WETLAND, WATERBODY, AND VERNAL POOL DELINEATION REPORT

CHINOOK SOLAR PROJECT

TOWN OF FITZWILLIAM, CHESHIRE COUNTY, NEW HAMPSHIRE

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ATTACHMENTS

Attachment A: Resource Map
Attachment B: USACE Wetland Determination Forms
Attachment C: Wetland and Stream Photographic Log
Attachment D: Town of Fitzwilliam Prime Wetlands Study Map
Attachment E: Vernal Pool Documentation (Verdanterra)
Attachment F: Vernal Pool Photographic Log (TRC)

1.0 Introduction

Chinook Solar, LLC (Chinook), an affiliate of NextEra Energy Resources, LLC (NextEra), proposes to develop a 30 megawatt (MW) utility-scale solar electric generating facility in the Town of Fitzwilliam, Cheshire County, New Hampshire (the Project) (Figure 1). The Project will provide clean, renewable energy to the regional electric grid. In support of the Project, wetland, waterbody, and vernal pool surveys were conducted within the Project Survey Area (Survey Area). TRC Environmental, Inc. (TRC) conducted wetland and waterbody delineations from 2016-2018, with the majority of the delineation effort occurring in 2016. Additionally, in 2016, Verdanterra, LLC (Verdanterra) conducted vernal pool surveys and in 2017, TRC conducted vernal pool surveys on additional parcels within the Survey Area. The findings of these delineations will be used during Project design to avoid and minimize impacts to protected natural resources and their buffers.

This report describes TRC's and Verdanterra's methods used during these surveys and summarizes the findings of investigations conducted over several site visits to the Project.

2.0 Project Survey Area

2.1 Survey Area Delineation and Areas Not Included in Field Investigations

The Survey Area encompasses approximately 497 acres in Fitzwilliam, New Hampshire. The boundary of the Survey Area is depicted on Figure 1. The natural resource Survey Area includes six parcels, two of which are located adjacent to an existing electric utility right-of-way (ROW).

Field visits to locate wetland and waterbodies were conducted by TRC during the growing seasons of 2016, 2017, and 2018. Vernal pool surveys were initially conducted within the Survey Area by Verdanterra between April 22 and May 3, 2016, and TRC performed surveys on additional parcels within the Survey Area on May 3 and May 4, 2017.

2.2 Survey Area Description and Current Land Use

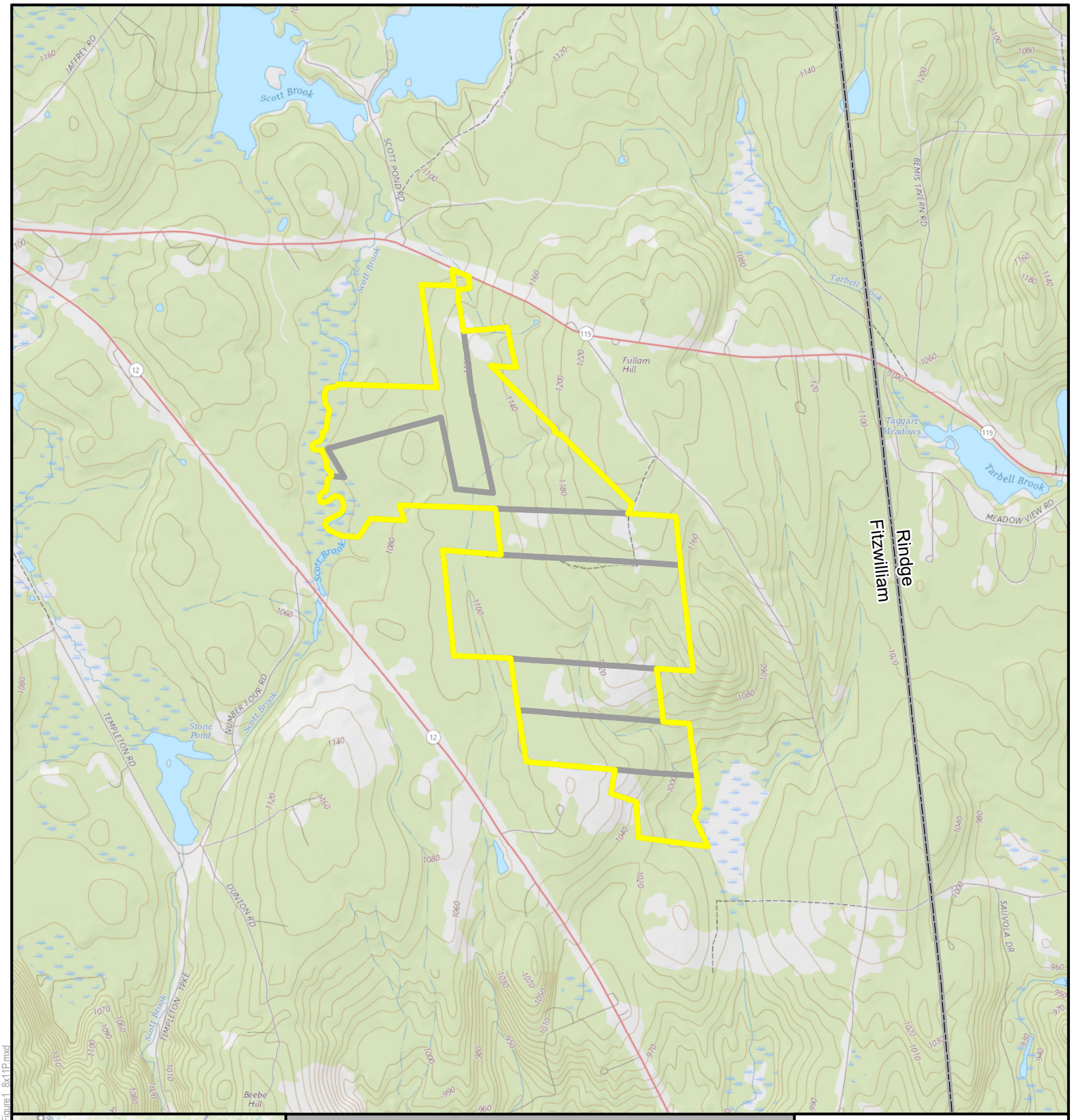
2.2.1 Watersheds

The Survey Area is located in the Millers River Watershed (HUC 8: 01080202) and the Priest Brook (HUC 12:010802020102) and Torbell-Millers River (HUC 12:010802020103) subwatersheds. The subwatersheds are divided along a low ridge that runs northeast-southwest through the middle of the Survey Area. Topography within the Survey Area generally slopes to the west and south towards Scott Brook or to the southeast toward Sip Pond and Millers River along this divide. Wetlands and streams located along shallow swales and concave slopes east of the watershed divide drain south and off-site to Sip Pond and Sip Pond Brook. West of the watershed divide, lands slope steeply to an expansive forest-shrub wetland complex bordering Scott Brook.

2.2.2 General Description

The Survey Area includes six large parcels of land (see Figure 1 and Attachment A) which are accessed from the northeast of Fullam Hill Road along a gravel logging road. In general, lands in the Survey Area are used for timber production, electric transmission and recreation. Two National Grid electric transmission lines run along and through the northeastern boundary of the Survey Area. Uplands are

generally located along a low ridge toward the center of the Survey Area and another in the southern portion of the Survey Area and slope gradually to steeply towards lowlands to the southeast and west. Forested lands in the Survey Area are in varying stages of succession due to ongoing, recent and historic logging. The northern and southern portions of the Survey Area contain mature forests with larger trees and an open understory. The remainder is in early stages of regeneration, with dense shrubby growth, decaying slash piles, and a network of skidder trails from recent logging activity.



Survey Area
Parcel Boundary
Town Boundary

N

0 2,000
Feet

Sources: ESRI, TRC, NH GRANIT

Chinook Solar Project

Figure 1: Project Location
Fitzwilliam, NH

NEXTera® ENERGY RESOURCES

Created: 10/11/2018

TRC

6 Ashley Drive
Scarborough
Maine 04074

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3.0 Wetland and Waterbody Surveys

3.1 Methodology

To identify wetlands and streams within the Survey Area, TRC wetland scientists performed on-the-ground investigations between July 25 and August 5, 2016, on June 14 and 15, 2017, and on October 1 and 5, 2018. Prior to conducting field investigations, the following data sources were reviewed to aid in locating natural resources:

- United States Geological Survey (USGS) topographic maps;
- United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) data;
- Natural Resources Conservation Service (NRCS) medium-intensity soil survey data;
- The New Hampshire statewide Geographic Information Systems (GIS) clearinghouse known as "GRANIT"; and
- Recent and historic aerial photography.

During all stages of Project design, Chinook Solar has committed to avoid and minimize wetland impacts to the greatest extent practicable. To achieve this goal, large wetland areas on the Project site will not be developed or crossed by roads. Therefore, during the wetland surveys small upland islands within large wetlands, streams deep within wetlands (i.e. more than 75 feet from an upland/wetland boundaries), and areas cutoff from the main development areas by large wetlands were not surveyed (area noted as "not field surveyed" on Figure 1).

3.2 Wetland Delineations

Wetlands are regulated by the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). Further, wetlands in New Hampshire are regulated under the Fill and Dredge in Wetlands Law (Wetlands Law, RSA 482-A) which is administered by the New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau.

The CWA and Wetlands Law *(Env-Wt 101.113)* define wetlands as:

> *"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."*

In accordance with the New Hampshire Code of Administrative Rules for the Delineation and Classification of Wetlands (Env-Wt 301), wetland delineations were conducted according to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, v2* (USACE 2012). This supplement follows criteria established in the USACE Wetlands Delineation Manual (Environmental Laboratory, Technical Report T-87-1, 1987) but is region specific, giving the wetland delineator a better tool to apply to regional vegetation communities, indicators of hydrology and indicators of hydric soils when conducting a wetland boundary determination. Additionally, wetland delineations were conducted or reviewed by a New Hampshire Certified Wetland Scientist.

The USACE manual provides a repeatable methodology to identify potential wetland areas using a three factor approach (i.e. hydrophytic vegetation, indicators of hydrology, and the presence of hydric soils). When a location having the requisite three factors that constitute a wetland was encountered, the boundaries were flagged in the field using glo-pink survey flagging emblazoned with the words "Wetland

Delineation" or "Wetland Boundary" and sequentially labeled with a unique alpha-numeric code. This code designates the wetland Resource ID which is used on Wetland Determination Forms, resource mapping and summary tables to identify each delineated resource.

3.2.1 Prime Wetlands

Under the Wetlands Law (RSA 482-A: 15), any municipality may designate high value wetlands as "Prime Wetlands." These resources aid in protection of a town's surface and groundwater quality, control flooding during significant rain events, protect significant wildlife habitats, and provide recreational opportunities for the greater public good. To register wetlands as Prime, a rigorous evaluation process is used to rank a town's wetland resources. Only wetlands providing a high level of functions and values are considered. Once wetlands are chosen, the town must hold a public hearing where residents vote on the designations. If approved by residents, the town provides the NHDES Wetlands Program a copy of the wetlands study and mapping of designated prime wetlands at which point the maps are registered with NHDES. Under the NHDES administrative wetland rules (Env-Wt 700), any work within 100 feet of designated Prime Wetlands requires a higher level of scrutiny during permit review to ensure that an activity will not result in the significant loss of any wetland values. A listing of the towns with designated Prime Wetlands can be seen at the NHDES Prime Wetlands in NH Communities webpage. TRC reviewed online information provided by the NHDES and Town of Fitzwilliam to determine if any were located within or proximal to the Survey Area.

3.3 Streams

Streams were identified using the State of New Hampshire Code of Administrative Rules Chapter Env-Wt 101 Definitions, which defines a "Watercourse" as:

"… any surface water that:

(a) Develops and maintains a defined scoured channel, with evidence of sediment transport, that:
(1) Is greater than 75 feet in length; or
(2) Is of any length and connected to another jurisdictional area at either end; and
(b) Is not a drainage swale." (Env-Wt 101.109)

Streams were further defined based on the flow characteristics as ephemeral, intermittent, or perennial using the following definitions:

*"**Ephemeral stream**" means a watercourse that is located above the water table year-round and is not fed by groundwater, such that runoff from rainfall and snowmelt is the primary source of stream flow and so the stream has flowing water only during, and for a short duration after, precipitation or spring thaw events. (Env-Wt 101.39)*

*"**Intermittent stream**" means a watercourse that is fed by groundwater but is not in the groundwater table throughout the year, with runoff from rainfall and snowmelt as a supplemental source of water for flow, such that it typically does not have flowing water during dry portions of the year. (Env-Wt 101.52)*

*"**Perennial stream**" means a watercourse that is in the groundwater table for most of the year and so has groundwater as its primary source of water for stream flow, with runoff from rainfall and snowmelt as a supplemental source of water, so that it contains flowing water year-round during a typical year. (Env-Wt 101-69)*

When a stream was encountered meeting one of the above definitions, blue survey flagging was labeled with an alpha-numeric code and hung at points along the stream. For streams wider than 6 feet, flags were hung along the bank of the stream. For streams narrower than 6 feet, flags were hung along the centerline of the stream.

3.4 Non-Jurisdictional Drainages

TRC also geo-located non-stream or wetland drainage areas and mapped these features as "non-jurisdictional drainages" or "NJDs." Typical examples of NJDs include concentrated surface flow in uplands, natural or dug ditches, and temporary drainage swales of natural or unnatural origin. The key difference between NJDs and regulated resources is a lack of stream characteristics or a lack of wetland factors (i.e., the combination of hydric soils, dominance of hydrophytic plants and evidence of hydrology). Furthermore, NJDs commonly lack a discernable streambed, contiguous defined stream banks, and/or evidence of mineral scour within the drainage path. Although non-regulated, these features often drain to protected resources or offsite, and they may be potential conduits for siltation or sedimentation during rain events. NJDs are important to note so that mitigation measures can be taken during construction to limit soil disturbance and prevent unintended impacts to adjacent resources.

Blue survey flags were labeled with an alpha-numeric code and hung along the centerline of the NJD. Each flag was then geo-located as described in Section 3.5 below.

3.5 Geo-Location of Delineated Resources

When any of the aforementioned resources were encountered during field investigations, the feature boundaries or centerlines were flagged with numbered strips of survey tape. Each flag was geo-located using a mapping-grade global position system (GPS) unit (Trimble Geo 6000 or Geo7x series receivers). At least 30 epochs were collected at each flag location, and the data were then post-processed using data collection and processing standards designed by the manufacturer to achieve at least sub-meter accuracy. These data were then converted to ESRI shapefile format and plotted on maps using GIS software. Shapefile data were used by Chinook Solar to inform the Project design and natural resource minimization and avoidance planning.

3.6 Results

TRC investigated the Survey Areas depicted on the Resource Maps provided as Attachment A. This survey identified 24 wetlands, six streams, and nine NJDs.

3.6.1 Wetlands

Table 1 includes a summary of the wetlands delineated within the Survey Area. Each wetland is listed by the Resource ID that was designated in the field and included on Project figures and in GIS data. The USACE wetland determination forms are contained in Attachment B, and photographic documentation is provided in Attachment C.

3.6.2 Prime Wetlands

There are no Prime Wetlands currently mapped within the Town of Fitzwilliam, but the Town is actively working to designate Prime Wetlands. In 2014, the Town contracted with a licensed wetland scientist to complete a professional survey of the Town's wetlands to identify the most important wetlands for protecting water supplies, providing flood control, and maintaining open spaces and wildlife habitat for

official designation as Prime Wetlands. Based on the findings of this study, which were presented to Town residents at a public meeting in December of 2016, there are no candidate Prime Wetlands located within the Survey Area of the Project (see Attachment D).

3.6.3 Streams

Table 2 includes a summary of the streams delineated within the Survey Area. Each stream is listed by the Resource ID that was designated in the field and included on Project figures and in GIS data. Photographic documentation of delineated streams is included in Attachment C.

Table 1. Summary of Delineated Wetlands in the Survey Area

Resource ID	Dominant Covertype [1, 2]	Soil Map Unit [3]	Wildlife Observations	Potential Functions and Values [4]	Dominant Vegetation	Hydrologic Regime	Hydrology Indicators [5]	Hydric Soil Indicator [6]
W-CHI-THE-1	PFO	647B Pillsbury Fine Sandy Loam	Green frog (*Rana clamitans)*	Groundwater Recharge/Discharge, Production Export, Wildlife Habitat, Fish and Shellfish Habitat	Balsam fir (*Abies balsamea*), Red maple (*Acer rubrum*), Eastern white pine (*Pinus strobus*), Sensitive fern (*Onoclea sensibilis*), Glossy buckthorn (*Frangula alnus*)	Seasonally Flooded	Saturation (A3), Geomorphic Position (D2)	Depleted Matrix (F3)
W-CHI-THE-2	PSS	558B Skerry Fine Sandy Loam	None	Groundwater Recharge/Discharge, Wildlife Habitat	Glossy buckthorn, Sensitive fern, Meadowsweet (*Spiraea alba*), Woolgrass (*Scirpus cyperinus*), Red maple	Saturated	Geomorphic Position (D2)	Depleted Matrix (F3)
W-CHI-THE-3	PSS	57D Beckett Fine Sandy Loam	None	Groundwater Recharge/Discharge, Wildlife Habitat	Glossy buckthorn, Meadowsweet, Sensitive fern, Highbush blueberry (*Vaccinium corymbosum*)	Saturated	Geomorphic Position (D2)	Depleted Matrix (F3)
W-CHI-THE-4	PFO	559B Skerry Fine Sandy Loam	Eastern newt (*Notophthalmus viridescens)*	Groundwater Recharge/Discharge, Production Export, Wildlife Habitat, Fish and Shellfish Habitat, Visual Quality/Aesthetics, Nutrient Removal, Sediment/Toxicant Retention	Carex spp., Red Maple, Yellow birch (*Betula allegheniensis*), Fringed sedge (*Carex crinita*), Spotted touch-me-not (*Impatiens capensis*), Balsam fir, Black ash (*Fraxinus nigra*), Interrupted fern (*Osmunda claytonia*)	Saturated	Saturation (A3), Drainage Patterns (B10), Geomorphic Position (D2)	Redox Dark Surface (F6)
W-CHI-THE-8	PFO	77B Marlow Fine Sandy Loam	White-tailed deer (*Odocoileus virginianus)*	Groundwater Recharge/Discharge, Wildlife Habitat, Production Export, Sediment/Toxicant Retention, Nutrient Removal	Red maple, Black ash, White pine, Glossy buckthorn, Giant goldenrod (*Solidago gigantea*), Sensitive fern, Steeplebush (*Spirea tomentosa*)	Saturated	Drainage Patterns (B10),Geomorphic Position (D2)	Depleted Matrix (F3)
W-CHI-THE-10	PFO	559B Skerry Fine Sandy Loam	None	Groundwater Recharge/Discharge, Wildlife Habitat, Sediment/Toxicant Retention, Nutrient Removal	Red maple, Yellow birch, White pine, Fringed sedge	Seasonally Flooded	Water-Stained Leaves (B9), Water Marks (B1), Geomorphic Position (D2)	Depleted Matrix (F3)
W-CHI-THE-11	PFO	559B Skerry Fine Sandy Loam	None	Groundwater Recharge/Discharge, Wildlife Habitat, Sediment/Toxicant Retention, Nutrient Removal	Balsam fir, White pine, Red maple, Yellow birch, Fringed sedge	Seasonally Flooded	Water-Stained Leaves (B9), Geomorphic Position (D2)	Depleted Matrix (F3)
W-CHI-THE-13	PEM	57C Beckett Fine Sandy Loam	None	Groundwater Recharge/Discharge, Wildlife Habitat, Production Export	Steeplebush, Sensitive fern, Woolgrass, Fringed sedge, Giant goldenrod, Glossy buckthorn, Yellow birch, Black ash, Red maple	Saturated	Saturation (A3), Geomorphic Position (D2)	Sandy Redox (S5)
W-CHI-THE-15	PEM	57C Beckett Fine Sandy Loam	None	Groundwater Recharge/Discharge, Wildlife Habitat	Bluejoint (*Calamagrostis canadensis*), Sensitive fern, Meadowsweet, Fringed sedge	Saturated	Saturation (A3), Geomorphic Position (D2)	Depleted Matrix (F3)
W-CHI-THE-16	PSS	559B Skerry Fine Sandy Loam	None	Groundwater Recharge/Discharge, Wildlife Habitat	Steeplebush, Woolgrass, Rattlesnake mannagrass (*Glyceria canadensis*), Red maple, Glossy buckthorn	Saturated	Geomorphic Position (D2)	Redox Dark Surface (F6)
W-CHI-THE-18	PFO	57B Beckett Fine Sandy Loam	None	Groundwater Recharge/Discharge, Wildlife Habitat, Sediment/Toxicant Retention, Nutrient Removal	Bluejoint, Steeplebush, Glossy buckthorn, Woolgrass, Red maple, Black Ash	Saturated	Geomorphic Position (D2)	Depleted Matrix (F3)
W-CHI-THE-20	PFO	57B Beckett Fine Sandy Loam	None	Groundwater Recharge/Discharge, Wildlife Habitat	Black ash, Red maple, Glossy buckthorn, Balsam fir, Steeplebush, Woolgrass, Sensitive fern, Fringed sedge	Seasonally Flooded	Water-Stained Leaves (B9), Geomorphic Position (D2)	Histic Epipedon (A2)
W-CHI-THE-21	PEM	60C Tunbridge-Berkshire Complex	None	Groundwater Recharge/Discharge, Wildlife Habitat, Sediment/Toxicant Retention, Nutrient Removal	Steeplebush, Woolgrass, Lamp rush (*Juncus effusus*), Fringed sedge, Red Maple, White pine	Saturated	Geomorphic Position (D2)	Depleted Matrix (F3), Redox Dark Surface (F6)
W-CHI-THE-23	PEM	77C Marlow Fine Sandy Loam	None	Groundwater Recharge/Discharge, Wildlife Habitat	Sensitive fern, Fringed sedge, Woolgrass, Rattlesnake mannagrass, Giant goldenrod, Glossy buckthorn, Steeplebush	Saturated	Geomorphic Position (D2)	Depleted Matrix (F3)
W-CHI-THE-26	PFO	559B Skerry Fine Sandy Loam	None	Groundwater Recharge/Discharge, Wildlife Habitat	Red maple, Eastern hemlock, Cinnamon fern, Three-leaved goldthread (*Coptis trifolia*)	Saturated	Geomorphic Position (D2)	Depleted Matrix (F3)
W-CHI-THE-27	PEM	559C Skerry Fine Sandy Loam	None	Groundwater Recharge/Discharge, Wildlife Habitat	Bluejoint, Blue iris (*Iris versicolor*), Woolgrass, Dark-green bulrush (*Scirpus atrovirens*)	Saturated	Saturation (A3), Geomorphic Position (D2), FAC-Neutral Test (D5)	Redox Dark Surface (F6)
W-CHI-THE-32	PSS	295 Greenwood Mucky Peat	None	Groundwater Recharge/Discharge, Sediment/Toxicant Retention, Nutrient Removal, Shoreline Stabilization, Wildlife Habitat	Speckled alder (*Alnus incana* ssp. *rugosa*), Spotted touch-me-not, Balsam fir, Sensitive fern, Fringed sedge	Saturated	High Water Table (A2), Saturation (A3), Drainage Patterns (B10), Geomorphic Position (D2), FAC-Neutral Test (D5)	Sandy Redox (S5)
W-CHI-DRB-40	PFO	77C Marlow Fine Sandy Loam	None	Groundwater Recharge/Discharge, Production Export, Wildlife Habitat	Yellow birch, Sensitive fern, Melic mannagrass (*Glyceria melicaria*), Aster sp., Red maple	Saturated	Drainage Patterns (B10), Microtopographic Relief (D4)	Depleted Below Dark Surface (A11)
W-CHI-DRB-41	PFO	77C Marlow Fine Sandy Loam	Green frogs, Eastern newt	Groundwater Recharge/Discharge, Production Export, Wildlife Habitat	Yellow birch, Bluejoint, Woolgrass, Bristly dewberry (*Rubus hispidus*) glossy buckthorn, Red maple	Saturated	Microtopographic Relief (D4)	Depleted Below Dark Surface (A11)
W-CHI-DRB-43	PSS	77C Marlow Fine Sandy Loam	None	Groundwater Recharge/Discharge, Production Export, Wildlife Habitat	Glossy buckthorn, Sensitive fern, Steeplebush, Lamp rush, Bluejoint	Saturated	Oxidized Rhizospheres on Living Roots (C3), Microtopographic Relief (D4)	Depleted Below Dark Surface (A11)
W-CHI-DRB-44	PSS	77C Marlow Fine Sandy Loam	Green frogs	Groundwater Recharge/Discharge, Wildlife Habitat	Leatherleaf (*Chamaedaphne calyculata*), Red maple, Steeplebush	Seasonally Flooded	Algal Mat or Crust (B4)	Depleted Below Dark Surface (A11)

Table 1. Summary of Delineated Wetlands in the Survey Area

Resource ID	Dominant Covertype [1, 2]	Soil Map Unit [3]	Wildlife Observations	Potential Functions and Values [4]	Dominant Vegetation	Hydrologic Regime	Hydrology Indicators [5]	Hydric Soil Indicator [6]
W-CHI-DRB-45	PSS	77C Marlow Fine Sandy Loam	None	Groundwater Recharge/Discharge, Nutrient Removal, Sediment/Toxicant Retention, Production Export, Wildlife Habitat	Grey birch (*Betula populifolia*), Bluejoint, Steeplebush, Glossy buckthorn, Maleberry (*Lyonia ligustrina*)	Seasonally Flooded	Water-Stained Leaves (B9), Oxidized Rhizospheres on Living Roots (C3), Algal Mat or Crust (B4), Drainage Patterns (B10), Microtopographic Relief (D4)	Depleted Matrix (F3)
W-CHI-DRB-46	PSS	57B Beckett Fine Sandy Loam	None	Groundwater Recharge/Discharge, Wildlife Habitat	Glossy buckthorn, Lamp rush, Sensitive fern, Canada goldenrod (*Solidago canadensis*)	Seasonally Flooded	Water-Stained Leaves (B9), Oxidized Rhizospheres on Living Roots (C3), Microtopographic Relief (D4)	Redox Dark Surface (F6)
W-CHI-TRS-3	PEM	559C Skerry Fine Sandy Loam	None	Groundwater Recharge/Discharge, Sediment/Toxicant Retention	Red maple, Balsam fir, Fringed sedge, Shallow sedge (*Carex lurida*)	Saturated	High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9)	Histic Epipedon (A2), Black Histic (A3)

[1] Cowardin et al.
[2] PFO = palustrine forested wetland; PSS = palustrine scrub-shrub wetland; PEM = palustrine emergent wetland.
[3] USDA-NRCS Web Soil Survey
[4] USACE Highway Methodology Workbook Supplement
[5] USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (version 2)
[6] USDA-NRCS Field Indicators for Hydric Soils v7 (and v8.2 released in 2018)

Table 2. Summary of Delineated Streams in the Survey Area

Resource ID	Flow Regime	Dominant Substrate	Water Width (feet)	Water Depth at Max (inches)	Flow Stage	Flow Velocity	Flow Direction	Bank Width (feet)	Bank Height (inches)	Stability	Sinuosity Ratio	Floodplain Habitat	Associated Wetland ID	Evidence of Aquatic Wildlife	Evidence of Disturbance
S-CHI-THE-6	Ephemeral	Cobble-Gravel	3-10	0-3	Moist, no flow	Minimal	SW	3-10	0-3	Moderate	0.5	Mature Forest, Quality Wetland	W-CHI-THE-4	No aquatic wildlife observed	No impacts - Pristine
S-CHI-THE-5	Intermittent	Boulder/Slabs	0-3	3-6	Low	Minimal	SE	3-10	12-24	Moderate	2	Mature and Immature Forest, Quality Wetland	W-CHI-THE-4	Salamanders, Frogs or tadpoles	Logging
S-CHI-THE-7	Ephemeral	Cobble-Gravel	0-3	0-3	Dry	Minimal	S	0-3	6-12	Moderate	1	Immature Forest	W-CHI-THE-8	Salamanders	Logging
S-CHI-THE-14	Ephemeral	Cobble-Gravel	0-3	0-3	Moist, no flow	Slow	W	0-3	6-12	Moderate	1	Mature Forest	W-CHI-THE-13, W-CHI-THE-15	No aquatic wildlife observed	Logging
S-CHI-THE-29	Intermittent	Boulder/Slabs	0-3	6-12	Above average flow	Slow	W	6-12	6-12	High	0.5	Mature Forest, Quality Wetland	W-CHI-THE-1	No aquatic wildlife observed	Logging
S-CHI-THE-31	Perennial	Cobble-Gravel	0-3	6-12	Above average flow	Moderate	W	12-24	12-24	Moderate	0.5	Mature Forest, Quality Wetland / Quality Wetland, Paved Road	W-CHI-THE-32	No aquatic wildlife observed	Road impacts

3.6.4 Non-Jurisdictional Drainages

A summary of the NJDs mapped within the Survey Area is below.

Table 3. Summary of Non-Jurisdictional Drainages within the Survey Area

Resource ID	Associated Resource ID	Average Width (feet)	Description
NJD-CHI-THE-9	W-CHI-THE-20	2	Surficial drainage and ditch in poorly constructed gravel logging road.
NJD-CHI-THE-12	W-CHI-THE-10	3	Ditch along logging road. Flows west in to W-CHI-THE-10.
NJD-CHI-THE-17	W-CHI-THE-10	3	Ditch in forested area draining to W-CHI-THE-10.
NJD-CHI-THE-19	None	3	Ditch along field road. Flows west and the banks/flow diffuse before reaching W-CHI-THE-20.
NJD-CHI-THE-22	W-CHI-THE-8	3	Surface drainage in dirt/gravel road flowing south to roadside ditch then W-CHI-THE-8.
NJD-CHI-THE-24	W-CHI-THE-23	4	Drainage from culvert flowing south to W-CHI-THE-23.
NJD-CHI-THE-25	None	4	Roadside ditch along gravel road in transmission line ROW. Culvert present on western edge of ditch.
NJD-CHI-THE-28	None	2	Dug ditch on edge of cleared ROW. Culverted in a field road crossing area.
NJD-CHI-DRB-42	W-CHI-DRB-41	3	Overflow from W-CHI-DRB-41 drains to ditch along poorly constructed gravel logging road.

4.0 Vernal Pools Surveys

4.1 Regulatory Context

The USACE regulates vernal pools in accordance with the New Hampshire General Permit (2012-2017). Vernal pools are also protected as wetlands or surface waters under the New Hampshire wetlands dredge and fill law, RSA 482-A. In accordance with New Hampshire Code of Administrative Rules (Chapter Env-Wt 302.04), applicants for wetlands permits through the NHDES must also demonstrate that they have considered potential impacts to plants, fish, and wildlife, including vernal pools, in assessing the impact of the proposed project. These rules require that any standard application for a minor or major state wetlands permit locate and delineate vernal pools and consider the impact of the proposed project on vernal pools. The rules provide a definition of vernal pools, primary vernal pool indicators, and secondary vernal pool indicators. The protection of an upland buffer may be included in a wetlands permit approval; however, at this time, there is no rule specifically defining a standard buffer width for vernal pools.

New Hampshire Code of Administrative Rules (Chapter Env-Wt 101.108) defines a vernal pool as "a surface water or wetland, including an area intentionally created for purposes of compensatory mitigation, which provides breeding habitat for amphibians and invertebrates that have adapted to the unique environments provided by such pools and which:

(a) is not the result of on-going anthropogenic activities that are not intended to provide compensatory mitigation, including but not limited to:
    (1) gravel pit operations in a pit that has been mined at least every other year; and
    (2) logging and agricultural operations conducted in accordance with all applicable New Hampshire statutes and rules; and

(b) typically has the following characteristics:

1) cycles annually from flooded to dry conditions, although the hydroperiod, size, and shape of the pool might vary from year to year;
(2) forms in a shallow depression or basin;
(3) has no permanently flowing outlet;
(4) holds water for at least 2 continuous months following spring ice-out;
(5) lacks a viable fish population; and
(6) supports one or more primary vernal pool indicators, or 3 or more secondary vernal pool indicators."

4.2 Methodology

A systematic survey for vernal pools was conducted over the entire Survey Area. Verdanterra conducted initial vernal pool surveys within the Survey Area between April 23 and April 25, 2016, and second visits were performed on May 3, 2016. Vernal pool breeding season surveys were conducted following *The Identification and Documentation of Vernal Pools in New Hampshire* (NHF&G, 2016). During the surveys, each potential vernal pool was thoroughly surveyed by slowly wading through the pool basin searching for amphibian breeding activity, including the presence of egg masses and noting other vernal pool-dependent species use. Egg masses for each vernal pool-dependent amphibian species were counted and recorded. Presence of other life stages of these amphibians was noted, as was the physical and biological characteristics of the pool such as presence/absence of a permanent flowing inlet or outlet and the presence/absence of fish.

Once a vernal pool was located, the boundaries of the vernal pool depression were recorded using a GPS (as described in Section 3.5). A single GPS point was also collected in ponded areas that did not contain vernal pool obligate species or signs of use by indicator species. These ponded areas were visited during the second visit to confirm that no breeding activity had occurred in the pool. Data on visited vernal pools were recorded using the *New Hampshire Vernal Pool Documentation Form.*

Following the 2016 vernal pool surveys, the limits of the Survey Area were adjusted slightly in a few areas; therefore, TRC completed additional vernal pool surveys to capture new portions of the Survey Area during the spring of 2017, with second visits conducted in the spring of 2018. These surveys were also conducted similar to the description above. Pools located during these surveys were GPS-located and surveyed for vernal pool species. Vernal pool location data were imported into GIS and provided to Project designers to help inform avoidance and minimization procedures.

4.3 Results

The results of the Verdanterra and TRC vernal pool studies are provided below and in Attachments E and F. The New Hampshire Vernal Pool Documentation Forms for the surveys are available upon request but are not included with this report.

- 49 vernal pools were found in the Survey Area.
- 29 of the pools were determined to have unnatural origins located in all-terrain vehicle trails, ruts made by logging equipment, or similar features. As such, these pools may not be regulated by the USACE or by the State of the New Hampshire as vernal pools. However, pools that meet the federal definition of "waters of the U.S." or the New Hampshire definition of "wetlands" would be regulated by federal and state natural resource agencies.
- 15 vernal pools were determined to be natural and unmodified by human activities.

- Five of the vernal pools were determined to be naturally occurring; however, they have been modified by current and past land use in the Survey Area.

Table 4. Summary of Vernal Pools within the Survey Area

Vernal Pool ID	1st Survey Date	2nd Survey Date	Descriptor	Hydrology	Wood Frog		Spotted Salamander		Blue-Spotted Salamander		Rare Species
					1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	
RS_CN_VP18_2	4/25/2016	5/3/2016	Natural	Semi-permanent	1	1	7	0	0	0	No
RS_CN_VP19_2	4/25/2016	5/3/2016	Unnatural	Ephemeral	0	0	2	1	0	0	No
RS_CN_VP21_2	4/25/2016	5/3/2016	Natural-Modified	Ephemeral	0	0	1	1	0	0	No
RS_CN_VP20_2	4/25/2016	5/3/2016	Natural-Modified	Ephemeral	4	0	2	4	0	0	No
RS_CN_VP22_2	4/25/2016	5/3/2016	Natural-Modified	Ephemeral	5	5	4	4	0	0	No
RS_CN_VP65_1	4/25/2016	5/3/2016	Natural-Modified	Ephemeral	0	0	3	3	0	0	No
RS_CN_VP17_2	4/25/2016	5/3/2016	Unnatural	Ephemeral	0	0	32	32	0	0	No
RS_CN_VP62_1	4/25/2016	5/3/2016	Natural-Modified	Ephemeral	3	0	1	1	0	0	No
RS_CN_VP66_1	4/25/2016	5/3/2016	Unnatural	Ephemeral	0	0	11	11	0	0	No
RS_CN_VP16_2	4/25/2016	5/3/2016	Unnatural	Ephemeral	0	0	10	10	0	0	No
RS_CN_VP32_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	0	0	2	2	0	0	No
RS_CN_VP33_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	0	0	1	1	0	0	No
RS_CN_VP43_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	17	17	3	3	0	0	No
RS_CN_VP44_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	2	2	2	2	0	0	No
RS_CN_VP45_1	4/23/2016	5/3/2016	Natural-Modified	Ephemeral	1	1	0	0	0	0	No
RS_CN_VP46_1	4/23/2016	5/3/2016	Natural-Modified	Ephemeral	11	11	0	0	0	0	No
RS_CN_VP47_1	4/23/2016	5/3/2016	Natural-Modified	Ephemeral	1	1	0	0	0	0	No

Table 4. Summary of Vernal Pools within the Survey Area

Vernal Pool ID	1st Survey Date	2nd Survey Date	Descriptor	Hydrology	Wood Frog		Spotted Salamander		Blue-Spotted Salamander		Rare Species
					1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	
RS_CN_VP48_1	4/23/2016	5/3/2016	Natural-Modified	Ephemeral	13	3	1	2	0	0	No
RS_CN_VP49_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	11	0	1	0	0	0	No
RS_CN_VP50_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	1	1	0	0	0	0	No
RS_CN_VP51_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	1	0	1	0	0	0	No
RS_CN_VP52_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	5	5	2	2	0	0	No
RS_CN_VP53_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	4	0	3	4	0	0	No
RS_CN_VP54_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	6	2	2	2	0	0	No
RS_CN_VP55_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	7	2	0	1	0	0	No
RS_CN_VP56_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	7	0	1	2	0	0	No
RS_CN_VP10_2	4/25/2016	5/3/2016	Unnatural	Ephemeral	13	13	6	6	0	0	No
RS_CN_VP40_1	4/23/2016	5/3/2016	Natural-Modified	Ephemeral	19	19	0	0	0	0	No
RS_CN_VP41_1	4/23/2016	5/3/2016	Natural-Modified	Ephemeral	31	31	1	5	0	0	No
RS_CN_VP58_1	4/25/2016	5/3/2016	Unnatural	Ephemeral	2	2	0	0	0	0	No
RS_CN_VP59_1	4/25/2016	5/3/2016	Unnatural	Ephemeral	0	0	1	0	0	0	No
RS_CN_VP60_1	4/25/2016	5/3/2016	Unnatural	Ephemeral	3	0	1	0	0	0	No
RS_CN_VP11_2	4/25/2016	5/3/2016	Unnatural	Ephemeral	0	0	1	1	0	0	No

Table 4. Summary of Vernal Pools within the Survey Area

Vernal Pool ID	1st Survey Date	2nd Survey Date	Descriptor	Hydrology	Wood Frog		Spotted Salamander		Blue-Spotted Salamander		Rare Species
					1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	
RS_CN_VP57_1	4/25/2016	5/3/2016	Unnatural	Ephemeral	1	1	0	0	0	0	No
RS_CN_VP61_1	4/25/2016	5/3/2016	Unnatural	Ephemeral	15	15	21	21	0	0	No
RS_CN_VP12_2	4/25/2016	5/3/2016	Unnatural	Ephemeral	1	1	0	0	0	0	No
RS_CN_VP38_1	4/23/2016	5/3/2016	Natural	Permanent	7	10	17	18	0	0	No
RS_CN_VP39_1	4/23/2016	5/3/2016	Natural	Ephemeral	0	0	1	1	0	0	No
RS_CN_VP24_1	4/23/2016	5/3/2016	Natural-Modified	Ephemeral	0	0	1	1	0	0	No
RS_CN_VP31_1	4/23/2016	5/3/2016	Natural-Modified	Ephemeral	0	0	2	3	0	0	No
RS_CN_VP36_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	2	0	3	2	0	0	No
RS_CN_VP22_1	4/23/2016	5/3/2016	Natural	Ephemeral	20	10	9	3	0	0	No
RS_CN_VP23_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	2	1	0	0	0	0	No
RS_CN_VP25_1	4/23/2016	5/3/2016	Natural-Modified	Ephemeral	5	2	1	1	0	0	No
RS_CN_VP21_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	0	0	1	1	0	0	No
RS_CN_VP30_1	4/23/2016	5/3/2016	Unnatural	Ephemeral	5	3	0	0	0	0	No
TRC_VP1	5/3/2017	4/11/2018	Natural-modified	Ephemeral	3	0	10	0	0	0	No
TRC_VP2	5/3/2017	4/11/2018	Unnatural	Ephemeral	0	0	3	0	0	0	No
TRC_VP4	5/4/2017	4/11/2018	Natural	Ephemeral	0	0	9	0	0	0	No

5.0 Summary

As described in the preceding sections, a total of 24 wetlands, six streams, nine NJDs, and 49 vernal pools were documented within the Survey Area. Palustrine forested (PFO) wetlands comprised 10 of the wetlands within the Survey Area, followed by eight palustrine scrub-shrub (PSS) wetlands and six palustrine emergent (PEM) wetlands. Of the six streams within the Survey Area, one was perennial, two were intermittent, and three were ephemeral. Vernal pools within the Survey Area consisted of 29 unnatural pool, 15 natural-modified pools, and five natural pools. No additional wetland or waterbody surveys will be conducted for the Project. All vernal pools surveyed received two site visits.

6.0 References

Calhoun, A.J.K. and M.W. Klemens. 2002. Best Development Practices: Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States. MCA Technical Paper No. 5, Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx, New York.

Cowardin, L.M., V. Carter, F. Golet and E. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service.

New Hampshire Fish and Game Department (NHF&G). 2016. The Identification and Documentation of Vernal Pools in New Hampshire. Third Edition. Edited by Michael Marchand.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed [08/12/2016].

United States Army Corps of Engineers (USACE). 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, C. V. Noble, and J. F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

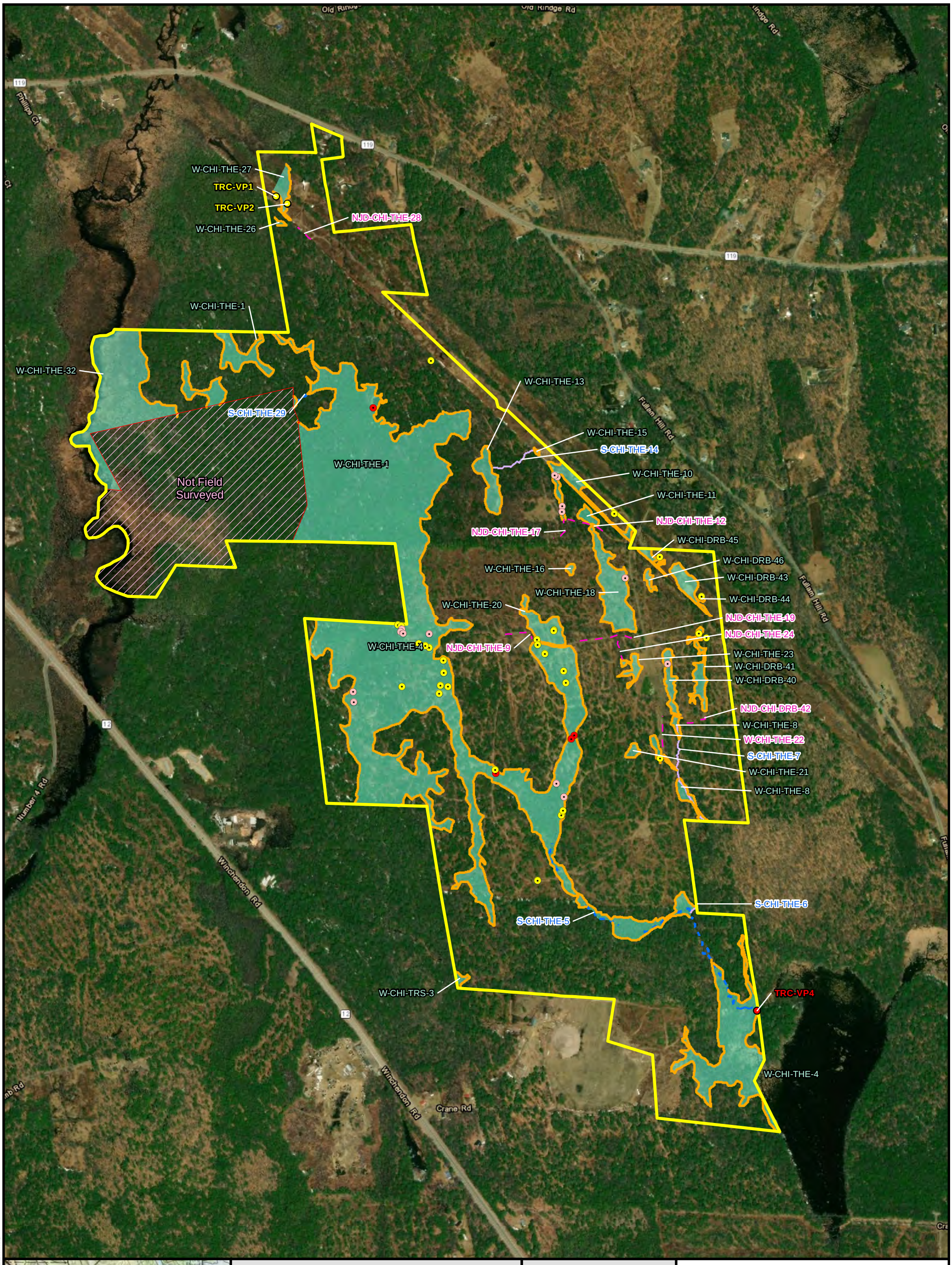
USACE. 1995. The Highway Methodology Workbook Supplement. Wetland Functions and Values: A Descriptive Approach. U.S. Army Corps of Engineers, New England Division. NENEP-360-1-30a. 32 pp.

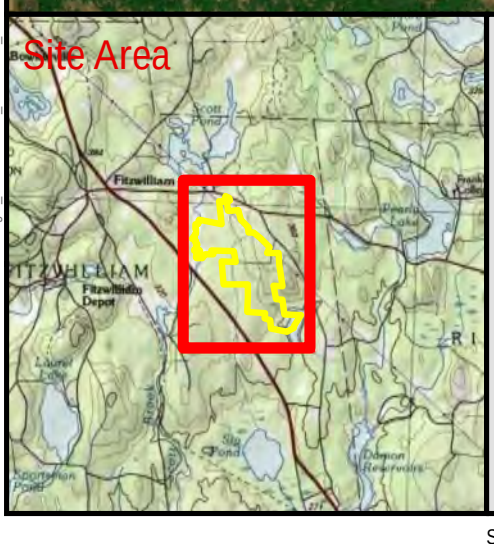
USACE. 1987. Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1. Waterways Experiment Station, Vicksburg MS.

United States Department of Agriculture, Natural Resources Conservation Service. 2010. Field Indicators of Hydric Soils in the United States, Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

ATTACHMENT A

Resource Map





Survey Area
Not Field Surveyed
Delineated Wetland Boundary
Wetland
Perennial Stream
Intermittent Stream
Ephemeral Stream
Non-Jurisdictional Drainage
Natural Vernal Pool (2017)
Un-natural Vernal Pool (2017)
Natural Vernal Pool (2016)
Natural-Modified Vernal Pool (2016)
Un-natural Vernal Pool (2016)

Note: Resource IDs for vernal pools are only shown for pools surveyed in 2017. Additional vernal pool mapping includes resource IDs for pools surveyed in 2016.

0 375 750
Feet

Chinook Solar Project, Delineated Resources

NEXTera® ENERGY RESOURCES

TRC

February 2019

Document Path: S:\1-PROJECTS\NEXTERA\Ranger_Solar\Chinook_Resources_11x17P.mxd

Sources: ESRI, TRC

Projection: NAD 1983 StatePlane New Hampshire FIPS 2800 FeetUnits: Foot US

ATTACHMENT B

USACE Wetland Determination Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-July-25
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-1; PFO-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.7729817 **Long:** -72.1100845 **Datum:** WGS84
Soil Map Unit Name: Becket/Marlow **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Area is wetland, all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-1; PFO-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Betula alleghaniensis*	25	Yes	FAC
2. *Abies balsamea*	25	Yes	FAC
3. *Acer rubrum*	10	No	FAC
4.			
5.			
6.			
7.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Abies balsamea*	15	Yes	FAC
2. *Frangula alnus*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Onoclea sensibilis*	15	Yes	FACW
2. *Carex crinita*	15	Yes	OBL
3. *Glyceria canadensis*	10	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= 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	25	x 1 =	25
FACW species	15	x 2 =	30
FAC species	85	x 3 =	255
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	125	(A)	310 (B)

Prevalence Index = B/A = 2.5

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-1; PFO-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 5	10YR 2/1	100		0			Mucky Loam	
5 - 15	10YR 4/2	95	10YR 4/6	15	C	M	Sandy Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 15

Hydric Soil Present? Yes _✓_ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-July-25
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-1; UPL-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1-10
Subregion (LRR or MLRA): LRR R **Lat:** 42.7725514 **Long:** -72.1093587 **Datum:** WGS84
Soil Map Unit Name: Becket/Marlow **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Area is upland, not all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ____ No ✓
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-1; UPL-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	65	Yes	FACU
2. *Acer rubrum*	15	No	FAC
3. *Betula alleghaniensis*	10	No	FAC
4.			
5.			
6.			
7.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Pinus strobus*	40	Yes	FACU
2. *Frangula alnus*	5	No	FAC
3.			
4.			
5.			
6.			
7.			
	45	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Maianthemum canadense*	10	Yes	FACU
2. *Athyrium angustum*	10	Yes	FAC
3. *Trientalis borealis*	5	No	FAC
4. *Pteridium aquilinum*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= 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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	120	x 4 =	480
UPL species	0	x 5 =	0
Column Totals	165	(A)	615 (B)

Prevalence Index = B/A = 3.7

Hydrophytic Vegetation Indicators:

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

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

_____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _____ No ✓

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

SOIL

Sampling Point: W-CHI-THE-1; UPL-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 4/3	100		0			Silt Loam	
4 - 18	10YR 5/6	100		0			Silt Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-July-27
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-1; UPL-2
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1-10
Subregion (LRR or MLRA): LRR L **Lat:** 42.7678327 **Long:** -72.1069131 **Datum:** WGS84
Soil Map Unit Name: Becket/Marlow **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Area is upland, not all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-1; UPL-2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	15	Yes	FAC
2. *Betula alleghaniensis*	10	Yes	FAC
3. *Quercus rubra*	5	No	FACU
4. *Pinus strobus*	5	No	FACU
5.			
6.			
7.			
	35	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Frangula alnus*	15	Yes	FAC
2. *Acer rubrum*	10	Yes	FAC
3. *Rubus allegheniensis*	10	Yes	FACU
4. *Rubus idaeus*	5	No	FACU
5.			
6.			
7.			
	40	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Fragaria virginiana*	20	Yes	FACU
2. *Vaccinium angustifolium*	10	Yes	FACU
3. *Scirpus cyperinus*	5	No	OBL
4. *Rubus flagellaris*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 57.1 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals	115	(A)	395 (B)

Prevalence Index = B/A = 3.4

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-1; UPL-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 2/1	100		0			Loam	
3 - 12	10YR 3/3	100		0			Silt Loam	
12 - 18	10YR 3/3	100		0			Sandy Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-July-27
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-1; UPL-3
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 5-10
Subregion (LRR or MLRA): LRR L **Lat:** 42.7617192 **Long:** -72.1005145 **Datum:** WGS84
Soil Map Unit Name: Lyme/Moosilauke **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Area is upland, not all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ____	Depth (inches):	
Water Table Present?	Yes ____ No ____	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ____	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-1; UPL-3

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus rubra*	20	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Betula alleghaniensis*	20	Yes	FAC
2. *Frangula alnus*	20	Yes	FAC
3. *Acer rubrum*	15	Yes	FAC
4. *Pinus resinosa*	10	No	FACU
5. *Abies balsamea*	5	No	FAC
6.			
7.			
	70	= Total Cover	
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals	90	(A)	300 (B)
Prevalence Index = B/A =	3.3		

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes __✓__ No ____

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

SOIL

Sampling Point: W-CHI-THE-1; UPL-3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 3/3	100					Silt Loam	
3 - 14	10YR 4/4	100					Silt Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-July-28
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-1; UPL-4
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Shoulder slope **Local relief (concave, convex, none):** Convex **Slope (%):** 5-10
Subregion (LRR or MLRA): LRR R **Lat:** 42.7608784 **Long:** -72.0985558 **Datum:** WGS84
Soil Map Unit Name: Pillsbury/Peru **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Area is upland, not all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-1; UPL-4

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	30	Yes	FAC
2. *Betula papyrifera*	30	Yes	FACU
3. *Fagus grandifolia*	15	No	FACU
4. *Quercus rubra*	10	No	FACU
5.			
6.			
7.			
	85	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Abies balsamea*	15	Yes	FAC
2. *Fagus grandifolia*	15	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Trientalis borealis*	5	Yes	FAC
2. *Acer rubrum*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	55	x 3 =	165
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals	125	(A)	445 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-1; UPL-4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 10	10YR 3/4	100		0			Silt Loam	
10 - 20	10YR 5/6	100		0			Silt Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-01
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-1; UPL-5
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hilltop **Local relief (concave, convex, none):** Convex **Slope (%):** 5-10
Subregion (LRR or MLRA): LRR R **Lat:** 42.7595343 **Long:** -72.1044602 **Datum:** WGS84
Soil Map Unit Name: Becket/Marlow **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Area is upland, not all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-1; UPL-5

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	70	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Pinus strobus*	45	Yes	FACU
2. *Quercus rubra*	15	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	60	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Pteridium aquilinum*	20	Yes	FACU
2. *Pyrola americana*	5	No	FAC
3. *Maianthemum canadense*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= 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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	155	x 4 =	620
UPL species	0	x 5 =	0
Column Totals	160	(A)	635 (B)
Prevalence Index = B/A =	4		

Hydrophytic Vegetation Indicators:

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

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

_____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _____ No ✓

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

SOIL

Sampling Point: W-CHI-THE-1; UPL-5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 3/2	100		0			Silt Loam	
3 - 20	10YR 5/6	100		0			Silt Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-02
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-1; UPL-6
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 5-10
Subregion (LRR or MLRA): LRR R **Lat:** 42.7302619 **Long:** -72.0399647 **Datum:** WGS84
Soil Map Unit Name: Becket/Marlow **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Area is upland, not all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-1; UPL-6

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus rubra*	40	Yes	FACU
2. *Pinus strobus*	20	Yes	FACU
3. *Acer rubrum*	10	No	FAC
4. *Betula papyrifera*	10	No	FACU
5.			
6.			
7.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Quercus rubra*	50	Yes	FACU
2. *Acer rubrum*	10	No	FAC
3. *Betula papyrifera*	5	No	FACU
4.			
5.			
6.			
7.			
	65	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Pteridium aquilinum*	30	Yes	FACU
2. *Maianthemum canadense*	5	No	FACU
3. *Toxicodendron radicans*	5	No	FAC
4. *Quercus rubra*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= 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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	165	x 4 =	660
UPL species	0	x 5 =	0
Column Totals	190 (A)		735 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

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

_____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _____ No ✓

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

SOIL

Sampling Point: W-CHI-THE-1; UPL-6

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 2	10YR 3/2	100					Loam	
2 - 8	10YR 3/3	100					Silt Loam	
8 - 14	10YR 4/4	100					Silt Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 14

Hydric Soil Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-03
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-1; UPL-7
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 5-10
Subregion (LRR or MLRA): LRR R **Lat:** 42.7711632 **Long:** -72.106524 **Datum:** WGS84
Soil Map Unit Name: Skerry/Becket **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Area is upland, not all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-1; UPL-7

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	30	Yes	FACU
2. *Betula papyrifera*	30	Yes	FACU
3. *Abies balsamea*	15	No	FAC
4. *Prunus serotina*	15	No	FACU
5. *Acer rubrum*	5	No	FAC
6. *Fraxinus nigra*	5	No	FACW
7.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Abies balsamea*	10	Yes	FAC
2. *Acer rubrum*	10	Yes	FAC
3. *Pinus strobus*	5	Yes	FACU
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Polystichum acrostichoides*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	40	x 3 =	120
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column Totals	130	(A)	470 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

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

_____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _____ No ✓

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

SOIL

Sampling Point: W-CHI-THE-1; UPL-7

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 2/2	100		0			Loam	
3 - 10	10YR 4/4	100		0			Silt Loam	
10 - 20	10YR 4/6	100		0			Silt Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-04
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-1; UPL-8
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 2-5
Subregion (LRR or MLRA): LRR R **Lat:** 42.7672985 **Long:** -72.103014 **Datum:** WGS84
Soil Map Unit Name: Becket/Marlow **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Area is upland, not all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-1; UPL-8

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus rubra*	60	Yes	FACU
2. *Betula alleghaniensis*	15	No	FAC
3. *Acer rubrum*	15	No	FAC
4.			
5.			
6.			
7.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Quercus rubra*	15	Yes	FACU
2. *Acer rubrum*	5	Yes	FAC
3. *Betula alleghaniensis*	5	Yes	FAC
4. *Pinus strobus*	5	Yes	FACU
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Maianthemum canadense*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	6	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	33.3	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column Totals	125	(A)	460 (B)
Prevalence Index = B/A =	3.7		

Hydrophytic Vegetation Indicators:

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

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

_____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _____ No ✓

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

SOIL

Sampling Point: W-CHI-THE-1; UPL-8

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 3/3	100		0			Silt Loam	
6 - 18	10YR 4/4	100		0			Silt Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 18

Hydric Soil Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-05
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-1; UPL-9
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 2-5
Subregion (LRR or MLRA): LRR R **Lat:** 42.769767 **Long:** -72.1046473 **Datum:** WGS84
Soil Map Unit Name: Skerry/Becket **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Area is upland, not all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ____ No ✓
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-1; UPL-9

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus rubra*	40	Yes	FACU
2. *Pinus strobus*	30	Yes	FACU
3. *Betula alleghaniensis*	15	No	FAC
4.			
5.			
6.			
7.			
	85	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Quercus rubra*	10	Yes	FACU
2. *Abies balsamea*	5	Yes	FAC
3. *Betula alleghaniensis*	5	Yes	FAC
4.			
5.			
6.			
7.			
	20	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Athyrium angustum*	20	Yes	FAC
2. *Maianthemum canadense*	10	Yes	FACU
3. *Acer rubrum*	5	No	FAC
4. *Aralia nudicaulis*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 42.9 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals	145	(A)	530 (B)

Prevalence Index = B/A = 3.7

Hydrophytic Vegetation Indicators:

_____ 1- Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is > 50%

_____ 3 - Prevalence Index is ≤ 3.0[1]

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

_____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _____ No ✓

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

SOIL

Sampling Point: W-CHI-THE-1; UPL-9

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 3/2	100		0			Loam	
3 - 8	7.5YR 3/4	100		0			Silt Loam	
8 - 14	7.5YR 4/4	100		0			Silt Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 14

Hydric Soil Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-July-26
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-2; PSS-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.7746999 **Long:** -72.1081336 **Datum:** WGS84
Soil Map Unit Name: Skerry/Becket **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Area is wetland, all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-2; PSS-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Frangula alnus*	40	Yes	FAC
2. *Spiraea alba*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
	45	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Onoclea sensibilis*	30	Yes	FACW
2. *Scirpus cyperinus*	15	Yes	OBL
3. *Iris versicolor*	10	No	OBL
4. *Juncus effusus*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	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	35	x 1 =	35
FACW species	35	x 2 =	70
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	110	(A)	225 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-2; PSS-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 3/1	100					Loamy Sand	
4 - 20	10YR 4/2	95	10YR 5/8	5	C	M	Loamy Sand	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes _✓_ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-July-26
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-3; PSS-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.7718038 **Long:** -72.1041286 **Datum:** WGS84
Soil Map Unit Name: Becket/Marlow **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Area is wetland, all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-3; PSS-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Frangula alnus*	30	Yes	FAC
2. *Spiraea alba*	15	Yes	FACW
3. *Acer rubrum*	5	No	FAC
4.			
5.			
6.			
7.			
	50	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Scirpus cyperinus*	40	Yes	OBL
2. *Osmunda claytoniana*	25	Yes	FAC
3. *Onoclea sensibilis*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	4	(A)
Total Number of Dominant Species Across All Strata:	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	40	x 1 =	40
FACW species	25	x 2 =	50
FAC species	60	x 3 =	180
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	125	(A)	270 (B)

Prevalence Index = B/A = 2.2

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-3; PSS-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 12	10YR 4/2	85	10YR 5/6	15			Sandy Loam	
12 - 20	10YR 4/2	80	10YR 5/6	20	C	M	Sandy Clay Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes _✓_ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-July-26
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-4; PFO-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 1-10
Subregion (LRR or MLRA): LRR R **Lat:** 42.7725121 **Long:** -72.107301 **Datum:** WGS84
Soil Map Unit Name: Skerry/Becket **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Area is wetland, all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-4; PFO-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Betula alleghaniensis*	35	Yes	FAC
2. *Acer rubrum*	30	Yes	FAC
3. *Pinus strobus*	25	Yes	FACU
4.			
5.			
6.			
7.			
	90	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer rubrum*	10	Yes	FAC
2. *Pinus strobus*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	

Herb Stratum (Plot size: 5)			
1. *Impatiens capensis*	20	Yes	FACW
2. *Carex crinita*	10	Yes	OBL
3. *Acer rubrum*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	35	= Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= 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: 71.4 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	10	x 1 =	10
FACW species	20	x 2 =	40
FAC species	80	x 3 =	240
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals	140	(A)	410 (B)

Prevalence Index = B/A = 2.9

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-4; PFO-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 10	10YR 3/1	90	10YR 3/6	10	C	M	Muck Silt Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 10

Hydric Soil Present? Yes ✓ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-01
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-8; PFO-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 1-10
Subregion (LRR or MLRA): LRR R **Lat:** 42.7652369 **Long:** -72.1004647 **Datum:** WGS84
Soil Map Unit Name: Marlow/Peru **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-THE-8

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

Area is wetland, all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-8; PFO-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	15	Yes	FAC
2. *Quercus rubra*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Frangula alnus*	40	Yes	FAC
2. *Acer rubrum*	10	No	FAC
3. *Spiraea tomentosa*	10	No	FACW
4.			
5.			
6.			
7.			
	60	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Solidago gigantea*	35	Yes	FACW
2. *Onoclea sensibilis*	25	Yes	FACW
3. *Rubus idaeus*	20	Yes	FACU
4. *Scirpus cyperinus*	10	No	OBL
5. *Athyrium angustum*	10	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	10	x 1 =	10
FACW species	70	x 2 =	140
FAC species	75	x 3 =	225
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals	180	(A)	475 (B)

Prevalence Index = B/A = 2.6

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-8; PFO-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 4/2	95	10YR 5/8	5	C	M	Loam	
4 - 12	10YR 3/2	90	10YR 3/6	10	C	M	Sandy Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 12

Hydric Soil Present? Yes _✓_ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-03
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-10; PFO-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.7702557 **Long:** -72.1041606 **Datum:** WGS84
Soil Map Unit Name: Skerry/Becket **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-THE-10

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

Area is wetland, all three wetland parameters are present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-10; PFO-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	60	Yes	FAC
2. *Betula alleghaniensis*	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	75	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer rubrum*	40	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	40	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Carex crinita*	15	Yes	OBL
2. *Iris versicolor*	5	Yes	OBL
3. *Onoclea sensibilis*	5	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	25	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= 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	20	x 1 =	20
FACW species	5	x 2 =	10
FAC species	115	x 3 =	345
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	140	(A)	375 (B)

Prevalence Index = B/A = 2.7

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-10; PFO-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 3/1	100		0			Loam	
4 - 12	10YR 5/1	85	10YR 4/6	15	C	M	Sandy Loam	
12 - 20	10YR 6/2	70	10YR 5/8	30	C	M	Loamy Sand	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes _✓_ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-03
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-11; PFO-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.7700117 **Long:** -72.1031002 **Datum:** WGS84
Soil Map Unit Name: Skerry/Becket **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-THE-11

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

Area is wetland, all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-11; PFO-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	60	Yes	FAC
2. *Pinus strobus*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Spiraea alba*	20	Yes	FACW
2. *Acer rubrum*	10	Yes	FAC
3. *Vaccinium corymbosum*	10	Yes	FACW
4. *Pinus strobus*	5	No	FACU
5.			
6.			
7.			
	45	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Carex crinita*	30	Yes	OBL
2. *Rubus flagellaris*	5	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	35	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= 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:	83.3	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	30	x 1 =	30
FACW species	30	x 2 =	60
FAC species	70	x 3 =	210
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals	160	(A)	420 (B)
Prevalence Index = B/A =	2.6		

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-11; PFO-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 4/2	95	10YR 3/6	5	C	M	Sandy Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 8

Hydric Soil Present? Yes _✓_ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-03
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-13; PEM-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.7703879 **Long:** -72.1062223 **Datum:** WGS84
Soil Map Unit Name: Becket/Marlow **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-THE-13

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

Area is wetland, all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ✓ No ____	Depth (inches):	8

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-13; PEM-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Frangula alnus*	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Spiraea tomentosa*	60	Yes	FACW
2. *Onoclea sensibilis*	15	No	FACW
3. *Carex crinita*	10	No	OBL
4. *Scirpus cyperinus*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	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	15	x 1 =	15
FACW species	75	x 2 =	150
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	110	(A)	225 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-13; PEM-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 2	10YR 2/1	100					Loam	
2 - 8	10YR 4/2	95	10YR 4/6	5	C	M	Sand	
8 - 18	10YR 5/2	85	10YR 5/8	15	C	M	Sand	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
_✓_ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes _✓_ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-03
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-15; PEM-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.771631 **Long:** -72.1053475 **Datum:** WGS84
Soil Map Unit Name: Becket/Marlow **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-THE-15

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

Area is wetland, all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-15; PEM-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Frangula alnus*	5	Yes	FAC
2. *Spiraea alba*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Calamagrostis canadensis*	90	Yes	OBL
2. *Onoclea sensibilis*	10	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	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	90	x 1 =	90
FACW species	15	x 2 =	30
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	110	(A)	135 (B)
Prevalence Index = B/A =	1.2		

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-15; PEM-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
8 - 20	10YR 4/1	95	10YR 5/8	5	C	M	Loamy Sand	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes _✓_ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-03
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-16; PSS-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.7688794 **Long:** -72.1038464 **Datum:** WGS84
Soil Map Unit Name: Skerry/Becket **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-THE-16

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

Area is wetland, all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-16; PSS-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Spiraea tomentosa*	40	Yes	FACW
2. *Frangula alnus*	15	Yes	FAC
3. *Acer rubrum*	5	No	FAC
4.			
5.			
6.			
7.			
	60	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Scirpus cyperinus*	30	Yes	OBL
2. *Glyceria canadensis*	25	Yes	OBL
3. *Solidago gigantea*	10	No	FACW
4. *Rubus allegheniensis*	10	No	FACU
5. *Carex crinita*	10	No	OBL
6. *Rubus flagellaris*	10	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	4	(A)
Total Number of Dominant Species Across All Strata:	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	65	x 1 =	65
FACW species	50	x 2 =	100
FAC species	20	x 3 =	60
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals	155	(A)	305 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-16; PSS-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 2/1	95	10YR 3/6	5	C	M	Mucky Loam	
3 - 12	10YR 3/2	95	10YR 4/6	5	C	M	Silt Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 12

Hydric Soil Present? Yes ✓ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-03
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-18; PFO-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.7690748 **Long:** -72.1027868 **Datum:** WGS84
Soil Map Unit Name: Becket/Marlow **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-THE-18

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

Area is wetland, all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-18; PFO-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Frangula alnus*	15	Yes	FAC
2. *Spiraea tomentosa*	15	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Calamagrostis canadensis*	80	Yes	OBL
2. *Scirpus cyperinus*	10	No	OBL
3. *Osmunda spectabilis*	5	No	OBL
4. *Rubus allegheniensis*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	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	95	x 1 =	95
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	130	(A)	190 (B)

Prevalence Index = B/A = 1.5

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-18; PFO-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 5	10YR 4/1	95	10YR 3/6	5	C	M	Sandy Loam	
5 - 12	10YR 5/1	95	10YR 5/8	5	C	M	Loamy Sand	
12 - 20	10YR 6/2	75	10YR 5/8	25	C	M	Loamy Sand	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes _✓_ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-04
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-20; PFO-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 2-5
Subregion (LRR or MLRA): LRR R **Lat:** 42.7673229 **Long:** -72.1041896 **Datum:** WGS84
Soil Map Unit Name: Becket/Marlow **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-THE-20

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

Area is wetland, all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-20; PFO-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	40	Yes	FAC
2. *Fraxinus nigra*	20	Yes	FACW
3. *Abies balsamea*	10	No	FAC
4. *Pinus strobus*	5	No	FACU
5.			
6.			
7.			
	75	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Spiraea alba*	40	Yes	FACW
2. *Frangula alnus*	30	Yes	FAC
3. *Acer rubrum*	10	No	FAC
4.			
5.			
6.			
7.			
	80	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Calamagrostis canadensis*	85	Yes	OBL
2. *Onoclea sensibilis*	5	No	FACW
3. *Scirpus cyperinus*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1. *Calamagrostis canadensis*	0	No	OBL
2. *Scirpus cyperinus*	0	No	OBL
3. *Onoclea sensibilis*	0	No	FACW
4.			
	0	= 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	90	x 1 =	90
FACW species	65	x 2 =	130
FAC species	90	x 3 =	270
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	250	(A)	510 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-20; PFO-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 18	10YR 2/1	100		0			Mucky Organic Matter	
18 - 24	2.5Y 5/1	95	7.5YR 4/6	5	C	M	Loamy Sand	

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

Hydric Soil Indicators:

___ Histosol (A1)
✓ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes ✓ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-04
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-21; PEM-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.7642625 **Long:** -72.1018365 **Datum:** WGS84
Soil Map Unit Name: Tunbridge/Berkshire **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-THE-21

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

Area is wetland, all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-21; PEM-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Spiraea tomentosa*	10	Yes	FACW
2. *Spiraea alba*	10	Yes	FACW
3. *Acer rubrum*	5	Yes	FAC
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Scirpus cyperinus*	25	Yes	OBL
2. *Juncus effusus*	20	Yes	OBL
3. *Carex crinita*	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= 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:	83.3	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	55	x 1 =	55
FACW species	20	x 2 =	40
FAC species	5	x 3 =	15
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	85	(A)	130 (B)

Prevalence Index = B/A = 1.5

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-21; PEM-1

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

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

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 10

Hydric Soil Present? Yes _✓_ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire **Sampling Date:** 2016-Aug-05
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-THE-23; PEM-1
Investigator(s): Thomas Errico, Anna Prowant **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.7667166 **Long:** -72.1022202 **Datum:** WGS84
Soil Map Unit Name: Becket/Marlow **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-THE-23

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

Area is wetland, all three wetland parameters are present. Conditions are dry

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-23; PEM-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Frangula alnus*	10	Yes	FAC
2. *Acer rubrum*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Carex crinita*	60	Yes	OBL
2. *Juncus effusus*	15	No	OBL
3. *Glyceria canadensis*	10	No	OBL
4. *Onoclea sensibilis*	5	No	FACW
5. *Scirpus cyperinus*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	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	90	x 1 =	90
FACW species	5	x 2 =	10
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	110	(A)	145 (B)
Prevalence Index = B/A =	1.3		

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-23; PEM-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 5	10YR 4/1	95	10YR 4/6	5	C	M	Sandy Loam	
5 - 12	10YR 5/3	85	10YR 5/8	15	C	M	Loamy Sand	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 12

Hydric Soil Present? Yes _✓_ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam, **Sampling Date:** 2017-June-14
Applicant/Owner: NextEra Energy Resource (NEER) **State:** **Sampling Point:** W-CHI-THE-26; PFO-1
Investigator(s): Thomas Errico, SFP **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** Hillside seepage **Slope (%):** 1-10
Subregion (LRR or MLRA): **Lat:** 42.7772975 **Long:** -72.1134203 **Datum:** WGS84
Soil Map Unit Name: **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _✓_ No ____		
Hydric Soil Present?	Yes _✓_ No ____	**Is the Sampled Area within a Wetland?**	**Yes _✓_ No ____**
Wetland Hydrology Present?	Yes _✓_ No ____	**If yes, optional Wetland Site ID:**	W-CHI-THE-26

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No _✓_	Depth (inches):		
Water Table Present?	Yes _✓_ No ____	Depth (inches):	6	**Wetland Hydrology Present?** Yes _✓_ No ____
Saturation Present? (includes capillary fringe)	Yes _✓_ No ____	Depth (inches):	0	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-26; PFO-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tsuga canadensis*	60	Yes	FACU
2. *Acer rubrum*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer rubrum*	10	Yes	FAC
2. *Tsuga canadensis*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Osmundastrum cinnamomeum*	55	Yes	FACW
2. *Coptis trifolia*	15	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	4	(A)
Total Number of Dominant Species Across All Strata:	6	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	66.7	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	30	x 3 =	90
FACU species	65	x 4 =	260
UPL species	0	x 5 =	0
Column Totals	165	(A)	490 (B)

Prevalence Index = B/A = 3

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-26; PFO-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 3/1	100					Mucky Sandy Loam	
3 - 6	10YR 3/1	95	10YR 3/6	5	C	M	Mucky Sandy Loam	
6 - 12	10YR 4/2	95	10YR 3/6	5	C	M	Mucky Sandy Loam	
12 - 18	10YR 5/2	100					Loamy Sand	
18 - 20	10YR 5/3	85	10YR 5/8	15	C	M	Loamy Sand	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes _✓_ No ____

Remarks:

Photo of Sample Plot

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam, Cheshire County **Sampling Date:** 2017-June-14
Applicant/Owner: NextEra Energy Resource (NEER) **State:** New Hampshire **Sampling Point:** W-CHI-THE-27; PEM-1
Investigator(s): Thomas Errico, SFP **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 1-10
Subregion (LRR or MLRA): **Lat:** 42.7775252 **Long:** -72.1132572 **Datum:** WGS84
Soil Map Unit Name: **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _✓_ No ____		
Hydric Soil Present?	Yes _✓_ No ____	**Is the Sampled Area within a Wetland?**	**Yes _✓_ No ____**
Wetland Hydrology Present?	Yes _✓_ No ____	**If yes, optional Wetland Site ID:**	W-CHI-THE-27

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes _✓_ No ____

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-27; PEM-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer rubrum*	5	Yes	FAC
2. *Frangula alnus*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Calamagrostis canadensis*	65	Yes	OBL
2. *Iris versicolor*	5	No	OBL
3. *Scirpus cyperinus*	5	No	OBL
4. *Scirpus atrovirens*	5	No	OBL
5. *Spiraea tomentosa*	5	No	FACW
6. *Cornus canadensis*	5	No	FAC
7. *Kalmia angustifolia*	5	No	FAC
8.			
9.			
10.			
11.			
12.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	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	80	x 1 =	80
FACW species	5	x 2 =	10
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	105 (A)		150 (B)

Prevalence Index = B/A = 1.4

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-27; PEM-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 3/2	85	7.5YR 3/4	15	C	M	Mucky Sandy Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Gravel possible tline fill
Depth (inches): 8

Hydric Soil Present? Yes ✓ No ____

Remarks:

Photo of Sample Plot

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , **Sampling Date:** 2017-June-15
Applicant/Owner: NextEra Energy Resource (NEER) **State:** **Sampling Point:** W-CHI-THE-32; PSS-1
Investigator(s): Thomas Errico, SFP **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Floodplain **Slope (%):** 2-5
Subregion (LRR or MLRA): **Lat:** 42.7788004 **Long:** -72.1112101 **Datum:** WGS84
Soil Map Unit Name: **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _✓_ No ____		
Hydric Soil Present?	Yes _✓_ No ____	**Is the Sampled Area within a Wetland?**	**Yes _✓_ No ____**
Wetland Hydrology Present?	Yes _✓_ No ____	**If yes, optional Wetland Site ID:**	W-CHI-THE-32

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No _✓_	Depth (inches):		
Water Table Present?	Yes _✓_ No ____	Depth (inches):	4	**Wetland Hydrology Present?** Yes _✓_ No ____
Saturation Present? (includes capillary fringe)	Yes _✓_ No ____	Depth (inches):	0	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-THE-32; PSS-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	15	Yes	FAC
2. *Betula alleghaniensis*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Alnus incana*	35	Yes	FACW
2. *Abies balsamea*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	45	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Impatiens capensis*	20	Yes	FACW
2. *Carex crinita*	10	Yes	OBL
3. *Onoclea sensibilis*	10	Yes	FACW
4. *Acer rubrum*	5	No	FAC
5. *Poa palustris*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= 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	10	x 1 =	10
FACW species	70	x 2 =	140
FAC species	35	x 3 =	105
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	115	(A)	255 (B)

Prevalence Index = B/A = 2.2

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-THE-32; PSS-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 5	10YR 2/1	100					Muck Organic Matter	
5 - 9	10YR 4/2	95	10YR 5/6	5	C	M	coarse Loamy Sand	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
_✓_ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 9

Hydric Soil Present? Yes _✓_ No ____

Remarks:

Photo of Sample Plot

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam , Cheshire County **Sampling Date:** 2016-Aug-04
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-DRB-40; PFO-1
Investigator(s): Dave Brenneman, Dayson Cullivan **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.7656367 **Long:** -72.1005737 **Datum:** WGS84
Soil Map Unit Name: 77C Marlow Peru **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-DRB-40

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

Minor drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

weak hydrology in shallow to rock pit and mound PFO headwater wetland

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-DRB-40; PFO-1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	25	Yes	FAC
2. *Betula populifolia*	20	Yes	FAC
3. *Acer saccharum*	10	No	FACU
4. *Betula alleghaniensis*	5	No	FAC
5.			
6.			
7.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Fraxinus americana*	20	Yes	FACU
2. *Frangula alnus*	20	Yes	FAC
3. *Acer rubrum*	5	No	FAC
4.			
5.			
6.			
7.			
	45	= Total Cover	
Herb Stratum (Plot size: 3')			
1. *Onoclea sensibilis*	40	Yes	FACW
2. *Solidago rugosa*	5	No	FAC
3. *Clematis virginiana*	5	No	FAC
4. *Carex sp.*	2	No	NI
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	52	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 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	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	85	x 3 =	255
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals	155	(A)	455 (B)

Prevalence Index = B/A = 2.9

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-DRB-40; PFO-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 5	7.5YR 2.5/2	100					Sandy Loam	
5 - 13	7.5YR 4/2	98	10YR 3/4	2	C	M	Sandy Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
_✓_ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 13

Hydric Soil Present? Yes _✓_ No ____

Remarks:

Vegetation Photos

Soil Photos

Photo of Sample Plot

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam, Cheshire County **Sampling Date:** 2016-Aug-04
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-DRB-40; UPL-2
Investigator(s): Dave Brenneman, Dayson Cullivan **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1-10
Subregion (LRR or MLRA): LRR R **Lat:** 42.7654495 **Long:** -72.1003374 **Datum:** WGS84
Soil Map Unit Name: 77C Marlow Peru **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Minor drought conditions

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-DRB-40; UPL-2

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Betula papyrifera*	20	Yes	FACU
2. *Fraxinus americana*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Acer rubrum*	25	Yes	FAC
2. *Quercus rubra*	25	Yes	FACU
3. *Acer saccharum*	25	Yes	FACU
4. *Fagus grandifolia*	10	No	FACU
5. *Prunus serotina*	5	No	FACU
6. *Pinus strobus*	3	No	FACU
7. *Fraxinus americana*	2	No	FACU
	95	= Total Cover	
Herb Stratum (Plot size: 3')			
1. *Frangula alnus*	2	No	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	2	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= 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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	27	x 3 =	81
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals	122	(A)	461 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ____ No ✓

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

SOIL

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 2/2	100					Fine Sandy Loam	
3 - 10	7.5YR 4/3	100					Fine Sandy Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 10

Hydric Soil Present? Yes ____ No ✓

Remarks:

Vegetation Photos

Soil Photos

Photo of Sample Plot

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam, Cheshire County **Sampling Date:** 2016-Aug-04
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-DRB-41; PFO-1
Investigator(s): Dave Brenneman, Dayson Cullivan **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Terrace **Local relief (concave, convex, none):** Flat **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.7663996 **Long:** -72.1000947 **Datum:** WGS84
Soil Map Unit Name: 76C Marlow Peru **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-DRB-41

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

Minor drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-DRB-41; PFO-1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Betula alleghaniensis*	20	Yes	FAC
2. *Acer rubrum*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Betula alleghaniensis*	25	Yes	FAC
2. *Acer rubrum*	10	Yes	FAC
3. *Abies balsamea*	3	No	FAC
4. *Frangula alnus*	2	No	FAC
5.			
6.			
7.			
	40	= Total Cover	
Herb Stratum (Plot size: 3')			
1. *Rubus hispidus*	25	Yes	FACW
2. *Acer rubrum*	7	No	FAC
3. *Cinna latifolia*	3	No	FACW
4. *Carex trisperma*	3	No	OBL
5. *Maianthemum canadense*	2	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= 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	3	x 1 =	3
FACW species	28	x 2 =	56
FAC species	72	x 3 =	216
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals	105	(A)	283 (B)
Prevalence Index = B/A =	2.7		

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-DRB-41; PFO-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 7	7.5YR 2.5/1	100					Hemic Organic Matter	
7 - 10	10YR 3/2	98	10YR 3/6	2	C	M	Sandy Loam	
10 - 16	10YR 4/2	98	10YR 4/6	2	C	M	Sandy Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
_✓_ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 16

Hydric Soil Present? Yes _✓_ No ____

Remarks:

Vegetation Photos

Soil Photos

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam, Cheshire County **Sampling Date:** 2016-Aug-04
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-DRB-43; PSS-1
Investigator(s): Dave Brenneman, Dayson Cullivan **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Terrace **Local relief (concave, convex, none):** Concave **Slope (%):** 1-10
Subregion (LRR or MLRA): LRR R **Lat:** 42.768749 **Long:** -72.100483 **Datum:** WGS84
Soil Map Unit Name: 77C Marlow Peru **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-DRB-43

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

Minor drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-DRB-43; PSS-1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Frangula alnus*	25	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 3')			
1. *Calamagrostis canadensis*	75	Yes	OBL
2. *Solidago rugosa*	10	No	FAC
3. *Scirpus cyperinus*	3	No	OBL
4. *Viburnum dentatum*	2	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	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	78	x 1 =	78
FACW species	0	x 2 =	0
FAC species	37	x 3 =	111
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	115	(A)	189 (B)

Prevalence Index = B/A = 1.6

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-DRB-43; PSS-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 3	7.5YR 3/2	100					Sandy Loam	
3 - 6	10YR 4/2	95	10YR 3/6	5	C	M	Sandy Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
_✓_ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 6

Hydric Soil Present? Yes _✓_ No ____

Remarks:

Vegetation Photos

Soil Photos

Photo of Sample Plot

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam, Cheshire County **Sampling Date:** 2016-Aug-04
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-DRB-44; PSS-1
Investigator(s): Dave Brenneman, Dayson Cullivan **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.7680971 **Long:** -72.0996933 **Datum:** WGS84
Soil Map Unit Name: 77C Marlow Peru **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-DRB-44

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

Minor drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-DRB-44; PSS-1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Chamaedaphne calyculata*	95	Yes	OBL
2. *Acer rubrum*	5	No	FAC
3.			
4.			
5.			
6.			
7.			
	100	= Total Cover	
Herb Stratum (Plot size: 3')			
1. *Acer rubrum*	3	Yes	FAC
2. *Spiraea tomentosa*	2	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	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	95	x 1 =	95
FACW species	2	x 2 =	4
FAC species	8	x 3 =	24
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	105	(A)	123 (B)
Prevalence Index = B/A =	1.2		

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-DRB-44; PSS-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 3/2	98	7.5YR 3/4	2	C	PL	Sandy Loam	
6 - 12	2.5Y 4/2	95	10YR 4/4	5	C	PL	Loamy Sand	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
_✓_ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 12

Hydric Soil Present? Yes _✓_ No ____

Remarks:

Vegetation Photos

Soil Photos

Photo of Sample Plot

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam, Cheshire County **Sampling Date:** 2016-Aug-04
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-DRB-45; PSS-1
Investigator(s): Dave Brenneman, Dayson Cullivan **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Terrace **Local relief (concave, convex, none):** Flat **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.7690778 **Long:** -72.1010171 **Datum:** WGS84
Soil Map Unit Name: 77C Marlow Peru **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-DRB-45

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

Minor drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-DRB-45; PSS-1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Betula populifolia*	15	Yes	FAC
2. *Frangula alnus*	5	Yes	FAC
3. *Spiraea alba*	2	No	FACW
4.			
5.			
6.			
7.			
	22	= Total Cover	
Herb Stratum (Plot size: 3')			
1. *Spiraea alba*	60	Yes	FACW
2. *Scirpus cyperinus*	20	Yes	OBL
3. *Osmunda spectabilis*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	4	(A)
Total Number of Dominant Species Across All Strata:	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	25	x 1 =	25
FACW species	62	x 2 =	124
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	107	(A)	209 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-DRB-45; PSS-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 7	5Y 5/2	95	10YR 3/4	5	C	M	Gravelly Sandy Loam	
7 - 10	5Y 5/2	80	10YR 3/4	20	C	PL	Gravelly Loamy Sand	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 10

Hydric Soil Present? Yes _✓_ No ____

Remarks:

Vegetation Photos

Soil Photos

Photo of Sample Plot

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chinook Solar **City/County:** Fitzwilliam, Cheshire County **Sampling Date:** 2016-Aug-04
Applicant/Owner: Ranger Solar **State:** NH **Sampling Point:** W-CHI-DRB-46; PSS-1
Investigator(s): Dave Brenneman, Dayson Cullivan **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Terrace **Local relief (concave, convex, none):** Convex **Slope (%):** 0-1
Subregion (LRR or MLRA): LRR R **Lat:** 42.768665 **Long:** -72.1013 **Datum:** WGS84
Soil Map Unit Name: 77C Marlow Peru **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____		
Hydric Soil Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes ✓ No ____**
Wetland Hydrology Present?	Yes ✓ No ____	**If yes, optional Wetland Site ID:**	W-CHI-DRB-46

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

Minor drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____ No ✓	Depth (inches):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-CHI-DRB-46; PSS-1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Frangula alnus*	15	Yes	FAC
2. *Salix bebbiana*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 3')			
1. *Onoclea sensibilis*	25	Yes	FACW
2. *Carex crinita*	25	Yes	OBL
3. *Juncus effusus*	10	No	OBL
4. *Solidago canadensis*	5	No	FACU
5. *Fragaria virginiana*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	4	(A)
Total Number of Dominant Species Across All Strata:	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	35	x 1 =	35
FACW species	35	x 2 =	70
FAC species	15	x 3 =	45
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals	95	(A)	190 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

____ 1- Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _✓_ No ____

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

SOIL

Sampling Point: W-CHI-DRB-46; PSS-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 6	7.5YR 2.5/1	95	7.5YR 4/6	5	C	M	Sandy Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(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 Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 6

Hydric Soil Present? Yes ✓ No ____

Remarks:

Vegetation Photos

Soil Photos

Photo of Sample Plot

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Chinook Solar City/County: Fitzwilliam/Cheshire Sampling Date: 10/5/2018
Applicant/Owner: NextEra Energy Resources State: NH Sampling Point: W-CHI-TRS-3 Wet
Investigator(s): E. Lema Section, Township, Range: n/a
Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave
Slope (%): 3 Lat.: 42.759025 Long.: -72.107261 Datum: WGS84
Soil Map Unit Name: NWI Classification: n/a
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation X , soil X , or hydrology X significantly disturbed?
Are vegetation , soil , or hydrology naturally problematic?
Are "normal circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	Y
Hydric soil present?	Y		
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	W-CHI-TRS-3

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

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):
Water table present?	Yes	X	No		Depth (inches): 2
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches): 0

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Pockets of standing water evident throughout wetland

VEGETATION - Use scientific names of plants

Sampling Point W-CHI-TRS-3 Wet

Tree Stratum	Plot Size (30)	Absolute % Cover	Dominant Species	Indicator Status
1	*Acer rubrum*	10	Y	FAC
2	*Abies balsamea*	2	N	FAC
3				
4				
5				
6				
7				
8				
9				
10				
		12	= Total Cover	

Sapling/Shrub Stratum	Plot Size (15)	Absolute % Cover	Dominant Species	Indicator Status
1	*Abies balsamea*	5	Y	FAC
2				
3				
4				
5				
6				
7				
8				
9				
10				
		5	= Total Cover	

Herb Stratum	Plot Size (5)	Absolute % Cover	Dominant Species	Indicator Status
1	*Carex lurida*	20	Y	OBL
2	*Carex crinita*	20	Y	OBL
3	*Osmundastrum cinnamomeum*	5	N	FACW
4	*Parathelypteris noveboracensis*	5	N	FAC
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		50	= Total Cover	

Woody Vine Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	2	6
Sapling/Shrub Stratum	1	3
Herb Stratum	10	25
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	40	x 1 =	40
FACW species	5	x 2 =	10
FAC species	22	x 3 =	66
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	67 (A)		116 (B)

Prevalence Index = B/A = 1.73

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation

X Dominance test is >50%

X Prevalence index is ≤3.0*

___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)

___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic vegetation present? Y

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

Disturbance tolerant species due to recent logging activity.

SOIL **Sampling Point:** W-CHI-TRS-3 Wet

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-8	7.5YR2.5/1	100	n/a				sapric	Organic soil
8-10	10YR3/1	100	n/a				Sandy loam	

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

Hydric Soil Indicators:

- ____ Histisol (A1)
- __X__ Histic Epipedon (A2)
- __X__ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5)
- ____ Depleted Below Dark Suface (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**
- ___ Loamy Mucky Mineral (F1) (
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

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

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: Bedrock/ledge
Depth (inches): 10

Hydric soil present? Y

Remarks:
Shallow, organic soil in wetland.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Chinook Solar City/County: Fitzwilliam/Cheshire Sampling Date: 10/5/2018
Applicant/Owner: NextEra Energy Resources State: NH Sampling Point: W-CHI-TRS-3 UP
Investigator(s): E. Lema Section, Township, Range: n/a
Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave
Slope (%): 5 Lat.: 42.759214 Long.: -72.107261 Datum: WGS84
Soil Map Unit Name: NWI Classification: n/a
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? Yes
Are vegetation ____, soil ____, or hydrology ____ naturally problematic?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	N	**Is the sampled area within a wetland?**	N
Hydric soil present?	N		
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	

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

Forested area on the edge of logging disturbance near property border.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface water present?	Yes ____	No	X	Depth (inches):	
Water table present?	Yes ____	No	X	Depth (inches):	
Saturation present? (includes capillary fringe)	Yes ____	No	X	Depth (inches):	

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No indicators of wetland hydrology observed.

VEGETATION - Use scientific names of plants

Sampling Point: W-CHI-TRS-3 UP

Tree Stratum	Plot Size (30)	Absolute % Cover	Dominant Species	Indicator Status
1	*Acer saccharum*	20	Y	FACU
2	*Tsuga canadensis*	15	Y	FACU
3	*Acer rubrum*	10	Y	FAC
4				
5				
6				
7				
8				
9				
10				
		45	= Total Cover	

Sapling/Shrub Stratum	Plot Size (15)	Absolute % Cover	Dominant Species	Indicator Status
1	*Abies balsamea*	5	Y	FAC
2				
3				
4				
5				
6				
7				
8				
9				
10				
		5	= Total Cover	

Herb Stratum	Plot Size (5)	Absolute % Cover	Dominant Species	Indicator Status
1	*Parathelypteris noveboracensis*	10	Y	FAC
2	*Tsuga canadensis*	5	Y	FACU
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		15	= Total Cover	

Woody Vine Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	9	23
Sapling/Shrub Stratum	1	3
Herb Stratum	3	8
Woody Vine Stratum	0	0

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: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column totals	65 (A)		235 (B)

Prevalence Index = B/A = 3.62

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation

___ Dominance test is >50%

___ Prevalence index is ≤3.0*

___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)

___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic vegetation present? N

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

SOIL **Sampling Point:** W-CHI-TRS-3 UP

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-4	10YR2/1	100	n/a				Loam	
4-7	10YR3/3	100	n/a				Sandy loam	
7-14	7.5YR3/2	100	n/a				Sandy loam	

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

Hydric Soil Indicators:

_____ Histisol (A1)
_____ Histic Epipedon (A2)
_____ Black Histic (A3)
_____ Hydrogen Sulfide (A4)
_____ Stratified Layers (A5)
_____ Depleted Below Dark Suface (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) (**LRI**
___ Loamy Mucky Mineral (F1) (
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

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

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: Bedrock/ledge
Depth (inches): 14

Hydric soil present? N

Remarks:

ATTACHMENT C

Wetland and Stream Photographic Log

	**Resource ID:** W-CHI-THE-1 **Date taken:** 07/25/2016 **Comments:** Coniferous swamp.
	**Resource ID:** W-CHI-THE-1 **Date taken:** 07/25/2016 **Comments:** Beaver pond part of coniferous swamp complex.
	**Resource ID:** W-CHI-THE-2 **Date taken:** 07/26/2016 **Comments:** Scrub/shrub swamp located in transmission line ROW.

	**Resource ID:** W-CHI-THE-3 **Date taken:** 07/26/2016 **Comments:** Scrub/shrub swamp located in transmission line ROW.
	**Resource ID:** W-CHI-THE-4 **Date taken:** 07/26/2016 **Comments:** Logging activity present in wetland.
	**Resource ID:** W-CHI-THE-4 **Date taken:** 07/27/2016 **Comments:** Coniferous swamp portion of wetland.

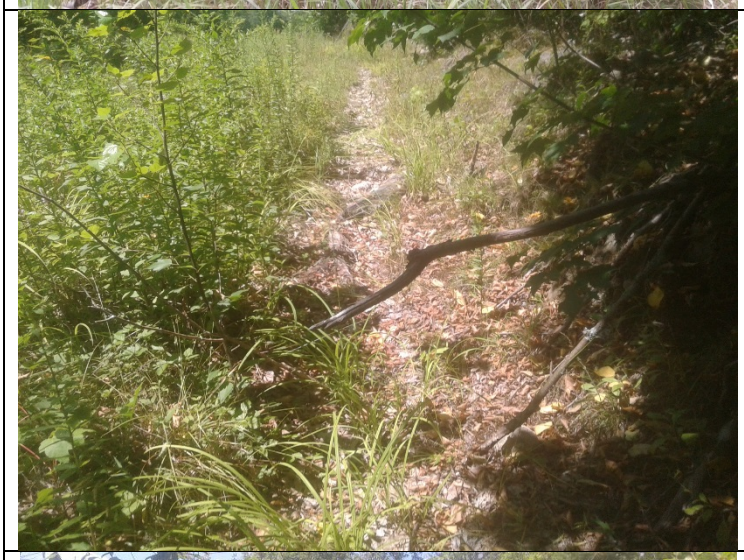
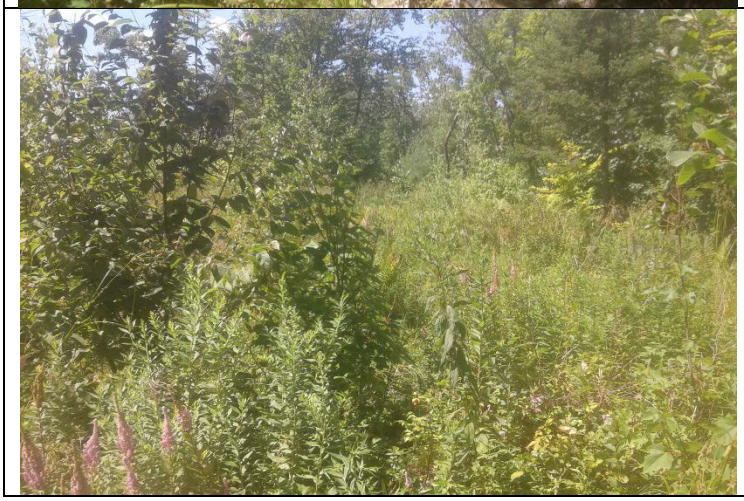
	**Resource ID:** W-CHI-THE-4 **Date taken:** 07/27/2016 **Comments:** Successional growth in logged portion of wetland.
	**Resource ID:** S-CHI-THE-5 **Date taken:** 07/28/2016 **Comments:** Upstream flow of intermittent stream.
	**Resource ID:** S-CHI-THE-6 **Date taken:** 07/28/2016 **Comments:** Cross section of ephemeral stream.

	**Resource ID:** S-CHI-THE-7 **Date taken:** 08/01/2016 **Comments:** Upstream flow of ephemeral stream.
	**Resource ID:** W-CHI-THE-8 **Date taken:** 08/01/2016 **Comments:** Wetland fringe to S-CHI-THE-7.
	**Resource ID:** NJD-CHI-THE-9 **Date taken:** 08/02/2016 **Comments:** Surficial flow in field road.

	**Resource ID:** W-CHI-THE-10 **Date taken:** 08/03/2016 **Comments:** Seasonally flooded portion of forested wetland.
	**Resource ID:** W-CHI-THE-11 **Date taken:** 08/03/2016 **Comments:** Forested swamp.
	**Resource ID:** NJD-CHI-THE-12 **Date taken:** 08/03/2016 **Comments:** Field road ditch that flows in to W-CHI-THE-10.

	**Resource ID:** W-CHI-THE-13 **Date taken:** 08/03/2016 **Comments:** Emergent and shrub portion of wetland.
	**Resource ID:** W-CHI-THE-13 **Date taken:** 08/03/2016 **Comments:** Forested portion of wetland.
	**Resource ID:** S-CHI-THE-14 **Date taken:** 08/03/2016 **Comments:** Downstream flow of ephemeral stream.

	**Resource ID:** W-CHI-THE-15 **Date taken:** 08/03/2016 **Comments:** Depressional PEM in transmission line ROW. Drains into S-CHI-THE-14.
	**Resource ID:** W-CHI-THE-16 **Date taken:** 08/03/2016 **Comments:** Emergent/shrub wetland in previously logged area.
	**Resource ID:** NJD-CHI-THE-17 **Date taken:** 08/03/2016 **Comments:** Dug ditch that connects to culvert and W-CHI-THE-10 across field road.

	**Resource ID:** W-CHI-THE-18 **Date taken:** 08/04/2016 **Comments:** PSS portion in logged over wetland.
	**Resource ID:** NJD-CHI-THE-19 **Date taken:** 08/04/2016 **Comments:** Roadside ditch along logging/field road facing downslope.
	**Resource ID:** W-CHI-THE-20 **Date taken:** 08/04/2016 **Comments:** Shrub portion in logged over wetland.

	**Resource ID:** W-CHI-THE-21 **Date taken:** 08/04/2016 **Comments:** Small, depressional, emergent wetland.
	**Resource ID:** NJD-CHI-THE-22 **Date taken:** 08/04/2016 **Comments:** Surface flow drainage in gravel road that flows to roadside ditch.
	**Resource ID:** W-CHI-THE-23 **Date taken:** 08/05/2016 **Comments:** Emergent wetland in field.

	**Resource ID:** NJD-CHI-THE-24 **Date taken:** 08/05/2016 **Comments:** Drainage from culvert that flows downslope to W-CHI-THE-23.
	**Resource ID:** NJD-CHI-THE-25 **Date taken:** 08/05/2016 **Comments:** Roadside ditch along gravel road in transmission line ROW.
	**Resource ID:** W-CHI-THE 26 **Date taken:** 06/14/2017 **Comments:** Forested wetland swale.

	**Resource ID:** W-CHI-THE-27 **Date taken:** 06/14/2017 **Comments:** Emergent wetland swale.
	**Resource ID:** NJD-CHI-THE-28 **Date taken:** 06/14/2017 **Comments:** Dug ditch on the edge of cleared right-of-way.
	**Resource ID:** S-CHI-THE-29 **Date taken:** 06/15/2017 **Comments:** Intermittent stream facing downstream.

	**Resource ID:** S-CHI-THE-31 **Date taken:** 06/15/2017 **Comments:** Perennial stream facing upstream.
	**Resource ID:** W-CHI-THE-32 **Date taken:** 06/15/2017 **Comments:** Depressional scrub-shrub wetland.
	**Resource ID:** W-CHI-DRB-40 **Date taken:** 08/04/2016 **Comments:** Forested portion of wetland.

	**Resource ID:** W-CHI-DRB-41 **Date taken:** 08/04/2016 **Comments:** Forested swamp.
	**Resource ID:** NJD-CHI-DRB-42 **Date taken:** 08/04/2016 **Comments:** Overflow drainage from ditch along poorly constructed logging road.
	**Resource ID:** W-CHI-DRB-43 **Date taken:** 08/04/2016 **Comments:** Scrub/shrub wetland in transmission line ROW.

	**Resource ID:** W-CHI-DRB-44 **Date taken:** 08/04/2016 **Comments:** Small, scrub/shrub wetland in transmission line ROW.
	**Resource ID:** W-CHI-DRB-45 **Date taken:** 08/04/2016 **Comments:** Scrub/shrub wetland in transmission line ROW.
	**Resource ID:** W-CHI-DRB-46 **Date taken:** 08/04/2016 **Comments:** Scrub/shrub wetland.

Resource ID:	W-CHI-TRS-3
Date taken:	10/05/2018
Comments:	Small, emergent wetland in an area disturbed by logging activities.

ATTACHMENT D

Town of Fitzwilliam Prime Wetlands Study Map

PROPOSED PRIME WETLANDS of FITZWILLIAM

Showing the Six Highest-Ranked Wetland Evaluation Units Selected by the Prime Wetlands Task Force

1 0.5 0 1 Miles

1,100 550 0 1,100 Meters

1:16,000

Chinook Solar Project Survey Area

Scott Pond Complex

North Boyce Brook Marsh

Martin Rd Marsh East

Pierce Road Marsh

Sportsman Pond Complex

Sip Pond Peatland Complex

Legend for Inset Maps

- Vernal Pools
- Fitzwilliam Parcels
- Candidate Prime Wetland Edge
- Candidate Prime 100-foot Buffer
- Other Wetlands < 3.5 acres
- Fitzwilliam Town Boundary
- Half-Mile Extended Study Area

Candidate Prime Wetland Inset Map — North Boyce Brook Marsh

Candidate Prime Wetland Inset Map — Martin Rd Marsh East, Pierce Road Marsh

Candidate Prime Wetland Inset Map — Martin Rd Marsh East, Pierce Road Marsh

Candidate Prime Wetland Inset Map — Sportsman Pond Complex

Candidate Prime Wetland Inset Map — Sip Pond Peatland Complex

Candidate Prime Wetland Inset Map — Scott Pond Complex

This map was created from NH GRANIT data layers, as obtained from UNH Complex Systems Research Center, Durham, NH. The 2010 1-foot pixel, color infrared aerial photograph was flown by NHDOT and processed by CSRC. Other base layers included the NHDOT Roads layer (2013), the USGS 10-foot contour data, and the National Hydrography Dataset (NHD). Wetlands were mapped using these layers, as well as the 2011 web soil survey data for Cheshire County, the National Wetlands Inventory (NWI), and aerial photo interpretation (API). Limited roadside field evidence was also utilized from surveys between October and December of 2015.

The six candidate prime wetlands were first evaluated using a Point-Rank System developed by the author that identified moderate to high value wetlans suitable for a more thorough NH Method Wetland Evaluation approach. The latter identified 16 WEU's that were suitable for nomination as prime wetlands. Of these, the Prime Wetlands Task Force identified six of the highest-ranbked WEU's for designating as candidate prime wetlands.

All errors and omissions are the responsibility of the author and lies outside the purview of the Town of Fitzwilliam.
THIS MAP IS NOT INTENDED FOR SURVEY-ACCURATE DEPICTIONS OF WETLANDS!

GRANIT
January, 2002

DATE SOURCES – Maps presented in this NRI project are based on stock Geographic Information System (GIS) data maintained and distributed by Complex Systems Research Center (CRSC) at the University of New Hampshire. The New Hampshire Geographically Referenced Analysis and Information Transfer (NH GRANIT) database is a cooperative project that creates, updates and distributes statewide geographic information to individuals, municipalities and agencies on a request basis. The NH GRANIT database can be accessed on-line at http://www.granit.sr.unh.edu/

GIS DISCLAIMER ---- Ecosystem Management Consultants (EMC) recognizes the inherent limitations to precise positioning of GIS data as supplied by Complex Systems Research Center or any other related public agency. It also recognizes the limitations of satellite (lomsat) and other remotely-derived data in terms of on-the-ground precision. Any information contained within the written, tabular, or spatial aspects of this NRI is not intended to act as survey-worthy, benchmark data that can be used in any legal way. I,for CSRC, EMC is not responsible for, nor takes any liability for any misrepresentation, legal or otherwise, that may arise from the inaccuracy of this data.

Southwest Region Planning Commission

NH GRANIT
NEW HAMPSHIRE'S STATEWIDE GIS CLEARINGHOUSE

Ecosystem MANAGEMENT CONSULTANTS of New England

Legend

- Vernal Pools
- Streams
- Fitzwilliam Parcels
- Candidate Prime Wetlands
- API-Mapped Wetlands
- HUC 12 Watersheds
- Conservation Land
- Fitzwilliam Town Boundary
- Half-Mile Extended Study Area

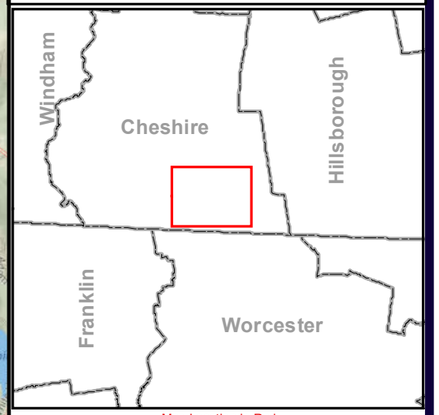
ATTACHMENT E

Vernal Pool Documentation (Verdanterra)

- **Figure 1 – Chinook Project Area**
- **Figures 2.1a and 2.1b – Vernal Pool Locations**
- **Figures 2.11 – 2.26**

Figure 1

Project Location
Chinook Solar Project
Ranger Solar



Map Location in Red

Legend

Chinook Project Area

0 0.5 1
Miles

Data Sources include: USGS, ESRI

VERDANTERRA

Map Details

Location

Chesire County,
New Hampshire

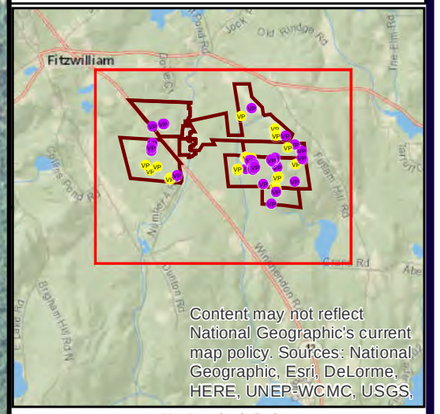
Last Modified: May 16, 2016

REVISION	00	
CREATOR	ZCW	05/16/2016
REVIEWED	ACS	05/16/2016

P:\015_Ranger Solar\01516001_Vernal_Pools\GIS\MXDs\Chinook_VP_location.mxd

Figure 2.1b

Vernal Pool Locations
Chinook Solar Project
Ranger Solar



Map Location in Red

Figure 2.6
Figure 2.7
Figure 2.8
Figure 2.9
Figure 2.10
Figure 2.11
Figure 2.12
Figure 2.13
Figure 2.14
Figure 2.15
Figure 2.16
Figure 2.17
Figure 2.18
Figure 2.19
Figure 2.20
Figure 2.21
Figure 2.22
Figure 2.23
Figure 2.24
Figure 2.25
Figure 2.26

Note: Only figures containing vernal pools within the Project area have been included as follows, Figures 2.11 through 2.26.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors

Legend

Vernal Pool Locations

- Natural or Natural-Modified
- Unnatural
- Seasonal Pool Envelope (100ft)
- Chinook Project Area
- Chinook Index

0 500 1,000
Feet

Data Sources include: USGS, ESRI

VERDANTERRA

Map Details

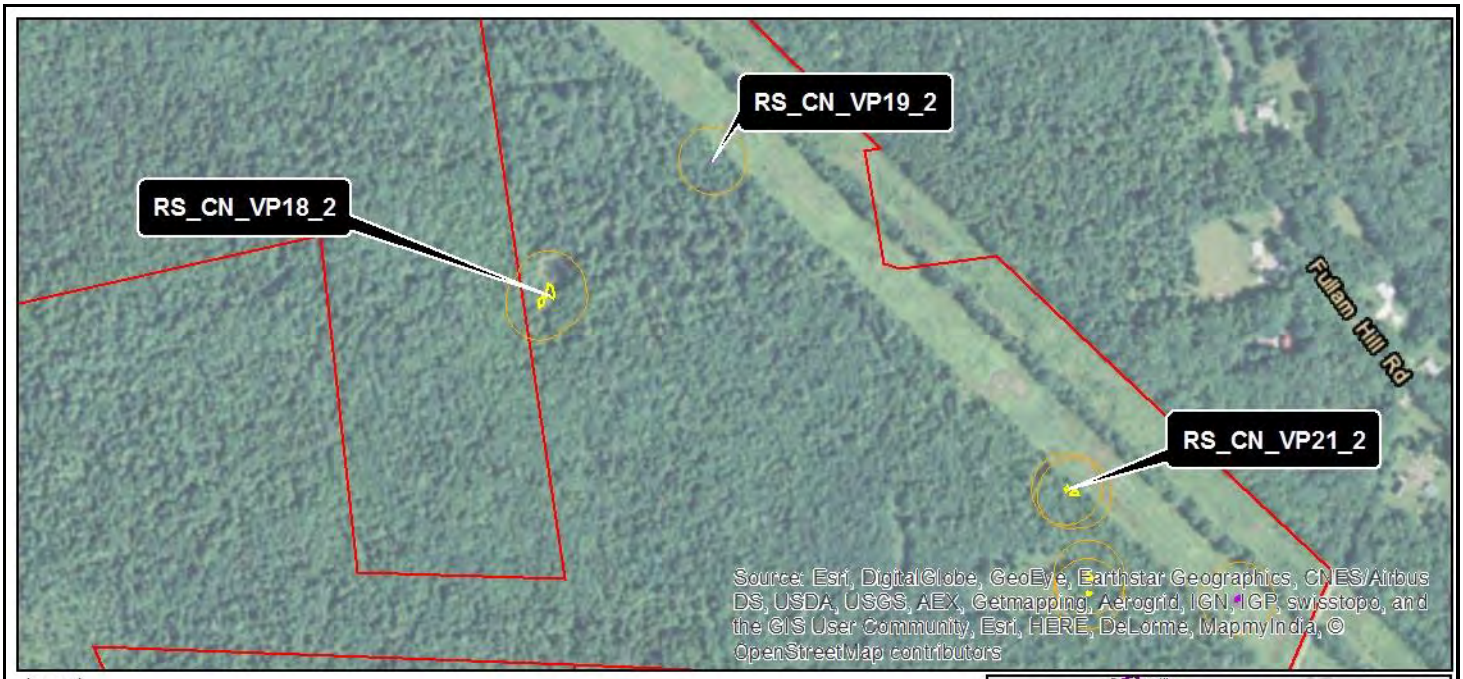
Location

Chesire County,
New Hampshire

Last Modified: May 16, 2016

REVISION	00	
CREATOR	ZCW	05/16/2016
REVIEWED	ACS	05/16/2016

P:\015_Ranger Solar\01516001_Vernal_Pools\GIS\MXDs\Chinook_VP.mxd



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP18_2	4/25/2016	1	7	0
	5/3/2016	1	0	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP19_2	4/25/2016	0	2	0
	5/3/2016	0	1	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP21_2	4/25/2016	0	1	0
	5/3/2016	0	1	0



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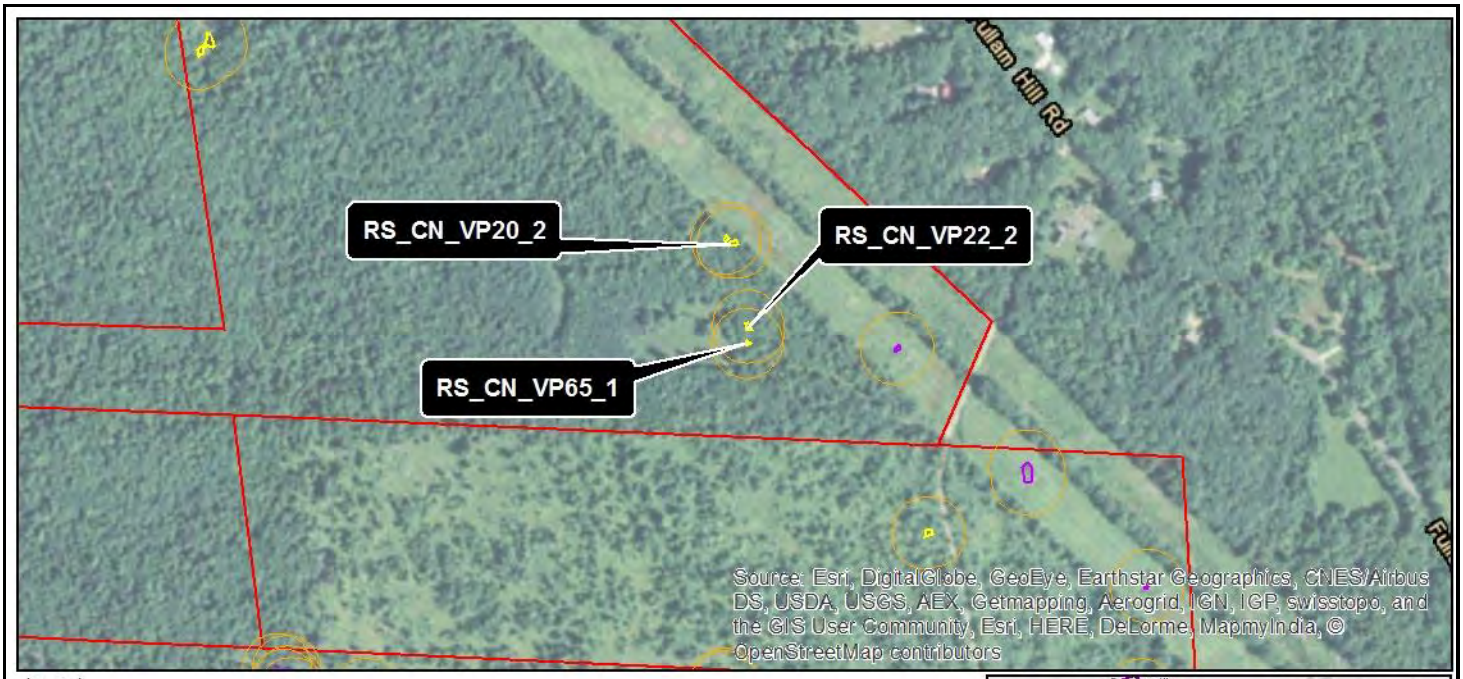
Vernal Pools:
RS_CN_VP18_2
RS_CN_VP19_2
RS_CN_VP21_2

Ranger Solar LLC.
Chinook – 2016 Vernal Pool Survey

Figure 2.11



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP20_2	4/25/2016	4	2	0
	5/3/2016	0	4	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP22_2	4/25/2016	5	4	0
	5/3/2016	5	4	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP65_1	4/25/2016	0	3	0
	5/3/2016	0	3	0



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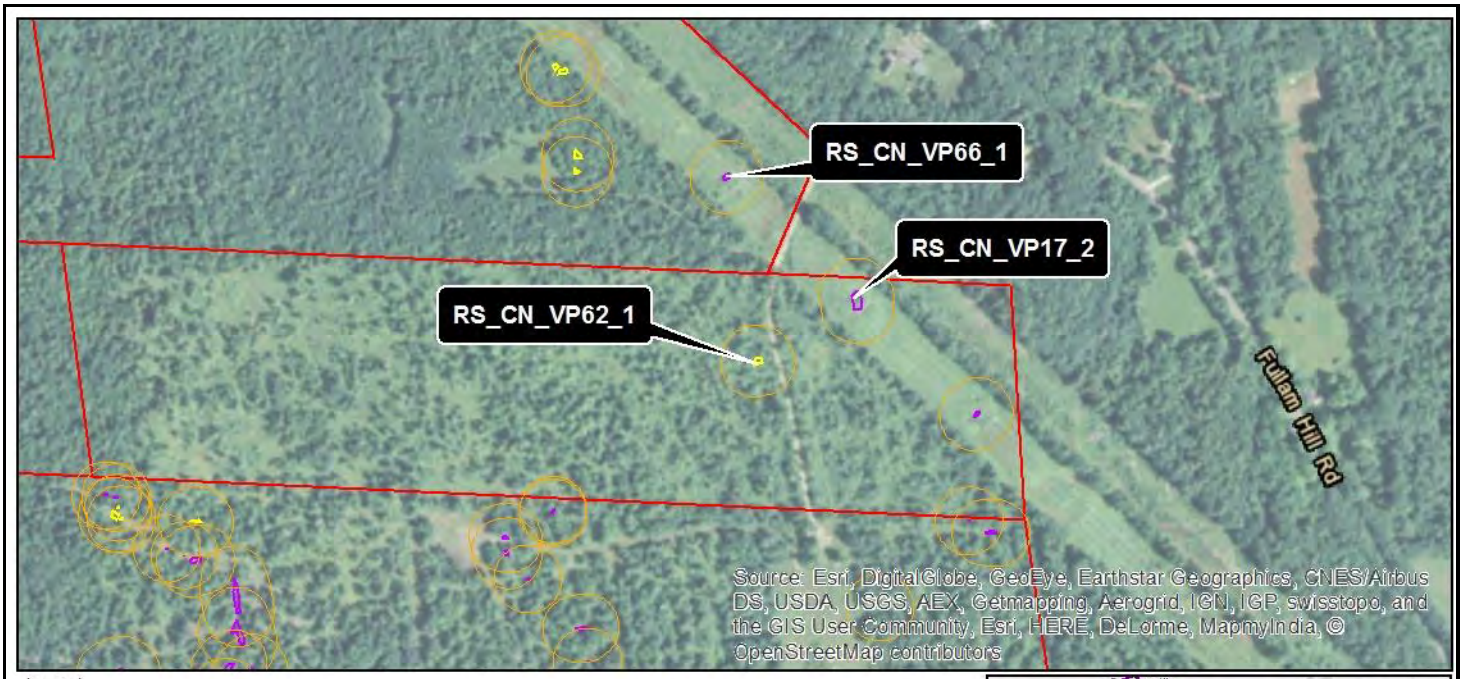
Vernal Pools:
RS_CN_VP20_2
RS_CN_VP22_2
RS_CN_VP65_1

Ranger Solar LLC.
Chinook – 2016 Vernal Pool Survey

Figure 2.12



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP62_1	4/25/2016	3	1	0
	5/3/2013	0	1	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP66_1	4/25/2016	0	11	0
	5/3/2013	0	11	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP17_2	4/25/2016	0	32	0
	5/3/2013	0	32	0



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Vernal Pools:
RS_CN_VP62_1
RS_CN_VP66_1
RS_CN_VP17_2

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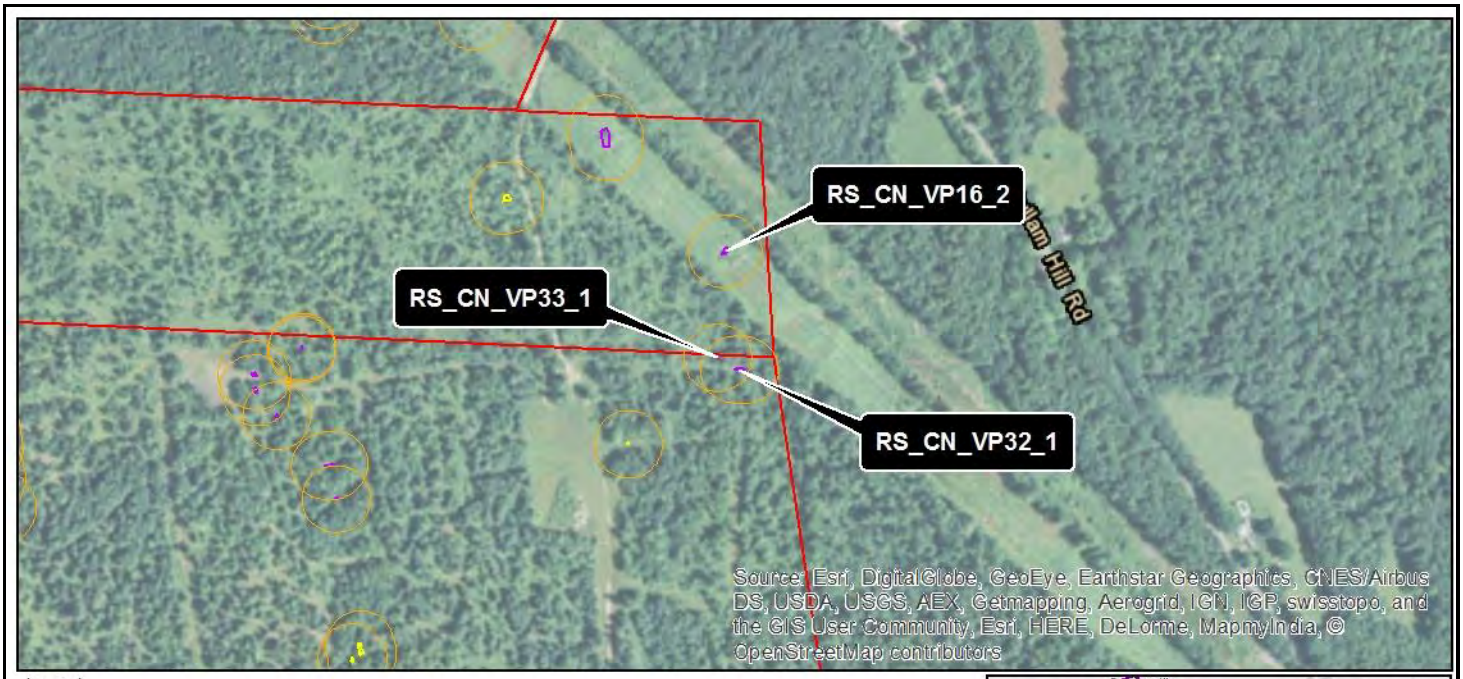
Chinook – 2016 Vernal Pool Survey

Figure 2.13



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP16_2	4/25/2016	0	10	0
	5/3/2016	0	10	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP32_1	4/23/2016	0	2	0
	5/3/2016	0	2	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP33_1	4/23/2016	0	1	0
	5/3/2016	0	1	0



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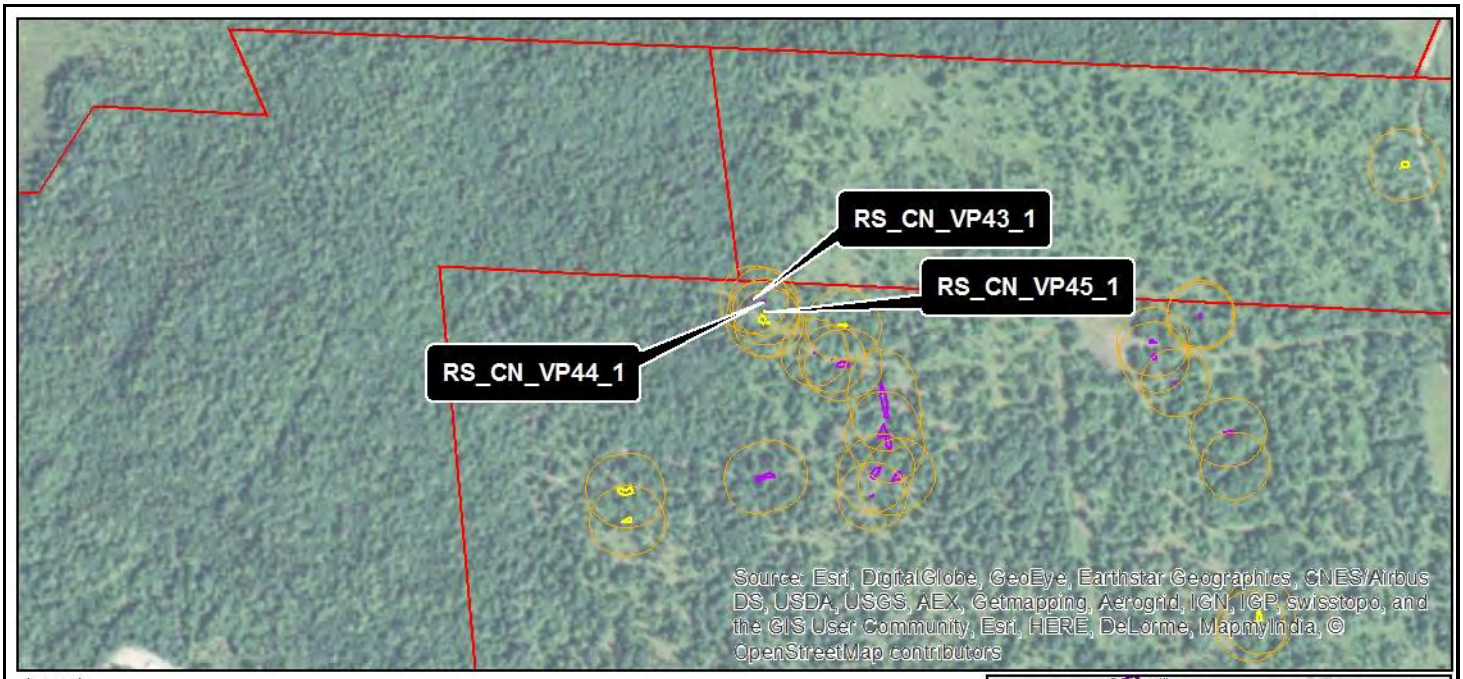
Vernal Pools:
RS_CN_VP16_2
RS_CN_VP32_1
RS_CN_VP33_1

Ranger Solar LLC.
Chinook – 2016 Vernal Pool Survey

Figure 2.14



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP43_1	4/23/2016	17	3	0
	5/3/2016	17	3	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP44_1	4/23/2016	2	2	0
	5/3/2016	2	2	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP45_1	4/23/2016	1	0	0
	5/3/2016	1	0	0



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Vernal Pools:
RS_CN_VP43_1
RS_CN_VP44_1
RS_CN_VP45_1

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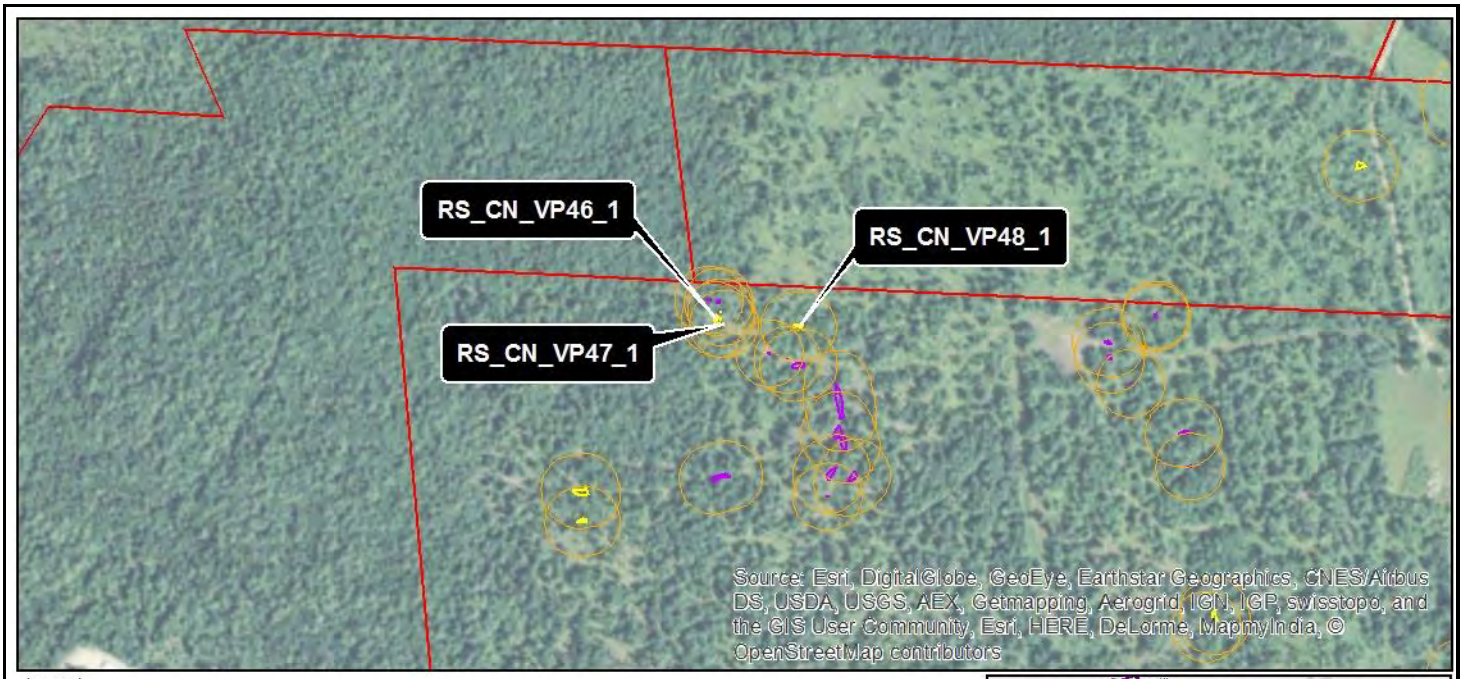
Figure 2.15



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP46_1	4/23/2016	11	0	0
	5/3/2016	11	0	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP47_1	4/23/2016	1	0	0
	5/3/2016	1	0	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP48_1	4/23/2016	13	1	0
	5/3/2016	3	2	0



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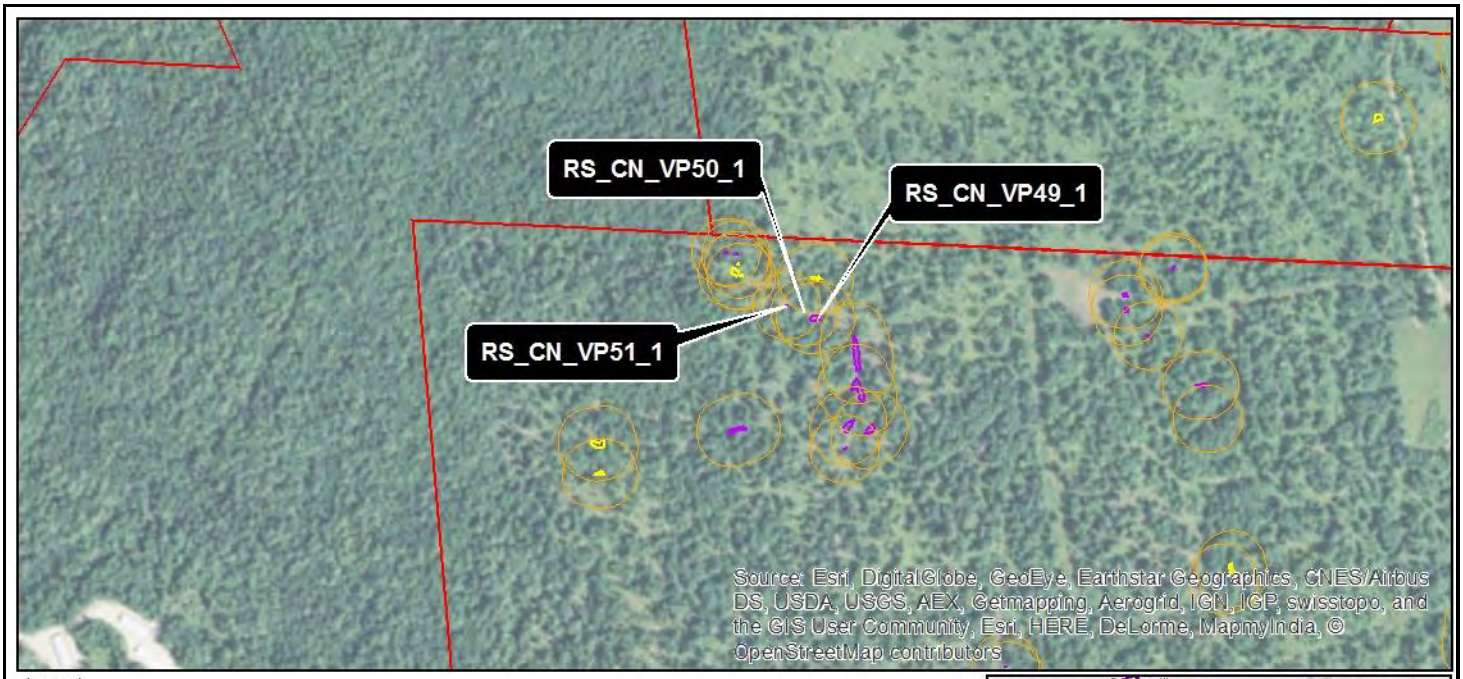
Vernal Pools:
RS_CN_VP46_1
RS_CN_VP47_1
RS_CN_VP48_1

Ranger Solar LLC.
Chinook – 2016 Vernal Pool Survey

Figure 2.16



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP49_1	4/23/2016	11	1	0
	5/3/2016	0	0	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP51_1	4/23/2016	1	1	0
	5/3/2016	0	0	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP50_1	4/23/2016	1	0	0
	5/3/2016	1	0	0



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Vernal Pools:
RS_CN_VP49_1
RS_CN_VP50_1
RS_CN_VP51_1

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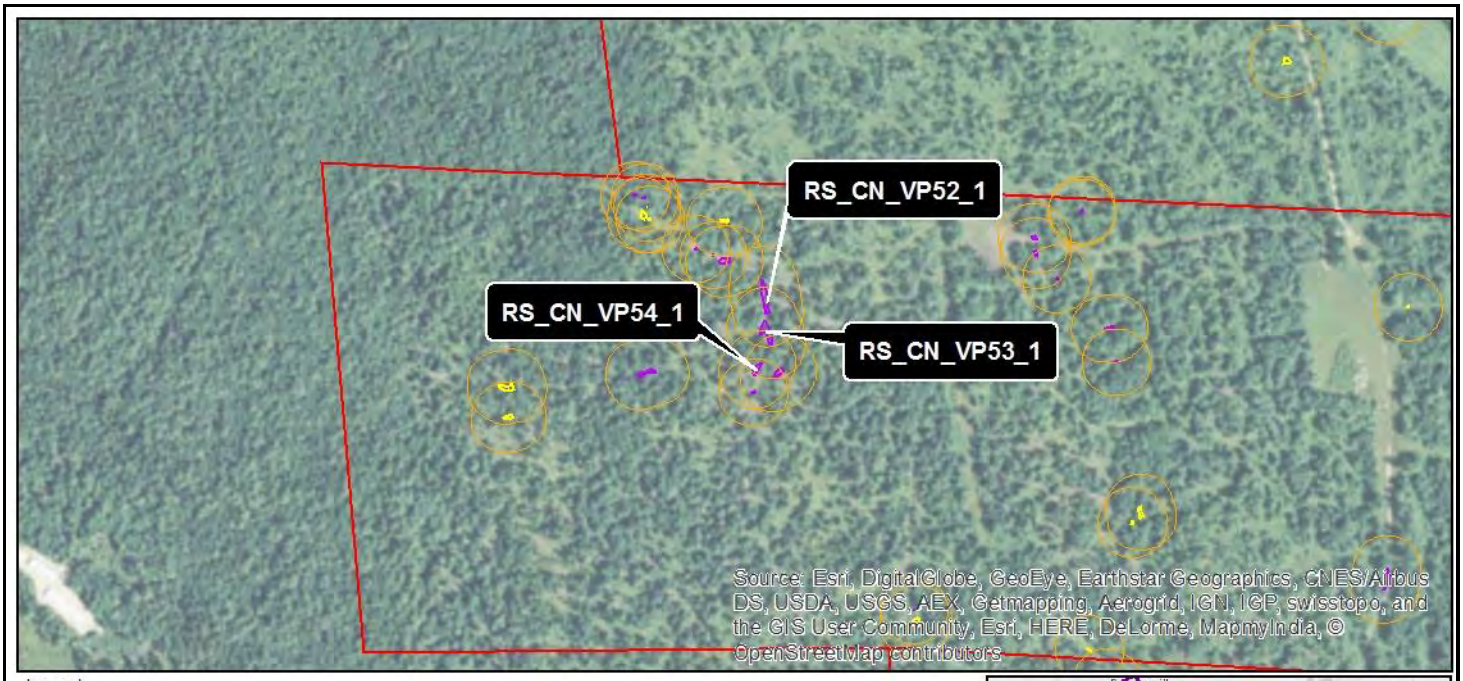
Chinook – 2016 Vernal Pool Survey

Figure 2.17



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP53_1	4/23/2016	4	3	0
	5/3/2016	0	4	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP54_1	4/23/2016	6	2	0
	5/3/2016	2	2	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP52_1	4/23/2016	5	2	0
	5/3/2016	5	2	0



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Vernal Pools:
RS_CN_VP52_1
RS_CN_VP53_1
RS_CN_VP54_1

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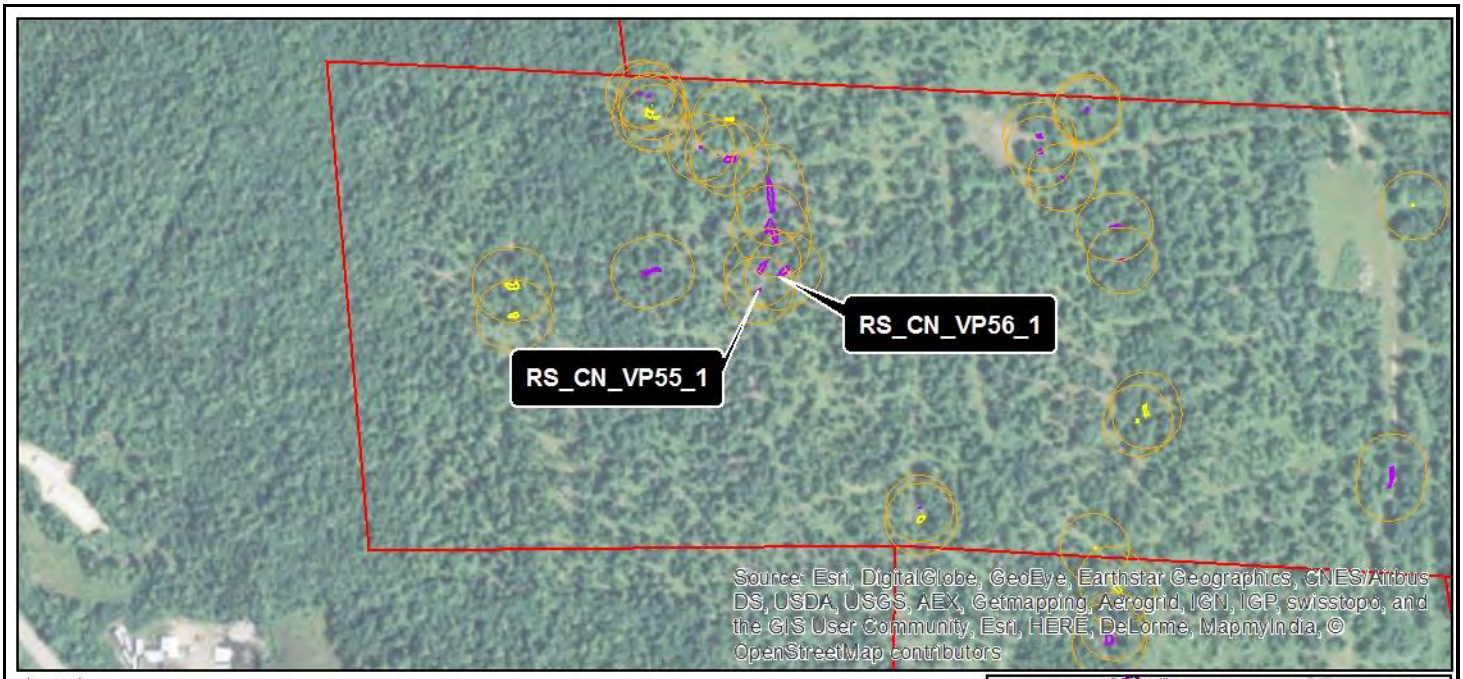
Chinook – 2016 Vernal Pool Survey

Figure 2.18



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP55_1	4/23/2016	7	0	0
	5/3/2016	2	1	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP56_1	4/23/2016	7	1	0
	5/3/2016	0	2	0

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Vernal Pools:
RS_CN_VP55_1
RS_CN_VP56_1

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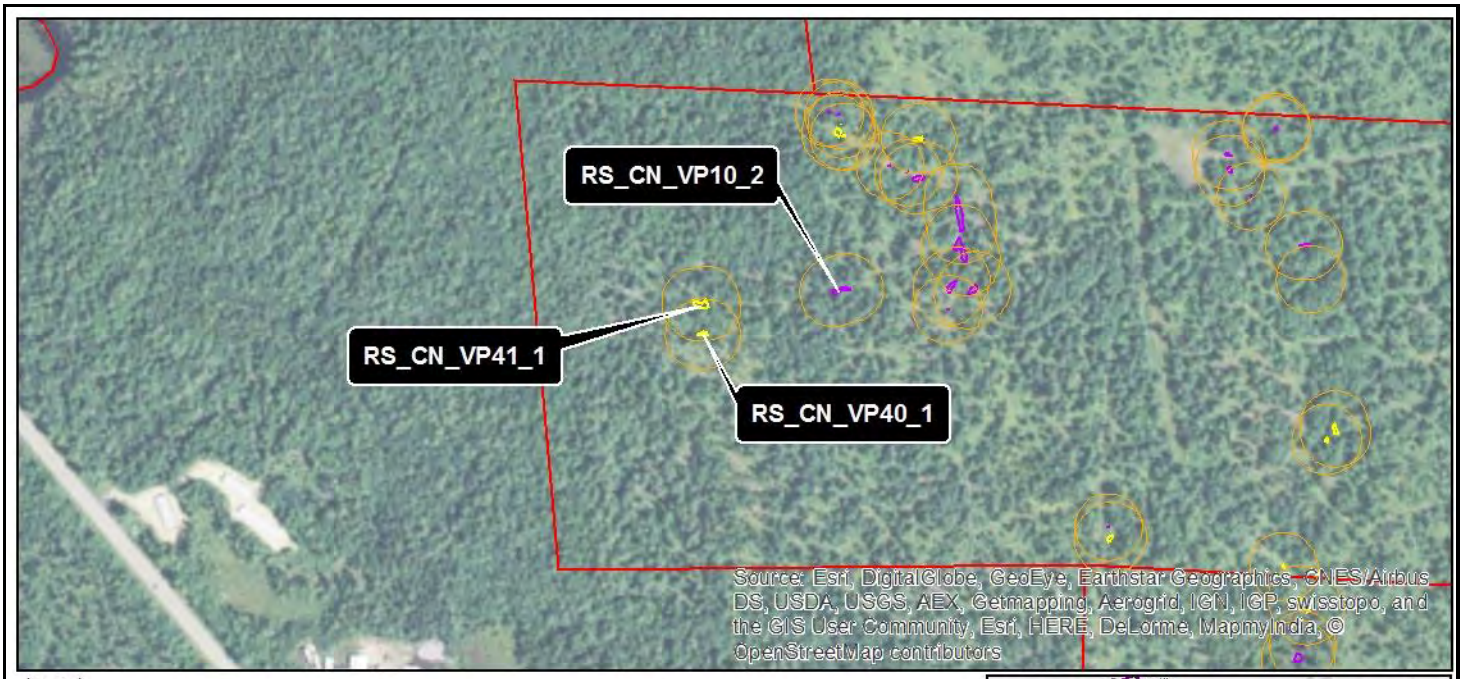
Figure 2.19



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP10_2	4/25/2016	13	6	0
	5/3/2016	13	6	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP40_1	4/23/2016	19	0	0
	5/3/2016	19	0	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP41_1	4/23/2016	31	1	0
	5/3/2016	31	5	0



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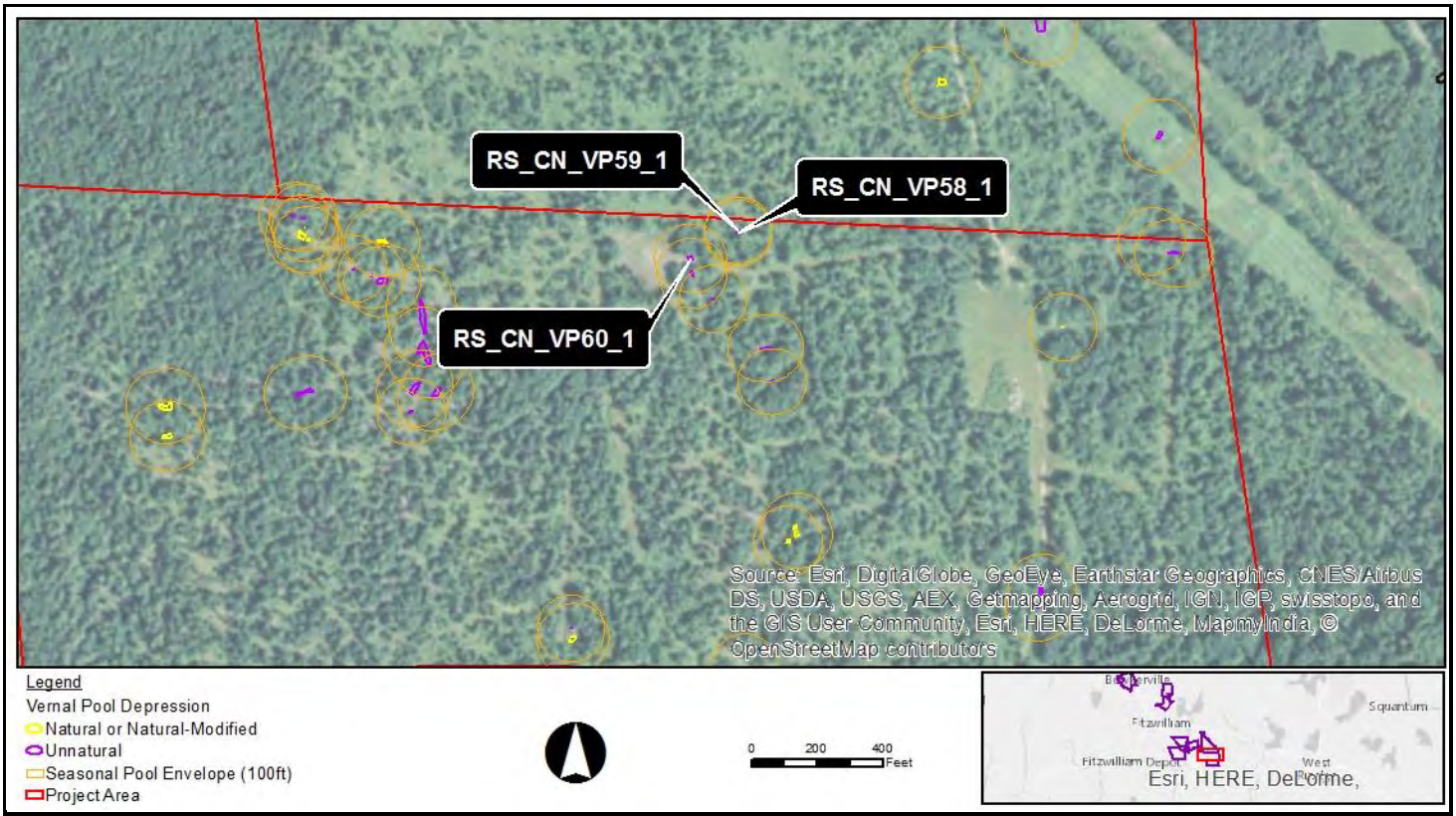
Vernal Pools:
RS_CN_VP10_2
RS_CN_VP40_1
RS_CN_VP41_1

Ranger Solar LLC.
Chinook – 2016 Vernal Pool Survey

Figure 2.20



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP58_1	4/25/2016	2	0	0
	5/3/2016	2	0	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP59_1	4/25/2016	0	1	0
	5/3/2016	0	0	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP60_1	4/25/2016	3	1	0
	5/3/2016	0	0	0



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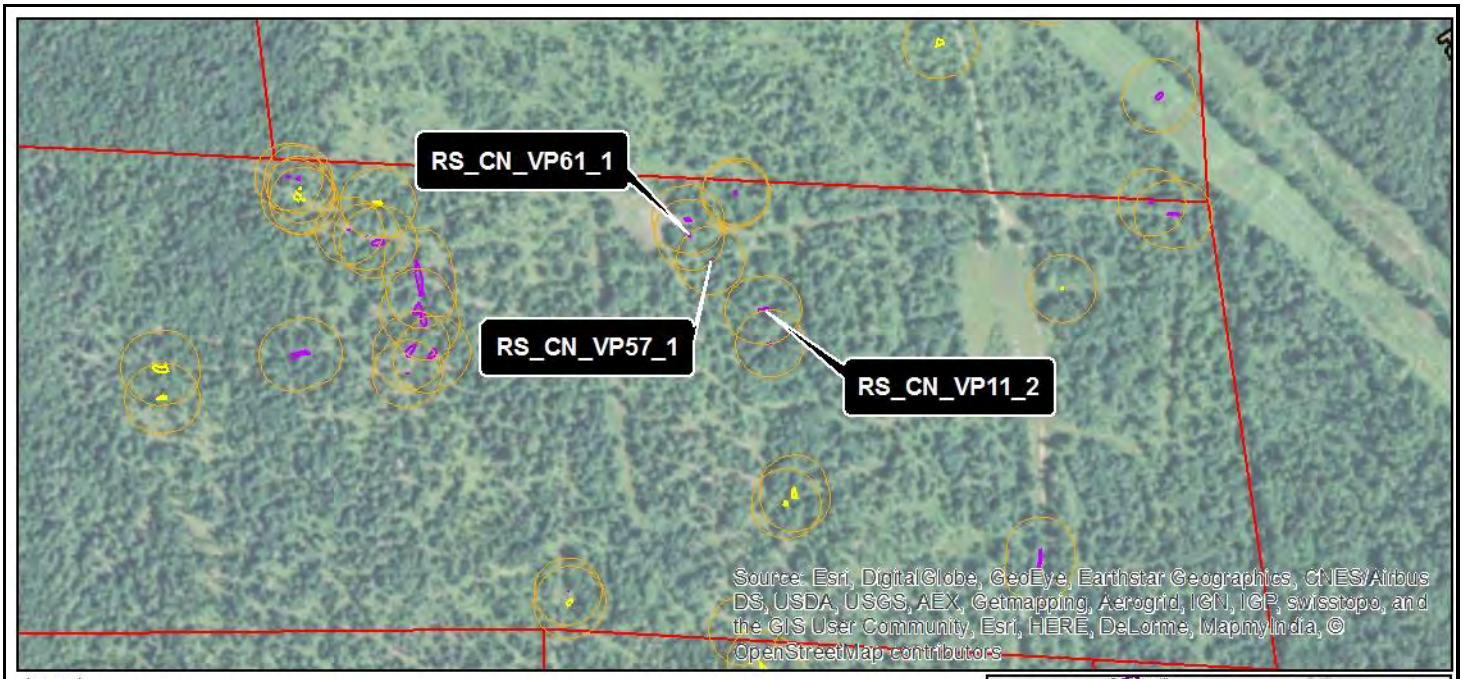
Vernal Pools:
RS_CN_VP58_1
RS_CN_VP59_1
RS_CN_VP60_1

Ranger Solar LLC.
Chinook – 2016 Vernal Pool Survey

Figure 2.21



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP61_1	4/25/2016	15	21	0
	5/3/2016	15	21	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP57_1	4/25/2016	1	0	0
	5/3/2016	1	0	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP11_2	4/25/2016	0	1	0
	5/3/2016	0	1	0



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Vernal Pools:
RS_CN_VP61_1
RS_CN_VP57_1
RS_CN_VP11_2

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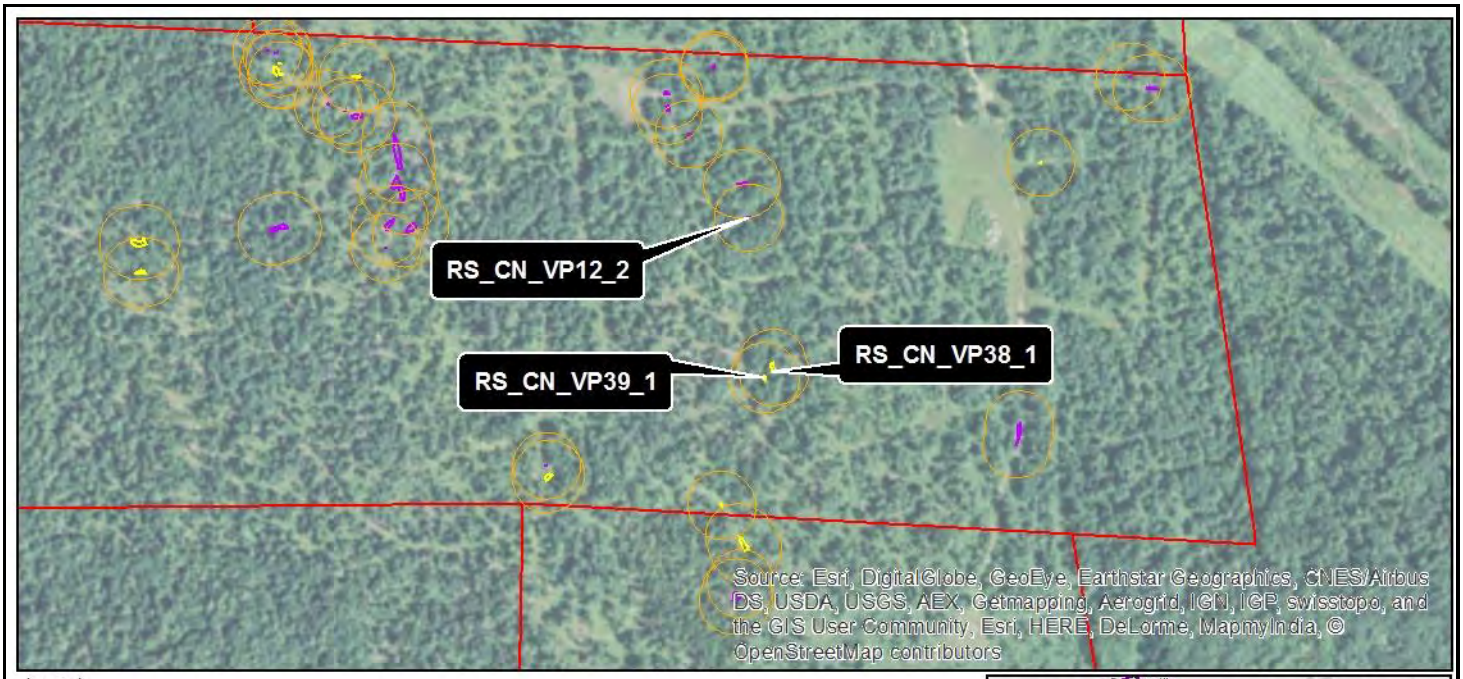
Figure 2.22



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP12_2	4/25/2016	1	0	0
	5/3/2016	1	0	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP38_1	4/23/2016	7	17	0
	5/3/2016	10	18	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP39_1	4/23/2016	0	1	0
	5/3/2016	0	1	0



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Vernal Pools:
RS_CN_VP12_2
RS_CN_VP38_1
RS_CN_VP39_1

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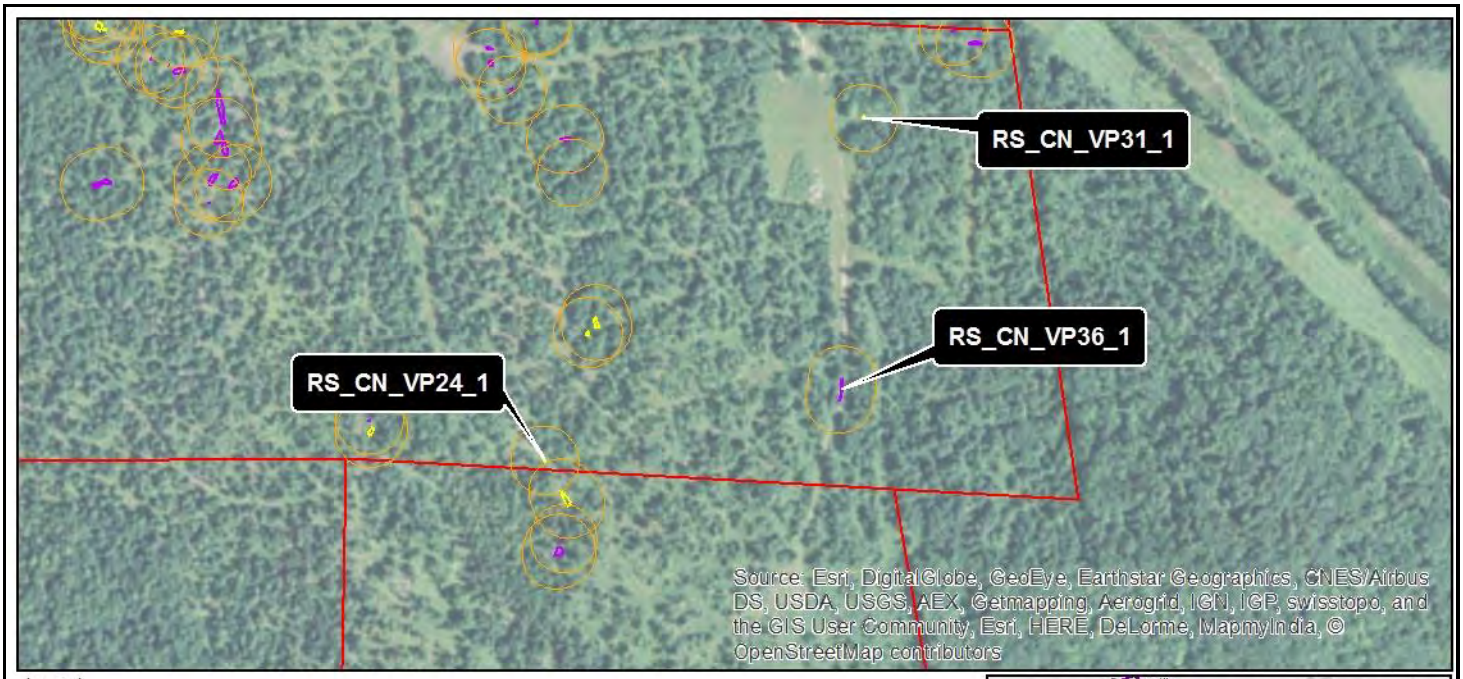
Figure 2.23



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP24_1	4/23/2016	0	1	0
	5/3/2016	0	1	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP31_1	4/23/2016	0	2	0
	5/3/2016	0	3	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP36_1	4/23/2016	2	3	0
	5/3/2016	0	2	0



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Vernal Pools:
RS_CN_VP24_1
RS_CN_VP31_1
RS_CN_VP36_1

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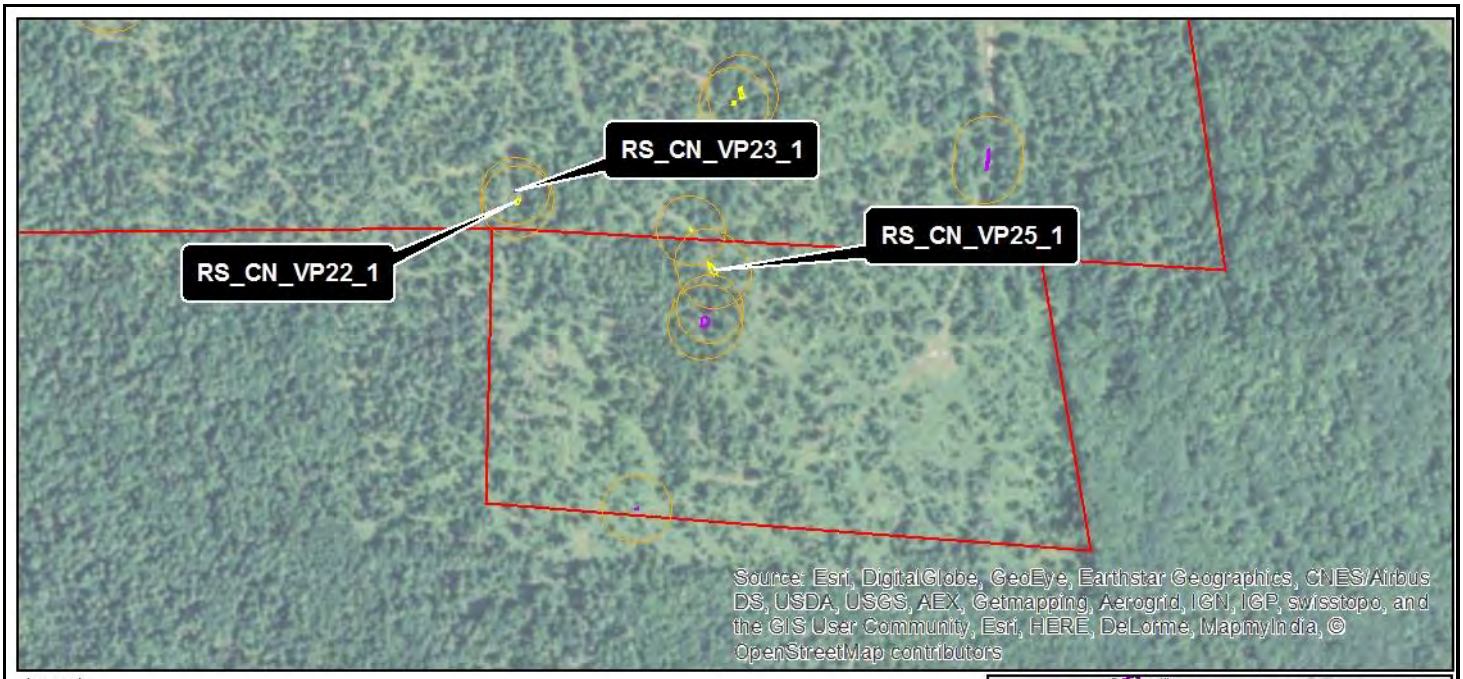
Figure 2.24



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP25_1	4/23/2016	5	1	0
	5/3/2016	2	1	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP22_1	4/23/2016	20	9	0
	5/3/2016	10	3	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP23_1	4/23/2016	2	0	0
	5/3/2016	1	0	0



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Vernal Pools:
RS_CN_VP22_1
RS_CN_VP23_1
RS_CN_VP25_1

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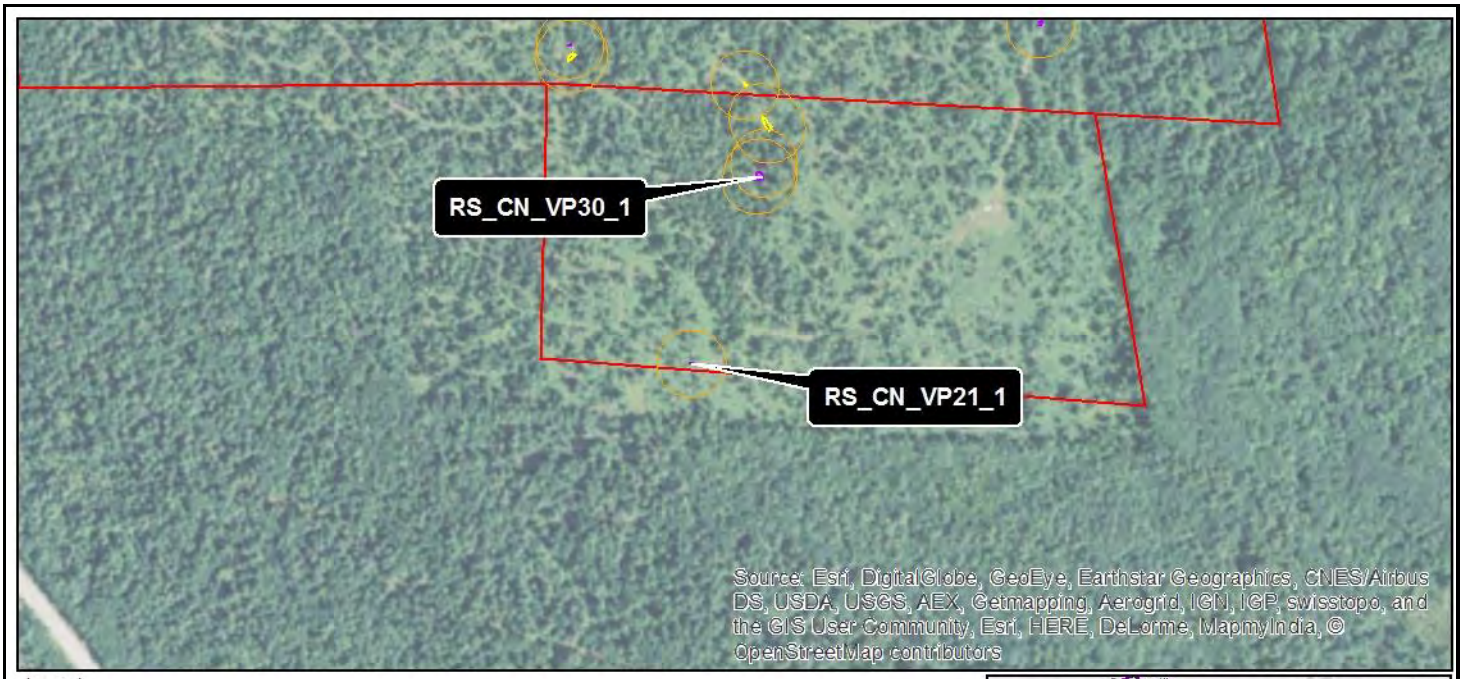
Figure 2.25



Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP30_1	4/23/2016	5	0	0
	5/3/2016	3	0	0

Vernal Pool ID	Survey Date	Number of Egg Masses		
		Wood Frog	Spotted Salamander	Blue Spotted Salamander
RS_CN_VP21_1	4/23/2016	0	1	0
	5/3/2016	0	1	0

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Vernal Pools:
RS_CN_VP30_1
RS_CN_VP21_1

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Figure 2.26

ATTACHMENT F

Vernal Pool Photographic Log (TRC)

	**Resource ID:** TRC_VP1 **Date taken:** 05/03/2017 **Comments:** Upland-isolated pool. Natural, but altered.
	**Resource ID:** TRC_VP1 **Date taken:** 05/03/2017 **Comments:** Pool located within the existing transmission line corridor.
	**Resource ID:** TRC_VP2 **Date taken:** 05/03/2017 **Comments:** Upland-isolated pool located in a vehicle rut.

	**Resource ID:** TRC_VP2 **Date taken:** 05/03/2017 **Comments:** Spotted salamander egg mass.
	**Resource ID:** TRC_VP4 **Date taken:** 05/04/2017 **Comments:** Pool is associated with a larger wetland complex. Natural pool depression.
	**Resource ID:** TRC_VP4 **Date taken:** 05/03/2017 **Comments:** Spotted salamander egg mass.