



**APPENDIX D: WETLAND DELINEATION REPORT**

# Wetland Delineation Report

## E.F. Knapp State Airport Obstruction Removal Towns of Berlin & Barre Washington County, Vermont

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*CHA Project Number: 069454*

*Prepared for:*

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*Prepared by:*



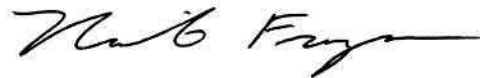
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*September 22, 2021*

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## 1.0 INTRODUCTION

This report describes the wetlands and streams that occur within the proposed obstruction removal study areas located near the E.F. Knapp State Airport. The obstruction removal is proposed beyond the north and south ends of the runway in the Towns of Berlin and Barre, Washington County, Vermont (Attachment 1-Detailed Study Area). The approximate coordinates of the northern study area are Latitude 44° 12' 37.05"; Longitude -72° 34' 9.49" and the approximate coordinates of the southern study area are Latitude 44° 11' 31.47"; Longitude -72° 33' 31.79". The study areas total approximately 61 acres. Wetland delineation mapping is provided as Attachment 2.

CHA, Inc. was retained to delineate and describe the wetlands within the study areas that are regulated by the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and the Vermont Agency of Natural Resources (ANR) under the 2020 Vermont Wetland Rules. The wetland delineation was conducted by Nicole Frazer, Senior Scientist and John Greaves, Senior Scientist on July 21, 22 & 23, 2021. A wetland boundary verification site visit was conducted on September 8, 2021 with Shannon Morrison, District Wetlands Ecologist, from ANR. During this visit ANR determined that the delineated wetlands described in this report are all Class II.

The purpose of this report is to document the wetland boundaries and, if needed, to supplement a permit application to the USACE and/or ANR. The report includes a general site description, site ecology, and wetland descriptions and is complemented by wetland determination data forms (Attachment 3), and site photographs (Attachment 4).

## 2.0 METHODOLOGY

In accordance with the procedures provided in the USACE Wetland Delineation Manual (1987), and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (January 2012), the "Routine Wetland Determination" method was used to delineate wetland boundaries.

The wetland boundaries were determined in the field based on the three-parameter approach, whereby an area is a wetland if it exhibits vegetation adapted to wet conditions (hydrophytes), hydric soils, and the presence or evidence of water at or near the soil surface during the growing season (hydrology).

Coded surveyor's ribbons (e.g., flag code A-1, A-2, etc.) were placed along the wetland boundaries based on observations of vegetation, soils and hydrologic conditions. Data points were recorded along the wetland boundaries at various locations. At each location a wetland data point and an upland data point were recorded to show the difference between the wetland and upland habitats. USACE Wetland Determination Data Forms corresponding to each point can be found in Attachment 3. Streams were delineated by placing flags along the ordinary high water (OHW) mark based on evidence of scour and other characteristics. Delineation flags were located in the field by using a SX Blue II GPS with sub meter accuracy.

The delineation was performed in July of 2021 during moderate drought conditions. The Antecedent Precipitation Tool identified that the area was under a moderate drought at the time of the survey, but the delineation was performed under normal conditions (index score of 13) (Attachment 5).

### 3.0 AGENCY RESOURCE INFORMATION

Prior to visiting the study areas, various maps and other sources of background information were reviewed. These included the following:

- United States Geological Survey (USGS) 7.5-minute topographic map (Attachment 1- USGS Topo).
- Vermont ANR Department of Environmental Conservation (DEC) Vermont Significant Wetland Inventory (VSWI) (Attachment 1- Water Resources),
- United States Department of the Interior, Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) map (Attachment 1- Water Resources),
- Federal Emergency Management Agency (FEMA), FEMA Flood Zones map (Attachment 1- Water Resources), and the
- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) Soil Survey for Washington County (Attachment 1- Soils).

**VSWI Map-** The VSWI map does not identify any mapped wetlands within the northern study area. However, there are two mapped Class II wetlands to the south of the study area that are connected to Wetland B and Stream 3. In the southern study areas, the VSWI map identifies portions of delineated Wetlands D and E as a mapped Class II wetland. The map also identifies

an unconfirmed vernal pool (SDF1078) within Wetland F. No other VSWI wetlands are mapped within the study areas.

**NWI Map-** The NWI map for the northern study area identifies two tributaries of Pond Brook (within Wetland B delineated as Streams 2 and 3) as R5UBH (Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded). The map also identifies two PSS1C (Palustrine, Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded) wetlands to the south (outside of the study area). As noted above, these wetlands are connected to Wetland B and Stream 3.

The NWI map for the southern study areas identifies a pond (PUBH- Palustrine, Unconsolidated Bottom, Permanently Flooded) within the study area. This feature is part of delineated Wetland D. The map also identifies an unnamed tributary of Stevens Branch (delineated Stream 4 and 6- R5UBH) within the study area. An unnamed tributary of Pond Brook (R5UBH) is located to the north of Wetland A (outside of the study area). No other NWI features are mapped within the study areas.

**FEMA Floodplain Map-**The FEMA Flood Zones map shows that the study areas are not within a 100-year floodplain.

**Soil Survey Map-** The NRCS Soil Survey identifies eight soil types within the study areas. Soil data for the study areas was obtained from the NRCS Soil Survey of Washington County (Attachment 1- Soils). This information was used in conjunction with on-site soil sampling to determine the presence of hydric soils. The following soils are mapped as occurring within the study areas:

- 17B- Cabot silt loam, 3 to 8% slopes- This soil is poorly drained. The depth to water table is about 0 to 18 inches and the depth to restrictive feature is 6 to 20 inches to densic material. This soil is rated as a hydric soil.
- 67C-Glover-Vershire complex, 3 to 15% slopes, very rocky- This soil is somewhat excessively drained. The depth to water table is more than 80 inches and the depth to restrictive feature is 10 to 20 inches to lithic bedrock. This soil is not rated as a hydric soil.
- 67D- Glover-Vershire complex, 15 to 35% slopes, very rocky- This soil is somewhat excessively drained. The depth to water table is more than 80 inches and the depth to restrictive feature is 10 to 20 inches to lithic bedrock. This soil is not rated as a hydric soil.

- 67E- Glover-Vershire complex, 35 to 60% slopes, very rocky- This soil is somewhat excessively drained. The depth to water table is more than 80 inches and the depth to restrictive feature is 10 to 20 inches to lithic bedrock. This soil is not rated as a hydric
- 91D-Dummerston fine sandy loam, 15 to 35 percent slopes, very stony- This soil is well drained. The depth to water table and to restrictive feature is more than 80 inches. This soil is not rated as a hydric
- 92B- Buckland loam, 3 to 8% slopes-This soil is moderately well drained. The depth to water table is about 12 to 24 inches and the depth to restrictive feature is 20 to 40 inches to densic material. This soil is not rated as a hydric soil.
- 93D- Buckland loam, 15 to 35% slopes-This soil is moderately well drained. The depth to water table is about 12 to 24 inches and the depth to restrictive feature is 20 to 40 inches to densic material. This soil is not rated as a hydric soil.
- 103-Udorthents, loamy. The depth to water table and the depth to restrictive feature is more than 80 inches. This soil is not rated as a hydric soil.

**Hydrology-** A tributary of Stevens Branch is within the southern study area. Stevens Branch is a tributary of the Winooski River. The Winooski River is a Traditional Navigable Water (TNW). The aerial miles to the TNW is approximately 3.4. The river miles to the TNW is approximately 3.9.

Tributaries of Pond Brook are located in the northern study area. Pond Brook is a tributary of Stevens Branch and Stevens Branch is a tributary of the Winooski River (a TNW). The aerial miles to the TNW from the tributary of Pond Brook within the study area is approximately 2.5, and the river miles are approximately 2.8.

There are four possible classifications of Vermont surface waters: B(2) – good; B(1) very good; A(2) public water source; and A(1) excellent. All waters at or below 2,500 feet are designated Class B(2) for all uses, unless specifically designated as Class A(1), A(2), or B(1) for any use. All waters above 2,500 feet are designated Class A(1) for all uses, unless specifically designated Class A(2) for use as a public water source.

No classes were identified on Natural Resource Atlas or the Vermont Agency of Natural Resources Wetlands Inventory Maps for the Pond Brook tributaries or the tributary of Stevens Branch. The topography of the study areas is below 2,500 feet; therefore, it is assumed that the streams are Class B(2).

The study areas occur within the Stevens Branch Watershed (HUC 041504030103) and the Headwaters Stevens Branch (HUC 041504030101).

Refer to Section 4.1.2 for discussion of the hydrology indicators for each of the delineated wetlands.

## 4.0 GENERAL STUDY AREA DESCRIPTION

The study areas include lands north and south of the runway. A total of six wetlands (Wetlands A, B, C, D, E, & F (contains a vernal pool)), a vernal pool (VP 1) and six streams (Stream 1, Stream 2, Stream 3, Stream 4, Stream 5, and Stream 6) were delineated.

The study areas consist of palustrine emergent, scrub shrub and forested wetlands including northern white cedar swamp. Additionally, there are streams, ponds, vernal pools, open upland, and northern hardwood forest formation.

### 4.1 VEGETATIVE COMMUNITIES

The vegetative communities identified within the study areas are discussed below. Vegetative communities are described according to *Classification of Wetlands and Deepwater Habitats of the United States*<sup>1</sup> and *A Guide to Natural Communities of Vermont, Wetland Woodland, Wildland*<sup>2</sup>.

#### 4.1.1 Discussion of Terrestrial Communities

**Open Upland-** These areas contain species such as Canada goldenrod (*Solidago canadensis*), cow vetch (*Vicia cracca*), Canada thistle (*Cirsium arvense*), northern bedstraw (*Galium boreale*), horseweed (*Conyza canadensis*), wrinkle-leaf goldenrod (*Solidago rugosa*), queen anne's lace (*Daucus carota*), English plantain (*Plantago lanceolata*) grasses and white pine (*Pinus strobus*) saplings.

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<sup>1</sup> Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe, 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.

<sup>2</sup> Thompson, Elizabeth, Sorenson, Eric, Zaino, Robert, 2019. *A Guide to the Natural Communities of Vermont. Wetland, Woodland, Wildland*. Vermont Fish and Wildlife Department, The Nature Conservancy, and Vermont land Trust.

**Northern Hardwood Forest Formation-** Some areas are dominated by tree species such as sugar maple (*Acer saccharum*) and eastern hop hornbeam (*Ostrya virginiana*), other areas are dominated by eastern hemlock (*Tsuga canadensis*), or paper birch (*Betula papyrifera*) or quaking aspen (*Populus tremuloides*), or balsam fir (*Abies balsamea*) and northern white cedar (*Thuja occidentalis*).

Also present in these forested areas are tree species such as red maple (*Acer rubrum*), American beech (*Fagus grandifolia*), black cherry (*Prunus serotina*), buckthorn (*Rhamnus cathartica*), gray birch (*Betula populifolia*), white pine, basswood (*Tilia americana*), shrub species such as morrow's honeysuckle (*Lonicera morrowii*) and herbaceous species such as lady fern (*Athyrium filix-femina*), Christmas fern (*Polystichus acrostichoides*), star flower (*Trientalis borealis*), maiden hair fern (*Adiantum aleuticum*), blue cohosh (*Caulophyllum thalictroides*) and herb robert (*Geranium robertianum*).

#### 4.1.2 Discussion of Wetlands and Streams

Based on the methodology discussed in Section 2.0 of this report, six wetland areas (Wetlands A, B, C, D, E & F), two vernal pools (one within Wetland F and the other identified as Vernal Pool 1) and six streams were delineated. Wetland A, B, C, D & E have surface water connections and can be considered one wetland complex. Wetland boundaries are provided in Attachment 2 – Wetland Delineation Map.

The following narratives provide detailed descriptions of each delineated feature:

**Wetland A** is located just south of the south end of the airport. This wetland consists of palustrine emergent and scrub shrub wetland. A drainage swale is located along the fence line. This wetland continues outside of the study area to the north and southeast.

Species such as white willow (*Salix alba*), silky dogwood (*Cornus amomum*), meadowsweet (*Spiraea latifolia*), reed canary grass (*Phalaris arundinacea*), late goldenrod (*Solidago gigantea*), sensitive fern (*Onoclea sensibilis*) and Canada goldenrod (*Solidago canadensis*) are present within the scrub shrub area. The emergent area contains species such as purple loosestrife (*Lythrum salicaria*), scouring rush (*Equisetum hymale*), Canadian rush (*Juncus canadensis*), flat-top goldenrod (*Euthamia graminifolia*) and reed canary grass.

Hydrology indicators include saturation, oxidized rhizospheres on living roots, drainage patterns, geomorphic position and FAC-neutral test. Observed hydric soil indicators include loamy gleyed matrix and redox dark surface. Wetland A continues beyond the study area and is connected to Wetland E via a culvert under Scott Hill Road. Wetland A is also connected to Wetland B outside the study area. The total size of Wetland A within the study area is 0.475 acres. Wetland A is a state Class II wetland and is also federally jurisdictional due to its connection to intermittent and perennial streams within Wetlands B and E.

**Wetland B** is located to the north of the runway and contains palustrine emergent, scrub shrub and forested wetland. Streams 2 and 3 and ponded area are within this wetland. This wetland and streams continue beyond the study area. NWI and VSWI wetlands are mapped to the south of Wetland B. Species such as northern white cedar, balsam fir, red maple, white willow, silky dogwood, field horsetail (*Equisetum arvense*), sensitive fern, creeping jenny (*Lysimachia nummularia*) and sphagnum moss are present within the forested wetlands. The emergent and scrub shrub wetlands contain species such as white willow, speckled alder (*Alnus incana*), new England aster (*Symphotrichum novae-angliae*), reed canary grass, flat-top goldenrod, dark green bulrush (*Scirpus atrovirens*), soft rush (*Juncus effusus*), blue vervain (*Verbena hastata*), Canada goldenrod, field horsetail and cattail (*Typha latifolia*).

Hydrology indicators include saturation, oxidized rhizospheres on living roots, moss trim lines, microtopographic relief, geomorphic position and FAC-neutral test. The observed hydric soil indicators are depleted matrix and redox dark surface. The presence of beavers was noted. A beaver lodge was noted near flag B-62. Wetland B is connected to Wetland C outside of the study area via a culvert under Comstock Road. Wetland B connects to Wetland A outside of the study area. The total size of Wetland B within the study area is 5.645 acres. Wetland B is a state Class II wetland and is federally jurisdictional due to its direct connection to a perennial stream.

Two tributaries of Pond Brook are within Wetland B. These streams have been delineated as Stream 2 and Stream 3. Stream 2 appears to have a portion that is intermittent and a portion that is perennial. From flags S2-1 to 10 the bankfull width (BFW) of the stream is approximately 1 to 6 feet and the bankfull depth (BFD) is approximately 6 inches. The stream in this area is shaded by hydrophytes and the substrate is mineral soil. This portion of the stream is fed by drainage from the airport and has fringe wetland. Ponded area is present from flag S2-15 to S2-16. The stream from S2-16 to S2-27 is meandering. The BFW of the stream in this area is approximately 6 to 20 feet and the BFD is approximately 18-30 inches. The banks are stable and the area is a broad floodplain. The stream in this area is shaded and the water is cool. The substrate is silt and

sand. Minnows were noted as well as the presence of beavers. A culvert is present under the road at flag S2-27 and at flag B-81. The length of Stream 2 within the study area is 961.7 feet. Stream 2 is federally jurisdictional. Stream 2 is connected to Stream 3; a ponded area is between them.

Stream 3 is a beaver modified perennial stream that contains areas of braided channel and ponding. In the area of S3-15, the BFW is approximately 3 to 20 feet and the BFD is up to 3 feet. The substrate is silt and the stream was flowing at the time of the visit. The stream is shaded and the banks are stable. Minnows, green frog (*Lithobates clamitans*) and northern two-lined salamander (*Eurycea bislineata*) were noted. The length of Stream 3 within the study area is 449.9 feet. Stream 3 is federally jurisdictional.

**Wetland C** is composed of palustrine emergent and forested wetland. Delineated Stream 1 is within this wetland. Stream 1 continues beyond the study area to the east and is fed by drainage from the adjacent development. A pond is also within this wetland in the vicinity of wetland flag C-47. Wetland C continues beyond the study area to the west. Species such as northern white cedar, red maple, green ash (*Fraxinus pennsylvanica*), eastern hemlock (*Tsuga canadensis*), sensitive fern and jewelweed (*Impatiens capensis*) are within the forested wetland. Black willow (*Salix negra*), speckled alder, grey birch (*Betula populifolia*), silky dogwood, cattail, joe pye weed (*Eutrochium maculatum*), reed canary grass, meadowsweet, dark green bulrush, flat-top goldenrod and late goldenrod can be found in the emergent areas.

Hydrology indicators are high water table, saturation, oxidized rhizospheres on living roots and FAC-neutral test. The observed hydric soil indicators are depleted below dark surface and depleted matrix. Wetland C is connected to Wetland B outside of the study area via a culvert under Comstock Road. The total size of Wetland C within the study area is 4.674 acres. Wetland C is a state Class II wetland and is federally jurisdictional due to its connection to a perennial stream outside of the study area.

Stream 1 is intermittent and begins from piping and ditching associated with development to the east of the study area. The stream is along the toe of slope and fades out into Wetland C. In the area of S1-2A, the BFW is approximately 7 feet and the BFD is approximately 6 inches. The substrate is silt and gravel and had a slight flow at the time of the visit. The stream is shaded and mostly pooled. The length of Stream 1 within the study area is 308.8 feet. Stream 1 is federally jurisdictional.



**Wetland D** is composed of palustrine emergent and forested wetland and continues north beyond the limits of the study area. This wetland contains a pond and delineated Streams 5 and 6. Some of the species within the forested wetland include northern white cedar, green ash, lesser herb robert (*Geranium robertianum*), sensitive fern and jewelweed. The emergent areas contain species such as northern white cedar, boneset (*Eupatorium perfoliatum*), dark green bulrush, late goldenrod, soft rush, field horsetail, wild mint (*Mentha arvensis*) and jewelweed.

Hydrology indicators are high water table, saturation, oxidized rhizospheres on living roots, geomorphic position and FAC-neutral test. The observed hydric soil indicators are redox dark surface and thick dark surface. Wetland D is connected to Wetland E via Stream 4. The VSWI map identifies portions of delineated Wetlands D and E as a mapped Class II wetland. The total size of Wetland D within the study area is 0.570 acres. Wetland D is a state Class II wetland and is federally jurisdictional due to its connection to an intermittent stream.

Stream 5 is intermittent and connects emergent wetland to the pond. The stream is fed by the wetland. At the time of the visit the stream was flowing. The water was clear and cold and the substrate is mucky. The banks are stable, the stream is shaded and hydrophytes and woody debris are present. The BFW is approximately 1-6 feet and the BFD is approximately 12 inches. The length of Stream 5 is 77 feet. Stream 5 is federally jurisdictional.

Stream 6 appears to be intermittent, is mapped as an unnamed tributary of Stevens Branch and is connected to the pond. Stream 6 continues beyond the study area to the south. The stream was dry at the time of the visit. The stream contains woody debris and is shaded. The substrate is blue shale and cobble. The BFW is approximately 7 feet and the BFD is approximately 12-24 inches. The length of Stream 6 within the study area is 127.8 feet. Stream 6 is federally jurisdictional.

**Wetland E** is a palustrine forested wetland that continues beyond the study area to the north (as emergent wetland) and to the south (as ephemeral drainage channel). This wetland contains Stream 4 and an ephemeral drainage channel. The wetland contains species such as northern white cedar, buckthorn (*Rhamnus cathartica*), sensitive fern, ostrich fern (*Matteuccia struthiopteris*), silky dogwood and jewelweed.

Hydrology indicators include high water table, saturation, water-stained leaves, drainage patterns, geomorphic position and FAC-neutral test. The observed hydric soil indicator is redox dark surface. Wetland E is connected to Wetland D via Stream 4. Wetland E is also connected to wetland that is connected to Wetland A via a culvert under Scott Hill Road. The VSWI map

identifies portions of delineated Wetlands D and E as a mapped Class II wetland. A northern redback salamander (*Plenthodon cinereus*) was noted in this wetland. The total size of Wetland E within the study area is 1.031 acres. Wetland E is a state Class II wetland and is federally jurisdictional due to its direct connection to an intermittent stream.

Stream 4 is an unnamed intermittent tributary of Stevens Branch. This stream continues beyond the study area to the north. The substrate is silt and gravel. The portion of stream within the study area is shaded. The BFW is approximately 5 feet and the BFD is approximately 6 inches. The length of Stream 4 within the study area is 271.4 feet. Stream 4 is federally jurisdictional.

The drainage channel within Wetland E appears ephemeral and flows into Stream 4. No flow was noted during the site visit. The length of channel within the study area is 384.0 feet. This drainage flows into Stream 4, which flows to a TNW, and is therefore considered to be federally jurisdictional.

**Wetland F** is an isolated palustrine wetland in a depression that contains a vernal pool identified as unconfirmed by the state (SDF1078) (See Attachment 1- Water Resources). No inlet or outlet to this wetland was noted. No hydrologic connection to other wetlands or waters of the United States are present. Seeps were noted within this wetland. This wetland contains species such as sensitive fern, ostrich fern and interrupted fern (*Osmunda clayoniana*). Hydrology indicators include water-stained leaves, geomorphic position and FAC-neutral test. The observed hydric soil indicators are loamy gleyed matrix and redox dark surface. The total size of Wetland F is 0.609 acres.

The vernal pool occurs in a depressional area surrounded by deciduous forest. The vernal pool and surrounding area is undisturbed. No water was present at the time of the visit; however, it was estimated that the pool depth would be 6-12 inches. The substrate is silt and leaf litter. The property owner noted the presence of salamander species in this area in the spring. Wetland F is a state Class II wetland. However, since the wetland is isolated and is not located in close proximity to other waters of the U.S., it is not federally jurisdictional.

**Vernal Pool (VP) 1** occurs in an isolated forest depression. The surrounding area is undisturbed deciduous forest. No inlet or outlet is present. No hydrologic connection to other wetlands or waters of the United States are present. No water was present at the time of the visit; however, it was estimated that the pool depth would be 6-12 inches. The substrate is silt and leaf litter. No vegetation was present within the pool. The total size of VP 1 is 0.001 acres. VP 1 is a

state Class II wetland. However, since the vernal pool is isolated and is not located in close proximity to other waters of the U.S., it is not federally jurisdictional.

## 5.0 SUMMARY

CHA, Inc. delineated wetlands and streams within an approximately 61-acre study area located in the Towns of Berlin and Barre, Washington County, Vermont. The follow tables provide the ecological community types for each feature, size of the feature within the study area and the likely regulatory jurisdiction.

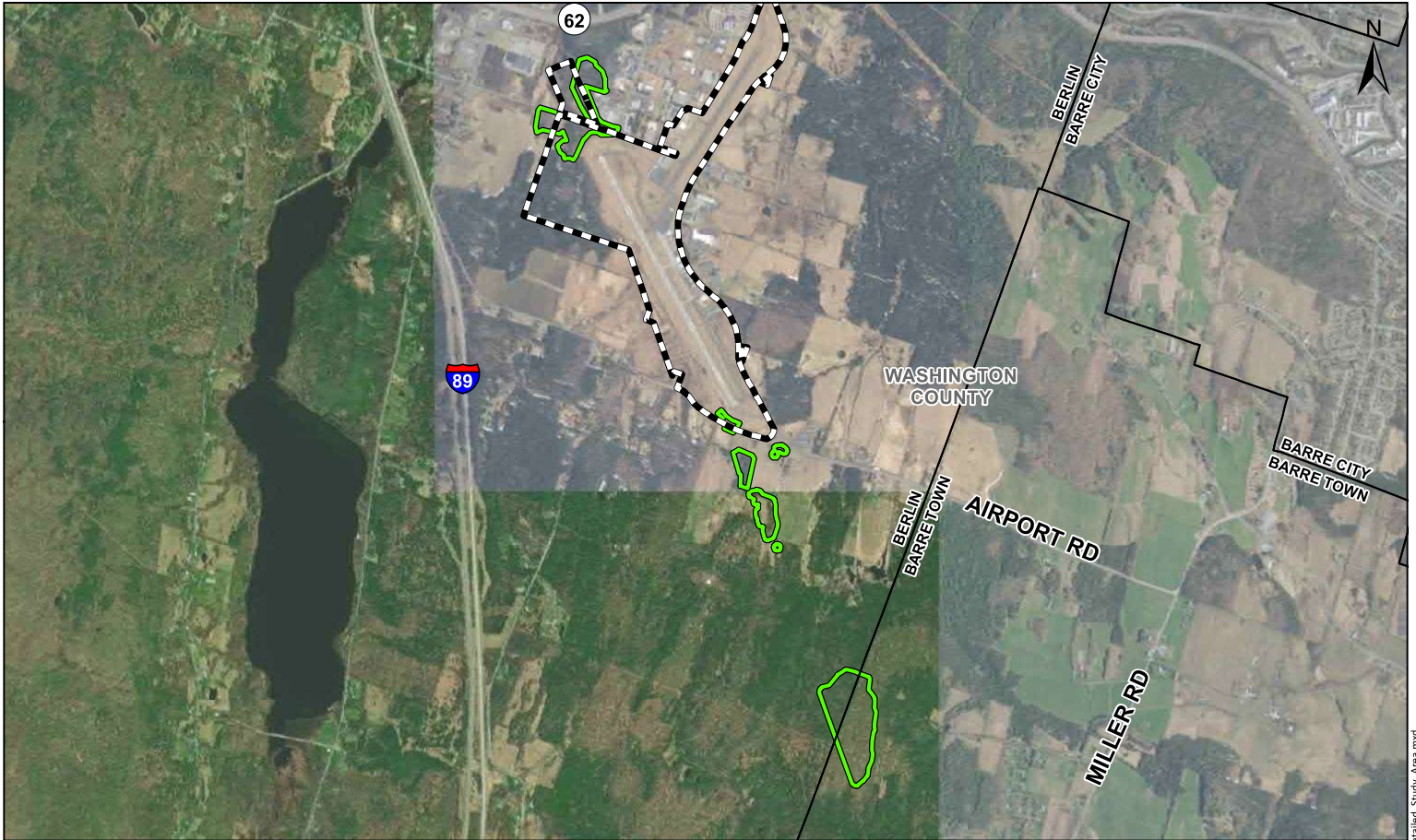
**Table 1 – Wetlands**

| FEATURE       | COMMUNITY TYPE | SIZE (Acres (AC)) | JURISDICTION                  |
|---------------|----------------|-------------------|-------------------------------|
| Wetland A     | PEM/PSS        | 0.475             | Federal (Section 404) & State |
| Wetland B     | PEM/PSS/PFO    | 5.645             | Federal (Section 404) & State |
| Wetland C     | PEM/PFO        | 4.674             | Federal (Section 404) & State |
| Wetland D     | PEM/PFO        | 0.570             | Federal (Section 404) & State |
| Wetland E     | PFO            | 1.031             | Federal (Section 404) & State |
| Wetland F     | PFO            | 0.609             | State                         |
| Vernal Pool 1 | PFO            | 0.001             | State                         |
| <b>TOTAL</b>  |                | <b>13.005 AC</b>  |                               |



**Table 2 – Streams**

| FEATURE      | COMMUNITY TYPE                         | SIZE (Linear Foot (LF)) | JURISDICTION          |
|--------------|--|-------------------------|-----------------------|
| Stream 1     | Intermittent Stream                    | 308.8                   | Federal (Section 404) |
| Stream 2     | Intermittent Stream & Perennial Stream | 961.7                   | Federal (Section 404) |
| Stream 3     | Perennial Stream                       | 449.9                   | Federal (Section 404) |
| Stream 4     | Intermittent Stream                    | 271.4                   | Federal (Section 404) |
| Stream 5     | Intermittent Stream                    | 77.0                    | Federal (Section 404) |
| Stream 6     | Intermittent Stream                    | 127.8                   | Federal (Section 404) |
| Drainage     | Ephemeral                              | 384.0                   | Federal (Section 404) |
| <b>TOTAL</b> |  | <b>2,580.6 LF</b>       |                       |

**Attachment 1**




**Legend**



-  Airport Property Boundary
-  Detailed Study Area
-  Municipal Boundary

**E.F. Knapp State Airport**  
Detailed Study Area

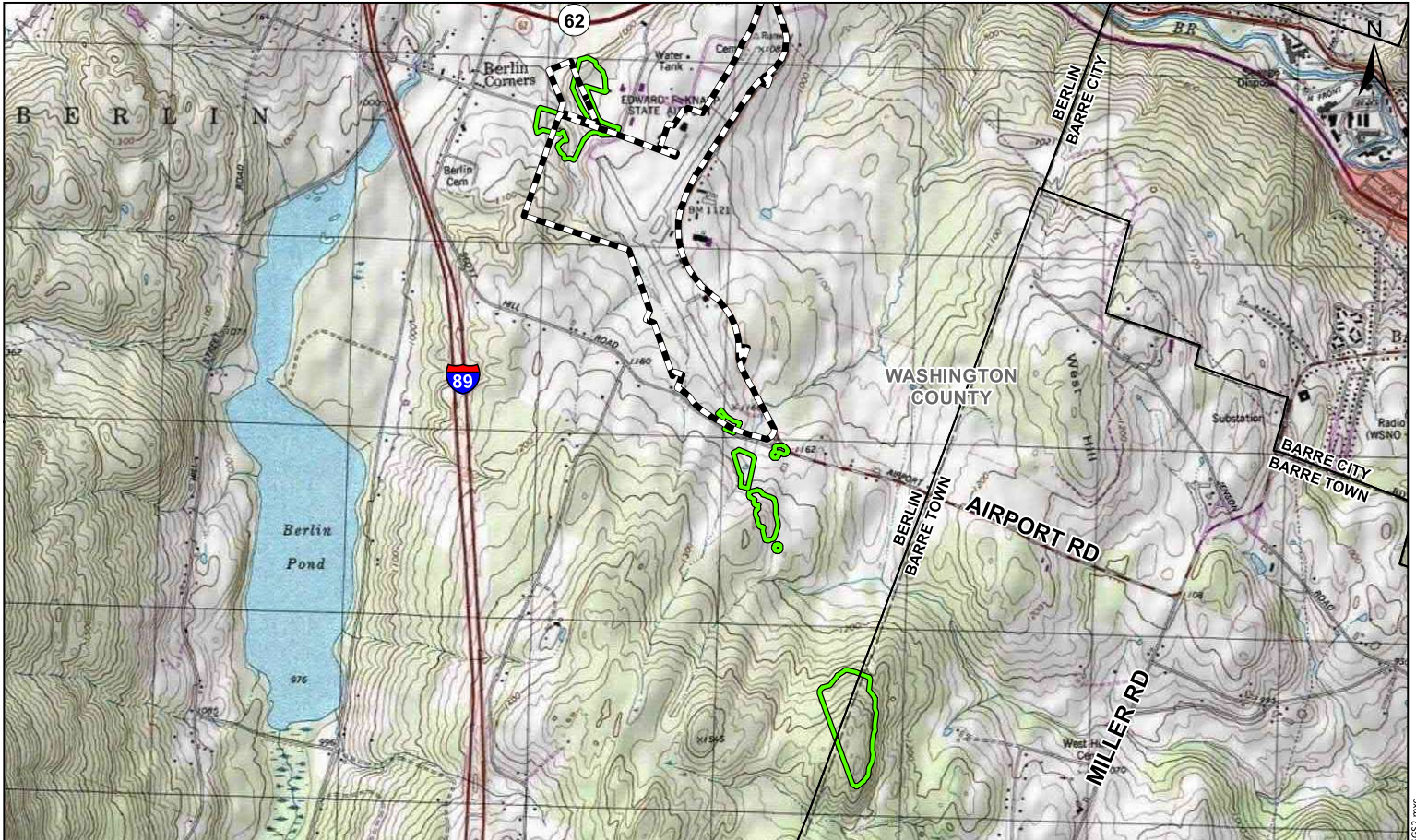


0 1,000 2,000 4,000 Feet








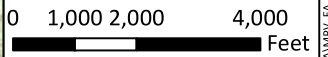
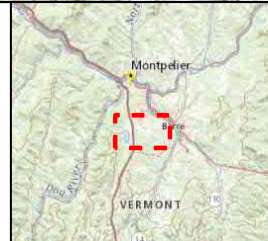


**Legend**

-  Airport Property Boundary
-  Detailed Study Area
-  Municipal Boundary

**E.F. Knapp State Airport**

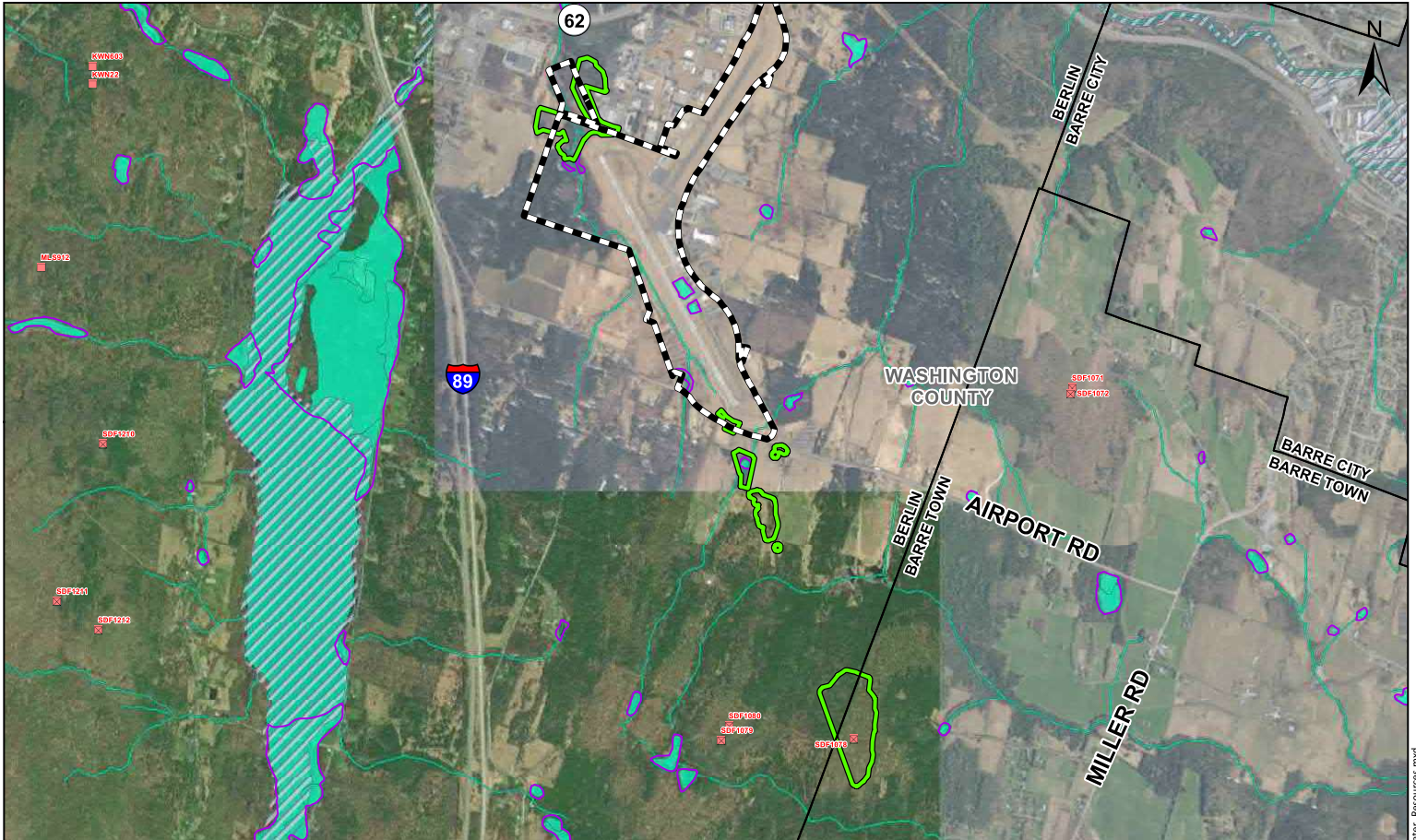
USGS Topo



Sources: Water Resources (VT GIS, 2021).







**Legend**

|                           |   |
|---------------------------|---|
| Airport Property Boundary | FEMA 100-Year Floodplain                              |
| Detailed Study Area       | NW1 Wetlands  |
| Municipal Boundary        | Vermont Significant Wetland Inventory (VSWI) Wetlands |
|                           | Vernal Pool (Confirmed)                               |
|                           | Vernal Pool (Unconfirmed)                             |

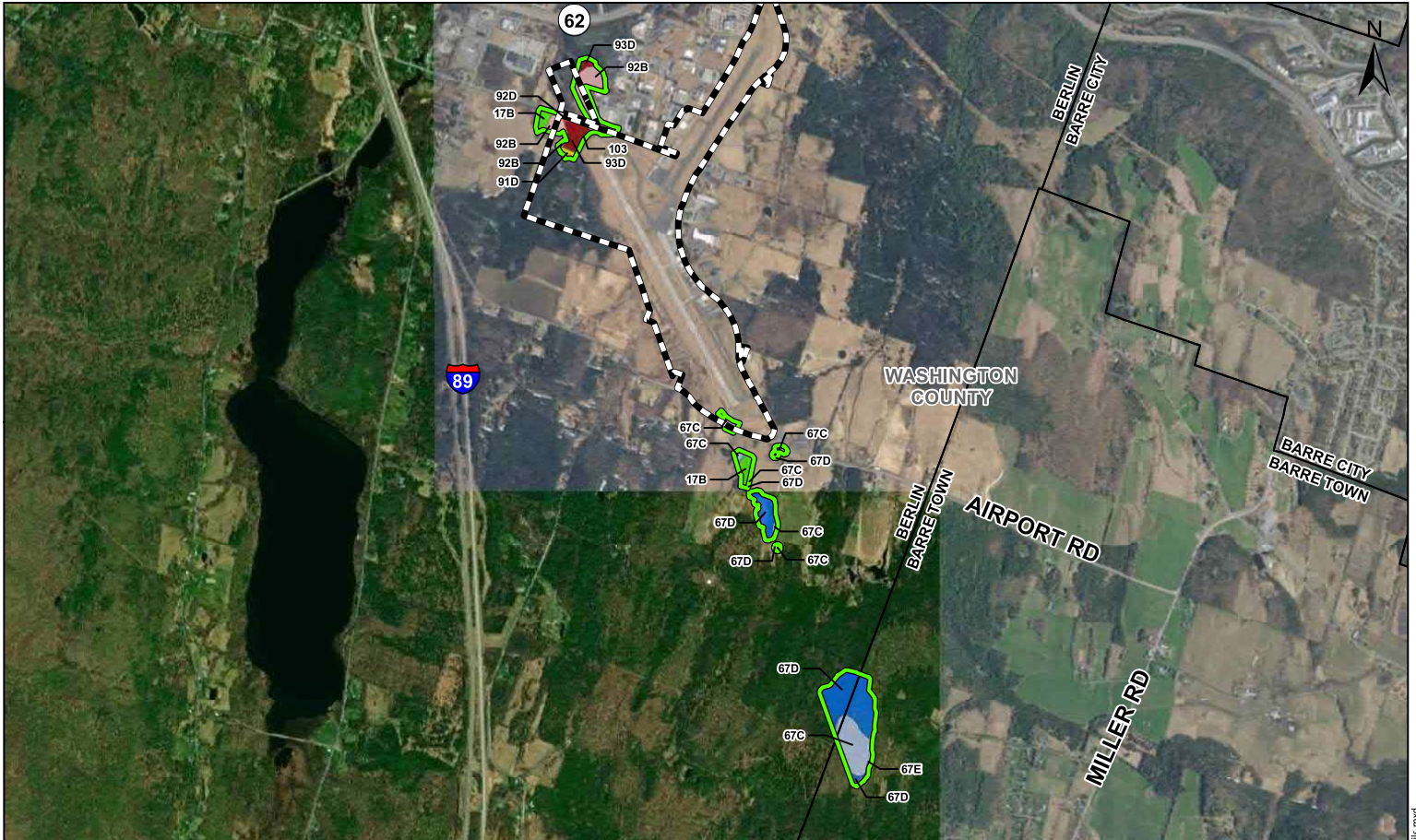
**E.F. Knapp State Airport**  
Water Resources



0 1,000 2,000 4,000 Feet

Sources: Water Resources (VT GIS, 2021).





| Legend                  |   |
|-------------------------|---|
|                         | Airport Property Boundary   |
|                         | Detailed Study Area   |
|                         | Municipal Boundary  |
| Soil Name (Soil Symbol) |   |
|                         | Buckland loam, 3 to 6 percent slopes (92B)                            |
|                         | Buckland loam, 15 to 25 percent slopes (92D)                          |
|                         | Buckland loam, 15 to 35 percent slopes, very stony (93D)              |
|                         | Cabot silt loam, 3 to 8 percent slopes (17B)                          |
|                         | Dummerston fine sandy loam, 15 to 35 percent slopes, very stony (91D) |
|                         | Glover-Vershire complex, 8 to 15 percent slopes, very rocky (67C)     |
|                         | Glover-Vershire complex, 15 to 35 percent slopes, very rocky (67D)    |
|                         | Glover-Vershire complex, 35 to 60 percent slopes, very rocky (67E)    |
|                         | Udorthents, loamy (103)   |

## E.F. Knapp State Airport

### Soils

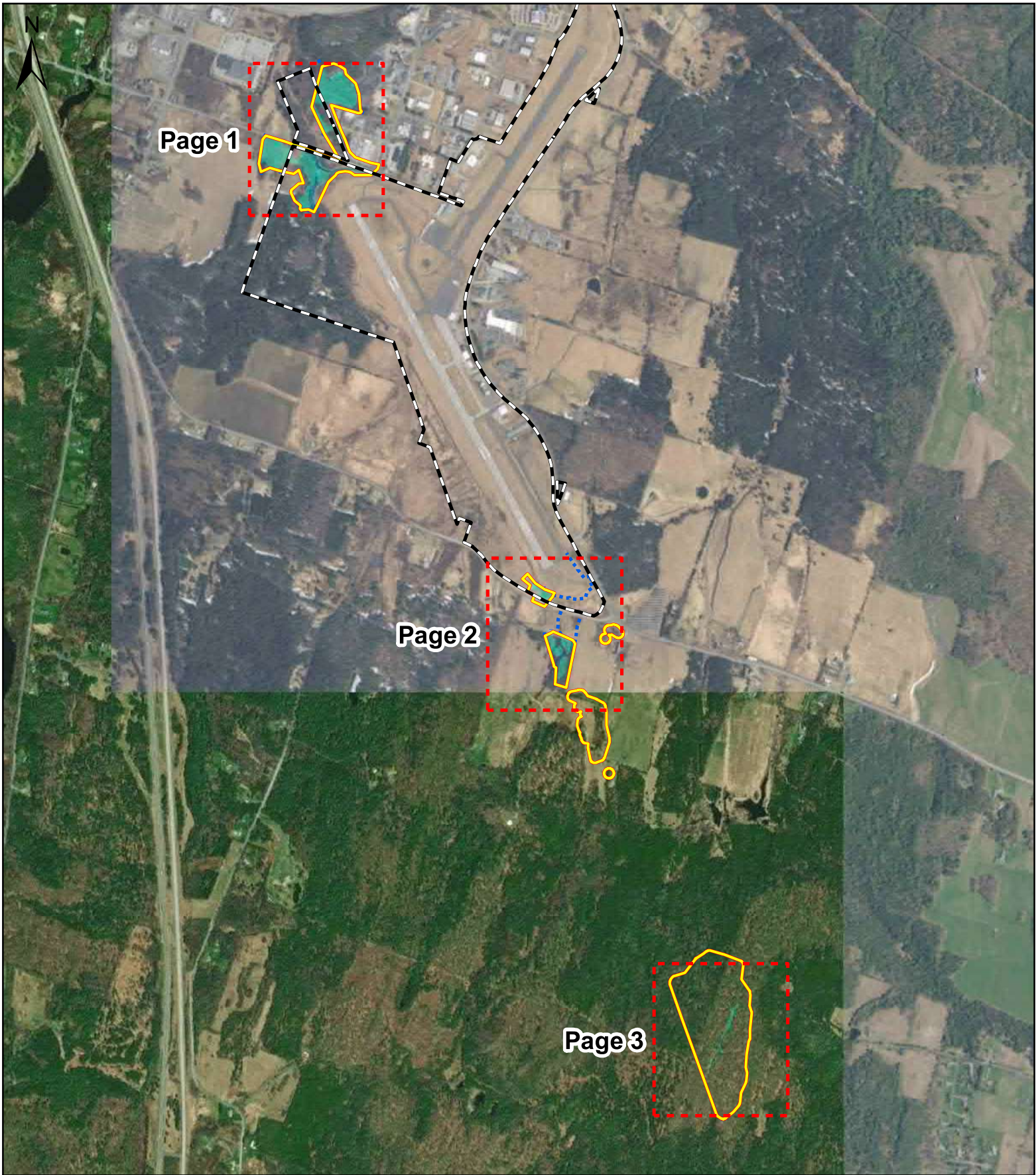


0 1,000 2,000 4,000 Feet

Sources: Soils (USDA-NRCS, 2021)

**Attachment 2**

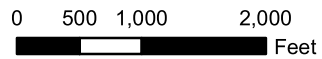




**Legend**

-  Airport Property Boundary
-  Review Area
-  Wetland Delineation Map Page
-  Delineated Wetland
-  Delineated Stream
-  Drainage
-  Wetland Continues

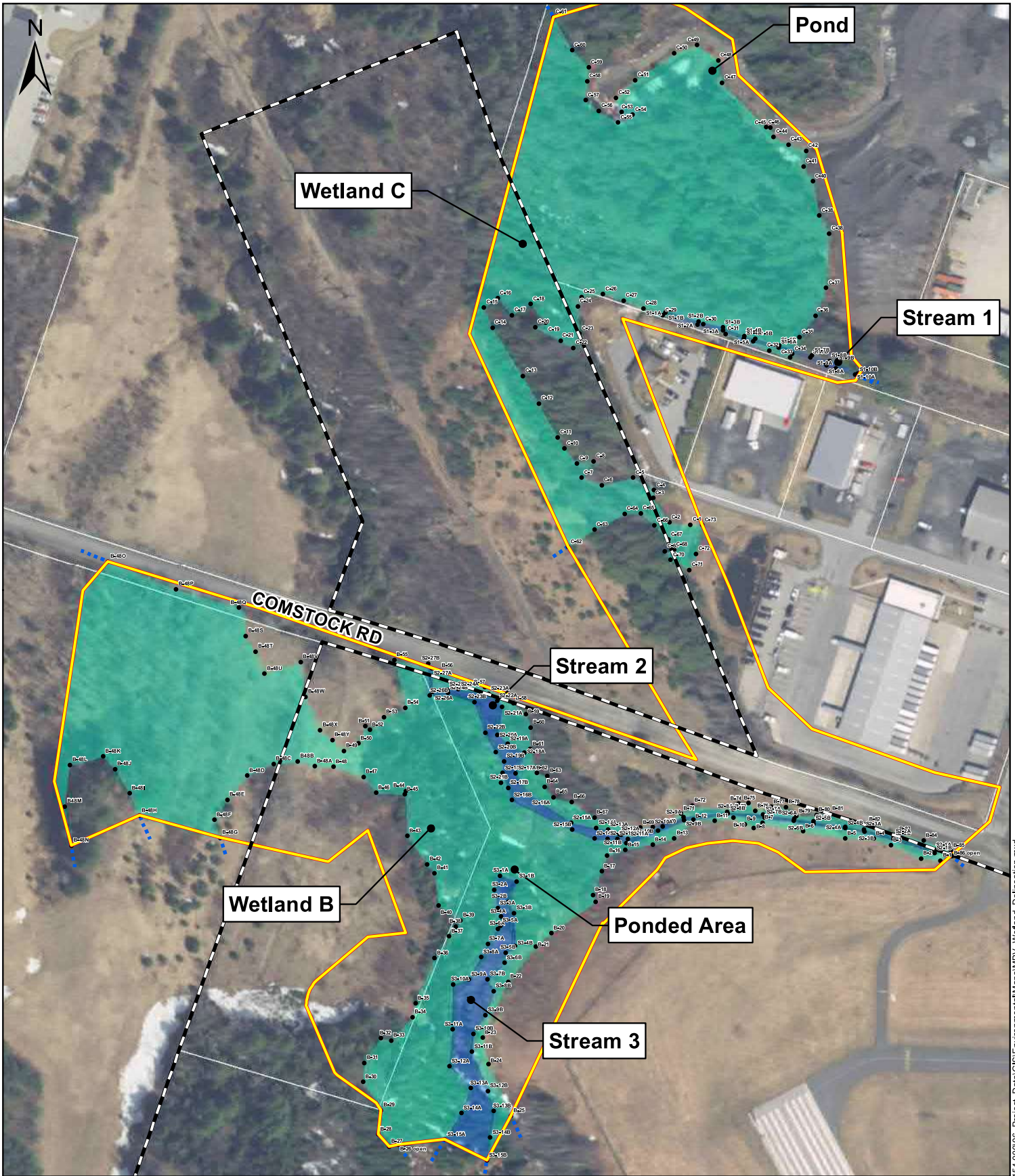
**Wetland Delineation  
Overview**










Sources: Imagery (ESRI)





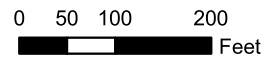
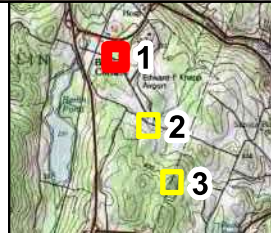


**Legend**

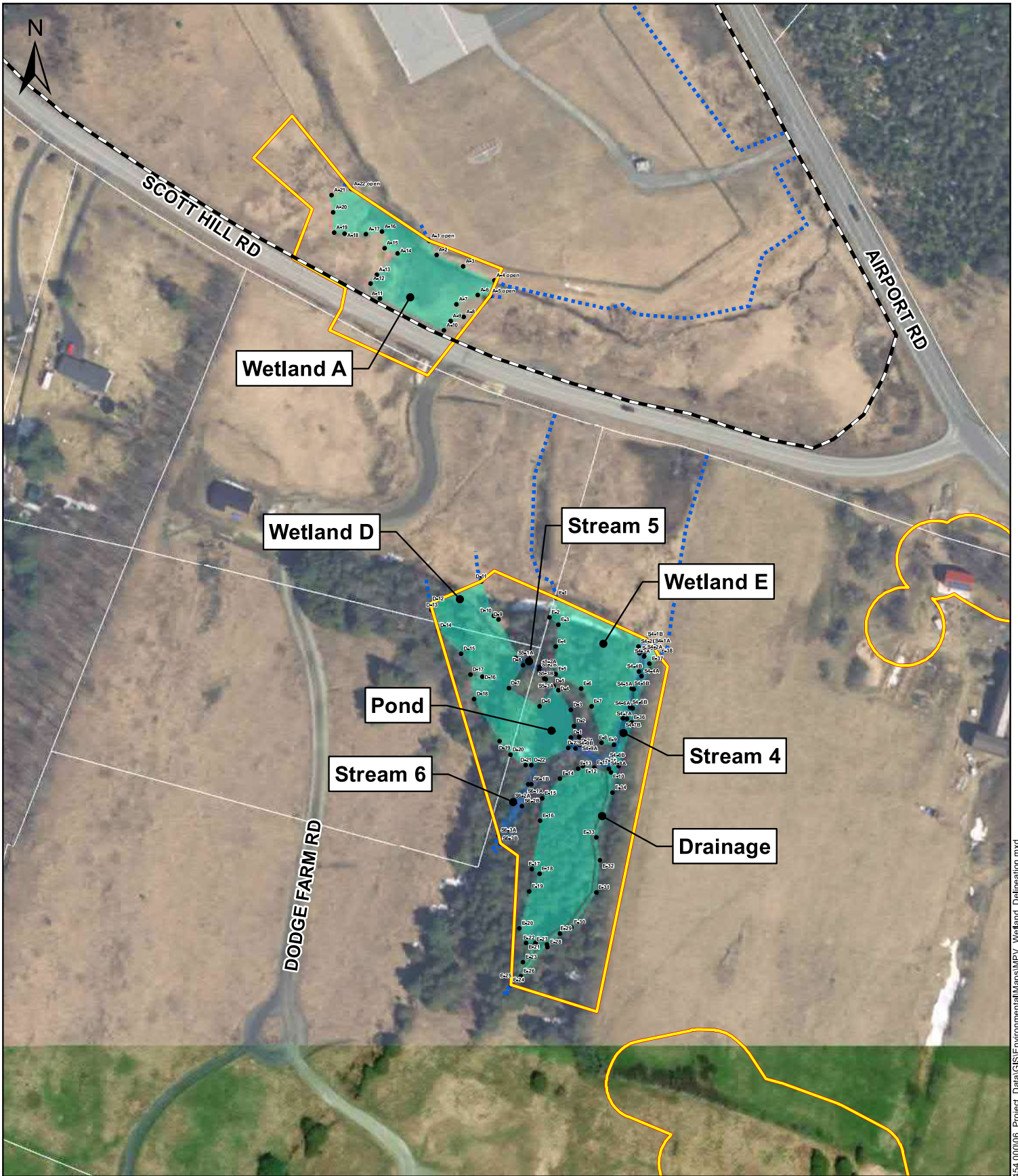
-  Airport Property Boundary
-  Delineated Flag
-  Delineated Wetland
-  Delineated Stream
-  Drainage
-  Review Area
-  Wetland Continues

**Wetland Delineation**

Page 1







**Legend**

- Airport Property Boundary
- Parcel Boundary
- Review Area
- Delineated Flag
- Delineated Wetland
- Delineated Stream
- Drainage
- Wetland Continues

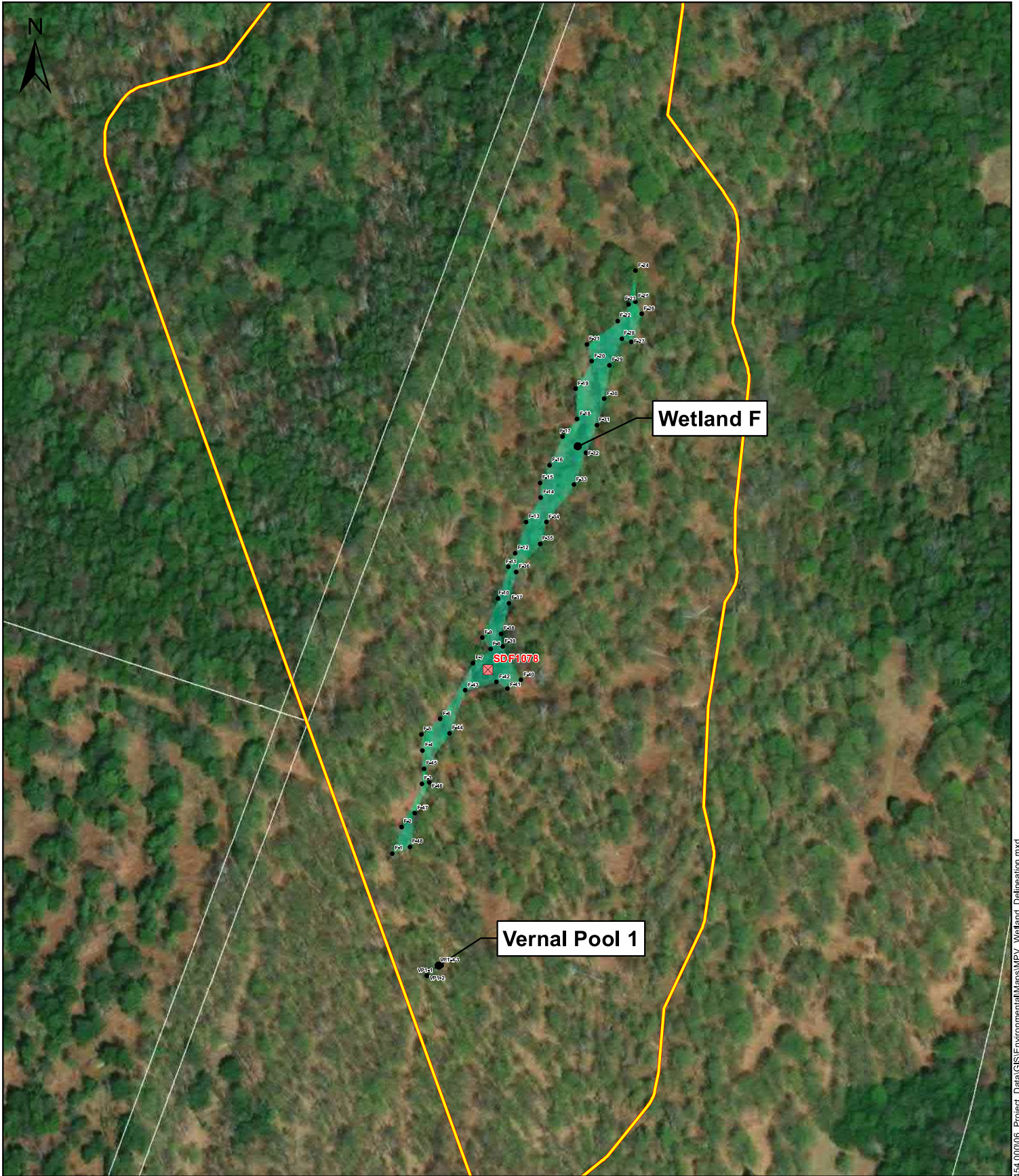
**Wetland Delineation**

Page 2



0 50 100 200  
Feet



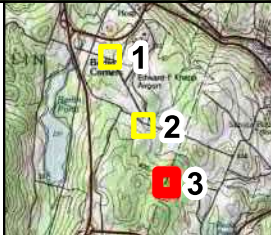


**Legend**

|                           |                    |
|---------------------------|--------------------|
| Airport Property Boundary | Delineated Flag    |
| Parcel Boundary           | Delineated Wetland |
| Review Area               | Delineated Stream  |
| Vernal Pool (Unconfirmed) | Drainage           |
|                           | Wetland Continues  |

**Wetland Delineation**

Page 3



0 50 100 200  
Feet

**Attachment 3**

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/21/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Wet A-13  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope %: 1  
 Subregion (LRR or MLRA): LRR R Lat: 44.19375 Long: 72.55912 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 67C-Glover-Vershire complex NWI classification: PSS

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <u>X</u> No _____<br>Hydric Soil Present? Yes <u>X</u> No _____<br>Wetland Hydrology Present? Yes <u>X</u> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____<br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)<br><br><br>   |   |

### HYDROLOGY

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

|  |   |
|--|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____ |
|--|---|

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

Remarks:



**VEGETATION** – Use scientific names of plants.

Sampling Point: Wet A-13

| <u>Tree Stratum</u> (Plot size: <u>30'</u> )          | Absolute % Cover | Dominant Species? | Indicator Status |   |
|---|------------------|-------------------|------------------|---|
| 1. _____  | _____            | _____             | _____            | <b>Dominance Test worksheet:</b><br><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)  |
| 2. _____  | _____            | _____             | _____            |   |
| 3. _____  | _____            | _____             | _____            |   |
| 4. _____  | _____            | _____             | _____            |   |
| 5. _____  | _____            | _____             | _____            |   |
| 6. _____  | _____            | _____             | _____            |   |
| 7. _____  | _____            | _____             | _____            |   |
| _____ =Total Cover                                    |                  |                   |                  | <b>Prevalence Index worksheet:</b><br><br>Total % Cover of: _____ Multiply by: _____<br><br>OBL species <u>0</u> x 1 = <u>0</u><br>FACW species <u>183</u> x 2 = <u>366</u><br>FAC species <u>0</u> x 3 = <u>0</u><br>FACU species <u>10</u> x 4 = <u>40</u><br>UPL species <u>0</u> x 5 = <u>0</u><br>Column Totals: <u>193</u> (A) <u>406</u> (B)<br>Prevalence Index = B/A = <u>2.10</u> |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> ) |                  |                   |                  |   |
| 1. <u>Salix alba</u>                                  | <u>90</u>        | <u>Yes</u>        | <u>FACW</u>      |   |
| 2. <u>Cornus amomum</u>                               | <u>25</u>        | <u>No</u>         | <u>FACW</u>      |   |
| 3. <u>Spiraea latifolia</u>                           | <u>20</u>        | <u>No</u>         | <u>FACW</u>      |   |
| 4. _____  | _____            | _____             | _____            |   |
| 5. _____  | _____            | _____             | _____            |   |
| 6. _____  | _____            | _____             | _____            |   |
| 7. _____  | _____            | _____             | _____            |   |
| _____ =Total Cover                                    |                  |                   |                  |   |
| <u>Herb Stratum</u> (Plot size: <u>5'</u> )           |                  |                   |                  |   |
| 1. <u>Solidago canadensis</u>                         | <u>5</u>         | <u>No</u>         | <u>FACU</u>      |   |
| 2. <u>Phalaris arundinacea</u>                        | <u>15</u>        | <u>Yes</u>        | <u>FACW</u>      |   |
| 3. <u>Cirsium arvense</u>                             | <u>5</u>         | <u>No</u>         | <u>FACU</u>      |   |
| 4. <u>Onoclea sensibilis</u>                          | <u>8</u>         | <u>No</u>         | <u>FACW</u>      |   |
| 5. <u>Cornus amomum</u>                               | <u>5</u>         | <u>No</u>         | <u>FACW</u>      |   |
| 6. <u>Solidago gigantea</u>                           | <u>20</u>        | <u>Yes</u>        | <u>FACW</u>      |   |
| 7. _____  | _____            | _____             | _____            |   |
| 8. _____  | _____            | _____             | _____            |   |
| 9. _____  | _____            | _____             | _____            |   |
| 10. _____   | _____            | _____             | _____            |   |
| 11. _____   | _____            | _____             | _____            |   |
| 12. _____   | _____            | _____             | _____            |   |
| _____ =Total Cover                                    |                  |                   |                  |   |
| <u>Woody Vine Stratum</u> (Plot size: <u>30'</u> )    |                  |                   |                  |   |
| 1. _____  | _____            | _____             | _____            |   |
| 2. _____  | _____            | _____             | _____            |   |
| 3. _____  | _____            | _____             | _____            |   |
| 4. _____  | _____            | _____             | _____            |   |
| _____ =Total Cover                                    |                  |                   |                  |   |

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>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 Wet A-13

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

| Depth<br>(inches) | Matrix        |    | Redox Features |    |                   |                  | Texture      | Remarks                        |
|-------------------|---------------|----|----------------|----|-------------------|------------------|--------------|--------------------------------|
|                   | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |              |                                |
| 0-10              | 10YR 2/2      | 95 | 10YR 2/1       | 5  | C                 | M                | Loamy/Clayey | Faint redox concentrations     |
| 10-17             | 10Y 2.5/1     | 80 | 10YR 3/3       | 20 | C                 | M                | Loamy/Clayey | Prominent redox concentrations |
|                   |               |    |                |    |                   |                  |              |                                |
|                   |               |    |                |    |                   |                  |              |                                |
|                   |               |    |                |    |                   |                  |              |                                |
|                   |               |    |                |    |                   |                  |              |                                |
|                   |               |    |                |    |                   |                  |              |                                |
|                   |               |    |                |    |                   |                  |              |                                |
|                   |               |    |                |    |                   |                  |              |                                |
|                   |               |    |                |    |                   |                  |              |                                |
|                   |               |    |                |    |                   |                  |              |                                |
|                   |               |    |                |    |                   |                  |              |                                |
|                   |               |    |                |    |                   |                  |              |                                |
|                   |               |    |                |    |                   |                  |              |                                |
|                   |               |    |                |    |                   |                  |              |                                |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R, MLRA 149B</b> ) |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B</b> )       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> High Chroma Sands (S11) ( <b>LRR K, L</b> )              |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L</b> )             |
| <input type="checkbox"/> Stratified Layers (A5)            | <input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)                      |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                                     |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Dark Surface (F6)                                  |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                               |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                                   |
| <input type="checkbox"/> Sandy Redox (S5)                  | <input type="checkbox"/> Marl (F10) ( <b>LRR K, L</b> )                           |
| <input type="checkbox"/> Stripped Matrix (S6)              |   |
| <input type="checkbox"/> Dark Surface (S7)                 |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

|   |   |
|---|---|
| <b>Restrictive Layer (if observed):</b> | <b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Type: _____ none _____                  |   |
| Depth (inches): _____                   |   |

Remarks:  
 This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/21/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: UplA-13/ A-22  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): concave Slope %: 1  
 Subregion (LRR or MLRA): LRR R Lat: 44.19418 Long: 72.55927 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 67C-Glover-Vershire complex NWI classification: n/a

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes _____ No <u>X</u><br>Hydric Soil Present? Yes _____ No <u>X</u><br>Wetland Hydrology Present? Yes _____ No <u>X</u> | <b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u><br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)<br>successional old field   |   |

**HYDROLOGY**

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

|  |   |
|--|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u> |
|--|---|

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Sampling Point: Upl A-13/ A-22

| <u>Tree Stratum</u> (Plot size: <u>30'</u> )          | Absolute % Cover | Dominant Species? | Indicator Status |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
|---|------------------|-------------------|------------------|---|-------------------|--------------|----------------------|----------------|-----------------------|----------------|-----------------------|-----------------|------------------------|------------------|-----------------------|-----------------|-------------------------------|----------------|--------------------------------------|--|
| 1. _____  | _____            | _____             | _____            | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 2. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 3. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 4. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 5. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 6. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 7. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| _____ =Total Cover                                    |                  |                   |                  | <b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>1</u></td> <td>x 2 = <u>2</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>85</u></td> <td>x 4 = <u>340</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>116</u> (A)</td> <td><u>452</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>3.90</u></td> </tr> </table> | Total % Cover of: | Multiply by: | OBL species <u>0</u> | x 1 = <u>0</u> | FACW species <u>1</u> | x 2 = <u>2</u> | FAC species <u>20</u> | x 3 = <u>60</u> | FACU species <u>85</u> | x 4 = <u>340</u> | UPL species <u>10</u> | x 5 = <u>50</u> | Column Totals: <u>116</u> (A) | <u>452</u> (B) | Prevalence Index = B/A = <u>3.90</u> |  |
| Total % Cover of:                                     | Multiply by:     |                   |                  |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| OBL species <u>0</u>                                  | x 1 = <u>0</u>   |                   |                  |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| FACW species <u>1</u>                                 | x 2 = <u>2</u>   |                   |                  |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| FAC species <u>20</u>                                 | x 3 = <u>60</u>  |                   |                  |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| FACU species <u>85</u>                                | x 4 = <u>340</u> |                   |                  |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| UPL species <u>10</u>                                 | x 5 = <u>50</u>  |                   |                  |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| Column Totals: <u>116</u> (A)                         | <u>452</u> (B)   |                   |                  |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| Prevalence Index = B/A = <u>3.90</u>                  |                  |                   |                  |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> ) |                  |                   |                  | <b>Hydrophytic Vegetation Indicators:</b><br>___ 1 - Rapid Test for Hydrophytic Vegetation<br>___ 2 - Dominance Test is >50%<br>___ 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><br>___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 1. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 2. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 3. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 4. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 5. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 6. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| _____ =Total Cover                                    |                  |                   |                  | <b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| <u>Herb Stratum</u> (Plot size: <u>5'</u> )           |                  |                   |                  |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 1. <u>Solidago canadensis</u>                         | 80               | Yes               | FACU             |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 2. <u>Vicia cracca</u>                                | 10               | No                | UPL              |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 3. <u>Cirsium arvense</u>                             | 5                | No                | FACU             |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 4. <u>Galium boreale</u>                              | 20               | No                | FAC              |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 5. <u>Onoclea sensibilis</u>                          | 1                | No                | FACW             |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 6. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 7. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 8. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 9. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 10. _____   | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 11. _____   | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 12. _____   | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| _____ =Total Cover                                    |                  |                   |                  |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| <u>Woody Vine Stratum</u> (Plot size: <u>30'</u> )    |                  |                   |                  | <b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>  X  </u>  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 1. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 2. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 3. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| 4. _____  | _____            | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |
| _____ =Total Cover                                    |                  |                   |                  |   |                   |              |                      |                |                       |                |                       |                 |                        |                  |                       |                 |                               |                |                                      |  |

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

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

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture      | Remarks                    |
|----------------|---------------|-----|----------------|---|-------------------|------------------|--------------|----------------------------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |              |                            |
| 0-15           | 10YR 2/1      | 100 |                |   |                   |                  | Loamy/Clayey |                            |
| 15-17          | 10YR 2/1      | 95  | 10YR 2/2       | 5 | C                 | M                | Loamy/Clayey | Faint redox concentrations |
|                |               |     |                |   |                   |                  |              |                            |
|                |               |     |                |   |                   |                  |              |                            |
|                |               |     |                |   |                   |                  |              |                            |
|                |               |     |                |   |                   |                  |              |                            |
|                |               |     |                |   |                   |                  |              |                            |
|                |               |     |                |   |                   |                  |              |                            |
|                |               |     |                |   |                   |                  |              |                            |
|                |               |     |                |   |                   |                  |              |                            |
|                |               |     |                |   |                   |                  |              |                            |
|                |               |     |                |   |                   |                  |              |                            |
|                |               |     |                |   |                   |                  |              |                            |
|                |               |     |                |   |                   |                  |              |                            |
|                |               |     |                |   |                   |                  |              |                            |
|                |               |     |                |   |                   |                  |              |                            |
|                |               |     |                |   |                   |                  |              |                            |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

|  |  |   |  |
|--|--|---|--|
| <b>Hydric Soil Indicators:</b>                             |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>         |  |
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)      | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)              | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)          | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                   | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Depleted Matrix (F3)                       | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Depleted Dark Surface (F7)                 | <input type="checkbox"/> Red Parent Material (F21)                   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Marl (F10) (LRR K, L)                      | <input type="checkbox"/> Very Shallow Dark Surface (F22)             |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          |  |   | <input type="checkbox"/> Other (Explain in Remarks)                  |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |  |   |  |
| <input type="checkbox"/> Sandy Redox (S5)                  |  |   |  |
| <input type="checkbox"/> Stripped Matrix (S6)              |  |   |  |
| <input type="checkbox"/> Dark Surface (S7)                 |  |   |  |

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

|   |  |
|---|--|
| <b>Restrictive Layer (if observed):</b><br>Type: _____<br>Depth (inches): _____ | <b>Hydric Soil Present?</b> Yes _____      No <u>X</u> |
|---|--|

Remarks:  
 This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/21/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Wet A-22  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope %: 0  
 Subregion (LRR or MLRA): LRR R Lat: 44.19418 Long: 72.55927 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 67C-Glover-Vershire complex NWI classification: PEM

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <u>X</u> No _____<br>Hydric Soil Present? Yes <u>X</u> No _____<br>Wetland Hydrology Present? Yes <u>X</u> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____<br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)   |   |

**HYDROLOGY**

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

|   |   |
|---|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Saturation Present? Yes <u>x</u> No _____ Depth (inches): <u>0</u><br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____ |
|---|---|

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Sampling Point: Wet A-22

| <u>Tree Stratum</u> (Plot size: <u>30'</u> )          | Absolute % Cover   | Dominant Species? | Indicator Status |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
|---|--------------------|-------------------|------------------|---|-------------------|--------------|-----------------------|-----------------|------------------------|-----------------|-----------------------|------------------|-----------------------|----------------|----------------------|-----------------|---------------------------|--------------------|--------------------------------------|--|
| 1. _____  | _____              | _____             | _____            | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 2. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 3. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 4. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 5. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 6. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 7. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
|   | _____ =Total Cover |                   |                  | <b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>65</u></td> <td>x 1 = <u>65</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>35</u></td> <td>x 3 = <u>105</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>2</u></td> <td>x 5 = <u>10</u></td> </tr> <tr> <td>Column Totals: <u>112</u></td> <td>(A) <u>200</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center">Prevalence Index = B/A = <u>1.79</u></td> </tr> </table> | Total % Cover of: | Multiply by: | OBL species <u>65</u> | x 1 = <u>65</u> | FACW species <u>10</u> | x 2 = <u>20</u> | FAC species <u>35</u> | x 3 = <u>105</u> | FACU species <u>0</u> | x 4 = <u>0</u> | UPL species <u>2</u> | x 5 = <u>10</u> | Column Totals: <u>112</u> | (A) <u>200</u> (B) | Prevalence Index = B/A = <u>1.79</u> |  |
| Total % Cover of:                                     | Multiply by:       |                   |                  |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| OBL species <u>65</u>                                 | x 1 = <u>65</u>    |                   |                  |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| FACW species <u>10</u>                                | x 2 = <u>20</u>    |                   |                  |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| FAC species <u>35</u>                                 | x 3 = <u>105</u>   |                   |                  |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| FACU species <u>0</u>                                 | x 4 = <u>0</u>     |                   |                  |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| UPL species <u>2</u>                                  | x 5 = <u>10</u>    |                   |                  |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| Column Totals: <u>112</u>                             | (A) <u>200</u> (B) |                   |                  |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| Prevalence Index = B/A = <u>1.79</u>                  |                    |                   |                  |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> ) |                    |                   |                  | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 1. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 2. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 3. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 4. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 5. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 6. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
|   | _____ =Total Cover |                   |                  |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| <u>Herb Stratum</u> (Plot size: <u>5'</u> )           |                    |                   |                  | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.<br><br><b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 1. <u>Lythrum salicaria</u>                           | 40                 | Yes               | OBL              |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 2. <u>Equisetum hyemale</u>                           | 30                 | Yes               | FAC              |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 3. <u>Juncus canadensis</u>                           | 25                 | Yes               | OBL              |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 4. <u>Euthamia graminifolia</u>                       | 5                  | No                | FAC              |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 5. <u>Phalaris arundinacea</u>                        | 10                 | No                | FACW             |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 6. <u>Centaurea stoebe</u>                            | 2                  | No                | UPL              |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 7. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 8. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 9. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 10. _____   | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 11. _____   | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
|   | 112 =Total Cover   |                   |                  |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| <u>Woody Vine Stratum</u> (Plot size: <u>30'</u> )    |                    |                   |                  | <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 1. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 2. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 3. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 4. _____  | _____              | _____             | _____            |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
|   | _____ =Total Cover |                   |                  |   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |

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





## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/21/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Wet B-1  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): concave Slope %: 1  
 Subregion (LRR or MLRA): LRR R Lat: 44.20765 Long: 72.56695 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 92-Buckland loam NWI classification: PEM/PSS

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <u>X</u> No _____<br>Hydric Soil Present? Yes <u>X</u> No _____<br>Wetland Hydrology Present? Yes <u>X</u> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____<br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)<br><br><br>   |   |

### HYDROLOGY

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

|  |   |
|--|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Saturation Present? Yes <u>x</u> No _____ Depth (inches): <u>10</u><br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____ |
|--|---|

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Sampling Point: Wet B-1

| <u>Tree Stratum</u> (Plot size: <u>30'</u> )          | Absolute % Cover | Dominant Species? | Indicator Status |              |
|---|------------------|-------------------|------------------|--------------|
| 1. _____  | _____            | _____             | _____            |              |
| 2. _____  | _____            | _____             | _____            |              |
| 3. _____  | _____            | _____             | _____            |              |
| 4. _____  | _____            | _____             | _____            |              |
| 5. _____  | _____            | _____             | _____            |              |
| 6. _____  | _____            | _____             | _____            |              |
| 7. _____  | _____            | _____             | _____            |              |
|   |                  |                   |                  | =Total Cover |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> ) |                  |                   |                  |              |
| 1. <u>Salix alba</u>                                  | 55               | Yes               | FACW             |              |
| 2. _____  | _____            | _____             | _____            |              |
| 3. _____  | _____            | _____             | _____            |              |
| 4. _____  | _____            | _____             | _____            |              |
| 5. _____  | _____            | _____             | _____            |              |
| 6. _____  | _____            | _____             | _____            |              |
| 7. _____  | _____            | _____             | _____            |              |
|   |                  |                   |                  | =Total Cover |
| <u>Herb Stratum</u> (Plot size: <u>5'</u> )           |                  |                   |                  |              |
| 1. <u>Symphyotrichum novae-angliae</u>                | 5                | No                | FACW             |              |
| 2. <u>Phalaris arundinacea</u>                        | 30               | Yes               | FACW             |              |
| 3. <u>Euthamia graminifolia</u>                       | 5                | No                | FAC              |              |
| 4. <u>Scirpus atrovirens</u>                          | 10               | No                | OBL              |              |
| 5. <u>Juncus effusus</u>                              | 8                | No                | OBL              |              |
| 6. <u>Verbena hastata</u>                             | 5                | No                | FACW             |              |
| 7. <u>Solidago canadensis</u>                         | 8                | No                | FACU             |              |
| 8. <u>Equisetum arvense</u>                           | 25               | Yes               | FAC              |              |
| 9. _____  | _____            | _____             | _____            |              |
| 10. _____   | _____            | _____             | _____            |              |
| 11. _____   | _____            | _____             | _____            |              |
| 12. _____   | _____            | _____             | _____            |              |
|   |                  |                   |                  | =Total Cover |
| <u>Woody Vine Stratum</u> (Plot size: <u>30'</u> )    |                  |                   |                  |              |
| 1. _____  | _____            | _____             | _____            |              |
| 2. _____  | _____            | _____             | _____            |              |
| 3. _____  | _____            | _____             | _____            |              |
| 4. _____  | _____            | _____             | _____            |              |
|   |                  |                   |                  | =Total Cover |

**Dominance Test worksheet:**

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

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

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

**Prevalence Index worksheet:**

| Total % Cover of:                    | Multiply by:     |
|--------------------------------------|------------------|
| OBL species <u>18</u>                | x 1 = <u>18</u>  |
| FACW species <u>95</u>               | x 2 = <u>190</u> |
| FAC species <u>30</u>                | x 3 = <u>90</u>  |
| FACU species <u>8</u>                | x 4 = <u>32</u>  |
| UPL species <u>0</u>                 | x 5 = <u>0</u>   |
| Column Totals: <u>151</u> (A)        | <u>330</u> (B)   |
| Prevalence Index = B/A = <u>2.19</u> |                  |

**Hydrophytic Vegetation Indicators:**

   1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

   4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>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 Wet B-1

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) |               |    |                |    |                   |                  |              |                                |
|---|---------------|----|----------------|----|-------------------|------------------|--------------|--------------------------------|
| Depth (inches)  | Matrix        |    | Redox Features |    |                   |                  | Texture      | Remarks                        |
|   | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |              |                                |
| 0-10  | 2.5Y 3/1      | 77 | 10YR 3/3       | 10 | C                 | M                | Loamy/Clayey | Distinct redox concentrations  |
|   |               |    | 10YR 2/1       | 5  | C                 | M                |              | Faint redox concentrations     |
|   |               |    | 10YR 3/3       | 8  | C                 | PL               |              | Distinct redox concentrations  |
| 10-16   | 10YR 4/6      | 70 | 10YR 4/6       | 25 | C                 | M                | Loamy/Clayey | Faint redox concentrations     |
|   |               |    | 10YR 2/1       | 5  | C                 | M                |              | Prominent redox concentrations |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ? Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- ? Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

<sup>3</sup>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:**

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/21/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Upl B-1  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope %: 1-2  
 Subregion (LRR or MLRA): LRR R Lat: 44.20765 Long: 72.56695 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 92-Buckland loam NWI classification: n/a

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes _____ No <u>X</u><br>Hydric Soil Present? Yes _____ No <u>X</u><br>Wetland Hydrology Present? Yes _____ No <u>X</u> | <b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u><br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)<br>successional old field   |   |

**HYDROLOGY**

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

|  |   |
|--|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u> |
|--|---|

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Sampling Point: Upl B-1

| <u>Tree Stratum</u> (Plot size: <u>30'</u> )          | Absolute % Cover | Dominant Species? | Indicator Status |                 |
|---|------------------|-------------------|------------------|-----------------|
| 1. _____  | _____            | _____             | _____            |                 |
| 2. _____  | _____            | _____             | _____            |                 |
| 3. _____  | _____            | _____             | _____            |                 |
| 4. _____  | _____            | _____             | _____            |                 |
| 5. _____  | _____            | _____             | _____            |                 |
| 6. _____  | _____            | _____             | _____            |                 |
| 7. _____  | _____            | _____             | _____            |                 |
|   |                  |                   |                  | =Total Cover    |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> ) |                  |                   |                  |                 |
| 1. <u>Pinus strobus</u>                               | 10               | Yes               | FACU             |                 |
| 2. _____  | _____            | _____             | _____            |                 |
| 3. _____  | _____            | _____             | _____            |                 |
| 4. _____  | _____            | _____             | _____            |                 |
| 5. _____  | _____            | _____             | _____            |                 |
| 6. _____  | _____            | _____             | _____            |                 |
| 7. _____  | _____            | _____             | _____            |                 |
|   |                  |                   |                  | 10 =Total Cover |
| <u>Herb Stratum</u> (Plot size: <u>5'</u> )           |                  |                   |                  |                 |
| 1. <u>Solidago canadensis</u>                         | 25               | Yes               | FACU             |                 |
| 2. <u>Galium boreale</u>                              | 20               | Yes               | FAC              |                 |
| 3. <u>Conyza canadensis</u>                           | 15               | No                | FACU             |                 |
| 4. <u>Solidago rugosa</u>                             | 25               | Yes               | FAC              |                 |
| 5. <u>Vicia cracca</u>                                | 5                | No                | UPL              |                 |
| 6. <u>Daucus carota</u>                               | 1                | No                | UPL              |                 |
| 7. <u>Plantago lanceolata</u>                         | 2                | No                | FACU             |                 |
| 8. _____  | _____            | _____             | _____            |                 |
| 9. _____  | _____            | _____             | _____            |                 |
| 10. _____   | _____            | _____             | _____            |                 |
| 11. _____   | _____            | _____             | _____            |                 |
| 12. _____   | _____            | _____             | _____            |                 |
|   |                  |                   |                  | 93 =Total Cover |
| <u>Woody Vine Stratum</u> (Plot size: <u>30'</u> )    |                  |                   |                  |                 |
| 1. _____  | _____            | _____             | _____            |                 |
| 2. _____  | _____            | _____             | _____            |                 |
| 3. _____  | _____            | _____             | _____            |                 |
| 4. _____  | _____            | _____             | _____            |                 |
|   |                  |                   |                  | =Total Cover    |

**Dominance Test worksheet:**

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

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

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

**Prevalence Index worksheet:**

| Total % Cover of:                    | Multiply by:     |
|--------------------------------------|------------------|
| OBL species <u>0</u>                 | x 1 = <u>0</u>   |
| FACW species <u>0</u>                | x 2 = <u>0</u>   |
| FAC species <u>45</u>                | x 3 = <u>135</u> |
| FACU species <u>52</u>               | x 4 = <u>208</u> |
| UPL species <u>6</u>                 | x 5 = <u>30</u>  |
| Column Totals: <u>103</u> (A)        | <u>373</u> (B)   |
| Prevalence Index = B/A = <u>3.62</u> |                  |

**Hydrophytic Vegetation Indicators:**

   1 - Rapid Test for Hydrophytic Vegetation

   2 - Dominance Test is >50%

   3 - Prevalence Index is ≤3.0<sup>1</sup>

   4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Definitions of Vegetation Strata:**

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

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

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

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

**Hydrophytic Vegetation Present?**      Yes         No   X

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



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/21/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Wet B-26  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope %: 1  
 Subregion (LRR or MLRA): LRR R Lat: 44.20664 Long: 72.56965 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 91D-Dummerston fine sandy loam NWI classification: PFO

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <u>X</u> No _____<br>Hydric Soil Present? Yes <u>X</u> No _____<br>Wetland Hydrology Present? Yes <u>X</u> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____<br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)<br>Northern White Cedar Swamp   |   |

**HYDROLOGY**

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

|   |   |
|---|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Saturation Present? Yes <u>x</u> No _____ Depth (inches): <u>0</u><br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____ |
|---|---|

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

Remarks:  
 Slope wetland.

**VEGETATION** – Use scientific names of plants.

Sampling Point: Wet B-26

| <u>Tree Stratum</u> (Plot size: <u>30'</u> )                 | Absolute % Cover | Dominant Species? | Indicator Status |   |
|--|------------------|-------------------|------------------|---|
| 1. <u>Thuja occidentalis</u>                                 | 55               | Yes               | FACW             | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>5</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80.0%</u> (A/B)   |
| 2. <u>Abies balsamea</u>                                     | 25               | Yes               | FAC              |   |
| 3. <u>Acer rubrum</u>  | 5                | No                | FAC              |   |
| 4. <u>Picea rubens</u>                                       | 5                | No                | FACU             |   |
| 5. _____   | _____            | _____             | _____            |   |
| 6. _____   | _____            | _____             | _____            |   |
| 7. _____   | _____            | _____             | _____            |   |
| <u>90</u> =Total Cover                                       |                  |                   |                  |   |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> )        | Absolute % Cover | Dominant Species? | Indicator Status | <b>Prevalence Index worksheet:</b><br>Total % Cover of:                      Multiply by:<br>OBL species <u>0</u> x 1 = <u>0</u><br>FACW species <u>85</u> x 2 = <u>170</u><br>FAC species <u>35</u> x 3 = <u>105</u><br>FACU species <u>7</u> x 4 = <u>28</u><br>UPL species <u>0</u> x 5 = <u>0</u><br>Column Totals: <u>127</u> (A) <u>303</u> (B)<br>Prevalence Index = B/A = <u>2.39</u>   |
| 1. <u>Salix alba</u>   | 5                | Yes               | FACW             |   |
| 2. <u>Thuja occidentalis</u>                                 | 10               | Yes               | FACW             |   |
| 3. _____   | _____            | _____             | _____            |   |
| 4. _____   | _____            | _____             | _____            |   |
| 5. _____   | _____            | _____             | _____            |   |
| 6. _____   | _____            | _____             | _____            |   |
| 7. _____   | _____            | _____             | _____            |   |
| <u>15</u> =Total Cover                                       |                  |                   |                  |   |
| <u>Herb Stratum</u> (Plot size: <u>5'</u> )                  | Absolute % Cover | Dominant Species? | Indicator Status | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. <u>Onoclea sensibilis</u>                                 | 10               | No                | FACW             |   |
| 2. <u>Sphagnum sp.</u>                                       | 65               | Yes               | _____            |   |
| 3. <u>Equisetum arvense</u>                                  | 5                | No                | FAC              |   |
| 4. <u>Cornus amomum</u>                                      | 5                | No                | FACW             |   |
| 5. <u>Cirsium arvense</u>                                    | 2                | No                | FACU             |   |
| 6. _____   | _____            | _____             | _____            |   |
| 7. _____   | _____            | _____             | _____            |   |
| 8. _____   | _____            | _____             | _____            |   |
| 9. _____   | _____            | _____             | _____            |   |
| 10. _____  | _____            | _____             | _____            |   |
| 11. _____  | _____            | _____             | _____            |   |
| 12. _____  | _____            | _____             | _____            |   |
| <u>87</u> =Total Cover                                       |                  |                   |                  |   |
| <u>Woody Vine Stratum</u> (Plot size: <u>30'</u> )           | Absolute % Cover | Dominant Species? | Indicator Status | <b>Definitions of Vegetation Strata:</b><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  |
| 1. _____   | _____            | _____             | _____            |   |
| 2. _____   | _____            | _____             | _____            |   |
| 3. _____   | _____            | _____             | _____            |   |
| 4. _____   | _____            | _____             | _____            |   |
| _____ =Total Cover   |                  |                   |                  |   |
| <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____ |                  |                   |                  |   |

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





## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/21/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Upl B-26  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope %: 3  
 Subregion (LRR or MLRA): LRR R Lat: 44.20664 Long: 72.56965 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 91D-Dummerston fine sandy loam NWI classification: n/a

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes _____ No <u>X</u><br>Hydric Soil Present? Yes _____ No <u>X</u><br>Wetland Hydrology Present? Yes _____ No <u>X</u> | <b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u><br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)<br>upland coniferous forest   |   |

**HYDROLOGY**

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

|  |   |
|--|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u> |
|--|---|

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Sampling Point: Upl B-26

| <u>Tree Stratum</u> (Plot size: <u>30'</u> )          | Absolute % Cover   | Dominant Species? | Indicator Status |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
|---|--------------------|-------------------|------------------|---|-------------------|--------------|----------------------|----------------|-----------------------|----------------|-----------------------|------------------|------------------------|-----------------|----------------------|----------------|--------------------------|--------------------|--------------------------------------|--|
| 1. <u>Tsuga canadensis</u>                            | <u>20</u>          | Yes               | FACU             | <p><b>Dominance Test worksheet:</b></p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>2</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)</p> <p><b>Prevalence Index worksheet:</b></p> <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>65</u></td> <td>x 3 = <u>195</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>85</u></td> <td>(A) <u>275</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>3.24</u></td> </tr> </table> | Total % Cover of: | Multiply by: | OBL species <u>0</u> | x 1 = <u>0</u> | FACW species <u>0</u> | x 2 = <u>0</u> | FAC species <u>65</u> | x 3 = <u>195</u> | FACU species <u>20</u> | x 4 = <u>80</u> | UPL species <u>0</u> | x 5 = <u>0</u> | Column Totals: <u>85</u> | (A) <u>275</u> (B) | Prevalence Index = B/A = <u>3.24</u> |  |
| Total % Cover of:                                     | Multiply by:       |                   |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| OBL species <u>0</u>                                  | x 1 = <u>0</u>     |                   |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| FACW species <u>0</u>                                 | x 2 = <u>0</u>     |                   |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| FAC species <u>65</u>                                 | x 3 = <u>195</u>   |                   |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| FACU species <u>20</u>                                | x 4 = <u>80</u>    |                   |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| UPL species <u>0</u>                                  | x 5 = <u>0</u>     |                   |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| Column Totals: <u>85</u>                              | (A) <u>275</u> (B) |                   |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| Prevalence Index = B/A = <u>3.24</u>                  |                    |                   |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 2. <u>Abies balsamea</u>                              | <u>65</u>          | Yes               | FAC              |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 3. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 4. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 5. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 6. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 7. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
|   | <u>85</u>          | =Total Cover      |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> ) |                    |                   |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 1. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 2. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 3. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 4. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 5. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 6. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 7. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
|   | _____              | =Total Cover      |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| <u>Herb Stratum</u> (Plot size: <u>5'</u> )           |                    |                   |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 1. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 2. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 3. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 4. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 5. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 6. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 7. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 8. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 9. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 10. _____   | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 11. _____   | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 12. _____   | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
|   | _____              | =Total Cover      |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| <u>Woody Vine Stratum</u> (Plot size: <u>30'</u> )    |                    |                   |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 1. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 2. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 3. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
| 4. _____  | _____              | _____             | _____            |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |
|   | _____              | =Total Cover      |                  |   |                   |              |                      |                |                       |                |                       |                  |                        |                 |                      |                |                          |                    |                                      |  |

**Hydrophytic Vegetation Indicators:**

   1 - Rapid Test for Hydrophytic Vegetation

   2 - Dominance Test is >50%

   3 - Prevalence Index is ≤3.0<sup>1</sup>

   4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Definitions of Vegetation Strata:**

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

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

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

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

**Hydrophytic Vegetation Present?**      Yes         No   X

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



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/22/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Wet C-13  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope %: 0  
 Subregion (LRR or MLRA): LRR R Lat: 44.20954 Long: 72.56944 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 92-Buckland loam NWI classification: PEM

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <u>X</u> No _____<br>Hydric Soil Present? Yes <u>X</u> No _____<br>Wetland Hydrology Present? Yes <u>X</u> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____<br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)   |   |

**HYDROLOGY**

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

|   |   |
|---|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Saturation Present? Yes <u>x</u> No _____ Depth (inches): <u>9</u><br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____ |
|---|---|

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

Remarks:





## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/22/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Upl C-13 & 22  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope %: 0  
 Subregion (LRR or MLRA): LRR R Lat: 44.20993 Long: 72.56916 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 92-Buckland loam NWI classification: n/a

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <u>X</u> No _____<br>Hydric Soil Present? Yes _____ No <u>X</u><br>Wetland Hydrology Present? Yes _____ No <u>X</u> | <b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u><br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)<br>Forested upland.   |   |

**HYDROLOGY**

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

|  |   |
|--|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u> |
|--|---|

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

Remarks:



**VEGETATION** – Use scientific names of plants.

Sampling Point: Upl C-13 & 22

| <u>Tree Stratum</u> (Plot size: <u>30'</u> )          | Absolute % Cover   | Dominant Species? | Indicator Status |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
|---|--------------------|-------------------|------------------|---|-------------------|--------------|----------------------|----------------|------------------------|------------------|-----------------------|------------------|------------------------|-----------------|----------------------|----------------|---------------------------|--------------------|--------------------------------------|--|
| 1. <u>Acer rubrum</u>                                 | 30                 | Yes               | FAC              | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>5</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60.0%</u> (A/B)   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 2. <u>Thuja occidentalis</u>                          | 60                 | Yes               | FACW             |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 3. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 4. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 5. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 6. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 7. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
|   | 90                 | =Total Cover      |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> ) | Absolute % Cover   | Dominant Species? | Indicator Status |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 1. <u>Fraxinus americana</u>                          | 5                  | Yes               | FACU             | <b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>60</u></td> <td>x 2 = <u>120</u></td> </tr> <tr> <td>FAC species <u>41</u></td> <td>x 3 = <u>123</u></td> </tr> <tr> <td>FACU species <u>11</u></td> <td>x 4 = <u>44</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>112</u></td> <td>(A) <u>287</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center">Prevalence Index = B/A = <u>2.56</u></td> </tr> </table> | Total % Cover of: | Multiply by: | OBL species <u>0</u> | x 1 = <u>0</u> | FACW species <u>60</u> | x 2 = <u>120</u> | FAC species <u>41</u> | x 3 = <u>123</u> | FACU species <u>11</u> | x 4 = <u>44</u> | UPL species <u>0</u> | x 5 = <u>0</u> | Column Totals: <u>112</u> | (A) <u>287</u> (B) | Prevalence Index = B/A = <u>2.56</u> |  |
| Total % Cover of:                                     | Multiply by:       |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| OBL species <u>0</u>                                  | x 1 = <u>0</u>     |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| FACW species <u>60</u>                                | x 2 = <u>120</u>   |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| FAC species <u>41</u>                                 | x 3 = <u>123</u>   |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| FACU species <u>11</u>                                | x 4 = <u>44</u>    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| UPL species <u>0</u>                                  | x 5 = <u>0</u>     |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| Column Totals: <u>112</u>                             | (A) <u>287</u> (B) |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| Prevalence Index = B/A = <u>2.56</u>                  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 2. <u>Lonicera morrowii</u>                           | 5                  | Yes               | FACU             |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 3. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 4. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 5. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 6. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 7. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
|   | 10                 | =Total Cover      |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| <u>Herb Stratum</u> (Plot size: <u>5'</u> )           | Absolute % Cover   | Dominant Species? | Indicator Status |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 1. <u>Trientalis borealis</u>                         | 10                 | Yes               | FAC              | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 2. <u>Arisaema triphyllum</u>                         | 1                  | No                | FAC              |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 3. <u>Taraxacum officinale</u>                        | 1                  | No                | FACU             |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 4. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 5. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 6. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 7. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 8. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 9. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 10. _____   |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 11. _____   |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 12. _____   |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
|   | 12                 | =Total Cover      |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| <u>Woody Vine Stratum</u> (Plot size: <u>30'</u> )    | Absolute % Cover   | Dominant Species? | Indicator Status |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 1. _____  |                    |                   |                  | <b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 2. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 3. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
| 4. _____  |                    |                   |                  |   |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |
|   |                    |                   |                  | <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____  |                   |              |                      |                |                        |                  |                       |                  |                        |                 |                      |                |                           |                    |                                      |  |

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



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/22/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Wet C-22  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): convex Slope %: 0  
 Subregion (LRR or MLRA): LRR R Lat: 44.20993 Long: 72.56916 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 92-Buckland loam NWI classification: PFO

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <u>X</u> No _____<br>Hydric Soil Present? Yes <u>X</u> No _____<br>Wetland Hydrology Present? Yes <u>X</u> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____<br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)<br><br><br>   |   |

**HYDROLOGY**

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

|   |   |
|---|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes <u>x</u> No _____ Depth (inches): <u>12</u><br>Saturation Present? Yes <u>x</u> No _____ Depth (inches): <u>8</u><br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____ |
|---|---|

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

Remarks:





## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/23/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Wet D-14  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope %: 0  
 Subregion (LRR or MLRA): LRR R Lat: 44.19230 Long: 72.55938 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 17B-Cabot silt loam NWI classification: PFO

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <u>X</u> No _____<br>Hydric Soil Present? Yes <u>X</u> No _____<br>Wetland Hydrology Present? Yes <u>X</u> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____<br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)   |   |

### HYDROLOGY

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

|  |   |
|--|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____ |
|--|---|

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Sampling Point: Wet D-14

| <u>Tree Stratum</u> (Plot size: <u>30'</u> )          | Absolute % Cover | Dominant Species? | Indicator Status |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
|---|------------------|-------------------|------------------|--|-------------------|-------|--------------|-------|-------------|---|-------|---|--------------|----|-------|-----|-------------|---|-------|---|--------------|---|-------|---|-------------|---|-------|----|----------------|----|-----|---------|--------------------------|--|-------------|--|
| 1. <u>Thuja occidentalis</u>                          | 80               | Yes               | FACW             | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 2. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 3. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 4. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 5. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 6. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 7. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
|   | 80               | =Total Cover      |                  | <b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="text-align:right">Total % Cover of:</td> <td style="text-align:center">_____</td> <td style="text-align:right">Multiply by:</td> <td style="text-align:center">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align:center">0</td> <td style="text-align:right">x 1 =</td> <td style="text-align:center">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align:center">92</td> <td style="text-align:right">x 2 =</td> <td style="text-align:center">184</td> </tr> <tr> <td>FAC species</td> <td style="text-align:center">0</td> <td style="text-align:right">x 3 =</td> <td style="text-align:center">0</td> </tr> <tr> <td>FACU species</td> <td style="text-align:center">2</td> <td style="text-align:right">x 4 =</td> <td style="text-align:center">8</td> </tr> <tr> <td>UPL species</td> <td style="text-align:center">5</td> <td style="text-align:right">x 5 =</td> <td style="text-align:center">25</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align:center">99</td> <td style="text-align:right">(A)</td> <td style="text-align:center">217 (B)</td> </tr> <tr> <td colspan="2" style="text-align:right">Prevalence Index = B/A =</td> <td colspan="2" style="text-align:center"><u>2.19</u></td> </tr> </table> | Total % Cover of: | _____ | Multiply by: | _____ | OBL species | 0 | x 1 = | 0 | FACW species | 92 | x 2 = | 184 | FAC species | 0 | x 3 = | 0 | FACU species | 2 | x 4 = | 8 | UPL species | 5 | x 5 = | 25 | Column Totals: | 99 | (A) | 217 (B) | Prevalence Index = B/A = |  | <u>2.19</u> |  |
| Total % Cover of:                                     | _____            | Multiply by:      | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| OBL species   | 0                | x 1 =             | 0                |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| FACW species  | 92               | x 2 =             | 184              |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| FAC species   | 0                | x 3 =             | 0                |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| FACU species  | 2                | x 4 =             | 8                |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| UPL species   | 5                | x 5 =             | 25               |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| Column Totals:  | 99               | (A)               | 217 (B)          |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| Prevalence Index = B/A =                              |                  | <u>2.19</u>       |                  |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> ) |                  |                   |                  | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 1. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 2. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 3. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 4. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 5. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 6. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
|   |                  | =Total Cover      |                  |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| <u>Herb Stratum</u> (Plot size: <u>5'</u> )           |                  |                   |                  | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.<br><br><b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.<br><br><b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____   |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 1. <u>Fraxinus pennsylvanica</u>                      | 8                | Yes               | FACW             |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 2. <u>Athyrium filix-femina</u>                       | 5                | Yes               | UPL              |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 3. <u>Geranium robertianum</u>                        | 2                | No                | FACU             |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 4. <u>Onoclea sensibilis</u>                          | 2                | No                | FACW             |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 5. <u>Impatiens capensis</u>                          | 2                | No                | FACW             |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 6. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 7. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 8. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 9. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 10. _____   | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 11. _____   | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 12. _____   | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
|   | 19               | =Total Cover      |                  |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| <u>Woody Vine Stratum</u> (Plot size: <u>30'</u> )    |                  |                   |                  |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 1. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 2. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 3. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
| 4. _____  | _____            | _____             | _____            |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |
|   |                  | =Total Cover      |                  |  |                   |       |              |       |             |   |       |   |              |    |       |     |             |   |       |   |              |   |       |   |             |   |       |    |                |    |     |         |                          |  |             |  |

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

**SOIL**

Sampling Point Wet D-14

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) |               |    |                |    |                   |                  |              |                                |
|---|---------------|----|----------------|----|-------------------|------------------|--------------|--------------------------------|
| Depth (inches)  | Matrix        |    | Redox Features |    |                   |                  | Texture      | Remarks                        |
|   | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |              |                                |
| 0-7   | 10YR 2/1      | 98 | 10YR 6/2       | 2  | D                 | M                | Loamy/Clayey |                                |
| 7-14  | 2.5Y 3/2      | 88 | 10YR 3/6       | 10 | C                 | M                | Loamy/Clayey | Prominent redox concentrations |
|   |               |    | 10YR 3/6       | 2  | C                 | PL               |              | Prominent redox concentrations |
| 14-18   | 5Y 4/2        | 80 | 10YR 4/6       | 15 | C                 | M                | Sandy        | Prominent redox concentrations |
|   |               |    | 10YR 3/1       | 5  | C                 | M                |              | Distinct redox concentrations  |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

<sup>3</sup>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:**

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))



## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/23/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: UplD-14 & 15  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope %: 0  
 Subregion (LRR or MLRA): LRR R Lat: 44.19230 Long: 72.55938 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 17B-Cabot silt loam NWI classification: n/a

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes _____ No <u>X</u><br>Hydric Soil Present? Yes _____ No <u>X</u><br>Wetland Hydrology Present? Yes _____ No <u>X</u> | <b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u><br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)<br>forested upland  |   |

**HYDROLOGY**

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

|  |   |
|--|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u> |
|--|---|

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Sampling Point: Upl D-14 & 15

| <u>Tree Stratum</u> (Plot size: <u>30'</u> )                  | Absolute % Cover | Dominant Species? | Indicator Status |  |
|---|------------------|-------------------|------------------|--|
| 1. <u><i>Thuja occidentalis</i></u>                           | 65               | Yes               | FACW             | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>8</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)  |
| 2. <u><i>Tsuga canadensis</i></u>                             | 10               | No                | FACU             |  |
| 3. <u><i>Betula papyrifera</i></u>                            | 10               | No                | FACU             |  |
| 4. _____  |                  |                   |                  |  |
| 5. _____  |                  |                   |                  |  |
| 6. _____  |                  |                   |                  |  |
| 7. _____  |                  |                   |                  |  |
|   | 85               | =Total Cover      |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species <u>0</u> x 1 = <u>0</u><br>FACW species <u>72</u> x 2 = <u>144</u><br>FAC species <u>24</u> x 3 = <u>72</u><br>FACU species <u>64</u> x 4 = <u>256</u><br>UPL species <u>18</u> x 5 = <u>90</u><br>Column Totals: <u>178</u> (A) <u>562</u> (B)<br>Prevalence Index = B/A = <u>3.16</u>  |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> )         |                  |                   |                  |  |
| 1. <u><i>Thuja occidentalis</i></u>                           | 2                | Yes               | FACW             |  |
| 2. <u><i>Rhamnus cathartica</i></u>                           | 2                | Yes               | FAC              |  |
| 3. <u><i>Fagus grandifolia</i></u>                            | 2                | Yes               | FACU             |  |
| 4. _____  |                  |                   |                  |  |
| 5. _____  |                  |                   |                  |  |
| 6. _____  |                  |                   |                  |  |
| 7. _____  |                  |                   |                  |  |
|   | 6                | =Total Cover      |                  |  |
| <u>Herb Stratum</u> (Plot size: <u>5'</u> )                   |                  |                   |                  | <b>Hydrophytic Vegetation Indicators:</b><br>___ 1 - Rapid Test for Hydrophytic Vegetation<br>___ 2 - Dominance Test is >50%<br>___ 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. <u><i>Rhamnus cathartica</i></u>                           | 2                | No                | FAC              |  |
| 2. <u><i>Athyrium filix-femina</i></u>                        | 8                | No                | UPL              |  |
| 3. <u><i>Fraxinus americana</i></u>                           | 15               | Yes               | FACU             |  |
| 4. <u><i>Symphytichum lanceolatum</i></u>                     | 5                | No                | FACW             |  |
| 5. <u><i>Pastinaca sativa</i></u>                             | 5                | No                | UPL              |  |
| 6. <u><i>Phleum pratense</i></u>                              | 10               | Yes               | FACU             |  |
| 7. <u><i>Dactylis glomerata</i></u>                           | 10               | Yes               | FACU             |  |
| 8. <u><i>Galium boreale</i></u>                               | 15               | Yes               | FAC              |  |
| 9. <u><i>Acer saccharum</i></u>                               | 2                | No                | FACU             |  |
| 10. <u><i>Equisetum arvense</i></u>                           | 5                | No                | FAC              |  |
| 11. <u><i>Viola septentrionalis</i></u>                       | 5                | No                | FACU             |  |
| 12. <u><i>Arctium lappa</i></u>                               | 5                | No                | UPL              |  |
|   | 87               | =Total Cover      |                  |  |
| <u>Woody Vine Stratum</u> (Plot size: <u>30'</u> )            |                  |                   |                  | <b>Definitions of Vegetation Strata:</b><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.                   |
| 1. _____  |                  |                   |                  |  |
| 2. _____  |                  |                   |                  |  |
| 3. _____  |                  |                   |                  |  |
| 4. _____  |                  |                   |                  |  |
|   |                  | =Total Cover      |                  |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                   |                  | <b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>  X  </u>   |



## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/23/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Wet D-15  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope %: 0  
 Subregion (LRR or MLRA): LRR R Lat: 44.19230 Long: 72.55938 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 17B-Cabot silt loam NWI classification: PEM

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <u>X</u> No _____<br>Hydric Soil Present? Yes <u>X</u> No _____<br>Wetland Hydrology Present? Yes <u>X</u> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____<br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)   |   |

**HYDROLOGY**

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

|   |   |
|---|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes <u>x</u> No _____ Depth (inches): <u>10</u><br>Saturation Present? Yes <u>x</u> No _____ Depth (inches): <u>0</u><br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____ |
|---|---|

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Sampling Point: Wet D-15

| <u>Tree Stratum</u> (Plot size: <u>30'</u> )          | Absolute % Cover   | Dominant Species? | Indicator Status |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
|---|--------------------|-------------------|------------------|--|-------------------|--------------|-----------------------|-----------------|------------------------|------------------|----------------------|----------------|-----------------------|----------------|----------------------|-----------------|---------------------------|--------------------|--------------------------------------|--|
| 1. <u>Thuja occidentalis</u>                          | 15                 | Yes               | FACW             | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>5</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)   |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 2. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 3. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 4. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 5. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 6. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 7. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
|   | <u>15</u>          | =Total Cover      |                  | <b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>55</u></td> <td>x 1 = <u>55</u></td> </tr> <tr> <td>FACW species <u>70</u></td> <td>x 2 = <u>140</u></td> </tr> <tr> <td>FAC species <u>2</u></td> <td>x 3 = <u>6</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>132</u></td> <td>(A) <u>226</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>1.71</u></td> </tr> </table> | Total % Cover of: | Multiply by: | OBL species <u>55</u> | x 1 = <u>55</u> | FACW species <u>70</u> | x 2 = <u>140</u> | FAC species <u>2</u> | x 3 = <u>6</u> | FACU species <u>0</u> | x 4 = <u>0</u> | UPL species <u>5</u> | x 5 = <u>25</u> | Column Totals: <u>132</u> | (A) <u>226</u> (B) | Prevalence Index = B/A = <u>1.71</u> |  |
| Total % Cover of:                                     | Multiply by:       |                   |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| OBL species <u>55</u>                                 | x 1 = <u>55</u>    |                   |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| FACW species <u>70</u>                                | x 2 = <u>140</u>   |                   |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| FAC species <u>2</u>                                  | x 3 = <u>6</u>     |                   |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| FACU species <u>0</u>                                 | x 4 = <u>0</u>     |                   |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| UPL species <u>5</u>                                  | x 5 = <u>25</u>    |                   |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| Column Totals: <u>132</u>                             | (A) <u>226</u> (B) |                   |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| Prevalence Index = B/A = <u>1.71</u>                  |                    |                   |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> ) |                    |                   |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 1. <u>Thuja occidentalis</u>                          | 5                  | Yes               | FACW             | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 2. <u>Rhamnus cathartica</u>                          | 2                  | Yes               | FAC              |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 3. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 4. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 5. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 6. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 7. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
|   | <u>7</u>           | =Total Cover      |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| <u>Herb Stratum</u> (Plot size: <u>5'</u> )           |                    |                   |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 1. <u>Eupatorium perfoliatum</u>                      | 25                 | Yes               | FACW             | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.<br><br><b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.   |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 2. <u>Impatiens capensis</u>                          | 10                 | No                | FACW             |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 3. <u>Scirpus atrovirens</u>                          | 50                 | Yes               | OBL              |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 4. <u>Athyrium filix-femina</u>                       | 5                  | No                | UPL              |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 5. <u>Solidago gigantea</u>                           | 15                 | No                | FACW             |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 6. <u>Juncus effusus</u>                              | 5                  | No                | OBL              |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 7. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 8. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 9. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 10. _____   | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 11. _____   | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 12. _____   | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
|   | <u>110</u>         | =Total Cover      |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| <u>Woody Vine Stratum</u> (Plot size: <u>30'</u> )    |                    |                   |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 1. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 2. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 3. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
| 4. _____  | _____              | _____             | _____            |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |
|   |                    | =Total Cover      |                  |  |                   |              |                       |                 |                        |                  |                      |                |                       |                |                      |                 |                           |                    |                                      |  |

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



## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/23/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Wet E-9  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope %: 0  
 Subregion (LRR or MLRA): LRR R Lat: 44.19182 Long: 72.55757 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 17B-Cabot silt loam NWI classification: PFO

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <u>X</u> No _____<br>Hydric Soil Present? Yes <u>X</u> No _____<br>Wetland Hydrology Present? Yes <u>X</u> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____<br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)<br><br><br>   |   |

**HYDROLOGY**

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

|   |   |
|---|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes <u>x</u> No _____ Depth (inches): <u>10</u><br>Saturation Present? Yes <u>x</u> No _____ Depth (inches): <u>0</u><br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____ |
|---|---|

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

Remarks:  
 Adjacent to a stream.

**VEGETATION** – Use scientific names of plants.

Sampling Point: Wet E-9

| <u>Tree Stratum</u> (Plot size: <u>30'</u> )          | Absolute % Cover   | Dominant Species? | Indicator Status |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
|---|--------------------|-------------------|------------------|--|-------------------|--------------|----------------------|----------------|-------------------------|------------------|-----------------------|------------------|-----------------------|----------------|----------------------|-----------------|---------------------------|--------------------|--------------------------------------|--|
| 1. <u><i>Thuja occidentalis</i></u>                   | 65                 | Yes               | FACW             | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>4</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)   |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 2. <u><i>Fraxinus pennsylvanica</i></u>               | 3                  | No                | FACW             |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 3. <u><i>Acer rubrum</i></u>                          | 3                  | No                | FAC              |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 4. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 5. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 6. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 7. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
|   | <u>71</u>          | =Total Cover      |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> ) | Absolute % Cover   | Dominant Species? | Indicator Status | <b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>101</u></td> <td>x 2 = <u>202</u></td> </tr> <tr> <td>FAC species <u>44</u></td> <td>x 3 = <u>132</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>8</u></td> <td>x 5 = <u>40</u></td> </tr> <tr> <td>Column Totals: <u>153</u></td> <td>(A) <u>374</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.44</u></td> </tr> </table> | Total % Cover of: | Multiply by: | OBL species <u>0</u> | x 1 = <u>0</u> | FACW species <u>101</u> | x 2 = <u>202</u> | FAC species <u>44</u> | x 3 = <u>132</u> | FACU species <u>0</u> | x 4 = <u>0</u> | UPL species <u>8</u> | x 5 = <u>40</u> | Column Totals: <u>153</u> | (A) <u>374</u> (B) | Prevalence Index = B/A = <u>2.44</u> |  |
| Total % Cover of:                                     | Multiply by:       |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| OBL species <u>0</u>                                  | x 1 = <u>0</u>     |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| FACW species <u>101</u>                               | x 2 = <u>202</u>   |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| FAC species <u>44</u>                                 | x 3 = <u>132</u>   |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| FACU species <u>0</u>                                 | x 4 = <u>0</u>     |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| UPL species <u>8</u>                                  | x 5 = <u>40</u>    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| Column Totals: <u>153</u>                             | (A) <u>374</u> (B) |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| Prevalence Index = B/A = <u>2.44</u>                  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 1. <u><i>Rhamnus cathartica</i></u>                   | 5                  | Yes               | FAC              |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 2. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 3. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 4. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 5. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 6. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 7. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
|   | <u>5</u>           | =Total Cover      |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| <u>Herb Stratum</u> (Plot size: <u>5'</u> )           | Absolute % Cover   | Dominant Species? | Indicator Status | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 1. <u><i>Onoclea sensibilis</i></u>                   | 20                 | Yes               | FACW             |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 2. <u><i>Matteuccia struthiopteris</i></u>            | 30                 | Yes               | FAC              |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 3. <u><i>Athyrium filix-femina</i></u>                | 8                  | No                | UPL              |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 4. <u><i>Cornus amomum</i></u>                        | 8                  | No                | FACW             |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 5. <u><i>Impatiens capensis</i></u>                   | 5                  | No                | FACW             |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 6. <u><i>Solanum dulcamara</i></u>                    | 5                  | No                | FAC              |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 7. <u><i>Geum canadense</i></u>                       | 1                  | No                | FAC              |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 8. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 9. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 10. _____   |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 11. _____   |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 12. _____   |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
|   | <u>77</u>          | =Total Cover      |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| <u>Woody Vine Stratum</u> (Plot size: <u>30'</u> )    | Absolute % Cover   | Dominant Species? | Indicator Status | <b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.   |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 1. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 2. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 3. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
| 4. _____  |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
|   |                    |                   |                  |  |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |
|   |                    |                   |                  | <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____   |                   |              |                      |                |                         |                  |                       |                  |                       |                |                      |                 |                           |                    |                                      |  |

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





## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E.F. Knapp State Airport City/County: Berlin/Washington Sampling Date: 7/23/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Upl E-9  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope %: 0  
 Subregion (LRR or MLRA): LRR R Lat: 44.19182 Long: 72.55757 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 17B-Cabot silt loam NWI classification: n/a

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes _____ No <u>X</u><br>Hydric Soil Present? Yes _____ No <u>X</u><br>Wetland Hydrology Present? Yes _____ No <u>X</u> | <b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u><br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)<br>Forested upland.   |   |

**HYDROLOGY**

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

|  |   |
|--|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u> |
|--|---|

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Sampling Point: Upl E-9

| <u>Tree Stratum</u> (Plot size: <u>30'</u> )          | Absolute % Cover | Dominant Species? | Indicator Status |   |
|---|------------------|-------------------|------------------|---|
| 1. <u>Betula papyrifera</u>                           | 40               | Yes               | FACU             | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>5</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20.0%</u> (A/B)   |
| 2. <u>Thuja occidentalis</u>                          | 5                | No                | FACW             |   |
| 3. <u>Prunus serotina</u>                             | 5                | No                | FACU             |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| 6. _____  |                  |                   |                  |   |
| 7. _____  |                  |                   |                  |   |
|   | <u>50</u>        | =Total Cover      |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of:                      Multiply by:<br>OBL species <u>0</u> x 1 = <u>0</u><br>FACW species <u>26</u> x 2 = <u>52</u><br>FAC species <u>2</u> x 3 = <u>6</u><br>FACU species <u>143</u> x 4 = <u>572</u><br>UPL species <u>10</u> x 5 = <u>50</u><br>Column Totals: <u>181</u> (A) <u>680</u> (B)<br>Prevalence Index = B/A = <u>3.76</u>  |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> ) |                  |                   |                  |   |
| 1. <u>Lonicera morrowii</u>                           | 75               | Yes               | FACU             |   |
| 2. <u>Fraxinus americana</u>                          | 8                | No                | FACU             |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| 6. _____  |                  |                   |                  |   |
| 7. _____  |                  |                   |                  |   |
|   | <u>83</u>        | =Total Cover      |                  |   |
| <u>Herb Stratum</u> (Plot size: <u>5'</u> )           |                  |                   |                  | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. <u>Onoclea sensibilis</u>                          | 15               | Yes               | FACW             |   |
| 2. <u>Lonicera morrowii</u>                           | 15               | Yes               | FACU             |   |
| 3. <u>Athyrium filix-femina</u>                       | 10               | Yes               | UPL              |   |
| 4. <u>Ulmus americana</u>                             | 2                | No                | FACW             |   |
| 5. <u>Cornus alba</u>                                 | 2                | No                | FACW             |   |
| 6. <u>Symphytotrichum lanceolatum</u>                 | 2                | No                | FACW             |   |
| 7. <u>Acer rubrum</u>                                 | 2                | No                | FAC              |   |
| 8. _____  |                  |                   |                  |   |
| 9. _____  |                  |                   |                  |   |
| 10. _____   |                  |                   |                  |   |
| 11. _____   |                  |                   |                  |   |
| 12. _____   |                  |                   |                  |   |
|   | <u>48</u>        | =Total Cover      |                  |   |
| <u>Woody Vine Stratum</u> (Plot size: <u>30'</u> )    |                  |                   |                  | <b>Definitions of Vegetation Strata:</b><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  |
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
|   |                  |                   |                  |   |
| =Total Cover  |                  |                   |                  | <b>Hydrophytic Vegetation Present?</b> Yes <u>      </u> No <u>  X  </u>  |

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



## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E.F. Knapp State Airport City/County: Barre/Washington Sampling Date: 7/23/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Wet F-10  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope %: 0-1  
 Subregion (LRR or MLRA): LRR R Lat: 44.17859 Long: 72.55081 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 67C-Glover-Vershire complex NWI classification: \_\_\_\_\_

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <u>X</u> No _____<br>Hydric Soil Present? Yes <u>X</u> No _____<br>Wetland Hydrology Present? Yes <u>X</u> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____<br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)<br>Vernal pool within Wetland F.  |   |

### HYDROLOGY

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

|  |   |
|--|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____ |
|--|---|

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

Remarks:

**VEGETATION** – Use scientific names of plants.

Sampling Point: Wet F-10

|   | Absolute % Cover          | Dominant Species? | Indicator Status |              |
|---|---------------------------|-------------------|------------------|--------------|
| <b>Tree Stratum</b> (Plot size: <u>30'</u> )          |                           |                   |                  |              |
| 1.  |                           |                   |                  |              |
| 2.  |                           |                   |                  |              |
| 3.  |                           |                   |                  |              |
| 4.  |                           |                   |                  |              |
| 5.  |                           |                   |                  |              |
| 6.  |                           |                   |                  |              |
| 7.  |                           |                   |                  |              |
|   |                           |                   |                  | =Total Cover |
| <b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> ) |                           |                   |                  |              |
| 1.  |                           |                   |                  |              |
| 2.  |                           |                   |                  |              |
| 3.  |                           |                   |                  |              |
| 4.  |                           |                   |                  |              |
| 5.  |                           |                   |                  |              |
| 6.  |                           |                   |                  |              |
| 7.  |                           |                   |                  |              |
|   |                           |                   |                  | =Total Cover |
| <b>Herb Stratum</b> (Plot size: <u>5'</u> )           |                           |                   |                  |              |
| 1.  | <u>Onoclea sensibilis</u> | <u>30</u>         | <u>Yes</u>       | <u>FACW</u>  |
| 2.  | <u>Carex sp.</u>          | <u>5</u>          | <u>No</u>        |              |
| 3.  |                           |                   |                  |              |
| 4.  |                           |                   |                  |              |
| 5.  |                           |                   |                  |              |
| 6.  |                           |                   |                  |              |
| 7.  |                           |                   |                  |              |
| 8.  |                           |                   |                  |              |
| 9.  |                           |                   |                  |              |
| 10.   |                           |                   |                  |              |
| 11.   |                           |                   |                  |              |
| 12.   |                           |                   |                  |              |
|   |                           | <u>35</u>         |                  | =Total Cover |
| <b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )    |                           |                   |                  |              |
| 1.  |                           |                   |                  |              |
| 2.  |                           |                   |                  |              |
| 3.  |                           |                   |                  |              |
| 4.  |                           |                   |                  |              |
|   |                           |                   |                  | =Total Cover |

**Dominance Test worksheet:**

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

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

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

**Prevalence Index worksheet:**

|                          | Total % Cover of: |       | Multiply by: |     |
|--------------------------|-------------------|-------|--------------|-----|
| OBL species              | <u>0</u>          | x 1 = | <u>0</u>     |     |
| FACW species             | <u>30</u>         | x 2 = | <u>60</u>    |     |
| FAC species              | <u>0</u>          | x 3 = | <u>0</u>     |     |
| FACU species             | <u>0</u>          | x 4 = | <u>0</u>     |     |
| UPL species              | <u>0</u>          | x 5 = | <u>0</u>     |     |
| Column Totals:           | <u>30</u>         | (A)   | <u>60</u>    | (B) |
| Prevalence Index = B/A = |                   |       | <u>2.00</u>  |     |

**Hydrophytic Vegetation Indicators:**

   1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

   4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>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 Wet F-10

| <b>Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)</b> |               |    |                |    |                   |                  |              |                                |
|--|---------------|----|----------------|----|-------------------|------------------|--------------|--------------------------------|
| Depth<br>(inches)  | Matrix        |    | Redox Features |    |                   |                  | Texture      | Remarks                        |
|  | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |              |                                |
| 0-11   | 10YR 3/1      | 95 | 10YR 5/2       | 2  | D                 | M                | Loamy/Clayey |                                |
|  |               |    | 10YR 3/4       | 3  | C                 | M                |              | Distinct redox concentrations  |
| 11-16  | 10Y 4/1       | 81 | 2.5Y 6/4       | 15 | D                 | M                | Loamy/Clayey |                                |
|  |               |    | 2.5Y 4/4       | 4  | C                 | M                |              | Prominent redox concentrations |
|  |               |    |                |    |                   |                  |              |                                |
|  |               |    |                |    |                   |                  |              |                                |
|  |               |    |                |    |                   |                  |              |                                |
|  |               |    |                |    |                   |                  |              |                                |
|  |               |    |                |    |                   |                  |              |                                |
|  |               |    |                |    |                   |                  |              |                                |
|  |               |    |                |    |                   |                  |              |                                |
|  |               |    |                |    |                   |                  |              |                                |
|  |               |    |                |    |                   |                  |              |                                |
|  |               |    |                |    |                   |                  |              |                                |
|  |               |    |                |    |                   |                  |              |                                |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

|  |  |  |  |
|--|--|--|--|
| <b>Hydric Soil Indicators:</b>                               |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>          |  |
| <input type="checkbox"/> Histosol (A1)                       | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |  |
| <input type="checkbox"/> Histic Epipedon (A2)                | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> ? Coast Prairie Redox (A16) (LRR K, L, R)   |  |
| <input type="checkbox"/> Black Histic (A3)                   | <input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)              | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)               | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |  |
| <input type="checkbox"/> Stratified Layers (A5)              | <input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)             | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |  |
| <input type="checkbox"/> ? Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |  |
| <input type="checkbox"/> Thick Dark Surface (A12)            | <input checked="" type="checkbox"/> Redox Dark Surface (F6)              | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |  |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)            | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |  |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)            | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Red Parent Material (F21)                   |  |
| <input type="checkbox"/> Sandy Redox (S5)                    | <input type="checkbox"/> Marl (F10) (LRR K, L)                           | <input type="checkbox"/> Very Shallow Dark Surface (F22)             |  |
| <input type="checkbox"/> Stripped Matrix (S6)                |  | <input type="checkbox"/> Other (Explain in Remarks)                  |  |
| <input type="checkbox"/> Dark Surface (S7)                   |  |  |  |

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

|   |                             |   |
|---|-----------------------------|---|
| <b>Restrictive Layer (if observed):</b> | <b>Hydric Soil Present?</b> | <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> <input type="checkbox"/> |
| Type: <input type="text"/> none         |                             |   |
| Depth (inches): <input type="text"/>    |                             |   |

Remarks:  
 This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E.F. Knapp State Airport City/County: Barre/Washington Sampling Date: 7/23/21  
 Applicant/Owner: Vermont Agency of Transportation State: VT Sampling Point: Upl F-10  
 Investigator(s): N. Frazer & J. Greaves Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope %: 0  
 Subregion (LRR or MLRA): LRR R Lat: 44.17859 Long: 72.55081 Datum: \_\_\_\_\_  
 Soil Map Unit Name: 67C-Glover-Vershire complex NWI classification: n/a

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

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes _____ No <u>X</u><br>Hydric Soil Present? Yes _____ No <u>X</u><br>Wetland Hydrology Present? Yes _____ No <u>X</u> | <b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u><br>If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.)<br>Deciduous forested upland.   |   |

**HYDROLOGY**

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

|  |   |
|--|---|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____<br>Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u> |
|--|---|

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

Remarks:



**VEGETATION** – Use scientific names of plants.

Sampling Point: Upl F-10

|  | Absolute % Cover | Dominant Species? | Indicator Status |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
|--|------------------|-------------------|------------------|---|-------------------|--------------|----------------------|----------------|-----------------------|----------------|----------------------|----------------|-------------------------|------------------|----------------------|-----------------|-------------------------------|----------------|--------------------------------------|--|
| <b>Tree Stratum</b> (Plot size: <u>30'</u> )                             |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 1. <u><i>Acer saccharum</i></u>  | 45               | Yes               | FACU             | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)<br><br><b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>189</u></td> <td>x 4 = <u>756</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>194</u> (A)</td> <td><u>781</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>4.03</u></td> </tr> </table> | Total % Cover of: | Multiply by: | OBL species <u>0</u> | x 1 = <u>0</u> | FACW species <u>0</u> | x 2 = <u>0</u> | FAC species <u>0</u> | x 3 = <u>0</u> | FACU species <u>189</u> | x 4 = <u>756</u> | UPL species <u>5</u> | x 5 = <u>25</u> | Column Totals: <u>194</u> (A) | <u>781</u> (B) | Prevalence Index = B/A = <u>4.03</u> |  |
| Total % Cover of:  | Multiply by:     |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| OBL species <u>0</u>   | x 1 = <u>0</u>   |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| FACW species <u>0</u>  | x 2 = <u>0</u>   |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| FAC species <u>0</u>   | x 3 = <u>0</u>   |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| FACU species <u>189</u>  | x 4 = <u>756</u> |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| UPL species <u>5</u>   | x 5 = <u>25</u>  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| Column Totals: <u>194</u> (A)  | <u>781</u> (B)   |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| Prevalence Index = B/A = <u>4.03</u>                                     |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 2. <u><i>Ostrya virginiana</i></u>                                       | 50               | Yes               | FACU             |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 3. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 4. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 5. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 6. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 7. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
|  | 95               | =Total Cover      |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| <b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )                    |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 1. _____   |                  |                   |                  | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 2. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 3. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 4. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 5. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 6. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 7. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
|  |                  | =Total Cover      |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| <b>Herb Stratum</b> (Plot size: <u>5'</u> )                              |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 1. <u><i>Adiantum aleuticum</i></u>                                      | 90               | Yes               | FACU             |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 2. <u><i>Acer saccharum</i></u>  | 3                | No                | FACU             |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 3. <u><i>Caulophyllum thalictroides</i></u>                              | 5                | No                | UPL              |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 4. <u><i>Trillium sp.</i></u>  | 3                | No                |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 5. <u><i>Geranium robertianum</i></u>                                    | 1                | No                | FACU             |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 6. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 7. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 8. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 9. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 10. _____  |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 11. _____  |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 12. _____  |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
|  | 102              | =Total Cover      |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| <b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )                       |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 1. _____   |                  |                   |                  | <b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 2. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 3. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| 4. _____   |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
|  |                  | =Total Cover      |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |
| <b>Hydrophytic Vegetation Present?</b> Yes <u>      </u> No <u>  X  </u> |                  |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                         |                  |                      |                 |                               |                |                                      |  |

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



**Attachment 4**



**Photo 1-Wetland A-13 data point location.**



**Photo 2- Wetland A-13 data point soils.**



**SITE PHOTOGRAPHS**

**E.F. Knapp State Airport  
Obstruction Removal  
Towns of Berlin & Barre  
Washington County, Vermont**





**Photo 3- Upland A-13/A-22 data point location.**



**Photo 4- Upland A-13/A-22 data point soils.**



**SITE PHOTOGRAPHS**

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**Photo 5- Wetland A-22 data point location.**



**Photo 6- Wetland A-22 data point soils.**



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**Photo 7-Wetland B-1 data point location.**



**Photo 8- Wetland B-1 data point soils.**



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**Photo 9-Stream 2 near flag S2-15A, view upstream.**



**Photo 10- Stream 2 near flag S2-15A, view downstream.**



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**Photo 11- Stream 2 near flag S2-10A, view downstream.**



**Photo 12- Stream 2 near flag S2-10A, view upstream.**



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**Photo 13- Upland B-1 data point location.**



**Photo 14- Upland B-1 data point soils.**



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**Photo 15-Ponded area near B-22.**



**Photo 16- Wetland B-26 data point location.**



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**Photo 17- Wetland B-26 data point soils.**



**Photo 18-Stream 3 at S3-15A.**



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**Photo 19-Upland B-26 data point location.**



**Photo 20- Upland B-26 data point soils**



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**Photo 21-Pond near C-47.**



**Photo 22- Wetland C-13 data point location.**



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**Photo 23- Wetland C-13 data point soils.**



**Photo 24-Stream 1 near flag S1-2A.**



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**Photo 25- Upland C-13/C-22 data point location.**



**Photo 26- Upland C-13/C-22 data point soils.**



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**Photo 27-Ephemeral swale near flag C-61.**



**Photo 28- Wetland C-22 data point location.**



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**Photo 29-Wetland C-22 data point soils.**



**Photo 30- Wetland D-14 data point location.**



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**Photo 31- Wetland D-14 data point soils.**



**Photo 32- Upland D-14/ D-15 data point location.**



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Washington County, Vermont**





**Photo 33- Upland D-14/ D-15 data point soils.**



**Photo 34- Wetland D-15 data point location.**



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**Photo 35- Wetland D-15 data point soils.**



**Photo 36- Stream 5**



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**Photo 37-Stream 5 at flag S5-3A, toward the connection to the pond.**



**Photo 38-Stream 6 near flag S6-3B.**



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**Photo 39-Pond near flag D-1.**



**Photo 40-Wetland E-9 data point location.**



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**Photo 41- Wetland E-9 data point soils.**



**Photo 42-Stream 4 near S4-1A facing upstream.**



**SITE PHOTOGRAPHS**

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Washington County, Vermont**





**Photo 43- Stream 4 near S4-1A facing downstream.**



**Photo 44-Upland E-9 data point location.**



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**Photo 45- Upland E-9 data point soils.**



**Photo 46-Ephemeral drainage within Wetland E near flag E -24 (view upstream).**



**SITE PHOTOGRAPHS**

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Washington County, Vermont**





**Photo 47- Ephemeral drainage within Wetland E near flag E -24 (view downstream).**



**Photo 48-Wetland F-10 data point location.**



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Towns of Berlin & Barre  
Washington County, Vermont**





**Photo 49-Wetland F-10 data point soils.**



**Photo 50-Wetland F near flag F-7 (vernal pool area).**



**SITE PHOTOGRAPHS**

**E.F. Knapp State Airport  
Obstruction Removal  
Towns of Berlin & Barre  
Washington County, Vermont**





**Photo 51- Wetland F near flag F-11 (vernal pool area).**



**Photo 52-Upland F-10 data point location.**



**SITE PHOTOGRAPHS**

**E.F. Knapp State Airport  
Obstruction Removal  
Towns of Berlin & Barre  
Washington County, Vermont**





**Photo 53- Upland F-10 data point soils.**



**Photo 54-Vernal Pool (VP) 1.**



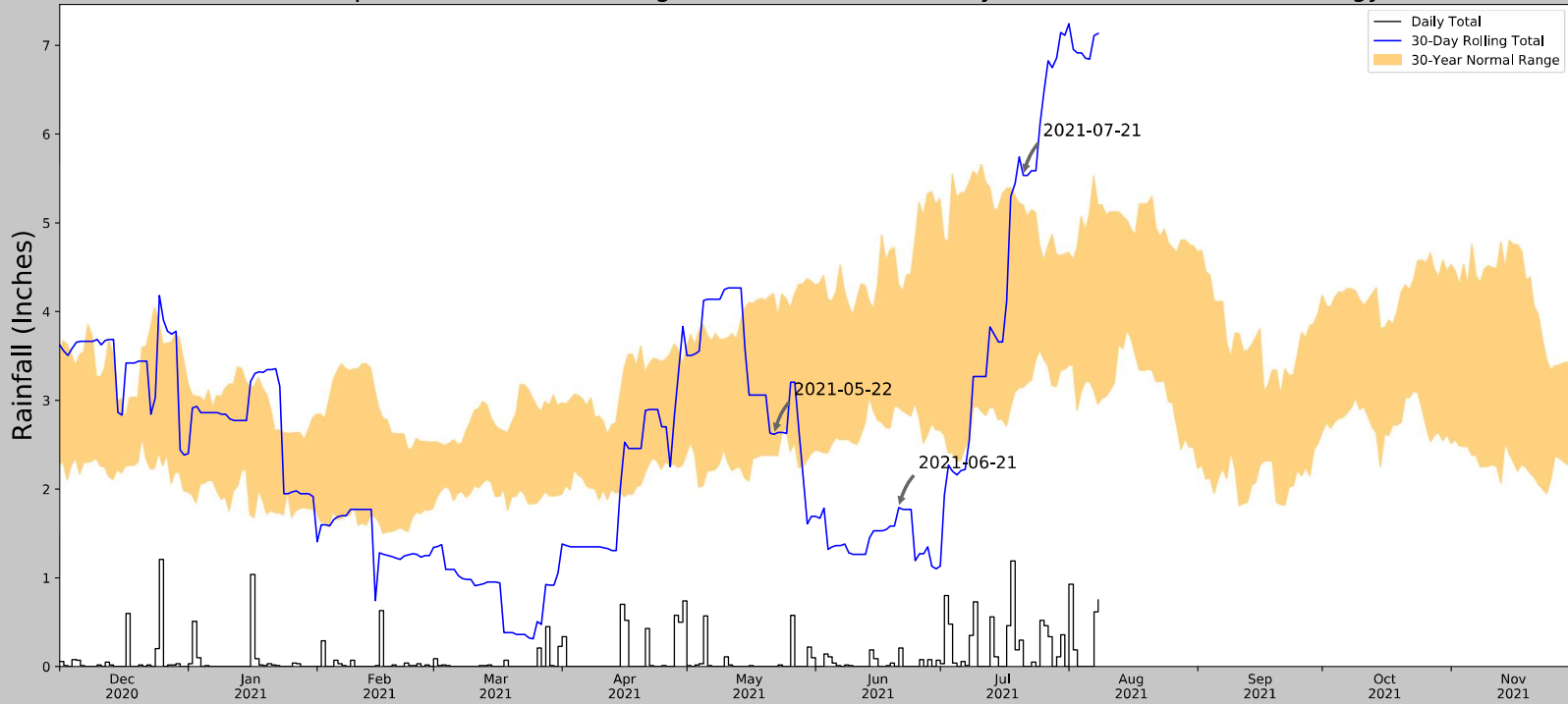
**SITE PHOTOGRAPHS**

**E.F. Knapp State Airport  
Obstruction Removal  
Towns of Berlin & Barre  
Washington County, Vermont**



**Attachment 5**

## Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                       |
|----------------------------------|-----------------------|
| Coordinates                      | 44.210292, -72.569303 |
| Observation Date                 | 2021-07-21            |
| Elevation (ft)                   | 1031.11               |
| Drought Index (PDSI)             | Moderate drought      |
| WebWIMP H <sub>2</sub> O Balance | Dry Season            |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2021-07-21     | 3.142913                   | 5.188977                   | 5.535433      | Wet               | 3               | 3            | 9                      |
| 2021-06-21     | 2.922441                   | 4.30748                    | 1.791339      | Dry               | 1               | 2            | 2                      |
| 2021-05-22     | 2.379528                   | 4.190551                   | 2.61811       | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 13 |

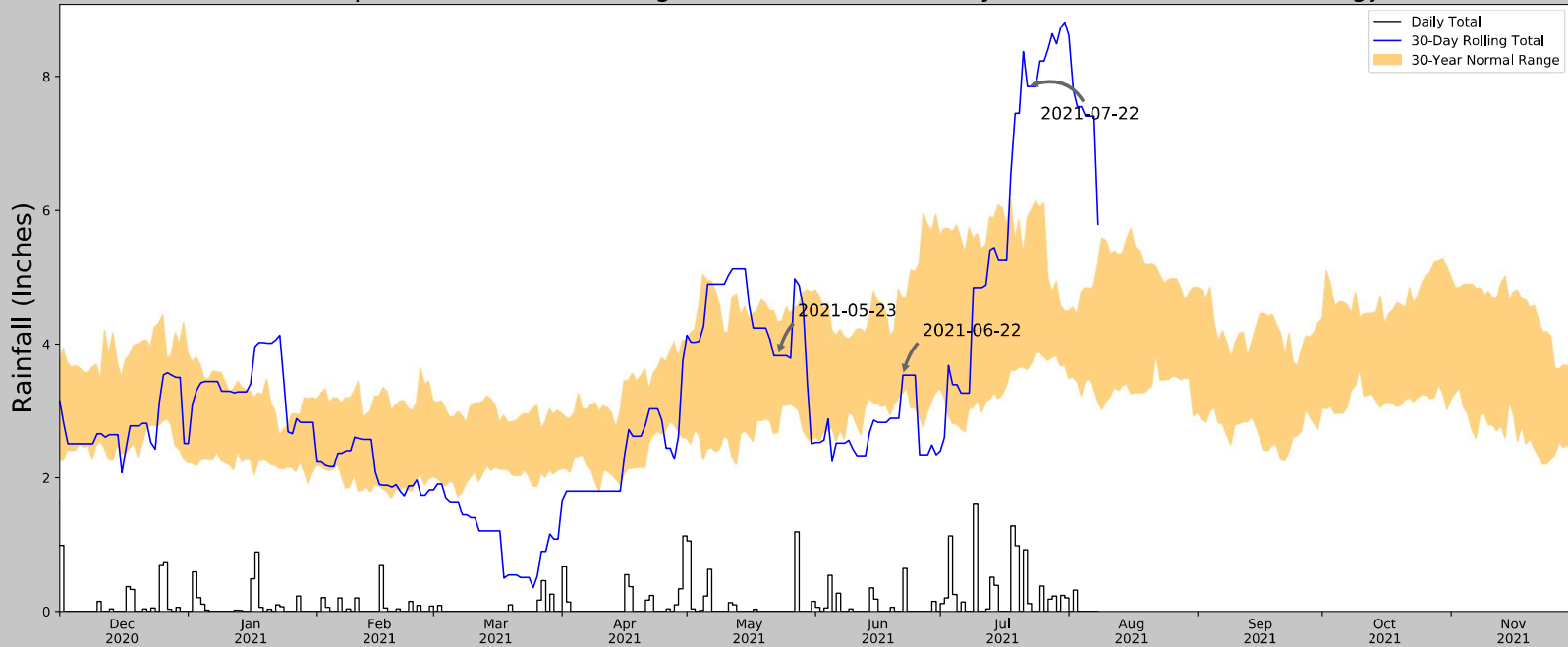


Figure and tables made by the  
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Version 1.0

Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates       | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days Normal | Days Antecedent |
|----------------------|-------------------|----------------|---------------|-------------|------------|-------------|-----------------|
| BARRE MONTPELIER AP  | 44.2033, -72.5794 | 1125.984       | 0.695         | 94.874      | 0.379      | 10699       | 90              |
| BERLIN 4.3 WNW       | 44.2336, -72.6561 | 851.05         | 4.337         | 274.934     | 3.144      | 2           | 0               |
| NORTHFIELD           | 44.1647, -72.6567 | 669.948        | 4.667         | 456.036     | 4.228      | 652         | 0               |

## Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                       |
|----------------------------------|-----------------------|
| Coordinates                      | 44.210292, -72.569303 |
| Observation Date                 | 2021-07-22            |
| Elevation (ft)                   | 1031.11               |
| Drought Index (PDSI)             | Moderate drought      |
| WebWIMP H <sub>2</sub> O Balance | Dry Season            |

| 30 Days Ending          | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product         |
|-------------------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|-----------------|
| Weather Station Name    | Coordinates                | Elevation (ft)             | Distance (mi) | Elevation Δ       | Weighted Δ      | Days Normal  | Days Antecedent |
| STARKSBORO 4.7 NNE      | 44.2837, -73.0048          | 1166.011                   | 22.143        | 134.901           | 12.951          | 133          | 0               |
| LINCOLN 2.2 NW          | 44.1325, -73.02            | 1337.927                   | 22.973        | 306.817           | 17.386          | 996          | 0               |
| MONROE 3.1 NE           | 44.2886, -72.0062          | 1092.848                   | 28.39         | 61.738            | 14.528          | 1129         | 0               |
| MIDDLEBURY 3.6 ENE      | 44.026, -73.098            | 484.908                    | 29.153        | 546.202           | 29.042          | 60           | 0               |
| NEW HAVEN 2.4 SE        | 44.1006, -73.1172          | 497.047                    | 28.198        | 534.063           | 27.749          | 441          | 75              |
| HANCOCK 0.3 S           | 43.9217, -72.8404          | 901.903                    | 24.057        | 129.207           | 13.934          | 171          | 11              |
| UNDERHILL CENTER 2.8 NE | 44.5413, -72.8683          | 1035.105                   | 27.223        | 3.995             | 12.359          | 107          | 0               |
| LINCOLN 1.6 SE          | 44.0867, -72.9802          | 1066.929                   | 22.088        | 35.819            | 10.731          | 1038         | 0               |
| HUNTINGTON 1.1 E        | 44.3249, -72.9657          | 991.142                    | 21.151        | 39.968            | 10.363          | 6            | 4               |
| HUNTINGTON 1.6 SW       | 44.3065, -73.0052          | 751.969                    | 22.571        | 279.141           | 16.457          | 26           | 0               |
| WILLISTON 0.3 WNW       | 44.4396, -73.0738          | 485.892                    | 29.544        | 545.218           | 29.403          | 17           | 0               |
| JERICHO 1.0 NNW         | 44.5152, -72.9926          | 641.076                    | 29.682        | 390.034           | 24.934          | 67           | 0               |
| RICHMOND 3.4 SSE        | 44.3608, -72.964           | 732.94                     | 22.119        | 298.17            | 16.549          | 11           | 0               |
| GROTON 4.4 WSW          | 44.1944, -72.2824          | 770.013                    | 14.253        | 261.097           | 10.135          | 1            | 0               |
| GROTON 4.4 NW           | 44.2495, -72.2649          | 1208.005                   | 15.312        | 176.895           | 9.599           | 1            | 0               |
| WATERBURY 3.4 NNE       | 44.3777, -72.7193          | 722.113                    | 13.741        | 308.997           | 10.429          | 1            | 0               |
| CABOT 3.9 ENE           | 44.4171, -72.235           | 1740.158                   | 21.848        | 709.048           | 25.323          | 1            | 0               |
| MONROE 5 NNE            | 44.3167, -72.0             | 660.105                    | 29.113        | 371.005           | 23.902          | 3237         | 0               |

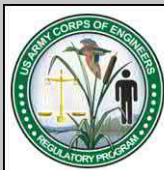
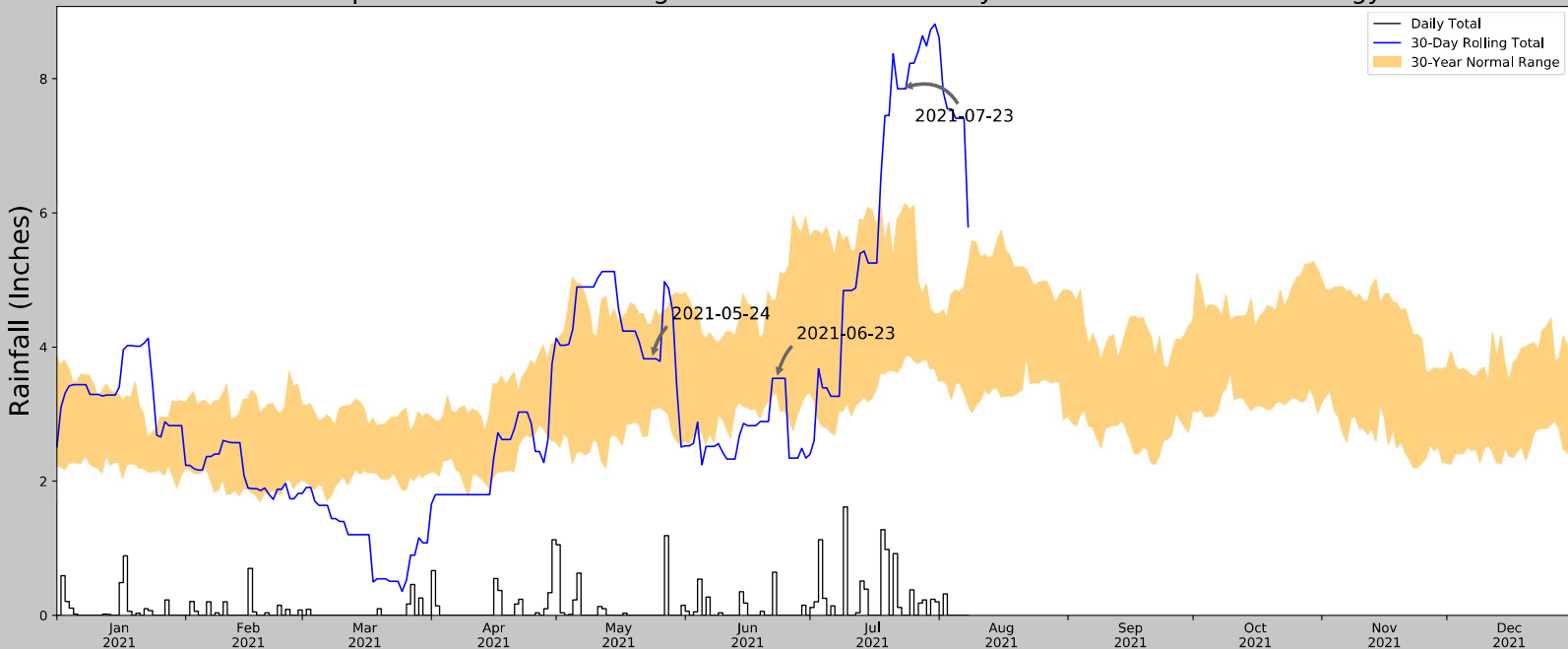


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U.S. Army Corps of Engineers



## Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                       |
|----------------------------------|-----------------------|
| Coordinates                      | 44.210292, -72.569303 |
| Observation Date                 | 2021-07-23            |
| Elevation (ft)                   | 1031.11               |
| Drought Index (PDSI)             | Moderate drought      |
| WebWIMP H <sub>2</sub> O Balance | Dry Season            |

| 30 Days Ending          | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product         |
|-------------------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|-----------------|
| Weather Station Name    | Coordinates                | Elevation (ft)             | Distance (mi) | Elevation Δ       | Weighted Δ      | Days Normal  | Days Antecedent |
| STARKSBORO 4.7 NNE      | 44.2837, -73.0048          | 1166.011                   | 22.143        | 134.901           | 12.951          | 133          | 0               |
| LINCOLN 2.2 NW          | 44.1325, -73.02            | 1337.927                   | 22.973        | 306.817           | 17.386          | 996          | 0               |
| MONROE 3.1 NE           | 44.2886, -72.0062          | 1092.848                   | 28.39         | 61.738            | 14.528          | 1129         | 0               |
| MIDDLEBURY 3.6 ENE      | 44.026, -73.098            | 484.908                    | 29.153        | 546.202           | 29.042          | 60           | 0               |
| NEW HAVEN 2.4 SE        | 44.1006, -73.1172          | 497.047                    | 28.198        | 534.063           | 27.749          | 441          | 75              |
| HANCOCK 0.3 S           | 43.9217, -72.8404          | 901.903                    | 24.057        | 129.207           | 13.934          | 171          | 11              |
| UNDERHILL CENTER 2.8 NE | 44.5413, -72.8683          | 1035.105                   | 27.223        | 3.995             | 12.359          | 107          | 0               |
| LINCOLN 1.6 SE          | 44.0867, -72.9802          | 1066.929                   | 22.088        | 35.819            | 10.731          | 1038         | 0               |
| HUNTINGTON 1.1 E        | 44.3249, -72.9657          | 991.142                    | 21.151        | 39.968            | 10.363          | 6            | 4               |
| HUNTINGTON 1.6 SW       | 44.3065, -73.0052          | 751.969                    | 22.571        | 279.141           | 16.457          | 26           | 0               |
| WILLISTON 0.3 WNW       | 44.4396, -73.0738          | 485.892                    | 29.544        | 545.218           | 29.403          | 17           | 0               |
| JERICHO 1.0 NNW         | 44.5152, -72.9926          | 641.076                    | 29.682        | 390.034           | 24.934          | 67           | 0               |
| RICHMOND 3.4 SSE        | 44.3608, -72.964           | 732.94                     | 22.119        | 298.17            | 16.549          | 11           | 0               |
| GROTON 4.4 WSW          | 44.1944, -72.2824          | 770.013                    | 14.253        | 261.097           | 10.135          | 1            | 0               |
| GROTON 4.4 NW           | 44.2495, -72.2649          | 1208.005                   | 15.312        | 176.895           | 9.599           | 1            | 0               |
| WATERBURY 3.4 NNE       | 44.3777, -72.7193          | 722.113                    | 13.741        | 308.997           | 10.429          | 1            | 0               |
| CABOT 3.9 ENE           | 44.4171, -72.235           | 1740.158                   | 21.848        | 709.048           | 25.323          | 1            | 0               |
| MONROE 5 NNE            | 44.3167, -72.0             | 660.105                    | 29.113        | 371.005           | 23.902          | 3237         | 0               |

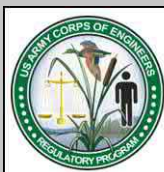


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