local Relief: <input checked="" type="checkbox"/> Concave <input type="checkbox"/> Convex <input type="checkbox"/> None	Slope%.: 2	
Subregion (LRR): Middle Atlantic	Lat: 42.795623	Long: -71.363712	Datum: NAD83	
Soil Map Unit Name:			NWI Classification:	Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?
 Yes
 No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed?
 No
 Are "Normal" Circumstances present?
 Yes
 No

Are Vegetation Soil or Hydrology naturally problematic?
 No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 2</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Bidens cernua</i>	10	YES	OBL
<i>Juncus spp</i>	30	NA	NONE
<i>Pontederia cordata</i>	10	NO	OBL
<i>Carex lurida</i>	5	NO	OBL
<i>Hydrocotyle americana</i>	10	YES	OBL
<i>Leersia oryzoides</i>	20	YES	OBL
<i>Juncus effusus</i>	5	NO	OBL
Total Cover:		90	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>60</u>	x 1 = <u>60</u>
FACW Species: <u>30</u>	x 2 = <u>60</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>90 (A)</u>	<u>120 (B)</u>

Prevalence Index = B/A = 1.33

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 5/1	90	10YR 4/6	10	C	M	SAND	
4-18	10YR 6/1	95	10YR 4/6	5	C	M	SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



EAST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 178886.2	County: Hillsborough	Date: 08/31/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: HD-L-W001-UPL
Investigators: BH JW		Quad Name: Windham	Township: Hudson	
Logbook No.: 10	Logbook Pg.: 37	Tract: 22099		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: 3-

Subregion (LRR): Middle Atlantic Lat: 42.796164 Long: -71.364452 Datum: NAD83

Soil Map Unit Name: Chatfield-Hollis complex, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland?
 Yes No

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Lonicera morrowii</i>	30	YES	FACU
<i>Cornus alba</i>	10	NO	FACW
<i>Quercus rubra</i>	20	YES	FACU
<i>Quercus alba</i>	20	YES	FACU
Total Cover:		80	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Achillea millefolium</i>	10	NO	FACU
<i>Potentilla simplex</i>	20	YES	FACU
<i>Pteridium aquilinum</i>	5	NO	FACU
<i>Spiraea alba</i>	5	NO	FACW
<i>Solidago rugosa</i>	20	YES	FAC
Total Cover:		60	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Celastrus scandens</i>	15	YES	FACU
Total Cover:		15	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 17 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>5</u>	x 1 = <u>5</u>
FACW Species: <u>15</u>	x 2 = <u>30</u>
FAC Species: <u>20</u>	x 3 = <u>60</u>
FACU Species: <u>120</u>	x 4 = <u>480</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>160 (A)</u>	<u>575 (B)</u>
Prevalence Index = B/A = <u>3.59</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/3	100					SILT LOAM	
4-18	10YR 5/3	100					SILT LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



EAST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 182813.6	County: Rockingham	Date: 08/31/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: WD-D-W003-PSS
Investigators: PB		Quad Name: Windham		Township: Windham
Logbook No.: 6	Logbook Pg.: 142	Tract: 24209		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave
 Convex
 None Slope%.: 1

Subregion (LRR): Middle Atlantic Lat: 42.787579 Long: -71.355632 Datum: NAD83

Soil Map Unit Name: Hinckley fine sandy loam 3-8% slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes
 No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes
 No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
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<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 4</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	25	YES	FAC
<i>Pinus strobus</i>	5	NO	FACU
Total Cover:	30		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	20	YES	FAC
<i>Populus grandidentata</i>	5	NO	FACU
<i>Frangula alnus</i>	25	YES	FAC
<i>Cornus racemosa</i>	20	YES	FAC
Total Cover:		70	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Onoclea sensibilis</i>	35	YES	FACW
<i>Lythrum salicaria</i>	30	YES	OBL
<i>Osmundastrum cinnamomeum</i>	5	NO	FACW
<i>Solidago rugosa</i>	10	NO	FAC
<i>Impatiens capensis</i>	10	NO	FACW
Total Cover:		90	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>30</u>	x 1 = <u>30</u>
FACW Species: <u>50</u>	x 2 = <u>100</u>
FAC Species: <u>100</u>	x 3 = <u>300</u>
FACU Species: <u>10</u>	x 4 = <u>40</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>190 (A)</u>	<u>470 (B)</u>
Prevalence Index = B/A = <u>2.47</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-13	10YR 2/1	90	7.5YR 4/6	10	C	M,PL	SILT	
13-18	10YR 4/2	90	7.5YR 4/6	10	C	M	SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 18288.7	County: Rockingham	Date: 08/31/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: WD-D-W003-UPL
Investigators: PB		Quad Name: Windham	Township: Windham	
Logbook No.: 6	Logbook Pg.: 141	Tract: 24209		
Landform (hillslope, terrace, etc.): Flat		Local Relief: <input type="checkbox"/> Concave <input type="checkbox"/> Convex <input checked="" type="checkbox"/> None		Slope%.: 1
Subregion (LRR): Middle Atlantic	Lat: 42.787476	Long: -71.355351	Datum: NAD83	
Soil Map Unit Name: Hinckley fine sandy loam 3-8%		NWI Classification: Not mapped		

Are climatic / hydrologic conditions on the site typical for this time of year?
 Yes
 No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed?
 No
 Are "Normal" Circumstances present?
 Yes
 No

Are Vegetation Soil or Hydrology naturally problematic?
 No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Populus grandidentata</i>	30	YES	FACU
<i>Pinus strobus</i>	20	YES	FACU
<i>Betula papyrifera</i>	15	YES	FACU
Total Cover:		65	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	5	YES	FAC
<i>Quercus alba</i>	5	YES	FACU
<i>Quercus rubra</i>	5	YES	FACU
Total Cover:		15	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Trientalis borealis</i>	3	YES	FAC
<i>Parthenocissus quinquefolia</i>	5	YES	FACU
Total Cover:		8	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>8</u>	x 3 = <u>24</u>
FACU Species: <u>80</u>	x 4 = <u>320</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>88 (A)</u>	<u>344 (B)</u>
Prevalence Index = B/A = <u>3.91</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2							ORGANIC	
2-16	10YR 4/3	100					SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

ROCK
16

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 184098.5	County: Rockingham	Date: 08/30/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: WD-D-W001-PSS
Investigators: PB		Quad Name: Windham		Township: Windham
Logbook No.: 6	Logbook Pg.: 130	Tract: 24279		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.784718 Long: -71.352835 Datum: NAD83

Soil Map Unit Name: Hinckley fine sandy loam 8-15% slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula populifolia</i>	10	NO	FAC
<i>Frangula alnus</i>	15	YES	FAC
<i>Viburnum dentatum</i>	10	NO	FAC
<i>Quercus rubra</i>	3	NO	FACU
<i>Acer rubrum</i>	3	NO	FAC
<i>Salix nigra</i>	30	YES	OBL
Total Cover:		71	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Onoclea sensibilis</i>	5	NO	FACW
<i>Fragaria virginiana</i>	1	NO	FACU
<i>Parthenocissus quinquefolia</i>	3	NO	FACU
<i>Impatiens capensis</i>	10	YES	FACW
<i>Solidago rugosa</i>	15	YES	FAC
Total Cover:		34	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>30</u>	x 1 = <u>30</u>
FACW Species: <u>15</u>	x 2 = <u>30</u>
FAC Species: <u>53</u>	x 3 = <u>159</u>
FACU Species: <u>7</u>	x 4 = <u>28</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>105 (A)</u>	<u>247 (B)</u>
Prevalence Index = B/A = <u>2.35</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 4/2	93	7.5YR 4/6	7	D	M,PL	SAND	Rock refusal at 16"

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown ROCK 16	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED		Milepost: 184193.8	County: Rockingham	Date: 08/30/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: WD-D-W001-UPL
Investigators: PB		Quad Name: Windham	Township: Windham	
Logbook No.: 6	Logbook Pg.: 131	Tract: 24279		

Landform (hillslope, terrace, etc.): Flat Local Relief: Concave Convex None Slope%.: 1

Subregion (LRR): Middle Atlantic Lat: 42.784539 Long: -71.352500 Datum: NAD83

Soil Map Unit Name: Pipestone sand 0-5% slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <p><input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9)</p> <p><input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15)</p> <p><input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p><input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Moss Trim Lines (B16)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> Shallow Aquitard (D3)</p> <p><input type="checkbox"/> Microtopographic Relief (D4)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	10	YES	FAC
<i>Quercus alba</i>	40	YES	FACU
Total Cover:	50		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus alba</i>	5	NO	FACU
<i>Acer rubrum</i>	5	NO	FAC
<i>Viburnum lantanoides</i>	3	NO	FACU
<i>Prunus virginiana</i>	15	YES	FACU
Total Cover:		28	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Dichanthelium clandestinum</i>	5	NO	FACW
<i>Fragaria virginiana</i>	5	NO	FACU
<i>Solidago rugosa</i>	10	YES	FAC
Total Cover:		20	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>5</u>	x 2 = <u>10</u>
FAC Species: <u>25</u>	x 3 = <u>75</u>
FACU Species: <u>68</u>	x 4 = <u>272</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>98 (A)</u>	<u>357 (B)</u>
Prevalence Index = B/A = <u>3.64</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 4/3	100					SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 184212.8	County: Rockingham	Date: 08/30/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: WD-D-W002-PFO
Investigators: PB		Quad Name: Windham	Township: Windham	
Logbook No.: 6	Logbook Pg.: 135	Tract: 24279		
Landform (hillslope, terrace, etc.): Depression		Local Relief: <input checked="" type="checkbox"/> Concave	<input type="checkbox"/> Convex	<input type="checkbox"/> None
		Slope%.: 2		
Subregion (LRR): Middle Atlantic	Lat: 42.784535	Long: -71.352454	Datum: NAD83	
Soil Map Unit Name: Pipestone sand 0-5% slopes		NWI Classification: Not mapped		

Are climatic / hydrologic conditions on the site typical for this time of year?
 Yes
 No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed?
 No
 Are "Normal" Circumstances present?
 Yes
 No

Are Vegetation Soil or Hydrology naturally problematic?
 No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)																															
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
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<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus alba</i>	5	NO	FACU
<i>Pinus strobus</i>	5	NO	FACU
<i>Acer rubrum</i>	60	YES	FAC
Total Cover:	70		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Viburnum dentatum</i>	15	YES	FAC
<i>Acer rubrum</i>	20	YES	FAC
Total Cover:		35	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Symplocarpus foetidus</i>	10	YES	OBL
<i>Onoclea sensibilis</i>	5	NO	FACW
<i>Osmunda spectabilis</i>	3	NO	OBL
<i>Impatiens capensis</i>	15	YES	FACW
Total Cover:		33	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: 13	x 1 = 13
FACW Species: 20	x 2 = 40
FAC Species: 95	x 3 = 285
FACU Species: 10	x 4 = 40
UPL Species: 0	x 5 = 0
Column Totals: 138 (A)	378 (B)
Prevalence Index = B/A = 2.74	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 3/1	90	7.5YR 4/6	10	D	M	SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



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WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Project/Site: NED		Milepost: 184254.9	County: Rockingham	Date: 08/30/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: WD-D-W002-PSS
Investigators: PB		Quad Name: Windham	Township: Windham	
Logbook No.: 6	Logbook Pg.: 136	Tract: 24279		
Landform (hillslope, terrace, etc.): Depression		Local Relief: <input checked="" type="checkbox"/> Concave <input type="checkbox"/> Convex <input type="checkbox"/> None	Slope%.: 2	
Subregion (LRR): Middle Atlantic	Lat: 42.784440	Long: -71.352450	Datum: NAD83	
Soil Map Unit Name: Pipestone sand 0-5% slopes		NWI Classification: Not mapped		

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Microtopographic Relief (D4)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	

Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	20	YES	FAC
<i>Pinus strobus</i>	5	YES	FACU
Total Cover:	25		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Alnus incana</i>	50	YES	FACW
<i>Viburnum dentatum</i>	15	YES	FAC
<i>Cornus racemosa</i>	10	NO	FAC
Total Cover:		75	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Symplocarpus foetidus</i>	10	YES	OBL
<i>Impatiens capensis</i>	25	YES	FACW
<i>Onoclea sensibilis</i>	5	NO	FACW
Total Cover:		40	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>10</u>	x 1 = <u>10</u>
FACW Species: <u>80</u>	x 2 = <u>160</u>
FAC Species: <u>45</u>	x 3 = <u>135</u>
FACU Species: <u>5</u>	x 4 = <u>20</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>140 (A)</u>	<u>325 (B)</u>
Prevalence Index = B/A = <u>2.32</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 2/1	100					SILT	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 198680.1	County: Hillsborough	Date: 07/15/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W007-PSS
Investigators: DC		Quad Name: Windham	Township: Pelham	
Logbook No.: 1	Logbook Pg.: 31	Tract: 22905		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%: .

Subregion (LRR): Middle Atlantic Lat: 42.753536 Long: -71.323618 Datum: NAD83

Soil Map Unit Name: Chatfield-Hollis complex, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium corymbosum</i>	20	YES	FACW
<i>Acer rubrum</i>	15	YES	FAC
<i>Lyonia ligustrina</i>	20	YES	FACW
<i>Cephalanthus occidentalis</i>	20	YES	OBL
<i>Kalmia angustifolia</i>	5	NO	FAC
Total Cover:		80	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Eleocharis palustris</i>	2	NO	OBL
<i>Osmunda regalis</i>	5	YES	OBL
<i>Spiraea alba</i>	5	NO	FACW
<i>Rubus hispidus</i>	15	YES	FACW
Total Cover:		27	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>27</u>	x 1 = <u>27</u>
FACW Species: <u>60</u>	x 2 = <u>120</u>
FAC Species: <u>20</u>	x 3 = <u>60</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>107 (A)</u>	<u>207 (B)</u>
Prevalence Index = B/A = <u>1.93</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/3	100					ORGANIC	
4-10	10YR 2/1	100					ORGANIC	
10-18	10YR 3/1	100	10YR 4/6 10YR 5/1	5 5	C D	M M	ORGANIC	
18+	10YR 5/1	100	10YR 5/2	25	C	M	SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

CONTAINS VERNAL POOL

PHOTOS



W

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 198636.1	County: Hillsborough	Date: 07/15/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W007-UPL
Investigators: DC		Quad Name: Windham	Township: Pelham	
Logbook No.: 1	Logbook Pg.: 33	Tract: 22905		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: _____

Subregion (LRR): Middle Atlantic Lat: 42.753599 Long: -71.323439 Datum: NAD83

Soil Map Unit Name: Chatfield-Hollis complex, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	20	YES	FACU
<i>Pinus strobus</i>	25	YES	FACU
Total Cover:	45		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium fuscatum</i>	25	YES	FACW
<i>Pinus strobus</i>	5	NO	FACU
<i>Vaccinium angustifolium</i>	5	NO	FACU
<i>Acer saccharum</i>	10	YES	FACU
<i>Kalmia angustifolia</i>	1	NO	FAC
Total Cover:		46	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Gaultheria procumbens</i>	2	YES	FACU
Total Cover:		2	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>25</u>	x 2 = <u>50</u>
FAC Species: <u>1</u>	x 3 = <u>3</u>
FACU Species: <u>67</u>	x 4 = <u>268</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>93 (A)</u>	<u>321 (B)</u>
Prevalence Index = B/A = <u>3.45</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/3	100					ORGANIC	FIBRIC
4-6	10YR 5/1	100					LOAM	
6-8	10YR 2/2	100					LOAM	
8-16	10YR 5/8	100					LOAMY SAND	
16-24	10YR 4/6	100					LOAMY SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



E

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 198752.0	County: Hillsborough	Date: 08/28/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-K-W001-PSS
Investigators: CG JW		Quad Name: Windham	Township: Pelham	
Logbook No.: 2015-2	Logbook Pg.: 82	Tract: 22903		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.753563 Long: -71.324211 Datum: NAD83

Soil Map Unit Name: Chatfield-Hollis complex, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input checked="" type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium corymbosum</i>	45	YES	FACW
<i>Cephalanthus occidentalis</i>	45	YES	OBL
Total Cover:		90	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Spiraea tomentosa</i>	20	YES	FACW
<i>Spiraea alba</i>	20	YES	FACW
<i>Cephalanthus occidentalis</i>	25	YES	OBL
<i>Juncus effusus</i>	10	NO	OBL
Total Cover:		75	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>80</u>	x 1 = <u>80</u>
FACW Species: <u>85</u>	x 2 = <u>170</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>165 (A)</u>	<u>250 (B)</u>
Prevalence Index = B/A = <u>1.52</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5YR 3/2	100					ORGANIC	
4-10	10YR 2/1	60	10YR 5/1	40	D	M	SILT LOAM	
10-16	10YR 3/1	100					SILT LOAM	
16-18	2.5Y 5/6	100					FINE SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low

Isolated Wetland? Yes No Unknown

General Comments:

CONTAINS TWO POTENTIAL VERNAL POOLS

PHOTOS



NORTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 198726.3	County: Hillsborough	Date: 08/28/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: PH-K-W001-UPL
Investigators: CG JW	Quad Name: Windham	Township: Pelham	
Logbook No.: 2015-2	Logbook Pg.: 83	Tract: 22903	

Landform (hillslope, terrace, etc.): Hilltop Local Relief: Concave Convex None Slope%.: 1

Subregion (LRR): Middle Atlantic Lat: 42.753598 Long: -71.324104 Datum: NAD83

Soil Map Unit Name: Chatfield-Hollis complex, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	20	YES	FACU
<i>Ilex glabra</i>	30	YES	FACW
<i>Vaccinium corymbosum</i>	15	YES	FACW
Total Cover:	65		

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Maianthemum canadense</i>	10	NO	FACU
<i>Hamamelis virginiana</i>	15	NO	FACU
<i>DENNSTAEDTIA PUNCTILOBULA</i>	10	NO	UPL
<i>Rubus allegheniensis</i>	15	NO	FACU
<i>Vaccinium angustifolium</i>	70	YES	FACU
Total Cover:	120		

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>45</u>	x 2 = <u>90</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>130</u>	x 4 = <u>520</u>
UPL Species: <u>10</u>	x 5 = <u>50</u>
Column Totals: <u>185 (A)</u>	<u>660 (B)</u>
Prevalence Index = B/A = <u>3.57</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	7.5YR 3/3	100					ORGANIC	
2-12	10YR 5/6	100					SILT LOAM	ROCK REFUSAL AT 12 INCHES

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 199104.6	County: Hillsborough	Date: 07/15/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W006-PFO
Investigators: DC		Quad Name: Windham	Township: Pelham	
Logbook No.: 1	Logbook Pg.: 29	Tract: 22905		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%: .

Subregion (LRR): Middle Atlantic Lat: 42.752556 Long: -71.324527 Datum: NAD83

Soil Map Unit Name: Chatfield-Hollis complex, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	20	YES	FACU
<i>Tsuga canadensis</i>	10	NO	FACU
<i>Acer rubrum</i>	60	YES	FAC
Total Cover:	90		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium corymbosum</i>	20	YES	FACW
<i>Ilex verticillata</i>	10	YES	FACW
<i>Pinus strobus</i>	3	NO	FACU
Total Cover:		33	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Osmunda regalis</i>	15	YES	OBL
<i>Symplocarpus foetidus</i>	3	NO	OBL
<i>Rubus hispidus</i>	2	NO	FACW
<i>Coptis trifolia</i>	1	NO	FACW
Total Cover:		21	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>18</u>	x 1 = <u>18</u>
FACW Species: <u>33</u>	x 2 = <u>66</u>
FAC Species: <u>60</u>	x 3 = <u>180</u>
FACU Species: <u>33</u>	x 4 = <u>132</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>144 (A)</u>	<u>396 (B)</u>
Prevalence Index = B/A = <u>2.75</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/1	100					ORGANIC	
3-6	10YR 3/1	60					LOAMY SAND	
3-6	10YR 2/1	40					LOAMY SAND	
6-14	10YR 4/1	95	10YR 5/1	5	D	M	LOAMY SAND	
14-24	10YR 6/1	95	10YR 6/2	5	C	M	SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 199078.7	County: Hillsborough	Date: 07/15/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W006-UPL
Investigators: DC		Quad Name: Windham	Township: Pelham	
Logbook No.: 1	Logbook Pg.: 30	Tract: 22905		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: _____

Subregion (LRR): Middle Atlantic Lat: 42.752689 Long: -71.324413 Datum: NAD83

Soil Map Unit Name: Chatfield-Hollis complex, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	15	NO	FACU
<i>Tsuga canadensis</i>	30	YES	FACU
<i>Quercus rubra</i>	50	YES	FACU
Total Cover:	95		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Hamamelis virginiana</i>	5	YES	FACU
Total Cover:		5	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium angustifolium</i>	10	YES	FACU
<i>Gaultheria procumbens</i>	5	YES	FACU
<i>Mitchella repens</i>	5	YES	FACU
Total Cover:		20	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>120</u>	x 4 = <u>480</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>120 (A)</u>	<u>480 (B)</u>
Prevalence Index = B/A = <u>4.00</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/3	100					LOAMY SAND	
4-15	10YR 4/6	100					LOAMY SAND	
15-24	10YR 5/8	100					LOAMY SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 199443.0	County: Hillsborough	Date: 07/14/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: PH-Y-W003-PFO
Investigators: DC	Quad Name: Windham	Township: Pelham	
Logbook No.: 1	Logbook Pg.:	Tract: 22905	

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave
 Convex
 None Slope%.: _____

Subregion (LRR): Middle Atlantic Lat: 42.751857 Long: -71.323657 Datum: NAD83

Soil Map Unit Name: Chatfield-Hollis complex, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes
 No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No
 Are "Normal" Circumstances present? Yes
 No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus bicolor</i>	20	YES	FACW
<i>Acer rubrum</i>	60	YES	FAC
<i>Pinus strobus</i>	5	NO	FACU
Total Cover:	85		

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Hamamelis virginiana</i>	5	YES	FACU
<i>Ilex verticillata</i>	5	YES	FACW
<i>Vaccinium corymbosum</i>	20	YES	FACW
Total Cover:		30	

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Coptis trifolia</i>	10	YES	FACW
<i>Maianthemum canadense</i>	3	NO	FACU
<i>Rubus hispidus</i>	10	YES	FACW
Total Cover:		23	

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>65</u>	x 2 = <u>130</u>
FAC Species: <u>60</u>	x 3 = <u>180</u>
FACU Species: <u>13</u>	x 4 = <u>52</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>138 (A)</u>	<u>362 (B)</u>
Prevalence Index = B/A = <u>2.62</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/1	100					ORGANIC	
8-24	10YR 4/1	100					SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input checked="" type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 199464.4	County: Hillsborough	Date: 07/14/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W003-PSS
Investigators: DC		Quad Name: Windham	Township: Pelham	
Logbook No.: 1	Logbook Pg.:	Tract: 22905		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.:

Subregion (LRR): Middle Atlantic Lat: 42.751859 Long: -71.323497 Datum: NAD83

Soil Map Unit Name: Chatfield-Hollis complex, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	15	YES	FACU
<i>Quercus bicolor</i>	15	YES	FACW
Total Cover:	30		

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	5	NO	FAC
<i>Ilex verticillata</i>	50	YES	FACW
<i>Betula alleghaniensis</i>	5	NO	FAC
Total Cover:		60	

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Solidago altissima</i>	1	NO	FACU
<i>Rubus hispidus</i>	25	YES	FACW
<i>Kalmia angustifolia</i>	2	NO	FAC
<i>Maianthemum canadense</i>	2	NO	FACU
<i>Mitchella repens</i>	2	NO	FACU
Total Cover:		32	

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>90</u>	x 2 = <u>180</u>
FAC Species: <u>12</u>	x 3 = <u>36</u>
FACU Species: <u>20</u>	x 4 = <u>80</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>122 (A)</u>	<u>296 (B)</u>
Prevalence Index = B/A = <u>2.43</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/2	100					ORGANIC	FIBRIC
4-30	10YR 2/1	100					ORGANIC	MUCKY

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input checked="" type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 199379.3	County: Hillsborough	Date: 07/14/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W003-UPL
Investigators: DC		Quad Name: Windham	Township: Pelham	
Logbook No.: 1	Logbook Pg.:	Tract: 22905		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%: .

Subregion (LRR): Middle Atlantic Lat: 42.752068 Long: -71.323638 Datum: NAD83

Soil Map Unit Name: Chatfield-Hollis complex, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula papyrifera</i>	5	NO	FACU
<i>Quercus rubra</i>	30	YES	FACU
<i>Pinus strobus</i>	15	YES	FACU
Total Cover:	50		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium corymbosum</i>	5	YES	FACW
<i>Betula populifolia</i>	5	YES	FAC
<i>Rubus pergratus</i>	3	NO	FACU
<i>Vaccinium angustifolium</i>	10	YES	FACU
Total Cover:		23	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Gaultheria procumbens</i>	5	YES	FACU
<i>Rubus hispidus</i>	10	YES	FACW
Total Cover:		15	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

<p>Dominance Test Worksheet:</p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>3 (A)</u></p> <p>Total Number of Dominant Species Across All Strata: <u>7 (B)</u></p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>43 (A/B)</u></p>	<p>Prevalence Index Worksheet:</p> <p>Total % Cover of: Multiply by:</p> <p>OBL Species: <u>0</u> x 1 = <u>0</u></p> <p>FACW Species: <u>15</u> x 2 = <u>30</u></p> <p>FAC Species: <u>5</u> x 3 = <u>15</u></p> <p>FACU Species: <u>68</u> x 4 = <u>272</u></p> <p>UPL Species: <u>0</u> x 5 = <u>0</u></p> <p>Column Totals: <u>88 (A)</u> <u>317 (B)</u></p> <p style="text-align: center;">Prevalence Index = B/A = <u>3.60</u></p>
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<p>Hydrophytic Vegetation Indicators:</p> <p><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><input type="checkbox"/> 2 - Dominance Test is > 50%</p> <p><input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0</p> <p><input type="checkbox"/> 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation¹ (Explain)</p> <p>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p>	<p>Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
---	---

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 2/2	100					LOAM	
6-24	10YR 5/6	100					LOAMY SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



W

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 200082.4	County: Hillsborough	Date: 07/14/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W002-PFO
Investigators: DC		Quad Name: Windham	Township: Pelham	
Logbook No.: 1	Logbook Pg.:	Tract: 22880		

Landform (hillslope, terrace, etc.): Flat Local Relief: Concave Convex None Slope%.: _____

Subregion (LRR): Middle Atlantic Lat: 42.750302 Long: -71.322549 Datum: NAD83

Soil Map Unit Name: Hinckley loamy sand, 3 to 8 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	40	YES	FAC
<i>Pinus strobus</i>	20	YES	FACU
Total Cover:	60		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fraxinus americana</i>	1	YES	FACU
Total Cover:		1	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Mitchella repens</i>	1	NO	FACU
<i>Osmundastrum cinnamomeum</i>	70	YES	FACW
<i>Maianthemum canadense</i>	2	NO	FACU
Total Cover:		73	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>70</u>	x 2 = <u>140</u>
FAC Species: <u>40</u>	x 3 = <u>120</u>
FACU Species: <u>24</u>	x 4 = <u>96</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>134 (A)</u>	<u>356 (B)</u>
Prevalence Index = B/A = <u>2.66</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/2	100					ORGANIC	FIBRIC
4-12	10YR 2/1	100					VERY FINE SANDY LOAM	
12-16	10YR 4/2	100	10YR 4/1	5	D	M	SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



W

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 200072.4	County: Hillsborough	Date: 07/14/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W002-PSS
Investigators: DC		Quad Name: Windham	Township: Pelham	
Logbook No.: 1	Logbook Pg.: 13	Tract: 22880		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.:

Subregion (LRR): Middle Atlantic Lat: 42.750424 Long: -71.322340 Datum: NAD83

Soil Map Unit Name: Hinckley loamy sand, 3 to 8 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input checked="" type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	20	YES	FACU
Total Cover:		20	

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Viburnum dentatum</i>	1	NO	FAC
<i>Frangula alnus</i>	20	YES	FAC
<i>Ilex verticillata</i>	5	YES	FACW
Total Cover:	26		

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Carex lurida</i>	10	YES	OBL
<i>Solidago rugosa</i>	5	NO	FAC
<i>Rubus hispidus</i>	15	YES	FACW
<i>Juncus effusus</i>	5	NO	OBL
<i>Symplocarpus foetidus</i>	20	YES	OBL
Total Cover:	55		

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>35</u>	x 1 = <u>35</u>
FACW Species: <u>20</u>	x 2 = <u>40</u>
FAC Species: <u>26</u>	x 3 = <u>78</u>
FACU Species: <u>20</u>	x 4 = <u>80</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>101 (A)</u>	<u>233 (B)</u>
Prevalence Index = B/A = <u>2.31</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/2	100					ORGANIC	FIBRIC
3-24	10YR 2/1	100					ORGANIC	
24-30	10YR 4/1	100	10YR 5/3	10	C	M	SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 199995.8	County: Hillsborough	Date: 07/14/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W002-UPL
Investigators: DC		Quad Name: Windham	Township: Pelham	
Logbook No.: 1	Logbook Pg.:	Tract: 22880		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave
 Convex
 None Slope%.: _____

Subregion (LRR): Middle Atlantic Lat: 42.750598 Long: -71.322502 Datum: NAD83

Soil Map Unit Name: Hinckley loamy sand, 3 to 8 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes
 No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes
 No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	20	YES	FACU
<i>Pinus strobus</i>	20	YES	FACU
Total Cover:	40		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus alba</i>	2	NO	FACU
<i>Lyonia ligustrina</i>	4	YES	FACW
<i>Populus tremuloides</i>	3	NO	FACU
<i>Betula alleghaniensis</i>	2	NO	FAC
<i>Pinus strobus</i>	5	YES	FACU
<i>Quercus bicolor</i>	2	NO	FACW
<i>Spiraea alba</i>	1	NO	FACW
Total Cover:		19	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Rubus hispidus</i>	10	YES	FACW
<i>Cornus canadensis</i>	1	NO	FAC
<i>Gaultheria procumbens</i>	2	NO	FACU
<i>Fragaria virginiana</i>	2	NO	FACU
<i>Solidago rugosa</i>	10	YES	FAC
Total Cover:		25	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>17</u>	x 2 = <u>34</u>
FAC Species: <u>13</u>	x 3 = <u>39</u>
FACU Species: <u>54</u>	x 4 = <u>216</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>84 (A)</u>	<u>289 (B)</u>
Prevalence Index = B/A = <u>3.44</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/3	100					FINE SANDY LOAM	
6-20	10YR 5/6	100					LOAMY SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 200397.0	County: Hillsborough	Date: 07/13/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W001-PSS
Investigators: DC		Quad Name: Lowell	Township: Pelham	
Logbook No.: 1	Logbook Pg.:	Tract: 22880		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.:

Subregion (LRR): Middle Atlantic Lat: 42.749658 Long: -71.321724 Datum: NAD83

Soil Map Unit Name: Hinckley loamy sand, 3 to 8 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 Saturation Present? (includes capillary fringe) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	10	YES	FACU
Total Cover:		10	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Photinia pyrifolia</i>	10	NO	FACW
<i>Vaccinium corymbosum</i>	5	NO	FACW
Total Cover:		15	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Cornus canadensis</i>	5	YES	FAC
<i>Lysimachia ciliata</i>	15	YES	FACW
<i>Pteridium aquilinum</i>	10	NO	FACU
Total Cover:		30	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>30</u>	x 2 = <u>60</u>
FAC Species: <u>5</u>	x 3 = <u>15</u>
FACU Species: <u>20</u>	x 4 = <u>80</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>55 (A)</u>	<u>155 (B)</u>
Prevalence Index = B/A = <u>2.82</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-20	10YR 2/1	100					ORGANIC	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input checked="" type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 200435.1	County: Hillsborough	Date: 07/13/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W001-PFO
Investigators: DC		Quad Name: Lowell	Township: Pelham	
Logbook No.: 1	Logbook Pg.:	Tract: 22880		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.:

Subregion (LRR): Middle Atlantic Lat: 42.749467 Long: -71.321885 Datum: NAD83

Soil Map Unit Name: Hinckley loamy sand, 3 to 8 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input type="checkbox"/> Shallow Aquitard (D3)																																
<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	15	YES	FACU
<i>Quercus rubra</i>	10	YES	FACU
<i>Acer rubrum</i>	15	YES	FAC
Total Cover:	40		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium corymbosum</i>	30	YES	FACW
Total Cover:		30	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Symplocarpus foetidus</i>	4	NO	OBL
<i>Mitchella repens</i>	5	NO	FACU
<i>Rubus hispidus</i>	2	NO	FACW
<i>Osmundastrum cinnamomeum</i>	25	YES	FACW
Total Cover:		36	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>4</u>	x 1 = <u>4</u>
FACW Species: <u>57</u>	x 2 = <u>114</u>
FAC Species: <u>15</u>	x 3 = <u>45</u>
FACU Species: <u>30</u>	x 4 = <u>120</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>106 (A)</u>	<u>283 (B)</u>
Prevalence Index = B/A = <u>2.67</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/1	100					ORGANIC	
8-24	10YR 2/2	100					LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input checked="" type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 200341.5	County: Hillsborough	Date: 07/13/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W001-UPL
Investigators: DC		Quad Name: Lowell	Township: Pelham	
Logbook No.: 1	Logbook Pg.:	Tract: 22880		

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%: .

Subregion (LRR): Middle Atlantic Lat: 42.749813 Long: -71.321775 Datum: NAD83

Soil Map Unit Name: Hinckley loamy sand, 3 to 8 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Kalmia angustifolia</i>	20	YES	FAC
<i>Pinus strobus</i>	10	YES	FACU
<i>Vaccinium angustifolium</i>	10	YES	FACU
<i>Quercus bicolor</i>	1	NO	FACW
Total Cover:		41	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Gaultheria procumbens</i>	10	NO	FACU
<i>Rubus hispidus</i>	30	YES	FACW
Total Cover:		40	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>31</u>	x 2 = <u>62</u>
FAC Species: <u>20</u>	x 3 = <u>60</u>
FACU Species: <u>30</u>	x 4 = <u>120</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>81 (A)</u>	<u>242 (B)</u>
Prevalence Index = B/A = <u>2.99</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/3	100					LOAM	
6-24	10YR 5/6	100					LOAMY SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 201081.8	County: Hillsborough	Date: 07/13/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-X-W005-PSS
Investigators: DC		Quad Name: Lowell	Township: Pelham	
Logbook No.: 1	Logbook Pg.:	Tract: 22880		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: _____

Subregion (LRR): Middle Atlantic Lat: 42.748023 Long: -71.320469 Datum: NAD83

Soil Map Unit Name: Hinckley loamy sand, 3 to 8 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9)</p> <p><input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15)</p> <p><input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p><input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Moss Trim Lines (B16)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> Shallow Aquitard (D3)</p> <p><input type="checkbox"/> Microtopographic Relief (D4)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): _____</p> <p>Water Table Present? <input type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): _____</p> <p>Saturation Present? <input type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): _____ (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover: _____			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Ilex verticillata</i>	40	YES	FACW
<i>Frangula Alnus</i>	20	YES	FACW
Total Cover:		60	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Carex echinata</i>	10	YES	OBL
<i>Rubus hispidus</i>	35	YES	FACW
<i>Juncus tenuis</i>	2	NO	FAC
Total Cover:		47	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>10</u>	x 1 = <u>10</u>
FACW Species: <u>95</u>	x 2 = <u>190</u>
FAC Species: <u>2</u>	x 3 = <u>6</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>107 (A)</u>	<u>206 (B)</u>
Prevalence Index = B/A = <u>1.93</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/1	100					FINE SANDY LOAM	
8-12	10YR 4/3	50					FINE SANDY LOAM	
8-12	10YR 2/1	50					FINE SANDY LOAM	
12-14	10YR 3/1	75	10YR 4/1 10YR 4/4	20 5	D C	M M	FINE SANDY LOAM	
14+	10YR 5/3	98	10YR 5/4	2	C	M	FINE SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 201437.2	County: Hillsborough	Date: 07/13/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-X-W005-PEM
Investigators: DC		Quad Name: Lowell	Township: Pelham	
Logbook No.: 1	Logbook Pg.:	Tract: 22880		

Landform (hillslope, terrace, etc.): Slope - toe Local Relief: Concave Convex None Slope%.: _____

Subregion (LRR): Middle Atlantic Lat: 42.747197 Long: -71.319764 Datum: NAD83

Soil Map Unit Name: Deerfield loamy fine sand, 0 to 3 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PEM

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	<u>Secondary Indicators (2 or more required)</u> <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover: _____			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Ilex verticillata</i>	5	YES	FACW
<i>Spiraea alba</i>	5	YES	FACW
Total Cover:		10	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Onoclea sensibilis</i>	2	NO	FACW
<i>Glyceria canadensis</i>	3	NO	OBL
<i>Lysimachia terrestris</i>	5	NO	OBL
<i>Impatiens capensis</i>	10	YES	FACW
<i>Persicaria sagittata</i>	20	YES	OBL
<i>Carex scoparia</i>	2	NO	FACW
<i>Lythrum salicaria</i>	10	YES	OBL
<i>Scirpus cyperinus</i>	3	NO	OBL
Total Cover:		55	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>41</u>	x 1 = <u>41</u>
FACW Species: <u>24</u>	x 2 = <u>48</u>
FAC Species: <u>0</u>	x 3 = <u>0</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>65 (A)</u>	<u>89 (B)</u>

Prevalence Index = B/A = 1.37

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/1	100	10YR 3/1	5	D	M	ORGANIC	MUCKY
4-12	10YR 4/1	90	10 YR 6/1	10	D	M	SAND	
12+	10YR 5/1	50	10 YR 6/1	50	D	M	SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SW



SW

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 201737.5	County: Hillsborough	Date: 07/13/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-X-W005-PFO
Investigators: DC		Quad Name: Lowell	Township: Pelham	
Logbook No.: 1	Logbook Pg.:	Tract: 22880		

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: _____

Subregion (LRR): Middle Atlantic Lat: 42.746311 Long: -71.319602 Datum: NAD83

Soil Map Unit Name: Deerfield loamy fine sand, 0 to 3 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)																															
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
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<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____</p> <p>Saturation Present? (includes capillary fringe) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____</p>	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	10	NO	FACU
Total Cover:		10	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vaccinium corymbosum</i>	5	YES	FACW
<i>Pinus strobus</i>	20	YES	FACU
Total Cover:		25	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Rubus hispidus</i>	5	NO	FACW
<i>Toxicodendron radicans</i>	5	NO	FAC
<i>Osmunda regalis</i>	30	YES	OBL
<i>Spiraea alba</i>	5	NO	FACW
<i>Impatiens capensis</i>	5	NO	FACW
Total Cover:		50	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Vitis labrusca</i>	2	NO	FACU
Total Cover:		2	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>30</u>	x 1 = <u>30</u>
FACW Species: <u>20</u>	x 2 = <u>40</u>
FAC Species: <u>5</u>	x 3 = <u>15</u>
FACU Species: <u>32</u>	x 4 = <u>128</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>87 (A)</u>	<u>213 (B)</u>
Prevalence Index = B/A = <u>2.45</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/2	100	NONE		CS		LOAM	
2-12	10YR 5/1	100	10YR 4/1	20	C	M	SAND	
12+	10YR 2/2	100					LOAMY SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

NO

20

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NE

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 201674.8	County: Hillsborough	Date: 07/13/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: PH-X-W005-UPL
Investigators: DC	Quad Name: Lowell	Township: Pelham	
Logbook No.: 1	Logbook Pg.:	Tract: 22880	

Landform (hillslope, terrace, etc.): Flat Local Relief: Concave Convex None Slope%: .

Subregion (LRR): Middle Atlantic Lat: 42.746402 Long: -71.319850 Datum: NAD83

Soil Map Unit Name: Deerfield loamy fine sand, 0 to 3 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland?
 Yes
 No

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	30	YES	FACU
<i>Pinus strobus</i>	40	YES	FACU
<i>Betula papyrifera</i>	10	NO	FACU
<i>Acer rubrum</i>	2	NO	FAC
Total Cover:	82		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula nigra</i>	7	NO	FACW
<i>Betula papyrifera</i>	5	NO	FACU
<i>Acer rubrum</i>	8	NO	FAC
<i>Pinus strobus</i>	25	YES	FACU
Total Cover:		45	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>7</u>	x 2 = <u>14</u>
FAC Species: <u>10</u>	x 3 = <u>30</u>
FACU Species: <u>110</u>	x 4 = <u>440</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>127 (A)</u>	<u>484 (B)</u>
Prevalence Index = B/A = <u>3.81</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	5YR 3/3	100					ORGANIC	
2-8	10YR 4/6	100					LOAMY SAND	
8-16	10YR 5/8	100					LOAMY SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|---|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Redox (S5) | | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | | <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 204314.1	County: Hillsborough	Date: 07/16/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W008-PSS
Investigators: DC		Quad Name: Lowell	Township: Pelham	
Logbook No.: 1	Logbook Pg.: 35	Tract: 22818		
Landform (hillslope, terrace, etc.): Slope - toe		Local Relief: <input checked="" type="checkbox"/> Concave	<input type="checkbox"/> Convex	<input type="checkbox"/> None Slope%.:
Subregion (LRR): Middle Atlantic	Lat: 42.739999	Long: -71.314792	Datum: NAD83	
Soil Map Unit Name: Borochemists, ponded		NWI Classification: PEM1Eb		

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No
 Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input checked="" type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input checked="" type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input checked="" type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> <p>Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula populifolia</i>	5	YES	FAC
Total Cover:		5	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Frangula alnus</i>	50	YES	FAC
<i>Salix sp.</i>	2	NA	NONE
<i>Myrica gale</i>	20	YES	OBL
<i>Viburnum dentatum</i>	10	NO	FAC
Total Cover:		82	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Pontederia cordata</i>	3	NO	OBL
<i>Peltandra virginica</i>	3	NO	OBL
<i>Onoclea sensibilis</i>	3	NO	FACW
<i>Leersia oryzoides</i>	20	YES	OBL
<i>Osmunda regalis</i>	10	YES	OBL
<i>Eutrochium purpureum</i>	3	NO	FAC
Total Cover:		42	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>56</u>	x 1 = <u>56</u>
FACW Species: <u>3</u>	x 2 = <u>6</u>
FAC Species: <u>68</u>	x 3 = <u>204</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>127 (A)</u>	<u>266 (B)</u>

Prevalence Index = B/A = 2.09

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 2/1	100					SAND	MUCKY
6-24	10YR 3/1	85	10YR 4/6 10YR 6/2	5 10	C D	M M	SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 204552.4	County: Hillsborough	Date: 07/16/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: PH-Y-W008-UPL
Investigators: DC	Quad Name: Lowell	Township: Pelham	
Logbook No.: 1	Logbook Pg.: 36	Tract: 22816	

Landform (hillslope, terrace, etc.): Slope - mid Local Relief: Concave Convex None Slope%.: _____

Subregion (LRR): Middle Atlantic Lat: 42.739600 Long: -71.314411 Datum: NAD83

Soil Map Unit Name: Hinckley loamy sand, 0 to 3 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): _____ (includes capillary fringe) </p>	<p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	10	NO	FACU
<i>Pinus rigida</i>	5	NO	FACU
<i>Pinus strobus</i>	25	YES	FACU
<i>Populus tremuloides</i>	5	NO	FACU
<i>Robinia pseudoacacia</i>	40	YES	FACU
<i>Betula populifolia</i>	15	NO	FAC
Total Cover:		100	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	20	YES	FACU
<i>Robinia pseudoacacia</i>	5	NO	FACU
<i>Comptonia peregrina</i>	25	YES	NONE
<i>Populus tremuloides</i>	5	NO	FACU
<i>Pinus strobus</i>	10	YES	FACU
<i>Vaccinium angustifolium</i>	20	YES	FACU
<i>Quercus alba</i>	1	NO	FACU
Total Cover:		86	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Cypripedium acaule</i>	4	YES	FACW
Total Cover:		4	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 14 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>4</u>	x 2 = <u>8</u>
FAC Species: <u>15</u>	x 3 = <u>45</u>
FACU Species: <u>146</u>	x 4 = <u>584</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>165 (A)</u>	<u>637 (B)</u>
Prevalence Index = B/A = <u>3.86</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 2/2	100					SAND	
1-4	10YR 4/6	100					SAND	
4-15	10YR 5/4	100					SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
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- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
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- Loamy Mucky Mineral (F1) (LRR K, L)
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Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
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- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



W

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 218135.4	County: Hillsborough	Date: 09/01/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: PH-Y-W009-PFO
Investigators: DC	Quad Name: Lowell	Township: Pelham	
Logbook No.: 1	Logbook Pg.: 102	Tract: 22613	

Landform (hillslope, terrace, etc.): Depression Local Relief: Concave Convex None Slope%.: 2

Subregion (LRR): Middle Atlantic Lat: 42.708243 Long: -71.287134 Datum: NAD83

Soil Map Unit Name: Canton very stony fine sandy loam, 8 to 15 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	80	YES	FAC
Total Cover:		80	

Sapling/Shrub Stratum

Plot Size: 15			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	25	YES	FAC
<i>Carya ovata</i>	5	NO	FACU
<i>Frangula alnus</i>	25	YES	FAC
Total Cover:		55	

Herb Stratum

Plot Size: 5			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Osmundastrum cinnamomeum</i>	20	YES	FACW
<i>Dryopteris intermedia</i>	10	NO	FAC
<i>Solidago rugosa</i>	10	NO	FAC
<i>Impatiens capensis</i>	30	YES	FACW
<i>Carex lurida</i>	5	NO	OBL
<i>Symplocarpus foetidus</i>	20	YES	OBL
Total Cover:		95	

Woody Vine Stratum

Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>25</u>	x 1 = <u>25</u>
FACW Species: <u>50</u>	x 2 = <u>100</u>
FAC Species: <u>150</u>	x 3 = <u>450</u>
FACU Species: <u>5</u>	x 4 = <u>20</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>230 (A)</u>	<u>595 (B)</u>
Prevalence Index = B/A = <u>2.59</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL								
Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 2/1	100					ORGANIC	
14-18	10YR 5/1	90	10YR 4/6	10	C	M	SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)			
<input checked="" type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 218918.1	County: Hillsborough	Date: 09/01/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W009-PSS
Investigators: DC		Quad Name: Lowell	Township: Pelham	
Logbook No.: 1	Logbook Pg.: 101	Tract: 22613		
Landform (hillslope, terrace, etc.): Depression		Local Relief: <input checked="" type="checkbox"/> Concave	<input type="checkbox"/> Convex	<input type="checkbox"/> None
		Slope%.: 5		
Subregion (LRR): Middle Atlantic	Lat: 42.706497	Long: -71.285439	Datum: NAD83	
Soil Map Unit Name: Canton stony fine sandy loam, 8 to 15 percent slopes			NWI Classification: Not mapped	

Are climatic / hydrologic conditions on the site typical for this time of year?
 Yes
 No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed?
 No
 Are "Normal" Circumstances present?
 Yes
 No

Are Vegetation Soil or Hydrology naturally problematic?
 No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	25	YES	FACU
Total Cover:		25	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Frangula alnus</i>	60	YES	FAC
<i>Spiraea alba</i>	10	NO	FACW
Total Cover:		70	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Impatiens capensis</i>	20	YES	FACW
<i>Scirpus cyperinus</i>	10	NO	OBL
<i>Solidago rugosa</i>	20	YES	FAC
<i>Glyceria canadensis</i>	30	YES	OBL
<i>Onoclea sensibilis</i>	5	NO	FACW
<i>Rubus hispidus</i>	10	NO	FACW
Total Cover:		95	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>40</u>	x 1 = <u>40</u>
FACW Species: <u>45</u>	x 2 = <u>90</u>
FAC Species: <u>80</u>	x 3 = <u>240</u>
FACU Species: <u>25</u>	x 4 = <u>100</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>190 (A)</u>	<u>470 (B)</u>
Prevalence Index = B/A = <u>2.47</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/1	100					ORGANIC	
12-16	10YR 3/1	100					ORGANIC	
16-24	2.5Y 4/1	75	10YR 5/3	25	D	M	SAND	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



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WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 219010.4	County: Hillsborough	Date: 09/01/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: PH-Y-W009-UPL
Investigators: DC		Quad Name: Lowell	Township: Pelham	
Logbook No.: 1	Logbook Pg.: 105	Tract: 22613		
Landform (hillslope, terrace, etc.): Slope - mid		Local Relief: <input checked="" type="checkbox"/> Concave	<input type="checkbox"/> Convex	<input type="checkbox"/> None Slope%.: 15
Subregion (LRR): Middle Atlantic	Lat: 42.706142	Long: -71.285536	Datum: NAD83	
Soil Map Unit Name: Canton stony fine sandy loam, 8 to 15 percent slopes			NWI Classification: Not mapped	

Are climatic / hydrologic conditions on the site typical for this time of year?
 Yes
 No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed?
 No
 Are "Normal" Circumstances present?
 Yes
 No

Are Vegetation Soil or Hydrology naturally problematic?
 No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
---	--

Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	90	YES	FACU
Total Cover:		90	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Frangula alnus</i>	30	YES	FAC
<i>Pinus strobus</i>	10	YES	FACU
Total Cover:		40	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Euonymus atropurpureus</i>	5	NO	FACU
<i>Frangula alnus</i>	20	YES	FAC
<i>Celastrus scandens</i>	5	NO	FACU
Total Cover:		30	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>50</u>	x 3 = <u>150</u>
FACU Species: <u>110</u>	x 4 = <u>440</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>160 (A)</u>	<u>590 (B)</u>
Prevalence Index = B/A = <u>3.69</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4/4	100					FINE SANDY LOAM	
12-20	10YR 5/3	100					FINE SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



S

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 35360.6	County: Rockingham	Date: 06/08/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: SA-X-W001-PSS
Investigators: SH, BE		Quad Name: Salem Depot		Township: Salem
Logbook No.: 1	Logbook Pg.: 4	Tract: 21641		
Landform (hillslope, terrace, etc.): Slope - toe		Local Relief: <input type="checkbox"/> Concave <input type="checkbox"/> Convex <input checked="" type="checkbox"/> None		Slope%.: 0
Subregion (LRR): Middle Atlantic		Lat: 42.758046	Long: -71.195275	Datum: NAD83
Soil Map Unit Name:			NWI Classification: PFO1E	

Are climatic / hydrologic conditions on the site typical for this time of year?
 Yes
 No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed?
 No
 Are "Normal" Circumstances present?
 Yes
 No

Are Vegetation Soil or Hydrology naturally problematic?
 No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PSS

Remarks: HIGH DEBRIS, TOE OF FILL MAT SLOPE

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 3</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Frangula alnus</i>	40	YES	FAC
<i>Salix discolor</i>	5	NO	FACW
<i>Betula populifolia</i>	15	YES	FAC
Total Cover:		60	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Onoclea sensibilis</i>	20	YES	FACW
<i>Toxicodendron radicans</i>	5	NO	FAC
<i>Carex stricta</i>	5	NO	OBL
<i>Phragmites australis</i>	70	YES	FACW
Total Cover:		100	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>5</u>	x 1 = <u>5</u>
FACW Species: <u>95</u>	x 2 = <u>190</u>
FAC Species: <u>60</u>	x 3 = <u>180</u>
FACU Species: <u>0</u>	x 4 = <u>0</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>160 (A)</u>	<u>375 (B)</u>
Prevalence Index = B/A = <u>2.34</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No**

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 2/1	100					SANDY LOAM	
6-13	10YR 2/2	95	10YR 5/4	5	C	M	SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown
 NO
 13

Hydric Soil Present? Yes No

Remarks:
 REFUSAL AT 13 "

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



NORTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 35345.8	County: Rockingham	Date: 06/08/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: SA-X-W001-UPL
Investigators: SH,BE		Quad Name: Salem Depot		Township: Salem
Logbook No.: 1	Logbook Pg.: 6	Tract: 21641		
Landform (hillslope, terrace, etc.): Flat		Local Relief: <input type="checkbox"/> Concave <input type="checkbox"/> Convex <input checked="" type="checkbox"/> None		Slope%.: 0-2
Subregion (LRR): Middle Atlantic		Lat: 42.758040	Long: -71.195346	Datum: NAD83
Soil Map Unit Name:			NWI Classification: PFO1E	

Are climatic / hydrologic conditions on the site typical for this time of year?
 Yes
 No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed?
 No
 Are "Normal" Circumstances present?
 Yes
 No

Are Vegetation Soil or Hydrology naturally problematic?
 No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (2 or more required)</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input type="checkbox"/> FAC-Neutral Test (D5)																																

<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Populus tremuloides</i>	40	YES	FACU
Total Cover:		40	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula populifolia</i>	20	YES	FAC
<i>Salix discolor</i>	5	NO	FACW
<i>Populus tremuloides</i>	8	YES	FACU
<i>Pinus strobus</i>	5	NO	FACU
Total Cover:		38	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Frangula alnus</i>	5	NO	FAC
<i>Securigera varia</i>	40	YES	UPL
<i>Solidago rugosa</i>	10	NO	FAC
Total Cover:		55	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>5</u>	x 2 = <u>10</u>
FAC Species: <u>35</u>	x 3 = <u>105</u>
FACU Species: <u>53</u>	x 4 = <u>212</u>
UPL Species: <u>40</u>	x 5 = <u>200</u>
Column Totals: <u>133 (A)</u>	<u>527 (B)</u>
Prevalence Index = B/A = <u>3.96</u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3/2	100					SANDY LOAM	
2-7	10YR 3/3	100					SANDY LOAM	
7-12	10YR 3/4	100					SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

refusal at 12"
12

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



South

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 0	County: Hillsborough	Date: 05/20/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: NI-V-W006-PFO
Investigators: EL DC		Quad Name: Greenville	Township: New Ipswich	
Logbook No.: 1	Logbook Pg.: 26	Tract: 23939		
Landform (hillslope, terrace, etc.): Flat		Local Relief: <input checked="" type="checkbox"/> Concave	<input type="checkbox"/> Convex	<input type="checkbox"/> None Slope%.: 3
Subregion (LRR): Middle Atlantic	Lat: 42.784709	Long: -71.831732	Datum: NAD83	
Soil Map Unit Name: Peru stony loam, 0 to 8 percent slopes			NWI Classification: Not mapped	

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (2 or more required)</u>
<u>Primary Indicators (minimum of one required; check all that apply)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:	
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 12	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)	

Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Pinus strobus</i>	5	NO	FACU
<i>Acer rubrum</i>	10	YES	FAC
<i>Betula alleghaniensis</i>	30	YES	FAC
Total Cover:	45		

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Hamamelis virginiana</i>	2	NO	FACU
<i>Tsuga canadensis</i>	20	YES	FACU
<i>Acer rubrum</i>	2	NO	FAC
<i>Betula alleghaniensis</i>	2	NO	FAC
Total Cover:		26	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Acer rubrum</i>	1	NO	FAC
<i>Toxicodendron radicans</i>	1	NO	FAC
<i>Rubus hispidus</i>	10	YES	FACW
<i>Aralia nudicaulis</i>	2	NO	FACU
<i>Osmunda claytoniana</i>	30	YES	FAC
<i>Quercus rubra</i>	1	NO	FACU
Total Cover:		45	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>10</u>	x 2 = <u>20</u>
FAC Species: <u>76</u>	x 3 = <u>228</u>
FACU Species: <u>30</u>	x 4 = <u>120</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>116 (A)</u>	<u>368 (B)</u>
Prevalence Index = B/A = <u>3.17</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 4/1	100					FINE SANDY LOAM	
1-0	2.5YR 2.5/3	100					ORGANIC	
8-20	10YR 5/1	93	10YR 4/2 10YR 6/1	2 5	C D	M M	FINE SANDY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



EAST

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED	Milepost: 0	County: Hillsborough	Date: 05/20/2015
Applicant/Owner: Kinder Morgan		State: NH	Sampling Point: NI-V-W006-UPL
Investigators: KM, MV	Quad Name: Greenville	Township: New Ipswich	
Logbook No.: 1	Logbook Pg.: 18-19	Tract: 23939	

Landform (hillslope, terrace, etc.): Slope - toe Local Relief: Concave
 Convex
 None Slope%.: 1

Subregion (LRR): Middle Atlantic Lat: 42.784654 Long: -71.832213 Datum: NAD83

Soil Map Unit Name: Peru stony loam, 0 to 8 percent slopes NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes
 No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes
 No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	5	NO	FACU
<i>Betula alleghaniensis</i>	5	NO	FAC
<i>Betula lenta</i>	10	NO	FACU
<i>Tsuga canadensis</i>	40	YES	FACU
<i>Acer rubrum</i>	10	NO	FAC
Total Cover:		70	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	3	YES	FACU
<i>Betula lenta</i>	3	YES	FACU
<i>Hamamelis virginiana</i>	3	YES	FACU
Total Cover:		9	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Cornus canadensis</i>	1	NO	FAC
<i>Dennstaedtia punctilobula</i>	20	YES	FACU
<i>Uvularia sessilifolia</i>	5	NO	FACU
<i>Betula lenta</i>	40	YES	FACU
<i>Trientalis borealis</i>	3	NO	FAC
Total Cover:		69	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of: Multiply by:

OBL Species: 0 x 1 = 0

FACW Species: 0 x 2 = 0

FAC Species: 19 x 3 = 57

FACU Species: 129 x 4 = 516

UPL Species: 0 x 5 = 0

Column Totals: 148 (A) 573 (B)

Prevalence Index = B/A = 3.87

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100					ORGANIC	
2-5	10YR 4/3	100					SILT LOAM	
5-20	10YR 4/6	100					SILT LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



N

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 0	County: Hillsborough	Date: 05/19/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: NI-V-W004-PFO
Investigators: DC EL	Quad Name: Greenville		Township: New Ipswich	
Logbook No.: 1 (R)	Logbook Pg.: 19	Tract: 23939		

Landform (hillslope, terrace, etc.): Flat Local Relief: Concave Convex None Slope%.: 0

Subregion (LRR): Middle Atlantic Lat: 42.783620 Long: -71.834304 Datum: NAD83

Soil Map Unit Name: Peacham stony muck NWI Classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year?: Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed? No Are "Normal" Circumstances present? Yes No

Are Vegetation Soil or Hydrology naturally problematic? No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Field Wetland Classification: PFO

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <p> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
--	--

<p>Field Observations:</p> <p>Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 1</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth (inches): 0 (includes capillary fringe)</p>	<p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	--

Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum			
Plot Size: 30			
Scientific Name	% Cover	Dominant	Indicator Status
<i>Prunus serotina</i>	5	NO	FACU
<i>Acer saccharum</i>	5	NO	FACU
<i>Acer rubrum</i>	60	YES	FAC
<i>Fagus grandifolia</i>	5	NO	FACU
Total Cover:		75	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Betula lenta</i>	7	YES	FACU
<i>Acer rubrum</i>	2	NO	FAC
<i>Vaccinium corymbosum</i>	10	YES	FACW
<i>Betula alleghaniensis</i>	7	YES	FAC
<i>Ilex verticillata</i>	3	NO	FACW
Total Cover:		29	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Thelypteris palustris</i>	5	YES	FACW
<i>Onoclea sensibilis</i>	5	YES	FACW
<i>Spiraea alba</i>	2	NO	FACW
<i>Viburnum dentatum</i>	2	NO	FAC
<i>Impatiens capensis</i>	2	NO	FACW
Total Cover:		16	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>27</u>	x 2 = <u>54</u>
FAC Species: <u>71</u>	x 3 = <u>213</u>
FACU Species: <u>22</u>	x 4 = <u>88</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>120 (A)</u>	<u>355 (B)</u>
Prevalence Index = B/A = <u>2.96</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/1	100					ORGANIC	
4-8	10YR 3/1	100					FINE SANDY LOAM	
8-14	10YR 6/1	100					CLAY LOAM	SOME FINE GRAVEL

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown
 ROCK
 14

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SOUTH

WETLAND DETERMINATION FORM - Northcentral and Northeast Region

- Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Project/Site: NED		Milepost: 0	County: Hillsborough	Date: 05/19/2015
Applicant/Owner: Kinder Morgan			State: NH	Sampling Point: NI-V-W004-UPL
Investigators: EL DC		Quad Name: Greenville		Township: New Ipswich
Logbook No.: 1	Logbook Pg.: 17	Tract: 23939		
Landform (hillslope, terrace, etc.): Slope - mid		Local Relief: <input type="checkbox"/> Concave <input checked="" type="checkbox"/> Convex <input type="checkbox"/> None		Slope%.: 20
Subregion (LRR): Middle Atlantic		Lat: 42.783662	Long: -71.834232	Datum: NAD83
Soil Map Unit Name: Peacham stony muck		NWI Classification: Not mapped		

Are climatic / hydrologic conditions on the site typical for this time of year?
 Yes
 No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology significantly disturbed?
 No
 Are "Normal" Circumstances present?
 Yes
 No

Are Vegetation Soil or Hydrology naturally problematic?
 No

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

Field Wetland Classification: UPLAND PLOT

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) </p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5) </p>
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches):</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth (inches): (includes capillary fringe)</p>	<p>Wetland Hydrology Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks (Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available):

VEGETATION

Tree Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
<i>Fagus grandifolia</i>	7	NO	FACU
<i>Pinus strobus</i>	10	NO	FACU
<i>Acer saccharum</i>	30	YES	FACU
<i>Prunus serotina</i>	7	NO	FACU
<i>Acer rubrum</i>	20	YES	FAC
Total Cover:		74	

Sapling/Shrub Stratum

Plot Size: 15

Scientific Name	% Cover	Dominant	Indicator Status
<i>Quercus rubra</i>	2	NO	FACU
<i>Acer rubrum</i>	2	NO	FAC
<i>Acer saccharum</i>	1	NO	FACU
<i>Pinus strobus</i>	10	YES	FACU
<i>Acer pensylvanicum</i>	1	NO	FACU
<i>Fagus grandifolia</i>	10	YES	FACU
Total Cover:		26	

Herb Stratum

Plot Size: 5

Scientific Name	% Cover	Dominant	Indicator Status
<i>Maianthemum canadense</i>	10	YES	FACU
<i>Pteridium aquilinum</i>	5	NO	FACU
<i>Lycopodium clavatum</i>	10	YES	FAC
<i>Aralia nudicaulis</i>	10	YES	FACU
<i>Dryopteris intermedia</i>	10	YES	FAC
Total Cover:		45	

Woody Vine Stratum

Plot Size: 30

Scientific Name	% Cover	Dominant	Indicator Status
Total Cover:			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 38 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species: <u>0</u>	x 1 = <u>0</u>
FACW Species: <u>0</u>	x 2 = <u>0</u>
FAC Species: <u>42</u>	x 3 = <u>126</u>
FACU Species: <u>103</u>	x 4 = <u>412</u>
UPL Species: <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>145 (A)</u>	<u>538 (B)</u>
Prevalence Index = B/A = <u>3.71</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3/2	100					FINE SANDY LOAM	
2-0	5YR 2.5/2	100					ORGANIC	
3-5	10YR 5/2	100					FINE SANDY LOAM	
5-9	10YR 5/3	100					FINE SANDY LOAM	
9-14	2.5YR 4/6	100					FINE SANDY LOAM	UPLAND SPodosol

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered Sand or Coated Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Present? Yes No Unknown

Hydric Soil Present? Yes No

Remarks:

Description of Habitat Characteristics, Aquatic Diversity or General Comments:

Wetland Quality: High Moderate Low Isolated Wetland? Yes No Unknown

General Comments:

PHOTOS



SOUTH

APPENDIX 2f-E

Army Corps of Engineers Waterbody Data Sheets and Photographs

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Waterbody Data Form

Feature ID: WC-X-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 6/19/2015 2:25:48 PM Client/Project Name: NED Milepost: 19580.5

Investigators: SHALE MZUMMO Latitude/Longitude: 42.754354, -72.35093

State: NH County: Cheshire Quad Name: West Swanzey

Logbook No.: 1 Logbook Pg.: 37 Tract No.: 23696

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 2.5

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 2.5 Water Surface (At Crossing Location)(ft.): 2.0

Stream Depth (in.): 1-3

OHWM Indicators: WATER STAINING
 LEAF LITTER DISTURBED
 BENT, MATTED OR MISSING VEGETATION

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 100
 Right: 100

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: MUCK: 50%
 OTHER: 50%

Aquatic Habitats:

- Sand Bar Gravel Riffles In-stream Emergent Plants
- Gravel Bar Deep Pools In-stream Submerged Plants
- Mud Bar Bank Root Systems Fringing Wetlands¹
- Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: INVERTEBRATES, SALAMANDER

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

MANMADE OUTLET STREAM FROM POND

Stream Quality: High Moderate Low

Comments:

Photos



SE

Waterbody Data Form

Feature ID: RI-Y-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/27/2015 10:27:56 AM Client/Project Name: NED Milepost: 60147.9

Investigators: PB Latitude/Longitude: 42.792926, -72.22867

State: NH County: Cheshire Quad Name: Troy

Logbook No.: 6 Logbook Pg.: 101 Tract No.: 24372

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 2.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 3.0 Water Surface (At Crossing Location)(ft.): 2.0

Stream Depth (in.): 1-3

OHWM Indicators: BENT, MATTED OR MISSING VEGETATION

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 5
 Right: 60

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %:
 GRAVEL: 10%
 COBBLES: 10%
 SANDS: 80%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: INVERTEBRATES, FROGS

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



S



N



AECOM
10 Orms Street, Suite 405
Providence, RI 02904



W

Waterbody Data Form

Feature ID: RI-L-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/26/2015 12:27:37 PM Client/Project Name: NED Milepost: 62039.1

Investigators: BH Latitude/Longitude: 42.793994, -72.22178

State: NH County: Cheshire Quad Name: Troy

Logbook No.: 9L Logbook Pg.: 120 Tract No.: 24372

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 3.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 3.0 Water Surface (At Crossing Location)(ft.): 2.0

Stream Depth (in.): 1-3

OHWM Indicators: LEAF LITTER DISTURBED

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 60
 Right: 60

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %:
 SILTS: 50%
 GRAVEL: 50%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: INVERTEBRATES

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



SW



N

Waterbody Data Form

Feature ID: TR-Y-S003

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/26/2015 11:07:00 AM Client/Project Name: NED Milepost: 62863.4

Investigators: DC Latitude/Longitude: 42.794382, -72.21875

State: NH County: Cheshire Quad Name: Troy

Logbook No.: 1 Logbook Pg.: 80 Tract No.: 23327

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 3.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 3.0 Water Surface (At Crossing Location)(ft.): 3.0

Stream Depth (in.): 3-6

OHWM Indicators: LEAF LITTER DISTURBED
 ABRUPT PLANT COMMUNITY CHANGE

Bank Height (ft.): Left: 0-2 2-4 4-6 6-8 8+
 (looking downstream) Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): Left: 100
 (looking downstream) Right: 100

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: MUCK: 100%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: SALAMANDER, FROGS

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



W



E

Waterbody Data Form

Feature ID: TR-Y-S003A

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 9/1/2015 1:53:14 PM Client/Project Name: NED Milepost: 62868.7

Investigators: BH JW Latitude/Longitude: 42.794471, -72.21876

State: NH County: Cheshire Quad Name: Troy

Logbook No.: 10 Logbook Pg.: 42 Tract No.: 23327

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 3.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 3.0 Water Surface (At Crossing Location)(ft.): 3.0

Stream Depth (in.): 1-3

OHWM Indicators: BENT, MATTED OR MISSING VEGETATION

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 20
 Right: 20

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: MUCK: 100%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: FROGS, INVERTEBRATES

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



WEST



SOUTHWEST DOWNSTREAM



NORTHEAST UPSTREAM

AECOM
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Waterbody Data Form

Feature ID: TR-Y-S002

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/25/2015 12:49:35 PM Client/Project Name: NED Milepost: 63360.6

Investigators: PB Latitude/Longitude: 42.794790, -72.21698

State: NH County: Cheshire Quad Name: Troy

Logbook No.: 6 Logbook Pg.: 85 Tract No.: 23327

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 4.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 4.0 Water Surface (At Crossing Location)(ft.): 4.0

Stream Depth (in.): 1-3

OHWM Indicators: BENT, MATTED OR MISSING VEGETATION

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 10
 Right: 10

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %:
 CLAY: 60%
 GRAVEL: 5%
 COBBLES: 15%
 SANDS: 20%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: INVERTEBRATES

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



NW



SE



AECOM
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SW

Waterbody Data Form

Feature ID: TR-G-S002

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/25/2015 11:55:41 AM Client/Project Name: NED Milepost: 64946.8

Investigators: NF CM Latitude/Longitude: 42.795720, -72.21120

State: NH County: Cheshire Quad Name: Troy

Logbook No.: 2015-7 Logbook Pg.: 118 Tract No.: 23328

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 4.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 6.0 Water Surface (At Crossing Location)(ft.): 4.0

Stream Depth (in.): 6-12

OHWM Indicators: LEAF LITTER DISTURBED
 CLEAR NATURAL LINE ON BANK

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 50
 Right: 50

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: SILTS: 50%
 GRAVEL: 50%

Aquatic Habitats:

- Sand Bar Gravel Riffles In-stream Emergent Plants
- Gravel Bar Deep Pools In-stream Submerged Plants
- Mud Bar Bank Root Systems Fringing Wetlands¹
- Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: INVERTEBRATES, FROGS

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

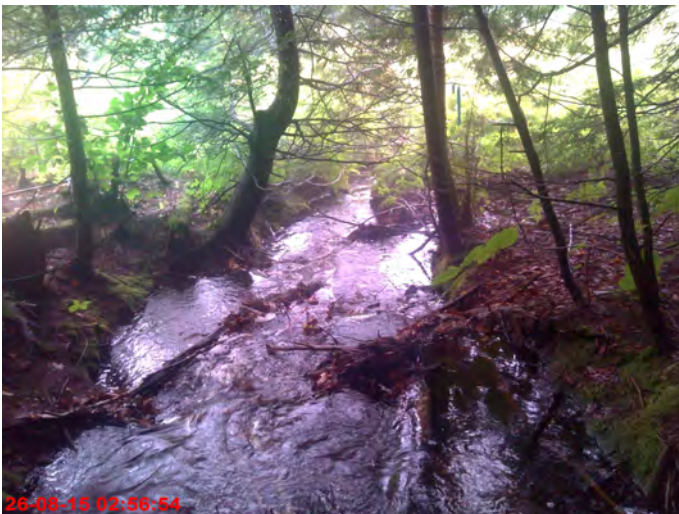
Stream Quality: High Moderate Low

Comments:

Photos



WEST



NORTH



AECOM
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SOUTH

Waterbody Data Form

Feature ID: TR-L-S001A

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/25/2015 3:20:38 PM Client/Project Name: NED Milepost: 66149.6

Investigators: BH Latitude/Longitude: 42.796392, -72.20682

State: NH County: Cheshire Quad Name: Troy

Logbook No.: 9L Logbook Pg.: 114 Tract No.: 23328

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 3.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 3.0 Water Surface (At Crossing Location)(ft.): 3.0

Stream Depth (in.): 1-3

OHWM Indicators: LEAF LITTER DISTURBED

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 30
 Right: 30

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %:
 GRAVEL: 50%
 MUCK: 50%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: NONE

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



S



N

Waterbody Data Form

Feature ID: TR-X-S004
 NONE

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/6/2015 12:15:43 PM Client/Project Name: NED Milepost: 70276.4

Investigators: SH, DC Latitude/Longitude: 42.799290, -72.19240

State: NH County: Cheshire Quad Name: Troy

Logbook No.: 1 Logbook Pg.: 100 Tract No.: 23335

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 4.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 4.0 Water Surface (At Crossing Location)(ft.): 2.0

Stream Depth (in.): 3-6

OHWM Indicators: SOIL CHARACTER CHANGES
 SCOUR

Bank Height (ft.): Left: 0-2 2-4 4-6 6-8 8+
 (looking downstream) Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): Left: 100
 (looking downstream) Right: 100

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: COBBLES: 75%
 MUCK: 25%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: FROGS, INVERTEBRATES

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

INTRMITENT WITHIN FORESTED UPLAND, HIGH GRADIENT

Stream Quality: High Moderate Low

Comments:

Photos



WEST



EAST

Waterbody Data Form

Feature ID: TR-X-S002

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/7/2015 1:43:22 PM Client/Project Name: NED Milepost: 70975.3

Investigators: SH/DC Latitude/Longitude: 42.800009, -72.18999

State: NH County: Cheshire Quad Name: Troy

Logbook No.: 1 Logbook Pg.: 77 Tract No.: 23335

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 5.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 6.0 Water Surface (At Crossing Location)(ft.): 4.0

Stream Depth (in.): 6-12

OHWM Indicators: CLEAR NATURAL LINE ON BANK
 ABRUPT PLANT COMMUNITY CHANGE

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 75
 Right: 75

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: MUCK: 25%
 VEGETATION: 75%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: FROGS, INVERTEBRATES

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



DOWNSTREAM NORTH



UPSTREAM SOUTH



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CHANNEL

Waterbody Data Form

Feature ID: TR-X-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/7/2015 10:15:34 AM Client/Project Name: NED Milepost: 71052.5

Investigators: SH/DC Latitude/Longitude: 42.799798, -72.18959

State: NH County: Cheshire Quad Name: Troy

Logbook No.: 1 Logbook Pg.: 104 Tract No.: 23335

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 1.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 1.0 Water Surface (At Crossing Location)(ft.): 0.0

Stream Depth (in.): 0

OHWM Indicators: SOIL CHARACTER CHANGES
 SCOUR
 BENT, MATTED OR MISSING VEGETATION
 WATER STAINING

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 25
 Right: 25

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %:
 SILTS: 50%
 SANDS: 25%
 VEGETATION: 25%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands¹
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: NONE

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments: man-made shallow ditch, crosses gravel road

Photos



UPSTREAM SOUTHEAST



DSTREAM NORTHWEST

Waterbody Data Form

Feature ID: TR-Y-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 7/29/2015 2:38:59 PM Client/Project Name: NED Milepost: 72076.1

Investigators: DC Latitude/Longitude: 42.801538, -72.18639

State: NH County: Cheshire Quad Name: Troy

Logbook No.: 1 Logbook Pg.: 61 Tract No.: 24673

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 15.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 20.0 Water Surface (At Crossing Location)(ft.): 10.0

Stream Depth (in.): 6-12

OHWM Indicators: LEAF LITTER DISTURBED
 WRESTED VEGETATION
 CLEAR NATURAL LINE ON BANK

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 20
 Right: 45

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: COBBLES: 50%
 SANDS: 20%
 MUCK: 30%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands'
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: INVERTEBRATES, FROGS

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



NORTH

Waterbody Data Form

Feature ID: FT-X-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 7/28/2015 3:37:30 PM Client/Project Name: NED Milepost: 77015.4

Investigators: sh trc Latitude/Longitude: 42.804863, -72.16887

State: NH County: Cheshire Quad Name: Troy

Logbook No.: 1 Logbook Pg.: 81 Tract No.: 23362

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 10.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 0 Water Surface (At Crossing Location)(ft.): 10.0

Stream Depth (in.): 0-12

OHWM Indicators: CLEAR NATURAL LINE ON BANK

Bank Height (ft.): Left: 0-2 2-4 4-6 6-8 8+
 (looking downstream) Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): Left: 100
 (looking downstream) Right: 100

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: COBBLES: 75%
 SANDS: 25%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: INVERTEBRATES, WATERFOWL, FROGS

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

perennial stream witgin forested upwetlands and u0lands

Stream Quality: High Moderate Low

Comments:

Photos

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Waterbody Data Form

Feature ID: FT-T-S001
 SCOTT POND

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/27/2015 3:22:58 PM Client/Project Name: NED Milepost: 92267.4

Investigators: BG, BE Latitude/Longitude: 42.786308, -72.12593

State: NH County: Cheshire Quad Name: Troy

Logbook No.: 1 Logbook Pg.: 58 Tract No.: 24582

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 1200.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 0 Water Surface (At Crossing Location)(ft.): 1200.0

Stream Depth (in.):

OHWM Indicators: CLEAR NATURAL LINE ON BANK

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 10
 Right:

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: SANDS: 100%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands'
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: BEAVER, FROGS, FISH (JUVENILE)

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

BEAVER LODGES

Stream Quality: High Moderate Low

Comments:

Photos



E

Waterbody Data Form

Feature ID: NI-V-S003

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other COMPRESSOR STATION

Date: 5/21/2015 2:09:47 PM	Client/Project Name: NED	Milepost: 27350.8
Investigators: Adele F	Latitude/Longitude: 42.781660, -71.84248	
State: NH	County: Hillsborough	Quad Name: Greenville
Logbook No.:	Logbook Pg.: 2	Tract No.: 23939

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 6.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 6.0 **Water Surface (At Crossing Location)(ft.):** 4.0

Stream Depth (in.): 3-6

OHWM Indicators: SHELVING
ABRUPT PLANT COMMUNITY CHANGE

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 15
 Right: 15

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %:
 VEGETATION: 5%
 MUCK: 5%
 COBBLES: 80%
 BEDROCK: 10%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands'
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: INVERTEBRATES

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



SE; LOOKING UPSTREAM



NW; LOOKING DOWNSTREAM



AECOM
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Providence, RI 02904



W

Waterbody Data Form

Feature ID: NI-R-S002

Centerline
 Re-Route
 Access Road
 Ancillary Facility
 Transmission Line
 Other

Date: 4/24/2015 12:39:16 PM Client/Project Name: NED Milepost: 31209.4

Investigators: EL,JS,BE Latitude/Longitude: 42.782397, -71.82816

State: NH County: Hillsborough Quad Name: Greenville

Logbook No.: 1A Logbook Pg.: 6 Tract No.: 23944

Waterbody Type:
 Stream
 Pond
 Lake
 Borrow Pit
 Ag Ditch
 Other:

Stream Flow:
 Fast
 Moderate
 Slow
 Very Slow
 None

Flow Type:
 Perennial (Flows year round)
 Intermittent (Flows <3 months)
 None
 Seasonal (Continuous flow >3 months)
 Ephemeral (Flows only in response to rainfall)

Direction of Flow:
 N
 NE
 E
 SE
 SW
 W
 NW
 S
 No Flow

OHWM Width (ft.): 12.0

Sinuosity:
 Braided
 Meandering
 Straight
 N/A

Stream Width (ft.): 12.0 Water Surface (At Crossing Location)(ft.): 6.0

Stream Depth (in.): 12-18

OHWM Indicators:
 BENT, MATTED OR MISSING VEGETATION
 WRESTED VEGETATION
 SHELIVING
 WRACK LINE

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 20
 Right: 50

Qualitative Attributes

Water Appearance:
 Clear
 Turbid
 Sheen on Surface
 Floating Algal Mats
 No Flow
 Slightly Turbid
 Very Turbid
 Greenish Color
 Obvious Surface Scum
 Other:

Stream Substrate %:
 COBBLES: 80%
 GRAVEL: 20%

Aquatic Habitats:

Sand Bar
 Gravel Riffles
 In-stream Emergent Plants
 Gravel Bar
 Deep Pools
 In-stream Submerged Plants
 Mud Bar
 Bank Root Systems
 Fringing Wetlands'
 Undercut Banks
 Overhanging Trees/Shrubs
 None

Aquatic Organisms Observed: NONE

Channel Condition:
 Channelization/Braiding
 Unnatural Straightening
 Downcutting
 Dikes/Berms
 Excessive Bank Erosion
 N/A
 Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Well shaded; unaffected by ROW clearing

Stream Quality:
 High
 Moderate
 Low

Comments:

Photos



SOUTH



WEST



AECOM
10 Orms Street, Suite 405
Providence, RI 02904



EAST

Waterbody Data Form

Feature ID: NI-R-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 4/24/2015 10:47:56 AM Client/Project Name: NED Milepost: 31618.5

Investigators: EL,JS,BE Latitude/Longitude: 42.781973, -71.82665

State: NH County: Hillsborough Quad Name: Greenville

Logbook No.: 1A Logbook Pg.: 2 Tract No.: 23965

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 10.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 10.0 Water Surface (At Crossing Location)(ft.): 8.0

Stream Depth (in.): 12-18

OHWM Indicators:
 WRACK LINE
 WRESTED VEGETATION
 LEAF LITTER DISTURBED
 BENT, MATTED OR MISSING VEGETATION

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 30
 Right: 30

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %:
 OTHER: 40%
 COBBLES: 40%
 VEGETATION: 10%
 GRAVEL: 10%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: NONE

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Transitions from impacted open ROW to PFO; CWD

Stream Quality: High Moderate Low

Comments: partially impacted by existing transmission line corridor

Photos



S DOWNSTREAM



W ACROSS STREAM



NW UPSTREAM

Waterbody Data Form

Feature ID: GN-M-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/28/2015 11:56:07 AM Client/Project Name: NED Milepost: 40430.1

Investigators: CM MN Latitude/Longitude: 42.786896, -71.79544

State: NH County: Hillsborough Quad Name: Greenville

Logbook No.: 7M Logbook Pg.: 66 Tract No.: 22084

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 4.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 7.0 Water Surface (At Crossing Location)(ft.): 2.0

Stream Depth (in.): 1-3

OHWM Indicators:
 SCOUR
 WRACK LINE
 CLEAR NATURAL LINE ON BANK
 LEAF LITTER DISTURBED

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 40
 Right: 30

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %:
 OTHER: 55%
 BEDROCK: 25%
 COBBLES: 20%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands¹
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: FROGS, INVERTEBRATES

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



S



W



N

Waterbody Data Form

Feature ID: LD-L-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/28/2015 12:12:39 PM Client/Project Name: NED Milepost: 154574.3

Investigators: BH Latitude/Longitude: 42.842538, -71.42270

State: NH County: Rockingham Quad Name: Nashua North

Logbook No.: 9L Logbook Pg.: 150 Tract No.: 24837

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 25.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 30.0 Water Surface (At Crossing Location)(ft.): 20.0

Stream Depth (in.): 12

OHWM Indicators: BENT, MATTED OR MISSING VEGETATION

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 50
 Right: 50

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: MUCK: 100%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: INVERTEBRATES, FISH (ADULT), TURTLES, FISH (JUVENILE)

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



W



SE

Waterbody Data Form

Feature ID: LD-L-S001A

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/30/2015 8:07:05 AM Client/Project Name: NED Milepost: 154587.7

Investigators: BH Latitude/Longitude: 42.842431, -71.42261

State: NH County: Rockingham Quad Name: Nashua North

Logbook No.: 9L Logbook Pg.: 148 Tract No.: 24837

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 3.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 3.0 Water Surface (At Crossing Location)(ft.): 0.0

Stream Depth (in.): 0

OHWM Indicators: BENT, MATTED OR MISSING VEGETATION

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 50
 Right: 50

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: MUCK: 100%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: INVERTEBRATES

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos

AECOM
10 Orms Street, Suite 405
Providence, RI 02904



Waterbody Data Form

Feature ID: LD-L-S002

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/29/2015 11:15:36 AM Client/Project Name: NED Milepost: 158778.9

Investigators: BH JW Latitude/Longitude: 42.839945, -71.40981

State: NH County: Rockingham Quad Name: Nashua North

Logbook No.: 10 Logbook Pg.: 8 Tract No.: 24828

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 50.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 55.0 Water Surface (At Crossing Location)(ft.): 50.0

Stream Depth (in.): 60+

OHWM Indicators: CLEAR NATURAL LINE ON BANK

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 10
 Right: 10

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %:
 MUCK: 70%
 COBBLES: 30%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: SALAMANDER, FISH (JUVENILE), FISH (ADULT), FROGS

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



SOUTH

Waterbody Data Form

Feature ID: LD-Y-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/31/2015 3:22:34 PM Client/Project Name: NED Milepost: 165692.9

Investigators: DC KM Latitude/Longitude: 42.824534, -71.39495

State: NH County: Rockingham Quad Name: Nashua North

Logbook No.: 1 Logbook Pg.: 4 Tract No.: 24943

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 8.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 10.0 Water Surface (At Crossing Location)(ft.): 8.0

Stream Depth (in.): 12-18

OHWM Indicators: ABRUPT PLANT COMMUNITY CHANGE

Bank Height (ft.): Left: 0-2 2-4 4-6 6-8 8+
 (looking downstream) Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): Left: 80
 (looking downstream) Right: 20

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: SANDS: 75%
 COBBLES: 25%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: FROGS

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



E



W

Waterbody Data Form

Feature ID: HD-T-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 9/1/2015 1:39:01 PM Client/Project Name: NED Milepost: 170612.1

Investigators: BG, BE Latitude/Longitude: 42.813966, -71.38353

State: NH County: Hillsborough Quad Name: Nashua North

Logbook No.: 1 Logbook Pg.: 88 Tract No.: 22217

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 250.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 250.0 Water Surface (At Crossing Location)(ft.): 240.0

Stream Depth (in.): 60+

OHWM Indicators: ABRUPT PLANT COMMUNITY CHANGE

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 0
 Right: 0

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: MUCK: 100%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: FROGS, FISH (JUVENILE), INVERTEBRATES, BEAVER

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments: N/A NO FLOW

Photos



W



S

Waterbody Data Form

Feature ID: HD-G-S002

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 9/1/2015 8:47:28 AM Client/Project Name: NED Milepost: 173425.6

Investigators: NF CM Latitude/Longitude: 42.808139, -71.37666

State: NH County: Hillsborough Quad Name: Nashua North

Logbook No.: 2015-8 Logbook Pg.: 41 Tract No.: 22279

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 2.5

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 2.5 Water Surface (At Crossing Location)(ft.): 0.0

Stream Depth (in.): 0

OHWM Indicators: BENT, MATTED OR MISSING VEGETATION

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 45
 Right: 45

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %:
 SANDS: 25%
 COBBLES: 50%
 GRAVEL: 25%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: NONE

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos

NORTH



WEST



AECOM
10 Orms Street, Suite 405
Providence, RI 02904



EAST

Waterbody Data Form

Feature ID: HD-G-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 9/1/2015 6:47:30 AM Client/Project Name: NED Milepost: 174138.4

Investigators: NF CM Latitude/Longitude: 42.806705, -71.37484

State: NH County: Hillsborough Quad Name: Windham

Logbook No.: 2015-8 Logbook Pg.: 50 Tract No.: 22176

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 3.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 3.0 Water Surface (At Crossing Location)(ft.): 0.0

Stream Depth (in.): 0

OHWM Indicators: BENT, MATTED OR MISSING VEGETATION

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 50
 Right: 50

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: MUCK: 100%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: NONE

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



NE



WEST

Waterbody Data Form

Feature ID: HD-L-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/31/2015 12:19:28 PM Client/Project Name: NED Milepost: 179171.3

Investigators: BH JW Latitude/Longitude: 42.795626, -71.36367

State: NH County: Hillsborough Quad Name: Windham

Logbook No.: 10 Logbook Pg.: 32 Tract No.: 22099

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 30.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 35.0 Water Surface (At Crossing Location)(ft.): 25.0

Stream Depth (in.): 12-18

OHWM Indicators: BENT, MATTED OR MISSING VEGETATION

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 90
 Right: 40

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %:
 GRAVEL: 30%
 MUCK: 70%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: FROGS, INVERTEBRATES, FISH (JUVENILE), FISH (ADULT), BEAVER

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



SOUTH



WEST DOWNSTREAM



EAST UPSTREAM

AECOM
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Waterbody Data Form

Feature ID: WD-K-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/27/2015 9:50:18 AM Client/Project Name: NED Milepost: 180583.0

Investigators: CG JW Latitude/Longitude: 42.792441, -71.36068

State: NH County: Rockingham Quad Name: Windham

Logbook No.: 2015-2 Logbook Pg.: 66 Tract No.: 10668

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 50.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 60.0 Water Surface (At Crossing Location)(ft.): 40.0

Stream Depth (in.): 24-36

OHWM Indicators: BENT, MATTED OR MISSING VEGETATION
 CLEAR NATURAL LINE ON BANK
 ABRUPT PLANT COMMUNITY CHANGE

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 35
 Right: 35

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %:
 SANDS: 50%
 OTHER: 5%
 SILTS: 45%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands'
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: FROGS, FISH (JUVENILE), FISH (ADULT)

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



SE

Waterbody Data Form

Feature ID: WD-D-S002

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/30/2015 12:48:59 PM Client/Project Name: NED Milepost: 184188.6

Investigators: PB Latitude/Longitude: 42.784594, -71.35249

State: NH County: Rockingham Quad Name: Windham

Logbook No.: 6 Logbook Pg.: 134 Tract No.: 24279

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 5.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 6.0 Water Surface (At Crossing Location)(ft.): 3.0

Stream Depth (in.): 1-3

OHWM Indicators: BENT, MATTED OR MISSING VEGETATION
 CLEAR NATURAL LINE ON BANK

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 15
 Right: 75

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: GRAVEL: 10%
 SANDS: 90%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: FISH (ADULT), INVERTEBRATES, FROGS, FISH (JUVENILE)

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



NW



SW



AECOM
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Providence, RI 02904



SE

Waterbody Data Form

Feature ID: PH-K-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/28/2015 9:20:04 AM Client/Project Name: NED Milepost: 191267.8

Investigators: CG JW Latitude/Longitude: 42.768920, -71.33788

State: NH County: Hillsborough Quad Name: Windham

Logbook No.: 2015-2 Logbook Pg.: 79 Tract No.: 23003

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 135.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 150.0 Water Surface (At Crossing Location)(ft.): 125.0

Stream Depth (in.): 36-48

OHWM Indicators: ABRUPT PLANT COMMUNITY CHANGE
 CLEAR NATURAL LINE ON BANK

Bank Height (ft.): (looking downstream) Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream) Left: 50
 Right: 50

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: COBBLES: 20%
 SANDS: 20%
 GRAVEL: 40%
 SILTS: 20%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands'
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: FROGS, FISH (JUVENILE), FISH (ADULT)

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments: POSSIBLE OLD QUARRY/MAN MADE POND

Photos



EAST

Waterbody Data Form

Feature ID: PH-Y-S001

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/5/2015 11:29:44 AM Client/Project Name: NED Milepost: 200131.2

Investigators: DC/SH Latitude/Longitude: 42.749858, -71.32320

State: NH County: Hillsborough Quad Name: Lowell

Logbook No.: 1 Logbook Pg.: 69 Tract No.: 22880

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 4.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 4.0 Water Surface (At Crossing Location)(ft.): 3.0

Stream Depth (in.): 0

OHWM Indicators: BENT, MATTED OR MISSING VEGETATION
 ABRUPT PLANT COMMUNITY CHANGE

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 50
 Right: 50

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: SANDS: 75%
 MUCK: 25%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: INVERTEBRATES

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

Stream Quality: High Moderate Low

Comments:

Photos



DOWNSTREAM SOUTH



STREAM CLOSE UP



AECOM
10 Orms Street, Suite 405
Providence, RI 02904



UPSTREAM NORTH

Waterbody Data Form

Feature ID: PH-X-S001

GOLDEN BROOK

Centerline Re-Route Access Road Ancillary Facility Transmission Line Other

Date: 8/28/2015 2:17:56 PM Client/Project Name: NED Milepost: 204373.6

Investigators: SH MM Latitude/Longitude: 42.739974, -71.31485

State: NH County: Hillsborough Quad Name: Lowell

Logbook No.: 2 Logbook Pg.: 18 Tract No.: 22823

Waterbody Type: Stream Pond Lake Borrow Pit Ag Ditch Other:

Stream Flow: Fast Moderate Slow Very Slow None

Flow Type: Perennial (Flows year round) Intermittent (Flows <3 months) None
 Seasonal (Continuous flow >3 months) Ephemeral (Flows only in response to rainfall)

Direction of Flow: N NE E SE SW W NW S No Flow

OHWM Width (ft.): 12.0

Sinuosity: Braided Meandering Straight N/A

Stream Width (ft.): 12.0 Water Surface (At Crossing Location)(ft.): 12.0

Stream Depth (in.): 24-36

OHWM Indicators: BENT, MATTED OR MISSING VEGETATION
 ABRUPT PLANT COMMUNITY CHANGE

Bank Height (ft.): (looking downstream)
 Left: 0-2 2-4 4-6 6-8 8+
 Right: 0-2 2-4 4-6 6-8 8+

Bank Slope (%): (looking downstream)
 Left: 40
 Right: 40

Qualitative Attributes

Water Appearance: Clear Turbid Sheen on Surface Floating Algal Mats No Flow
 Slightly Turbid Very Turbid Greenish Color Obvious Surface Scum Other:

Stream Substrate %: MUCK: 75%
 VEGETATION: 25%

Aquatic Habitats:

Sand Bar Gravel Riffles In-stream Emergent Plants
 Gravel Bar Deep Pools In-stream Submerged Plants
 Mud Bar Bank Root Systems Fringing Wetlands!
 Undercut Banks Overhanging Trees/Shrubs None

Aquatic Organisms Observed: TURTLES, INVERTEBRATES, BEAVER, SNAKES, FROGS

Channel Condition: Channelization/Braiding Unnatural Straightening Downcutting
 Dikes/Berms Excessive Bank Erosion N/A Other

Habitat Characteristics, Aquatic and Terrestrial Diversity Description:

PERENNIAL STREAM WITHIN PEM AND PSS WETLANDS
 INVASIVE PURPLE LOOSTRIFE PRESENT AT BANK

Stream Quality: High Moderate Low

Comments: OHWM NOT FIELD DELINIATED DUE TO INUNDATED CONDITIONS WITHIN ADJACENT PSS WETLAND

Photos



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