Dominion Energy Virginia
10900 Nuckols Rd, 4th Floor
Glen Allen, VA 23060
DominionEnergy.com

April 14, 2020

BY EMAIL AND U.S. MAIL

Attention: Silvia Gazzera
US Army Corps of Engineers
9100 Arboretum Parkway, Suite 235
Richmond, VA 23236

Reference: **Request for Preliminary Jurisdictional Determination**
Bristers to Ladysmith 500kV Transmission Line Rebuild
Fauquier, Stafford, Spotsylvania and Caroline Counties, Virginia
Start – Latitude: 38.567632° Longitude: -77.594545
Terminus – Latitude: 38.046874 Longitude: -77.550268

Dear Ms. Gazzera,

Dominion Energy Virginia (the "Company") is pleased to submit the enclosed Preliminary Jurisdictional Determination (PJD) for the Bristers to Ladysmith 500kV Transmission Line Rebuild project. This project is located in Fauquier, Stafford, Spotsylvania and Caroline counties and includes a rebuild of an existing 500kV transmission line that is nearing the end of its service life.

Should you have any questions regarding this submittal, please contact Rachel Studebaker with Dominion Energy via email at Rachel.M.Studebaker@dominionenergy.com or by phone at (804) 217-1847.

Regards,

Richard B. Gangle
Director, Environmental Services

Attachment: PJD Application Package

April 7, 2020

Ref: 34465.19

Regulator of the Day
U.S. Army Corps of Engineers
Regulatory Branch
803 Front Street
Norfolk, VA 23510

Re: Request for Preliminary Jurisdictional Determination
Bristers Ladysmith 500kV Rebuild, Fauquier, Stafford, Spotsylvania, and Caroline Counties, VA

Dear ROD,

On behalf of Dominion Energy Virginia (Client), Vanasse Hangen Brustlin, Inc. (VHB) is requesting a Preliminary Jurisdictional Determination (PJD) for an approximate 36-mile electric transmission line right-of-way (ROW) project located in Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia, identified as the Bristers Ladysmith 500kV Rebuild. This PJD request letter provides the information required by the United States Army Corps of Engineers (USACE) to verify the boundaries of potential Waters of the United States, including wetlands (WOTUS) within the 36-mile project area. Attachments to the PJD request letter include project area mapping (Attachment 1), USACE Wetland Determination Data Forms (Attachment 2), the Norfolk District Regulatory Office Pre-application and/or Jurisdictional Waters Determination Request Form (Attachment 3), a Wetland Delineation Report Site Information Summary Form (Attachment 4), the OMBIL Regulatory Module Project Upload Template (Attachment 5), and the Norfolk District Pre-application and Jurisdictional Determination Checklist (Attachment 6). Representative site photographs are available upon request.

Methodology: The WOTUS delineation to support this PJD request was conducted by VHB scientists Joey Thompson, a Wetland Professional in Training (WPIT), certified by the Society of Wetland Scientist (SWS), Phillip Bailey (WPIT), Dakota Hunter, and Sean Murray. Doug DeBerry provided quality control and assurance for the WOTUS field delineation. Mr. DeBerry, PhD., is a Professional Wetland Scientist (PWS) certified by the SWS as well as a certified Professional Wetland Delineator (PWD) by the Virginia Department of Occupation Professional and Occupational Regulation (VDPOR). The WOTUS field investigation was performed between the

dates of September 30 and October 18, 2019. Prior to the onsite investigation, offsite research was conducted using the following sources:

- Natural Resources Conservation Service (NRCS) Web Soil Survey
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) Mapper
- U.S. Geological Survey (USGS) Quadrangle Maps for Somerville, Storck, Salem Church, Chancellorsville, Spotsylvania, and Ladysmith, Virginia

Datasets and mapping were downloaded from each of these sources and overlaid onto project area mapping. Layers were processed using ESRI's ArcMap 10.6.1 and included as base maps for mobile data collection using ESRI's Collector for ArcGIS.

VHB applied the technical criteria outlined in 1987 *Corps of Engineers Wetland Delineation Manual* and the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)* to complete the WOTUS delineation. The boundaries of potentially jurisdictional WOTUS was demarcated using individual pink flags with the label "WETLAND DELINEATION" and geo-located using Global Navigation Satellite System (GNSS) receivers with sub-meter accuracy (Attachment 1, Figure 5, maps 1-45). Field data was collected to describe hydrology, soil, and vegetation parameters using data sampling points and then transcribed to a USACE Wetland Determination Data Form (Attachment 2). Vegetation data was recorded on data forms based on the USACE *2016 National Wetland Plant List*. Representative photographs were taken to show existing conditions at data point locations during the time of fieldwork and can be provided upon request.

Potentially jurisdictional features were identified and mapped using the 1979 Cowardin et al. WETLANDS AND DEEPWATER HABITATS CLASSIFICATION system: freshwater forested wetlands (PFO), freshwater scrub-shrub (PSS) wetlands, freshwater emergent (PEM) wetlands, perennial (R3) stream channel, intermittent (R4) stream channel, and fresh open water/unconsolidated bottom (PUB). Stream channels that convey flow in direct response to precipitation are identified as ephemeral (EPH).

Site Description: The 783.8 - acre project area extends from north to south for approximately 36 miles starting in Fauquier County and ending in Caroline County (see Project Location Map in Attachment 1). The USGS Quadrangles for Somerville, Storck, Salem Church, Chancellorsville, Spotsylvania, and Ladysmith, Virginia shows site elevations ranging from 90-430 feet above sea level with multiple named mapped USGS perennial stream channels which include the Rappahannock River, Motto River, Po River, and Ni River. Seventy soil map units are depicted by NRCS within the project area (Attachment 1, Figure 3, maps 1-22):

NWI features (Attachment 1, Figure 3, maps 1-11), mapped within the project area include: Freshwater ponds (PuBHh), Riverine (R2UBH, R3UBH, R4SBC, R5UBH), Freshwater Emergent Wetland (PFO1A, PEM1C), and Freshwater Forested /Shrub Wetland (PSS1Eb).

Observations during VHB's fieldwork verified that most of the vegetation within the project area has been regularly maintained from operations associated with the underground Colonial natural Gas pipelines, which trend the entire length of the project area. Vegetation identified within wetland features included common hydrophytic plant species such as soft rush (*Juncus effuses*), velvet panicum (*Dichanthelium scoparium*), rice cut grass (*Leersia ozyroides*), bearded beggarticks (*Bidens aristosa*), purplestem aster (*Symphtotrichum pumiceum*), and arrow-leaf tearthumb (*Persicaria sagittata*). Vegetation identified within upland areas adjacent to the WOTUS included common non-hydrophytic plant species such as annual ragweed (*Ambrosia artemisiifolia*), tall goldenrod (*Solidago altissima*), creeping bluestem (*Schizachyrium scoparium*), yellow Indian grass (*Sorghastrum nutans*), and Japanese honeysuckle (*Lonicera japonica*).

Delineation Results: The delineation conducted by VHB determined that WOTUS may be present within the approximate 783.8-acre project area. Based on VHB's investigation, potentially jurisdictional WOTUS include approximately 74.74 acres of PEM, 3.54 acres of PSS, 3.45 acres of PFO wetlands, 1.46 acres of PUB (open water), 16,172 linear feet (LF) of R3 stream channel, 4,528 LF of R4 stream channel, and 357 LF of EPH stream channel (Attachment 1, Figure 5). Data summarizing potentially jurisdictional features identified by VHB are provided in the OBMIL Regulator Module (ORM) as Attachment 5.

All wetlands were observed with positive indicators of wetland hydrology, hydric soil, and hydrophytic vegetation. Indicators of wetland hydrology included: primary indicators A1 (Surface Water), A2 (High Water Table), A3 (Saturation), B4 (Algal Mat or Crust), B9 (Water Stained Leaves), B10 (Drainage Patterns), and C3 (Oxidized Rhizospheres on Living Roots); and secondary indicators C8 (Crayfish Burrows), D2 (Geomorphic Position), D4 (Microtopographic Relief), and D5 (FAC-Neutral Test). Wetland soils were identified as meeting Hydric Soil Indicators F3 (Reduced Matrix) and/or F2 (Loamy Gleyed Matrix). Vegetation in wetlands was dominated by species with a facultative (FAC), facultative-wet (FACW), or obligate wetland (OBL) indicator status, and met either Hydrophytic Vegetation Indicator 1 (Rapid Test) or Hydrophytic Vegetation Indicator 2 (Dominance Test). In most cases, where Vegetation Indicators 1 or 2 were met, Vegetation Indicator 3 (Prevalence Index) was also met. Data forms for each data point used to document onsite conditions are provided in Attachment 2.

Streams were identified by VHB using the definition of ordinary high-water mark (OHWM) provided in USACE Regulatory Guidance Letter (RGL) No. 05-05, dated December 7, 2005. The term *ordinary high water mark* means that line on the shore established by the fluctuations of

water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas formed by physical characteristics such as defined bed/bank conditions and sorting of streambed substrate materials.

Summary: The results of the WOTUS delineation conducted by VHB on the Bristers Ladysmith 500kV Rebuild Project shows that potentially jurisdictional aquatic resources may be present in the 783.8-acre project area. As the authorized agent acting on behalf of Dominion Energy Virginia and C2 Environmental Inc., VHB would like the USACE to review the information provided in this letter (including attachments) for the purpose of providing a PJD for the project. If a field visit is required to verify the results of the onsite investigation, a VHB scientist can attend a site visit with the USACE as soon as possible. Should additional information be required please contact me at (804) 338-9099, or via email at jteschler@vhb.com.

Sincerely,

Vanasse Hangen Brustlin, Inc.

Jason W. Teschler

Digitally signed by Jason W. Teschler
Date: 2020.04.13 15:10:17 -04'00'

Jason W. Teschler, PWS

Senior Environmental Scientist
jteschler@vhb.com

CC: Christine F. Conrad, PhD., Principal/Owner - C2 Environmental, Inc.
Jennifer B. Johnson, Senior Project Manager - C2 Environmental, Inc.

Attachment 1 – Project Area Figures

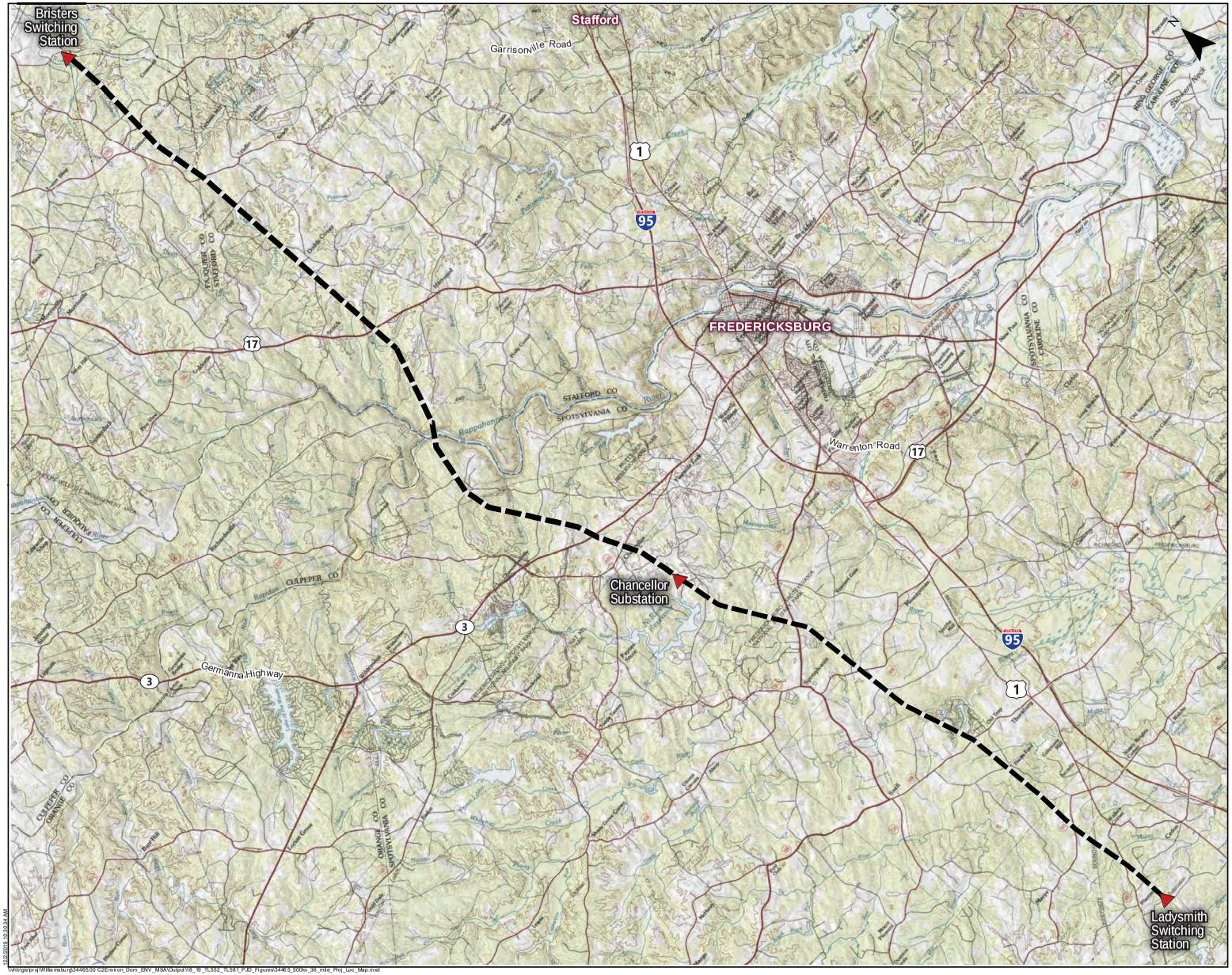


FIGURE 1.

Project Location Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/13/20

0 1.25 2.5 Miles

Scale is 1 in = 2.5 MI when printed at original size of 11x17

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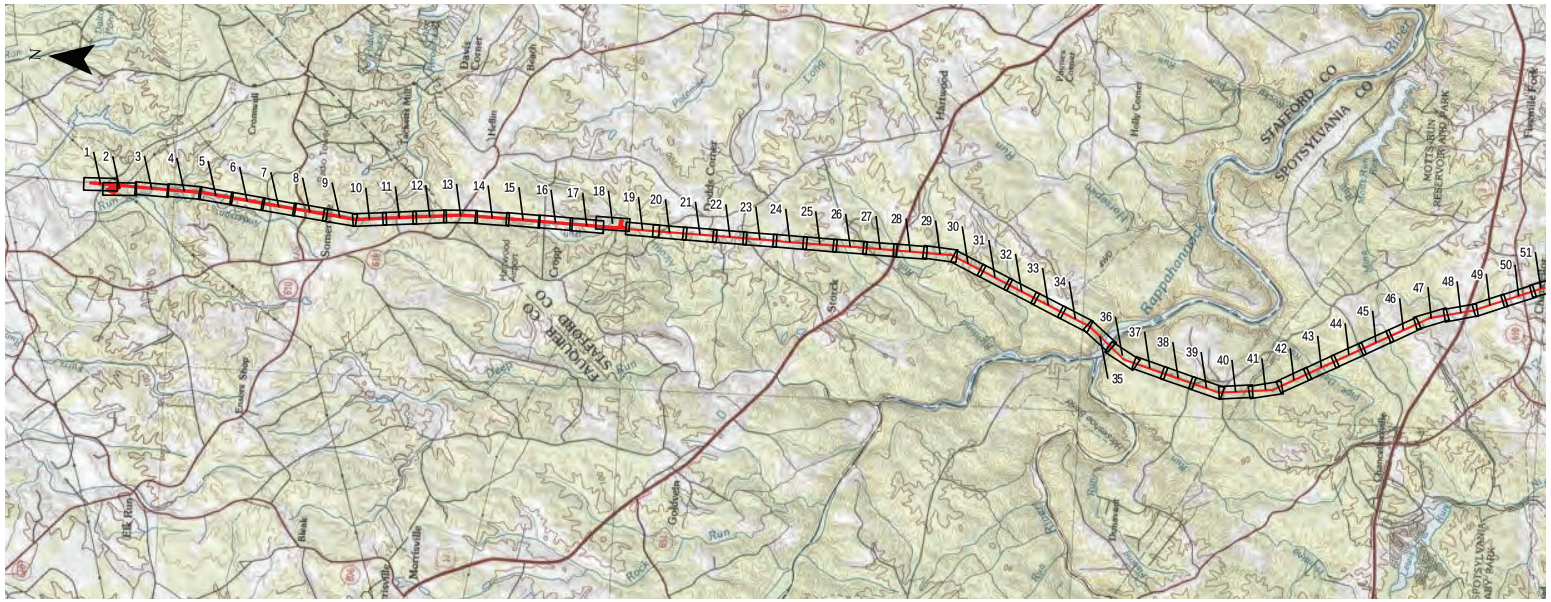
- Existing Substations
- Existing Centerline

Notes:
1. Basemap Source: USGS The National Map covering USGS 7.5 minute Somerville, Storck, Salem Church, Chancellorsville, Spotsylvania, and Ladysmith, Virginia Quadrangles
2. Inset Map Source: ESRI Open Streets Basemap Layer



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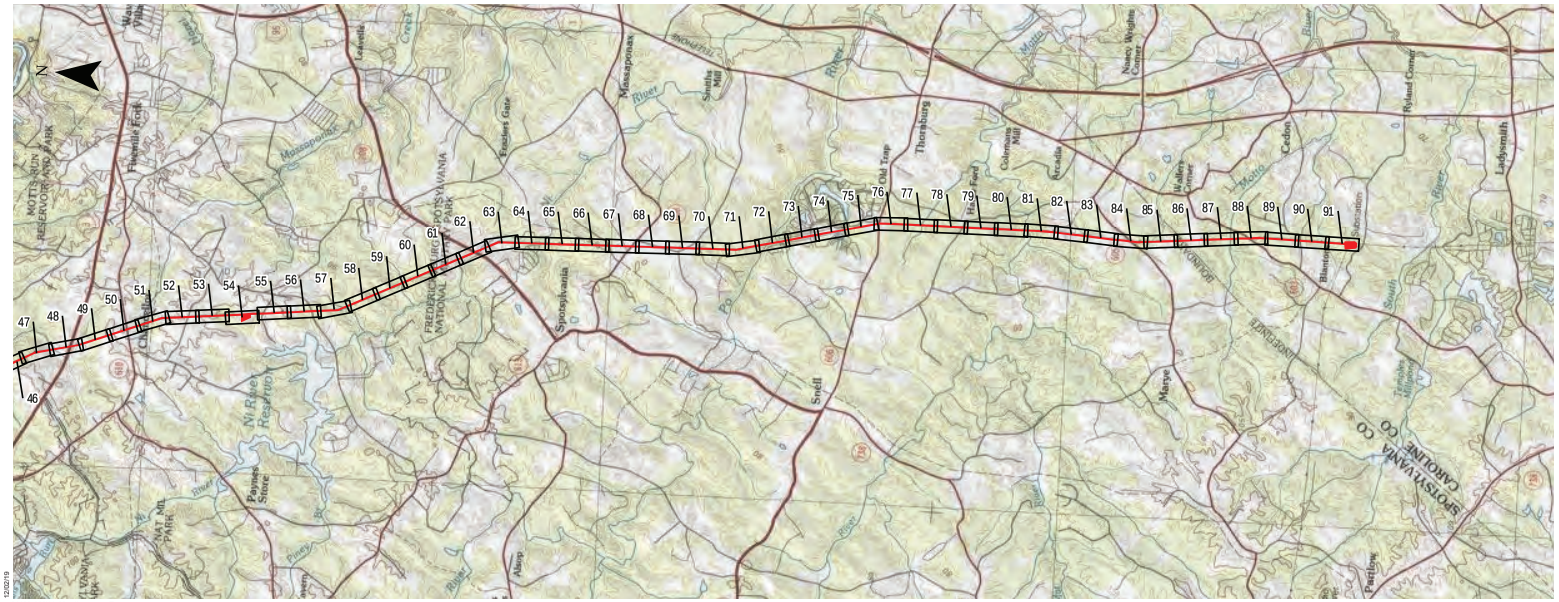


FIGURE 2.

Index Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/19

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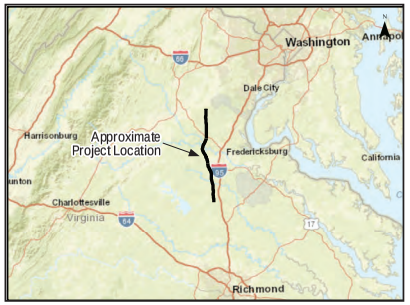
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SITE DATA

Study Area

Figure Index

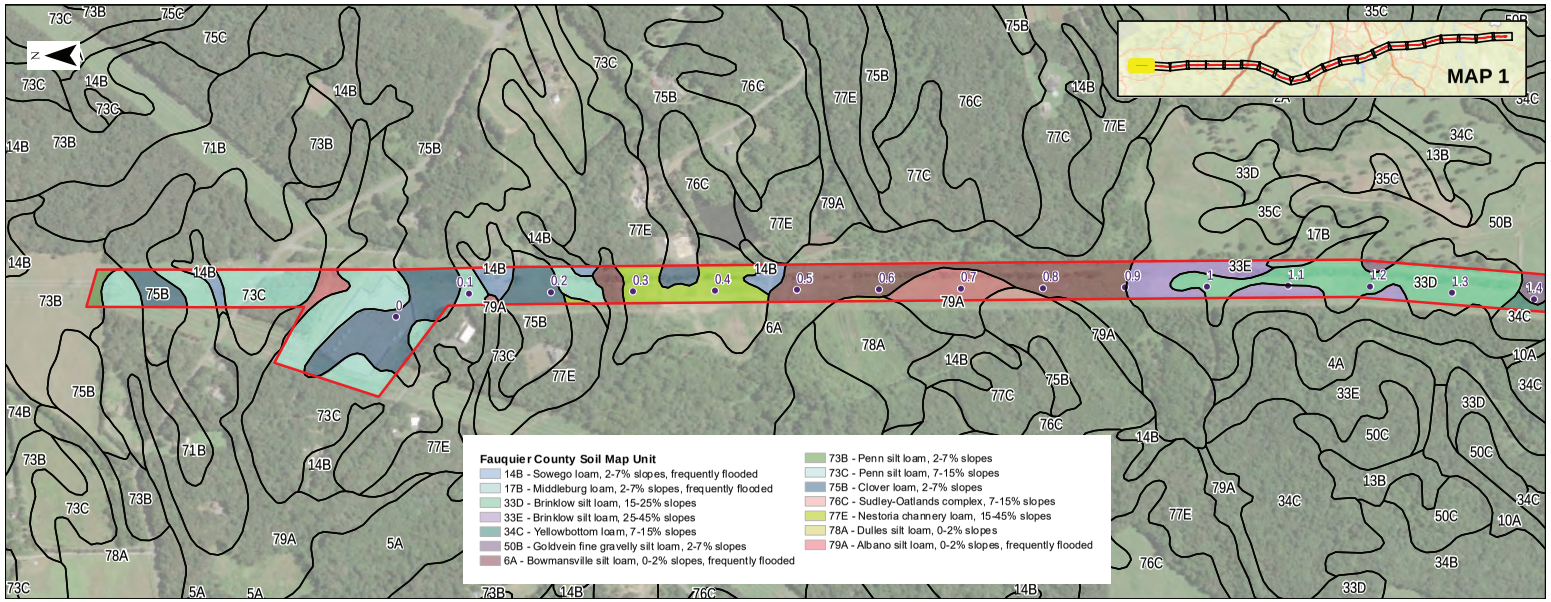
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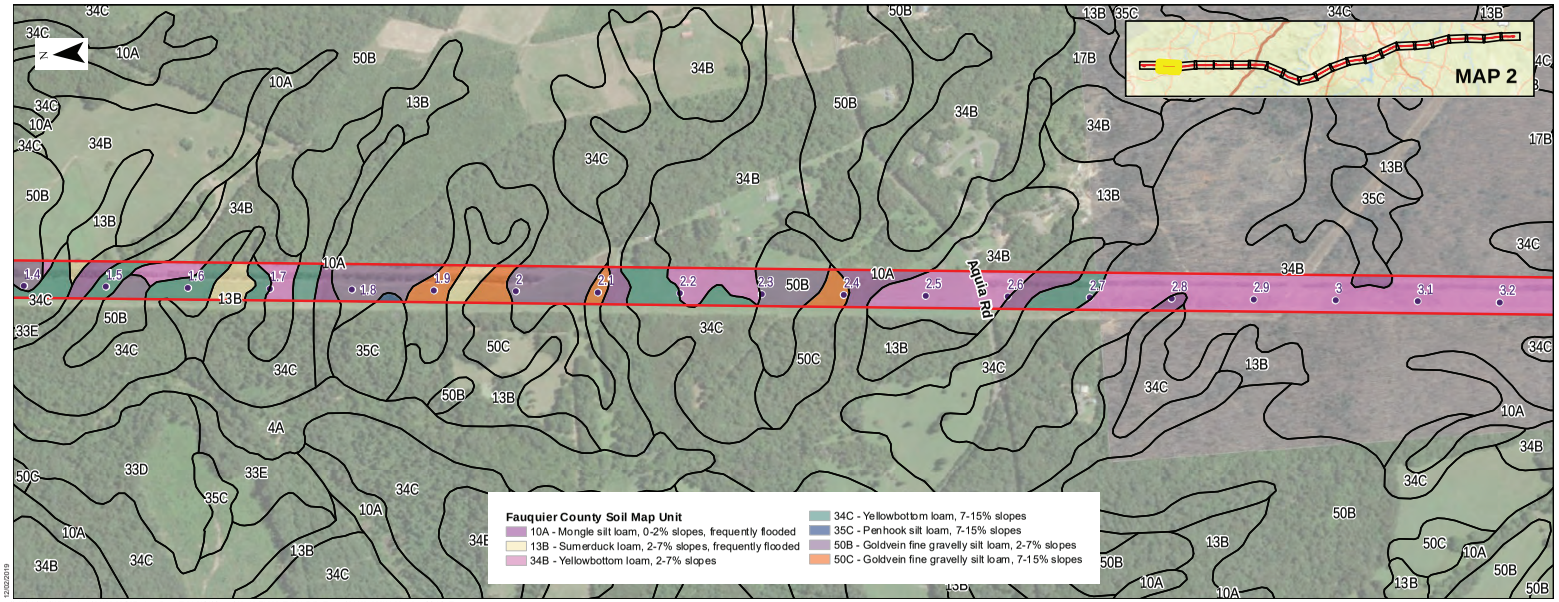


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FIGURE 3.

Soils Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

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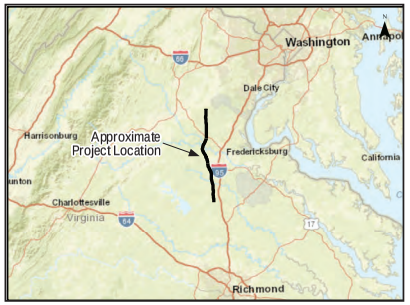
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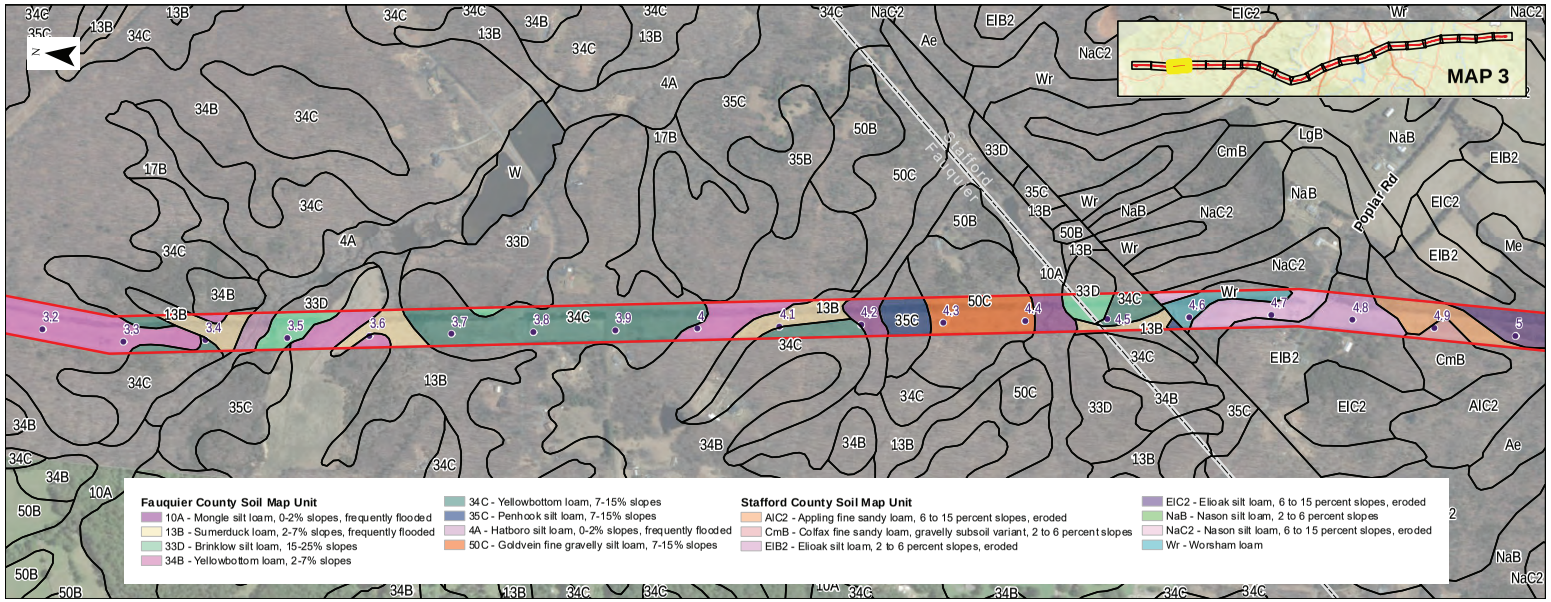
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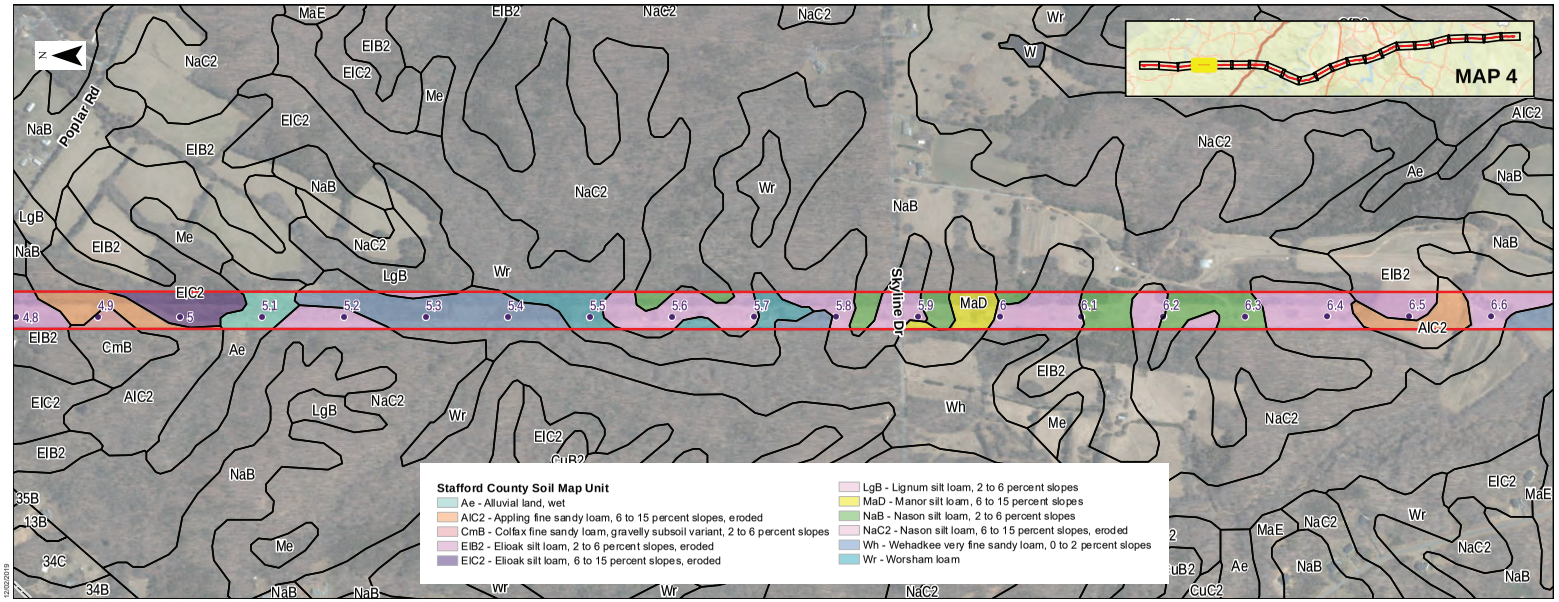
Soil Map Unit Boundary

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. NRCS Soils Survey Data for Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia
3. Inset Map Source: ESRI Open Streets Basemap Layer



SOILS SHEET 1 OF 11





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0073/0074	MKB	12/02/2019

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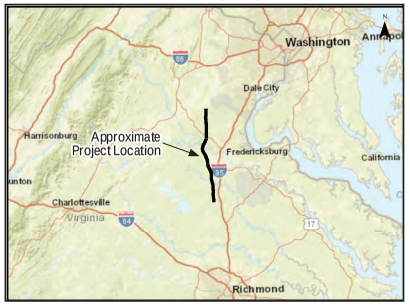
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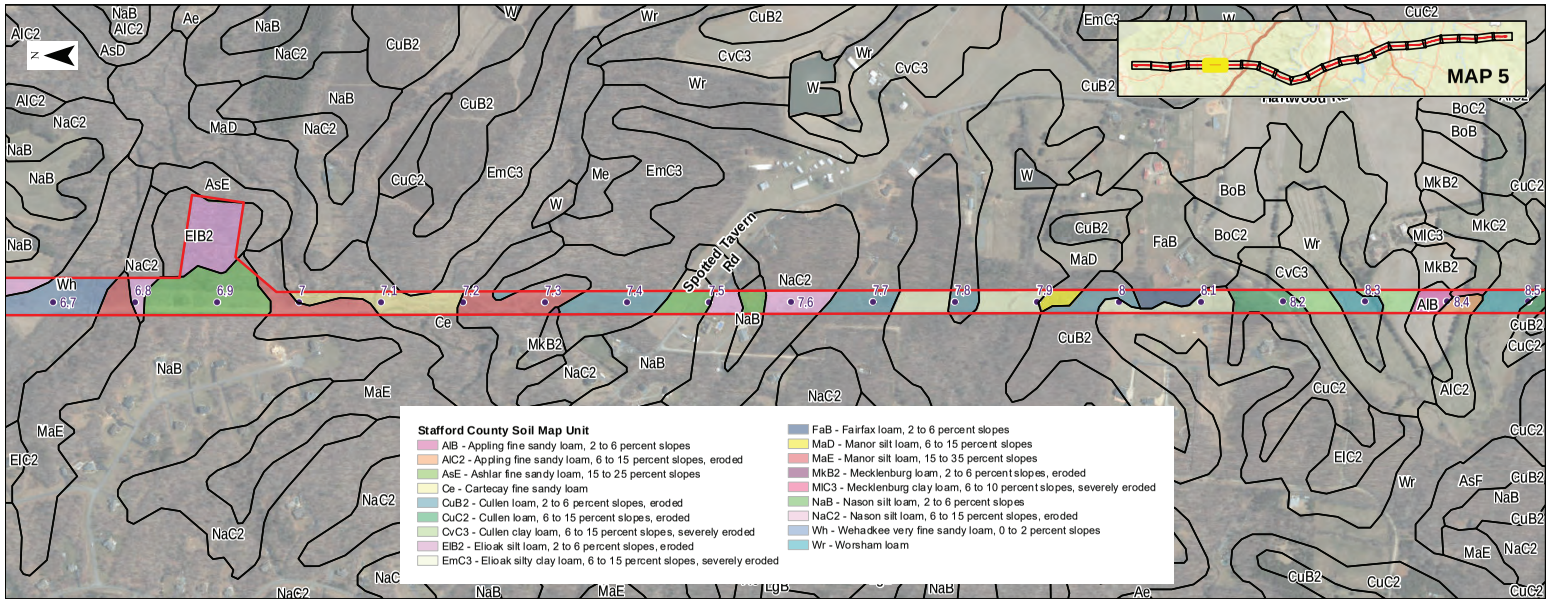
Study Area

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SOILS SHEET 2 OF 11



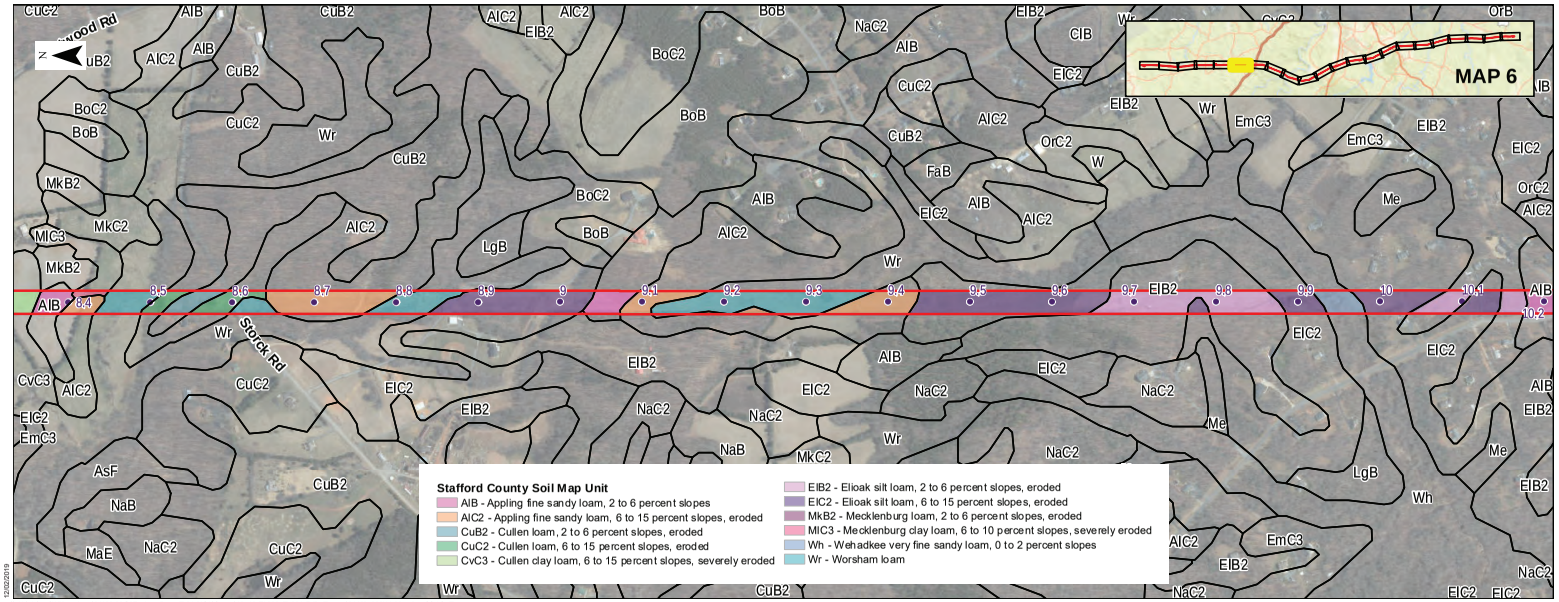


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Soils Map

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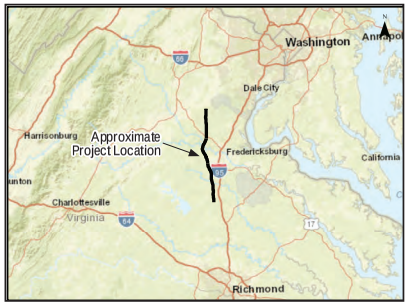
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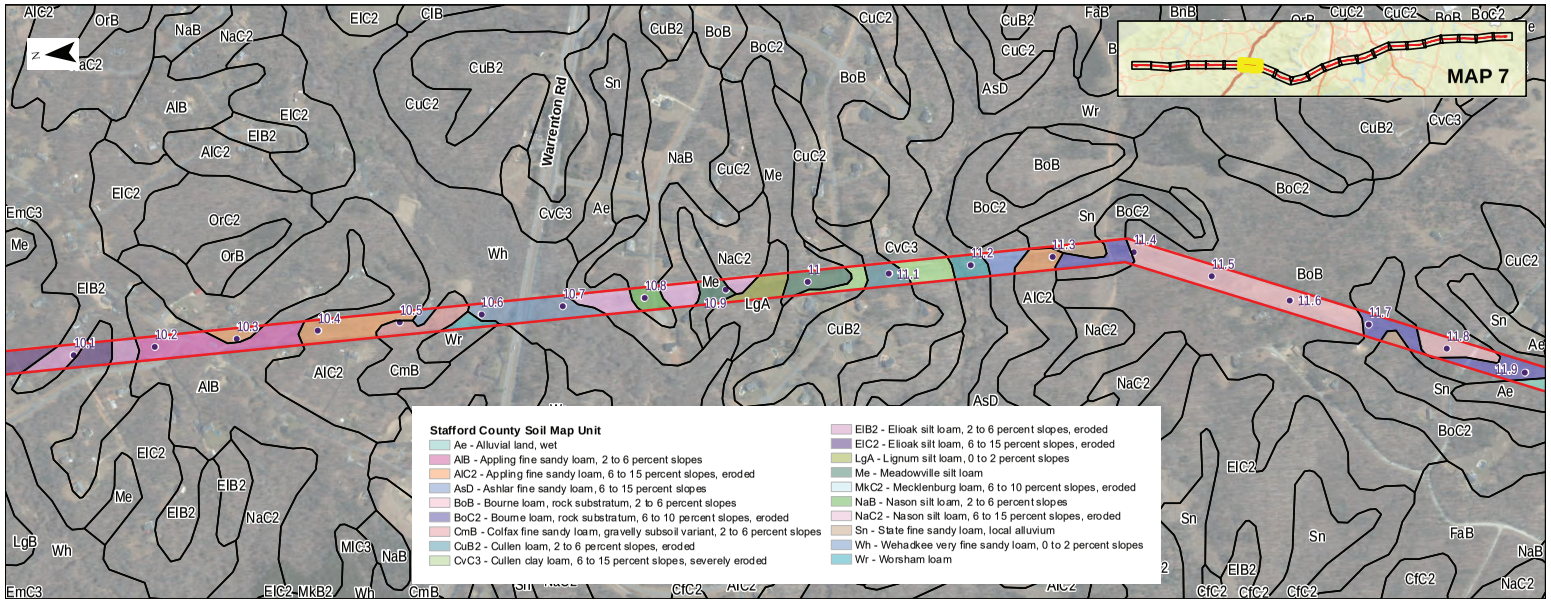
Soil Map Unit Boundary

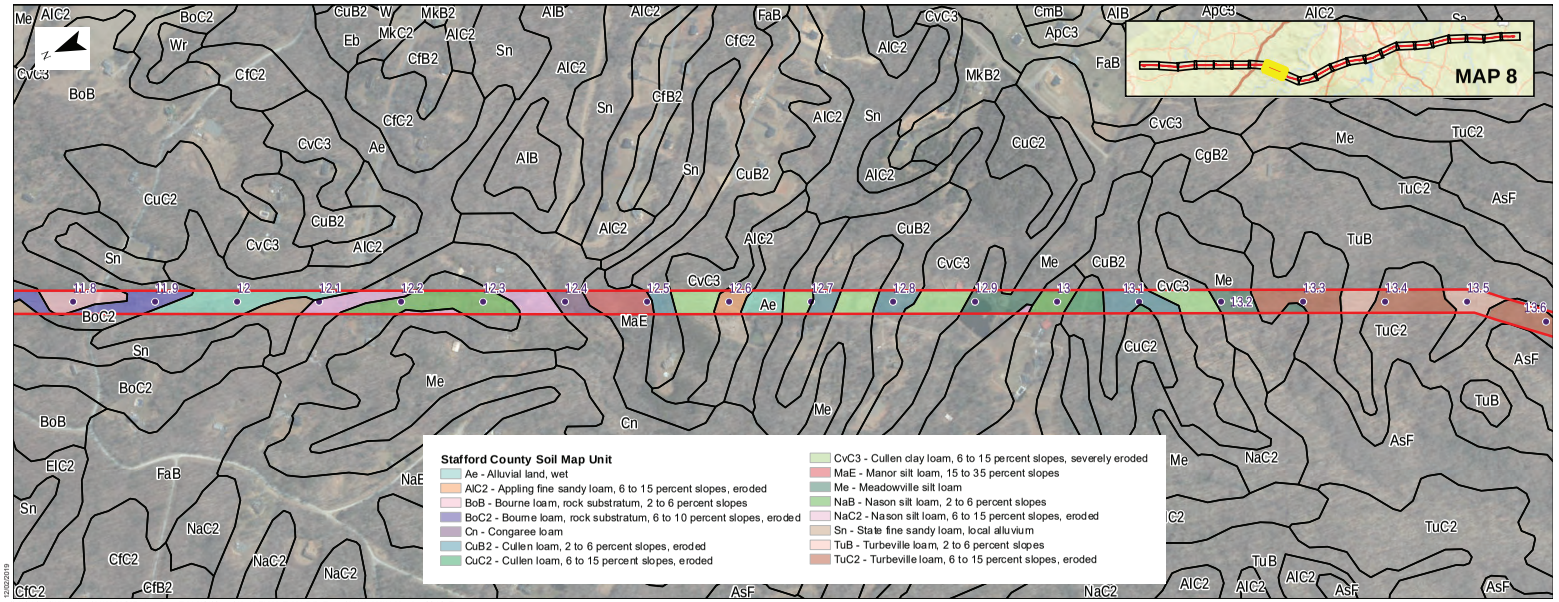
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FIGURE 3.

Soils Map

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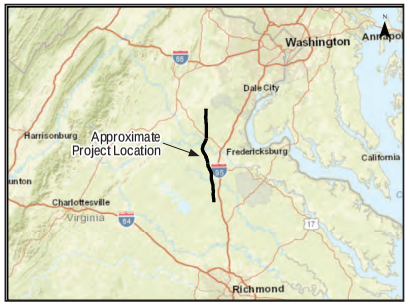
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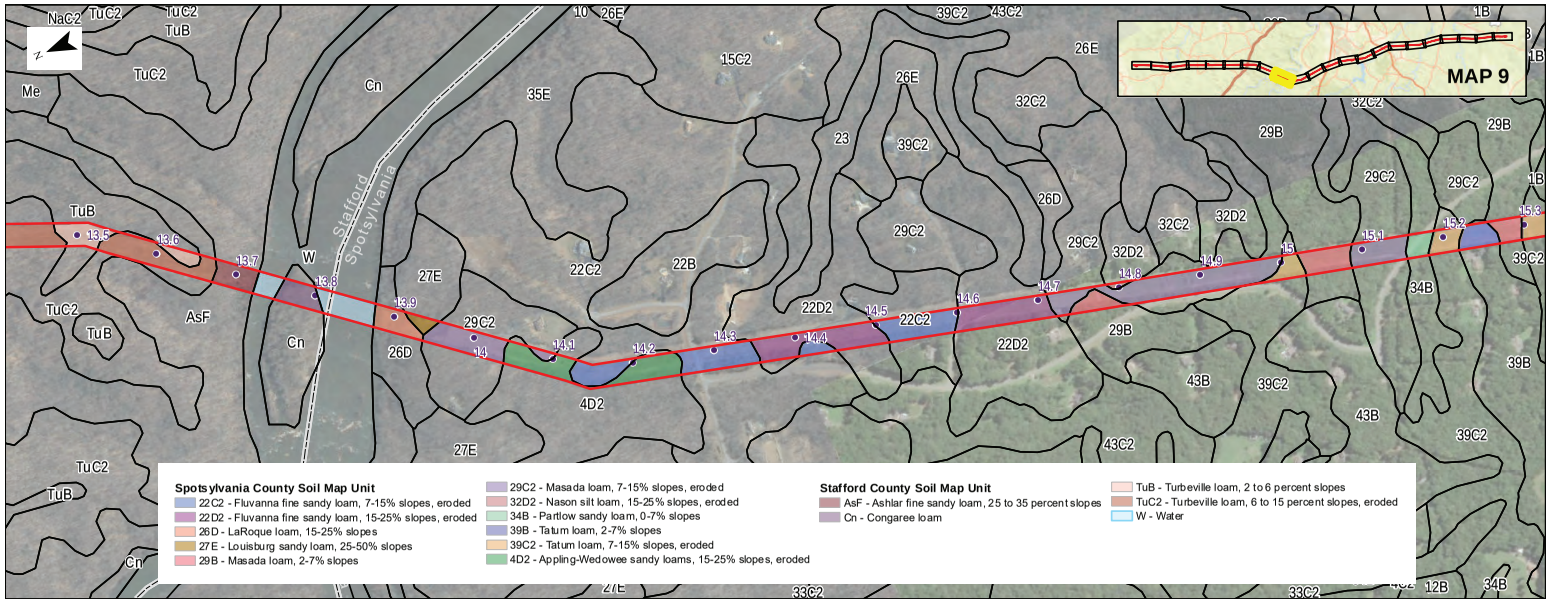
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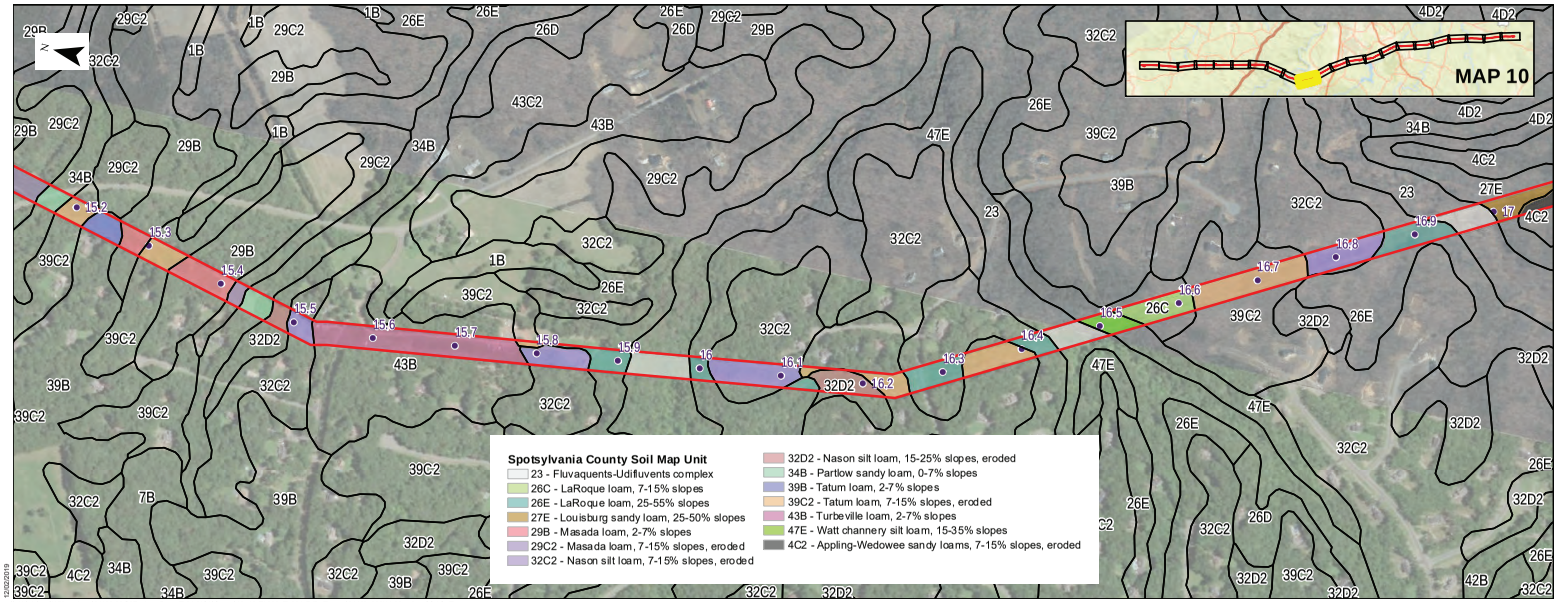
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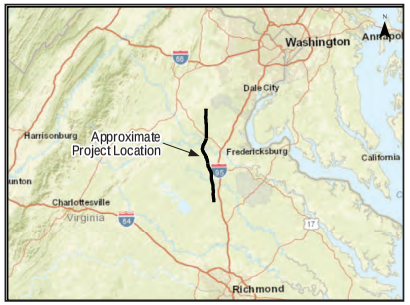
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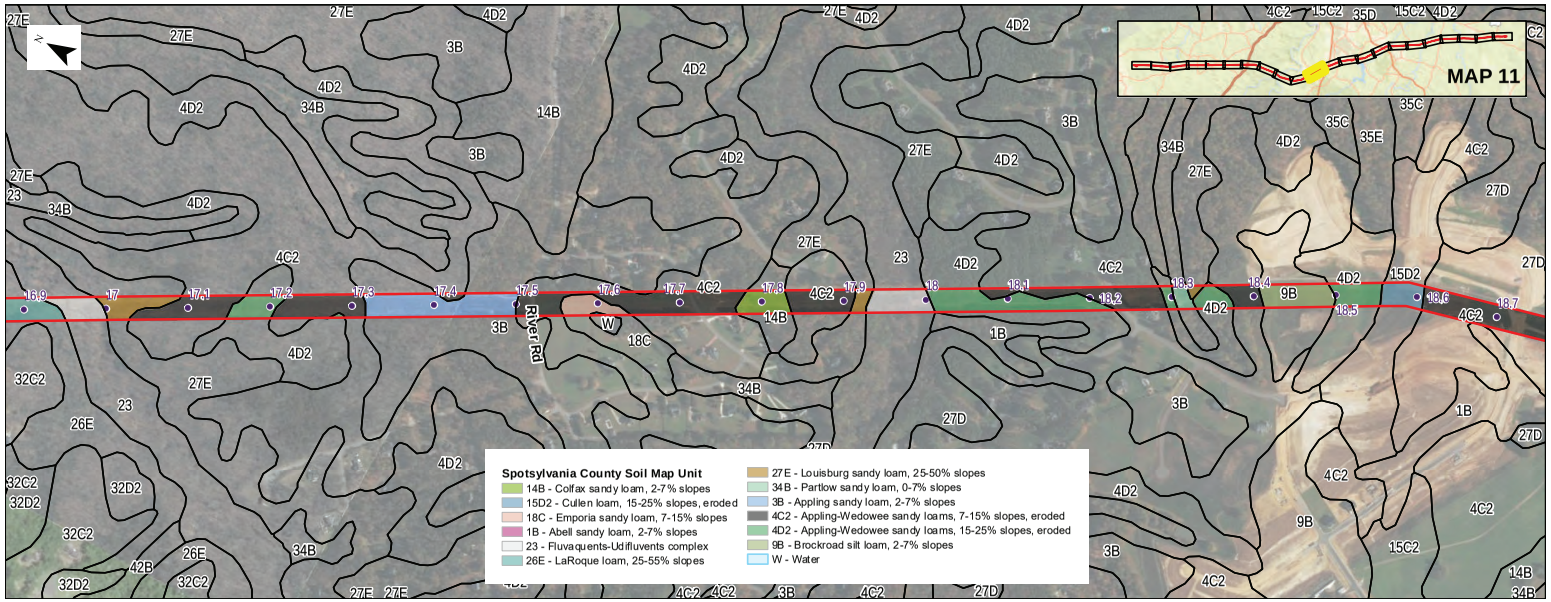
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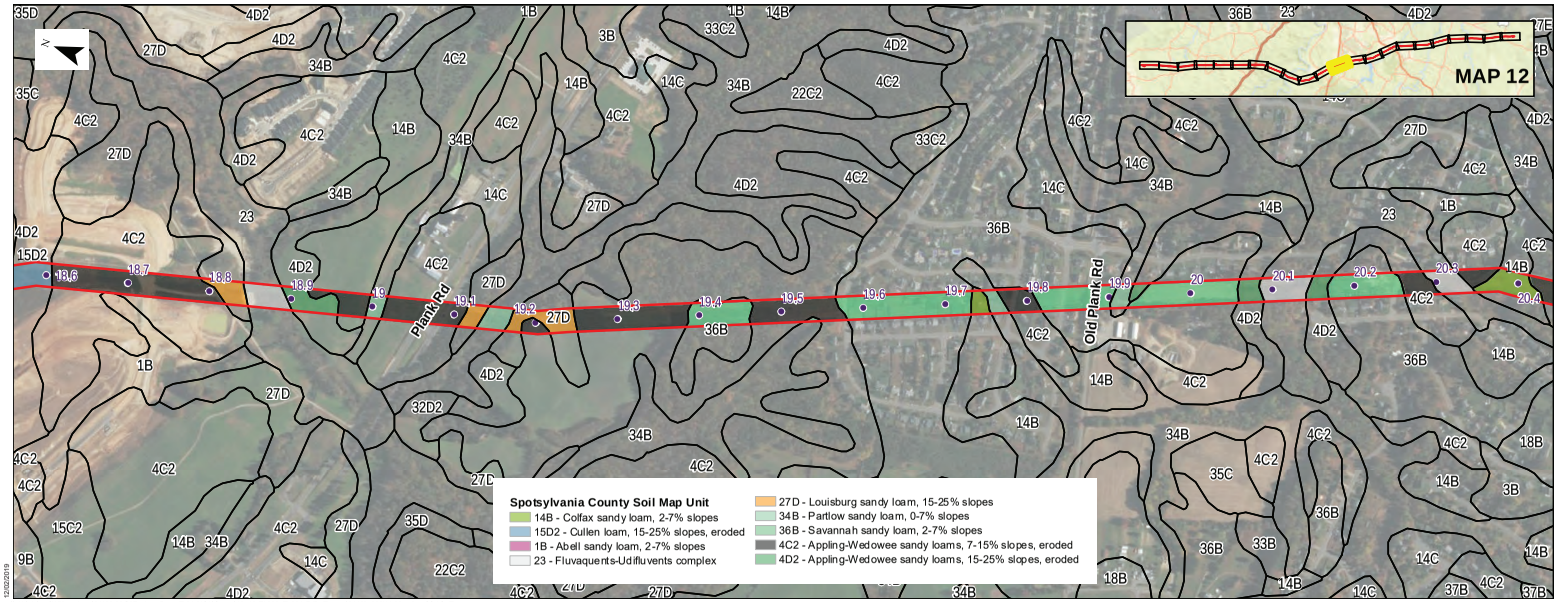
Soil Map Unit Boundary

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SOILS SHEET 5 OF 11





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FIGURE 3.

Soils Map

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Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

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Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

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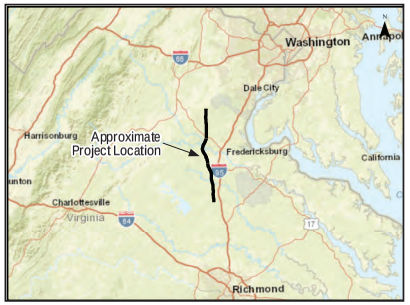
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Study Area

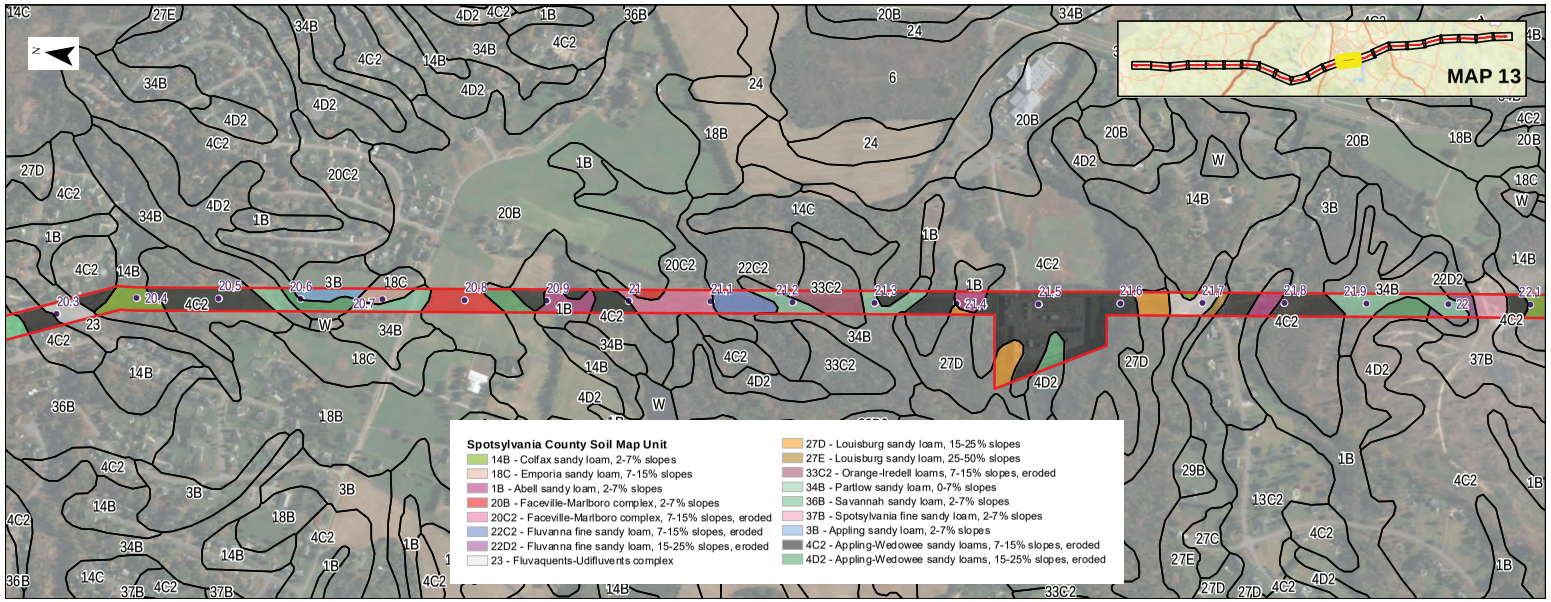
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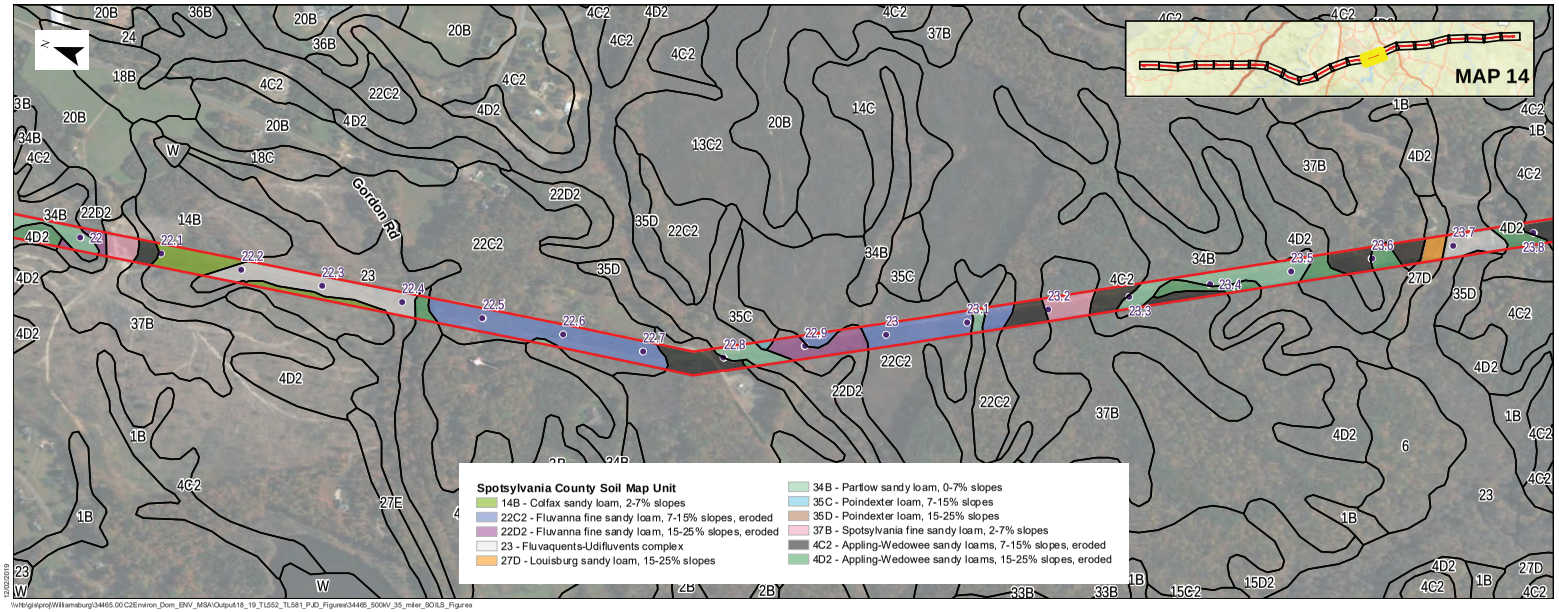
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vhb Dominion Energy ENVIRONMENTAL

SOILS SHEET 6 OF 11





\\vhb\gis\proj\Williamsburg\34465.00 C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_P_ID_Figures\34465_500kV_35_miler_SOILS_Figures

FIGURE 3.

Soils Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

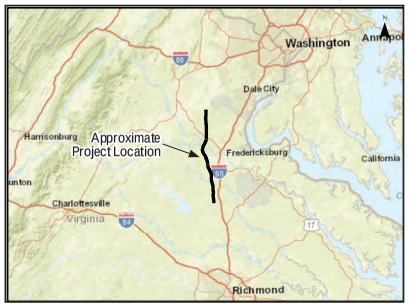
Scale is 1 in = 800 FT when printed at original size of 11x17

SITE DATA

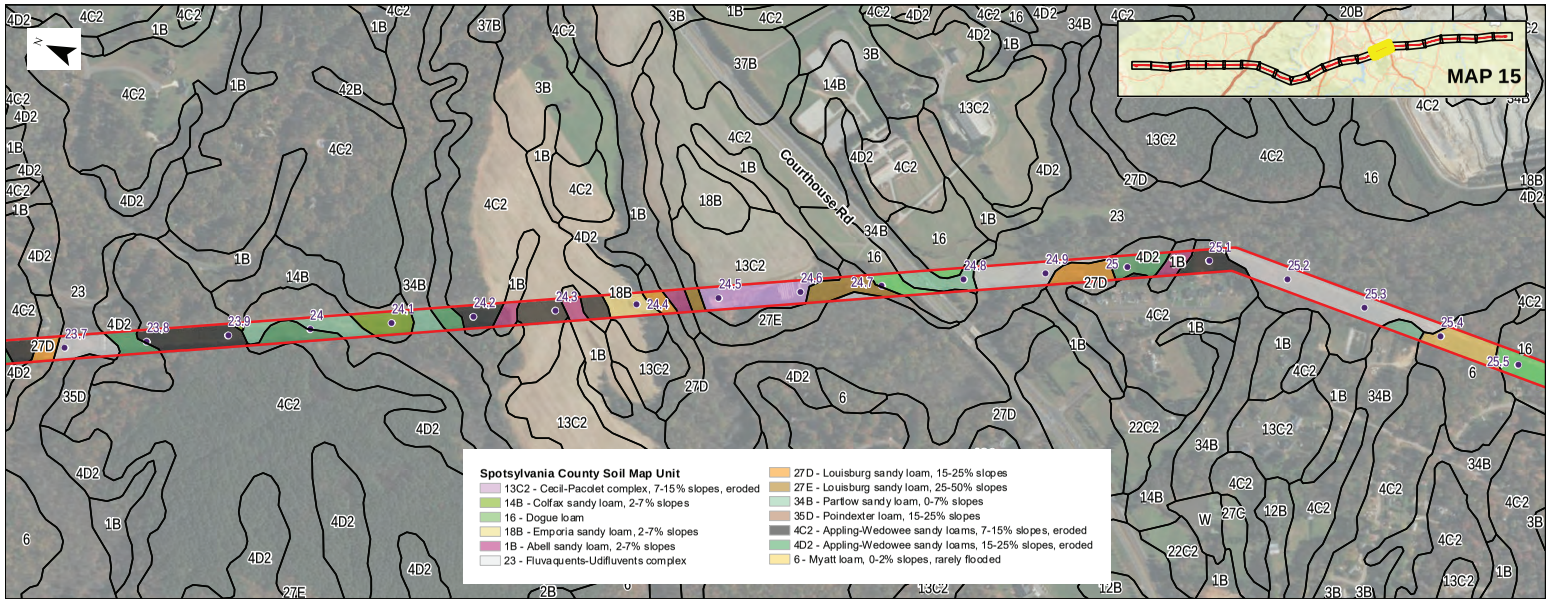
Study Area

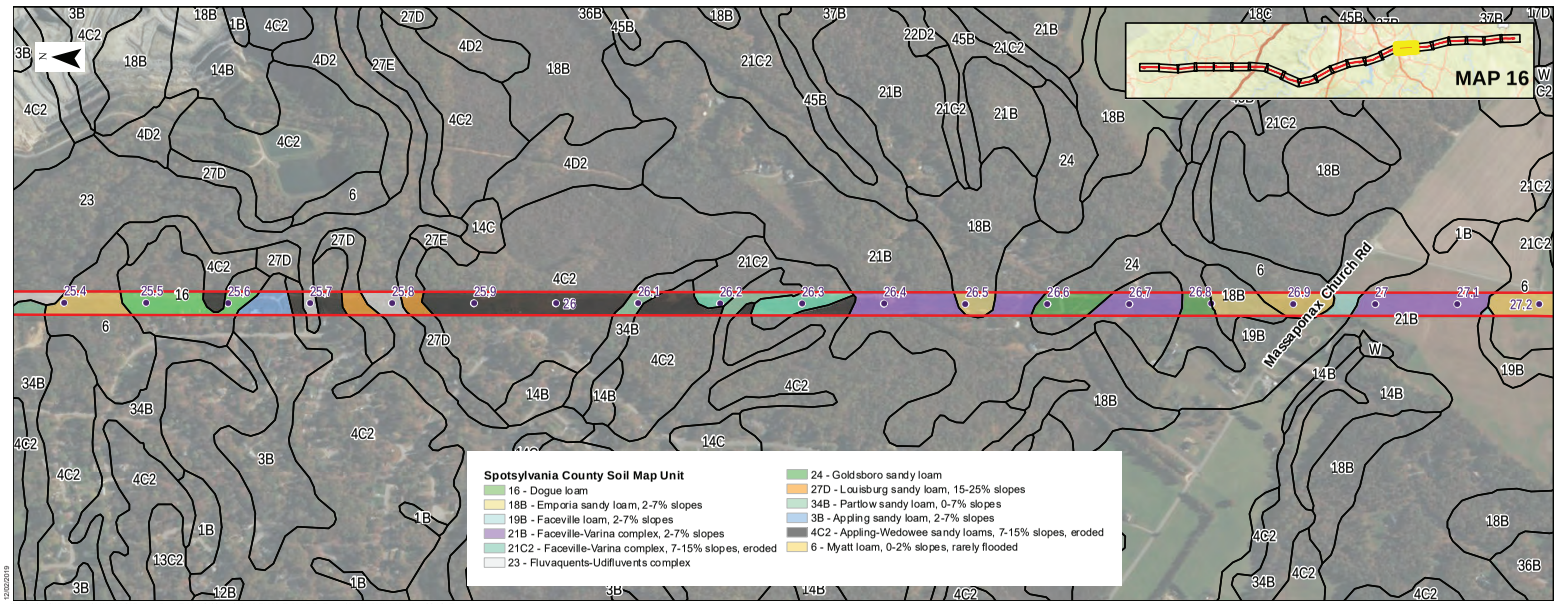
Soil Map Unit Boundary

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. NRCS Soils Survey Data for Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia
3. Inset Map Source: ESRI Open Streets Basemap Layer



SOILS SHEET 7 OF 11





\\vhb\gis\proj\Williamsburg\34465.00 C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_SOILS_Figures

FIGURE 3.
Soils Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

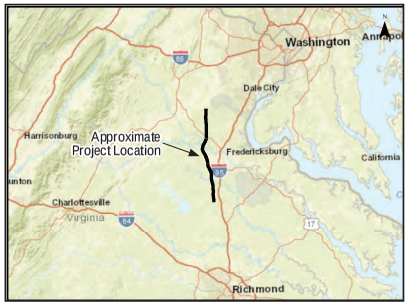
Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

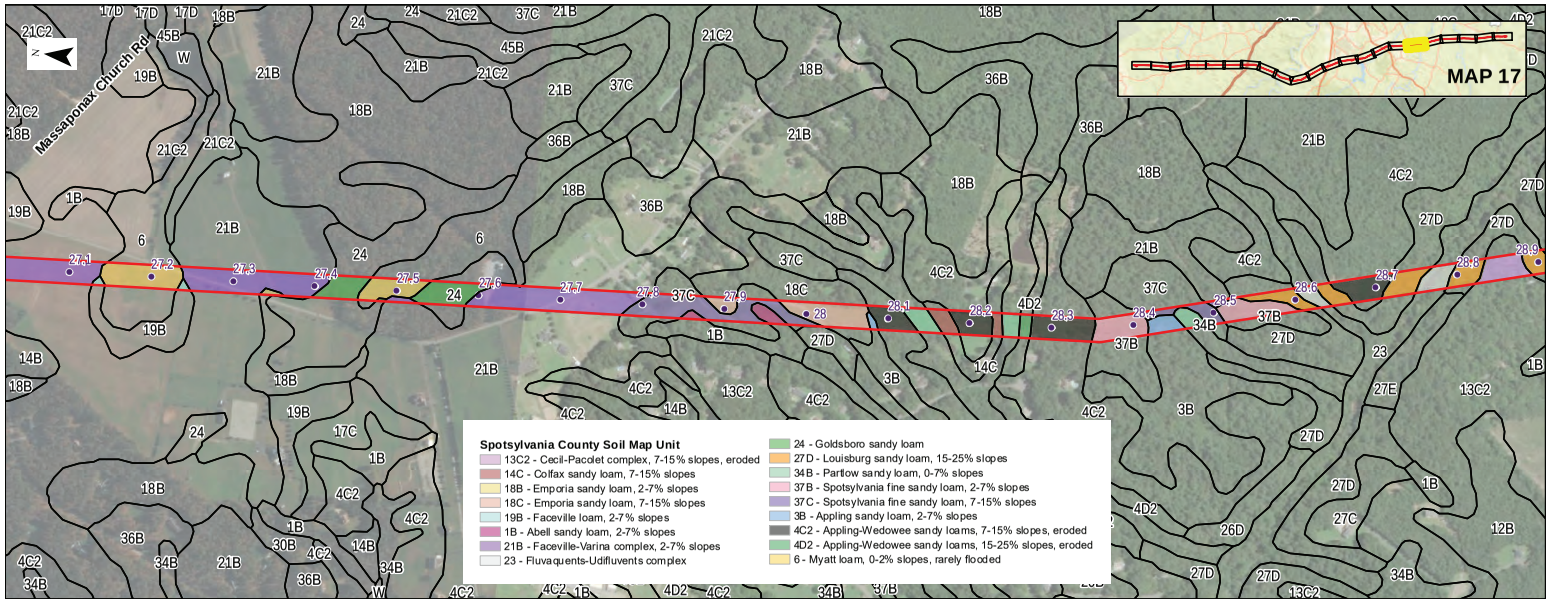
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Scale is 1 in = 800 FT when printed at original size of 11x17

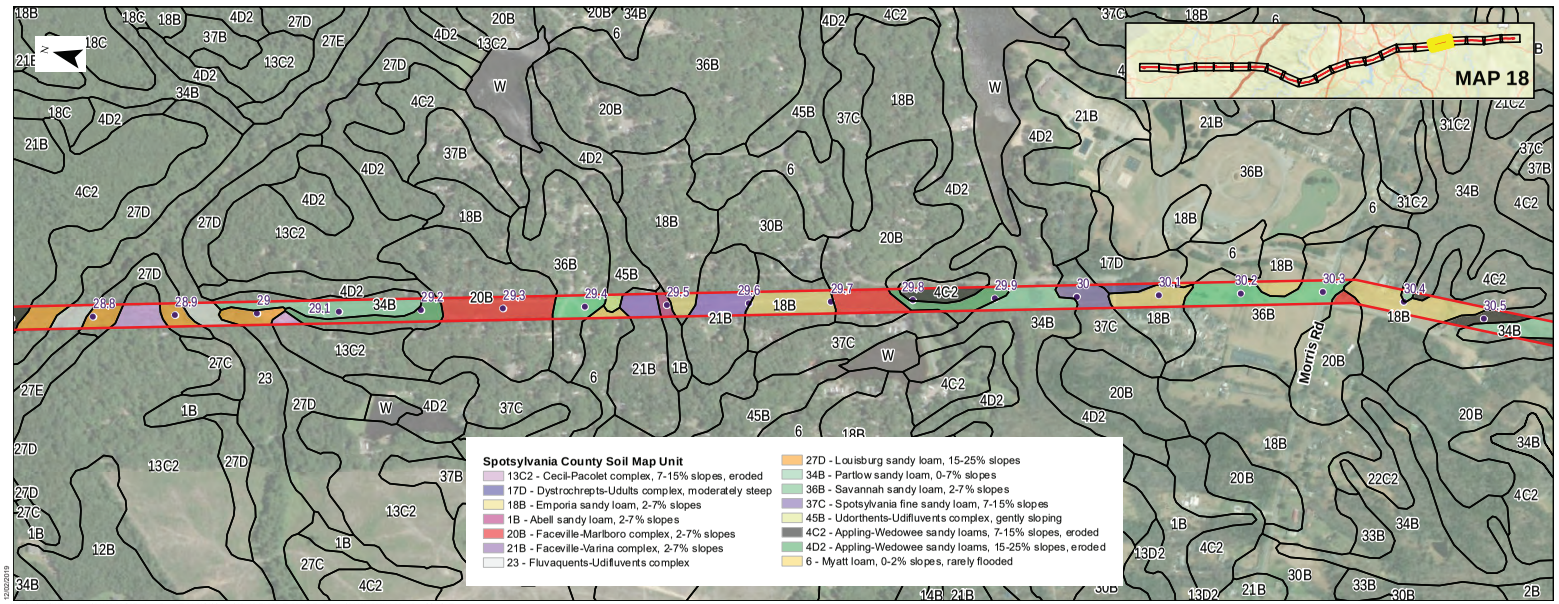
SITE DATA
- Study Area
- Soil Map Unit Boundary

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. NRCS Soils Survey Data for Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia
3. Inset Map Source: ESRI Open Streets Basemap Layer



SOILS SHEET 8 OF 11





\\vhb\gis\proj\Williamsburg\34465.00 C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_SOILS_Figures

FIGURE 3.

Soils Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

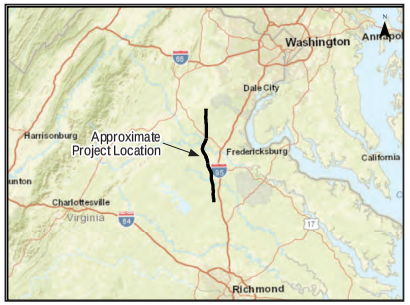
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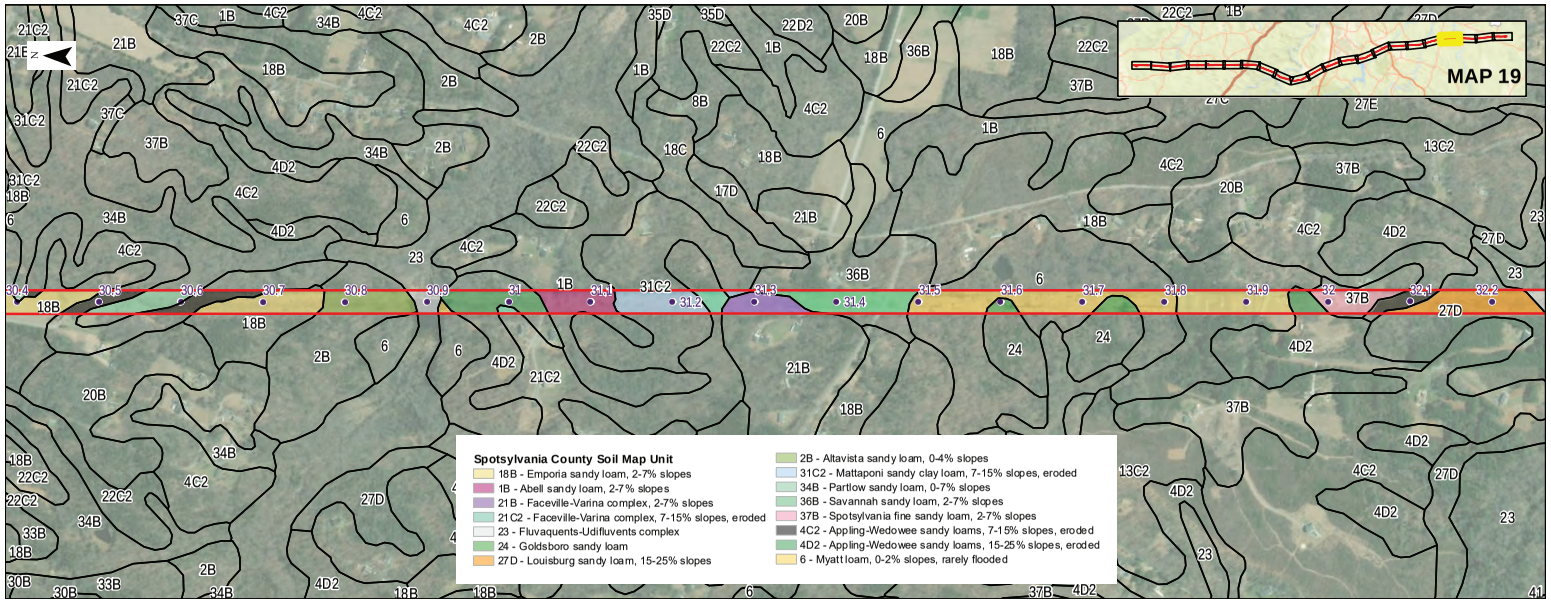
Study Area

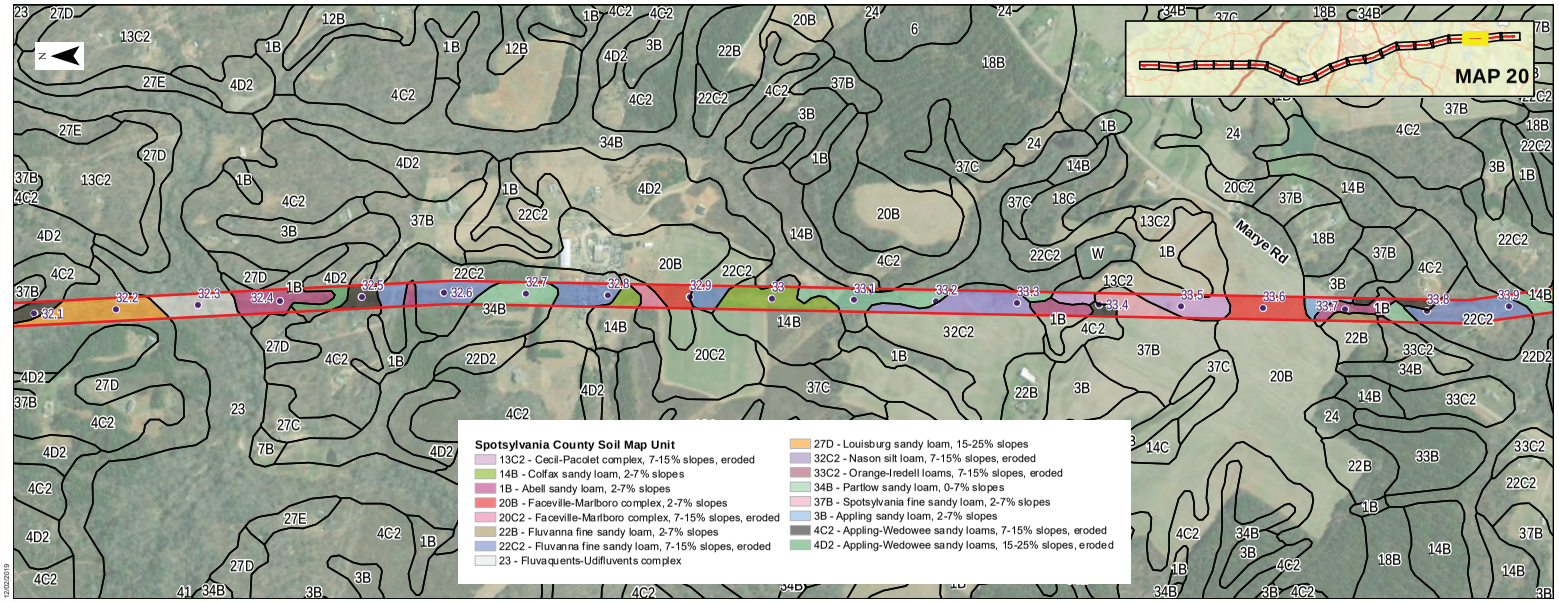
Soil Map Unit Boundary

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. NRCS Soils Survey Data for Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia
3. Inset Map Source: ESRI Open Streets Basemap Layer



SOILS SHEET 9 OF 11





\\vhb\gis\proj\Williamsburg\34465.00 C2Environ_Dom_BNV_MSA\Output\18_19_TL552_TL581_P JD_Figures\34465_500kV_35_miler_SOILS_Figures

FIGURE 3.

Soils Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

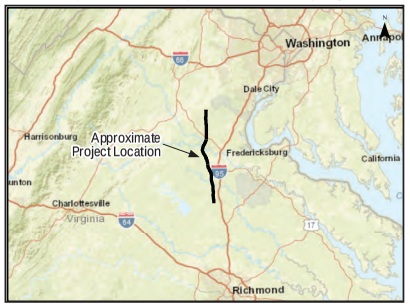
Scale is 1 in = 800 FT when printed at original size of 11x17

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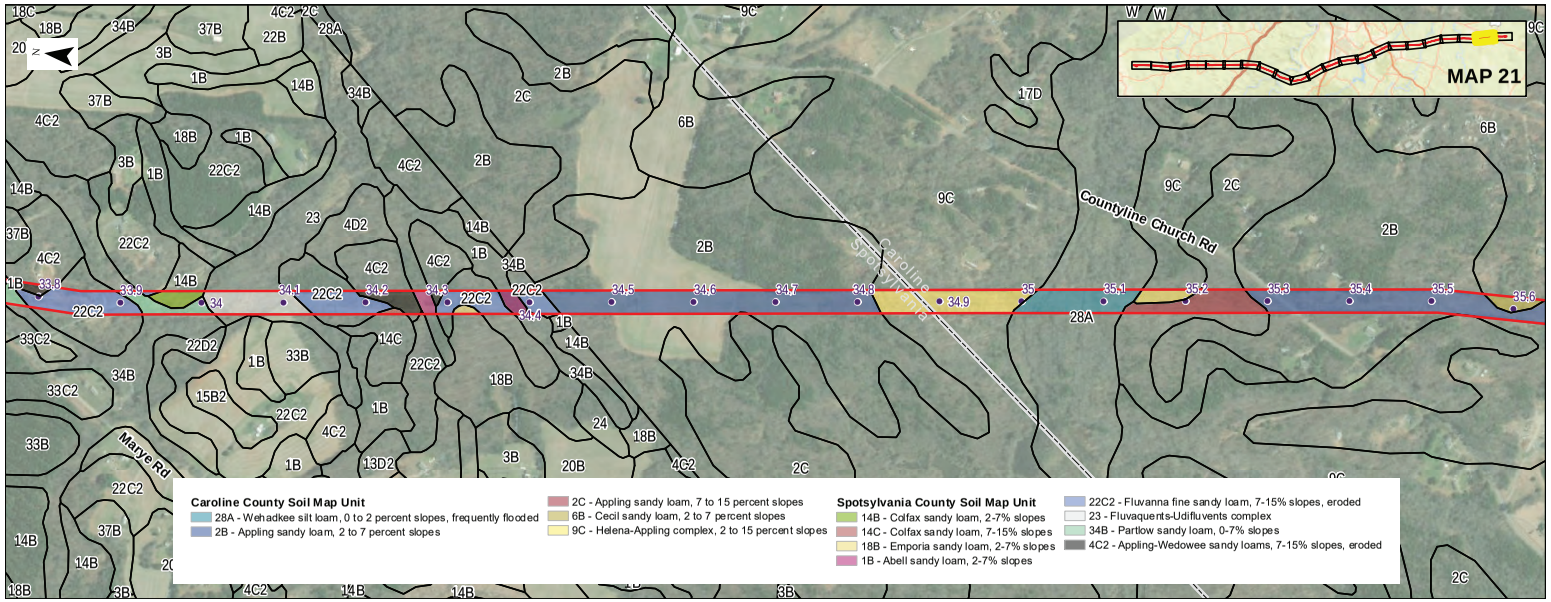
Study Area

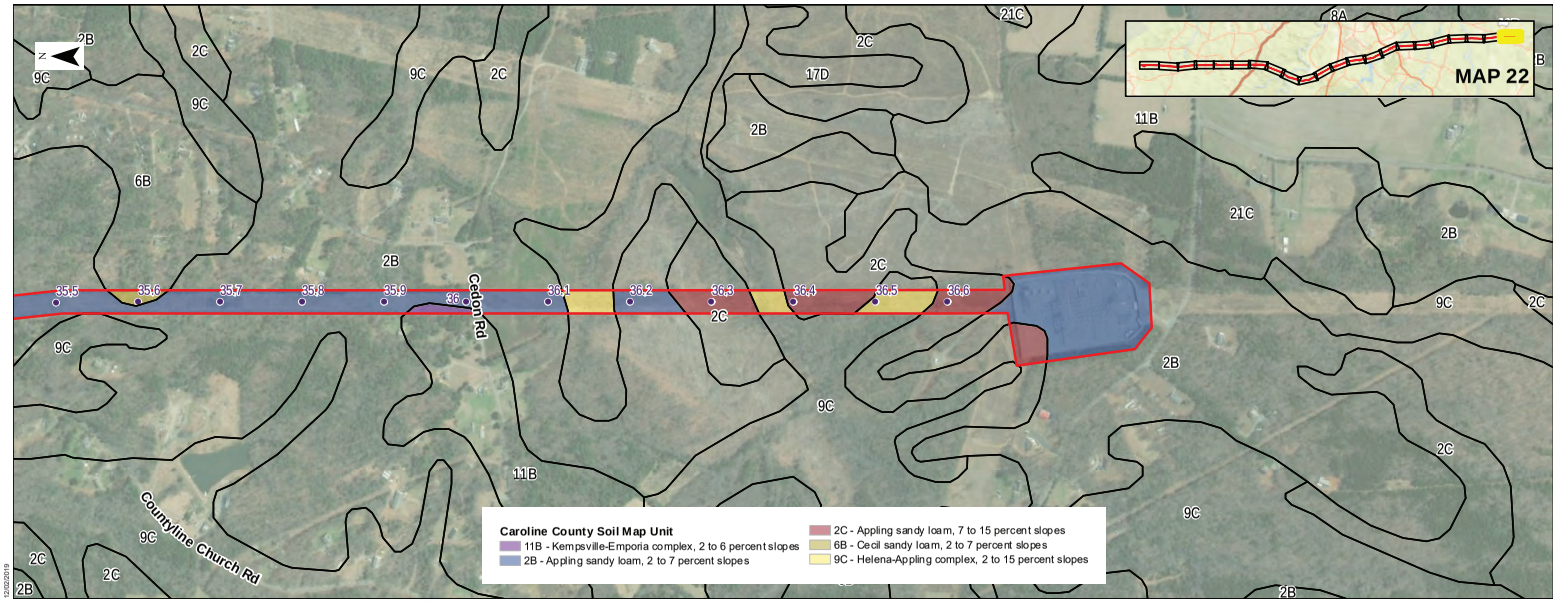
Soil Map Unit Boundary

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. NRCS Soils Survey Data for Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia
3. Inset Map Source: ESRI Open Streets Basemap Layer



SOILS SHEET 10 OF 11





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FIGURE 3.

Soils Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

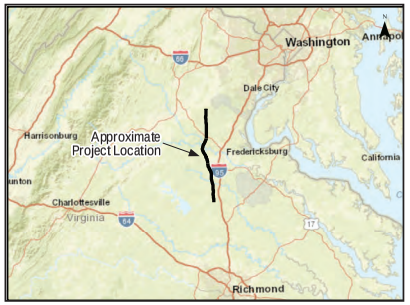
Scale is 1 in = 800 FT when printed at original size of 11x17

SITE DATA

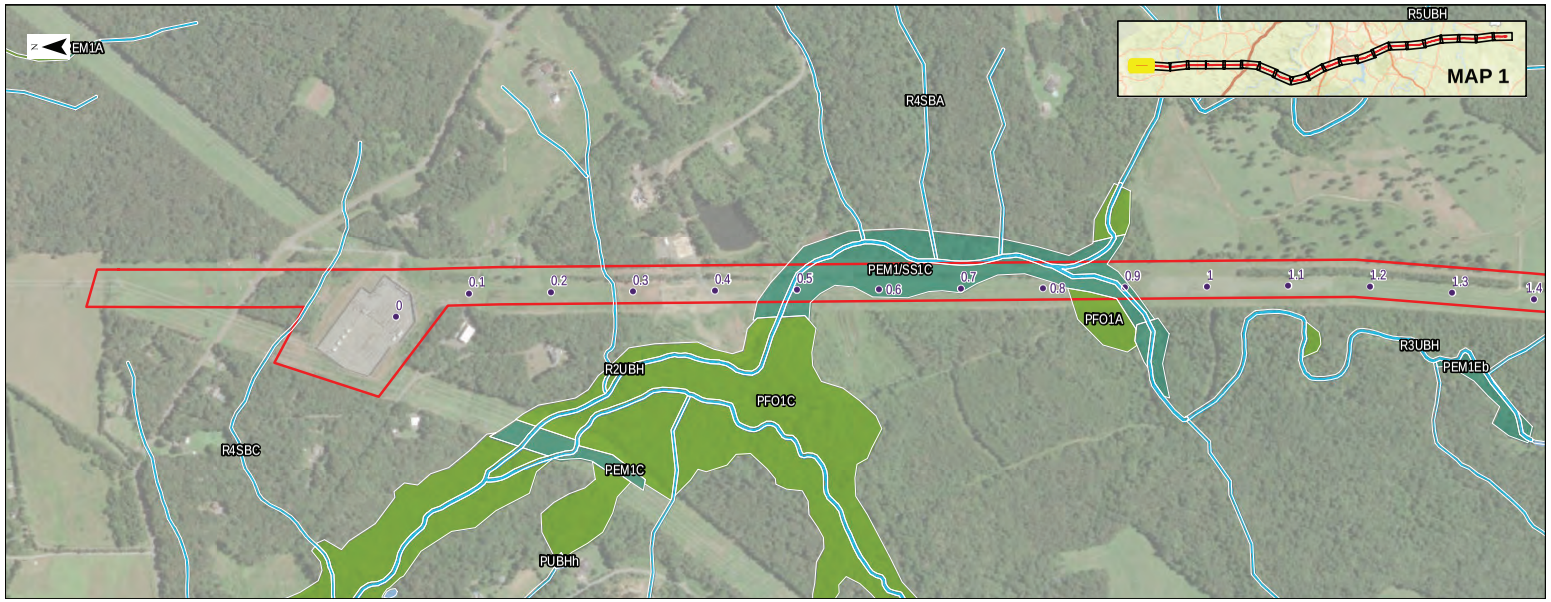
Study Area

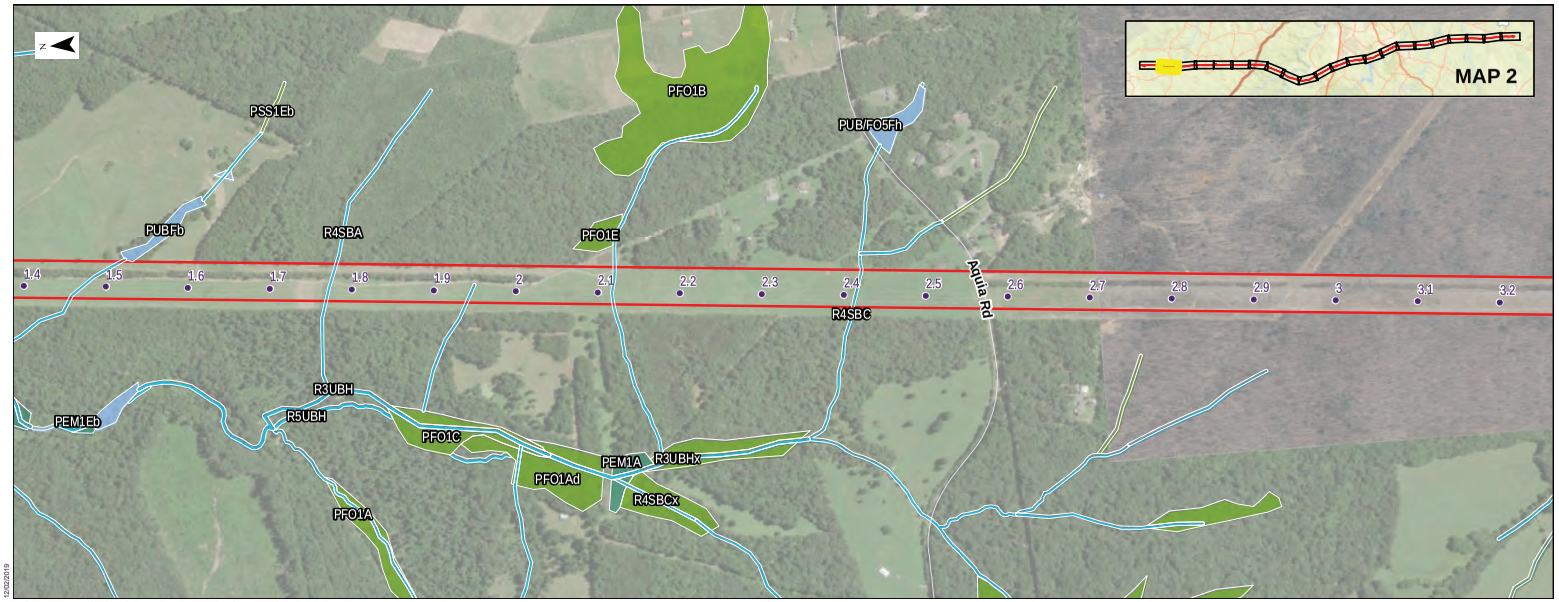
Soil Map Unit Boundary

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. NRCS Soils Survey Data for Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia
3. Inset Map Source: ESRI Open Streets Basemap Layer



SOILS SHEET 11 OF 11





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12/02/2019

FIGURE 4.

National Wetland Inventory Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

Scale is 1 in = 800 FT when printed at original size of 11x17

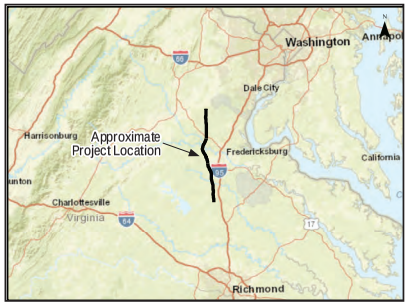
SITE DATA

- Study Area

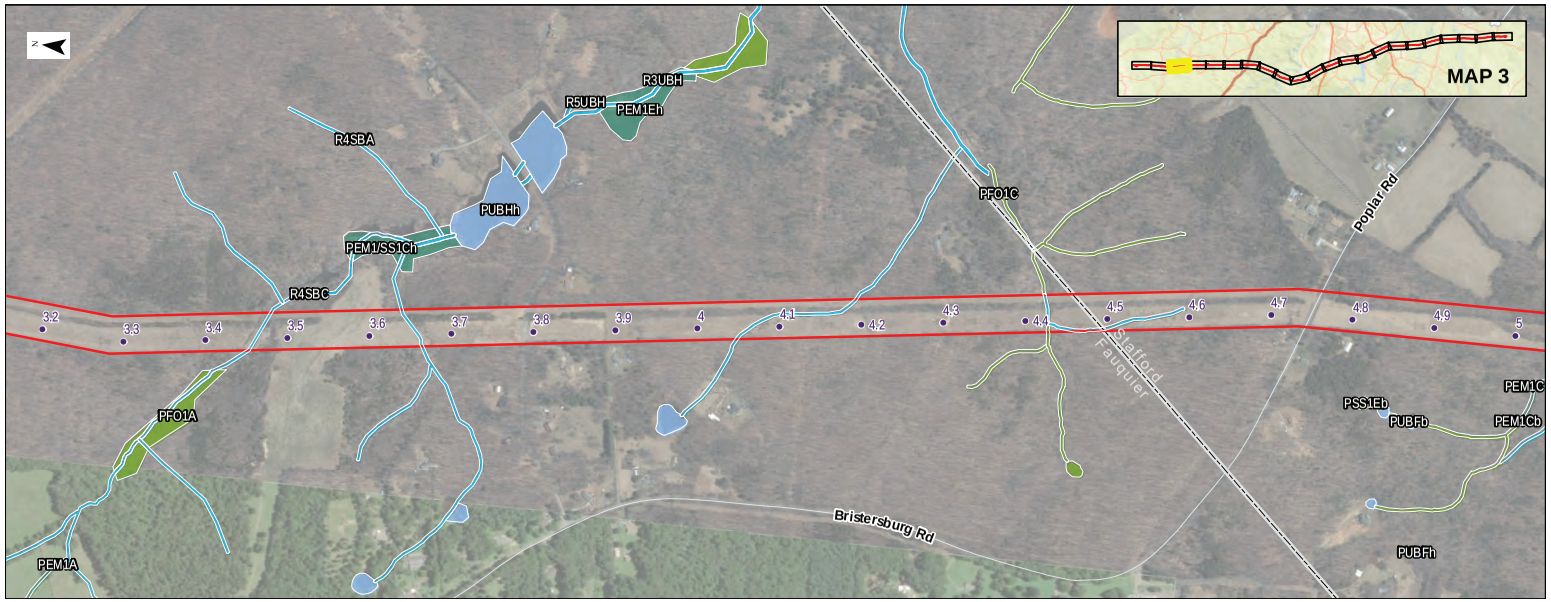
National Wetland Inventory Data

- Estaurine and Marine Deepwater
- Estaurine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. USFWS National Wetland Inventory Data
3. Inset Map Source: ESRI Open Streets Basemap Layer



NWI SHEET 1 OF 11



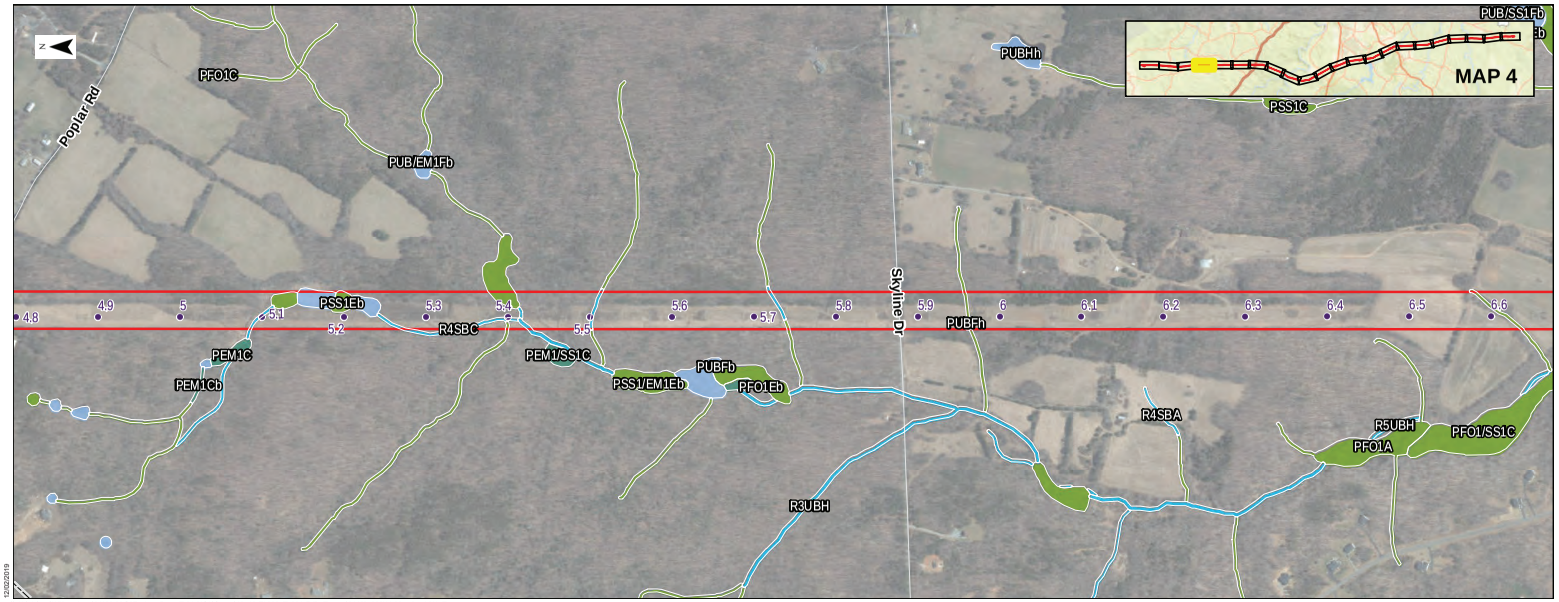


FIGURE 4.

National Wetland Inventory Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

Scale is 1 in = 800 FT when printed at original size of 11x17

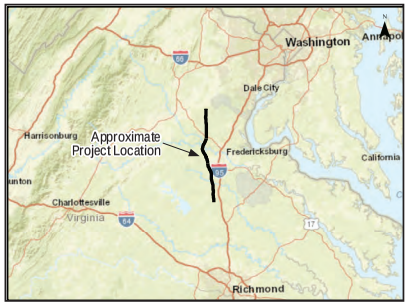
SITE DATA

Study Area

National Wetland Inventory Data

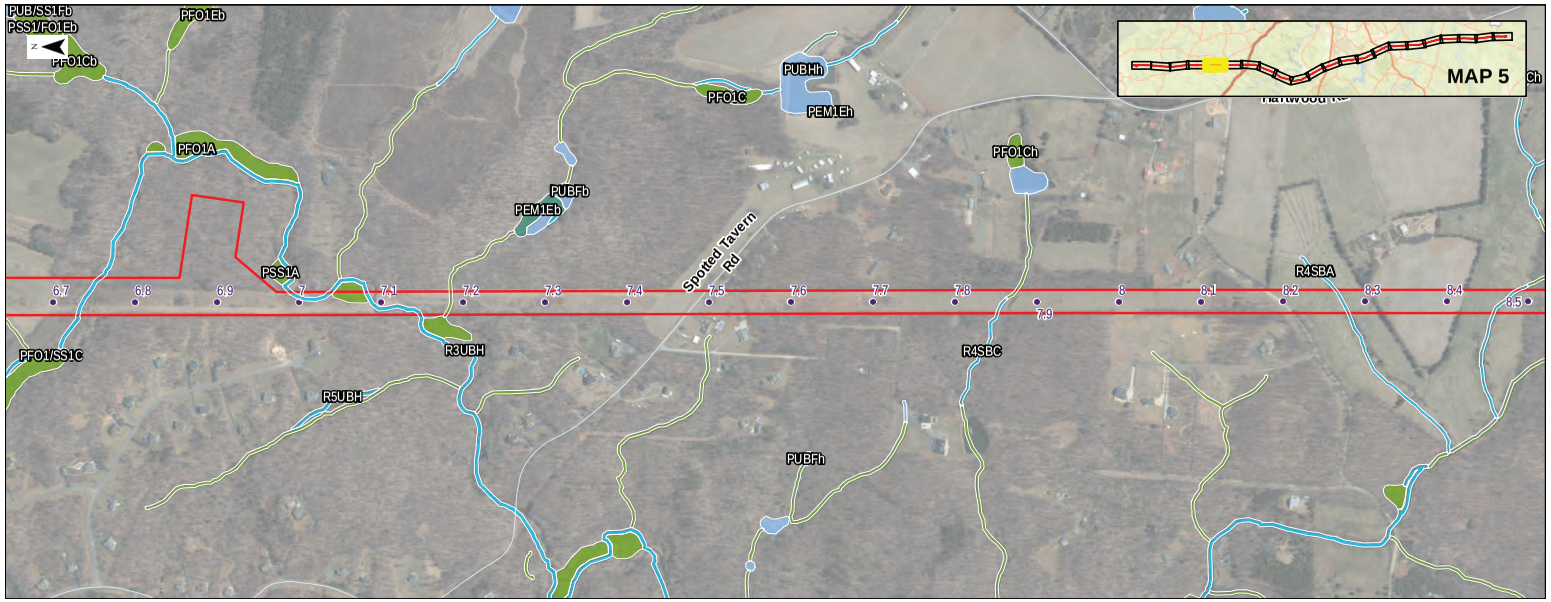
- Estaurine and Marine Deepwater
- Estaurine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

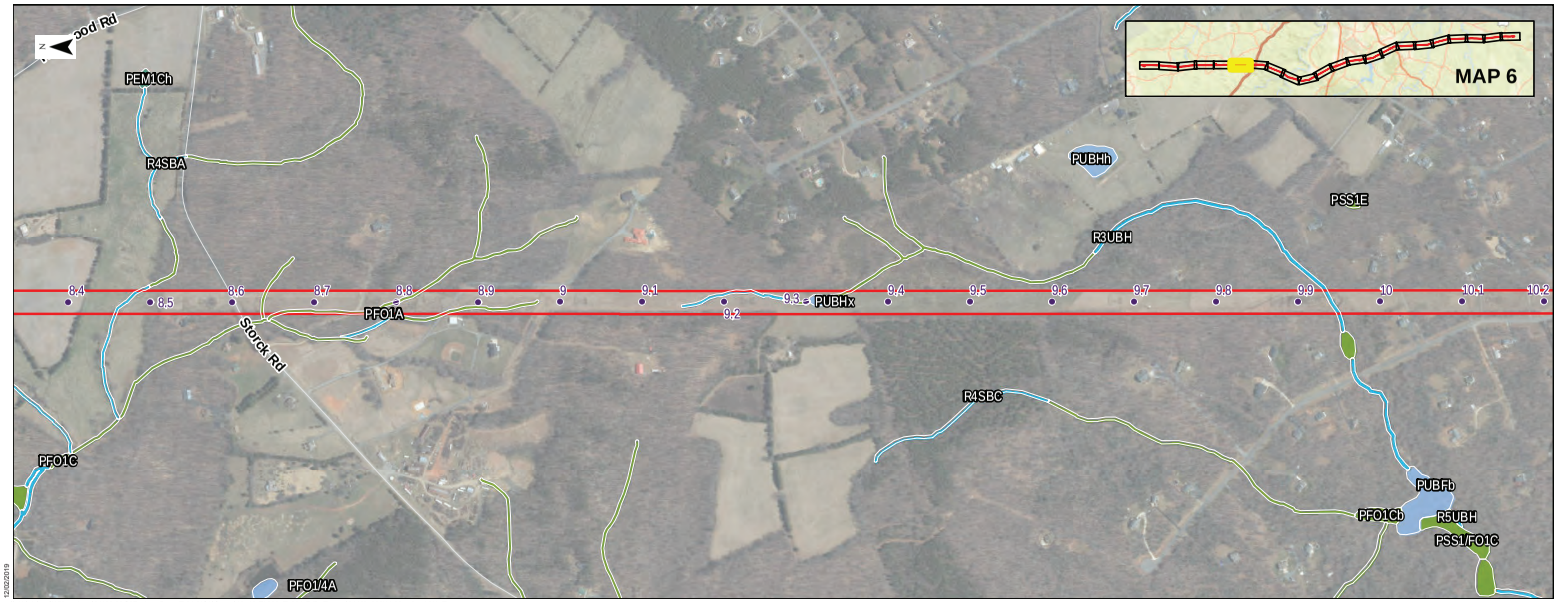
Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. USFWS National Wetland Inventory Data
3. Inset Map Source: ESRI Open Streets Basemap Layer



NWI SHEET 2 OF 11

\\vhb\gis\proj\Williamsburg\34465.00 C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_NWI_Figures





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FIGURE 4.

National Wetland Inventory Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

Scale is 1 in = 800 FT when printed at original size of 11x17

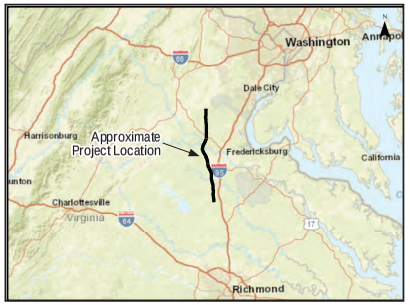
SITE DATA

Study Area

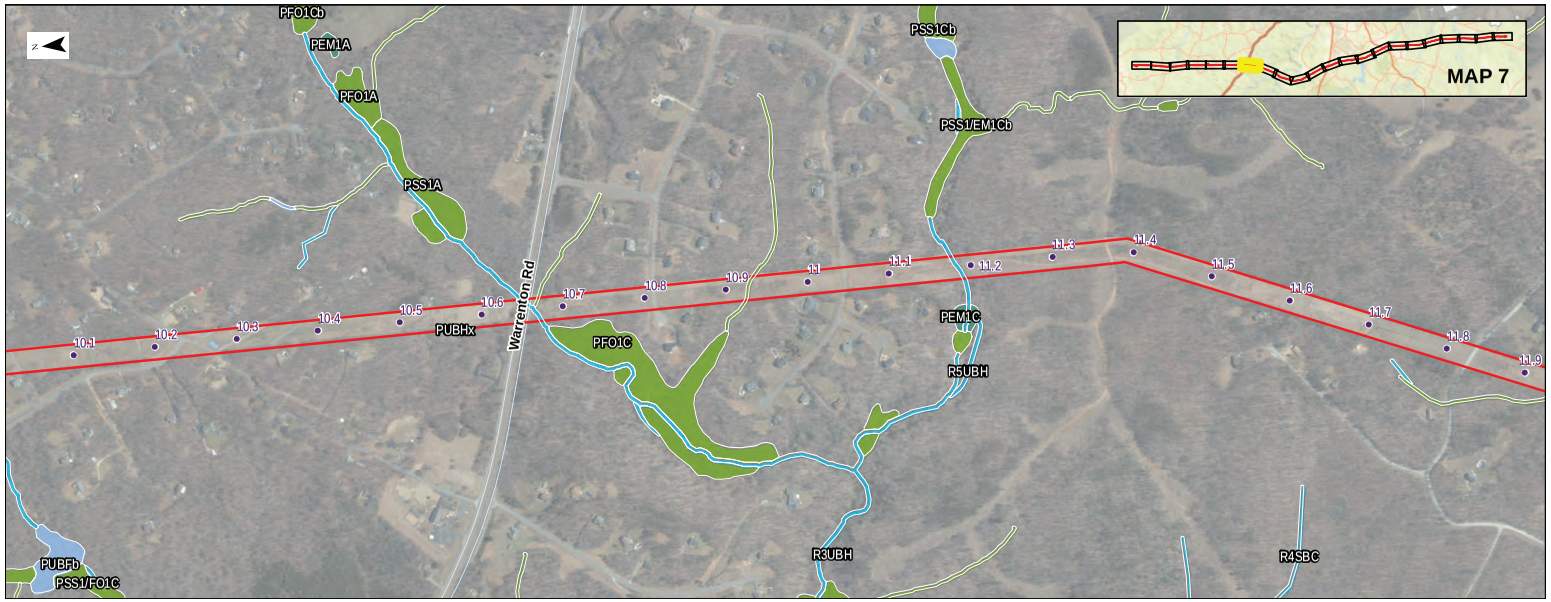
National Wetland Inventory Data

- Estaurine and Marine Deepwater
- Estaurine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. USFWS National Wetland Inventory Data
3. Inset Map Source: ESRI Open Streets Basemap Layer



NWI SHEET 3 OF 11



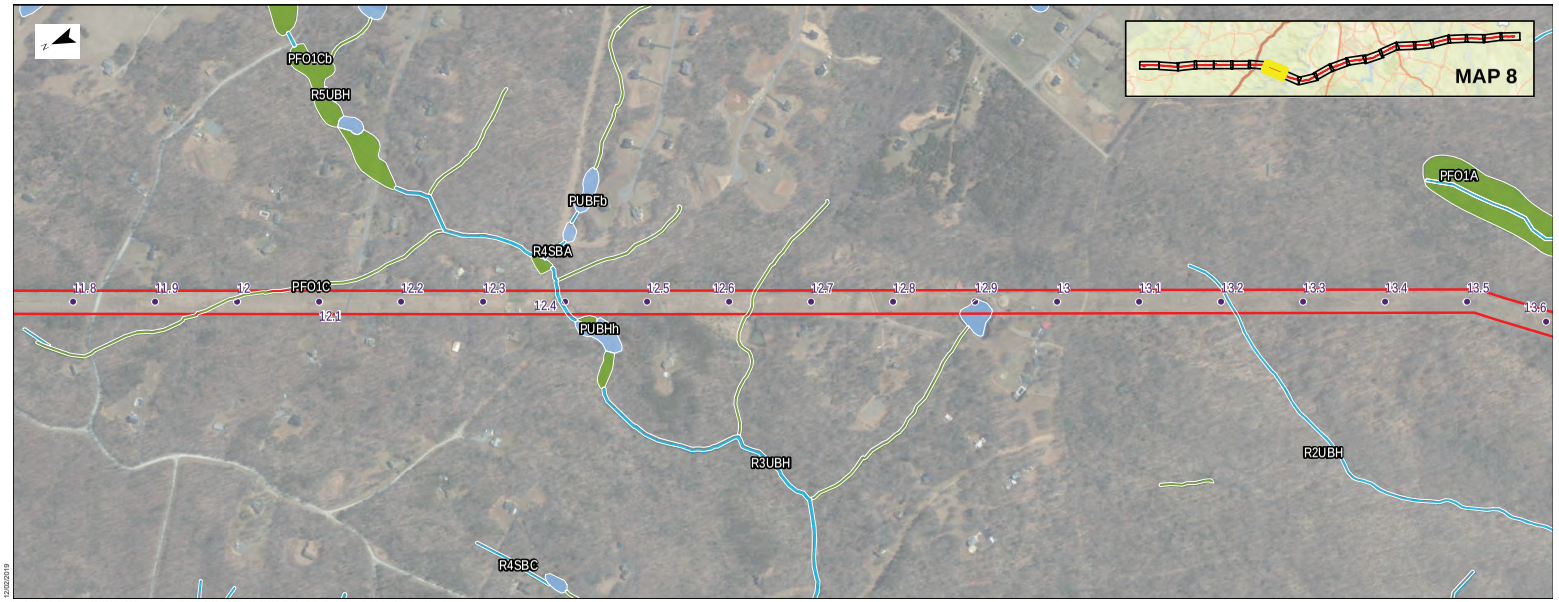


FIGURE 4.

National Wetland Inventory Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

Scale is 1 in = 800 FT when printed at original size of 11x17

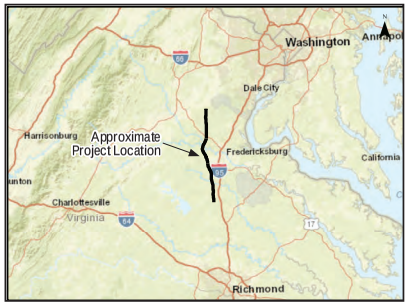
SITE DATA

- Study Area

National Wetland Inventory Data

- Estaurine and Marine Deepwater
- Estaurine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

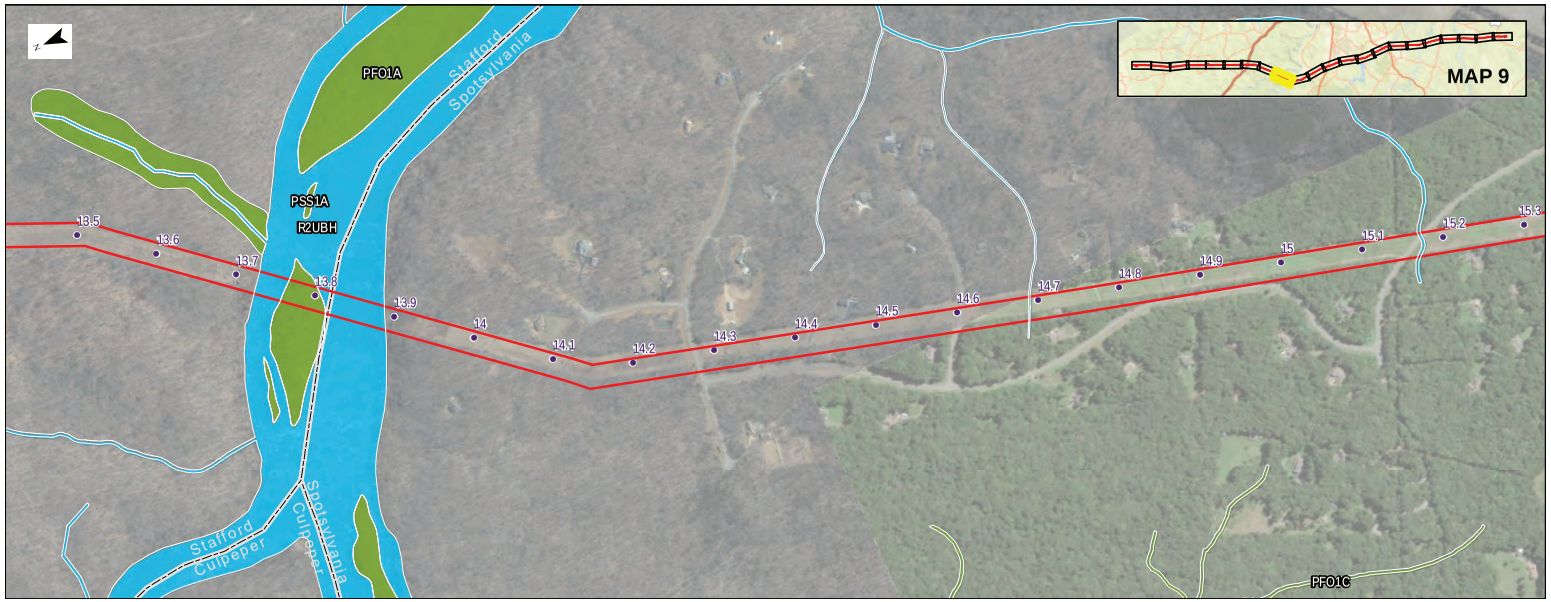
Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. USFWS National Wetland Inventory Data
3. Inset Map Source: ESRI Open Streets Basemap Layer

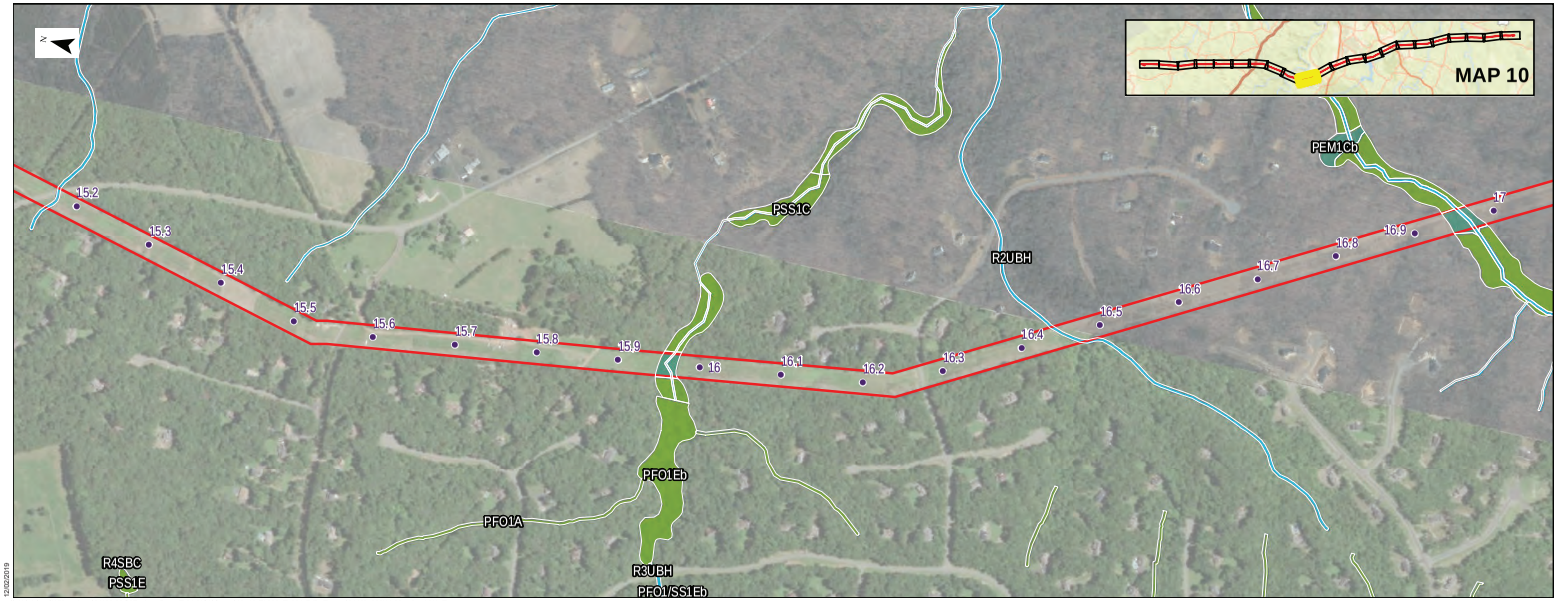


NWI SHEET 4 OF 11

\\vhb\gis\proj\Williamsburg\34465.00 C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_NWI_Figures

12/02/2019





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12/02/2019

FIGURE 4.

National Wetland Inventory Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

Scale is 1 in = 800 FT when printed at original size of 11x17

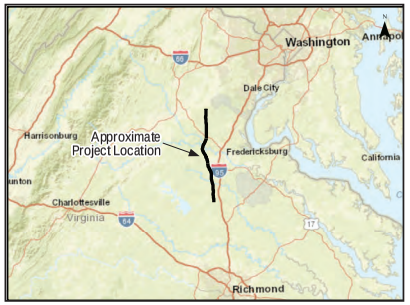
SITE DATA

Study Area

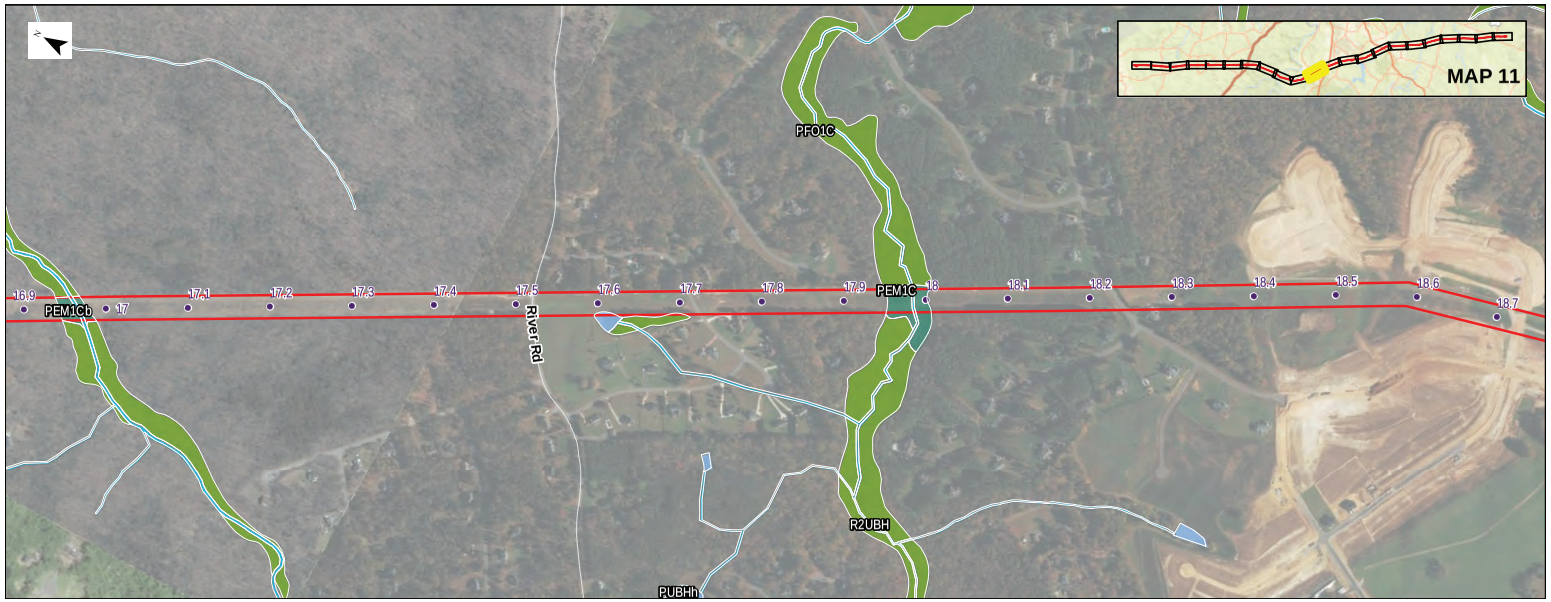
National Wetland Inventory Data

- Estaurine and Marine Deepwater
- Estaurine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. USFWS National Wetland Inventory Data
3. Inset Map Source: ESRI Open Streets Basemap Layer



NWI SHEET 5 OF 11



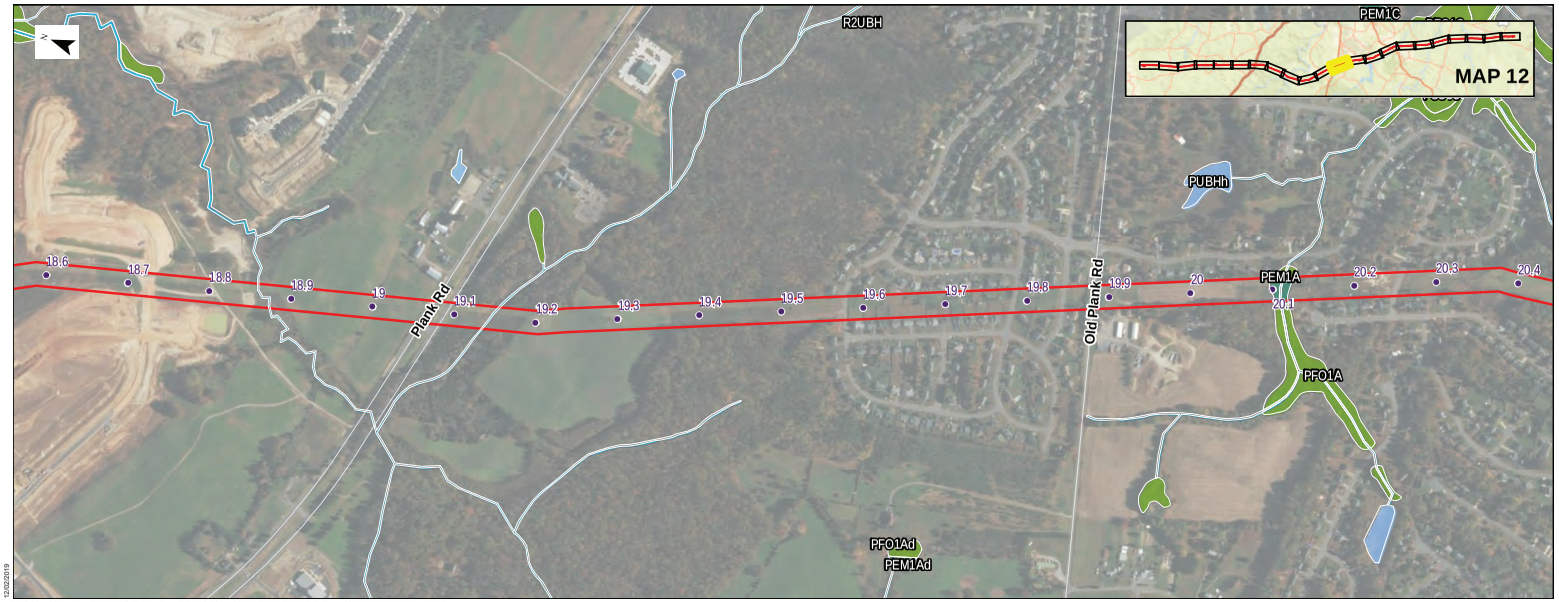


FIGURE 4.

National Wetland Inventory Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

Scale is 1 in = 800 FT when printed at original size of 11x17

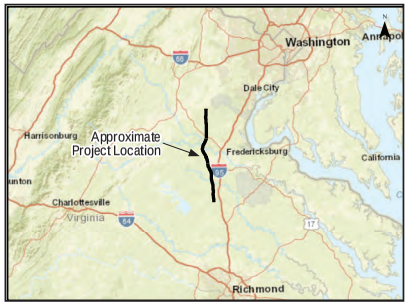
SITE DATA

- Study Area

National Wetland Inventory Data

- Estaurine and Marine Deepwater
- Estaurine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

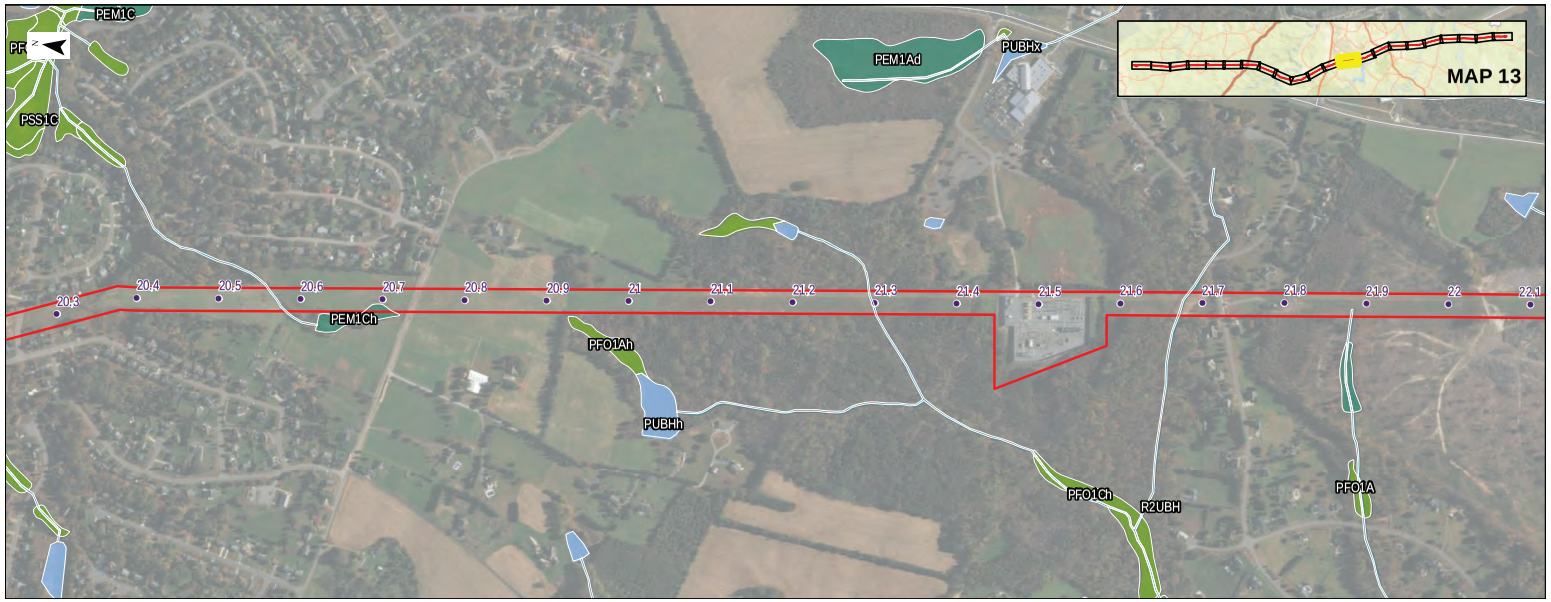
Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. USFWS National Wetland Inventory Data
3. Inset Map Source: ESRI Open Streets Basemap Layer

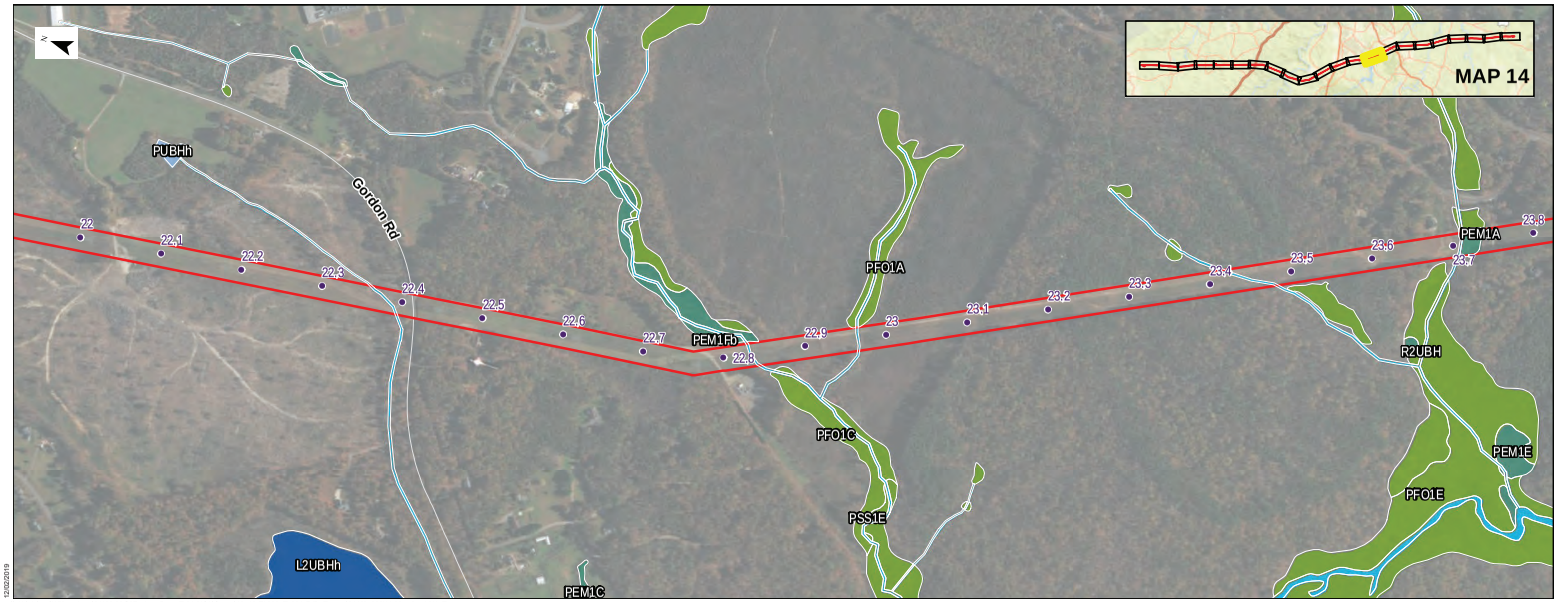


NWI SHEET 6 OF 11

\\vhb\gis\proj\Williamsburg\34465.00 C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_NWI_Figures

12/02/2019





\\vhb\gis\proj\Williamsburg\34465.00 C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_NWI_Figures

FIGURE 4.

National Wetland Inventory Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

Scale is 1 in = 800 FT when printed at original size of 11x17

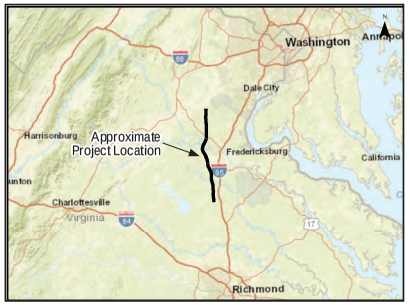
SITE DATA

- Study Area

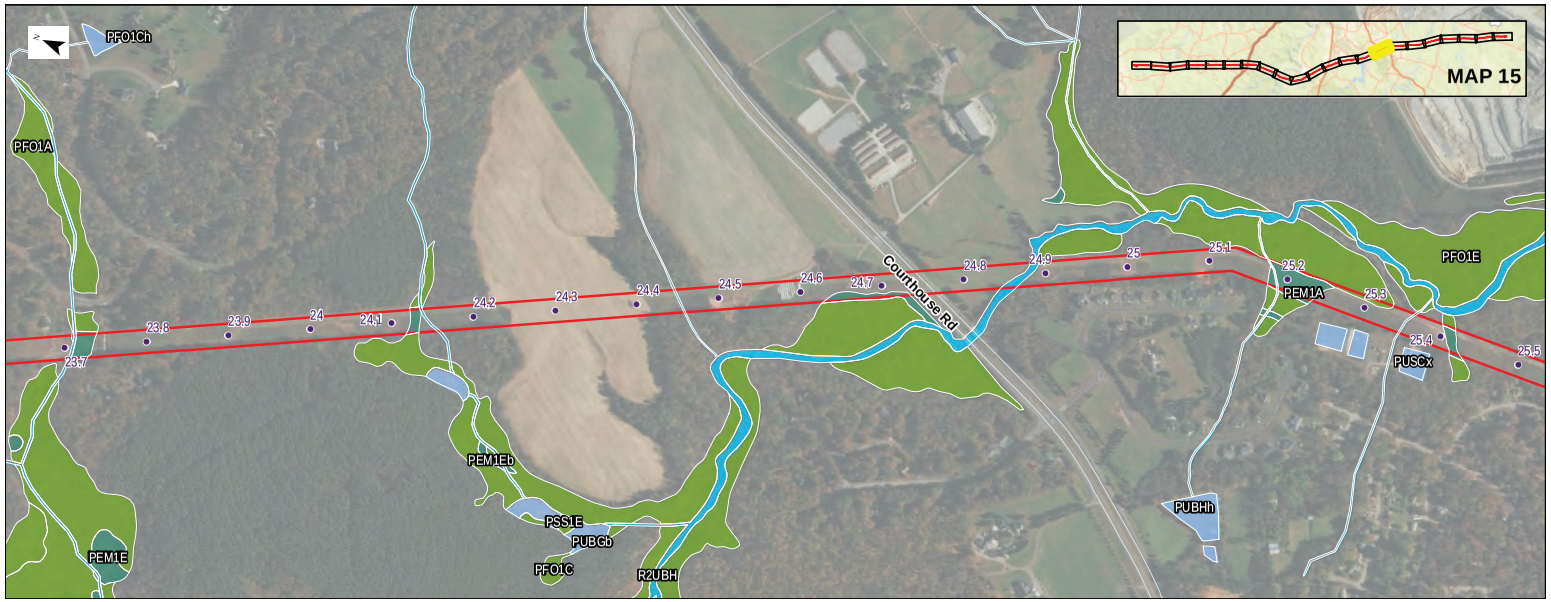
National Wetland Inventory Data

- Estaurine and Marine Deepwater
- Estaurine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. USFWS National Wetland Inventory Data
3. Inset Map Source: ESRI Open Streets Basemap Layer



NWI SHEET 7 OF 11





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FIGURE 4.

National Wetland Inventory Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

Scale is 1 in = 800 FT when printed at original size of 11x17

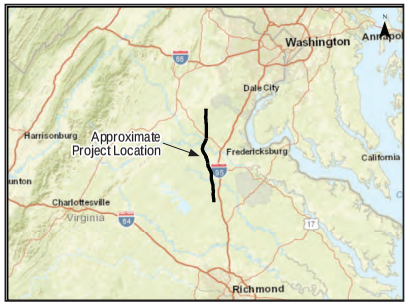
SITE DATA

- Study Area

National Wetland Inventory Data

- Estaurine and Marine Deepwater
- Estaurine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. USFWS National Wetland Inventory Data
3. Inset Map Source: ESRI Open Streets Basemap Layer



NWI SHEET 8 OF 11



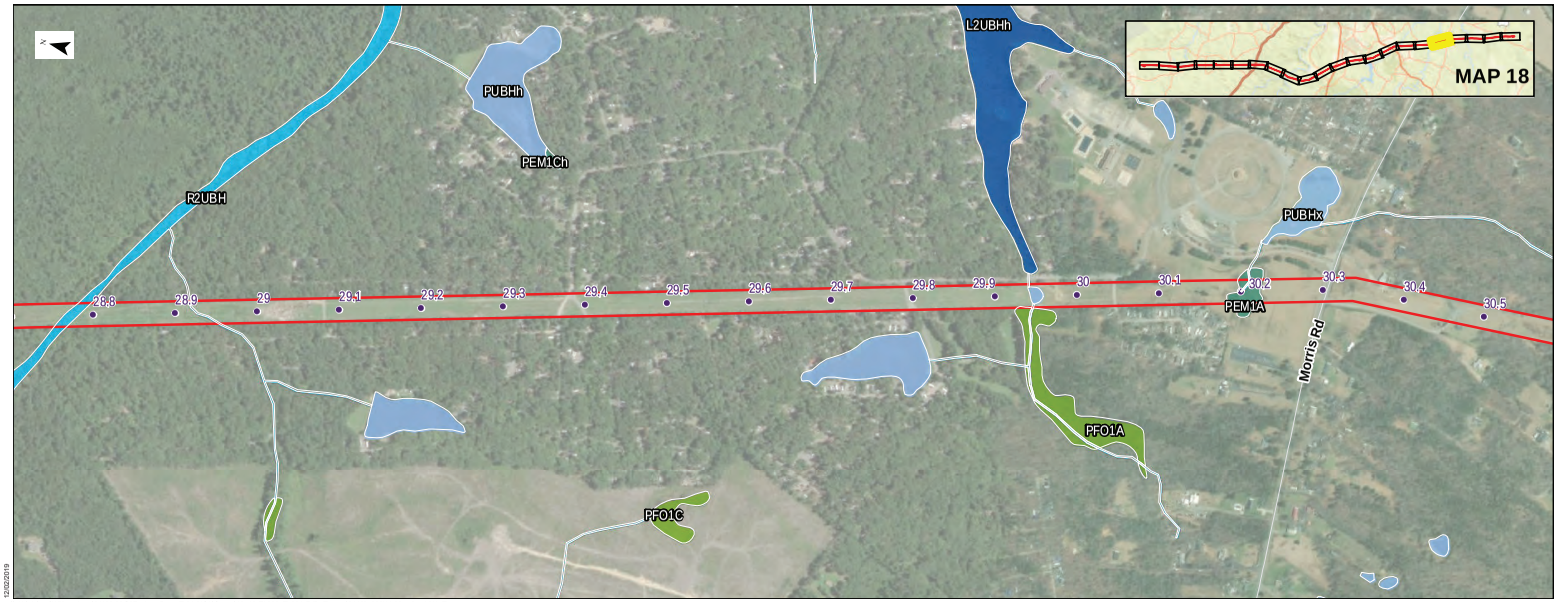


FIGURE 4.

National Wetland Inventory Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

Scale is 1 in = 800 FT when printed at original size of 11x17

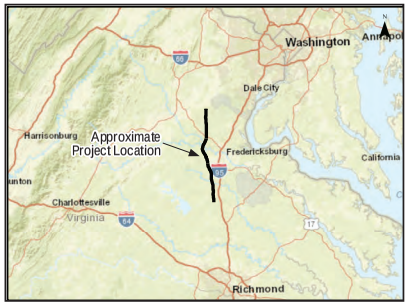
SITE DATA

- Study Area

National Wetland Inventory Data

- Estaurine and Marine Deepwater
- Estaurine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

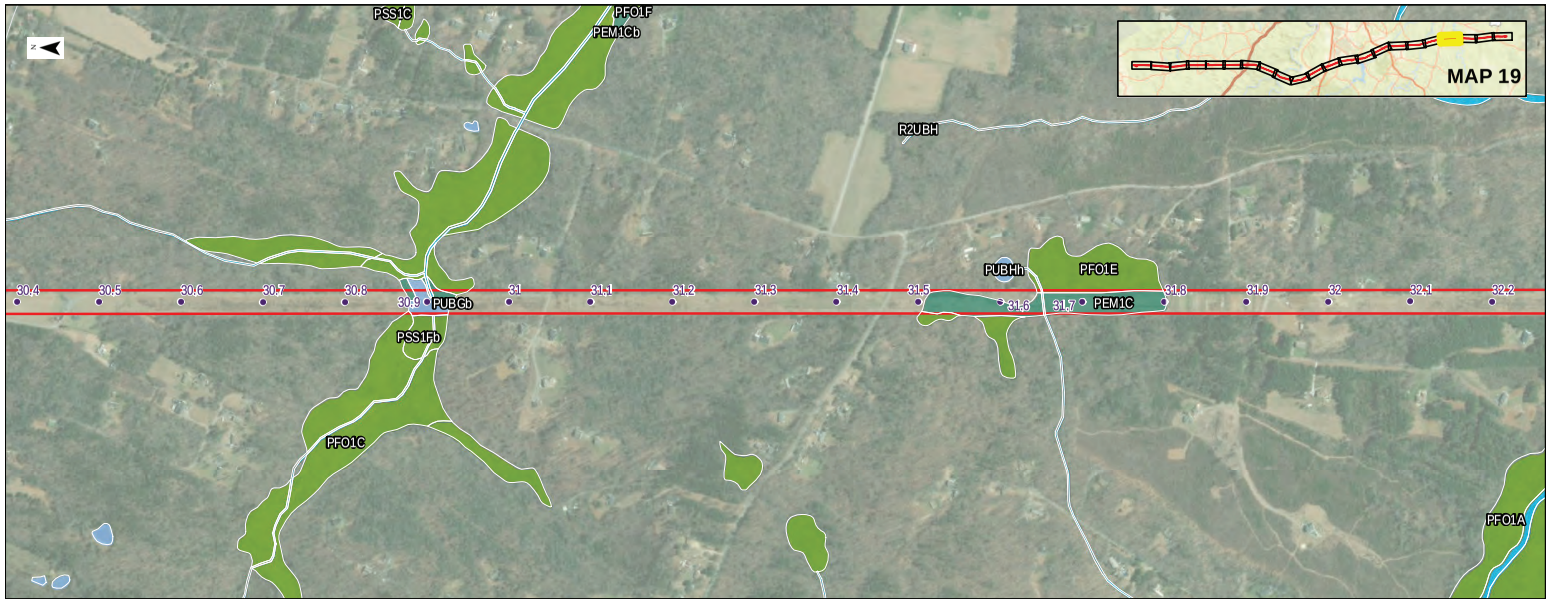
Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. USFWS National Wetland Inventory Data
3. Inset Map Source: ESRI Open Streets Basemap Layer

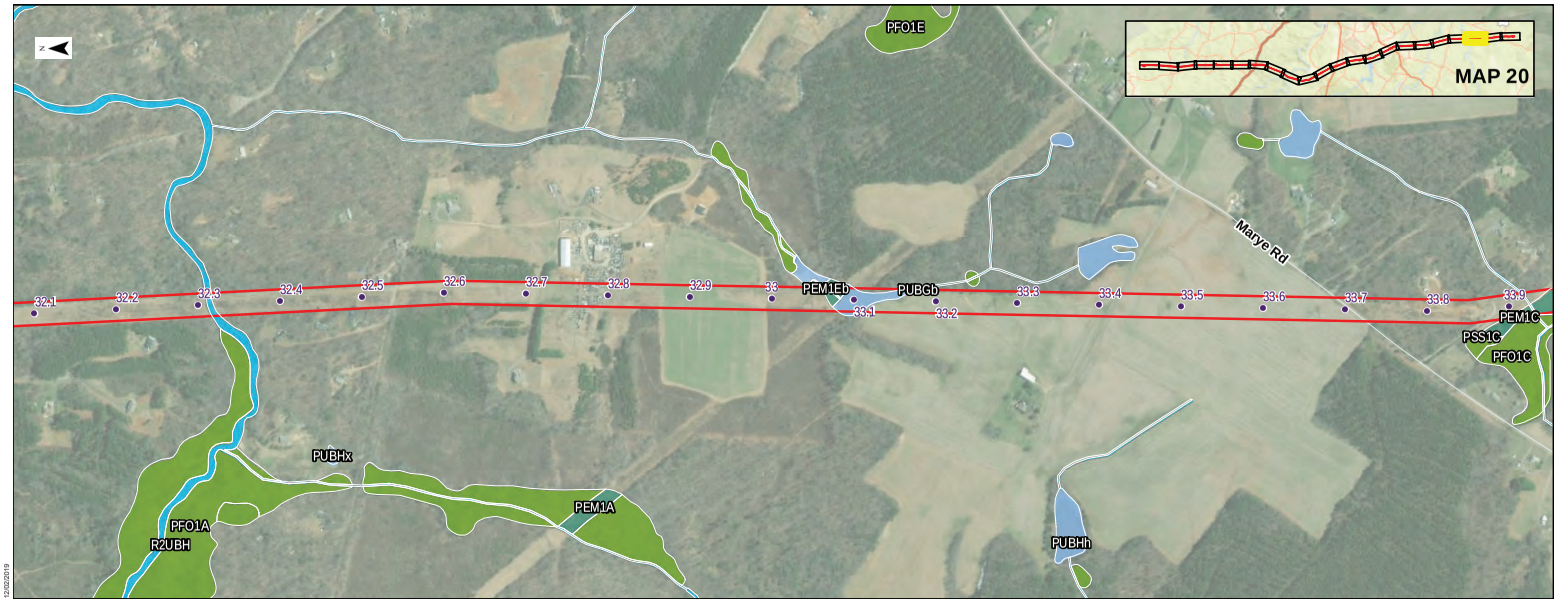


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12/02/2019

FIGURE 4.

National Wetland Inventory Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

Scale is 1 in = 800 FT when printed at original size of 11x17

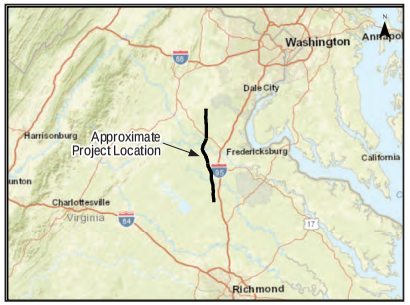
SITE DATA

Study Area

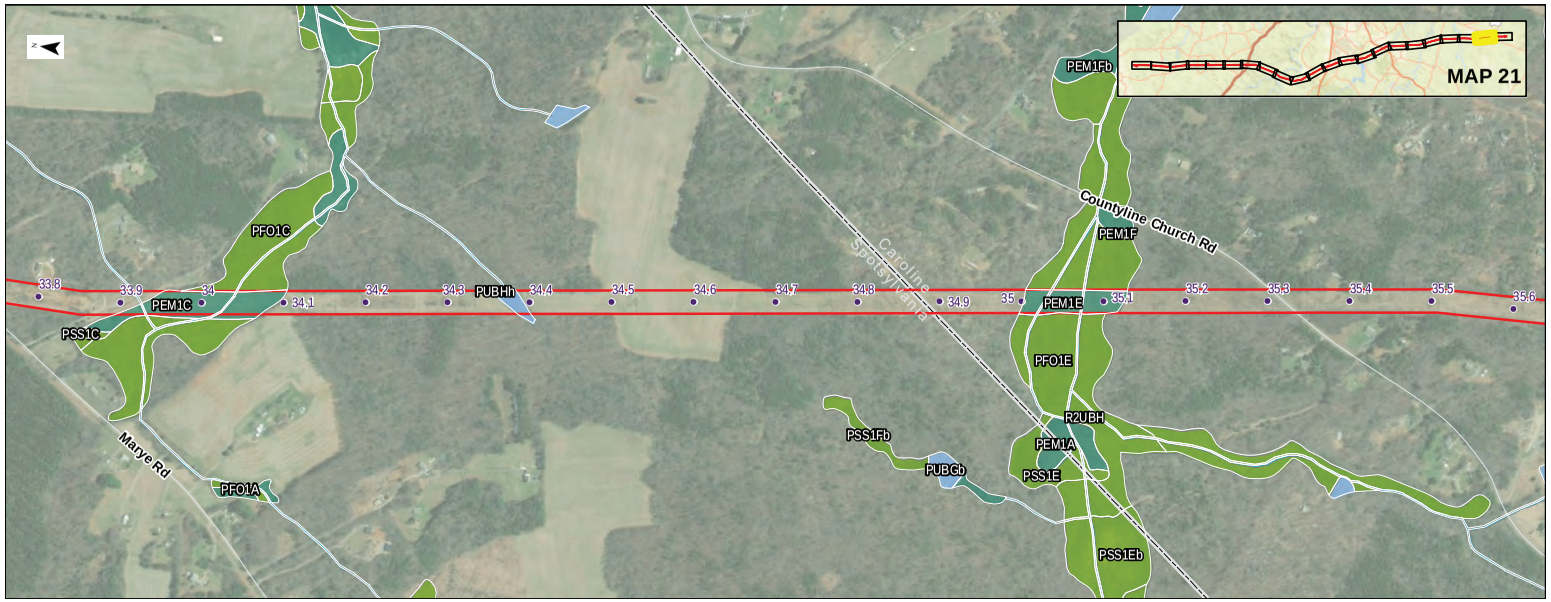
National Wetland Inventory Data

- Estaurine and Marine Deepwater
- Estaurine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. USFWS National Wetland Inventory Data
3. Inset Map Source: ESRI Open Streets Basemap Layer



NWI SHEET 10 OF 11



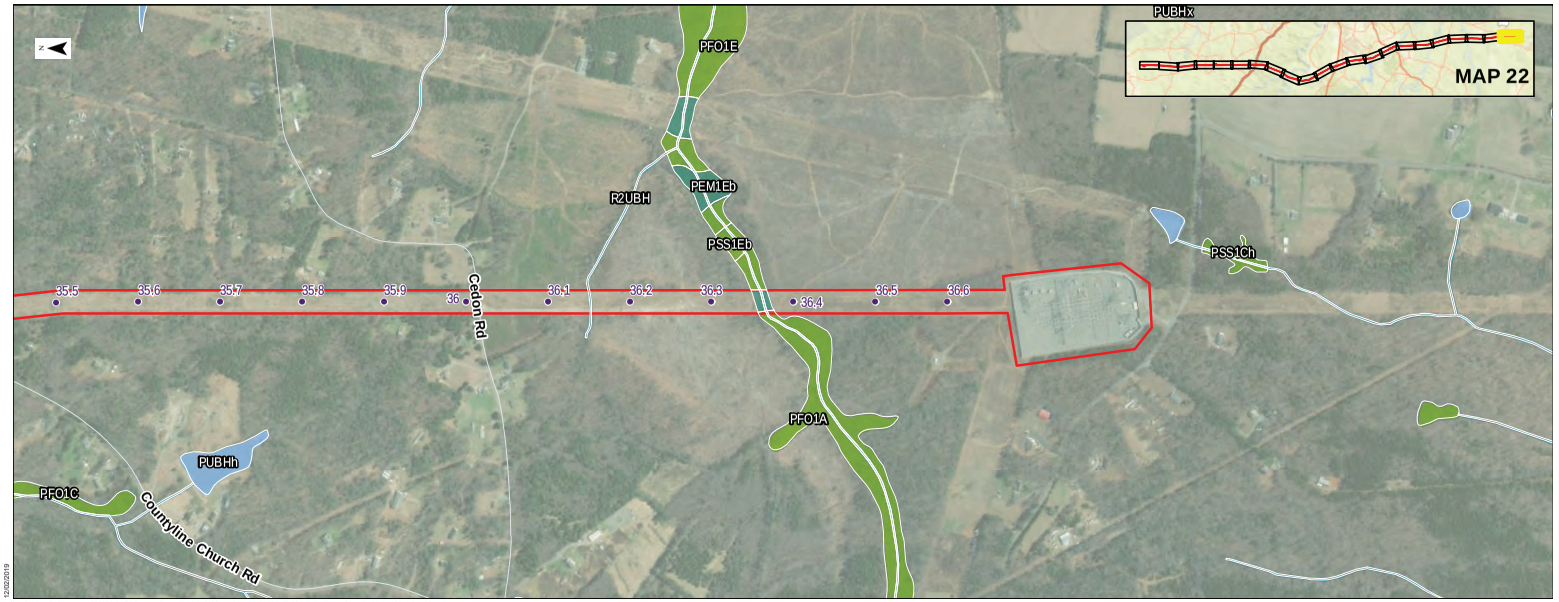


FIGURE 4.

National Wetland Inventory Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford, Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	12/02/2019

0 400 800 Feet

Scale is 1 in = 800 FT when printed at original size of 11x17

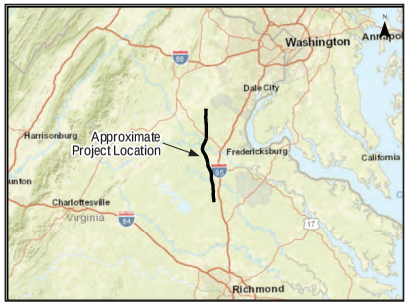
SITE DATA

- Study Area

National Wetland Inventory Data

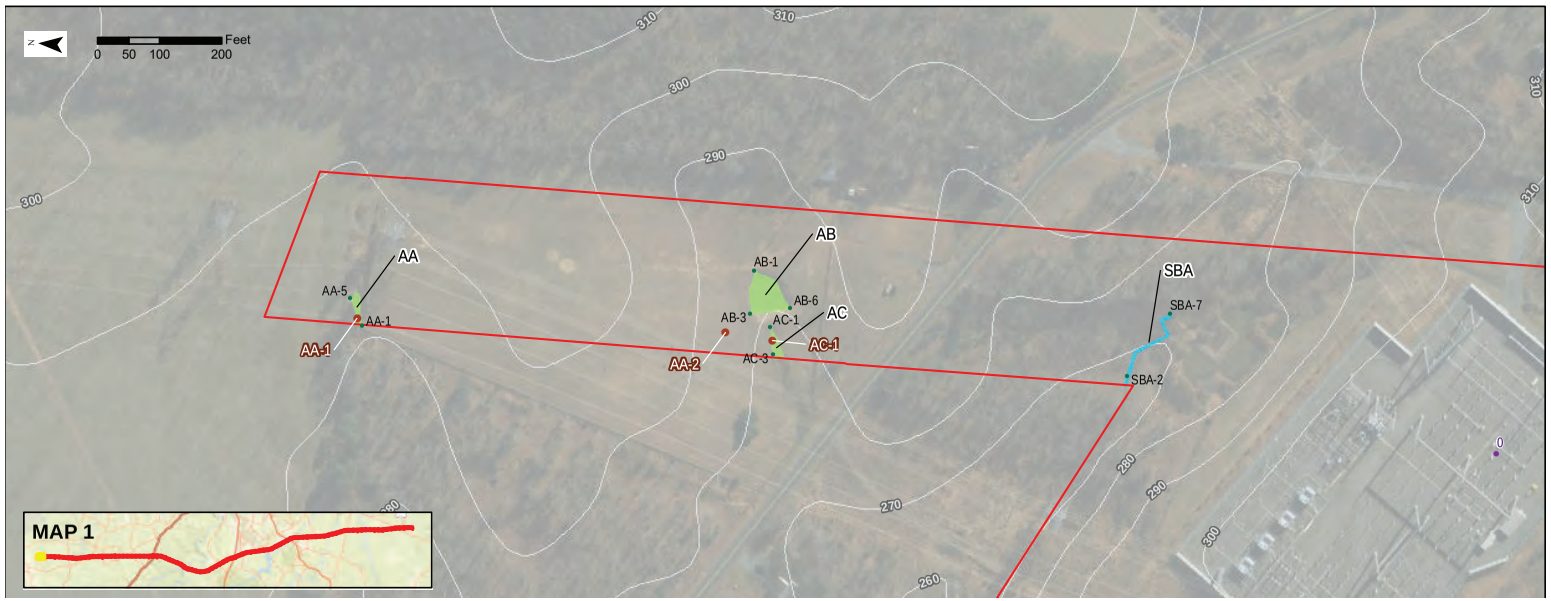
- Estaurine and Marine Deepwater
- Estaurine and Marine Wetland
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- Riverine

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. USFWS National Wetland Inventory Data
3. Inset Map Source: ESRI Open Streets Basemap Layer



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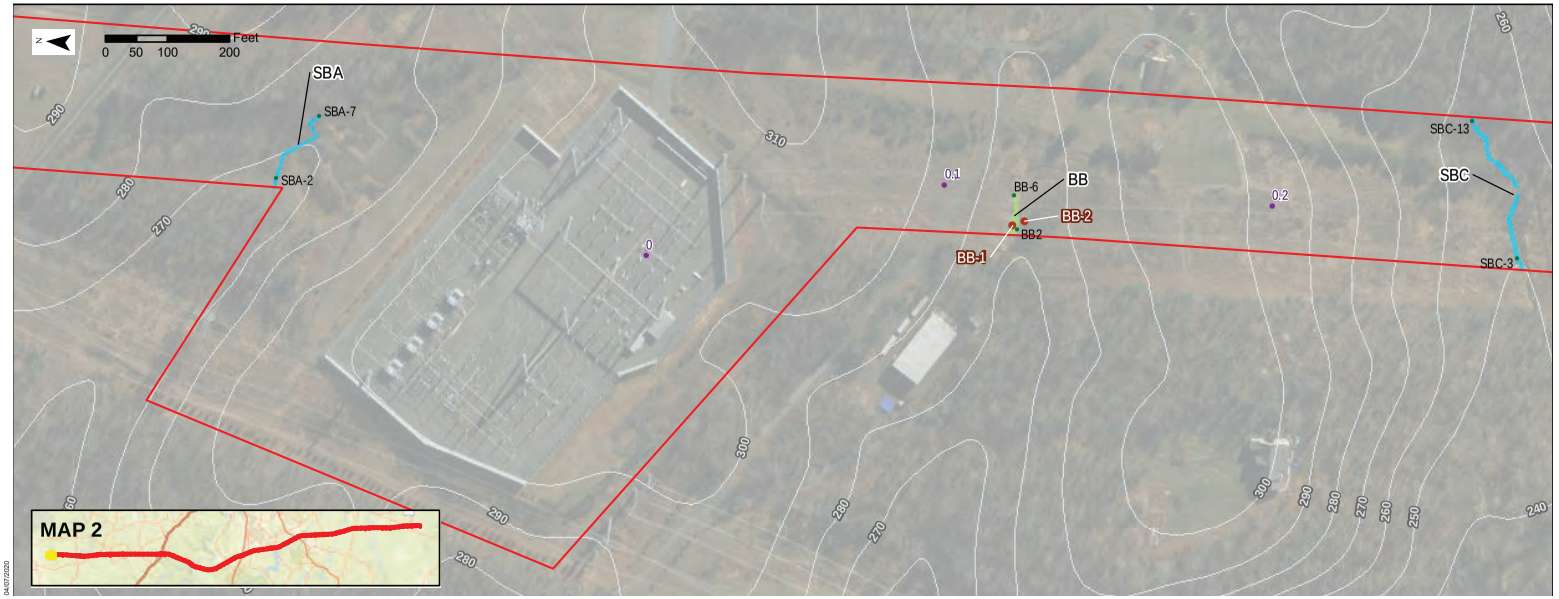


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

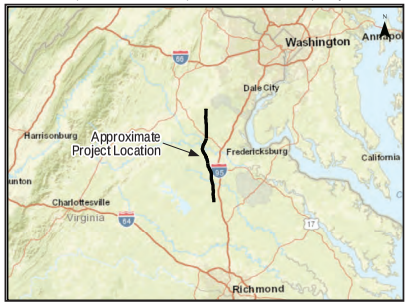
0 100 200 Feet

Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
- Palustrine Emergent (PEM) Wetland (74.74 Ac)
- Palustrine Scrub/Shrub (PSS) Wetland (3.54 Ac)
- Palustrine Unconsolidated Bottom (PUB) (1.46 Ac)
- Perennial Stream Channel (R3) (16,172 LF)
- Intermittent Stream Channel (R4) (4,528 LF)
- Ephemeral Stream Channel (EPH) (357 LF)

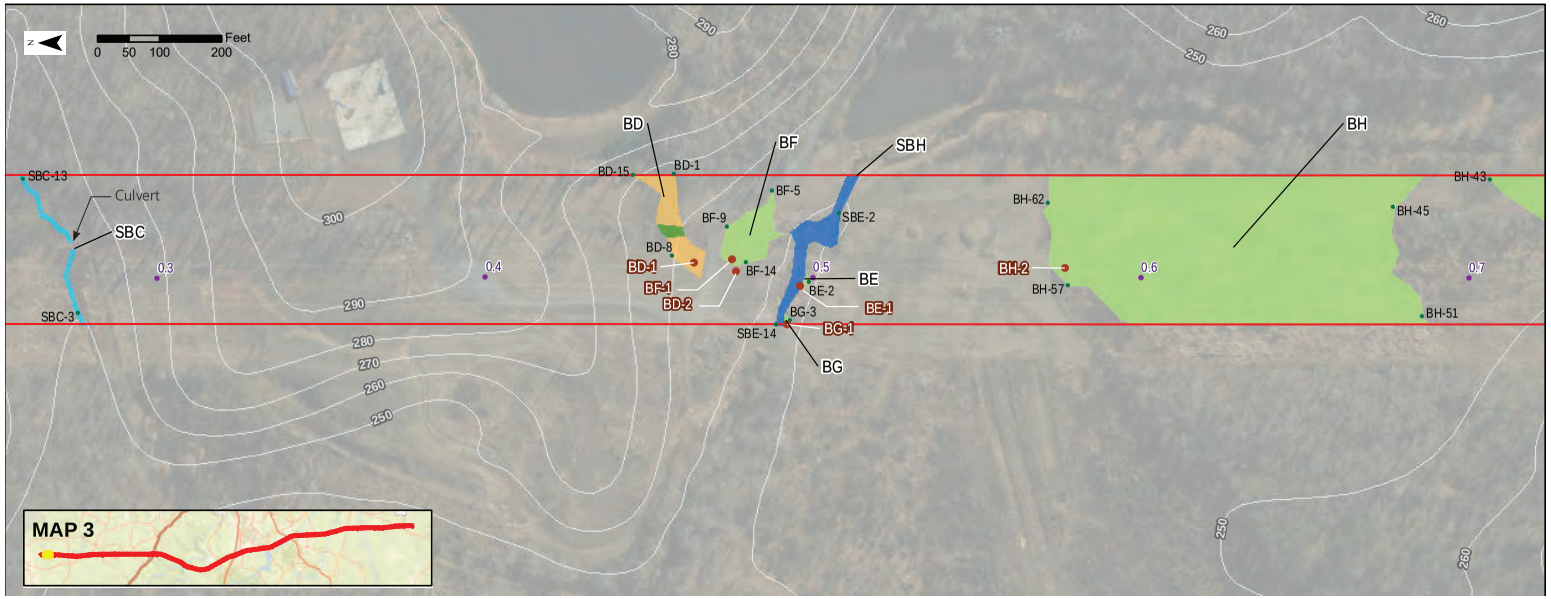
Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer

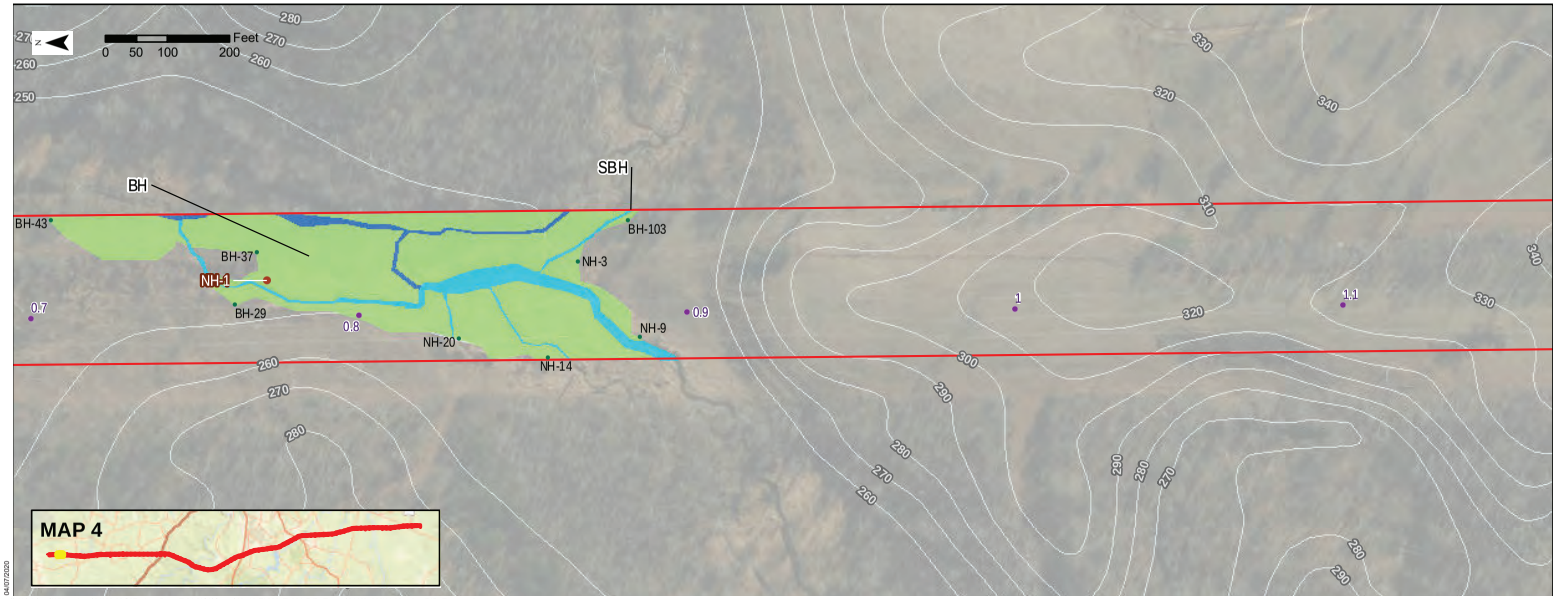


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04/07/2020

FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

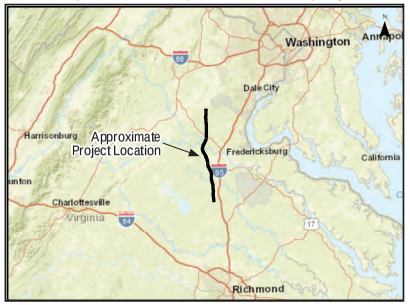
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Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

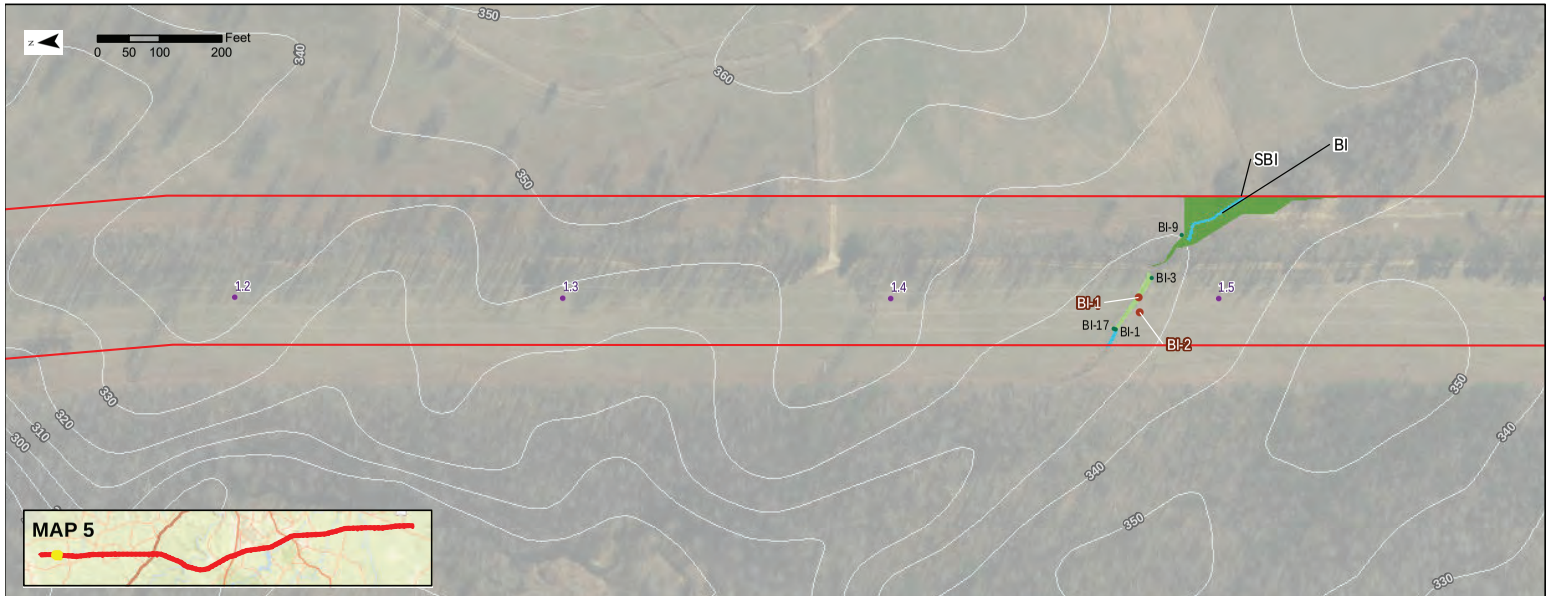
- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
- Palustrine Emergent (PEM) Wetland (74.74 Ac)
- Palustrine Scrub/Shrub (PSS) Wetland (3.54 Ac)
- Palustrine Unconsolidated Bottom (PUB) (1.46 Ac)
- Perennial Stream Channel (R3) (16,172 LF)
- Intermittent Stream Channel (R4) (4,528 LF)
- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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SHEET 2 OF 46



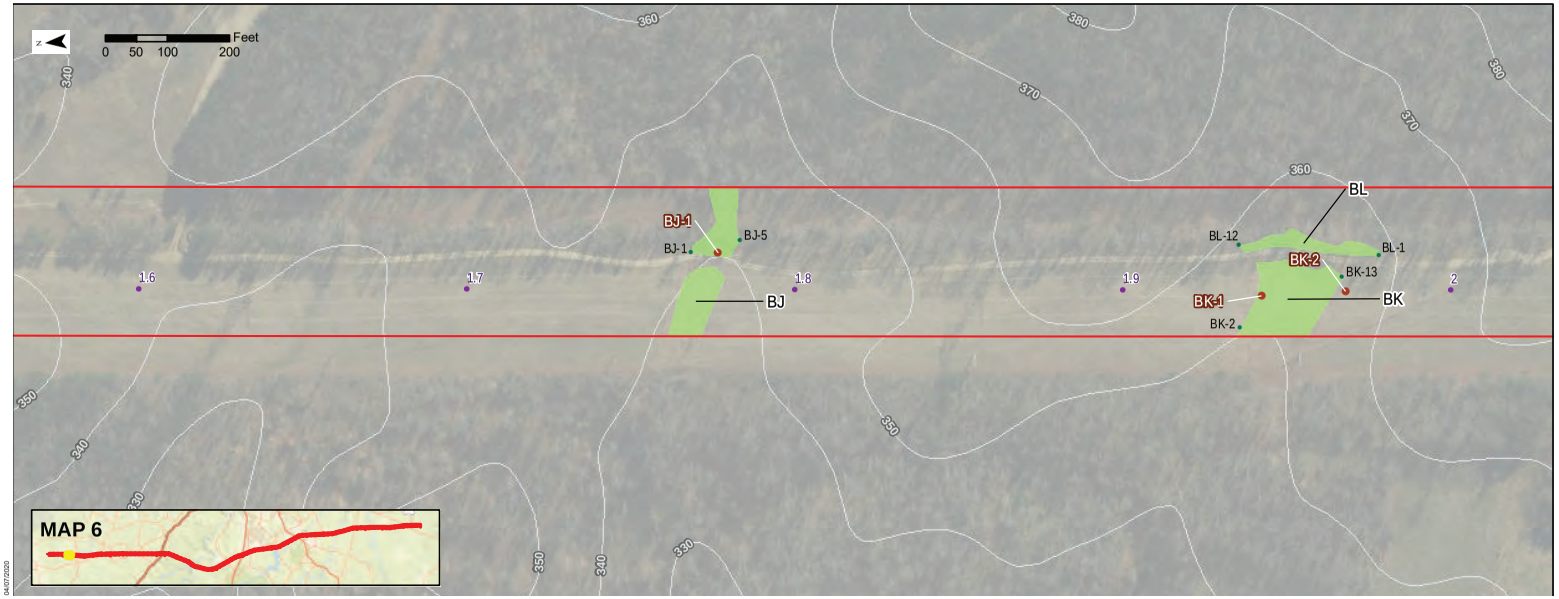


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

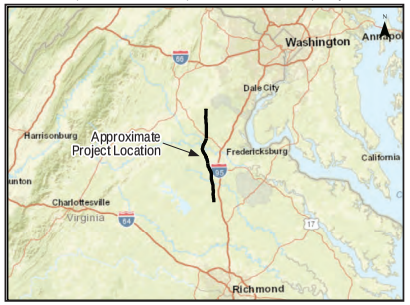
C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

0 100 200 Feet
Scale is 1 in = 200 FT when printed at original size of 11x17

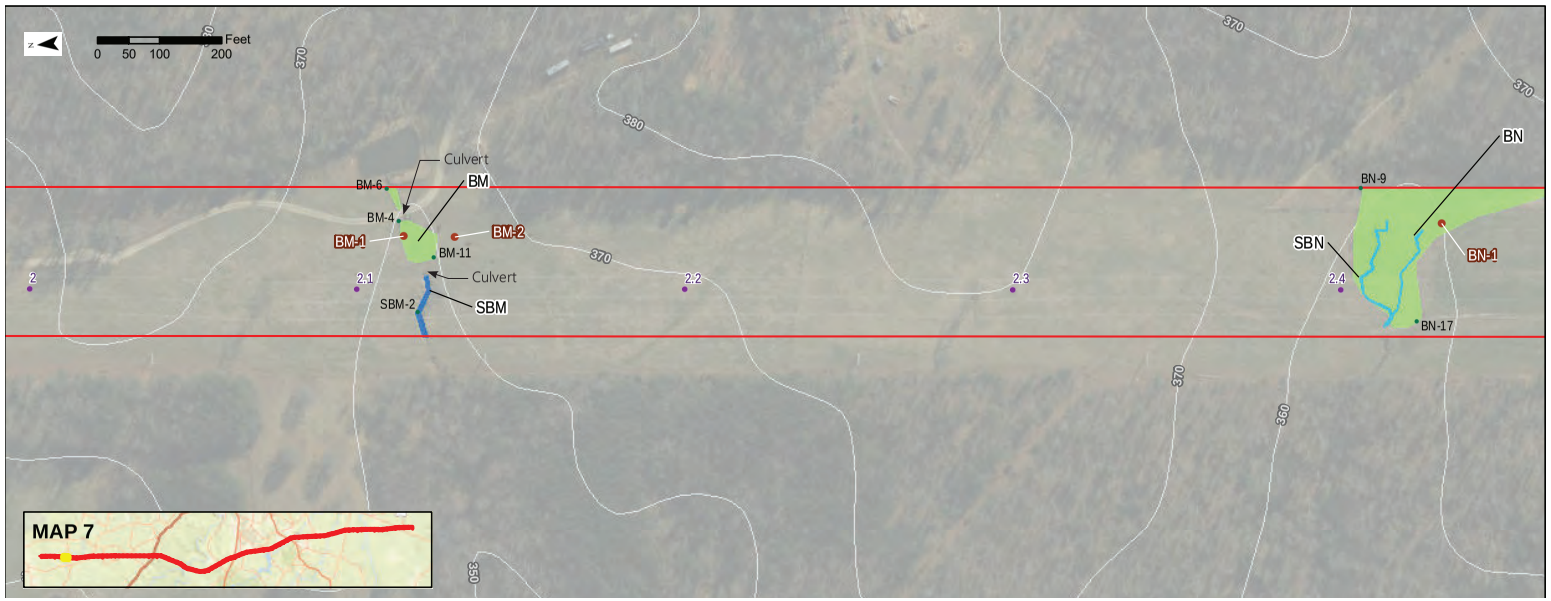
SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
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Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



SHEET 3 OF 46



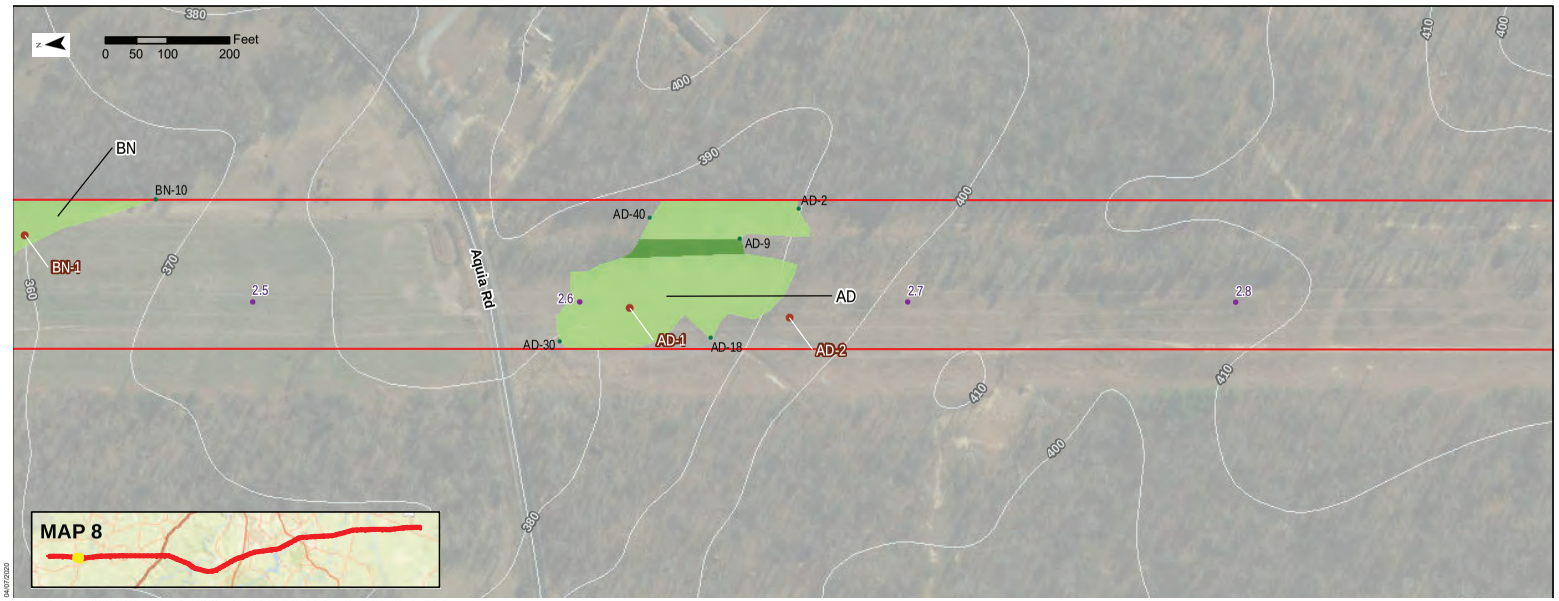


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

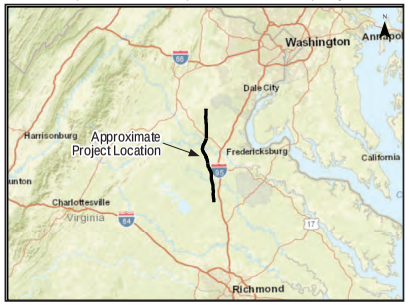
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Scale is 1 in = 200 FT when printed at original size of 11x17

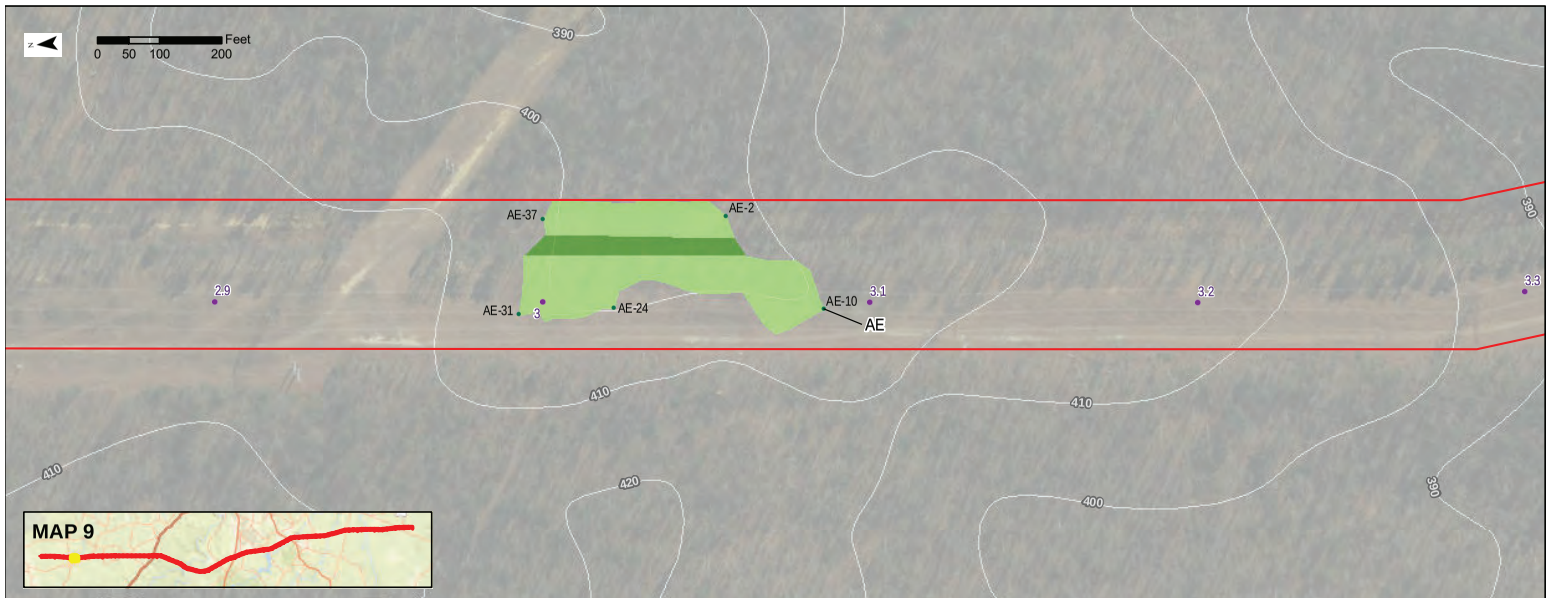
SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
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- Perennial Stream Channel (R3) (16,172 LF)
- Intermittent Stream Channel (R4) (4,528 LF)
- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



SHEET 4 OF 46



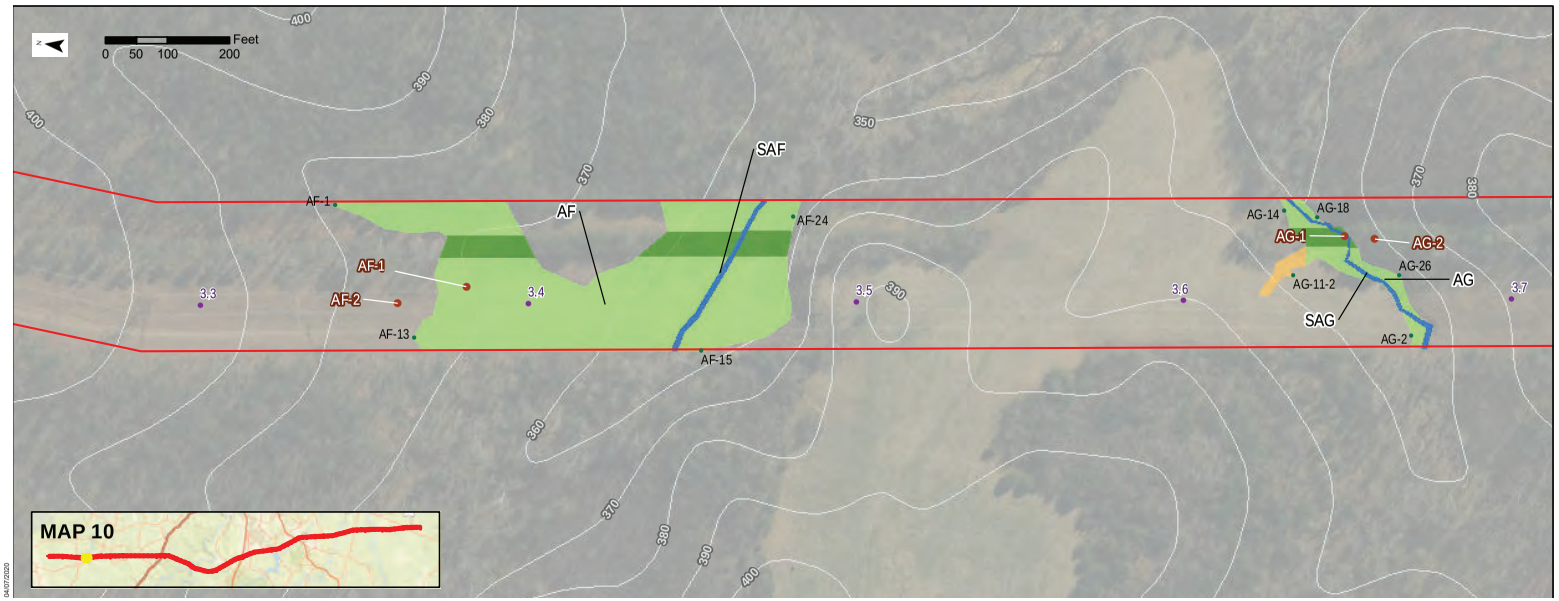


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

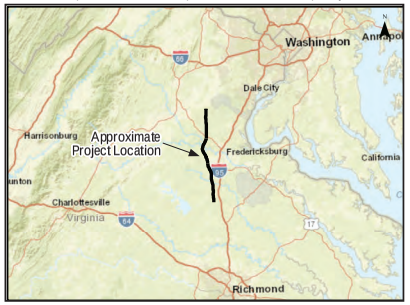
C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

0 100 200 Feet
Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
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Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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SHEET 5 OF 46

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04/07/2020



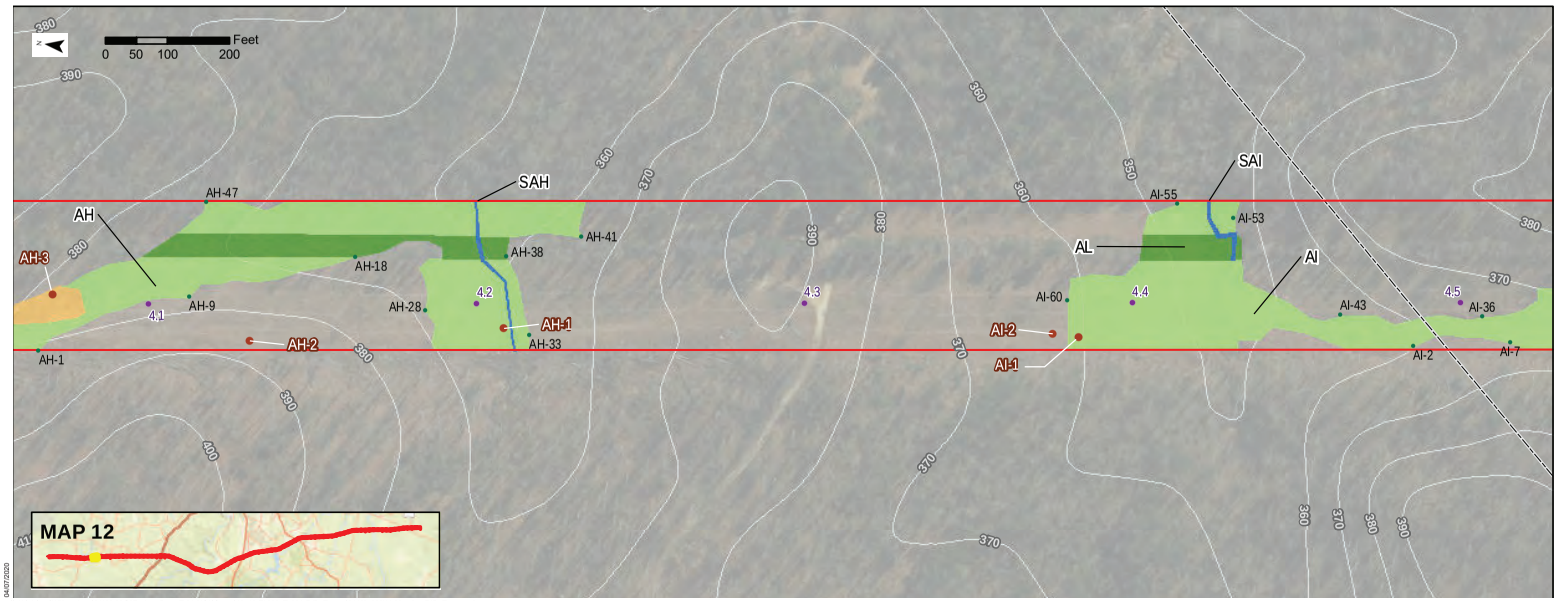


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

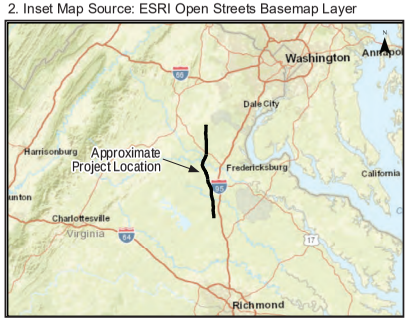
C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

0 100 200 Feet
Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
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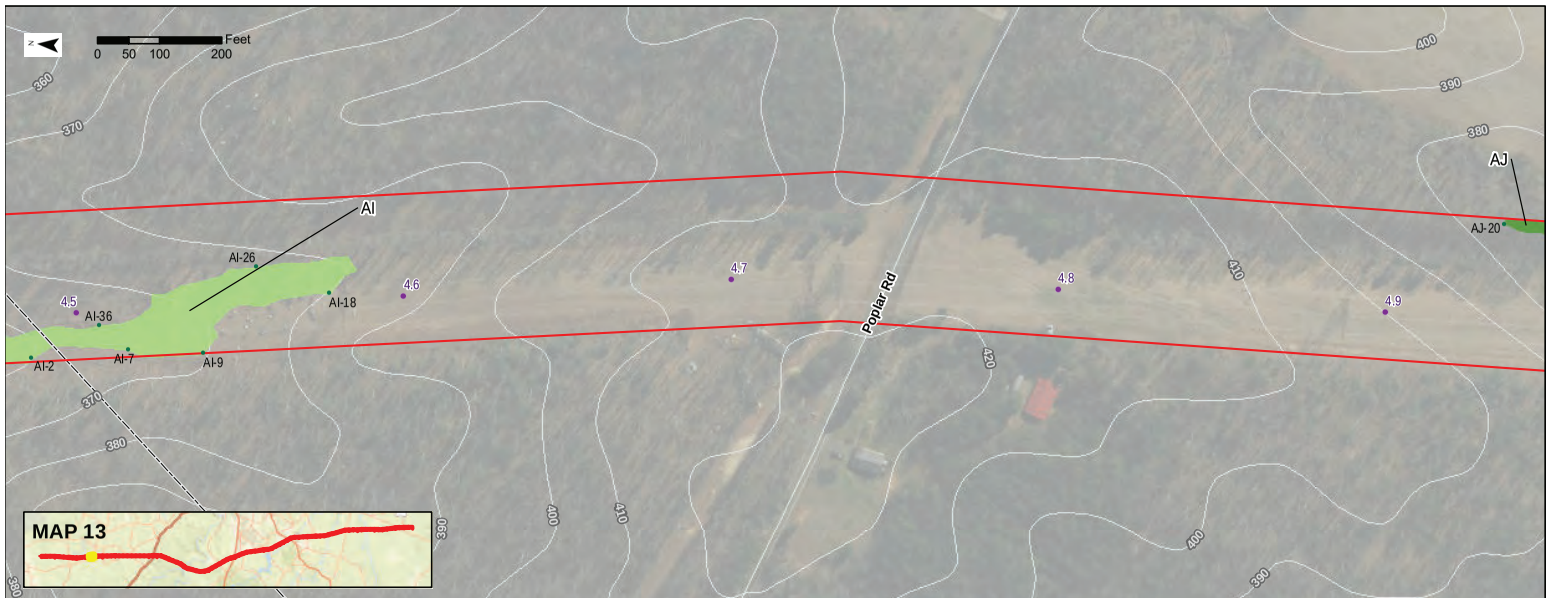
Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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SHEET 6 OF 46

04/07/2020
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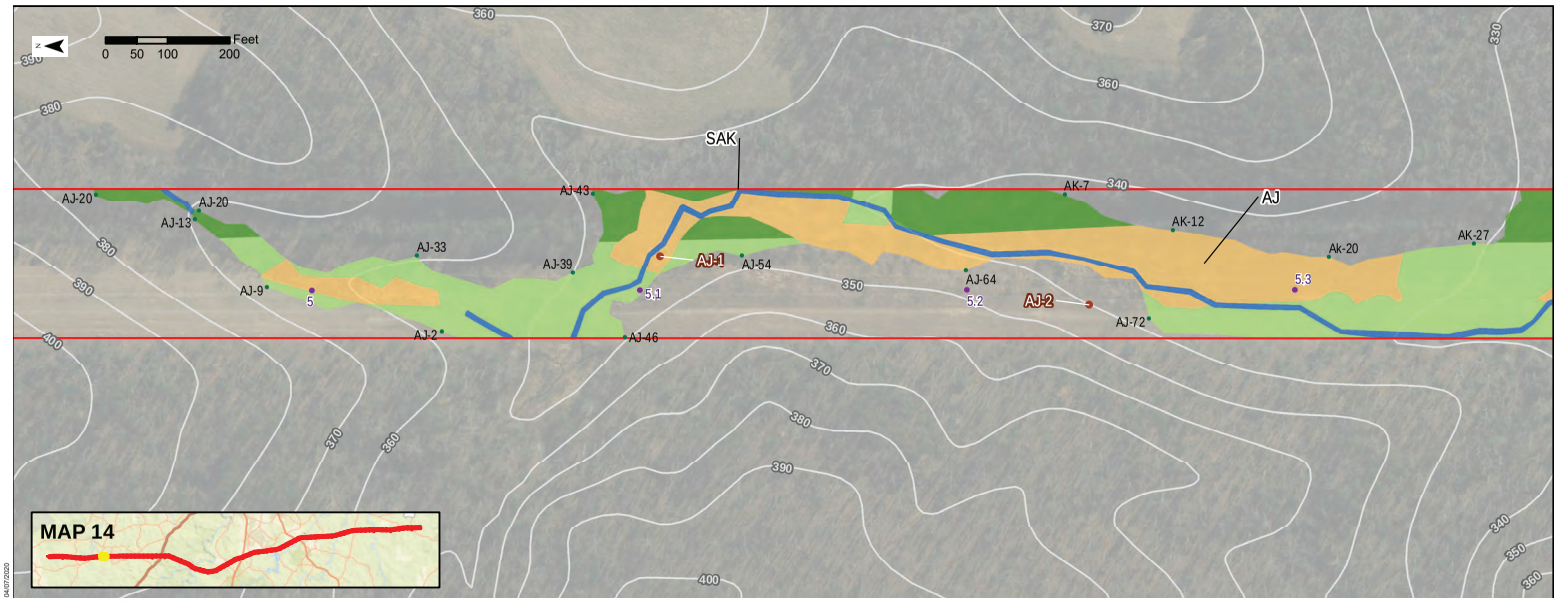


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

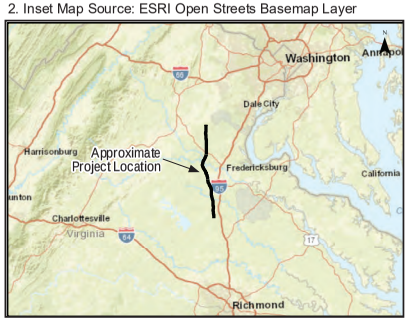
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Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
- Palustrine Emergent (PEM) Wetland (74.74 Ac)
- Palustrine Scrub/Shrub (PSS) Wetland (3.54 Ac)
- Palustrine Unconsolidated Bottom (PUB) (1.46 Ac)
- Perennial Stream Channel (R3) (16,172 LF)
- Intermittent Stream Channel (R4) (4,528 LF)
- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



SHEET 7 OF 46

\\vhb\gis\proj\Williamsburg\34465.00 C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_PJD_Figures_v2

04/07/2020

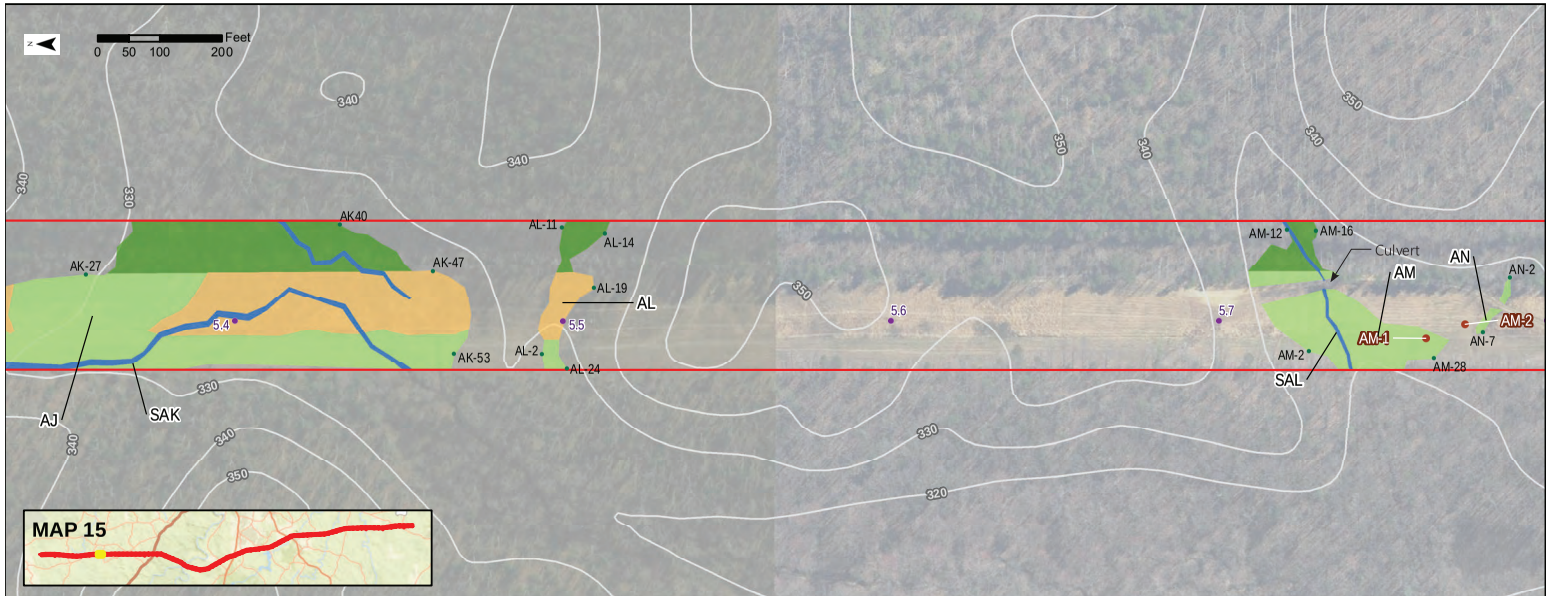




FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

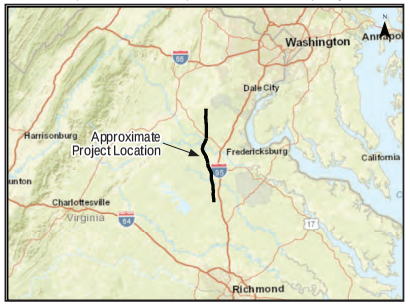
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Scale is 1 in = 200 FT when printed at original size of 11x17

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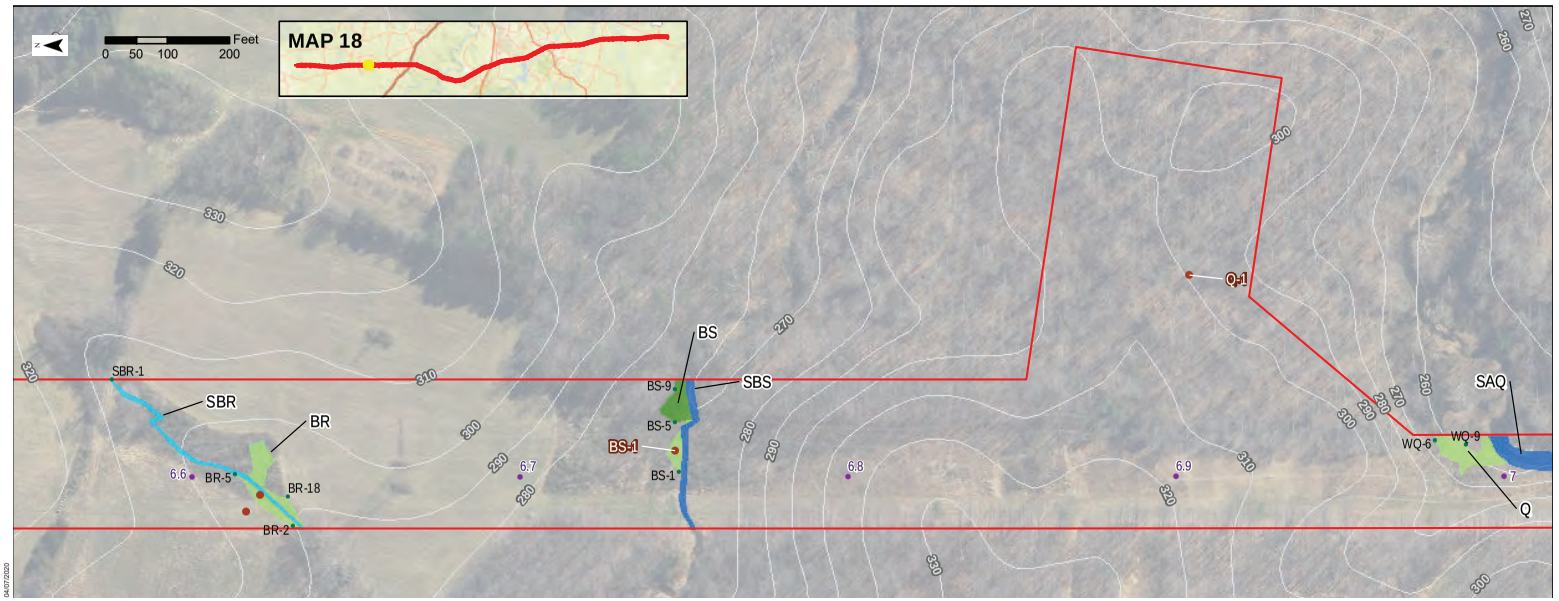
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- Contours (CI = 10 Ft.)
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Notes:
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\\vhb\gis\proj\Williamsburg\34465.00 C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_PJD_Figures_v2

FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

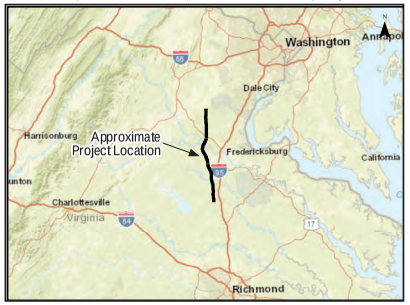
C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

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Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

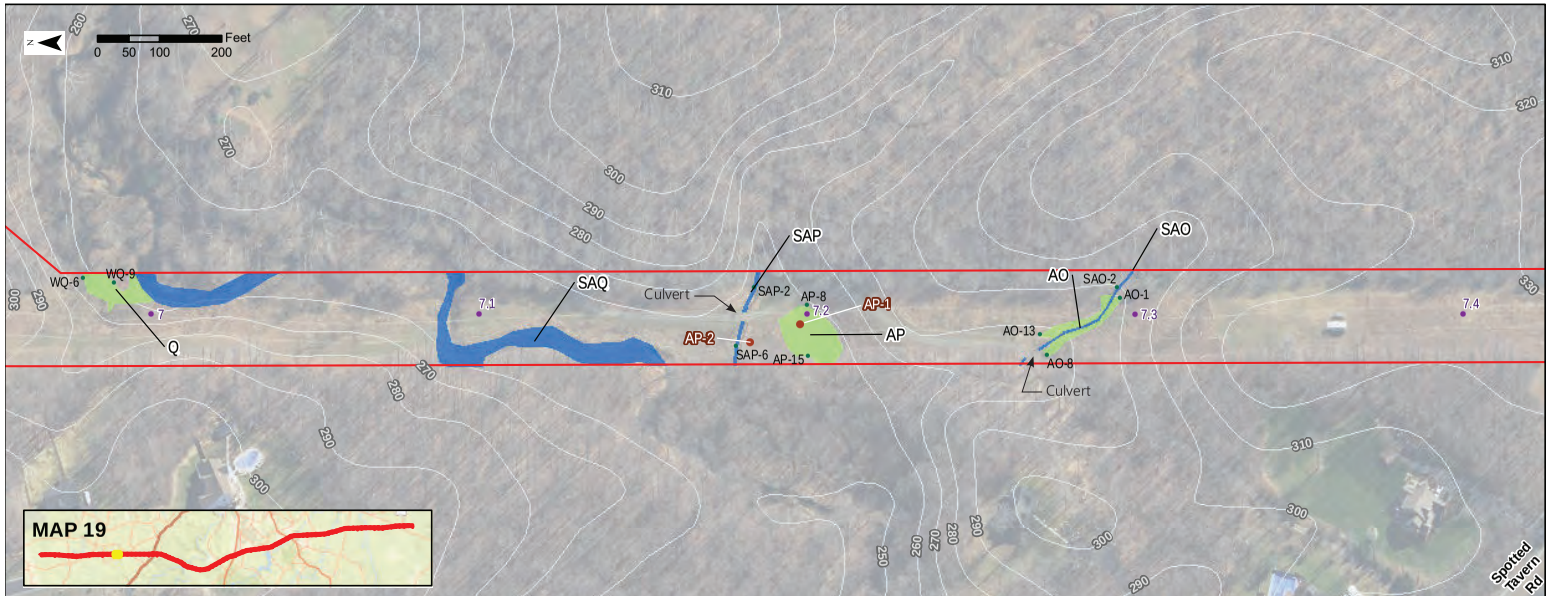
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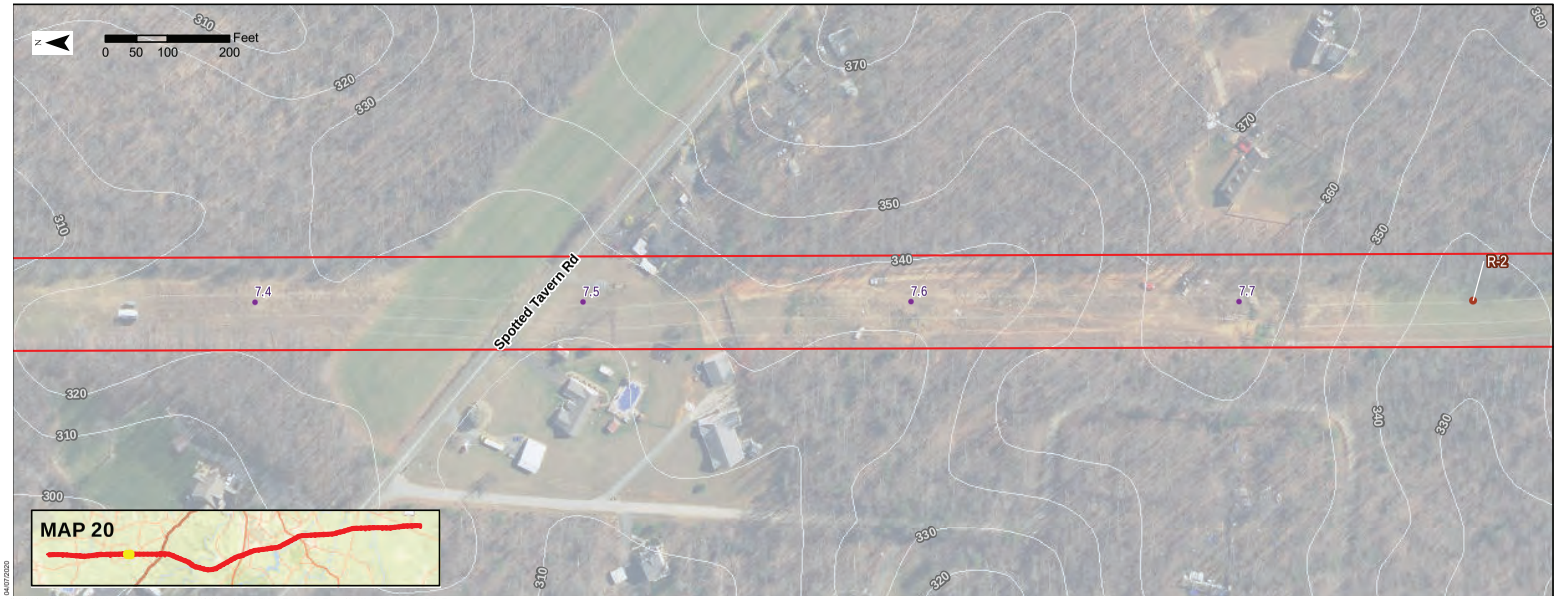
Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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\\vhb\gis\proj\Williamsburg\34465.00 C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_P JD_Figures\34465_500kV_35_miler_PJD_Figures_v2

FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

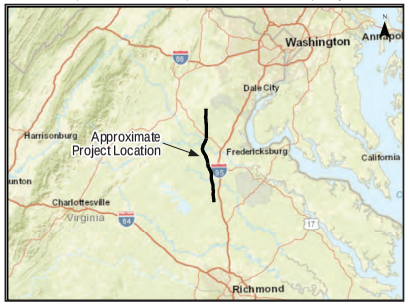
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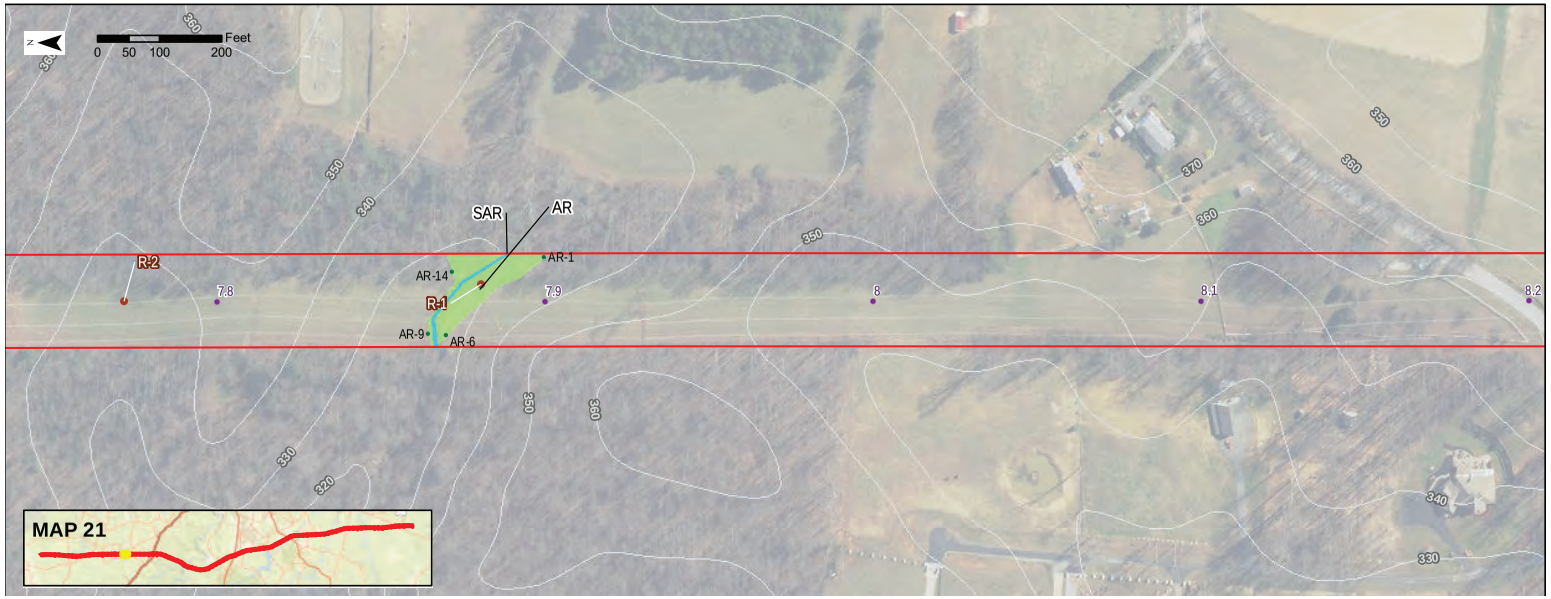
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Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

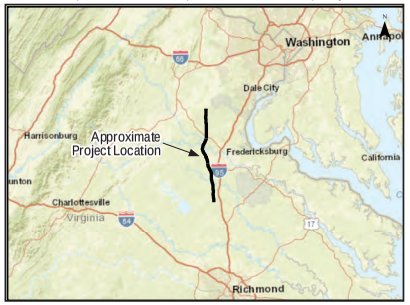
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SITE DATA

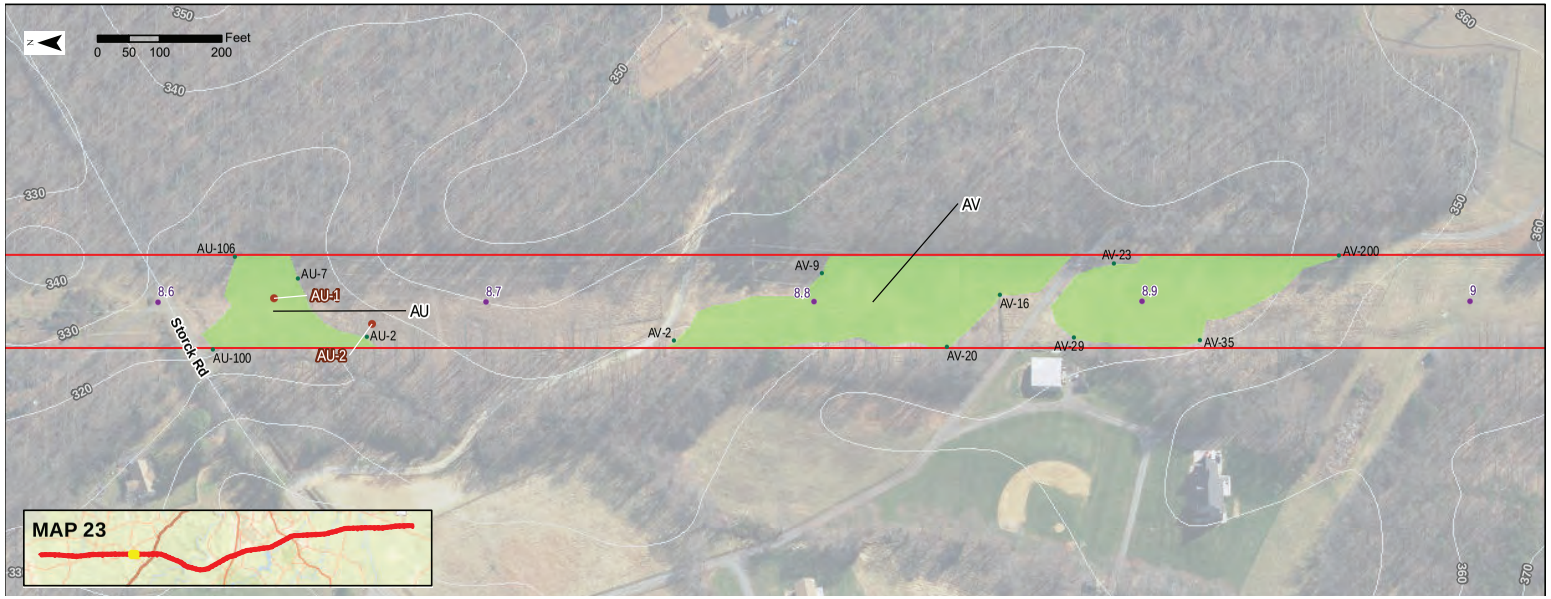
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Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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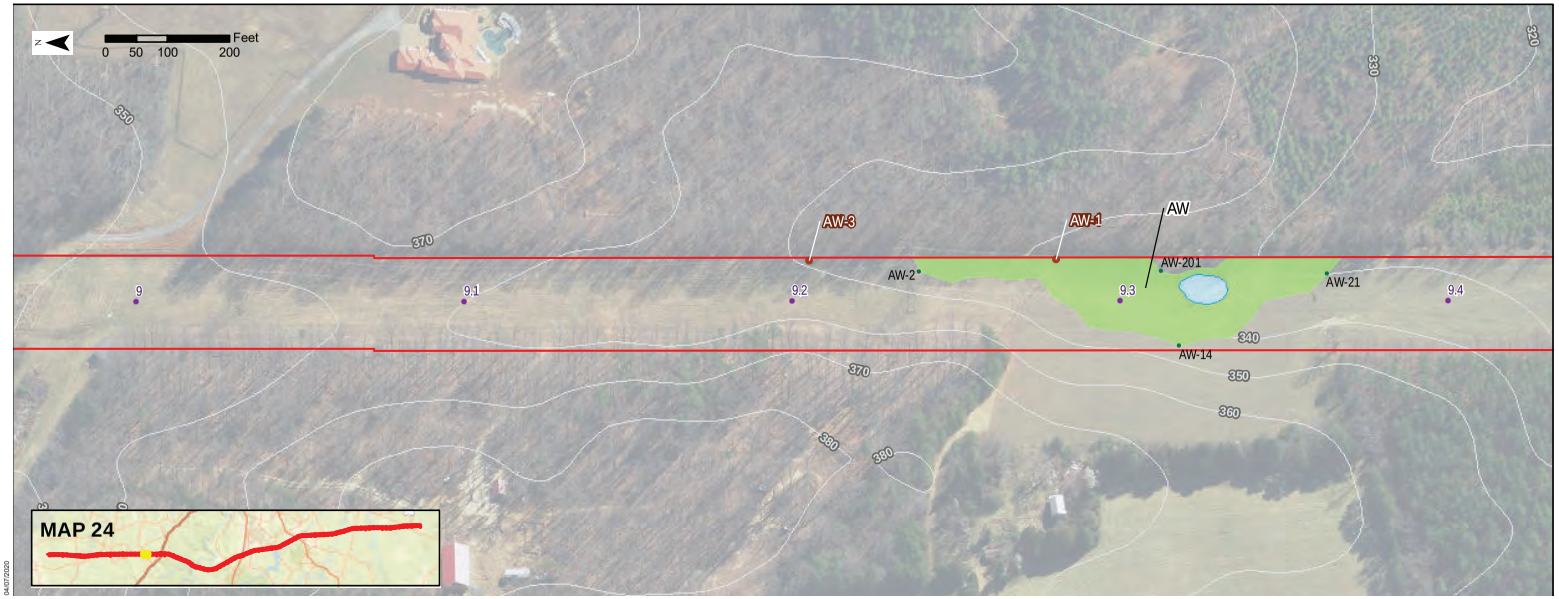


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

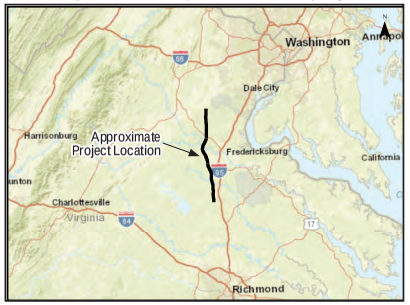
C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

0 100 200 Feet
Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

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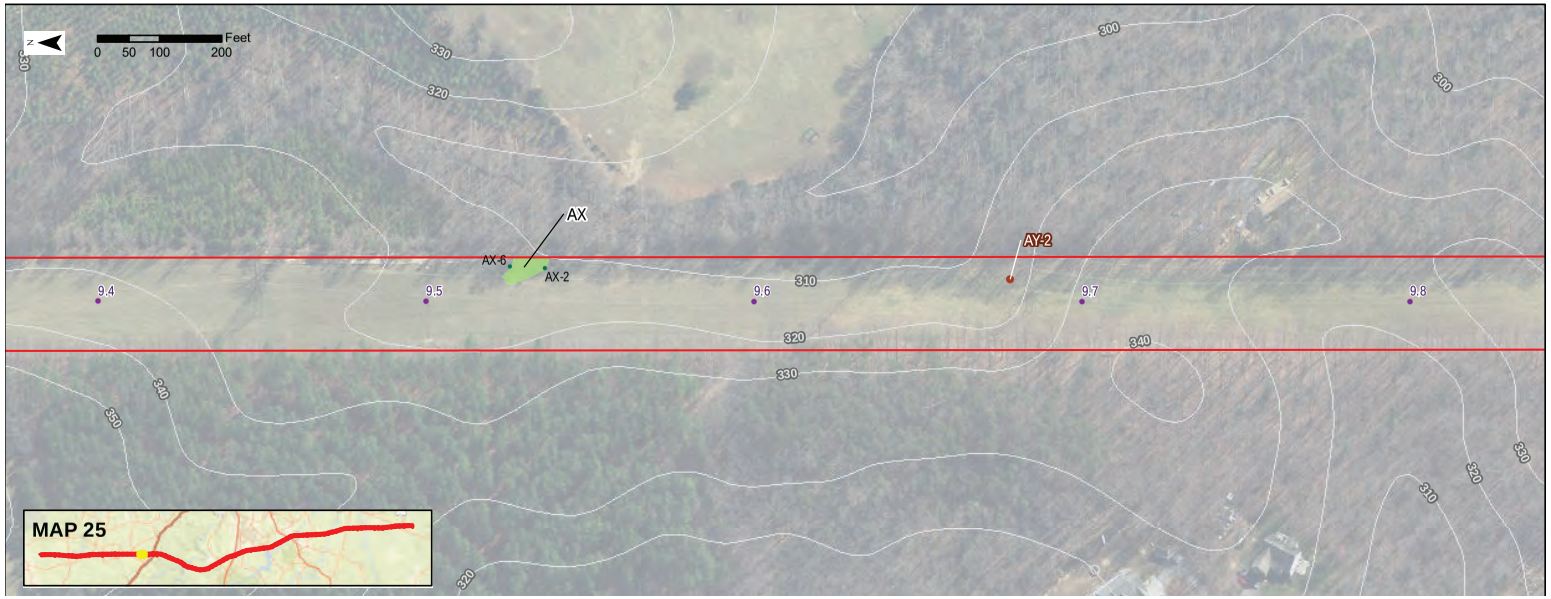


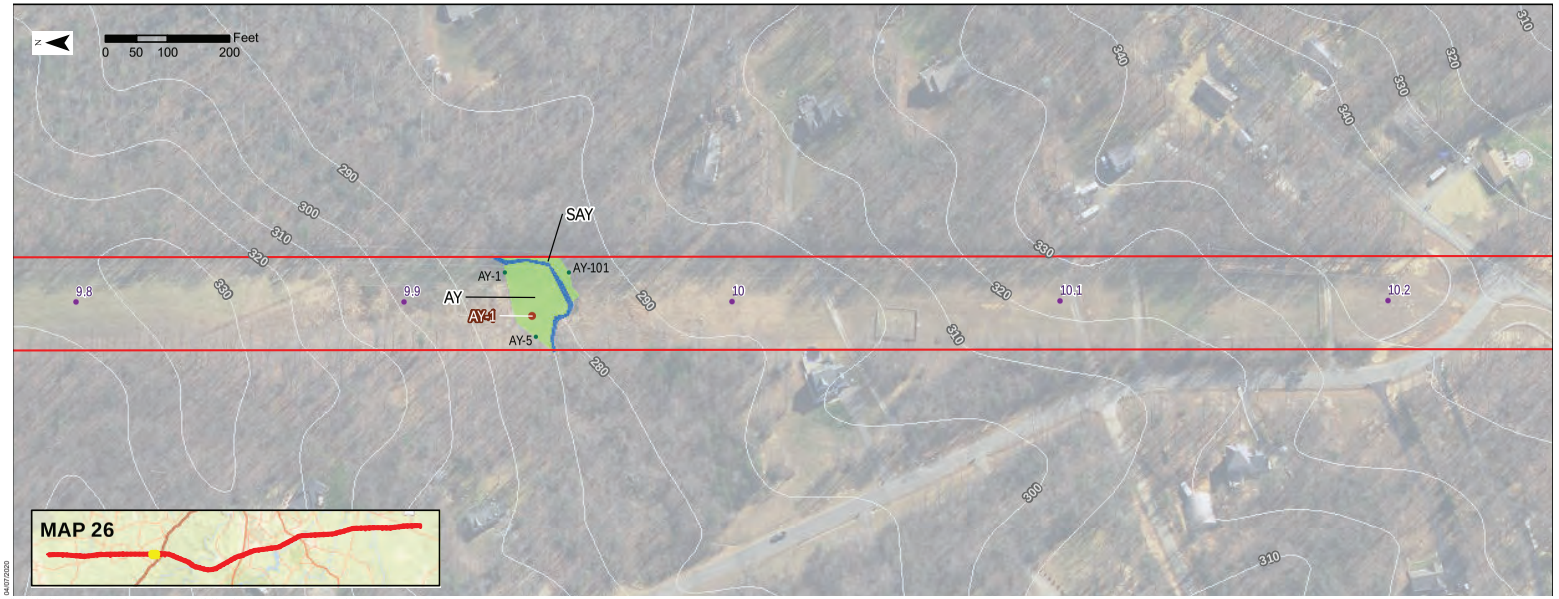
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SHEET 12 OF 46

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FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

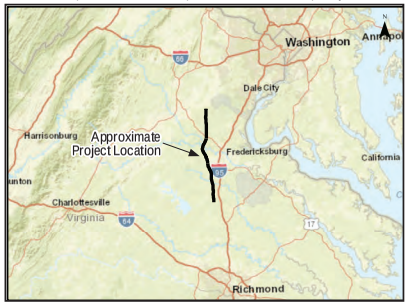
0 100 200 Feet

Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

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Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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SHEET 13 OF 46



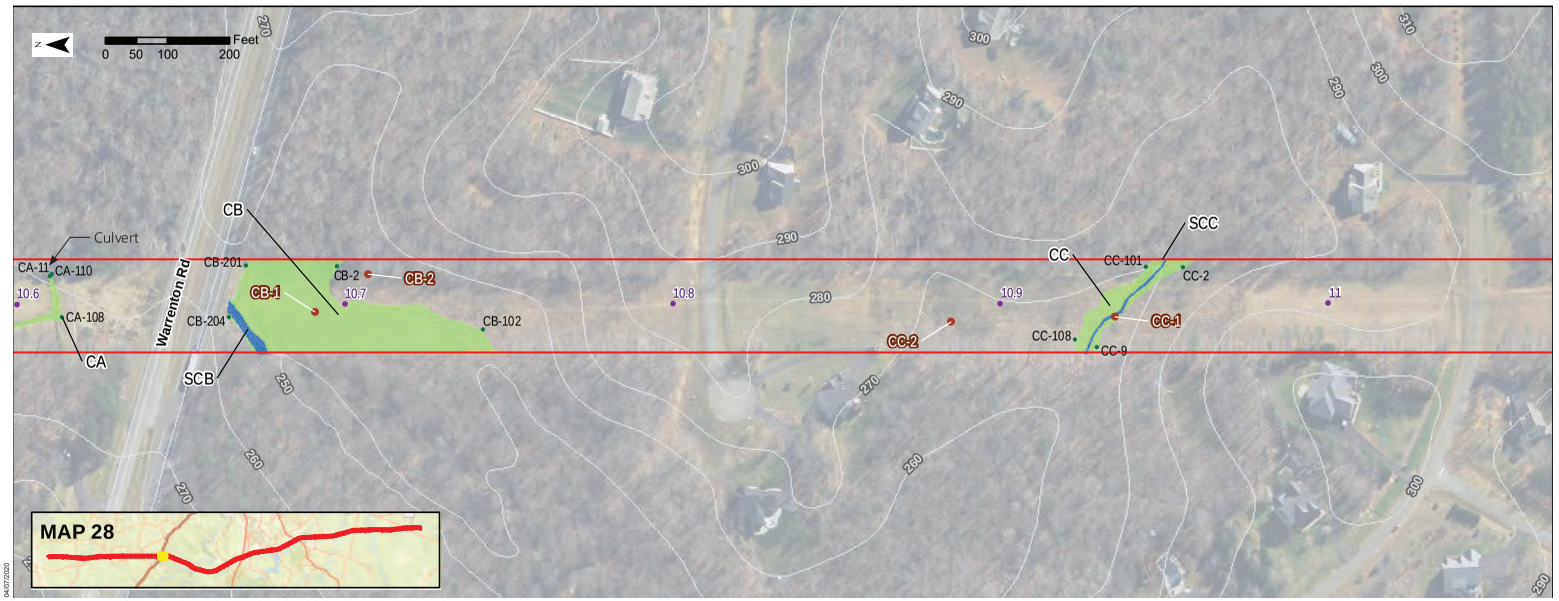


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

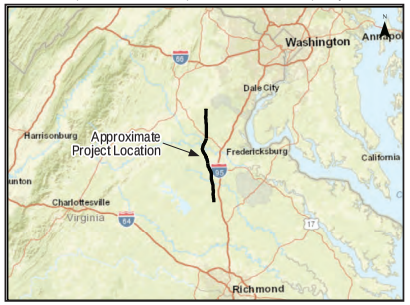
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Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



SHEET 14 OF 46

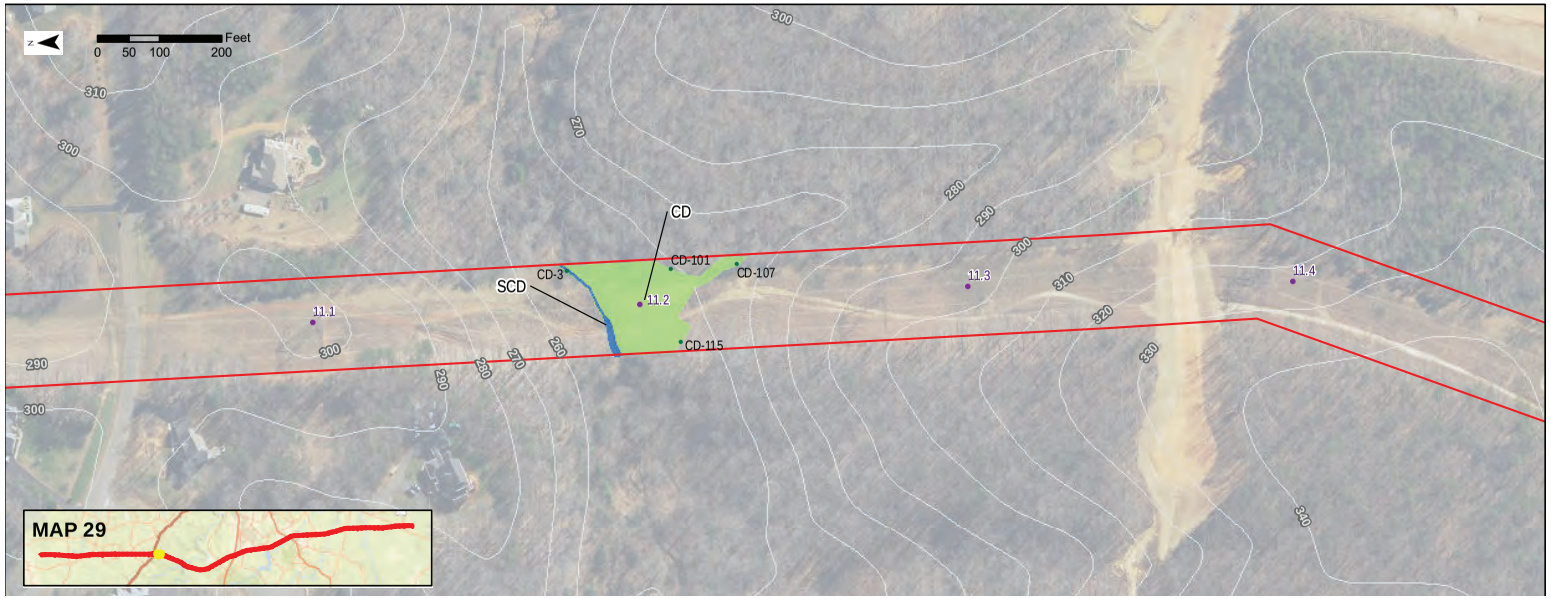




FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

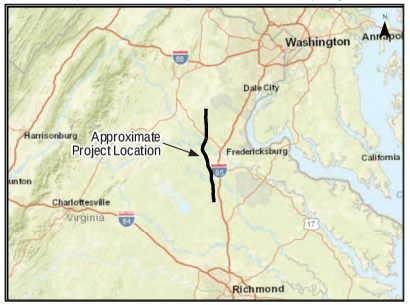
C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

0 100 200 Feet
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Notes:
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2. Inset Map Source: ESRI Open Streets Basemap Layer



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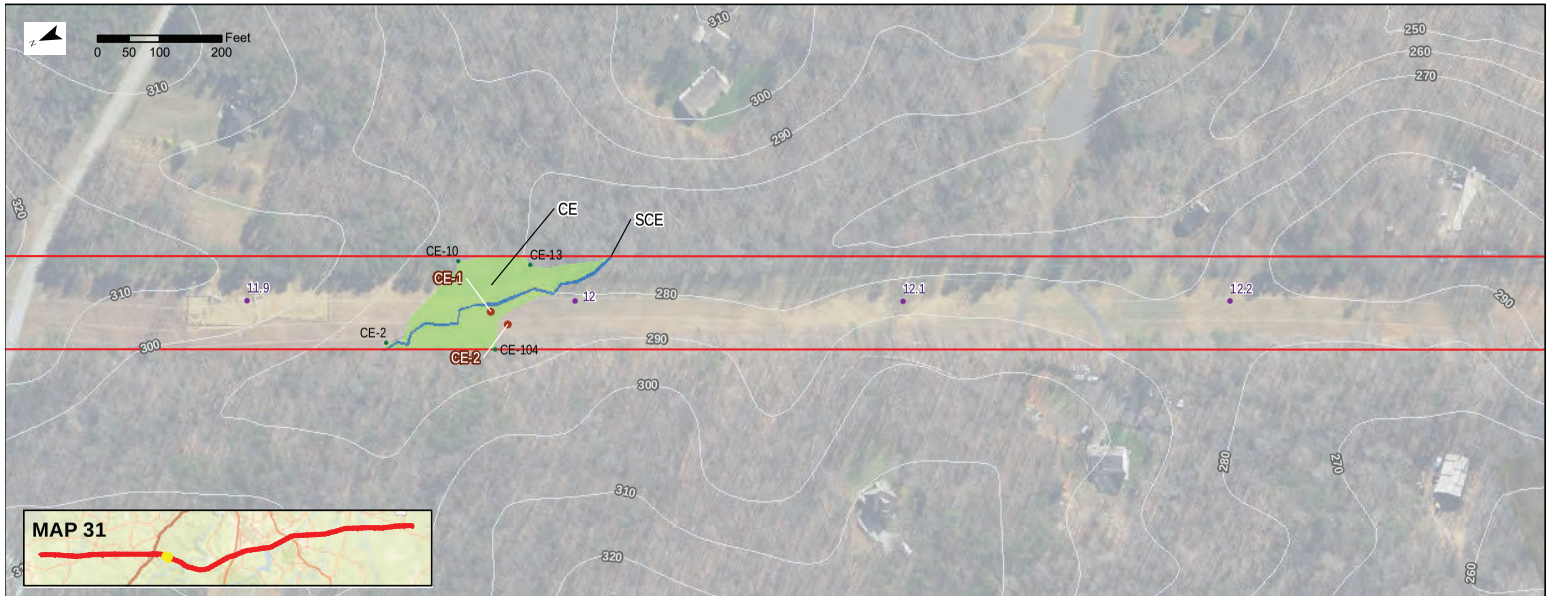




FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

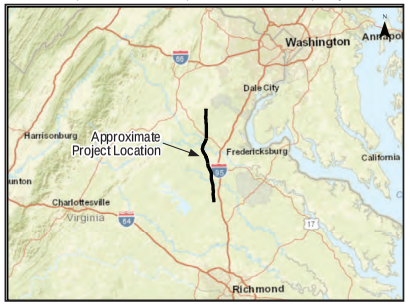
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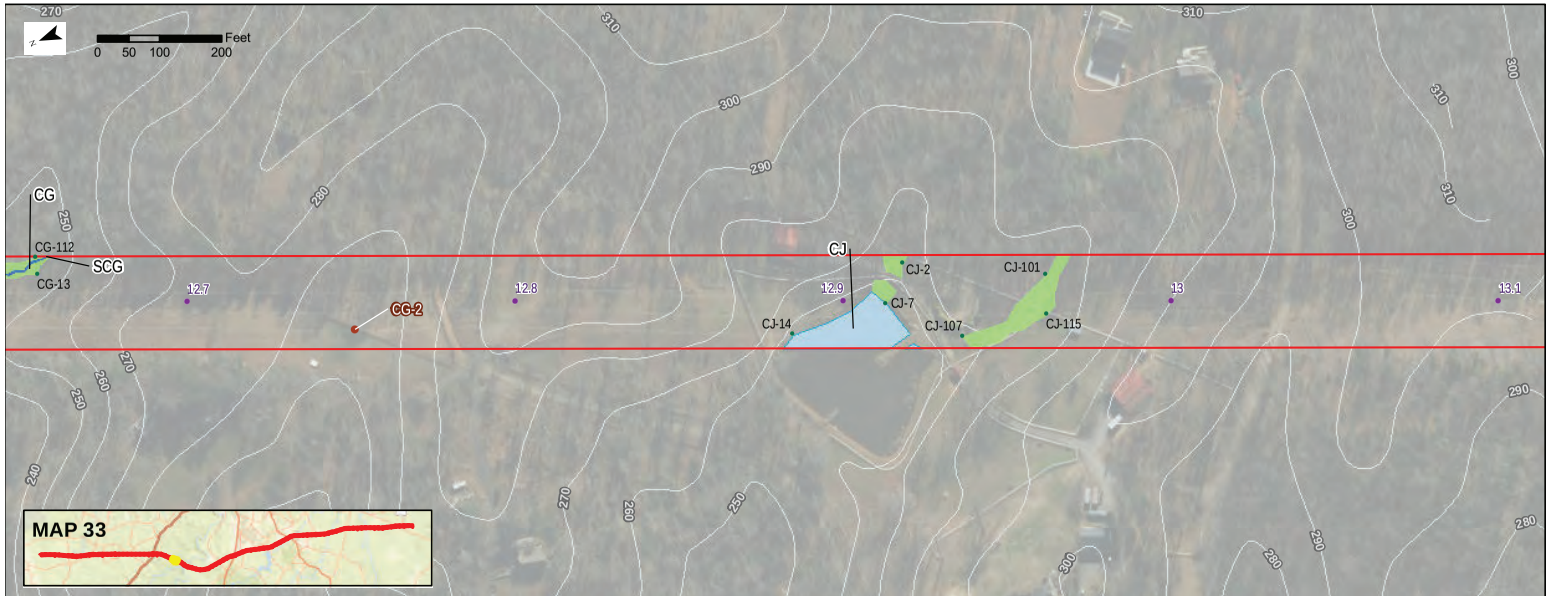
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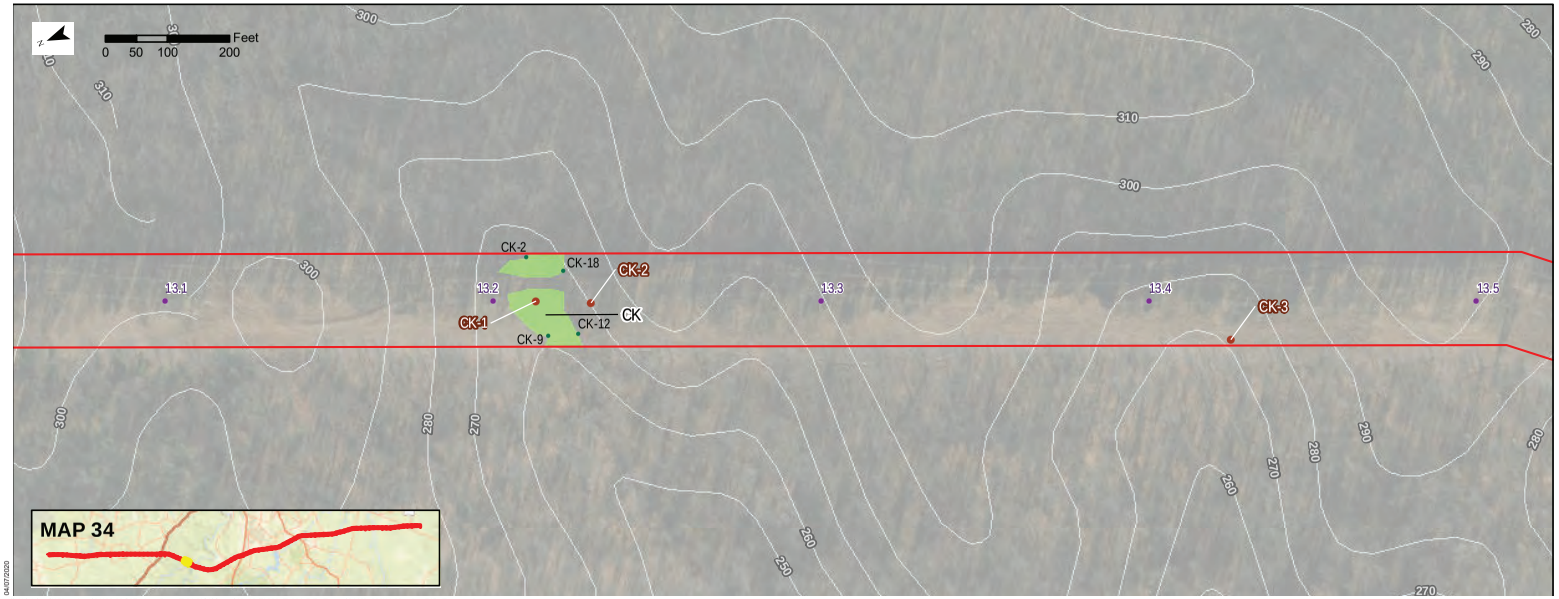
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Notes:
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2. Inset Map Source: ESRI Open Streets Basemap Layer



SHEET 16 OF 46





\\vhb\gis\proj\Williamsburg\34465.00\C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_PJD_Figures_v2

04/07/2020

FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

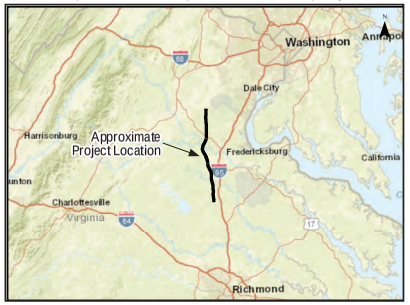
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Notes:
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SHEET 17 OF 46

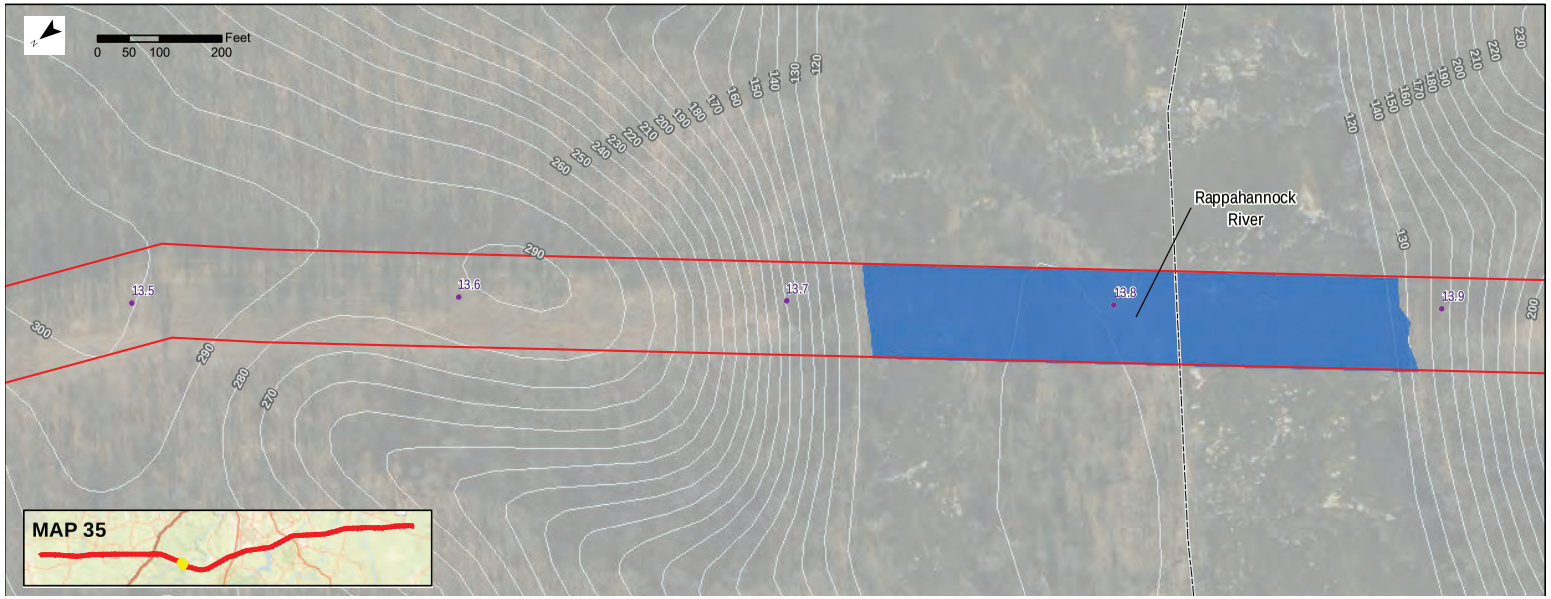




FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

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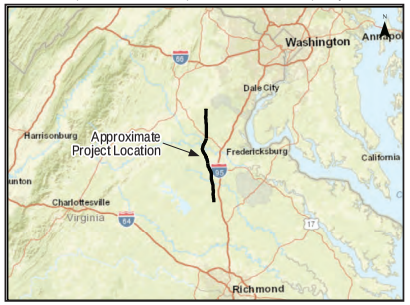
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Scale is 1 in = 200 FT when printed at original size of 11x17

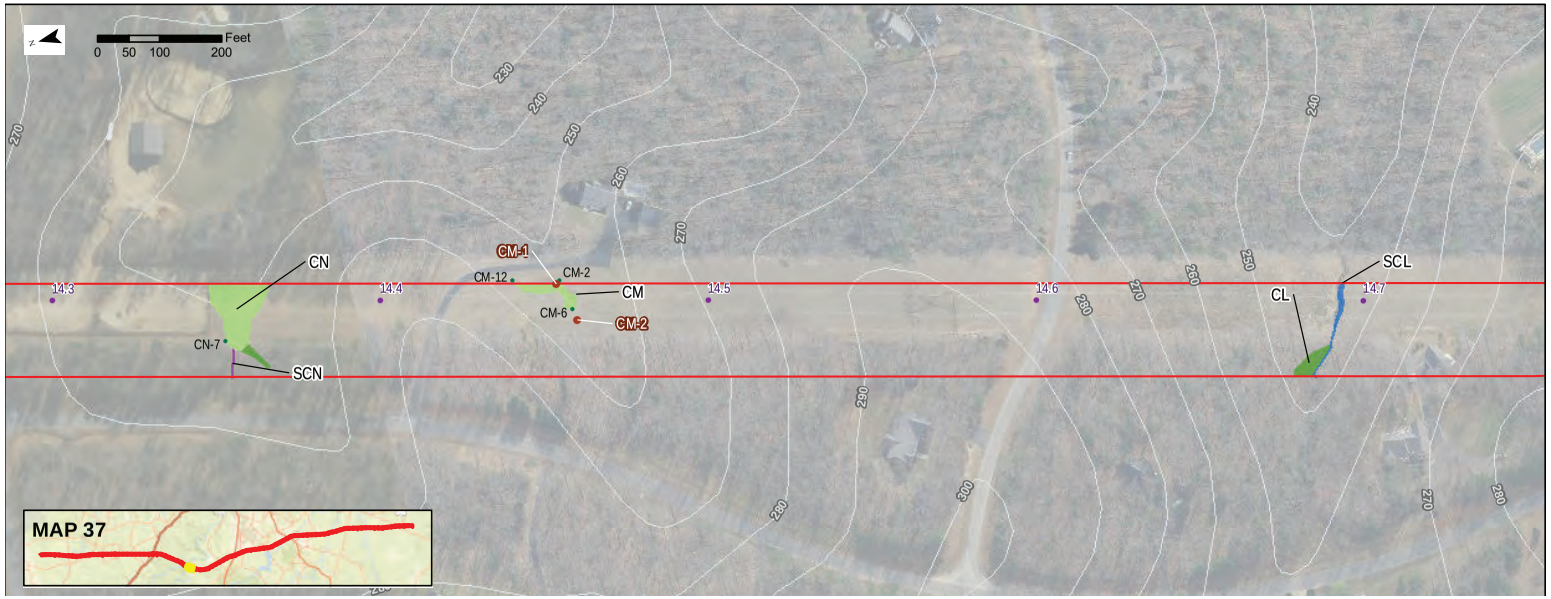
SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
- Palustrine Emergent (PEM) Wetland (74.74 Ac)
- Palustrine Scrub/Shrub (PSS) Wetland (3.54 Ac)
- Palustrine Unconsolidated Bottom (PUB) (1.46 Ac)
- Perennial Stream Channel (R3) (16,172 LF)
- Intermittent Stream Channel (R4) (4,528 LF)
- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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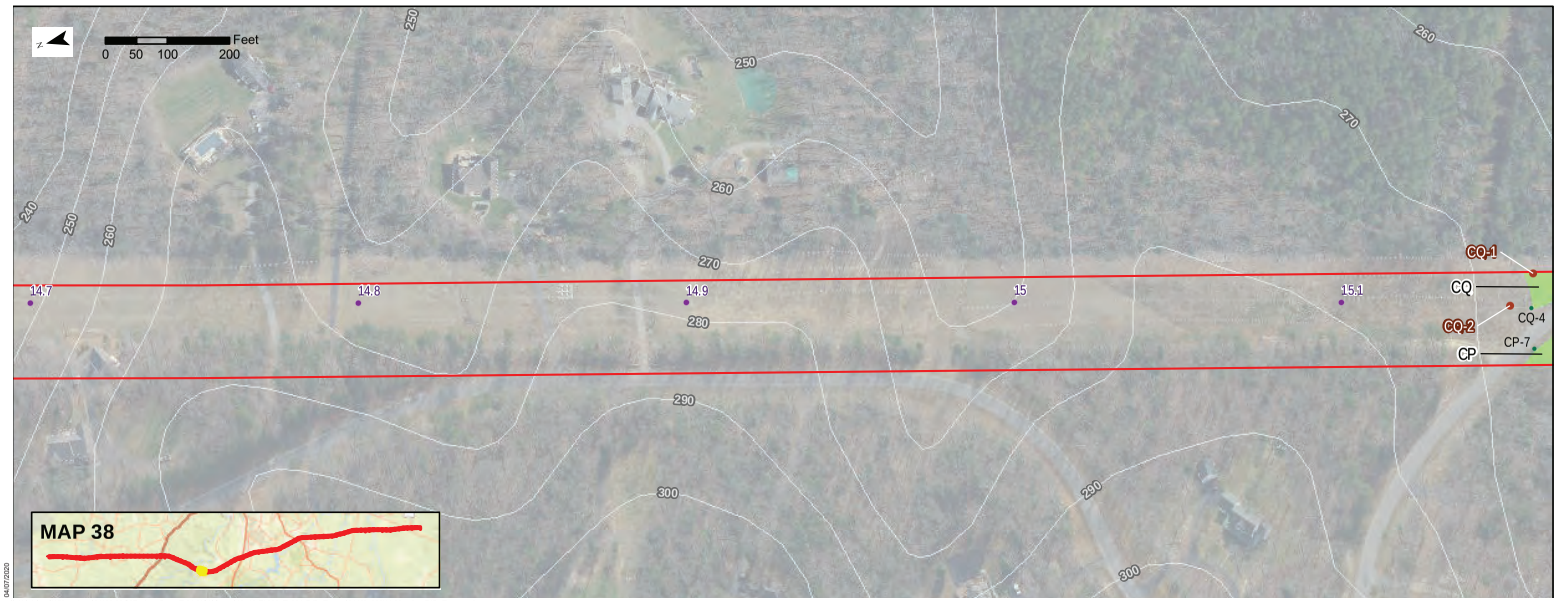


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

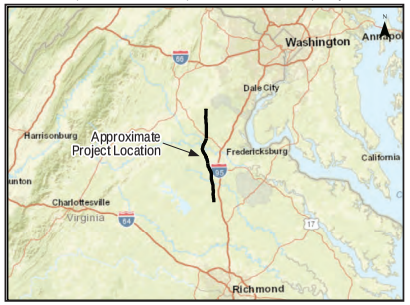
0 100 200 Feet

Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
- Palustrine Emergent (PEM) Wetland (74.74 Ac)
- Palustrine Scrub/Shrub (PSS) Wetland (3.54 Ac)
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- Perennial Stream Channel (R3) (16,172 LF)
- Intermittent Stream Channel (R4) (4,528 LF)
- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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\\vhb\gis\proj\Williamsburg\34465.00\C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_PJD_Figures_v2

FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

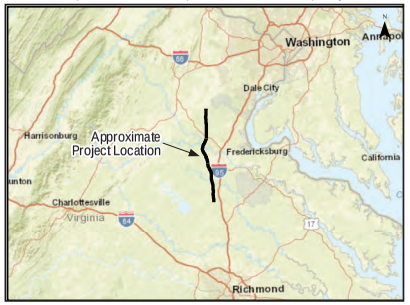
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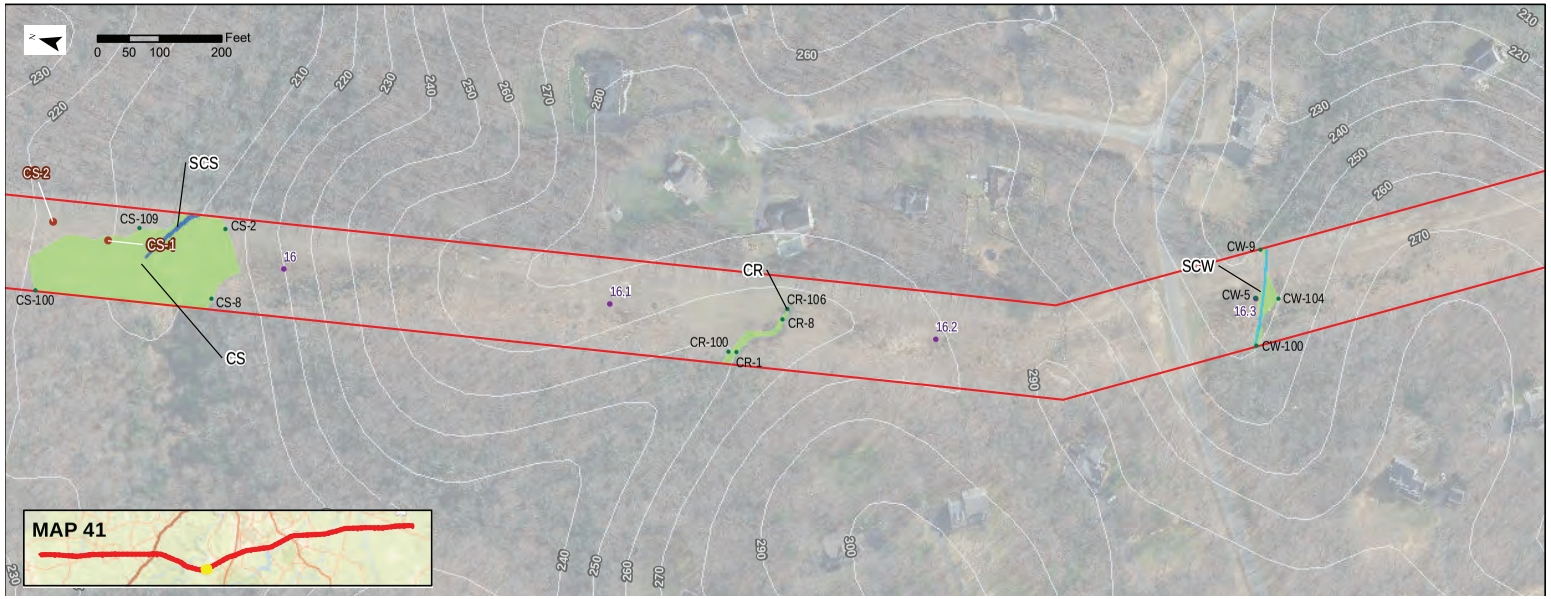
SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
- Palustrine Emergent (PEM) Wetland (74.74 Ac)
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- Palustrine Unconsolidated Bottom (PUB) (1.46 Ac)
- Perennial Stream Channel (R3) (16,172 LF)
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- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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04/07/2020

FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

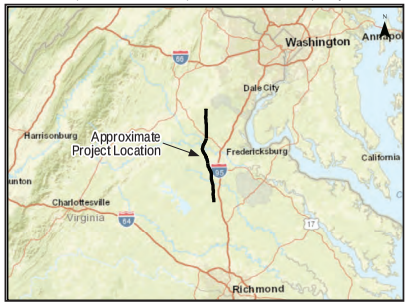
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Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

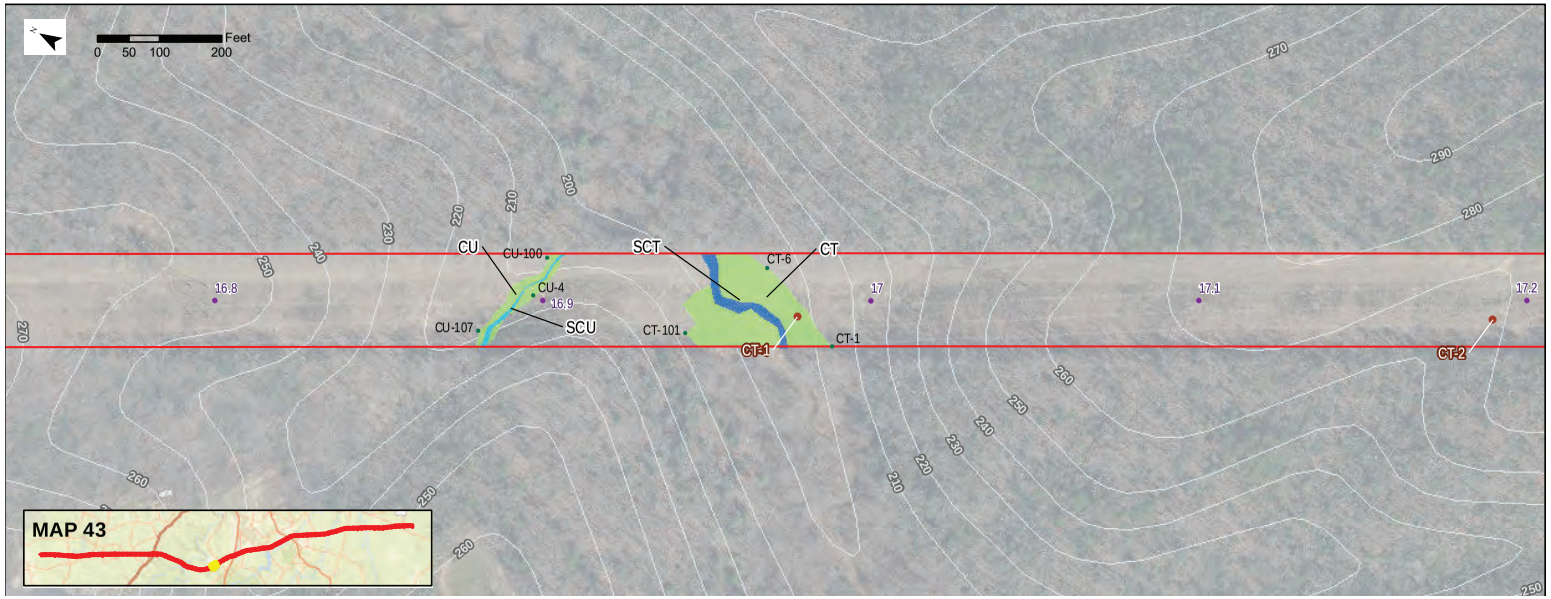
- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
- Palustrine Emergent (PEM) Wetland (74.74 Ac)
- Palustrine Scrub/Shrub (PSS) Wetland (3.54 Ac)
- Palustrine Unconsolidated Bottom (PUB) (1.46 Ac)
- Perennial Stream Channel (R3) (16,172 LF)
- Intermittent Stream Channel (R4) (4,528 LF)
- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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04/07/2020

FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

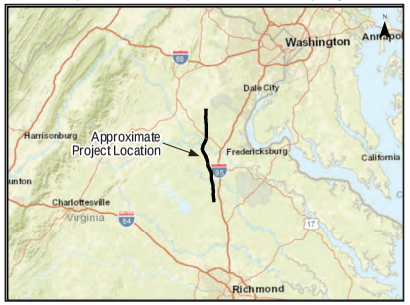
C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

0 100 200 Feet
Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
- Palustrine Emergent (PEM) Wetland (74.74 Ac)
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- Palustrine Unconsolidated Bottom (PUB) (1.46 Ac)
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- Intermittent Stream Channel (R4) (4,528 LF)
- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

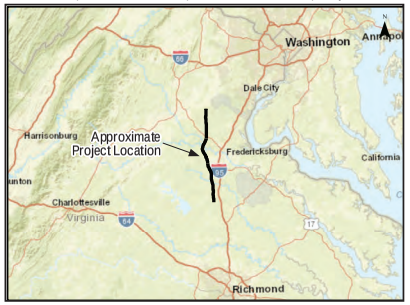
C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

0 100 200 Feet
Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
- Palustrine Emergent (PEM) Wetland (74.74 Ac)
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- Palustrine Unconsolidated Bottom (PUB) (1.46 Ac)
- Perennial Stream Channel (R3) (16,172 LF)
- Intermittent Stream Channel (R4) (4,528 LF)
- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



SHEET 23 OF 46



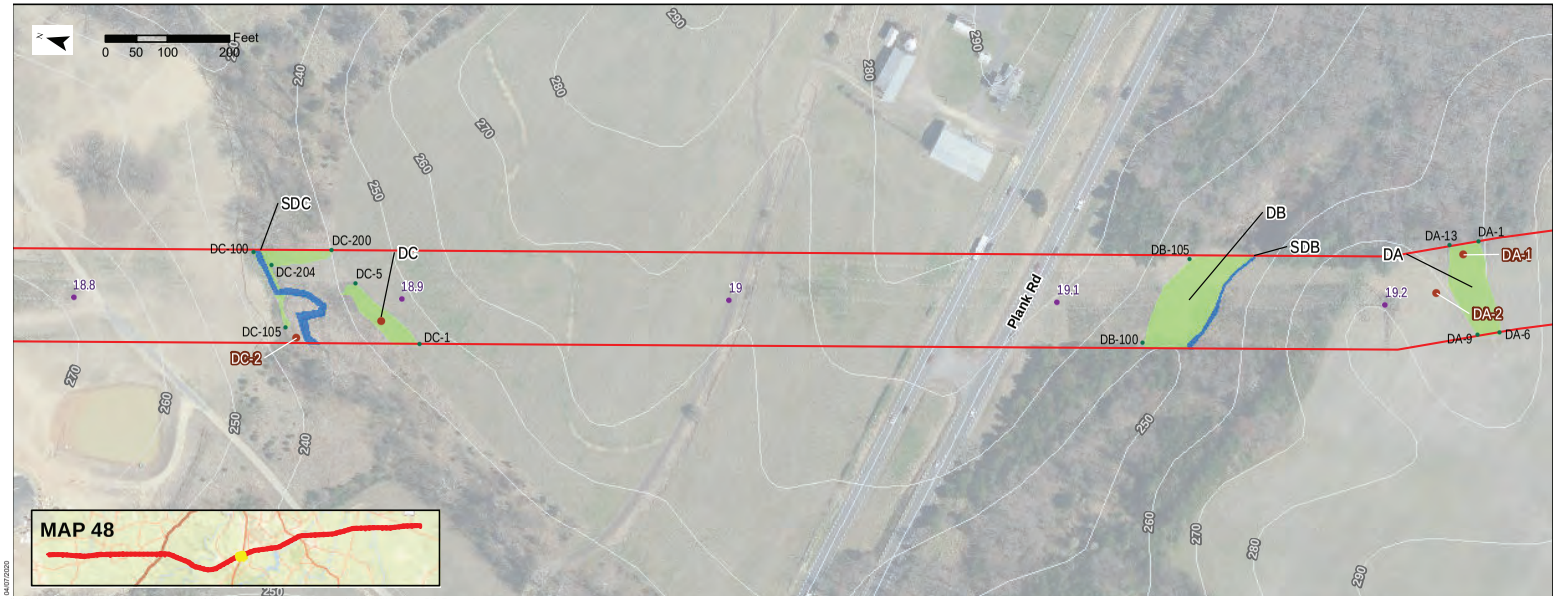


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

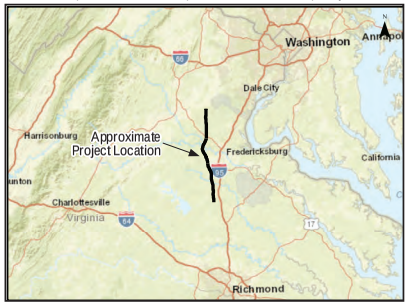
C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

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Scale is 1 in = 200 FT when printed at original size of 11x17

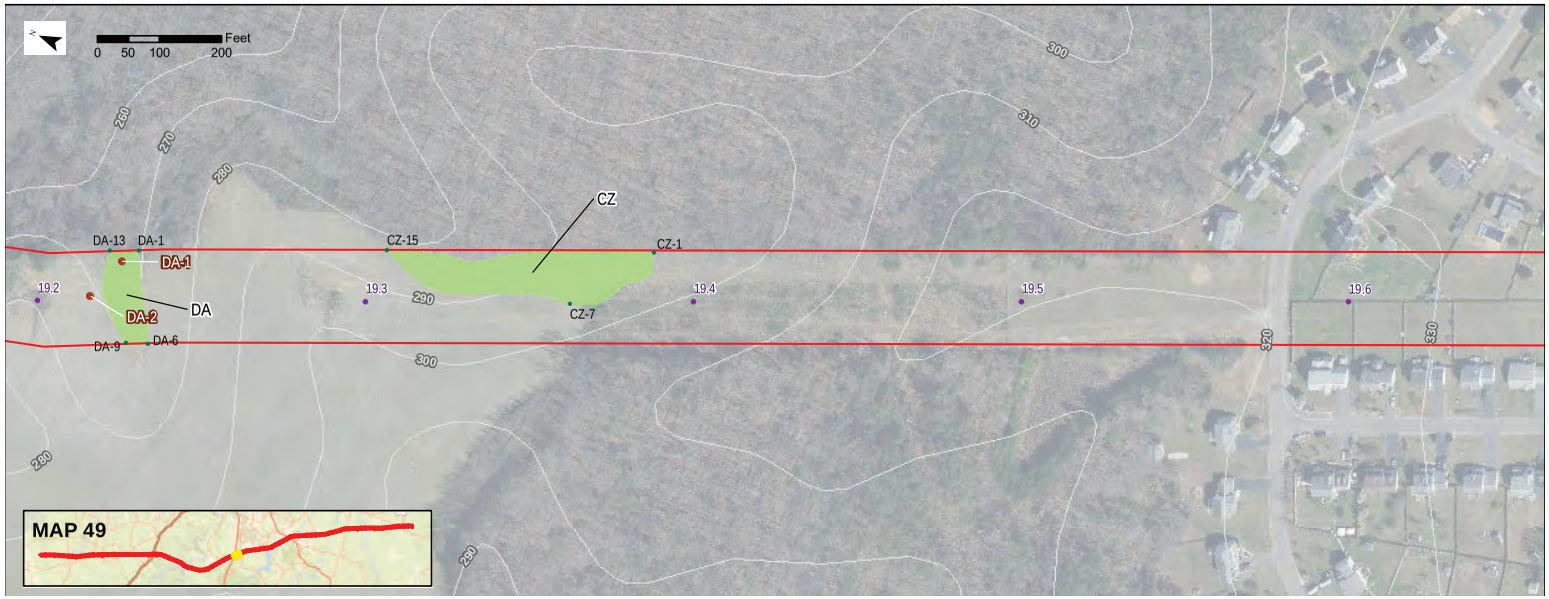
SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
- Palustrine Emergent (PEM) Wetland (74.74 Ac)
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- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



SHEET 24 OF 46



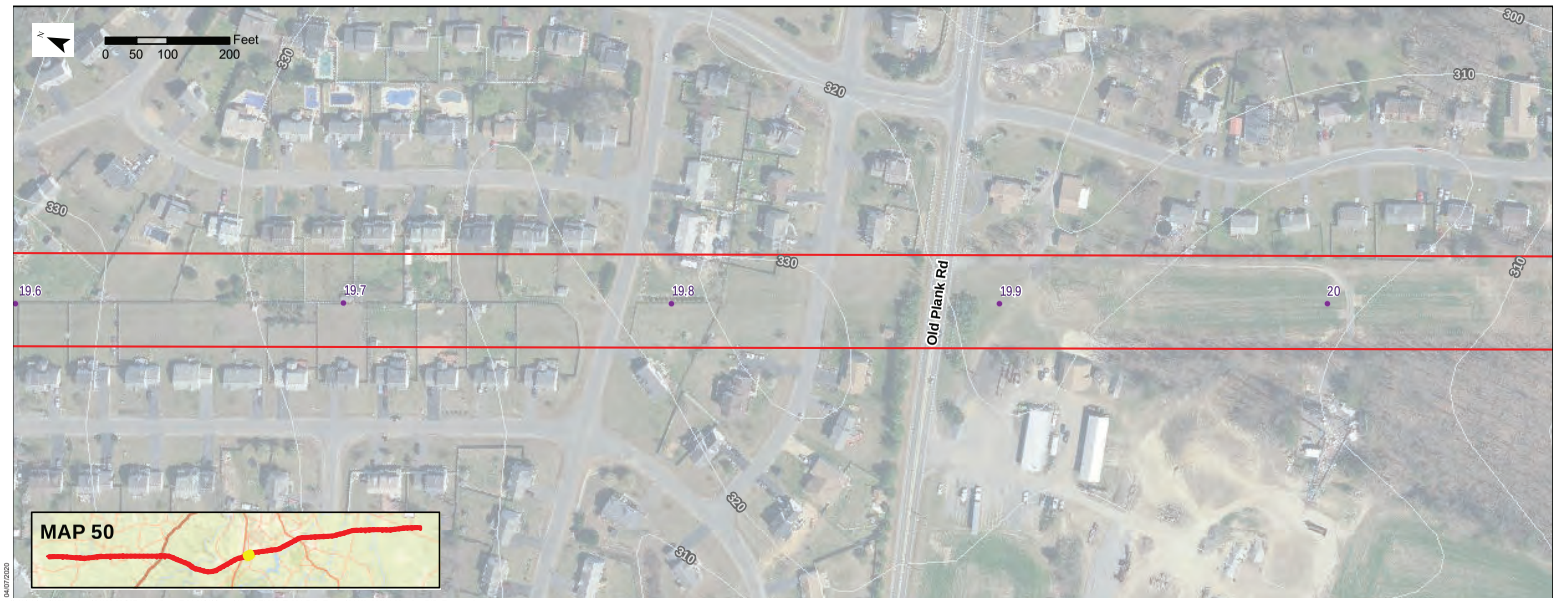


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

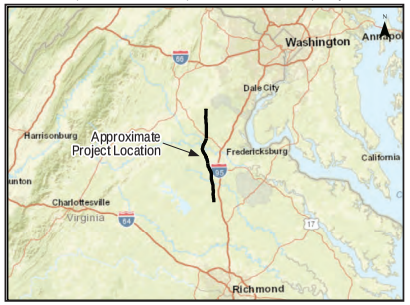
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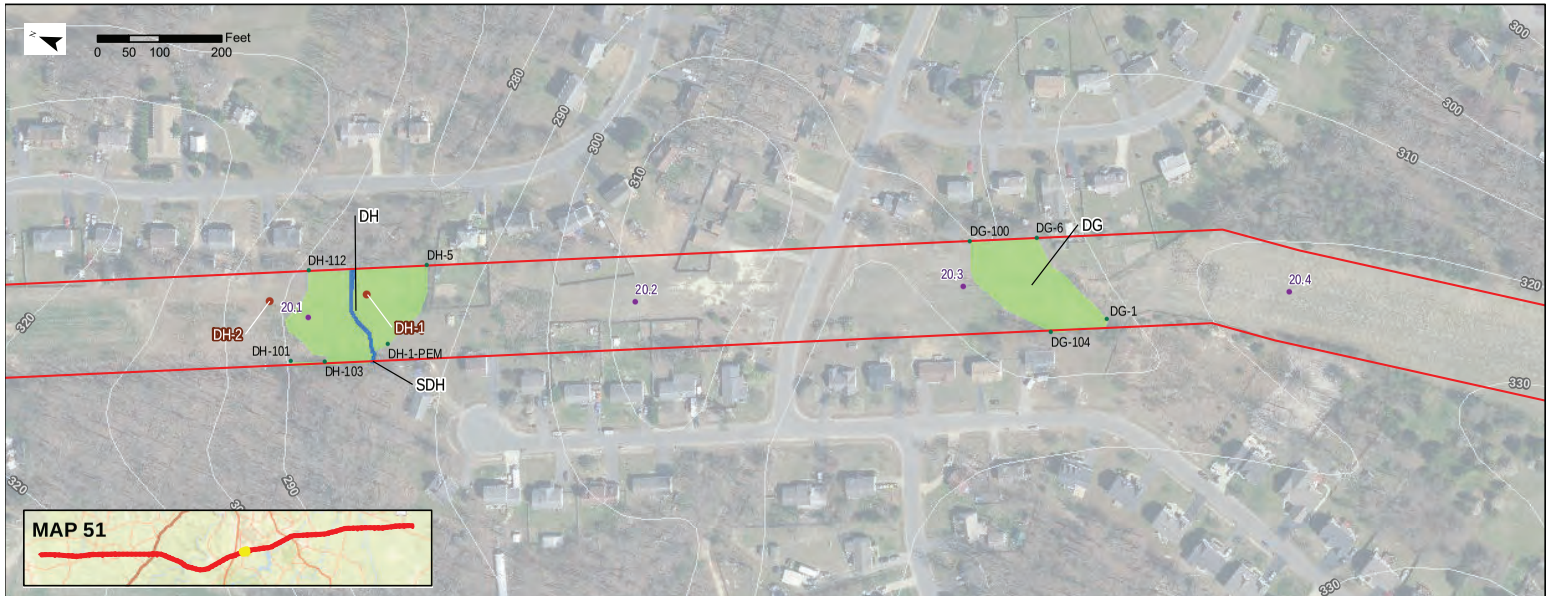
SITE DATA

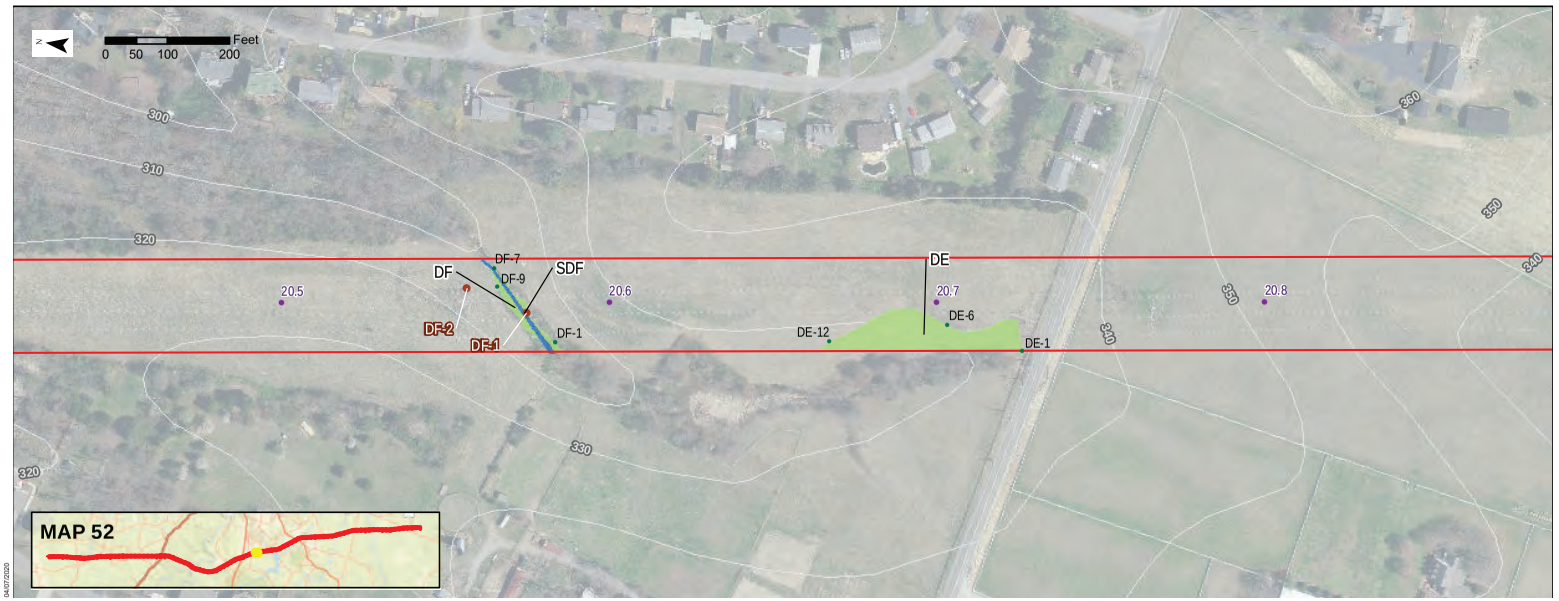
- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
- Palustrine Emergent (PEM) Wetland (74.74 Ac)
- Palustrine Scrub/Shrub (PSS) Wetland (3.54 Ac)
- Palustrine Unconsolidated Bottom (PUB) (1.46 Ac)
- Perennial Stream Channel (R3) (16,172 LF)
- Intermittent Stream Channel (R4) (4,528 LF)
- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



SHEET 25 OF 46





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FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

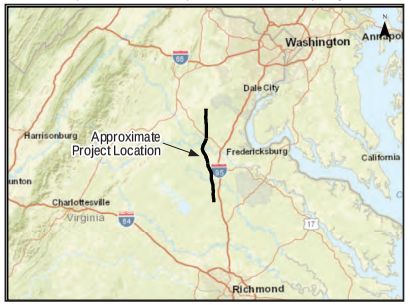
0 100 200 Feet

Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
- Palustrine Emergent (PEM) Wetland (74.74 Ac)
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- Perennial Stream Channel (R3) (16,172 LF)
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- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

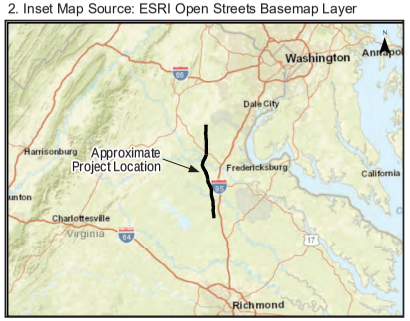
C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

0 100 200 Feet
Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
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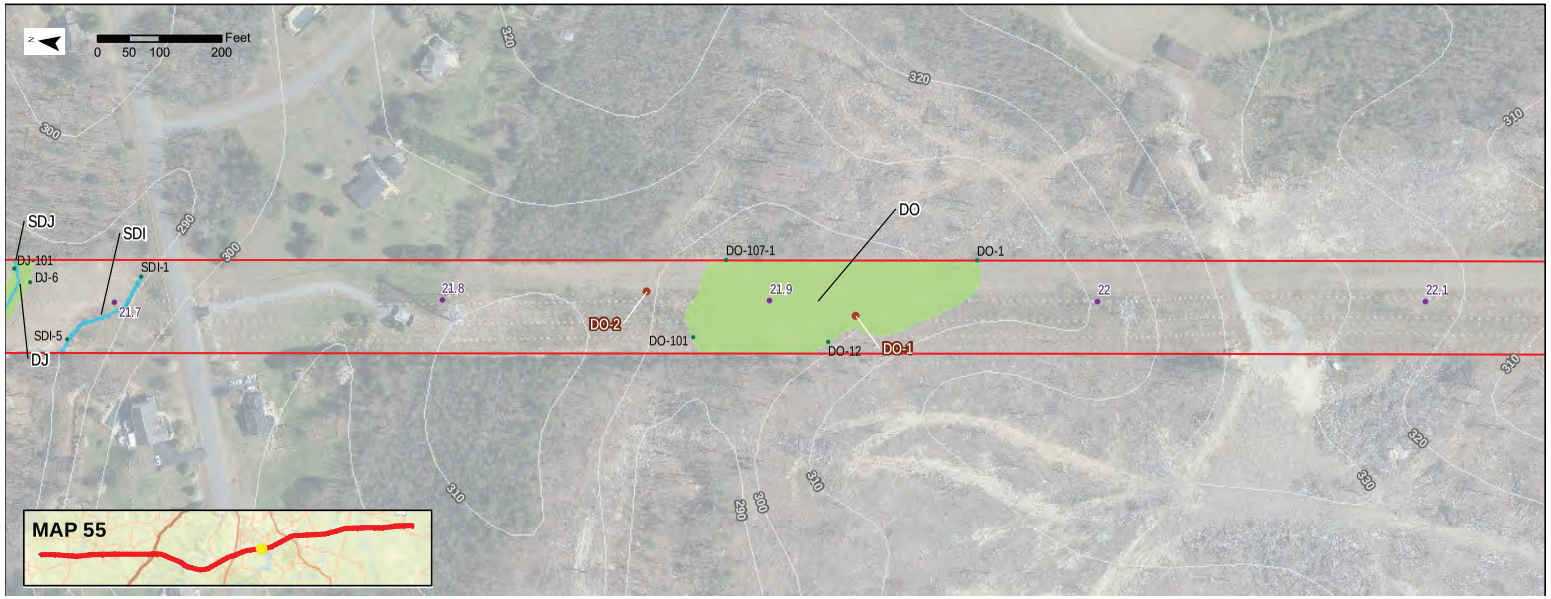
Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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\\vhb\gis\proj\Williamsburg\34465.00\C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_PJD_Figures_v2

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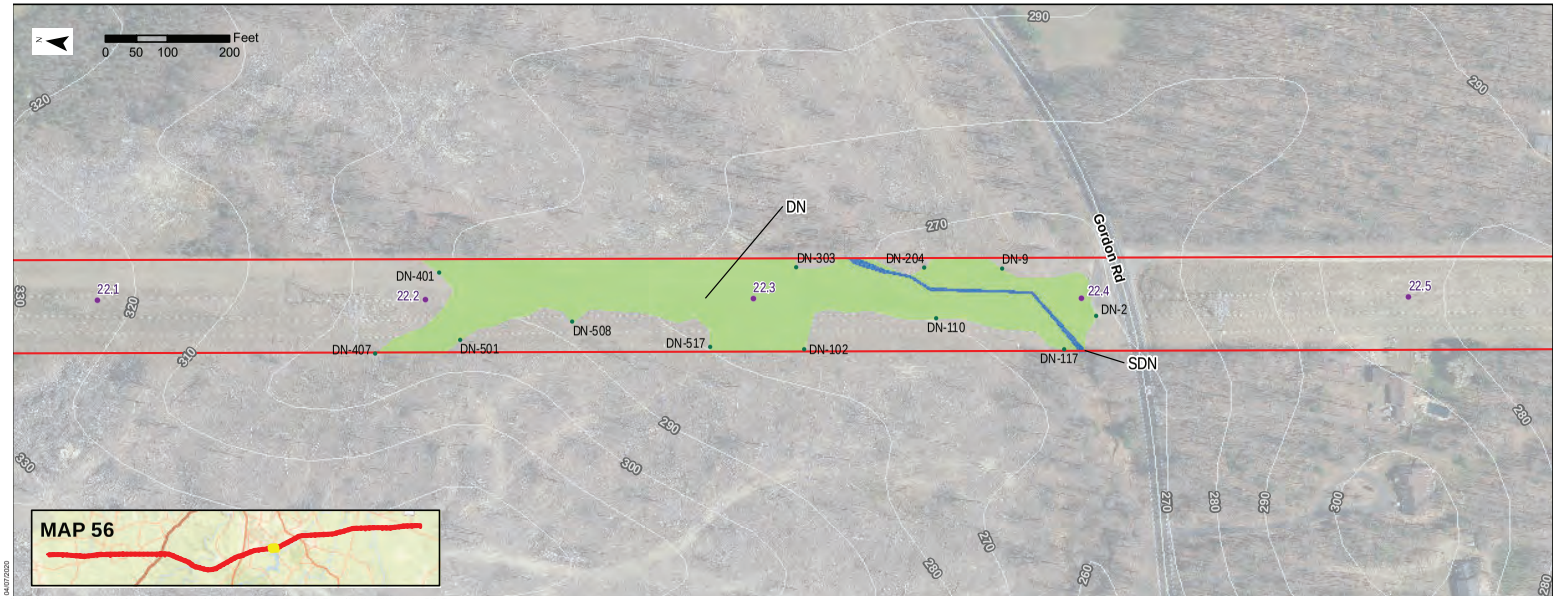


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

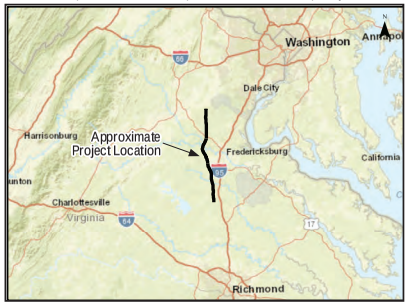
0 100 200 Feet

Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
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- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer

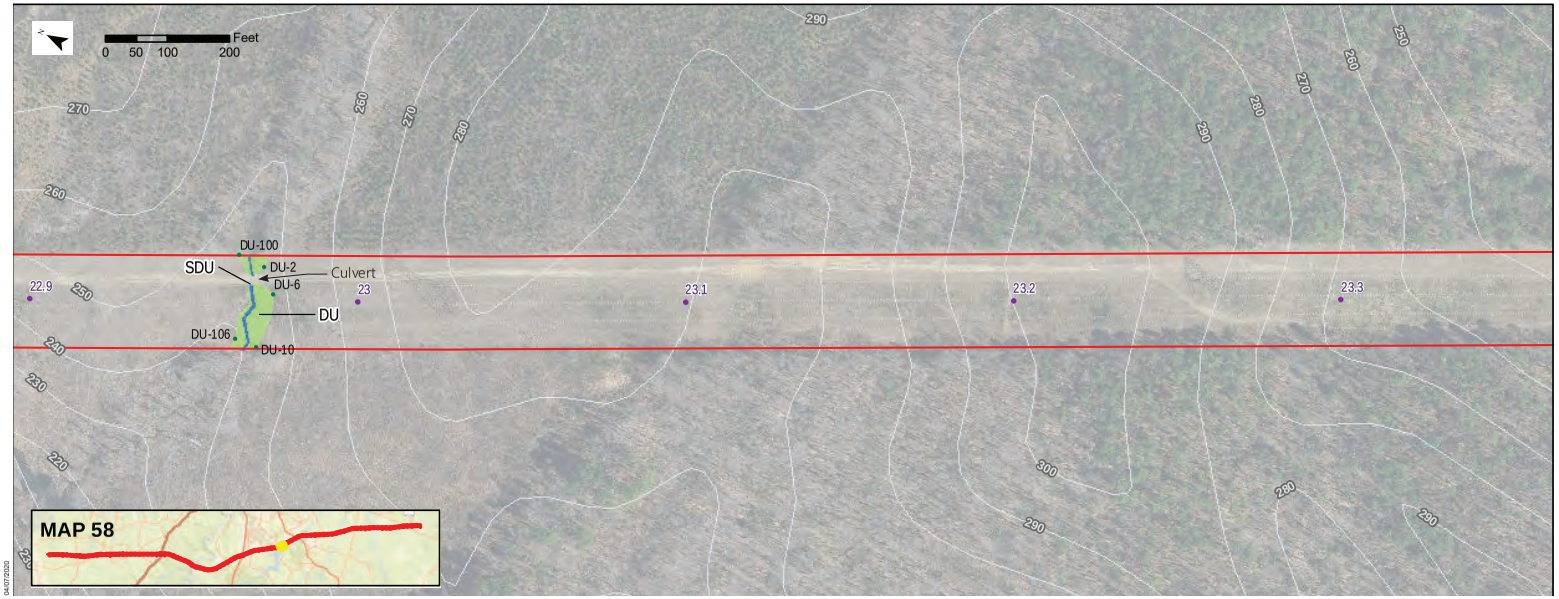


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\\vhb\gis\proj\Williamsburg\34465.00\C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_PJD_Figures_v2





04/07/2020

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FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

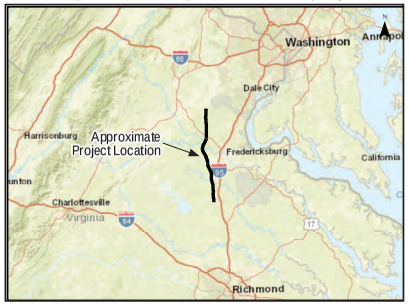
0 100 200 Feet

Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
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- Perennial Stream Channel (R3) (16,172 LF)
- Intermittent Stream Channel (R4) (4,528 LF)
- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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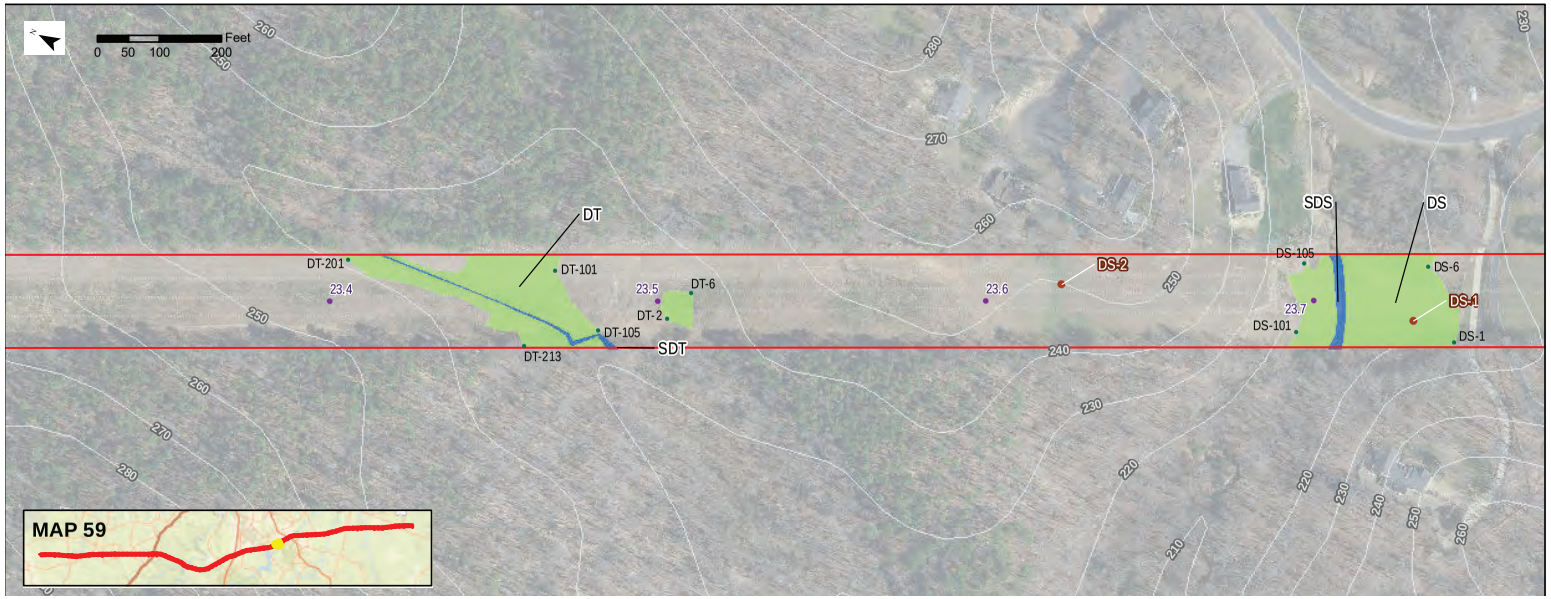




FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

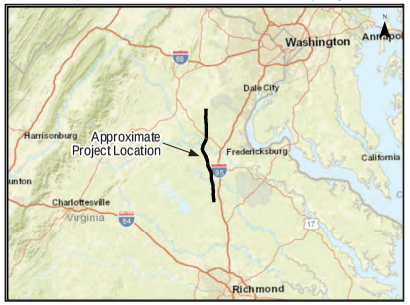
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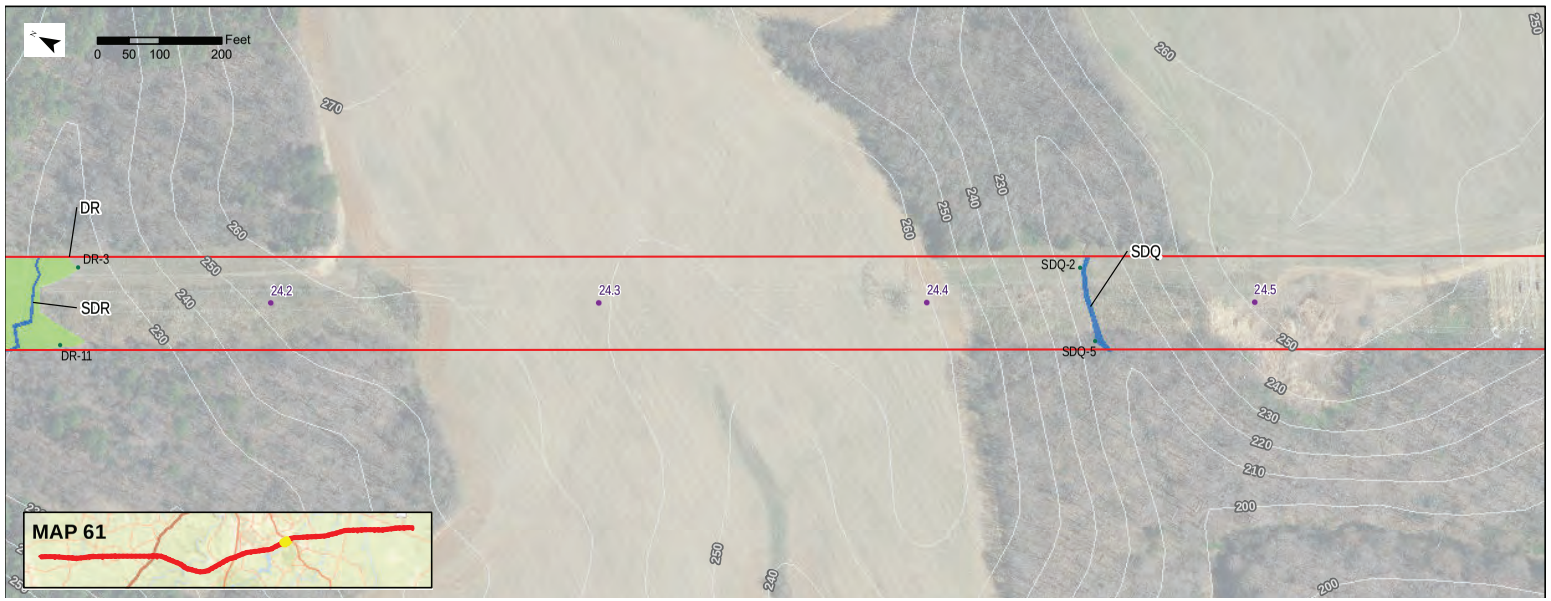
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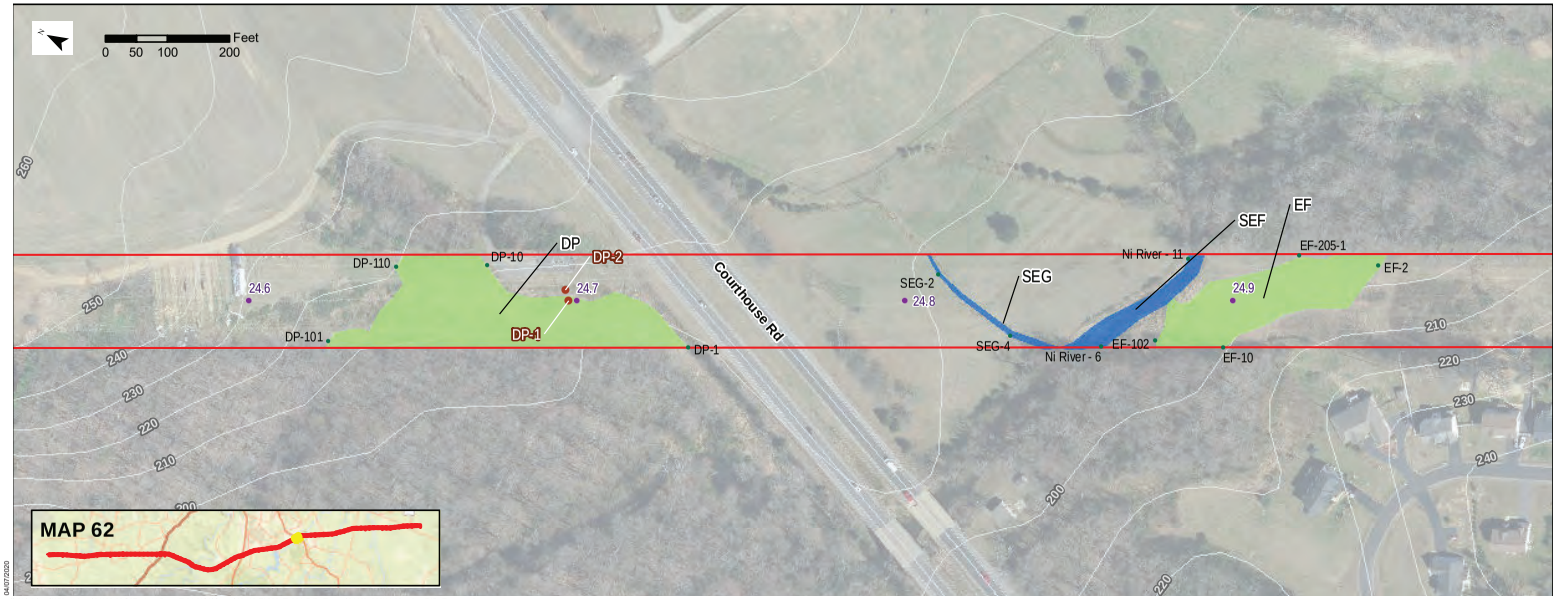
SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
- Palustrine Emergent (PEM) Wetland (74.74 Ac)
- Palustrine Scrub/Shrub (PSS) Wetland (3.54 Ac)
- Palustrine Unconsolidated Bottom (PUB) (1.46 Ac)
- Perennial Stream Channel (R3) (16,172 LF)
- Intermittent Stream Channel (R4) (4,528 LF)
- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer







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\\vhb\gis\proj\Williamsburg\34465.00 C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_PJD_Figures_v2

FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

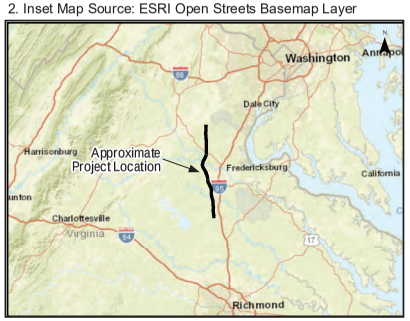
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Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

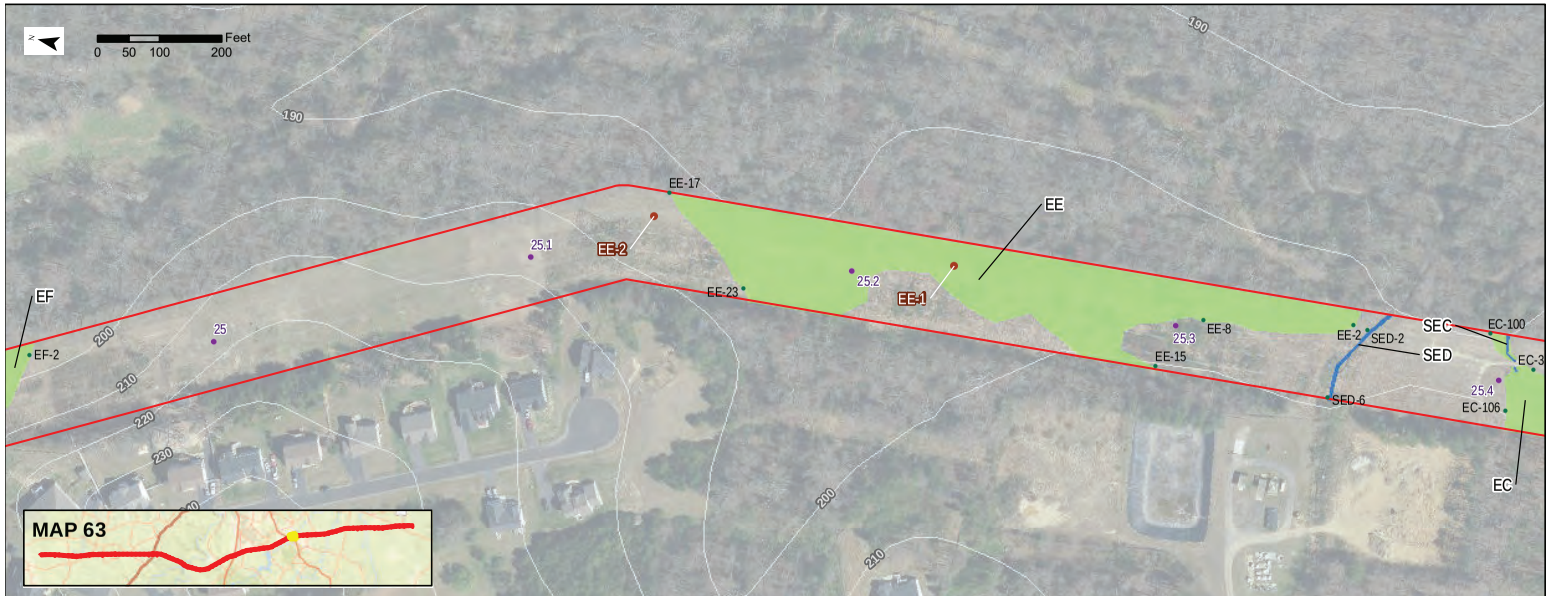
- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
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Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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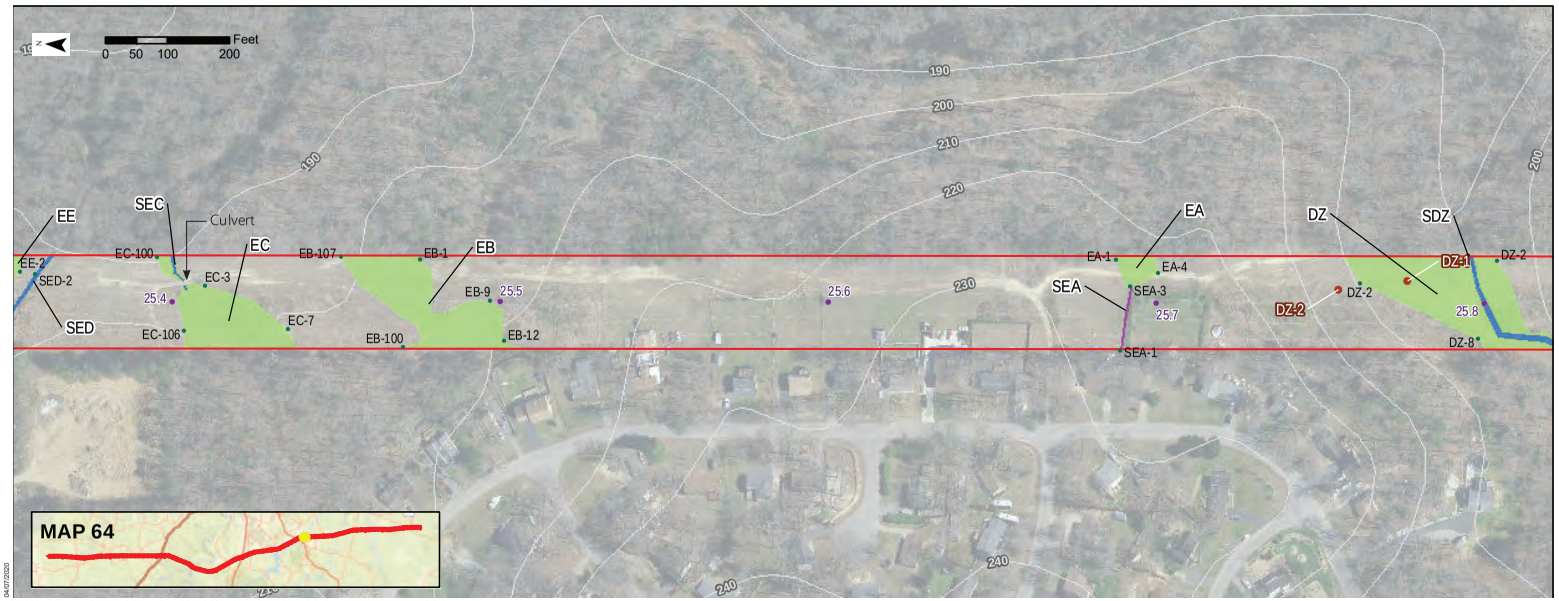


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

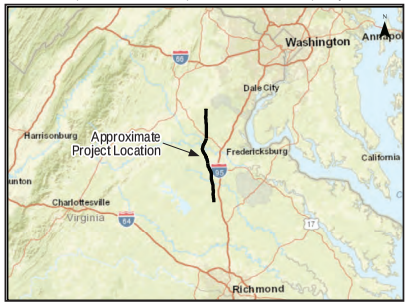
0 100 200 Feet

Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

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- Contours (CI = 10 Ft.)
- Flag Identifier
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Notes:
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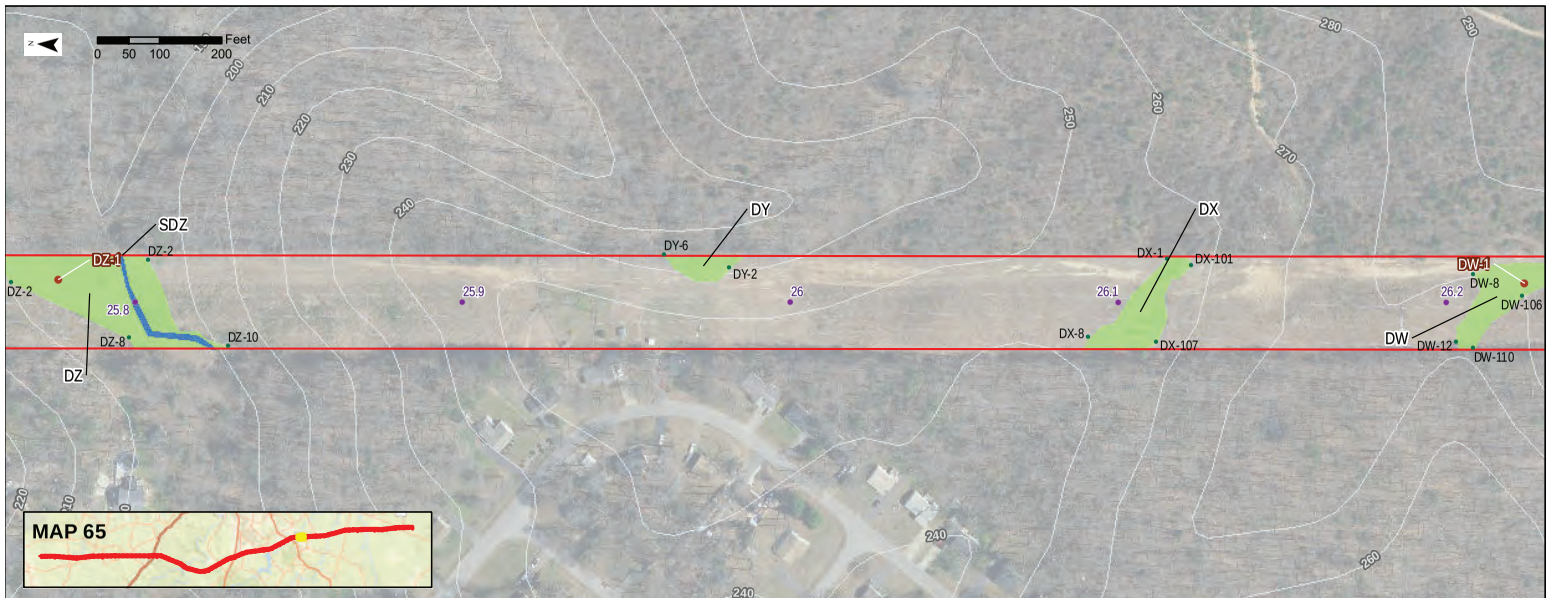


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\\vhb\gis\proj\Williamsburg\34465.00 C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_PJD_Figures_v2

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FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

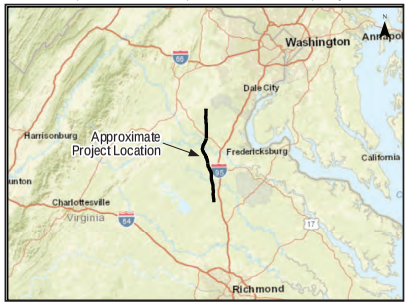
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Scale is 1 in = 200 FT when printed at original size of 11x17

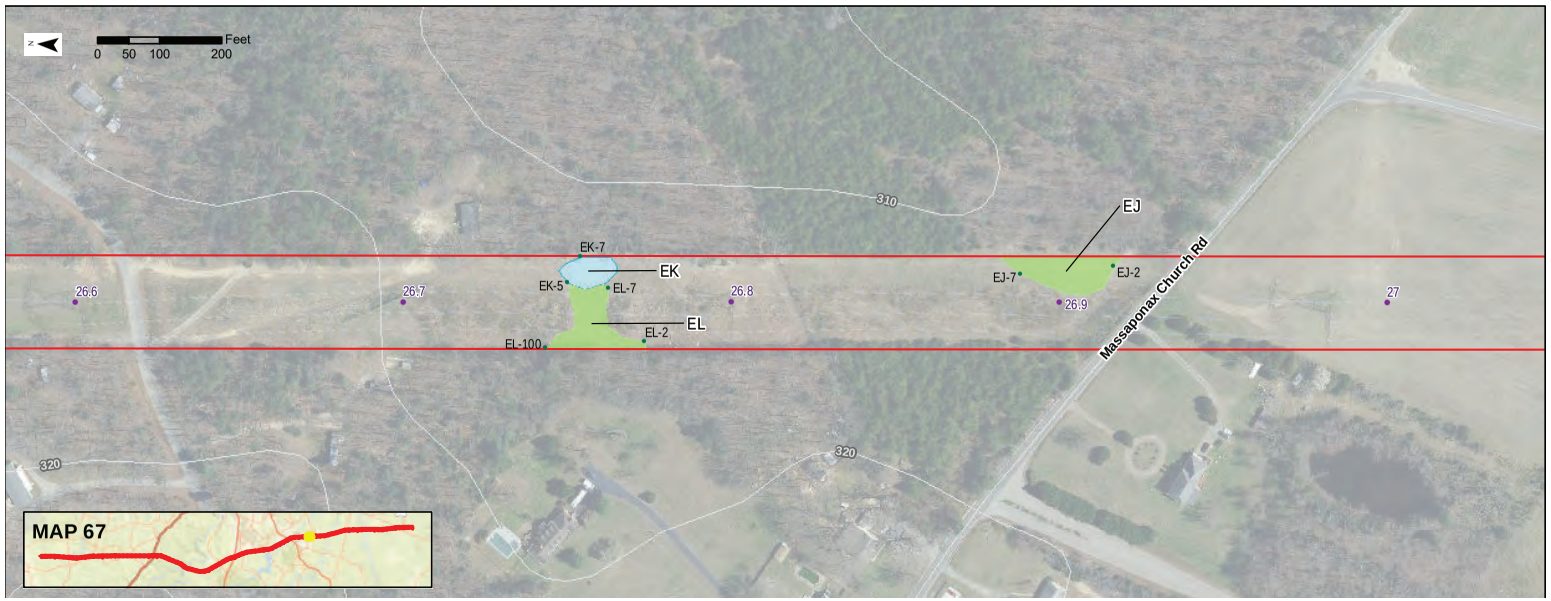
SITE DATA

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- Flag Identifier
- Data Point
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- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

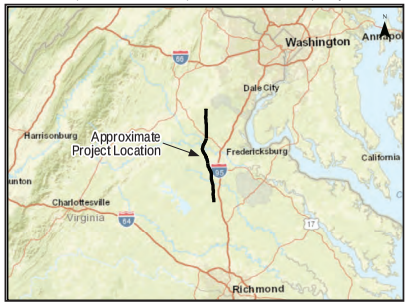
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Scale is 1 in = 200 FT when printed at original size of 11x17

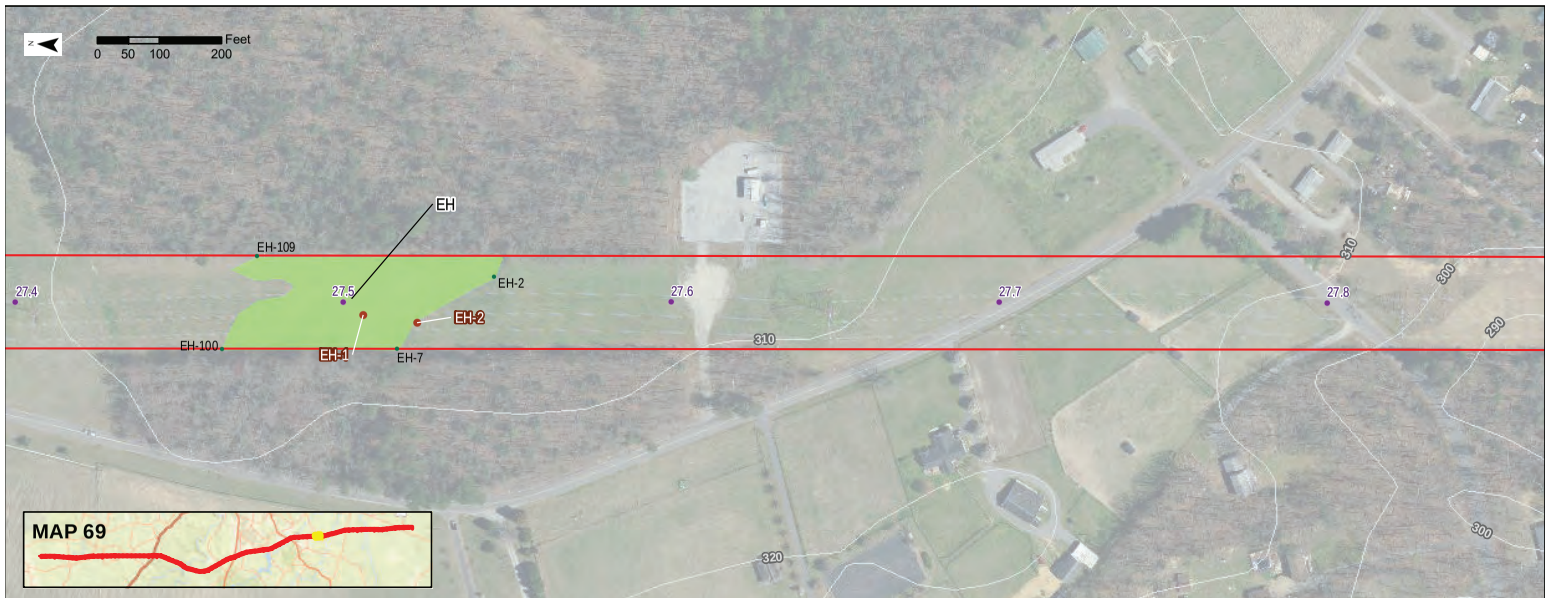
SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
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- Palustrine Forested (PFO) Wetland (3.45 Ac)
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Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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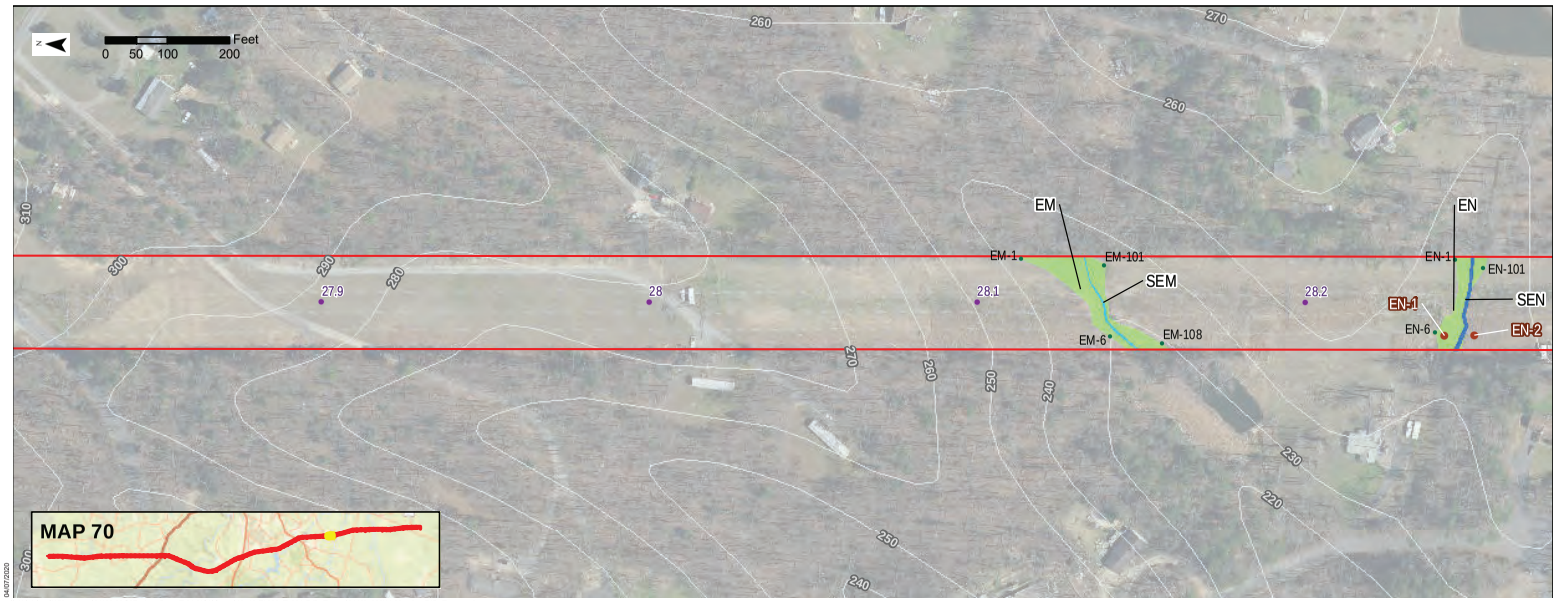


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

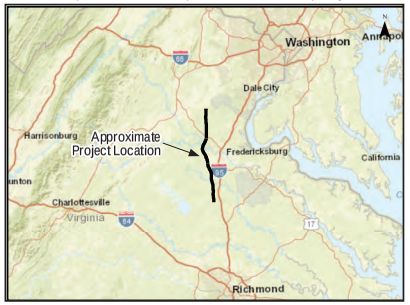
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Scale is 1 in = 200 FT when printed at original size of 11x17

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Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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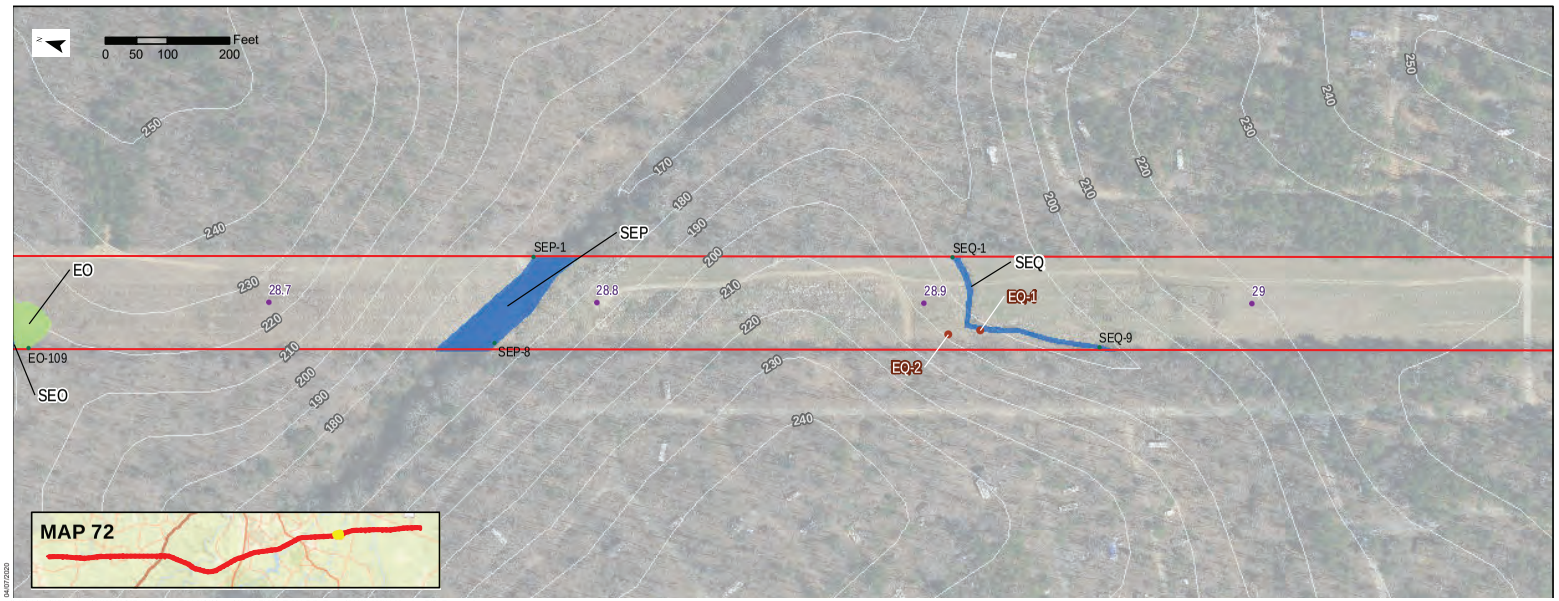


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

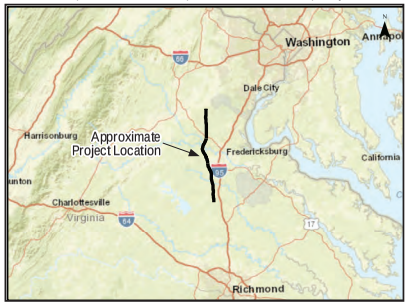
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0073/0074	MKB	04/07/2020

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Scale is 1 in = 200 FT when printed at original size of 11x17

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Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

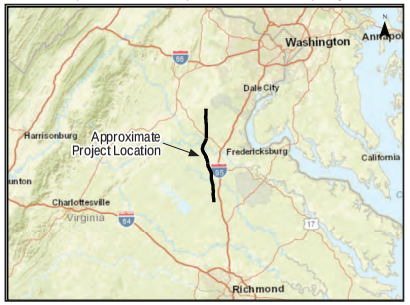
C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

0 100 200 Feet
Scale is 1 in = 200 FT when printed at original size of 11x17

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Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

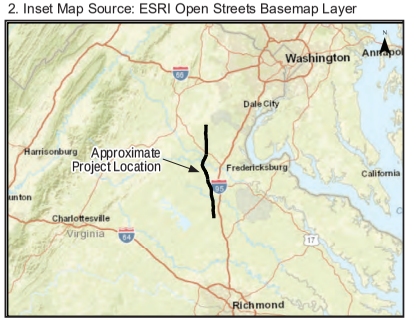
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- Contours (CI = 10 Ft.)
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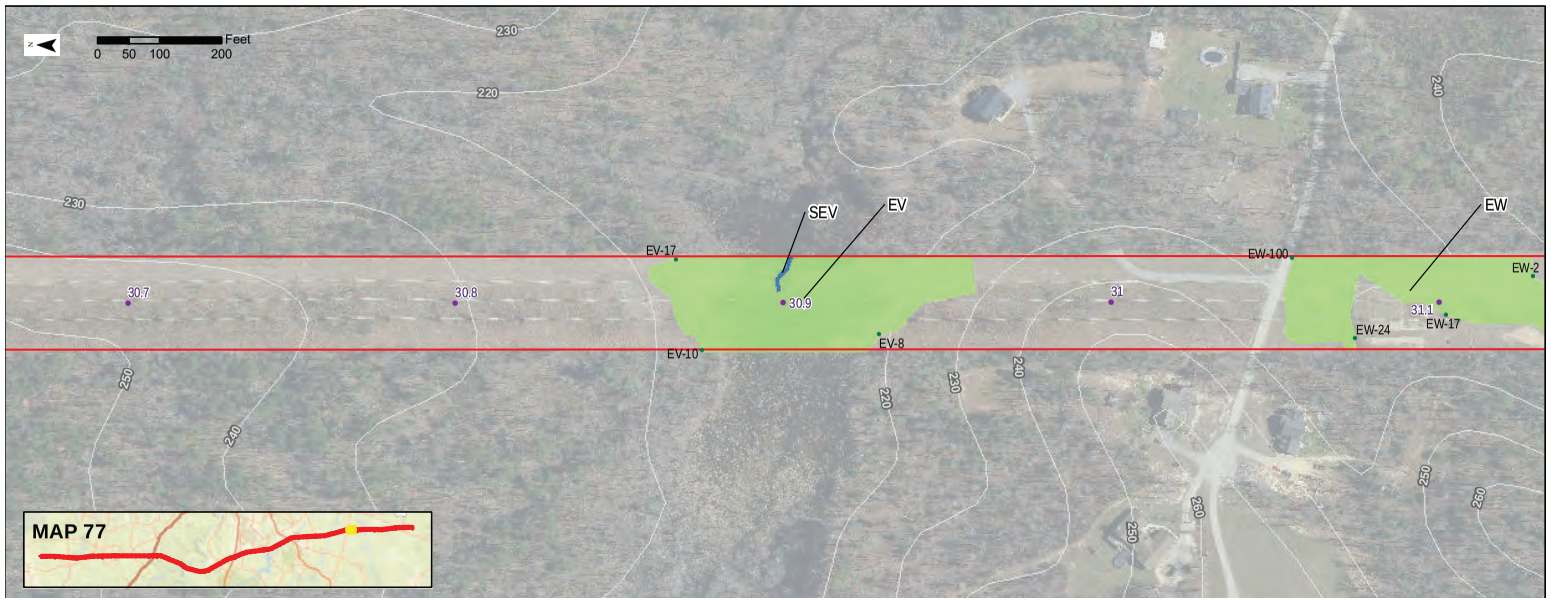
Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer

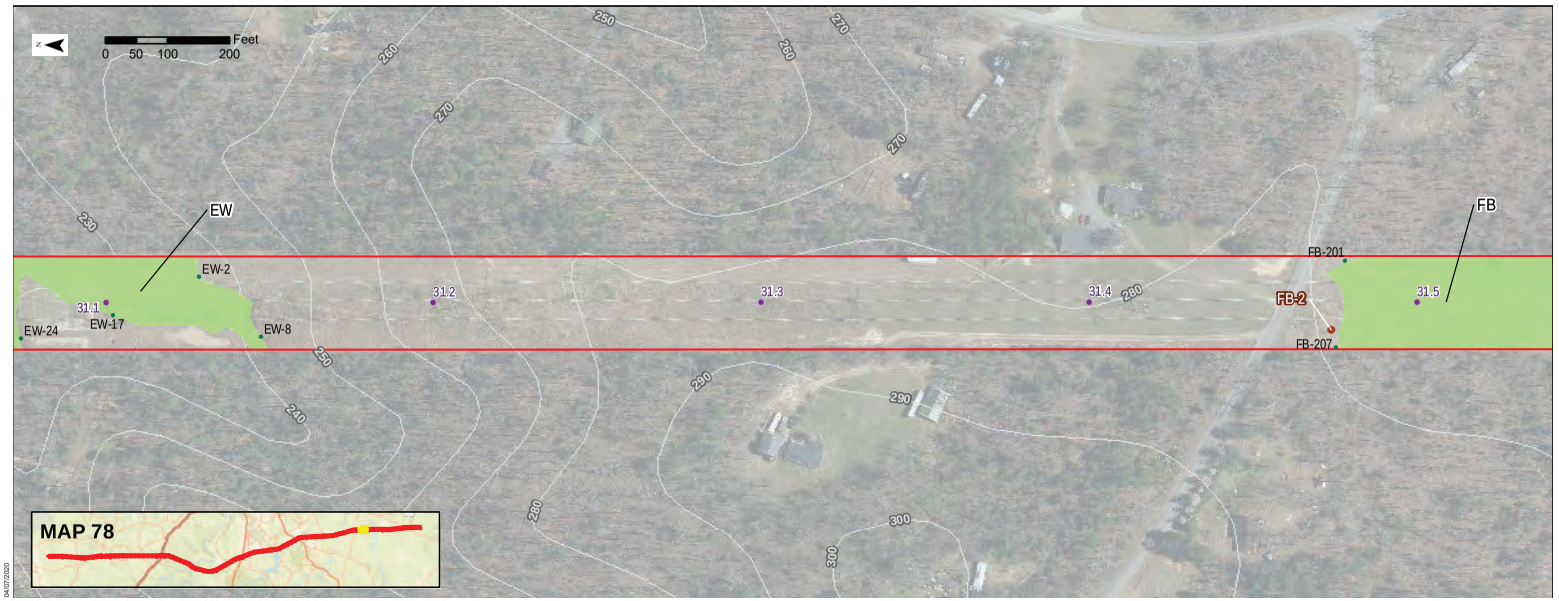


SHEET 38 OF 46

\\vhb\gis\proj\Williamsburg\34465.00 C2Environ_Dom_ENV_MSA\Output\18_19_TL552_TL581_PJD_Figures\34465_500kV_35_miler_PJD_Figures_v2

04/07/2020





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04/07/2020

FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

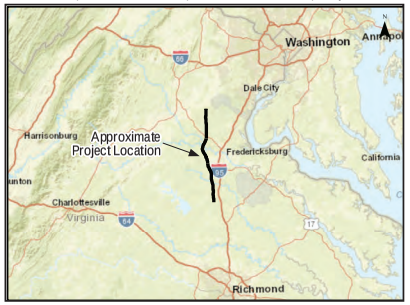
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Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

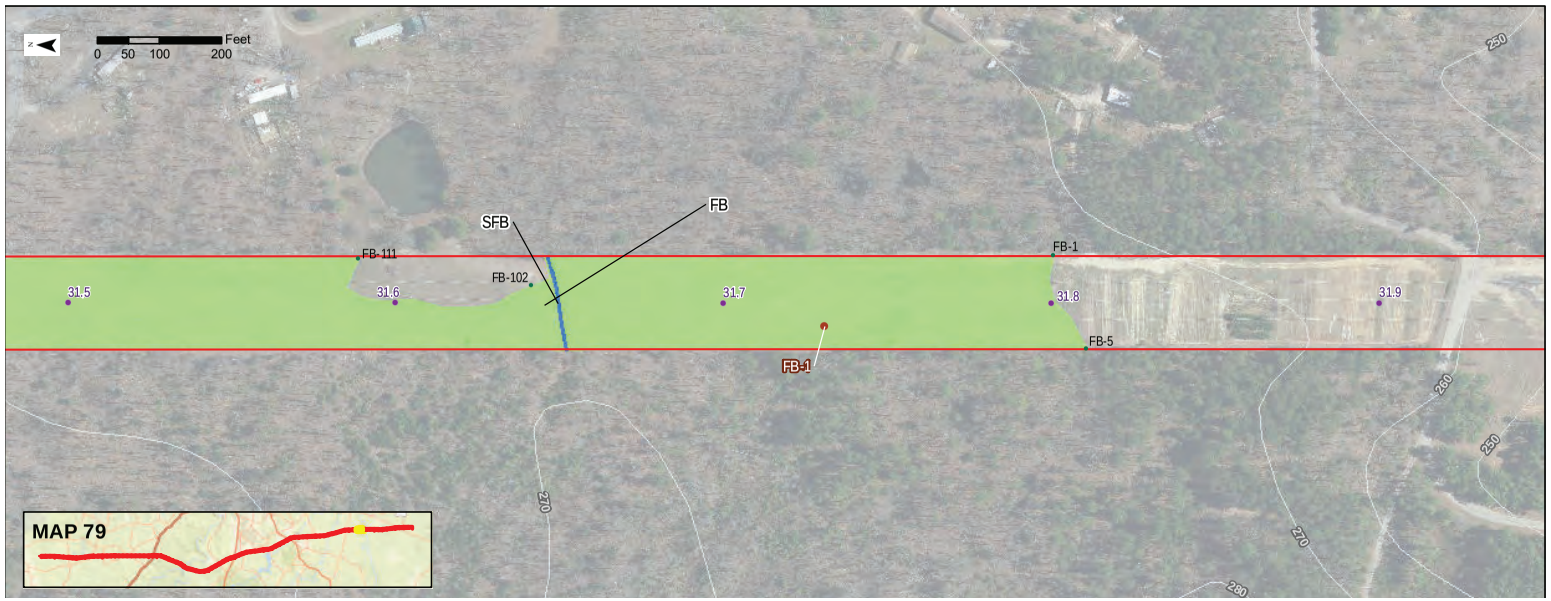
- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
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Notes:
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2. Inset Map Source: ESRI Open Streets Basemap Layer



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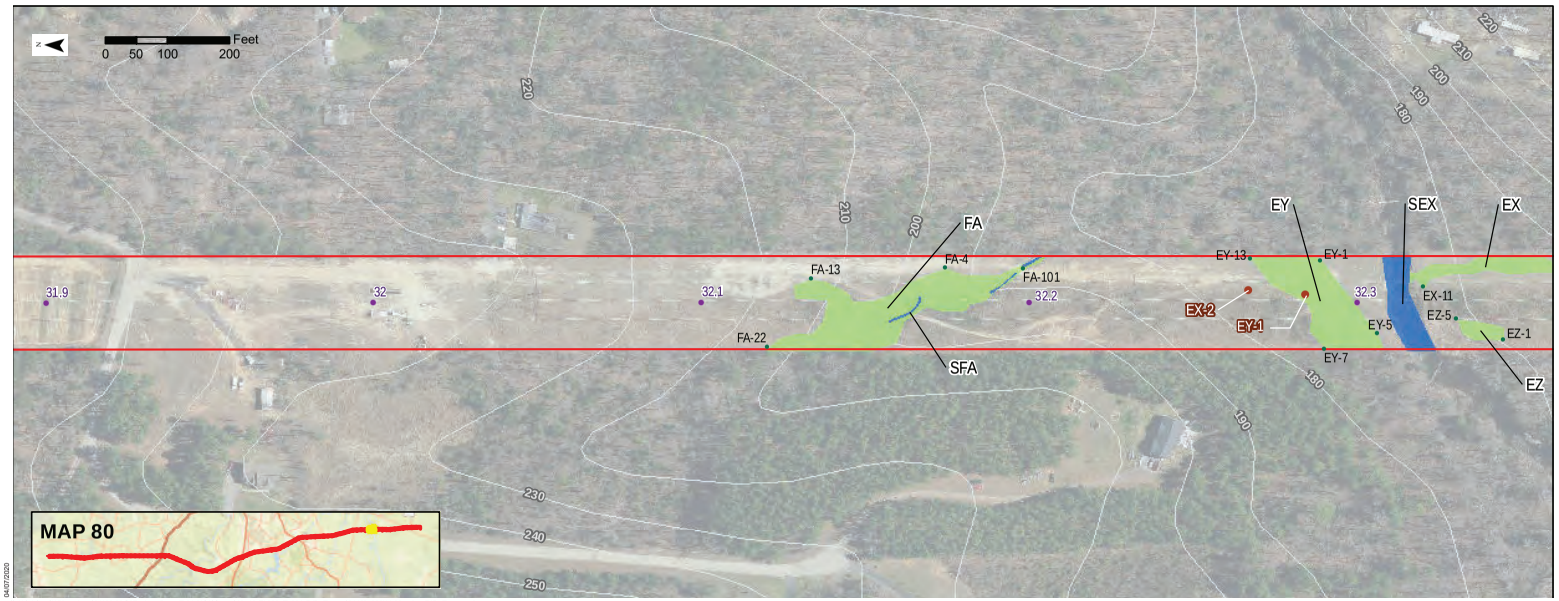


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

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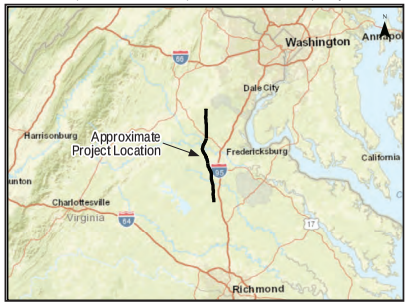
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0073/0074	MKB	04/07/2020

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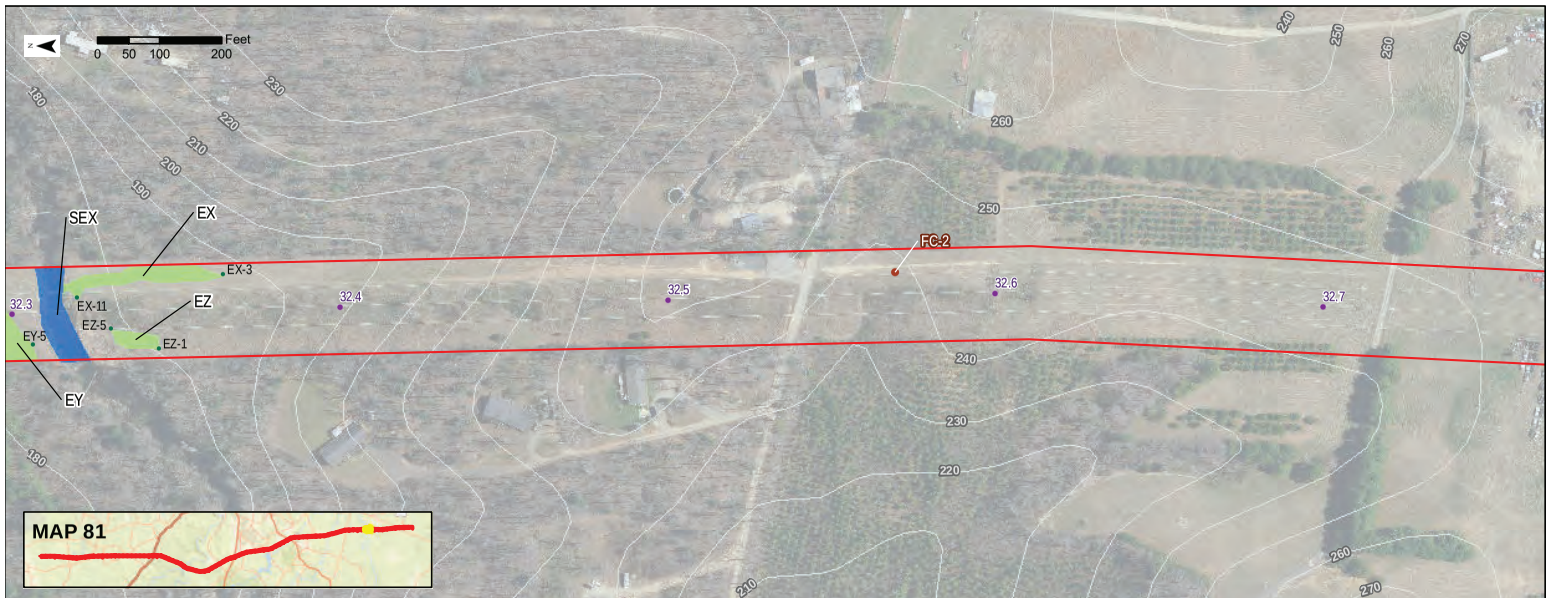
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Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



SHEET 40 OF 46



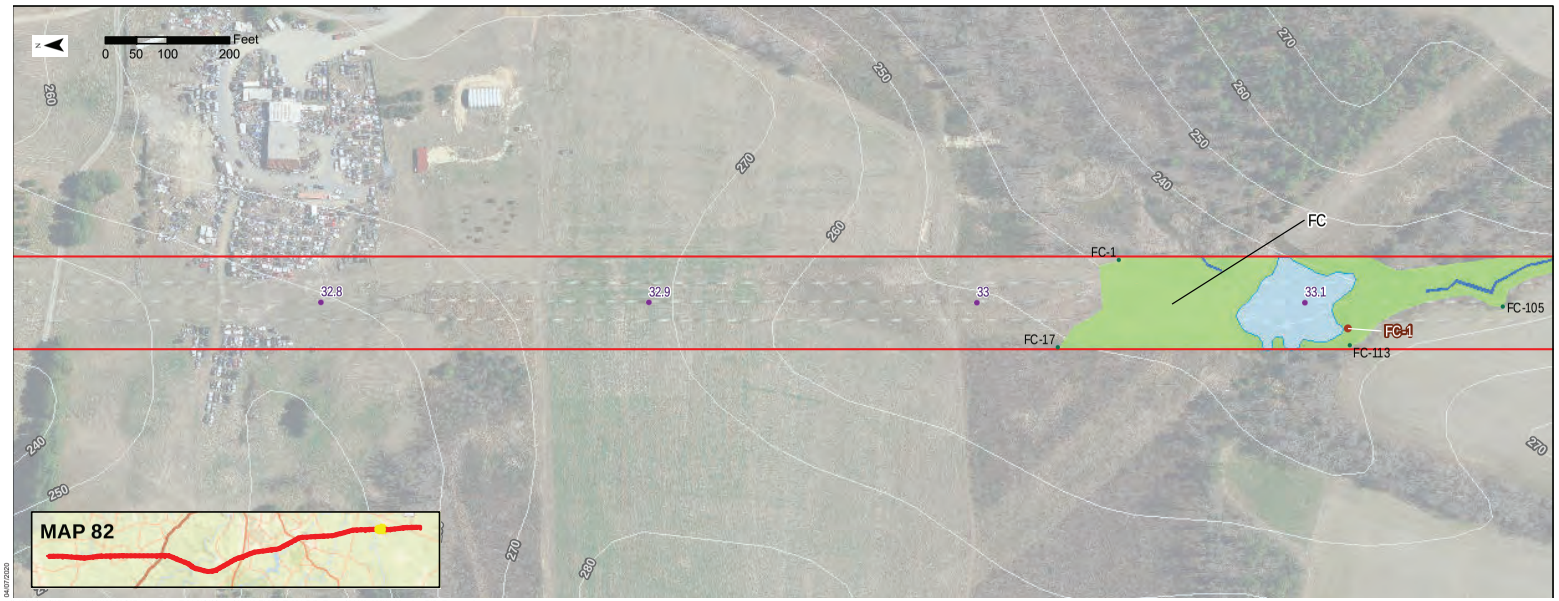


FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

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Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

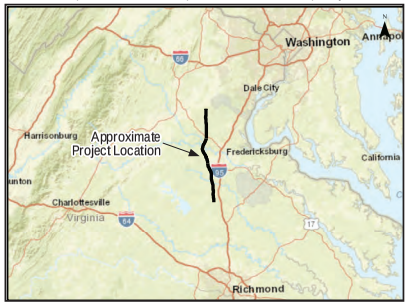
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- Perennial Stream Channel (R3) (16,172 LF)
- Intermittent Stream Channel (R4) (4,528 LF)
- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer

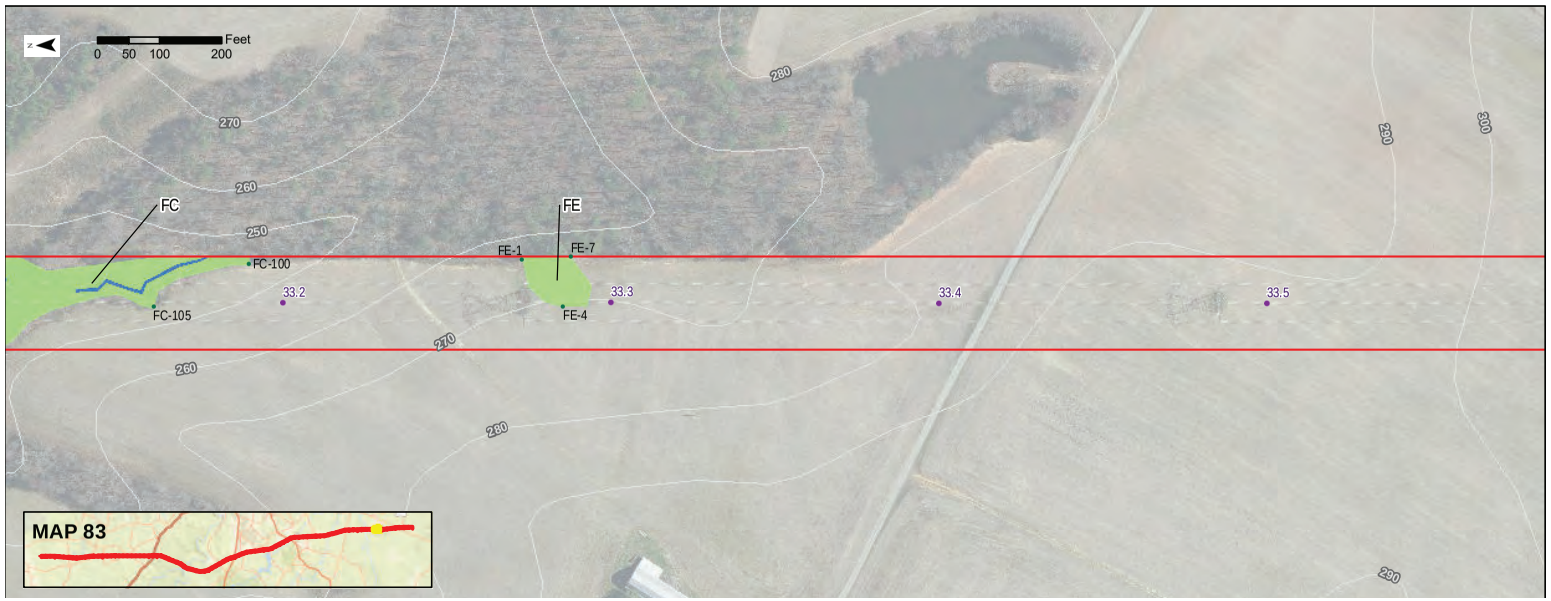


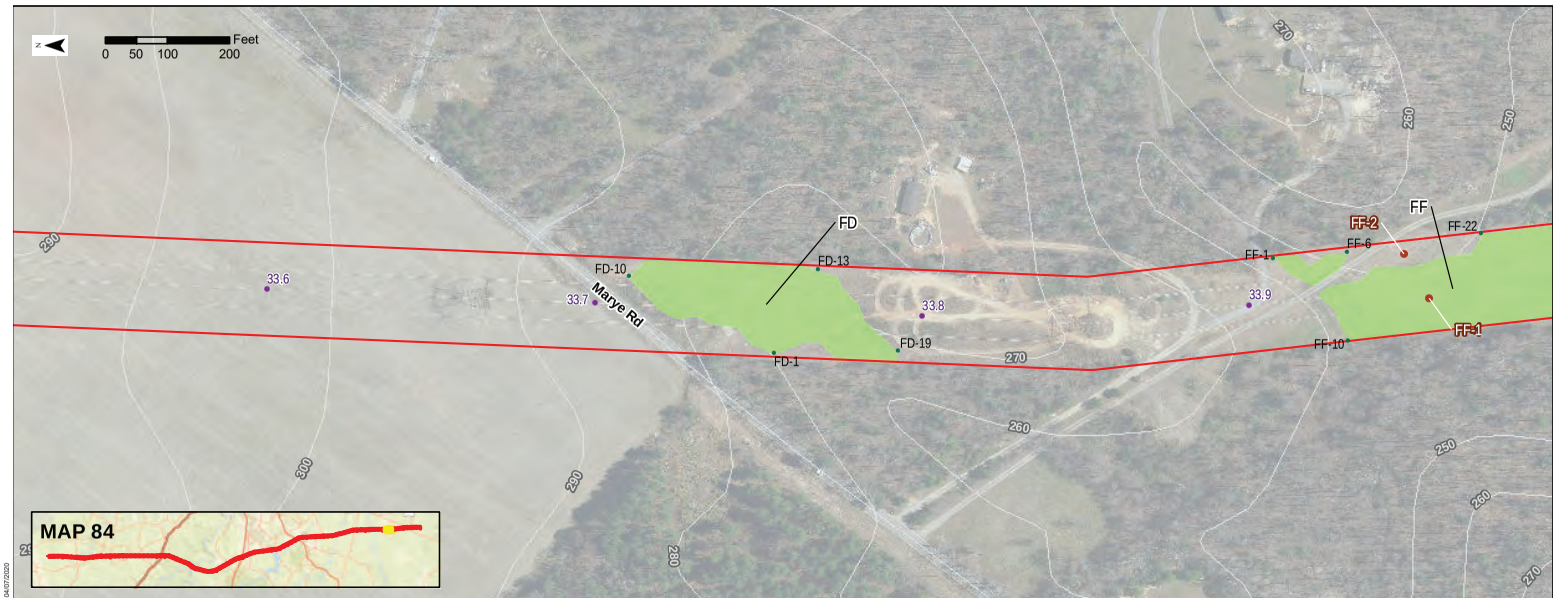
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FIGURE 5.

Waters of the U.S. Delineation Map

Bristers to Ladysmith 500 kV Rebuild

Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

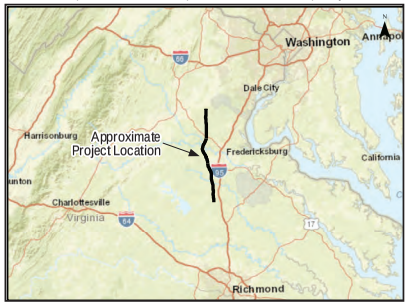
C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

0 100 200 Feet
Scale is 1 in = 200 FT when printed at original size of 11x17

SITE DATA

- Study Area
- Contours (CI = 10 Ft.)
- Flag Identifier
- Data Point
- Palustrine Forested (PFO) Wetland (3.45 Ac)
- Palustrine Emergent (PEM) Wetland (74.74 Ac)
- Palustrine Scrub/Shrub (PSS) Wetland (3.54 Ac)
- Palustrine Unconsolidated Bottom (PUB) (1.46 Ac)
- Perennial Stream Channel (R3) (16,172 LF)
- Intermittent Stream Channel (R4) (4,528 LF)
- Ephemeral Stream Channel (EPH) (357 LF)

Notes:
1. Basemap Source: VGIN/VBMP Most Recent Orthophotography
2. Inset Map Source: ESRI Open Streets Basemap Layer



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SHEET 42 OF 46





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Client:
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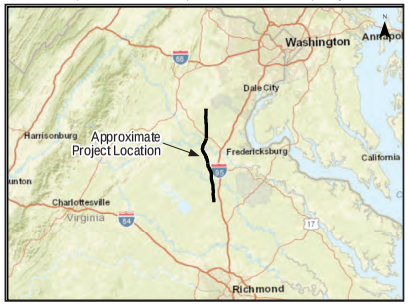
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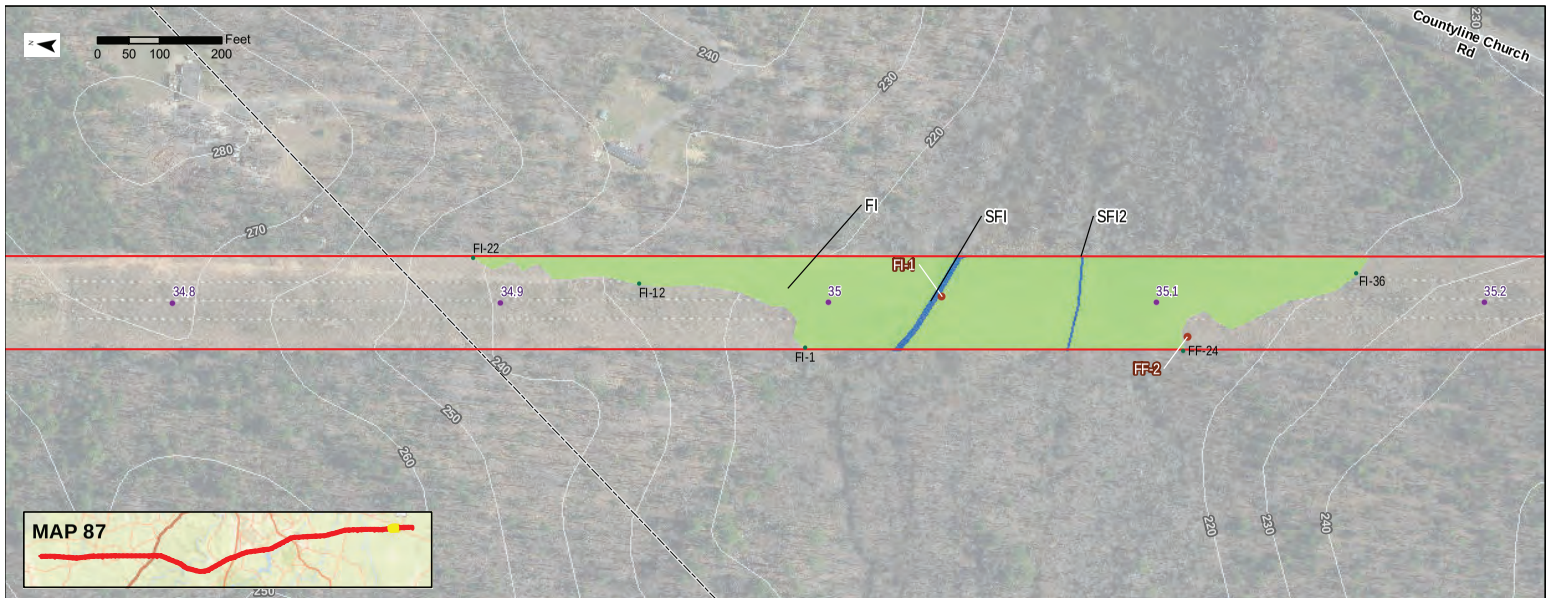
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SHEET 43 OF 46



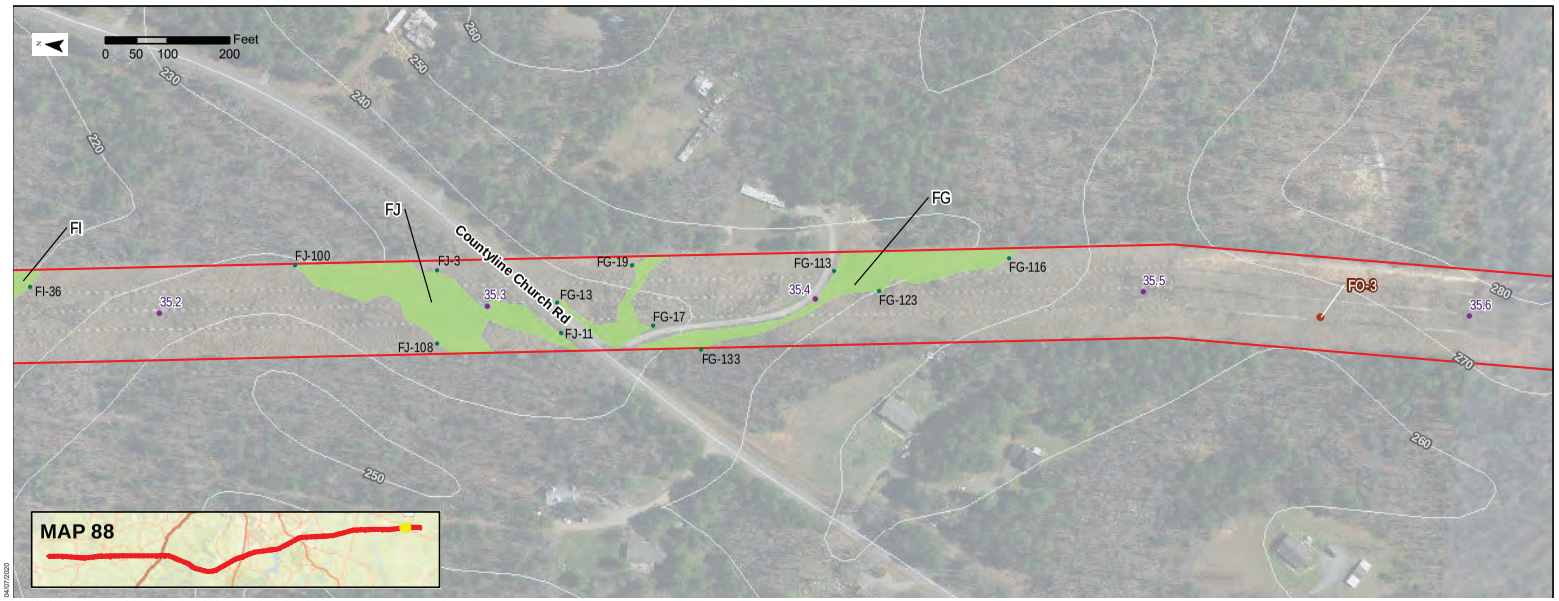


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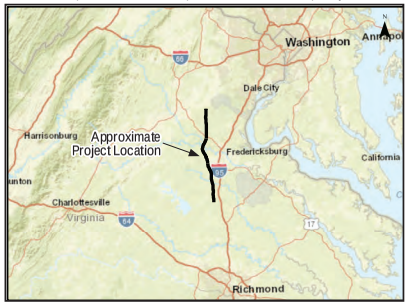
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SHEET 44 OF 46

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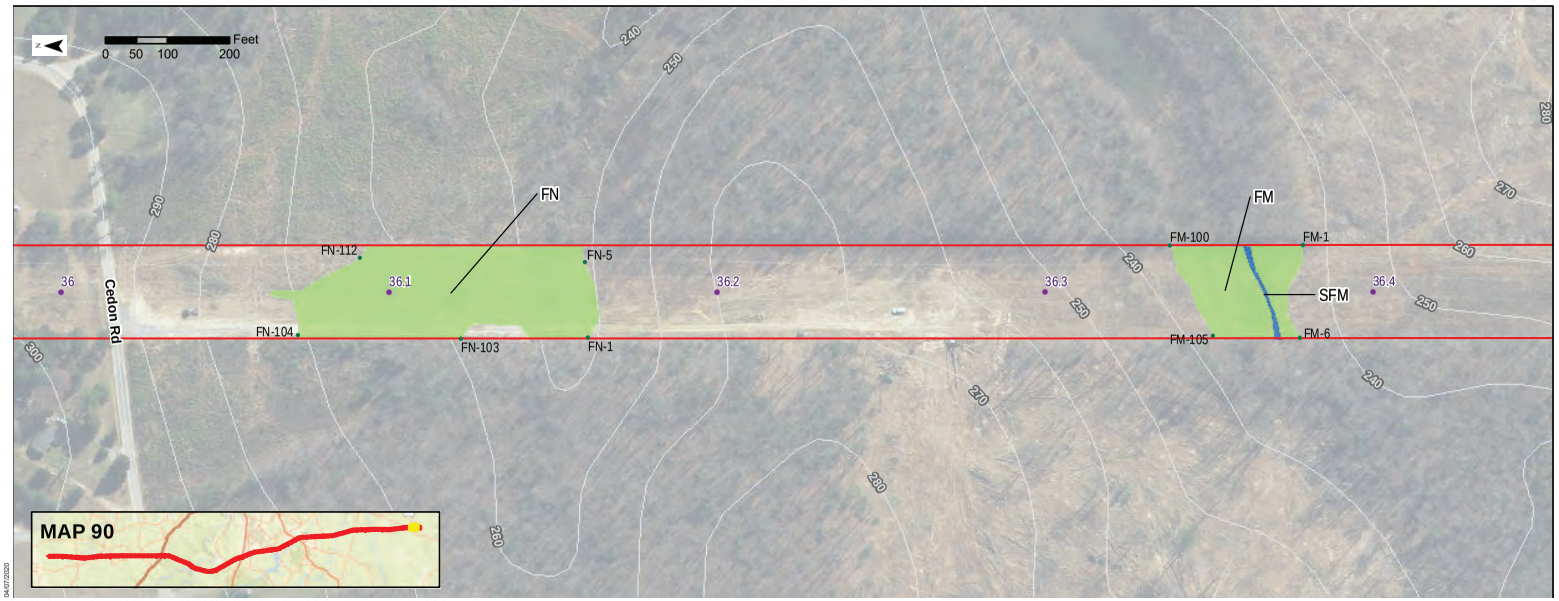


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Client:
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C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

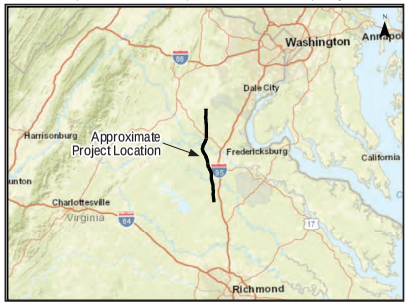
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04/07/2020

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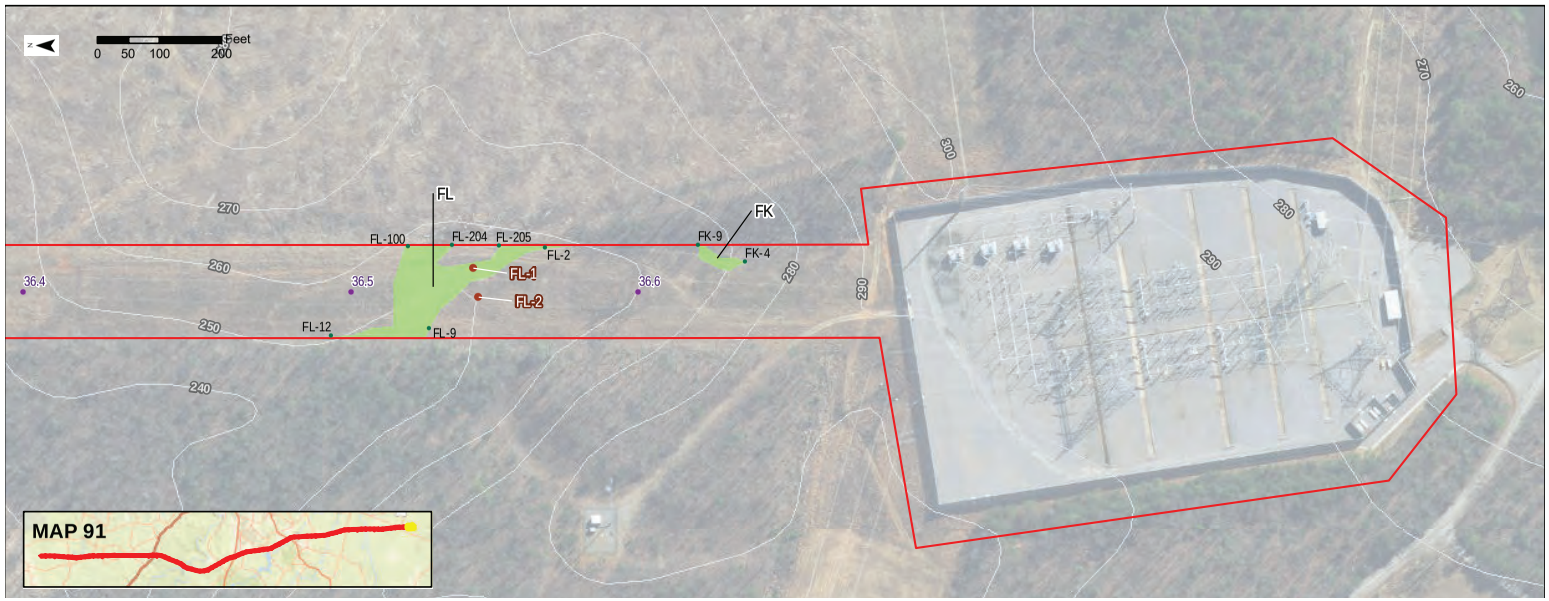


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Fauquier, Stafford,Spotsylvania, and Caroline Counties, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0073/0074	MKB	04/07/2020

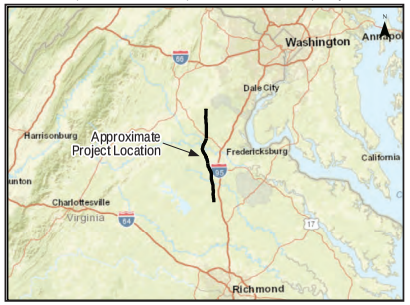
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SHEET 46 OF 46

04/07/2020

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Attachment 2 – USACE Wetland Determination Forms

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BB-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BB-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.561021** Long: **-77.594988** Datum: **WGS 1984**
Soil Map Unit: **Albano silt loam, 0 to 2 percent slopes, frequently flooded.** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**5YR 4/4**	**100**					**clay loam**	
4-12	**5YR 4/3**	**85**	**5YR 4/6**	**15**	**C**	**PL**	**clay loam**	**Auger refusal after 12 inches**

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

Hydric Soil Indicators:

___ Histosol (A1)	___ Dark Surface (S7)	___ 2 cm Muck (A10)
___ Histic Epipedon (A2)	___ Polyvalue Below Surface (S8)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Thin Dark Surface (S9)	___ Piedmont Floodplain Soils (F19)
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Very Shallow Dark Surface (TF12)
___ Stratified Layers (A5)	___ Depleted Matrix (F3)	___ Other (Explain in Remarks)
___ 2cm Muck (A10)	___ Redox Dark Surface (F6)	
___ Depleted Below Dark Surface (A11)	___ Depleted Dark Surface (F7)	
___ Thick Dark Surface (A12)	___ Redox Depressions (F8)	
___ Sandy Mucky Mineral (S1)	___ Iron-Manganese Masses (F12)	
___ Sandy Gleyed Matrix (S4)	___ Umbric Surface (F13)	
___ Sandy Redox (S5)	___ Piedmont Floodplain Soils (F19)	
___ Stripped Matrix (S6)	X Red Parent Material (F21)	

Indicators for Problematic Hydric Soils[3]:

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

Restrictive Layer (if observed):
Type: **Rock**
Depth (inches): **12**
Hydric Soil Present? **YES**

Remarks: **Meets indicator F21 (Red Parent Material), parameter is met.**

VEGETATION - Use scientific names of plants.

BB-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Juncus effusus**	**38**	**X**	**FACW**
2. **Euthamia graminifolia**	**38**	**X**	**FAC**
3. **Coleataenia rigidula**	**15**		**FACW**
4. **Juncus scirpoides**	**15**		**FACW**
5. **Rhexia mariana**	**3**		**OBL**
6. **Symphyotrichum dumosum**	**3**		**FAC**
7. **Eupatorium rotundifolium**	**3**		**FAC**
8. **Juncus marginatus**	**3**		**FACW**
9.			
10.			
11.			
12.			
	118	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**3**	x 1 =	**3**
FACW	**71**	x 2 =	**142**
FAC	**44**	x 3 =	**132**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**118** (A)		**277** (B)

Prevalence Index = B/A = **2.35**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BB-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BB-2**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Concave** Slope (%): **15 to 20**
Subregion (LRR or MLRA): **LRR P** Lat: **38.560973** Long: **-77.594961** Datum: **WGS 1984**
Soil Map Unit: **Albano silt loam, 0 to 2 percent slopes, frequently flooded.** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	**5YR 4/3**	**100**					**clay loam**	**Auger refusal after 14 inches.**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
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- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Rock**
Depth (inches): **14**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

BB-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Solidago canadensis**	**38**	**X**	**FACU**
2. **Euthamia graminifolia**	**38**	**X**	**FAC**
3. **Lonicera japonica**	**38**	**X**	**FACU**
4. **Rubus hispidus**	**15**		**FACW**
5. **Andropogon virginicus**	**3**		**FACU**
6. **Symphyotrichum lateriflorum**	**3**		**FACW**
7. **Dichanthelium commutatum**	**3**		**FACU**
8. **Rhus copallinum**	**1**		**FACU**
9.			
10.			
11.			
12.			
	139	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**18**	x 2 = **36**
FAC	**38**	x 3 = **114**
FACU	**83**	x 4 = **332**
UPL		x 5 =
Sum:	**139** (A)	**482** (B)

Prevalence Index = B/A = **3.47**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BD-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BD-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.556062** Long: **-77.594755** Datum: **WGS 1984**
Soil Map Unit: **Colfax sandy loam, 2 to 7 percent slopes.** NWI Classif.: **PEM1**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **YES** Depth (inches): **1**
Water Table Present? **YES** Depth (inches): **Surface**
Saturation Present? **YES** Depth (inches): **Surface**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**
Recieves water from seep/stream that drains through culvert.

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**2.5YR 4/3**	**90**	**5YR 3/4**	**10**	**C**	**M**	**silt loam**	
6-10	**2.5YR 3/4**	**100**					**silt loam**	**Auger refusal after 10 inches**

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2cm Muck (A10)
- 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)
- Thin Dark Surface (S9)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12)
- Umbric Surface (F13)
- Piedmont Floodplain Soils (F19)
- X Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Coast Prairie Redox (A16)
- Piedmont Floodplain Soils (F19)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Meets indicator F21 (Red Parent Material), parameter is met.**

VEGETATION - Use scientific names of plants.

BD-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Murdannia keisak**	**38**	**X**	**OBL**
2. **Typha latifolia**	**38**	**X**	**OBL**
3. **Leersia oryzoides**	**15**		**OBL**
4. **Juncus effusus**	**15**		**FACW**
5. **Mikania scandens**	**3**		**FACW**
6. **Cyperus odoratus**	**3**		**FACW**
7.			
8.			
9.			
10.			
11.			
12.			
	112	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**91**	x 1 =	**91**
FACW	**21**	x 2 =	**42**
FAC		x 3 =	
FACU		x 4 =	
UPL		x 5 =	
Sum:	**112** (A)		**133** (B)

Prevalence Index = B/A = **1.19**

Hydrophytic Vegetation Indicators:

	Dominance Test is > 50%
X	Prevalence Index is <= 3.0
	Problematic Hydrophytic Vegetation[1] (explain)
X	Rapid Test for Hydrophytic Vegetation
	Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BD-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BD-2**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.555876** Long: **-77.594805** Datum: **WGS 1984**
Soil Map Unit: **Bowmansville silt loam, 0 to 2 percent slopes, frequently flooded.** NWI Classif.: **PEM1**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought. Represents uplands adjacent to wetlands BD, BE, and BF.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **NO**

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

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**2.5YR 4/4**	**100**					**clay loam**	
4-8	**5YR 4/6**	**100**					**clay loam**	**Auger refusal after 8 inches**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Rock/cobble**
Depth (inches): **8**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

BD-2

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Lespedeza cuneata**	**85**	**X**	**FACU**
2.	**Symphyotrichum ericoides**	**3**		**FACU**
3.	**Bidens frondosa**	**3**		**FACW**
4.	**Juncus dichotomus**	**3**		**FACW**
5.	**Ambrosia artemisiifolia**	**3**		**FACU**
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		97	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **O** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **O** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**6**	x 2 = **12**
FAC		x 3 =
FACU	**91**	x 4 = **364**
UPL		x 5 =
Sum:	**97** (A)	**376** (B)

Prevalence Index = B/A = **3.88**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BE-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BE-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.555594** Long: **-77.59489** Datum: **WGS 1984**
Soil Map Unit: **Bowmansville silt loam, 0 to 2 percent slopes, frequently flooded.** NWI Classif.: **PEM1**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **YES** Depth (inches): **6**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**5YR 4/3**	**90**	**7.5YR 4/6**	**10**	**C**	**M**	**sand**	
4-18	**5YR 3/1**	**80**	**7.5YR 3/4**	**20**	**C**	**M**	**sand**	

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

Hydric Soil Indicators:

	Histosol (A1)	X	Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)		Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
X	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator S5 (Sandy Redox) present and soil meets NTCHS definition of hydric soil; parameter is met.**
Also meets Indicator S7 (Dark Surface).

VEGETATION - Use scientific names of plants.

BE-1

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Persicaria pensylvanica**	**63**	**X**	**FACW**
2.	**Persicaria sagittata**	**38**	**X**	**OBL**
3.	**Bidens frondosa**	**3**		**FACW**
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		104	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**38**	x 1 =	**38**
FACW	**66**	x 2 =	**132**
FAC		x 3 =	
FACU		x 4 =	
UPL		x 5 =	
Sum:	**104** (A)		**170** (B)

Prevalence Index = B/A = **1.63**

Hydrophytic Vegetation Indicators:

	Dominance Test is > 50%
X	Prevalence Index is <= 3.0
	Problematic Hydrophytic Vegetation[1] (explain)
X	Rapid Test for Hydrophytic Vegetation
	Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BF-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BF-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain depression** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.555891** Long: **-77.594737** Datum: **WGS 1984**
Soil Map Unit: **Bowmansville silt loam, 0 to 2 percent slopes, frequently flooded.** NWI Classif.: **PEM1**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
X	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **YES** Depth (inches): **1**
Water Table Present? **YES** Depth (inches): **Surface**
Saturation Present? **YES** Depth (inches): **Surface**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	**2.5YR 4/3**	**85**	**10YR 3/4**	**15**	**C**	**M**	**clay loam**	**Auger refusal after 12 inches.**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)		Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)	X	Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Rock/cobble**
Depth (inches): **12**
Hydric Soil Present? **YES**

Remarks: **Meets indicator F21 (Red Parent Material), parameter is met.**

VEGETATION - Use scientific names of plants.

BF-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Typha latifolia**	**63**	**X**	**OBL**
2. **Leersia oryzoides**	**38**	**X**	**OBL**
3. **Persicaria pensylvanica**	**3**		**FACW**
4. **Symphyotrichum elliottii**	**3**		**OBL**
5. **Juncus marginatus**	**3**		**FACW**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	110	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**104**	x 1 =	**104**
FACW	**6**	x 2 =	**12**
FAC		x 3 =	
FACU		x 4 =	
UPL		x 5 =	
Sum:	**110** (A)		**116** (B)

Prevalence Index = B/A = **1.05**

Hydrophytic Vegetation Indicators:

	Dominance Test is > 50%
X	Prevalence Index is <= 3.0
	Problematic Hydrophytic Vegetation[1] (explain)
X	Rapid Test for Hydrophytic Vegetation
	Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BG-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BG-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.555653** Long: **-77.595108** Datum: **WGS 1984**
Soil Map Unit: **Bowmansville silt loam, 0 to 2 percent slopes, frequently flooded.** NWI Classif.: **PEM1**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **YES** Depth (inches): **6**
Saturation Present? **YES** Depth (inches): **Surface**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**5YR 4/3**	**80**	**10YR 3/6**	**20**	**C**	**PL**	**loamy sand**	
4-18	**5YR 3/1**	**90**	**5YR 4/2**	**10**	**C**	**M**	**sand**	

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

Hydric Soil Indicators:

	Histosol (A1)	X	Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)		Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
X	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator S5 (Sandy Redox) present and soil meets NTCHS definition of hydric soil; parameter is met.**
Also meets Indicator S7 (Dark Surface).

VEGETATION - Use scientific names of plants.

BG-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Persicaria pensylvanica**	**85**	**X**	**FACW**
2. **Leersia oryzoides**	**15**		**OBL**
3. **Bidens frondosa**	**3**		**FACW**
4. **Ludwigia alternifolia**	**3**		**FACW**
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	106	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**15**	x 1 =	**15**
FACW	**91**	x 2 =	**182**
FAC		x 3 =	
FACU		x 4 =	
UPL		x 5 =	
Sum:	**106** (A)		**197** (B)

Prevalence Index = B/A = **1.86**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BH-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/2/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BH-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **None** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.551591** Long: **-77.594697** Datum: **WGS 1984**
Soil Map Unit: **Bowmansville silt loam, 0 to 2 percent slopes, frequently flooded.** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
X	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **YES** Depth (inches): **8**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**10YR 4/4**	**100**					**loam**	
4-14	**10YR 6/2**	**80**	**7.5YR 4/6**	**20**	**C**	**PL**	**loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

BH-1

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Leersia oryzoides**	**85**	**X**	**OBL**
2.	**Persicaria sagittata**	**15**		**OBL**
3.	**Bidens frondosa**	**3**		**FACW**
4.	**Mikania scandens**	**3**		**FACW**
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		106	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL	**100**	x 1 = **100**
FACW	**6**	x 2 = **12**
FAC		x 3 =
FACU		x 4 =
UPL		x 5 =
Sum:	**106** (A)	**112** (B)

Prevalence Index = B/A = **1.06**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BH-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/4/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BH-2**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.554422** Long: **-77.594805** Datum: **WGS 1984**
Soil Map Unit: **Bowmansville silt loam, 0 to 2 percent slopes, frequently flooded.** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
X	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
X	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **YES** Depth (inches): **6**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**5YR 4/3**	**75**	**7.5YR 4/6**	**25**	**C**	**PL**	**loam**	**Auger refusal after 6 inches**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)		Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)	X	Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Rock**
Depth (inches): **6**
Hydric Soil Present? **YES**

Remarks: **Indicator F8 (Redox Depressions) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

BH-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1. **Rosa palustris**	**15**	**X**	**OBL**
2. **Sambucus nigra**	**3**		**FAC**
3. **Salix nigra**	**1**		**OBL**
4.			
5.			
6.			
7.			
	19	= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Persicaria sagittata**	**63**	**X**	**OBL**
2. **Coleataenia stipitata**	**15**		**FACW**
3. **Juncus effusus**	**15**		**FACW**
4. **Carex lupulina**	**3**		**OBL**
5. **Leersia oryzoides**	**3**		**OBL**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	99	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**85**	x 1 =	**85**
FACW	**30**	x 2 =	**60**
FAC	**3**	x 3 =	**9**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**118** (A)		**154** (B)

Prevalence Index = B/A = **1.31**

Hydrophytic Vegetation Indicators:

	Dominance Test is > 50%
X	Prevalence Index is <= 3.0
	Problematic Hydrophytic Vegetation[1] (explain)
X	Rapid Test for Hydrophytic Vegetation
	Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BI-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/2/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BI-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Swale** Local relief (concave, convex, none): **Concave** Slope (%): **5 to 8**
Subregion (LRR or MLRA): **LRR P** Lat: **38.541409** Long: **-77.595489** Datum: **WGS 1984**
Soil Map Unit: **Mongle silt loam, 0 to 2 percent slopes, frequently flooded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **YES** Depth (inches): **6**
Saturation Present? **YES** Depth (inches): **Surface**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**10YR 5/3**	**100**					**loam**	
4-18	**10YR 5/2**	**90**	**7.5YR 4/6**	**10**	**C**	**M**	**loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

BI-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Juncus effusus**	**38**	**X**	**FACW**
2. **Carex joorii**	**38**	**X**	**OBL**
3. **Dichanthelium commutatum**	**3**		**FACU**
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	79	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**38**	x 1 =	**38**
FACW	**38**	x 2 =	**76**
FAC		x 3 =	
FACU	**3**	x 4 =	**12**
UPL		x 5 =	
Sum:	**79** (A)		**126** (B)

Prevalence Index = B/A = **1.59**

Hydrophytic Vegetation Indicators:

	Dominance Test is > 50%
X	Prevalence Index is <= 3.0
	Problematic Hydrophytic Vegetation[1] (explain)
X	Rapid Test for Hydrophytic Vegetation
	Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BI-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/2/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BI-2**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Convex** Slope (%): **5 to 10**
Subregion (LRR or MLRA): **LRR P** Lat: **38.541408** Long: **-77.595573** Datum: **WGS 1984**
Soil Map Unit: **Mongle silt loam, 0 to 2 percent slopes, frequently flooded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	**10YR 5/4**	**100**					**loam**	**mixed with gravel. Auger refusal after 10 inches.**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

mixed wit

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

Restrictive Layer (if observed):
Type: **Rock**
Depth (inches): **10**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

BI-2

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		= Total Cover		
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		= Total Cover		
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		= Total Cover		
Herb Stratum	(Plot size: **10' radius**)			
1.	**Schedonorus arundinaceus**	**85**	**X**	**FACU**
2.	**Andropogon virginicus**	**15**		**FACU**
3.	**Lespedeza cuneata**	**3**		**FACU**
4.	**Fragaria virginiana**	**3**		**FACU**
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		106 = Total Cover		
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
		= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC		x 3 =
FACU	**106**	x 4 = **424**
UPL		x 5 =
Sum:	**106** (A)	**424** (B)

Prevalence Index = B/A = **4.00**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BJ-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/2/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BJ-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.537051** Long: **-77.595821** Datum: **WGS 1984**
Soil Map Unit: **Goldvein fine gravelly silt loam, 2 to 7 percent slopes** NWI Classif.: **R4SBA**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
X	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **YES** Depth (inches): **4**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	**2.5Y 5/2**	**100**					**loam**	
2-16	**5Y 5/2**	**95**	**10YR 4/6**	**5**	**C**	**PL**	**loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

BJ-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Persicaria sagittata**	**38**	**X**	**OBL**
2. **Juncus effusus**	**15**	**X**	**FACW**
3. **Euphorbia purpurea**	**3**		**FAC**
4. **Scirpus cyperinus**	**3**		**FACW**
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	59	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL	**38**	x 1 = **38**
FACW	**18**	x 2 = **36**
FAC	**3**	x 3 = **9**
FACU		x 4 =
UPL		x 5 =
Sum:	**59** (A)	**83** (B)

Prevalence Index = B/A = **1.41**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BJ-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/3/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BJ-2**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.537175** Long: **-77.596131** Datum: **WGS 1984**
Soil Map Unit: **Mongle silt loam, 0 to 2 percent slopes, frequently flooded** NWI Classif.: **R4SBA**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

___	Surface Soil Cracks (B6)
___	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
___	Moss Trim Lines (B16)
___	Dry-Season Water Table (C2)
___	Crayfish Burrows (C8)
___	Saturation Visible on Aerial Imagery (C9)
___	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
___	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**2.5Y 4/3**	**100**					**gravelly loam**	
6-7	**2.5Y 5/2**	**85**	**10YR 4/6**	**15**	**C**	**M**	**clay loam**	**Auger refusal after 7 inches.**

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

Hydric Soil Indicators:

___ Histosol (A1)	___ Dark Surface (S7)	
___ Histic Epipedon (A2)	___ Polyvalue Below Surface (S8)	
___ Black Histic (A3)	___ Thin Dark Surface (S9)	
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	
___ Stratified Layers (A5)	___ Depleted Matrix (F3)	
___ 2cm Muck (A10)	___ Redox Dark Surface (F6)	
___ Depleted Below Dark Surface (A11)	___ Depleted Dark Surface (F7)	
___ Thick Dark Surface (A12)	___ Redox Depressions (F8)	
___ Sandy Mucky Mineral (S1)	___ Iron-Manganese Masses (F12)	
___ Sandy Gleyed Matrix (S4)	___ Umbric Surface (F13)	
___ Sandy Redox (S5)	___ Piedmont Floodplain Soils (F19)	
___ Stripped Matrix (S6)	___ Red Parent Material (F21)	

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10)
___ Coast Prairie Redox (A16)
___ Piedmont Floodplain Soils (F19)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **7**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

BJ-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Coleataenia stipitata**	**63**	**X**	**FACW**
2. **Persicaria sagittata**	**38**	**X**	**OBL**
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	101	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**38**	x 1 =	**38**
FACW	**63**	x 2 =	**126**
FAC		x 3 =	
FACU		x 4 =	
UPL		x 5 =	
Sum:	**101** (A)		**164** (B)

Prevalence Index = B/A = **1.62**

Hydrophytic Vegetation Indicators:

	Dominance Test is > 50%
X	Prevalence Index is <= 3.0
	Problematic Hydrophytic Vegetation[1] (explain)
X	Rapid Test for Hydrophytic Vegetation
	Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BK-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/3/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BK-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.534678** Long: **-77.596353** Datum: **WGS 1984**
Soil Map Unit: **Sumerduck loam, 2 to 7 percent slopes, frequently flooded.** NWI Classif.: **R4SBA**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**2.5Y 4/3**	**100**					**loam**	
3-18	**2.5Y 4/2**	**95**	**10YR 4/6**	**5**	**C**	**PL**	**loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

BK-1

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Leersia oryzoides**	**63**	**X**	**OBL**
2.	**Bidens frondosa**	**15**		**FACW**
3.	**Persicaria punctata**	**3**		**OBL**
4.	**Juncus effusus**	**3**		**FACW**
5.	**Persicaria sagittata**	**3**		**OBL**
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		87	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL	**69**	x 1 = **69**
FACW	**18**	x 2 = **36**
FAC		x 3 =
FACU		x 4 =
UPL		x 5 =
Sum:	**87** (A)	**105** (B)

Prevalence Index = B/A = **1.21**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BK-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/3/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BK-2**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Convex** Slope (%): **5 to 8**
Subregion (LRR or MLRA): **LRR P** Lat: **38.534306** Long: **-77.596374** Datum: **WGS 1984**
Soil Map Unit: **Goldvein fine gravelly silt loam, 7 to 15 percent slopes.** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**2.5Y 5/3**	**100**					**gravelly loam**	**20% gravel. Auger refusal after 6 inches.**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **6**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

BK-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Schedonorus arundinaceus**	**85**	**X**	**FACU**
2. **Coleataenia anceps**	**15**		**FAC**
3. **Solanum capsicoides**	**3**		**FACU**
4. **Symphyotrichum ericoides**	**3**		**FACU**
5. **Cyperus polystachyos**	**3**		**FACW**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	109	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**3**	x 2 = **6**
FAC	**15**	x 3 = **45**
FACU	**91**	x 4 = **364**
UPL		x 5 =
Sum:	**109** (A)	**415** (B)

Prevalence Index = B/A = **3.81**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BM-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/3/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BM-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.532172** Long: **-77.596325** Datum: **WGS 1984**
Soil Map Unit: **Mongle silt loam, 0 to 2 percent slopes, frequently flooded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **YES** Depth (inches): **3**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 3/3**	**100**					**gravelly loam**	**20% gravel**
6-10	**5G 5/1**	**90**	**7.5YR 4/4**	**10**	**C**	**M**	**gravelly loam**	**20% gravel. Severely impacted by cattle.**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)	X	Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)		Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F2 (Loamy Gleyed Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

BM-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1. **Morella cerifera**			**FAC**
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Murdannia keisak**	**85**	**X**	**OBL**
2. **Cardamine angustata**	**15**		**FACU**
3. **Leersia oryzoides**	**15**		**OBL**
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	115	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**100**	x 1 =	**100**
FACW		x 2 =	
FAC		x 3 =	
FACU	**15**	x 4 =	**60**
UPL		x 5 =	
Sum:	**115** (A)		**160** (B)

Prevalence Index = B/A = **1.39**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BM-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/3/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BM-2**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Convex** Slope (%): **10 to 15**
Subregion (LRR or MLRA): **LRR P** Lat: **38.531947** Long: **-77.596357** Datum: **WGS 1984**
Soil Map Unit: **Mongle silt loam, 0 to 2 percent slopes, frequently flooded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**2.5Y 4/4**	**100**					**gravelly loam**	**20% gravel. Auger refusal after 6 inches.**

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2cm Muck (A10)
- 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)
- Thin Dark Surface (S9)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12)
- Umbric Surface (F13)
- Piedmont Floodplain Soils (F19)
- Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Coast Prairie Redox (A16)
- Piedmont Floodplain Soils (F19)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **6**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

BM-2

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Cynodon dactylon**	**85**	**X**	**FACU**
2.	**Trifolium repens**	**3**		**FACU**
3.	**Plantago major**	**3**		**FACU**
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		91	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **O** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **O** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC		x 3 =
FACU	**91**	x 4 = **364**
UPL		x 5 =
Sum:	**91** (A)	**364** (B)

Prevalence Index = B/A = **4.00**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BN-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/3/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BN-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.527598** Long: **-77.596809** Datum: **WGS 1984**
Soil Map Unit: **Mongle silt loam, 0 to 2 percent slopes, frequently flooded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **YES** Depth (inches): **4**
Saturation Present? **YES** Depth (inches): **Surface**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 3/3**	**100**					**loam**	
6-16	**7.5YR 4/1**	**95**	**10YR 3/6**	**5**	**C**	**M**	**gravelly loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

BN-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Scirpus cyperinus**	**63**	**X**	**FACW**
2. **Juncus effusus**	**15**		**FACW**
3. **Peltandra virginica**	**3**		**OBL**
4. **Persicaria sagittata**	**3**		**OBL**
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	84	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**6**	x 1 =	**6**
FACW	**78**	x 2 =	**156**
FAC		x 3 =	
FACU		x 4 =	
UPL		x 5 =	
Sum:	**84** (A)		**162** (B)

Prevalence Index = B/A = **1.93**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BP-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/3/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BP-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.476569** Long: **-77.595392** Datum: **WGS 1984**
Soil Map Unit: **Manor silt loam, 6 to 15 percent slopes** NWI Classif.: **PFO1A**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**2.5Y 6/2**	**85**	**10YR 4/6**	**15**	**C**	**M**	**sandy loam**	
8-14	**2.5YR 4/1**	**70**	**10YR 4/6**	**30**	**C**	**M**	**sandy loam**	
14-18	**10Y 4/1**	**75**	**10YR 4/6**	**25**	**C**	**M**	**sandy loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)	X	Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F2 (Loamy Gleyed Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**
Also meets Indicator F3 (Depleted Matrix).

VEGETATION - Use scientific names of plants.

BP-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Juncus polycephalos**	**38**	**X**	**OBL**
2. **Eupatorium pilosum**	**15**	**X**	**FACW**
3. **Symphyotrichum puniceum**	**15**	**X**	**OBL**
4. **Dichanthelium commutatum**	**15**	**X**	**FACU**
5. **Solidago rugosa**	**3**		**FAC**
6. **Onoclea sensibilis**	**3**		**FACW**
7.			
8.			
9.			
10.			
11.			
12.			
	89	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**3**	(A)
# Dominants across all strata:	**4**	(B)
% Dominants OBL, FACW, FAC:	**75%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**53**	x 1 =	**53**
FACW	**18**	x 2 =	**36**
FAC	**3**	x 3 =	**9**
FACU	**15**	x 4 =	**60**
UPL		x 5 =	
Sum:	**89** (A)		**158** (B)

Prevalence Index = B/A = **1.78**

Hydrophytic Vegetation Indicators:

X	Dominance Test is > 50%
X	Prevalence Index is <= 3.0
	Problematic Hydrophytic Vegetation[1] (explain)
	Rapid Test for Hydrophytic Vegetation
	Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BP-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/3/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BP-2**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.476598** Long: **-77.595517** Datum: **WGS 1984**
Soil Map Unit: **Manor silt loam, 6 to 15 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **NO**

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

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	**2.5Y 4/4**	**100**					**gravelly loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

BP-2

	Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Schedonorus arundinaceus**	**63**	**X**	**FACU**
2. **Fragaria virginiana**	**15**		**FACU**
3. **Andropogon glomeratus**	**15**		**FACW**
4. **Toxicodendron radicans**	**3**		**FAC**
5. **Lonicera japonica**	**3**		**FACU**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	99	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **O** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **O** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**15**	x 2 = **30**
FAC	**3**	x 3 = **9**
FACU	**81**	x 4 = **324**
UPL		x 5 =
Sum:	**99** (A)	**363** (B)

Prevalence Index = B/A = **3.67**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BQ-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/4/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BQ-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.473379** Long: **-77.595784** Datum: **WGS 1984**
Soil Map Unit: **Nason silt loam, 6 to 15 percent slopes, eroded.** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**2.5Y 4/2**	**98**	**7.5YR 5/8**	**2**	**C**	**PL**	**loam**	**Auger refusal after 6 inches.**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

BQ-1

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Carex joorii**	**38**	**X**	**OBL**
2.	**Persicaria sagittata**	**38**	**X**	**OBL**
3.	**Juncus effusus**	**15**		**FACW**
4.	**Rosa palustris**	**3**		**OBL**
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		94	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:	
OBL	**79**	x 1 =	**79**	
FACW	**15**	x 2 =	**30**	
FAC		x 3 =		
FACU		x 4 =		
UPL		x 5 =		
Sum:	**94**	(A)	**109**	(B)

Prevalence Index = B/A = **1.16**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BQ-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/4/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BQ-2**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Convex** Slope (%): **20 to 25**
Subregion (LRR or MLRA): **LRR P** Lat: **38.473318** Long: **-77.595774** Datum: **WGS 1984**
Soil Map Unit: **Nason silt loam, 6 to 15 percent slopes, eroded.** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	**10YR 5/4**	**100**					**loam**	
2-10	**7.5YR 5/8**	**100**					**loam**	**Auger refusal after 10 inches**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

BQ-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Schedonorus arundinaceus**	**38**	**X**	**FACU**
2. **Fragaria virginiana**	**15**	**X**	**FACU**
3. **Plantago major**	**15**	**X**	**FACU**
4. **Symphyotrichum ericoides**	**3**		**FACU**
5. **Solidago altissima**	**3**		**FACU**
6. **Lonicera japonica**	**3**		**FACU**
7. **Lespedeza cuneata**	**3**		**FACU**
8. **Dichanthelium dichotomum**	**0.5**		**FAC**
9.			
10.			
11.			
12.			
	80.5	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **O** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **O** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC	**0.5**	x 3 = **1.5**
FACU	**80**	x 4 = **320**
UPL		x 5 =
Sum:	**80.5** (A)	**321.5** (B)

Prevalence Index = B/A = **3.99**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BR-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/4/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BR-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.46708** Long: **-77.595725** Datum: **WGS 1984**
Soil Map Unit: **Wehadkee very fine sandy loam, 0 to 2 percent slopes.** NWI Classif.: **PFO1A**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	**YES**
Hydric Soil Present?	**YES**
Wetland Hydrology Present?	**YES**

Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
X	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	**YES**	Depth (inches):	**2**
Water Table Present?	**YES**	Depth (inches):	**Surface**
Saturation Present?	**YES**	Depth (inches):	**Surface**

Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	**2.5Y 3/2**	**95**	**10YR 4/6**	**5**	**C**	**M**	**sandy loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)		Depleted Matrix (F3)
	2cm Muck (A10)	X	Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):

Hydric Soil Present? **YES**

Remarks: **Indicator F6 (Redox Dark Surface) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

BR-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Murdannia keisak**	**38**	**X**	**OBL**
2. **Dulichium arundinaceum**	**38**	**X**	**OBL**
3. **Rubus pensilvanicus**	**15**		**FAC**
4. **Persicaria sagittata**	**15**		**OBL**
5. **Leersia oryzoides**	**15**		**OBL**
6. **Rosa palustris**	**3**		**OBL**
7. **Euphorbia purpurea**	**3**		**FAC**
8. **Solidago altissima**	**3**		**FACU**
9. **Rumex crispus**	**3**		**FAC**
10. **Sambucus nigra**	**3**		**FAC**
11. **Mikania scandens**	**3**		**FACW**
12.			
	139	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**109**	x 1 =	**109**
FACW	**3**	x 2 =	**6**
FAC	**24**	x 3 =	**72**
FACU	**3**	x 4 =	**12**
UPL		x 5 =	
Sum:	**139** (A)		**199** (B)

Prevalence Index = B/A = **1.43**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BR-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/4/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BR-2**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Concave** Slope (%): **5 to 10**
Subregion (LRR or MLRA): **LRR P** Lat: **38.467143** Long: **-77.595817** Datum: **WGS 1984**
Soil Map Unit: **Nason silt loam, 6 to 15 percent slopes, eroded.** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 5/8**	**100**					**loam**	**Auger refusal after 6 inches**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

BR-2

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Schedonorus arundinaceus**	**63**	**X**	**FACU**
2.	**Symphyotrichum puniceum**	**15**		**OBL**
3.	**Bidens frondosa**	**3**		**FACW**
4.	**Solidago altissima**	**3**		**FACU**
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		84	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **O** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **O** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**15**	x 1 =	**15**
FACW	**3**	x 2 =	**6**
FAC		x 3 =	
FACU	**66**	x 4 =	**264**
UPL		x 5 =	
Sum:	**84** (A)		**285** (B)

Prevalence Index = B/A = **3.39**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

BS-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/4/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **BS-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.465283** Long: **-77.595490** Datum: **WGS 1984**
Soil Map Unit: **Wehadkee very fine sandy loam, 0 to 2 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **YES** Depth (inches): **8**
Saturation Present? **YES** Depth (inches): **Surface**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	**10YR 4/4**	**80**	**5YR 4/6**	**20**	**C**	**M**	**loam**	
2-16	**10YR 4/1**	**90**	**10YR 5/6**	**10**	**c**	**M**	**loamy sand**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)		Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
X	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator S5 (Sandy Redox) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

BS-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Persicaria sagittata**	**38**	**X**	**OBL**
2. **Rubus pensilvanicus**	**38**	**X**	**FAC**
3. **Coleataenia stipitata**	**38**	**X**	**FACW**
4. **Dichanthelium dichotomum**	**15**		**FAC**
5. **Leersia oryzoides**	**15**		**OBL**
6. **Carex lupulina**	**3**		**OBL**
7.			
8.			
9.			
10.			
11.			
12.			
	147	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**3**	(A)
# Dominants across all strata:	**3**	(B)
% Dominants OBL, FACW, FAC:	**100%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**56**	x 1 =	**56**
FACW	**38**	x 2 =	**76**
FAC	**53**	x 3 =	**159**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**147** (A)		**291** (B)

Prevalence Index = B/A = **1.98**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

UPL-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **UPL-1**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **5 to 10**
Subregion (LRR or MLRA): **LRR P** Lat: **38.558887** Long: **-77.594779** Datum: **WGS 1984**
Soil Map Unit: **Bowmansville silt loam, 0 to 2 percent slopes, frequently flooded.** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought. Represents uplands adjacent to wetlands BD, BE, and BF.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **NO**

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

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**7.5YR 4/6**	**100**					**clay loam**	
4-16	**7.5YR 4/4**	**100**					**clay loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

UPL-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1. **Elaeagnus umbellata**	**3**	**X**	**UPL**
2.			
3.			
4.			
5.			
6.			
7.			
	3	= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Rubus pensilvanicus**	**63**	**X**	**FAC**
2. **Solidago canadensis**	**38**	**X**	**FACU**
3. **Lonicera japonica**	**15**		**FACU**
4. **Dichanthelium commutatum**	**15**		**FACU**
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	131	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC	**63**	x 3 = **189**
FACU	**68**	x 4 = **272**
UPL	**3**	x 5 = **15**
Sum:	**134** (A)	**476** (B)

Prevalence Index = B/A = **3.55**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

UPL-3

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **UPL-3**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **None** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.555345** Long: **-77.594788** Datum: **WGS 1984**
Soil Map Unit: **Bowmansville silt loam, 0 to 2 percent slopes, frequently flooded.** NWI Classif.: **PEM1**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	**5YR 3/3**	**30**	**10Y 4/1**	**20**			**clay loam**	**mixed matrix with 20% gravel**
			2.5YR 3/4	**25**				**mixed matrix with 20% gravel**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

UPL-3

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Juncus effusus**	**63**	**X**	**FACW**
2.	**Carex joorii**	**15**		**OBL**
3.	**Bidens frondosa**	**3**		**FACW**
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		81	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**15**	x 1 =	**15**
FACW	**66**	x 2 =	**132**
FAC		x 3 =	
FACU		x 4 =	
UPL		x 5 =	
Sum:	**81** (A)		**147** (B)

Prevalence Index = B/A = **1.81**

Hydrophytic Vegetation Indicators:

	Dominance Test is > 50%
X	Prevalence Index is <= 3.0
	Problematic Hydrophytic Vegetation[1] (explain)
X	Rapid Test for Hydrophytic Vegetation
	Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

UPL-4

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **UPL-4**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **None** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.547527** Long: **-77.594463** Datum: **WGS 1984**
Soil Map Unit: **Bowmansville silt loam, 0 to 2 percent slopes, frequently flooded.** NWI Classif.: **PEM1**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**5YR 4/4**	**100**					**clay loam**	**Auger refusal after 4 inches**

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

Hydric Soil Indicators:

___ Histosol (A1)	___ Dark Surface (S7)	Indicators for Problematic Hydric Soils[3]:
___ Histic Epipedon (A2)	___ Polyvalue Below Surface (S8)	___ 2 cm Muck (A10)
___ Black Histic (A3)	___ Thin Dark Surface (S9)	___ Coast Prairie Redox (A16)
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)
___ Stratified Layers (A5)	___ Depleted Matrix (F3)	___ Very Shallow Dark Surface (TF12)
___ 2cm Muck (A10)	___ Redox Dark Surface (F6)	___ Other (Explain in Remarks)
___ Depleted Below Dark Surface (A11)	___ Depleted Dark Surface (F7)	
___ Thick Dark Surface (A12)	___ Redox Depressions (F8)	
___ Sandy Mucky Mineral (S1)	___ Iron-Manganese Masses (F12)	
___ Sandy Gleyed Matrix (S4)	___ Umbric Surface (F13)	
___ Sandy Redox (S5)	___ Piedmont Floodplain Soils (F19)	
___ Stripped Matrix (S6)	___ Red Parent Material (F21)	

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

UPL-4

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Juncus effusus**	**63**	**X**	**FACW**
2.	**Lespedeza cuneata**	**3**		**FACU**
3.	**Persicaria sagittata**	**3**		**OBL**
4.	**Persicaria pensylvanica**	**3**		**FACW**
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		72	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**3**	x 1 =	**3**
FACW	**66**	x 2 =	**132**
FAC		x 3 =	
FACU	**3**	x 4 =	**12**
UPL		x 5 =	
Sum:	**72** (A)		**147** (B)

Prevalence Index = B/A = **2.04**

Hydrophytic Vegetation Indicators:

- _____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

UPL-5

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/2/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **UPL-5**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Swale** Local relief (concave, convex, none): **Concave** Slope (%): **5 to 10**
Subregion (LRR or MLRA): **LRR P** Lat: **38.544889** Long: **-77.595206** Datum: **WGS 1984**
Soil Map Unit: **Brinklow silt loam, 25 to 45 percent slopes.** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **NO**

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

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	**10YR 4/4**	**100**					**clay loam**	**Auger refusal after 10 inches**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Rock**
Depth (inches): **10**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

UPL-5

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Schedonorus arundinaceus**	**85**	**X**	**FACU**
2.	**Setaria pumila**	**15**		**FAC**
3.	**Polygonum pensylvanicum**	**3**		**FACW**
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		103	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**O**	(A)
# Dominants across all strata:	**1**	(B)
% Dominants OBL, FACW, FAC:	**O**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:	
OBL		x 1 =		
FACW	**3**	x 2 =	**6**	
FAC	**15**	x 3 =	**45**	
FACU	**85**	x 4 =	**340**	
UPL		x 5 =		
Sum:	**103**	(A)	**391**	(B)

Prevalence Index = B/A = **3.80**

Hydrophytic Vegetation Indicators:

- _____ Dominance Test is > 50%
- _____ Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

UPL-6

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/2/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **UPL-6**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 3**
Subregion (LRR or MLRA): **LRR P** Lat: **38.540829** Long: **-77.595013** Datum: **WGS 1984**
Soil Map Unit: **Mongle silt loam, 0 to 2 percent slopes, frequently flooded.** NWI Classif.: **R4SBA**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	**YES**
Hydric Soil Present?	**NO**
Wetland Hydrology Present?	**YES**

Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	**NO**	Depth (inches):	**N/A**
Water Table Present?	**NO**	Depth (inches):	**N/A**
Saturation Present?	**NO**	Depth (inches):	**N/A**

Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**10YR 5/4**	**90**	**7.5YR 4/6**	**10**	**C**	**PL**	**clay loam**	
8-12	**10YR 5/4**	**40**	**10YR 2/1**	**10**			**clay loam**	**2/1 likely charcoal**
			10YR 5/2	**30**				**mixed matrix**
			7.5YR 4/6	**20**	**C**	**M**		
12-16	**10YR 5/2**	**85**	**7.5YR 4/6**	**15**	**C**	**PL**	**clay loam**	

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

Hydric Soil Indicators:

Histosol (A1)	Dark Surface (S7)	
Histic Epipedon (A2)	Polyvalue Below Surface (S8)	
Black Histic (A3)	Thin Dark Surface (S9)	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	
Stratified Layers (A5)	Depleted Matrix (F3)	
2cm Muck (A10)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1)	Iron-Manganese Masses (F12)	
Sandy Gleyed Matrix (S4)	Umbric Surface (F13)	
Sandy Redox (S5)	Piedmont Floodplain Soils (F19)	
Stripped Matrix (S6)	Red Parent Material (F21)	

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):

Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

UPL-6

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Juncus effusus**	**38**	**X**	**FACW**
2. **Andropogon glomeratus**	**38**	**X**	**FACW**
3. **Persicaria sagittata**	**15**		**OBL**
4. **Symphyotrichum puniceum**	**15**		**OBL**
5. **Scirpus cyperinus**	**3**		**FACW**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	109	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL	**30**	x 1 = **30**
FACW	**79**	x 2 = **158**
FAC		x 3 =
FACU		x 4 =
UPL		x 5 =
Sum:	**109** (A)	**188** (B)

Prevalence Index = B/A = **1.72**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

UPL-7

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/2/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **UPL-7**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.538922** Long: **-77.596064** Datum: **WGS 1984**
Soil Map Unit: **Sumerduck loam, 2 to 7 percent slopes, frequently flooded.** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**7.5YR 5/4**	**100**					**clay loam**	**with 10% gravel**
6-12	**7.5YR 5/3**	**90**	**7.5YR 3/4**	**10**	**C**	**M**	**clay loam**	**Auger refusal after 12 inches.**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **12**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

UPL-7

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Schedonorus arundinaceus**	**85**	**X**	**FACU**
2.	**Juncus effusus**	**15**		**FACW**
3.	**Dichanthelium commutatum**	**3**		**FACU**
4.	**Solidago altissima**	**3**		**FACU**
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		106	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **O** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **O** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**15**	x 2 = **30**
FAC		x 3 =
FACU	**91**	x 4 = **364**
UPL		x 5 =
Sum:	**106** (A)	**394** (B)

Prevalence Index = B/A = **3.72**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

UPL-8

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Faquier** Samp. Date: **10/3/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **UPL-8**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.53094** Long: **-77.596861** Datum: **WGS 1984**
Soil Map Unit: **Yellowbottom loam, 2 to 7 percent slopes.** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **NO**

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

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**7.5YR 4/4**	**100**					**clay loam**	**Severely impacted by cattle**
3-8	**7.5YR 5/3**	**85**	**10YR 4/6**	**15**	**C**	**M**	**clay loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

UPL-8

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Cardamine angustata**	**38**	**X**	**FACU**
2. **Cyperus compressus**	**15**	**X**	**FAC**
3. **Juncus effusus**	**15**	**X**	**FACW**
4. **Schedonorus arundinaceus**	**3**		**FACU**
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	71	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**2**	(A)
# Dominants across all strata:	**3**	(B)
% Dominants OBL, FACW, FAC:	**67%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL		x 1 =	
FACW	**15**	x 2 =	**30**
FAC	**15**	x 3 =	**45**
FACU	**41**	x 4 =	**164**
UPL		x 5 =	
Sum:	**71** (A)		**239** (B)

Prevalence Index = B/A = **3.37**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- ____ Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

UPL-9

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/3/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **UPL-9**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.475192** Long: **-77.595723** Datum: **WGS 1984**
Soil Map Unit: **Nason silt loam, 6 to 15 percent slopes, eroded.** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**10YR 4/3**	**98**	**7.5YR 5/8**	**2**	**C**	**M**	**loam**	
4-14	**10YR 5/3**	**90**	**7.5YR 5/8**	**10**	**C**	**M**	**loam**	
14-18	**10YR 5/3**	**70**	**7.5YR 5/8**	**30**	**C**	**M**	**clay loam**	

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

Hydric Soil Indicators:

___ Histosol (A1)	___ Dark Surface (S7)	Indicators for Problematic Hydric Soils[3]:
___ Histic Epipedon (A2)	___ Polyvalue Below Surface (S8)	___ 2 cm Muck (A10)
___ Black Histic (A3)	___ Thin Dark Surface (S9)	___ Coast Prairie Redox (A16)
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)
___ Stratified Layers (A5)	___ Depleted Matrix (F3)	___ Very Shallow Dark Surface (TF12)
___ 2cm Muck (A10)	___ Redox Dark Surface (F6)	___ Other (Explain in Remarks)
___ Depleted Below Dark Surface (A11)	___ Depleted Dark Surface (F7)	
___ Thick Dark Surface (A12)	___ Redox Depressions (F8)	[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
___ Sandy Mucky Mineral (S1)	___ Iron-Manganese Masses (F12)	
___ Sandy Gleyed Matrix (S4)	___ Umbric Surface (F13)	
___ Sandy Redox (S5)	___ Piedmont Floodplain Soils (F19)	
___ Stripped Matrix (S6)	___ Red Parent Material (F21)	

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

UPL-9

	Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1. **Rosa palustris**	**15**	**X**	**OBL**
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Juncus effusus**	**63**	**X**	**FACW**
2. **Carex joorii**	**38**	**X**	**OBL**
3. **Bidens frondosa**	**3**		**FACW**
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	104	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL	**53**	x 1 = **53**
FACW	**66**	x 2 = **132**
FAC		x 3 =
FACU		x 4 =
UPL		x 5 =
Sum:	**119** (A)	**185** (B)

Prevalence Index = B/A = **1.55**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

UPL-11

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/4/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **UPL-11**
Investigator(s): **S. Murray** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **5 to 10**
Subregion (LRR or MLRA): **LRR P** Lat: **38.463723** Long: **-77.595400** Datum: **WGS 1984**
Soil Map Unit: **Nason silt loam, 2 to 6 percent slopes.** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **NO** Depth (inches): **N/A**
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**7.5YR 5/4**	**100**					**gravelly loam**	**Auger refusal after 6 inches**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **6**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

UPL-11

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Andropogon ternarius**	**38**	**X**	**FACU**
2. **Axonopus fissifolius**	**38**	**X**	**FACW**
3. **Plantago major**	**15**		**FACU**
4. **Lespedeza cuneata**	**3**		**FACU**
5. **Lonicera japonica**	**3**		**FACU**
6. **Dichanthelium dichotomum**	**3**		**FAC**
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**38**	x 2 = **76**
FAC	**3**	x 3 = **9**
FACU	**59**	x 4 = **236**
UPL		x 5 =
Sum:	**100** (A)	**321** (B)

Prevalence Index = B/A = **3.21**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AA/AC-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **9/30/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AA/AC-2**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Convex** Slope (%): **7 to 10**
Subregion (LRR or MLRA): **LRR P** Lat: **38.566069** Long: **-77.594859** Datum: **WGS 1984**
Soil Map Unit: **Penn silt loam, 7 to 15 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	**10YR 7/3**	**100**					**clay loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

AA/AC-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Schizachyrium scoparium**	**63**	**X**	**FACU**
2. **Tridens flavus**	**15**		**FACU**
3. **Eragrostis spectabilis**	**15**		**UPL**
4. **Diodia teres**	**3**		**UPL**
5. **Symphyotrichum pilosum**	**3**		**FAC**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	99	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**O**	(A)
# Dominants across all strata:	**1**	(B)
% Dominants OBL, FACW, FAC:	**O**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:	
OBL		x 1 =	
FACW		x 2 =	
FAC	**3**	x 3 =	**9**
FACU	**78**	x 4 =	**312**
UPL	**18**	x 5 =	**90**
Sum:	**99** (A)		**411** (B)

Prevalence Index = B/A = **4.15**

Hydrophytic Vegetation Indicators:

- _____ Dominance Test is > 50%
- _____ Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AA-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **9/30/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AA-1**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Swale** Local relief (concave, convex, none): **Concave** Slope (%): **4 to 6**
Subregion (LRR or MLRA): **LRR P** Lat: **38.567699** Long: **-77.594905** Datum: **WGS 1984**
Soil Map Unit: **Penn silt loam, 7 to 15 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5R 5/3	90	7.5R 6/8	10	C	M	silt loam	
6-18	7.5YR 6/3	90	7.5YR 6/8	10	C	M	silt loam	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- X Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **YES**

Remarks: **Indicator F21 (Red Parent Material) present and soils meet the NTCHS definiteion of hydric soil; parameter is met**

VEGETATION - Use scientific names of plants.

AA-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1. **Sambucus nigra**	**15**	**X**	**FAC**
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Arthraxon hispidus**	**98**	**X**	**FAC**
2. **Carex frankii**	**15**		**OBL**
3. **Persicaria sagittata**	**15**		**OBL**
4. **Boehmeria cylindrica**	**3**		**FACW**
5. **Lonicera japonica**	**3**		**FACU**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	134	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**30**	x 1 =	**30**
FACW	**3**	x 2 =	**6**
FAC	**113**	x 3 =	**339**
FACU	**3**	x 4 =	**12**
UPL		x 5 =	
Sum:	**149** (A)		**387** (B)

Prevalence Index = B/A = **2.60**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AC-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **9/30/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AC-1**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Swale** Local relief (concave, convex, none): **Concave** Slope (%): **5 to 7**
Subregion (LRR or MLRA): **LRR P** Lat: **38.565861** Long: **-77.594890** Datum: **WGS 1984**
Soil Map Unit: **Penn silt loam, 7 to 15 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 4/3**	**100**					**clay loam**	
6-8	**10YR 4/2**	**95**	**10YR 5/6**	**5**	**C**	**PL**	**clay loam**	
8-15	**10YR 7/1**	**0.9**	**5YR 5/8**	**0.1**	**C**	**M**	**clay loam**	**Manganese concretions present in the matrix (5%)**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)	X	Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

AC-1

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Arthraxon hispidus**	**85**	**X**	**FAC**
2.	**Ludwigia palustris**	**15**		**OBL**
3.	**Schedonorus arundinaceus**	**15**		**FACU**
4.	**Symphyotrichum pilosum**	**3**		**FAC**
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		118	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**1**	(A)
# Dominants across all strata:	**1**	(B)
% Dominants OBL, FACW, FAC:	**100%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**15**	x 1 =	**15**
FACW		x 2 =	
FAC	**88**	x 3 =	**264**
FACU	**15**	x 4 =	**60**
UPL		x 5 =	
Sum:	**118** (A)		**339** (B)

Prevalence Index = B/A = **2.87**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AD-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **9/30/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AD-1**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **1 to 3**
Subregion (LRR or MLRA): **LRR P** Lat: **38.524966** Long: **-77.597542** Datum: **WGS 1984**
Soil Map Unit: **Mongle silt loam, 0 to 2 percent slopes, frequently flooded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 4/1**	**92**	**10YR 5/8**	**8**	**C**	**PL**	**coarse sandy loam**	
6-18	**10YR 7/1**	**80**	**10YR 6/8**	**20**	**C**	**M**	**coarse sandy loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

AD-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1. **Alnus serrulata**	**15**	**X**	**OBL**
2. **Liquidambar styraciflua**	**3**		**FAC**
3.			
4.			
5.			
6.			
7.			
	18	= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Juncus effusus**	**38**	**X**	**FACW**
2. **Solidago rugosa**	**38**	**X**	**FAC**
3. **Rubus hispidus**	**38**	**X**	**FACW**
4. **Woodwardia virginica**	**15**		**OBL**
5. **Schizachyrium scoparium**	**15**		**FACU**
6. **Euthamia graminifolia**	**3**		**FAC**
7. **Persicaria sagittata**	**3**		**OBL**
8. **Smilax rotundifolia**	**3**		**FAC**
9. **Dichanthelium scoparium**	**3**		**FACW**
10.			
11.			
12.			
	156	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **4** (A)

Dominants across all strata: **4** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**33**	x 1 =	**33**
FACW	**79**	x 2 =	**158**
FAC	**47**	x 3 =	**141**
FACU	**15**	x 4 =	**60**
UPL		x 5 =	
Sum:	**174** (A)		**392** (B)

Prevalence Index = B/A = **2.25**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AD-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **9/30/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AD-2**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Convex** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.524268** Long: **-77.597681** Datum: **WGS 1984**
Soil Map Unit: **Yellowbottom loam, 7 to 15 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	**2.5Y 5/3**	**100**					**silt loam**	
2-14	**2.5Y 6/4**	**100**					**silt loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

AD-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1. **Ilex opaca**	**15**	**X**	**FACU**
2. **Lyonia ligustrina**	**3**		**FACW**
3.			
4.			
5.			
6.			
7.			
	18	= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Pteridium aquilinum**	**85**	**X**	**FACU**
2. **Rubus hispidus**	**15**		**FACW**
3. **Solidago rugosa**	**3**		**FAC**
4. **eupatorium pubescens**	**3**		**UPL**
5. **Coleataenia anceps**	**3**		**FAC**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	109	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **O** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **O** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**18**	x 2 = **36**
FAC	**6**	x 3 = **18**
FACU	**100**	x 4 = **400**
UPL	**3**	x 5 = **15**
Sum:	**127** (A)	**469** (B)

Prevalence Index = B/A = **3.69**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AF-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AF-1**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **4 to 6**
Subregion (LRR or MLRA): **LRR P** Lat: **38.513919** Long: **-77.598386** Datum: **WGS 1984**
Soil Map Unit: **Yellowbottom loam, 2 to 7 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

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

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

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	**10YR 4/3**	**100**					**loam**	
1-7	**2.5Y 5/3**	**85**	**10YR 5/8**	**15**	**C**	**M**	**loam**	
7-14	**2.5Y 6/2**	**90**	**10YR 5/8**	**10**	**C**	**M**	**loam**	

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

Hydric Soil Indicators:

___ Histosol (A1)	___ Dark Surface (S7)	Indicators for Problematic Hydric Soils[3]:
___ Histic Epipedon (A2)	___ Polyvalue Below Surface (S8)	___ 2 cm Muck (A10)
___ Black Histic (A3)	___ Thin Dark Surface (S9)	___ Coast Prairie Redox (A16)
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)
___ Stratified Layers (A5)	X Depleted Matrix (F3)	___ Very Shallow Dark Surface (TF12)
___ 2cm Muck (A10)	___ Redox Dark Surface (F6)	___ Other (Explain in Remarks)
___ Depleted Below Dark Surface (A11)	___ Depleted Dark Surface (F7)	
___ Thick Dark Surface (A12)	___ Redox Depressions (F8)	
___ Sandy Mucky Mineral (S1)	___ Iron-Manganese Masses (F12)	[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
___ Sandy Gleyed Matrix (S4)	___ Umbric Surface (F13)	
___ Sandy Redox (S5)	___ Piedmont Floodplain Soils (F19)	
___ Stripped Matrix (S6)	___ Red Parent Material (F21)	

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

AF-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Coleataenia anceps**	**63**	**X**	**FAC**
2. **Dichanthelium dichotomum**	**38**	**X**	**FAC**
3. **Solidago rugosa**	**38**	**X**	**FAC**
4. **Oxypolis rigidior**	**3**		**OBL**
5. **Euthamia graminifolia**	**3**		**FAC**
6. **CHLA2**	**3**		**OBL**
7. **Pycnanthemum tenuifolium**	**3**		**FACW**
8. **Asclepias incarnata**	**1**		**OBL**
9.			
10.			
11.			
12.			
	152	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **3** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**7**	x 1 =	**7**
FACW	**3**	x 2 =	**6**
FAC	**142**	x 3 =	**426**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**152** (A)		**439** (B)

Prevalence Index = B/A = **2.89**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- Problematic Hydrophytic Vegetation[1] (explain)
- Rapid Test for Hydrophytic Vegetation
- Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

Rhynchospora (15%) and Symphyotrichum (15%)species also observed. Species were not dominant and not readily identifiable

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AF-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AF-2**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.514215** Long: **-77.598521** Datum: **WGS 1984**
Soil Map Unit: **Yellowbottom loam, 2 to 7 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**2.5Y 6/3**	**100**					**loam**	
6-14	**2.5Y 6/6**	**80**	**2.5Y 6/3**	**20**	**D**	**M**	**loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

AF-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Chasmanthium laxum**	**63**	**X**	**FAC**
2. **Rubus hispidus**	**63**	**X**	**FACW**
3. **Smilax rotundifolia**	**15**		**FAC**
4. **Solidago rugosa**	**3**		**FAC**
5. **Acer rubrum**	**3**		**FAC**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	147 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**2**	(A)
# Dominants across all strata:	**2**	(B)
% Dominants OBL, FACW, FAC:	**100%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL		x 1 =	
FACW	**63**	x 2 =	**126**
FAC	**84**	x 3 =	**252**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**147** (A)		**378** (B)

Prevalence Index = B/A = **2.57**

Hydrophytic Vegetation Indicators:

X	Dominance Test is > 50%
X	Prevalence Index is <= 3.0
	Problematic Hydrophytic Vegetation[1] (explain)
	Rapid Test for Hydrophytic Vegetation
	Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AG-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AG-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **3-5%**
Subregion (LRR or MLRA): **LRR P** Lat: **38.510079** Long: **-77.597529** Datum: **WGS 1984**
Soil Map Unit: **Yellowbottom loam, 7-15% slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine scrub-shrub (PSS) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 4/2**	**85**	**7.5YR 4/6**	**15**	**C**	**PL**	**loam**	
6-18	**5G 5/1**	**93**	**7.5YR 4/6**	**7**	**C**	**PL**	**sandy clay loam**	**Manganese concretions observed at 5%.**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)	X	Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type:
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F2 (Loamy Gleyed Matrix) and F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

AG-1

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dom. Sp?	Indicator Status*
1. **Pinus virginiana**	**15**	**X**	**UPL**
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1. **Alnus serrulata**	**63**	**X**	**OBL**
2. **Nyssa sylvatica**	**15**		**FAC**
3. **Salix nigra**	**15**		**OBL**
4. **Rosa multiflora**	**15**		**FACU**
5.			
6.			
7.			
	108	= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Microstegium vimineum**	**63**	**X**	**FAC**
2. **Eupatorium perfoliatum**	**3**		**FACW**
3. **Boehmeria cylindrica**	**3**		**FACW**
4. **Symphyotrichum dumosum**	**3**		**FAC**
5. **Impatiens capensis**	**3**		**FACW**
6. **Lobelia cardinalis**	**3**		**FACW**
7. **Persicaria longiseta**	**1**		**FAC**
8.			
9.			
10.			
11.			
12.			
	79	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**78**	x 1 =	**78**
FACW	**12**	x 2 =	**24**
FAC	**82**	x 3 =	**246**
FACU	**15**	x 4 =	**60**
UPL	**15**	x 5 =	**75**
Sum:	**202** (A)		**483** (B)

Prevalence Index = B/A = **2.39**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AG-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AG-2**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Bluff** Local relief (concave, convex, none): **Concave** Slope (%): **10-15%**
Subregion (LRR or MLRA): **LRR P** Lat: **38.509954** Long: **-77.597534** Datum: **WGS 1984**
Soil Map Unit: **Yellowbottom loam, 7-15% slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 6/6**	**100**					**silt loam**	
6-18	**7.5YR 6/8**						**gravelly silt loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: ___
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

AG-2

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dom. Sp?	Indicator Status*
1. Pinus virginiana	63	X	UPL
2. Acer rubrum	15		FAC
3. Carya tomentosa	15		UPL
4. Liriodendron tulipifera	15		FACU
5.			
6.			
7.			
	108	= Total Cover	

Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Shrub Stratum (Plot size: 15' radius)			
1. Ilex opaca	15	X	FACU
2. Acer rubrum	3		FAC
3. Rhododendron periclymenoides	3		FAC
4. Juniperus virginiana	3		FACU
5.			
6.			
7.			
	24	= Total Cover	

Herb Stratum (Plot size: 10' radius)			
1. Quercus montana	3	X	UPL
2. Mitchella repens	3	X	FACU
3. Solidago caesia	1		FACU
4. Quercus phellos	1		FAC
5. Chimaphila maculata	1		UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	9	= Total Cover	

Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **O** (A)

Dominants across all strata: **4** (B)

% Dominants OBL, FACW, FAC: **O** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC	22	x 3 = 66
FACU	37	x 4 = 148
UPL	82	x 5 = 410
Sum:	141 (A)	624 (B)

Prevalence Index = B/A = **4.43**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AG-3

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AG-3**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Upland Swale** Local relief (concave, convex, none): **Concave** Slope (%): **8-10%**
Subregion (LRR or MLRA): **LRR P** Lat: **38.505143** Long: **-77.596653** Datum: **WGS 1984**
Soil Map Unit: **Yellowbottom loam, 7-15% slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	**5YR 5/6**	**100**					**grav sandy cl loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: ___
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **Soil mixed likely due to heavy equipment usage in recent past.**

VEGETATION - Use scientific names of plants.

AG-3

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Scirpus georgianus**	**38**	**X**	**OBL**
2. **Solidago rugosa**	**15**	**X**	**FAC**
3. **Symphyotrichum dumosum**	**3**		**FAC**
4. **Juncus effusus**	**3**		**FACW**
5. **Liriodendron tulipifera**	**1**		**FACU**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**2**	(A)
# Dominants across all strata:	**2**	(B)
% Dominants OBL, FACW, FAC:	**100%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**38**	x 1 =	**38**
FACW	**3**	x 2 =	**6**
FAC	**18**	x 3 =	**54**
FACU	**1**	x 4 =	**4**
UPL		x 5 =	
Sum:	**60** (A)		**102** (B)

Prevalence Index = B/A = **1.70**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AH-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AH-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **3-5%**
Subregion (LRR or MLRA): **LRR P** Lat: **38.501989** Long: **-77.596822** Datum: **WGS 1984**
Soil Map Unit: **Mongle silt loam, 0-2% slopes, frequently flooded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches): **16**
Saturation Present? **YES** Depth (inches): **10**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	**10YR 5/2**	**92**	**10YR 4/6**	**8**	**C**	**M**	**loam**	
12-18	**10YR 6/1**	**90**	**10YR 5/8**	**10**	**C**	**PL**	**clay loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type:
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

AH-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1. **Alnus serrulata**	**3**	**X**	**OBL**
2. **Rorippa palustris**	**3**	**X**	**OBL**
3.			
4.			
5.			
6.			
7.			
	6	= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Juncus effusus**	**63**	**X**	**FACW**
2. **Scirpus georgianus**	**15**	**X**	**OBL**
3. **Arthraxon hispidus**	**15**	**X**	**FAC**
4. **Rubus pensilvanicus**	**15**	**X**	**FAC**
5. **Rubus hispidus**	**15**	**X**	**FACW**
6. **Smilax rotundifolia**	**3**		**FAC**
7. **Peltandra sagittifolia**	**3**		**OBL**
8. **Cyperus strigosus**	**3**		**FACW**
9. **Onoclea sensibilis**	**1**		**FACW**
10.			
11.			
12.			
	133	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**7**	(A)
# Dominants across all strata:	**7**	(B)
% Dominants OBL, FACW, FAC:	**100%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**24**	x 1 =	**24**
FACW	**82**	x 2 =	**164**
FAC	**33**	x 3 =	**99**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**139** (A)		**287** (B)

Prevalence Index = B/A = **2.06**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AH-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AH-2**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hill top** Local relief (concave, convex, none): **Convex** Slope (%): **5 to 7**
Subregion (LRR or MLRA): **LRR P** Lat: **38.5031** Long: **-77.597059** Datum: **WGS 1984**
Soil Map Unit: **Yellowbottom loam, 7 to 15 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**2.5Y 6/4**	**100**					**sandy loam**	**refusal at 6 inches, compacted soils**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

AH-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Schizachyrium scoparium**	**63**	**X**	**FACU**
2. **Symphyotrichum dumosum**	**15**		**FAC**
3. **Solidago puberula**	**15**		**FACU**
4. **Eupatorium hyssopifolium**	**15**		**UPL**
5. **Pseudognaphalium obtusifolium**	**3**		**UPL**
6. **Pycnanthemum tenuifolium**	**3**		**FACW**
7. **Agalinis purpurea**	**3**		**FACW**
8. **Rubus hispidus**	**3**		**FACW**
9. **Tridens flavus**	**3**		**FACU**
10. **Euthamia graminifolia**	**1**		**FAC**
11.			
12.			
	124	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **O** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **O** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**9**	x 2 = **18**
FAC	**16**	x 3 = **48**
FACU	**81**	x 4 = **324**
UPL	**18**	x 5 = **90**
Sum:	**124** (A)	**480** (B)

Prevalence Index = B/A = **3.87**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AH-3

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **10/2/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AH-3**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.503991** Long: **-77.596932** Datum: **WGS 1984**
Soil Map Unit: **Sumerduck loam, 2 to 7 percent slopes, frequently flooded** NWI Classif.: **R4SBC**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine scrub-shrub (PSS) wetland. Data were collected during a moderate drought.**

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**10YR 4/2**	**95**	**10YR 6/8**	**5**	**c**	**m**	**loam**	
3-12	**2.5Y 6/2**	**70**	**2.5Y 6/8**	**10**	**C**	**PL**	**silt loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

AH-3

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1. **Lyonia ligustrina**	**85**	**X**	**FACW**
2.			
3.			
4.			
5.			
6.			
7.			
	85	= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Rubus hispidus**	**63**	**X**	**FACW**
2. **Dichanthelium dichotomum**	**15**	**X**	**FAC**
3. **Symphyotrichum dumosum**	**15**	**X**	**FAC**
4. **Solidago rugosa**	**15**	**X**	**FAC**
5. **Smilax rotundifolia**	**15**	**X**	**FAC**
6. **Dichanthelium scoparium**	**3**		**FACW**
7. **Euthamia graminifolia**	**3**		**FAC**
8. **Juncus effusus**	**3**		**FACW**
9.			
10.			
11.			
12.			
	132	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**6**	(A)
# Dominants across all strata:	**6**	(B)
% Dominants OBL, FACW, FAC:	**100%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL		x 1 =	
FACW	**154**	x 2 =	**308**
FAC	**63**	x 3 =	**189**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**217** (A)		**497** (B)

Prevalence Index = B/A = **2.29**

Hydrophytic Vegetation Indicators:

X	Dominance Test is > 50%
X	Prevalence Index is <= 3.0
	Problematic Hydrophytic Vegetation[1] (explain)
	Rapid Test for Hydrophytic Vegetation
	Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AI-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AI-1**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **hillslope** Local relief (concave, convex, none): **Concave** Slope (%): **5 to 7**
Subregion (LRR or MLRA): **LRR P** Lat: **38.499464** Long: **-77.596492** Datum: **WGS 1984**
Soil Map Unit: **Goldvein fine gravelly silt loam, 7 to 15 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**2.5Y 5/2**	**95**	**10YR 6/8**	**5**	**C**	**PL**	**sandy clay loam**	
3-12	**2.5Y 5/2**	**65**	**10YR 6/8**	**35**	**C**	**M**	**sandy clay loam**	
12-16	**2.5Y 7/2**	**80**	**10YR 6/8**	**20**	**C**	**M**	**sandy clay loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

AI-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Schizachyrium scoparium**	**38**	**X**	**FACU**
2. **Rubus hispidus**	**38**	**X**	**FACW**
3. **Dichanthelium scoparium**	**15**		**FACW**
4. **Euthamia graminifolia**	**15**		**FAC**
5. **Dichanthelium dichotomum**	**15**		**FAC**
6. **Rhynchospora globularis**	**3**		**FACW**
7. **Dichanthelium scoparium**	**3**		**FACW**
8.			
9.			
10.			
11.			
12.			
	127 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**59**	x 2 = **118**
FAC	**30**	x 3 = **90**
FACU	**38**	x 4 = **152**
UPL		x 5 =
Sum:	**127** (A)	**360** (B)

Prevalence Index = B/A = **2.83**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 3 (Prevalence Index) present with a Prevalence Index value of 3.0 or less.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AI-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Fauquier** Samp. Date: **10/1/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AI-2**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Concave** Slope (%): **5 to 7**
Subregion (LRR or MLRA): **LRR P** Lat: **38.499577** Long: **-77.596491** Datum: **WGS 1984**
Soil Map Unit: **Goldvein fine gravelly silt loam, 7 to 15 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 5/3**	**100**					**silt loam**	
6-8	**2.5Y 6/3**	**100**						**Auger refusal at 8 inches**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

AI-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: **10' radius**)			
1. **Schizachyrium scoparium**	**38**	**X**	**FACU**
2. **Dichanthelium dichotomum**	**38**	**X**	**FAC**
3. **Rubus pensilvanicus**	**15**		**FAC**
4. **Eupatorium pubescens**	**3**		**UPL**
5. **Eupatorium hyssopifolium**	**3**		**UPL**
6. **Smilax rotundifolia**	**3**		**FAC**
7. **Symphyotrichum dumosum**	**3**		**FAC**
8. **Euthamia graminifolia**	**3**		**FAC**
9. **Lobelia puberula**	**3**		**FACW**
10. **Eupatorium rotundifolium**	**1**		**FAC**
11. **Solidago rugosa**	**1**		**FAC**
12.			
	111	= Total Cover	

Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:	
OBL		x 1 =	
FACW	**3**	x 2 =	**6**
FAC	**64**	x 3 =	**192**
FACU	**38**	x 4 =	**152**
UPL	**6**	x 5 =	**30**
Sum:	**111** (A)		**380** (B)

Prevalence Index = B/A = **3.42**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AJ-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/2/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AJ-1**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%):
Subregion (LRR or MLRA): **LRR P** Lat: **38.489037** Long: **-77.595370** Datum: **WGS 1984**
Soil Map Unit: **Alluvial land, wet** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine scrub-shrub (PSS) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches): **4**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**10YR 4/2**	**90**	**7.5YR 5/8**	**10**	**C**	**PL**	**loam**	
4-8	**10YR 5/2**	**90**	**7.5YR 5/8**	**10**	**C**	**PL**	**coarse sandy loam**	
8-18	**N 5/**	**100**					**coarse sandy loam**	**Pea gravel mixed throughout**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

AJ-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1. **Rorippa palustris**	**38**	**X**	**OBL**
2. **Sambucus nigra**	**15**	**X**	**FAC**
3. **Acer rubrum**	**3**		**FAC**
4. **Celtis occidentalis**	**3**		**FACU**
5.			
6.			
7.			
	59 = Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Peltandra sagittifolia**	**63**	**X**	**OBL**
2. **Dichanthelium dichotomum**	**38**	**X**	**FAC**
3. **Eupatorium perfoliatum**	**15**		**FACW**
4. **Solidago rugosa**	**15**		**FAC**
5. **Agrimonia parviflora**	**3**		**FACW**
6. **Scirpus cyperinus**	**3**		**FACW**
7. **Rorippa palustris**	**1**		**OBL**
8.			
9.			
10.			
11.			
12.			
	138 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **4** (A)

Dominants across all strata: **4** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**102**	x 1 =	**102**
FACW	**21**	x 2 =	**42**
FAC	**71**	x 3 =	**213**
FACU	**3**	x 4 =	**12**
UPL		x 5 =	
Sum:	**197** (A)		**369** (B)

Prevalence Index = B/A = **1.87**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AJ-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/2/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AJ-2**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Swale** Local relief (concave, convex, none): **Concave** Slope (%): **4 to 6**
Subregion (LRR or MLRA): **LRR P** Lat: **38.48714** Long: **-77.595649** Datum: **WGS 1984**
Soil Map Unit: **Nason silt loam, 6 to 15 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**7.5YR 5/6**	**100**					**clay loam**	
4-14	**7.5YR 4/6**	**100**					**gravelly clay loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

AJ-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: **10' radius**)			
1. **Rubus hispidus**	**38**	**X**	**FACW**
2. **Schizachyrium scoparium**	**38**	**X**	**FACU**
3. **Solidago rugosa**	**15**		**FAC**
4. **Pycnanthemum tenuifolium**	**3**		**FACW**
5. **Rudbeckia hirta**	**3**		**FACU**
6. **Symphyotrichum dumosum**	**3**		**FAC**
7. **Sophronanthe pilosa**	**1**		**FACU**
8.			
9.			
10.			
11.			
12.			
	101 = Total Cover		
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**41**	x 2 = **82**
FAC	**18**	x 3 = **54**
FACU	**42**	x 4 = **168**
UPL		x 5 =
Sum:	**101** (A)	**304** (B)

Prevalence Index = B/A = **3.01**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AM-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/3/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AM-1**
Investigator(s): **Joey Thompson, Nick Newberry** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **concave** Slope (%): **1 to 3**
Subregion (LRR or MLRA): **LRR P** Lat: **38.479513** Long: **-77.595690** Datum: **WGS 1984**
Soil Map Unit: **Wehadkee very fine sandy loam, 0 to 2 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**10YR 5/3**	**95**	**10YR 6/8**	**5**	**C**	**PL**	**loam**	
3-10	**10YR 5/2**	**90**	**10YR 6/8**	**5**	**C**	**PL**	**loam**	**Manganese concretions 5% of matrix**
10-13	**10YR 5/2**	**55**	**10YR 6/8**	**35**	**C**	**M**	**clay loam**	**Manganese concretions 10% of matrix**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)	X	Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

AM-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Arthraxon hispidus**	63	X	FAC
2. **Juncus effusus**	38	X	FACW
3. **Schoenoplectus americanus**	15		OBL
4. **Rubus hispidus**	3		FACW
5. **Dichanthelium scoparium**	3		FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	122 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**15**	x 1 =	**15**
FACW	**44**	x 2 =	**88**
FAC	**63**	x 3 =	**189**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**122** (A)		**292** (B)

Prevalence Index = B/A = **2.39**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AM-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/3/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AM-2**
Investigator(s): **Joey Thompson, Nick Newberry** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.479342** Long: **-77.595612** Datum: **WGS 1984**
Soil Map Unit: **Wehadkee very fine sandy loam, 0 to 2 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**10YR 5/3**	**85**					**loam**	
3-8	**10YR 5/3**	**85**	**10YR 6/8**	**10**	**C**	**M**	**loam**	**: concretions 5% of matrix; Auger refusal at 8in, comp**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

AM-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Arthraxon hispidus**	**38**	**X**	**FAC**
2. **Schedonorus arundinaceus**	**38**	**X**	**FACU**
3. **Plantago rugelii**	**3**		**FACU**
4. **Rubus hispidus**	**3**		**FACW**
5. **Symphyotrichum dumosum**	**1**		**FAC**
6. **Juncus tenuis**	**1**		**FAC**
7.			
8.			
9.			
10.			
11.			
12.			
	84 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**3**	x 2 = **6**
FAC	**40**	x 3 = **120**
FACU	**41**	x 4 = **164**
UPL		x 5 =
Sum:	**84** (A)	**290** (B)

Prevalence Index = B/A = **3.45**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AP-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/3/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AP-1**
Investigator(s): **Joey Thompson, Nick Newberry** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **seep** Local relief (concave, convex, none): **concave** Slope (%): **1 to 3**
Subregion (LRR or MLRA): **LRR P** Lat: **38.458712** Long: **-77.595709** Datum: **WGS 1984**
Soil Map Unit: **Manor silt loam, 15 to 35 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **YES** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**10YR 3/2**	**97**	**5YR 5/8**	**3**	**C**	**m**	**silt loam**	
4-18	**2.5Y 5/2**	**85**	**7.5YR 5/8**	**15**	**C**	**PL**	**gravelly clay loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

AP-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1. **Acer rubrum**	**3**	**X**	**FAC**
2.			
3.			
4.			
5.			
6.			
7.			
	3	= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Dichanthelium dichotomum**	**38**	**X**	**FAC**
2. **Eupatorium perfoliatum**	**15**	**X**	**FACW**
3. **Euthamia graminifolia**	**15**	**X**	**FAC**
4. **Juncus effusus**	**15**	**X**	**FACW**
5. **Dichanthelium clandestinum**	**15**	**X**	**FAC**
6. **Vernonia noveboracensis**	**15**	**X**	**FACW**
7. **Symphyotrichum puniceum**	**15**	**X**	**OBL**
8. **Scirpus georgianus**	**15**	**X**	**OBL**
9. **Lilium superbum**	**3**		**FACW**
10. **Eutrochium fistulosum**	**3**		**FACW**
11. **Carex intumescens**	**3**		**FACW**
12.			
	152	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **9** (A)

Dominants across all strata: **9** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**30**	x 1 =	**30**
FACW	**54**	x 2 =	**108**
FAC	**71**	x 3 =	**213**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**155** (A)		**351** (B)

Prevalence Index = B/A = **2.26**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AP-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/3/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AP-2**
Investigator(s): **Joey Thompson, Nick Newberry** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **berm** Local relief (concave, convex, none): **concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.458933** Long: **-77.595807** Datum: **WGS 1984**
Soil Map Unit: **Cartecay fine sandy loam** NWI Classif.: **PFO1C**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	**10YR 4/6**						**loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

AP-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Elymus hystrix**	**63**	**X**	**UPL**
2. **Solidago altissima**	**38**	**X**	**FACU**
3. **Dichanthelium clandestinum**	**15**		**FAC**
4. **Dichanthelium dichotomum**	**3**		**FAC**
5. **Desmodium paniculatum**	**3**		**FACU**
6. **Symphyotrichum lateriflorum**	**3**		**FACW**
7. **Solidago rugosa**	**3**		**FAC**
8. **Lonicera japonica**	**1**		**FACU**
9.			
10.			
11.			
12.			
	129	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**3**	x 2 = **6**
FAC	**21**	x 3 = **63**
FACU	**42**	x 4 = **168**
UPL	**63**	x 5 = **315**
Sum:	**129** (A)	**552** (B)

Prevalence Index = B/A = **4.28**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AR-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/4/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AR-1**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **floodplain** Local relief (concave, convex, none): **concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.448817** Long: **-77.595579** Datum: **WGS 1984**
Soil Map Unit: **Elioak silty clay loam, 6 to 15 percent slopes, severely eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 4/4	100					loam	
3-8	7.5YR 4/2	60	7.5YR 4/4	40	d	M	loam	
8-12	7.5YR 5/2	90	7.5YR 5/6	10	c	pl	clay loam	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

AR-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: **10' radius**)			
1. **Coleataenia anceps**	**63**	**X**	**FAC**
2. **Dichanthelium clandestinum**	**15**		**FAC**
3. **Juncus effusus**	**15**		**FACW**
4. **Elephantopus carolinianus**	**3**		**FACU**
5. **Trifolium repens**	**3**		**FACU**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	99 = Total Cover		
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**15**	x 2 = **30**
FAC	**78**	x 3 = **234**
FACU	**6**	x 4 = **24**
UPL		x 5 =
Sum:	**99** (A)	**288** (B)

Prevalence Index = B/A = **2.91**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AS-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/4/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AS-1**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **floodplain** Local relief (concave, convex, none): **concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.443218** Long: **-77.595481** Datum: **WGS 1984**
Soil Map Unit: **Worsham loam** NWI Classif.: **R4SBA**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **NO**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 4/2**	**90**	**7.5YR 5/8**	**10**	**c**	**pl**	**loam**	
6-14	**10YR 5/2**	**85**	**7.5YR 5/8**	**10**	**c**	**pl**	**loam**	**maganese concretions 5% of matrix**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)		Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks:

VEGETATION - Use scientific names of plants.

AS-1

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Juncus effusus**	**63**	**X**	**FACW**
2.	**Schedonorus arundinaceus**	**38**	**X**	**FACU**
3.	**Arthraxon hispidus**	**15**		**FAC**
4.	**Scirpus georgianus**	**15**		**OBL**
5.	**Cyperus strigosus**	**3**		**FACW**
6.	**Echinochloa crus-galli**	**3**		**FAC**
7.	**Persicaria sagittata**	**3**		**OBL**
8.				
9.				
10.				
11.				
12.				
		140	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**18**	x 1 =	**18**
FACW	**66**	x 2 =	**132**
FAC	**18**	x 3 =	**54**
FACU	**38**	x 4 =	**152**
UPL		x 5 =	
Sum:	**140** (A)		**356** (B)

Prevalence Index = B/A = **2.54**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 3 (Prevalence Index) present with a Prevalence Index value of 3.0 or less.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AS-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/4/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AS-2**
Investigator(s): **Joey Thompson** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **terrace** Local relief (concave, convex, none): **none** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.443031** Long: **-77.595622** Datum: **WGS 1984**
Soil Map Unit: **Worsham loam** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 5/4**	**90**	**5YR 5/8**	**10**	**C**	**PL**	**loam**	
6-12	**10YR 6/4**	**92**	**7.5YR 5/8**	**8**	**c**	**pl**	**loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

AS-2

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Schedonorus arundinaceus**	**85**	**X**	**FACU**
2.	**Paspalum dilatatum**	**15**		**FAC**
3.	**Bidens frondosa**	**3**		**FACW**
4.	**Digitaria ciliaris**	**3**		**FAC**
5.	**Arthraxon hispidus**	**3**		**FAC**
6.	**Daucus carota**	**3**		**UPL**
7.				
8.				
9.				
10.				
11.				
12.				
		112	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **O** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **O** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL		x 1 =	
FACW	**3**	x 2 =	**6**
FAC	**21**	x 3 =	**63**
FACU	**85**	x 4 =	**340**
UPL	**3**	x 5 =	**15**
Sum:	**112** (A)		**424** (B)

Prevalence Index = B/A = **3.79**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AU-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/8/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AU-2**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Slope** Local relief (concave, convex, none): **Concave** Slope (%): **10**
Subregion (LRR or MLRA): **LRR P** Lat: **38.437438** Long: **-77.595837** Datum: **WGS 1984**
Soil Map Unit: **Appling-Wedowee sandy loams, 6-15%, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**10YR 6/6**	**60**	**10YR 5/3**	**40**	**D**	**M**	**loam**	
4-7	**10YR 6/6**	**80**	**10YR 5/3**	**20**	**D**	**M**	**loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Compaction**
Depth (inches): **7**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

AU-2

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		= Total Cover		
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		= Total Cover		
Shrub Stratum	(Plot size: **15' radius**)			
1.	**Ilex opaca**	**3**	**X**	**FACU**
2.				
3.				
4.				
5.				
6.				
7.				
		3 = Total Cover		
Herb Stratum	(Plot size: **10' radius**)			
1.	**Sorghastrum nutans**	**38**	**X**	**FACU**
2.	**Microstegium vimineum**	**38**	**X**	**FAC**
3.	**Coleataenia anceps**	**15**		**FAC**
4.	**Dichanthelium clandestinum**	**15**		**FAC**
5.	**Schizachyrium scoparium**	**3**		**FACU**
6.	**Solanum carolinense**	**3**		**FACU**
7.	**Euthamia graminifolia**	**3**		**FAC**
8.	**Conoclinium coelestinum**	**3**		**FAC**
9.	**Rudbeckia fulgida**	**1**		**FAC**
10.	**Euphorbia corrolata**	**1**		**UPL**
11.				
12.				
		120 = Total Cover		
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
		= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:	
OBL		x 1 =	
FACW		x 2 =	
FAC	**75**	x 3 =	**225**
FACU	**47**	x 4 =	**188**
UPL	**1**	x 5 =	**5**
Sum:	**123** (A)		**418** (B)

Prevalence Index = B/A = **3.40**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AW-3

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/8/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AW-3**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **swale** Local relief (concave, convex, none): **concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.429607** Long: **-77.595504** Datum: **WGS 1984**
Soil Map Unit: **Worsham loam** NWI Classif.: **R4SBC**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**10YR 5/4**	**80**	**7.5YR 5/8**	**20**	**c**	**m**	**loam**	
3-14	**7.5YR 4/6**	**40**	**2.5Y 6/4**	**40**	**d**	**m**	**loam**	**20% 7.5YR 5/8 concentrations in the matrix**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

AW-3

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Arthraxon hispidus**	**85**	**X**	**FAC**
2.	**Scirpus georgianus**	**15**		**OBL**
3.	**Juncus effusus**	**15**		**FACW**
4.	**Dichanthelium clandestinum**	**3**		**FAC**
5.	**Erechtites hieracifolious**	**1**		**UPL**
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		119	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**15**	x 1 =	**15**
FACW	**15**	x 2 =	**30**
FAC	**88**	x 3 =	**264**
FACU		x 4 =	
UPL	**1**	x 5 =	**5**
Sum:	**119** (A)		**314** (B)

Prevalence Index = B/A = **2.64**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AY-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/8/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AY-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **floodplain** Local relief (concave, convex, none): **concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.418968** Long: **-77.595846** Datum: **WGS 1984**
Soil Map Unit: **Wehadkee very fine sandy loam, 0 to 2 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **YES** Depth (inches): **6**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**10YR 4/2**	**90**	**7.5YR 4/6**	**10**	**c**	**pl**	**loam**	
4-7	**10YR 5/2**	**85**	**5YR 4/6**	**15**	**c**	**pl**	**loam**	
7-18	**n 4/**	**92**	**5YR 4/6**	**8**	**c**	**pl**	**clay loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

AY-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1. **Sambucus nigra**	**3**	**X**	**FAC**
2. **Rubus pensilvanicus**	**3**	**X**	**FAC**
3.			
4.			
5.			
6.			
7.			
	6	= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Vernonia noveboracensis**	**63**	**X**	**FACW**
2. **Arthraxon hispidus**	**38**	**X**	**FAC**
3. **Dichanthelium dichotomum**	**38**	**X**	**FAC**
4. **Persicaria sagittata**	**15**		**OBL**
5. **Typha latifolia**	**3**		**OBL**
6. **Carex intumescens**	**3**		**FACW**
7. **Woodwardia virginica**	**3**		**OBL**
8. **Boehmeria cylindrica**	**3**		**FACW**
9. **Mimulus alatus**	**3**		**OBL**
10.			
11.			
12.			
	169	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **5** (A)

Dominants across all strata: **5** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**24**	x 1 =	**24**
FACW	**69**	x 2 =	**138**
FAC	**82**	x 3 =	**246**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**175** (A)		**408** (B)

Prevalence Index = B/A = **2.33**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AY-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/8/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AY-2**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **swale** Local relief (concave, convex, none): **concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.422753** Long: **-77.595631** Datum: **WGS 1984**
Soil Map Unit: **Elioak silt loam, 2 to 6 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	**7.5YR 4/4**	**100**					**gravelly sandy loam**	
5-10	**7.5YR 4/6**	**50**	**7.5YR 5/3**	**50**	**d**	**m**	**sandy loam**	
10-16	**10YR 4/4**	**100**					**sandy loam**	**charcoal in matrix**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

AY-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Dactylis glomerata**	**63**	**X**	**FACU**
2. **Boehmeria cylindrica**	**63**	**X**	**FACW**
3. **Tripsacum dactyloides**	**38**	**X**	**FACW**
4. **Sporobolus indicus**	**15**		**FACU**
5. **Bambusa vulgaris**	**3**		**FACU**
6. **Desmodium paniculatum**	**3**		**FACU**
7. **Microstegium vimineum**	**3**		**FAC**
8. **Cirsium discolor**	**1**		**UPL**
9.			
10.			
11.			
12.			
	189	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**2**	(A)
# Dominants across all strata:	**3**	(B)
% Dominants OBL, FACW, FAC:	**67%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL		x 1 =	
FACW	**101**	x 2 =	**202**
FAC	**3**	x 3 =	**9**
FACU	**84**	x 4 =	**336**
UPL	**1**	x 5 =	**5**
Sum:	**189** (A)		**552** (B)

Prevalence Index = B/A = **2.92**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CB-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/8/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CB-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **floodplain** Local relief (concave, convex, none): **concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.40807** Long: **-77.595844** Datum: **WGS 1984**
Soil Map Unit: **Wehadkee very fine sandy loam, 0 to 2 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	**2.5Y 5/2**	**90**	**5YR 4/6**	**10**	**c**	**pl**	**clay loam**	
7-14	**2.5Y 5/2**	**85**	**5YR 4/6**	**15**	**c**	**pl**	**loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

CB-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1. **Rosa palustris**	15	X	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Arthraxon hispidus**	38	X	FAC
2. **Euthamia graminifolia**	38	X	FAC
3. **Leersia oryzoides**	15		OBL
4. **Scirpus georgianus**	3		OBL
5. **Juncus effusus**	3		FACW
6. **Eupatorium perfoliatum**	3		FACW
7. **Persicaria sagittata**	3		OBL
8. **Typha latifolia**	1		OBL
9. **Agalinis purpurea**	1		FACW
10.			
11.			
12.			
	105	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**3**	(A)
# Dominants across all strata:	**3**	(B)
% Dominants OBL, FACW, FAC:	**100%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**37**	x 1 =	**37**
FACW	**7**	x 2 =	**14**
FAC	**76**	x 3 =	**228**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**120** (A)		**279** (B)

Prevalence Index = B/A = **2.33**

Hydrophytic Vegetation Indicators:

X	Dominance Test is > 50%
X	Prevalence Index is <= 3.0
	Problematic Hydrophytic Vegetation[1] (explain)
	Rapid Test for Hydrophytic Vegetation
	Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CB-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/8/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CB-2**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **terrace** Local relief (concave, convex, none): **convex** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.407834** Long: **-77.595632** Datum: **WGS 1984**
Soil Map Unit: **Wehadkee very fine sandy loam, 0 to 2 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	**10YR 6/4**	**100**					**loam**	
2-7	**7.5YR 5/6**	**75**	**10YR 5/4**	**25**	**d**	**m**	**loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

CB-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Solidago altissima**	**38**	**X**	**FACU**
2. **Dichanthelium clandestinum**	**38**	**X**	**FAC**
3. **Solanum carolinense**	**15**		**FACU**
4. **Desmodium paniculatum**	**3**		**FACU**
5. **Cirsium discolor**	**1**		**UPL**
6. **Cyperus strigosus**	**1**		**FACW**
7.			
8.			
9.			
10.			
11.			
12.			
	96	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**1**	(A)
# Dominants across all strata:	**2**	(B)
% Dominants OBL, FACW, FAC:	**50%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL		x 1 =	
FACW	**1**	x 2 =	**2**
FAC	**38**	x 3 =	**114**
FACU	**56**	x 4 =	**224**
UPL	**1**	x 5 =	**5**
Sum:	**96** (A)		**345** (B)

Prevalence Index = B/A = **3.59**

Hydrophytic Vegetation Indicators:

- _____ Dominance Test is > 50%
- _____ Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CC-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/9/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CC-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **valley** Local relief (concave, convex, none): **concave** Slope (%): **1 to 3**
Subregion (LRR or MLRA): **LRR P** Lat: **38.404532** Long: **-77.595885** Datum: **WGS 1984**
Soil Map Unit: **Meadowville silt loam** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
X	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	**2.5Y 5/2**	**92**	**7.5YR 4/6**	**8**	**c**	**pl**	**loam**	
9-12	**2.5Y 7/2**	**80**	**10YR 6/8**	**20**	**c**	**m**	**coarse sandy loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

CC-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Microstegium vimineum**	**38**	**X**	**FAC**
2. **Dichanthelium dichotomum**	**38**	**X**	**FAC**
3. **Persicaria sagittata**	**15**		**OBL**
4. **Mimulus alatus**	**3**		**OBL**
5. **Solidago rugosa**	**3**		**FAC**
6. **Euthamia graminifolia**	**3**		**FAC**
7. **Juncus effusus**	**3**		**FACW**
8. **Juncus marginatus**	**3**		**FACW**
9.			
10.			
11.			
12.			
	106	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**18**	x 1 =	**18**
FACW	**6**	x 2 =	**12**
FAC	**82**	x 3 =	**246**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**106** (A)		**276** (B)

Prevalence Index = B/A = **2.60**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CC-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/8/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CC-2**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **swale** Local relief (concave, convex, none): **concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.405255** Long: **-77.595909** Datum: **WGS 1984**
Soil Map Unit: **Lignum silt loam, 0 to 2 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	**10YR 4/3**	**80**	**10YR 5/6**	**20**	**c**	**m**	**loam**	**unconsolidated rock below 12 inches**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

CC-2

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.	**Rubus pensilvanicus**	**15**	**X**	**FAC**
2.	**Rubus Occidentalis**			**UPL**
3.				
4.				
5.				
6.				
7.				
		15	= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Lonicera japonica**	**85**	**X**	**FACU**
2.	**Solidago altissima**	**15**		**FACU**
3.	**Microstegium vimineum**	**15**		**FAC**
4.	**Persicaria sagittata**	**3**		**OBL**
5.	**Solanum carolinense**	**3**		**FACU**
6.	**Carex blanda**	**3**		**FAC**
7.	**Dichanthelium clandestinum**	**3**		**FAC**
8.				
9.				
10.				
11.				
12.				
		127	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**3**	x 1 =	**3**
FACW		x 2 =	
FAC	**36**	x 3 =	**108**
FACU	**103**	x 4 =	**412**
UPL		x 5 =	
Sum:	**142** (A)		**523** (B)

Prevalence Index = B/A = **3.68**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CE-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/9/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CE-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **floodplain depression** Local relief (concave, convex, none): **concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.39015** Long: **-77.600081** Datum: **WGS 1984**
Soil Map Unit: **Alluvial land, wet** NWI Classif.: **PFO1C**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
X	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	**10YR 4/2**	**95**	**10YR 4/6**	**5**	**c**	**pl**	**loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

CE-1

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Euthamia graminifolia**	38	X	FAC
2. **Arthraxon hispidus**	38	X	FAC
3. **Carex intumescens**	15		FACW
4. **Solidago rugosa**	3		FAC
5. **Cyperus strigosus**	3		FACW
6. **Persicaria sagittata**	3		OBL
7. **Asclepias incarnata**	1		OBL
8. **Lonicera japonica**	1		FACU
9. **Dichanthelium clandestinum**	1		FAC
10.			
11.			
12.			
	103 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	2	(A)
# Dominants across all strata:	2	(B)
% Dominants OBL, FACW, FAC:	100%	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	4	x 1 =	4
FACW	18	x 2 =	36
FAC	80	x 3 =	240
FACU	1	x 4 =	4
UPL		x 5 =	
Sum:	103 (A)		284 (B)

Prevalence Index = B/A = **2.76**

Hydrophytic Vegetation Indicators:

X	Dominance Test is > 50%
X	Prevalence Index is <= 3.0
	Problematic Hydrophytic Vegetation[1] (explain)
	Rapid Test for Hydrophytic Vegetation
	Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CG-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/9/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CG-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Bench** Local relief (concave, convex, none): **Concave** Slope (%): **2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.381333** Long: **-77.604715** Datum: **WGS 1984**
Soil Map Unit: **Alluvial land, wet** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **YES** Depth (inches): **0**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 4/2**	**90**	**5YR 4/6**	**10**	**C**	**PL**	**loam**	
6-18	**2.5Y 4/1**	**92**	**2.5YR 3/6**	**8**	**C**	**PL**	**loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type:
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

CG-1

	Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1. **Rubus pensilvanicus**	**15**	**X**	**FAC**
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Dichanthelium clandestinum**	**63**	**X**	**FAC**
2. **Peltandra sagittifolia**	**38**	**X**	**OBL**
3. **Solidago altissima**	**15**		**FACU**
4. **Boehmeria cylindrica**	**15**		**FACW**
5. **Euthamia graminifolia**	**15**		**FAC**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	146	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **3** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**38**	x 1 =	**38**
FACW	**15**	x 2 =	**30**
FAC	**93**	x 3 =	**279**
FACU	**15**	x 4 =	**60**
UPL		x 5 =	
Sum:	**161** (A)		**407** (B)

Prevalence Index = B/A = **2.53**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CK-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/9/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CK-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **0-2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.373373** Long: **-77.609052** Datum: **WGS 1984**
Soil Map Unit: **Meadowville silt loam** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **YES** Depth (inches): **0**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**5YR 4/6**	**60**	**10YR 4/2**	**40**	**D**	**M**	**silt loam**	
3-18	**10YR 4/1**	**95**	**5YR 4/6**	**5**	**C**	**PL**	**silt loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

CK-1

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Leersia oryzoides**	**63**	**X**	**OBL**
2.	**Juncus effusus**	**38**	**X**	**FACW**
3.	**Euthamia graminifolia**	**3**		**FAC**
4.	**Typha latifolia**	**3**		**OBL**
5.	**Eupatorium perfoliatum**	**3**		**FACW**
6.	**Asclepias incarnata**	**3**		**OBL**
7.	**Mimulus alatus**	**3**		**OBL**
8.	**Peltandra sagittifolia**	**3**		**OBL**
9.				
10.				
11.				
12.				
		119	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**75**	x 1 =	**75**
FACW	**41**	x 2 =	**82**
FAC	**3**	x 3 =	**9**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**119** (A)		**166** (B)

Prevalence Index = B/A = **1.39**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CK-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/9/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CK-2**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **hillslope** Local relief (concave, convex, none): **concave** Slope (%): **8 to 10**
Subregion (LRR or MLRA): **LRR P** Lat: **38.373373** Long: **-77.609052** Datum: **WGS 1984**
Soil Map Unit: **Meadowville silt loam** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	**7.5YR 4/4**	**80**	**5YR 4/6**	**20**	**c**	**m**	**gravelly loam**	**auger refusal below 10 inches, soils compacted**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks:

VEGETATION - Use scientific names of plants.

CK-2

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Schizachyrium scoparium**	**38**	**X**	**FACU**
2.	**Tridens flavus**	**38**	**X**	**FACU**
3.	**Coleataenia anceps**	**38**	**X**	**FAC**
4.	**Verbesina alternifolia**	**15**		**FAC**
5.	**Cirsium discolor**	**15**		**UPL**
6.	**Solidago altissima**	**3**		**FACU**
7.	**Bidens frondosa**	**3**		**FACW**
8.	**Solidago rugosa**	**3**		**FAC**
9.				
10.				
11.				
12.				
		153	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**3**	x 2 = **6**
FAC	**56**	x 3 = **168**
FACU	**79**	x 4 = **316**
UPL	**15**	x 5 = **75**
Sum:	**153** (A)	**565** (B)

Prevalence Index = B/A = **3.69**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CK-3

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/9/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CK-3**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **swale** Local relief (concave, convex, none): **concave** Slope (%): **4 to 6**
Subregion (LRR or MLRA): **LRR P** Lat: **38.370832** Long: **-77.610644** Datum: **WGS 1984**
Soil Map Unit: **Turbeville loam, 6 to 15 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**7.5YR 4/6**	**50**	**10YR 4/4**	**50**	**d**	**m**	**gravelly loam**	**auger refusal below 8 inches, soils compacted**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks:

VEGETATION - Use scientific names of plants.

CK-3

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Perilla frutescens**	**38**	**X**	**FACU**
2. **Schizachyrium scoparium**	**15**	**X**	**FACU**
3. **Carex blanda**	**3**		**FAC**
4. **Dichanthelium clandestinum**	**3**		**FAC**
5. **Lonicera japonica**	**3**		**FACU**
6. **Rubus hispidus**	**3**		**FACW**
7. **Polystichum acrostichoides**	**3**		**FACU**
8. **Dichanthelium dichotomum**	**3**		**FAC**
9.			
10.			
11.			
12.			
	71	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **O** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **O** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**3**	x 2 = **6**
FAC	**9**	x 3 = **27**
FACU	**59**	x 4 = **236**
UPL		x 5 =
Sum:	**71** (A)	**269** (B)

Prevalence Index = B/A = **3.79**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CK-4

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/10/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CK-4**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Upland Swale** Local relief (concave, convex, none): **Concave** Slope (%): **10 to 12**
Subregion (LRR or MLRA): **LRR P** Lat: **38.361581** Long: **-77.618891** Datum: **WGS 1984**
Soil Map Unit: **Appling-Wedowee sandy loams, 15 to 25 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **NO**

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

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**10YR 5/6**	**100**					**loam**	
8-12	**10YR 5/8**	**100**					**loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)		Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

CK-4

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dom. Sp?	Indicator Status*
1. Fagus grandifolia	15	X	FACU
2. Nyssa sylvatica	15	X	FAC
3. Acer rubrum	15	X	FAC
4.			
5.			
6.			
7.			
	45	= Total Cover	

Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

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

Herb Stratum (Plot size: 10' radius)			
1. Solidago altissima	38	X	FACU
2. Coleataenia anceps	15	X	FAC
3. Euthamia graminifolia	15	X	FAC
4. Solidago rugosa	15	X	FAC
5. Eupatorium rotundifolium	15	X	FAC
6. Pseudognaphalium obtusifolium	3		UPL
7. Bidens aristosa	3		FACW
8. Hypericum prolificum	3		FACU
9. Rosa carolina	1		FACU
10.			
11.			
12.			
	108	= Total Cover	

Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **6** (A)

Dominants across all strata: **8** (B)

% Dominants OBL, FACW, FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:	
OBL		x 1 =	
FACW	3	x 2 =	6
FAC	90	x 3 =	270
FACU	57	x 4 =	228
UPL	3	x 5 =	15
Sum:	153 (A)		519 (B)

Prevalence Index = B/A = **3.39**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- ____ Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CM-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/10/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CM-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Depression** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.358116** Long: **-77.619779** Datum: **WGS 1984**
Soil Map Unit: **Fluvanna fine sandy loam, 15 to 25 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**7.5YR 4/4**	**65**	**10YR 4/1**	**35**	**D**	**M**	**loam**	**Gravel present in matrix**
8-18	**Gley 1 4/10Y**	**75**	**5YR 4/6**	**25**	**C**	**PL**	**clay loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)	X	Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met. Also meets Indicator F2 (Loamy Gleyed Matrix).**

VEGETATION - Use scientific names of plants.

CM-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Arthraxon hispidus**	**63**	**X**	**FAC**
2. **Cyperus strigosus**	**38**	**X**	**FACW**
3. **Hypericum perforatum**	**3**		**FAC**
4. **Lycopus virginicus**	**1**		**OBL**
5. **Woodwardia virginica**	**1**		**OBL**
6. **Mazus pumilus**	**1**		**FACU**
7. **Hypochaeris radicata**	**1**		**UPL**
8.			
9.			
10.			
11.			
12.			
	108 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**2**	x 1 =	**2**
FACW	**38**	x 2 =	**76**
FAC	**66**	x 3 =	**198**
FACU	**1**	x 4 =	**4**
UPL	**1**	x 5 =	**5**
Sum:	**108** (A)		**285** (B)

Prevalence Index = B/A = **2.64**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CM-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/10/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CM-2**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Upland Swale** Local relief (concave, convex, none): **Concave** Slope (%): **10 to 12**
Subregion (LRR or MLRA): **LRR P** Lat: **38.358066** Long: **-77.620000** Datum: **WGS 1984**
Soil Map Unit: **Fluvanna fine sandy loam, 15 to 25 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **NO**

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

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	**5YR 4/4**	**100**					**loam**	
2-6	**5YR 4/6**	**100**					**clay loam**	**Auger refusal below 6 inches, compacted soils**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)		Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Compaction**
Depth (inches): **6**
Hydric Soil Present? **NO**

Remarks: **Soil samples reflect soil disturbance associated with past land use.**

VEGETATION - Use scientific names of plants.

CM-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Digitaria ciliaris**	**38**	**X**	**FAC**
2. **Coleataenia anceps**	**38**	**X**	**FAC**
3. **Potentilla candadense**	**3**		**UPL**
4. **Hypericum hypericoides**	**3**		**FACU**
5. **Setaria faberi**	**3**		**UPL**
6. **Symphyotrichum lateriflorum**	**1**		**FACW**
7. **Setaria pumila**	**1**		**FAC**
8. **Campsis radicans**	**1**		**FAC**
9.			
10.			
11.			
12.			
	88	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**2**	(A)
# Dominants across all strata:	**2**	(B)
% Dominants OBL, FACW, FAC:	**100%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:	
OBL		x 1 =	
FACW	**1**	x 2 =	**2**
FAC	**78**	x 3 =	**234**
FACU	**3**	x 4 =	**12**
UPL	**6**	x 5 =	**30**
Sum:	**88** (A)		**278** (B)

Prevalence Index = B/A = **3.16**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- ____ Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

CO-2

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/10/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CO-2**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.34393** Long: **-77.624640** Datum: **WGS 1984**
Soil Map Unit: **Nason silt loam, 15 to 25 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 5/6**	**100**					**silt loam**	
6-10	**10YR 5/4**	**60**	**10YR 5/3**	**40**	**D**	**M**	**silt loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Compaction**
Depth (inches): **10**
Hydric Soil Present? **NO**

Remarks: **Soil samples reflect soil disturbance associated with past land use.**

VEGETATION - Use scientific names of plants.

CO-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1. **Pinus echinata**	**3**	**X**	**UPL**
2. **Ilex opaca**	**1**	**X**	**FACU**
3.			
4.			
5.			
6.			
7.			
	4 = Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Bidens aristosa**	**38**	**X**	**FACW**
2. **Solidago pinetorum**	**15**	**X**	**UPL**
3. **Calamagrostis cinnoides**	**15**	**X**	**OBL**
4. **Coleataenia anceps**	**15**	**X**	**FAC**
5. **Eupatorium rotundifolium**	**3**		**FAC**
6. **Solidago rugosa**	**3**		**FAC**
7. **Eupatorium Hyssopifolium**	**3**		**UPL**
8. **Ambrosia artemisiifolia**	**3**		**FACU**
9. **Acalypha gracilens**	**3**		**FAC**
10.			
11.			
12.			
	98 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **3** (A)

Dominants across all strata: **6** (B)

% Dominants OBL, FACW, FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**15**	x 1 =	**15**
FACW	**38**	x 2 =	**76**
FAC	**24**	x 3 =	**72**
FACU	**4**	x 4 =	**16**
UPL	**21**	x 5 =	**105**
Sum:	**102** (A)		**284** (B)

Prevalence Index = B/A = **2.78**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 3 (Prevalence Index) present with a Prevalence Index value of 3.0 or less.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CQ-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/10/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CQ-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.348232** Long: **-77.623077** Datum: **WGS 1984**
Soil Map Unit: **Masada loam, 7 to 15 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	**2.5Y 5/3**	**95**	**10YR 5/8**	**5**	**C**	**M**	**silt loam**	
2-8	**2.5Y 6/2**	**95**	**10YR 5/8**	**5**	**C**	**PL**	**silt loam**	
8-18	**2.5Y 7/2**	**95**	**10YR 5/8**	**5**	**C**	**PL**	**silt loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

CQ-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Juncus effusus**	63	X	FACW
2. **Dichanthelium dichotomum**	38	X	FAC
3. **Carex intumescens**	15		FACW
4. **Rubus pensilvanicus**	3		FAC
5. **Eupatorium perfoliatum**	3		FACW
6. **Dichanthelium clandestinum**	3		FAC
7. **Rhynchospora globularis**	3		FACW
8. **Symphyotrichum dumosum**	3		FAC
9. **Solidago altissima**	3		FACU
10. **Eupatorium pilosum**	1		FACW
11.			
12.			
	135	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**85**	x 2 = **170**
FAC	**47**	x 3 = **141**
FACU	**3**	x 4 = **12**
UPL		x 5 =
Sum:	**135** (A)	**323** (B)

Prevalence Index = B/A = **2.39**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CQ-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/10/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CQ-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Concave** Slope (%): **4 to 6**
Subregion (LRR or MLRA): **LRR P** Lat: **38.348368** Long: **-77.623219** Datum: **WGS 1984**
Soil Map Unit: **Masada loam, 7 to 15 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 3/3**	**100**					**loam**	**% charcoal mixed in profile; Auger refusal after 6 inch**

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2cm Muck (A10)
- 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)
- Thin Dark Surface (S9)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12)
- Umbric Surface (F13)
- Piedmont Floodplain Soils (F19)
- Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Coast Prairie Redox (A16)
- Piedmont Floodplain Soils (F19)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **6**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

CQ-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Lonicera japonica**	**85**	**X**	**FACU**
2. **Coleataenia anceps**	**3**		**FAC**
3. **Solidago altissima**	**3**		**FACU**
4. **Bidens aristosa**	**3**		**FACW**
5. **Rubus pensilvanicus**	**3**		**FAC**
6. **Verbascum thapsus**	**3**		**FACU**
7. **Eupatorium rotundifolium**	**1**		**FAC**
8. **Solidago pinetorum**	**1**		**UPL**
9.			
10.			
11.			
12.			
	102	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**3**	x 2 = **6**
FAC	**7**	x 3 = **21**
FACU	**91**	x 4 = **364**
UPL	**1**	x 5 = **5**
Sum:	**102** (A)	**396** (B)

Prevalence Index = B/A = **3.88**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CS-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/10/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CS-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.337091** Long: **-77.62395** Datum: **WGS 1984**
Soil Map Unit: **Fluvaquents-Udifuvents complex** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **>18**
Saturation Present? **YES** Depth (inches): **Surface**
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	**10YR 3/2**	**95**	**7.5YR 4/6**	**5**	**C**	**PL**	**silt loam**	
2-18	**10YR 4/1**	**95**	**7.5YR 4/6**	**5**	**C**	**PL**	**fine sandy loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

CS-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Leersia oryzoides**	**63**	**X**	**OBL**
2. **Juncus effusus**	**63**	**X**	**FACW**
3. **Euthamia graminifolia**	**38**		**FAC**
4. **Mimulus ringens**	**15**		**OBL**
5. **Persicaria sagittata**	**15**		**OBL**
6. **Coleataenia stipitata**	**3**		**FACW**
7. **Eupatorium perfoliatum**	**3**		**FACW**
8. **Sparganium americanum**	**3**		**OBL**
9. **Sagittaria latifolia**	**3**		**OBL**
10. **Carex lurida**	**1**		**OBL**
11.			
12.			
	207	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**100**	x 1 =	**100**
FACW	**69**	x 2 =	**138**
FAC	**38**	x 3 =	**114**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**207** (A)		**352** (B)

Prevalence Index = B/A = **1.70**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CT-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/10/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CT-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Swale** Local relief (concave, convex, none): **Concave** Slope (%): **4 to 6**
Subregion (LRR or MLRA): **LRR P** Lat: **38.32077** Long: **-77.614905** Datum: **WGS 1984**
Soil Map Unit: **Appling-Wedowee sandy loams, 15 to 25 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	**7.5YR 5/6**	**100**					**clay loam**	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

CT-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1. **Ilex opaca**	**3**	**X**	**FACU**
2. **Pinus echinata**	**3**	**X**	**UPL**
3.			
4.			
5.			
6.			
7.			
	6 = Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Solidago rugosa**	**38**	**X**	**FAC**
2. **Bidens aristosa**	**15**	**X**	**FACW**
3. **Lonicera japonica**	**15**	**X**	**FACU**
4. **Eupatorium rotundifolium**	**3**		**FAC**
5. **Carex intumescens**	**3**		**FACW**
6. **Schizachyrium scoparium**	**1**		**FACU**
7. **Dichanthelium clandestinum**	**1**		**FAC**
8. **Euthamia graminifolia**	**1**		**FAC**
9.			
10.			
11.			
12.			
	77 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **5** (B)

% Dominants OBL, FACW, FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**18**	x 2 = **36**
FAC	**43**	x 3 = **129**
FACU	**19**	x 4 = **76**
UPL	**3**	x 5 = **15**
Sum:	**83** (A)	**256** (B)

Prevalence Index = B/A = **3.08**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CX-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/11/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CX-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **Flat** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.310974** Long: **-77.608119** Datum: **WGS 1984**
Soil Map Unit: **Fluvaquents-Udifuvents complex** NWI Classif.: **PEM1C**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine scrub-shrub (PSS) wetland. Data were collected during a moderate drought**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**10YR 4/1**	**92**	**10YR 4/6**	**8**	**C**	**PL**	**loam**	
8-24	**10YR 5/1**	**70**	**7.5YR 4/6**	**30**	**C**	**PL**	**clay loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

CX-1

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.	**Alnus serrulata**	**15**	**X**	**OBL**
2.	**Betula nigra**	**15**	**X**	**FACW**
3.	**Salix nigra**	**3**		**OBL**
4.				
5.				
6.				
7.				
		33	= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Persicaria sagittata**	**15**	**X**	**OBL**
2.	**Scirpus cyperinus**	**15**	**X**	**FACW**
3.	**Cinna arundinacea**	**15**	**X**	**FACW**
4.	**Euthamia graminifolia**	**15**	**X**	**FAC**
5.	**Leersia oryzoides**	**15**	**X**	**OBL**
6.	**Conium maculatum**	**3**		**FACW**
7.	**Bidens aristosa**	**3**		**FACW**
8.	**Asclepias incarnata**	**3**		**OBL**
9.	**Symphyotrichum puniceum**	**3**		**OBL**
10.				
11.				
12.				
		87	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **7** (A)

Dominants across all strata: **7** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**54**	x 1 =	**54**
FACW	**51**	x 2 =	**102**
FAC	**15**	x 3 =	**45**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**120** (A)		**201** (B)

Prevalence Index = B/A = **1.68**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DA-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/11/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DA-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.294196** Long: **-77.599189** Datum: **WGS 1984**
Soil Map Unit: **Louisburg sandy loam, 15 to 25 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**10YR 5/3**	**70**	**10YR 5/2**	**10**	**D**	**M**	**loam**	**Mixed profile**
			7.5YR 6/8	**20**				
4-18	**10YR 5/2**	**85**	**7.5YR 4/4**	**15**	**C**	**PL**	**sandy clay loam**	**10% Mn concentrations**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)	X	Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met. Also meets Indicator F12 (Iron-Manganese Masses)**

VEGETATION - Use scientific names of plants.

DA-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Setaria parviflora**	63	X	FAC
2. **Panicum dichotomiflorum**	63	X	FACW
3. **Carex intumescens**	3		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	129	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**2**	(A)
# Dominants across all strata:	**2**	(B)
% Dominants OBL, FACW, FAC:	**100%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:	
OBL		x 1 =	
FACW	**66**	x 2 =	**132**
FAC	**63**	x 3 =	**189**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**129** (A)		**321** (B)

Prevalence Index = B/A = **2.49**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DA-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/11/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DA-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley slope** Local relief (concave, convex, none): **Concave** Slope (%): **5 to 7**
Subregion (LRR or MLRA): **LRR P** Lat: **38.294267** Long: **-77.599437** Datum: **WGS 1984**
Soil Map Unit: **Louisburg sandy loam, 15 to 25 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**7.5YR 4/6**	**100**					**sandy loam**	**Compacted after 4 inches**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Compaction**
Depth (inches): **4**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

DA-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Zea mays**	**98**	**X**	**UPL**
2. **Stellaria media**	**63**	**X**	**UPL**
3. **Glechoma hederacea**	**15**		**FACU**
4. **Lamium purpurea**	**3**		**UPL**
5. **Allium vineale**	**1**		**FACU**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	180	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC		x 3 =
FACU	**16**	x 4 = **64**
UPL	**164**	x 5 = **820**
Sum:	**180** (A)	**884** (B)

Prevalence Index = B/A = **4.91**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DC-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/11/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DC-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Depression** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.298752** Long: **-77.601087** Datum: **WGS 1984**
Soil Map Unit: **Fluvaquents-Udifuvents complex** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland.**
Data were collected during a moderate drought

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 5/3**	**90**	**10YR 5/6**	**10**	**C**	**M**	**sandy loam**	
6-18	**10YR 4/2**	**92**	**7.5YR 4/6**	**8**	**C**	**PL**	**sandy clay loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

DC-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1. **Rubus pensilvanicus**	**15**	**X**	**FAC**
2. **Acer saccharinum**	**3**		**FACW**
3.			
4.			
5.			
6.			
7.			
	18	= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Arthraxon hispidus**	**85**	**X**	**FAC**
2. **Leersia oryzoides**	**15**		**OBL**
3. **Persicaria sagittata**	**15**		**OBL**
4. **Microstegium vimineum**	**15**		**FAC**
5. **Vernonia noveboracensis**	**3**		**FACW**
6. **Impatiens capensis**	**3**		**FACW**
7.			
8.			
9.			
10.			
11.			
12.			
	136	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**30**	x 1 =	**30**
FACW	**9**	x 2 =	**18**
FAC	**115**	x 3 =	**345**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**154** (A)		**393** (B)

Prevalence Index = B/A = **2.55**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DC-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/11/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DC-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Terrace** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.299064** Long: **-77.601352** Datum: **WGS 1984**
Soil Map Unit: **Fluvaquents-Udifuvents complex** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	**10YR 4/3**	**75**	**10YR 5/4**	**15**			**sandy loam**	**Mixed profile**
			7.5YR 4/6	**10**				

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)		Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

DC-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1. **Alnus serrulata**	**38**	**X**	**OBL**
2. **Pyrus calleryanna**	**15**	**X**	**UPL**
3. **Acer negundo**	**15**	**X**	**FAC**
4. **Sambucus nigra**	**15**	**X**	**FAC**
5. **Juniperus virginiana**	**3**		**FACU**
6.			
7.			
	86	= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Arthraxon hispidus**	**85**	**X**	**FAC**
2. **Bidens aristosa**	**15**		**FACW**
3. **Bidens bipinnata**	**15**		**FACU**
4. **Rubus pensilvanicus**	**15**		**FAC**
5. **Symphyotrichum puniceum**	**15**		**OBL**
6. **Lonicera japonica**	**15**		**FACU**
7. **Asclepias syriaca**	**3**		**FACU**
8.			
9.			
10.			
11.			
12.			
	163	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**4**	(A)
# Dominants across all strata:	**5**	(B)
% Dominants OBL, FACW, FAC:	**80%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**53**	x 1 =	**53**
FACW	**15**	x 2 =	**30**
FAC	**130**	x 3 =	**390**
FACU	**36**	x 4 =	**144**
UPL	**15**	x 5 =	**75**
Sum:	**249** (A)		**692** (B)

Prevalence Index = B/A = **2.78**

Hydrophytic Vegetation Indicators:

X	Dominance Test is > 50%
X	Prevalence Index is <= 3.0
	Problematic Hydrophytic Vegetation[1] (explain)
	Rapid Test for Hydrophytic Vegetation
	Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DF-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/11/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DF-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **Concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.275845** Long: **-77.59092** Datum: **WGS 1984**
Soil Map Unit: **Partlow sandy loam, 0 to 7 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**10YR 5/4**	**100**					**loam**	
3-8	**10YR 6/2**	**95**	**7.5YR 4/6**	**5**	**C**	**PL**	**loam**	**Auger refusal below 8 inches**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Compaction**
Depth (inches): **8**
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

DF-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Euthamia graminifolia**	38	X	FAC
2. **Vernonia noveboracensis**	38	X	FACW
3. **Juncus effusus**	38	X	FACW
4. **Eupatorium perfoliatum**	3		FACW
5. **Erechtites hieracifolious**	3		UPL
6. **Persicaria hydropiperoides**	3		OBL
7. **Carex lurida**	3		OBL
8. **Rubus pensilvanicus**			FAC
9.			
10.			
11.			
12.			
	126 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **3** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**6**	x 1 =	**6**
FACW	**79**	x 2 =	**158**
FAC	**38**	x 3 =	**114**
FACU		x 4 =	
UPL	**3**	x 5 =	**15**
Sum:	**126** (A)		**293** (B)

Prevalence Index = B/A = **2.33**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DF-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/11/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DF-2**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Convex** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.276119** Long: **-77.59084** Datum: **WGS 1984**
Soil Map Unit: **Partlow sandy loam, 0 to 7 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**10YR 5/3**	**100**					**loam**	**Auger refusal below 3 inches, compacted soils**

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2cm Muck (A10)
- 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)
- Thin Dark Surface (S9)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12)
- Umbric Surface (F13)
- Piedmont Floodplain Soils (F19)
- Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Coast Prairie Redox (A16)
- Piedmont Floodplain Soils (F19)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Compaction**
Depth (inches): **3**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

DF-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1. **Pyrus calleryanna**	**15**	**X**	**UPL**
2. **Rubus pensilvanicus**	**15**	**X**	**FAC**
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Scleranthus annuus**	**85**	**X**	**FACU**
2. **Phytolacca americana**	**15**		**FACU**
3. **Conoclinium coelestinum**	**3**		**FAC**
4. **Dactylis glomerata**	**3**		**FACU**
5. **Lonicera japonica**	**3**		**FACU**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	109	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC	**18**	x 3 = **54**
FACU	**106**	x 4 = **424**
UPL	**15**	x 5 = **75**
Sum:	**139** (A)	**553** (B)

Prevalence Index = B/A = **3.98**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DH-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/11/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DH-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.282197** Long: **-77.593025** Datum: **WGS 1984**
Soil Map Unit: **Appling-Wedowee sandy loams, 15 to 25 percent slopes, eroded** NWI Classif.: **PEM1A**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**10YR 5/2**	**90**	**7.5YR 5/8**	**10**	**C**	**PL**	**sandy loam**	**Auger refusal below 4 inches, compacted soils**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Compaction**
Depth (inches): **4**
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

DH-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Symphyotrichum puniceum**	**63**	**X**	**OBL**
2. **Juncus effusus**	**38**	**X**	**FACW**
3. **Dichanthelium clandestinum**	**15**		**FAC**
4. **Persicaria sagittata**	**15**		**OBL**
5. **Rubus pensilvanicus**	**15**		**FAC**
6. **Agrimonia parviflora**	**3**		**FACW**
7.			
8.			
9.			
10.			
11.			
12.			
	149	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**78**	x 1 =	**78**
FACW	**41**	x 2 =	**82**
FAC	**30**	x 3 =	**90**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**149** (A)		**250** (B)

Prevalence Index = B/A = **1.68**

Hydrophytic Vegetation Indicators:

- _____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DH-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/11/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DH-2**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Concave** Slope (%): **7 to 9**
Subregion (LRR or MLRA): **LRR P** Lat: **38.282593** Long: **-77.593245** Datum: **WGS 1984**
Soil Map Unit: **Appling-Wedowee sandy loams, 15 to 25 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**10YR 6/3**	**100**					**loam**	**Auger refusal below 3 inches, compacted soils**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Compaction**
Depth (inches): **3**
Hydric Soil Present? **NO**

Remarks: **Soil samples reflect soil disturbance associated with past land use.**

VEGETATION - Use scientific names of plants.

DH-2

	Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Symphyotrichum pilosum**	**38**	**X**	**FAC**
2. **Kummerowia stipulacea**	**38**	**X**	**FACU**
3. **Solidago altissima**	**15**	**X**	**FACU**
4. **Dichanthelium clandestinum**	**15**	**X**	**FAC**
5. **Rudbeckia hirta**	**15**	**X**	**FACU**
6. **Rubus pensilvanicus**	**15**	**X**	**FAC**
7. **Lonicera japonica**	**15**	**X**	**FACU**
8. **Tridens flavus**	**3**		**FACU**
9. **Ambrosia artemisiifolia**	**3**		**FACU**
10.			
11.			
12.			
	157	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **3** (A)

Dominants across all strata: **7** (B)

% Dominants OBL, FACW, FAC: **43%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC	**68**	x 3 = **204**
FACU	**89**	x 4 = **356**
UPL		x 5 =
Sum:	**157** (A)	**560** (B)

Prevalence Index = B/A = **3.57**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DJ-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/14/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DJ-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley slope** Local relief (concave, convex, none): **Concave** Slope (%): **8 to 10**
Subregion (LRR or MLRA): **LRR P** Lat: **38.260166** Long: **-77.588558** Datum: **WGS 1984**
Soil Map Unit: **Fluvaquents-Udifuvents complex** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought**

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 5/3**	**95**	**10YR 4/6**	**5**	**C**	**M**	**coarse sandy loam**	
6-12	**2.5Y 5/2**	**90**	**10YR 5/8**	**10**	**C**	**M**	**coarse sandy loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

DJ-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Panicum verrucosum**	**38**	**X**	**FACW**
2. **Solidago rugosa**	**15**	**X**	**FAC**
3. **Thelypteris palustris**	**15**	**X**	**FACW**
4. **Rubus pensilvanicus**	**15**	**X**	**FAC**
5. **Schizachyrium scoparium**	**3**		**FACU**
6. **Onoclea sensibilis**	**3**		**FACW**
7. **Eutrochium fistulosum**	**3**		**FACW**
8. **Leersia oryzoides**	**3**		**OBL**
9. **Erechtites hieracifolius**	**3**		**UPL**
10. **Impatiens capensis**	**3**		**FACW**
11.			
12.			
	101 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **4** (A)

Dominants across all strata: **4** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**3**	x 1 =	**3**
FACW	**62**	x 2 =	**124**
FAC	**30**	x 3 =	**90**
FACU	**3**	x 4 =	**12**
UPL	**3**	x 5 =	**15**
Sum:	**101** (A)		**244** (B)

Prevalence Index = B/A = **2.42**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DJ-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/14/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DJ-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley slope** Local relief (concave, convex, none): **Concave** Slope (%): **8 to 10**
Subregion (LRR or MLRA): **LRR P** Lat: **38.260323** Long: **-77.588595** Datum: **WGS 1984**
Soil Map Unit: **Louisburg sandy loam, 15 to 25 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	**10YR 5/6**	**70**	**7.5Yr 5/8**	**30**			**sandy loam**	**Mixed matrix. Auger refusal after 10 inches**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

Mixed m

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

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **10**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

DJ-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Ambrosia artemisiifolia**	**15**	**X**	**FACU**
2. **Solidago altissima**	**15**	**X**	**FACU**
3. **Eupatorium godfreyanum**	**15**	**X**	**UPL**
4. **Lonicera japonica**	**15**	**X**	**FACU**
5. **Andropogon virginicus**	**3**		**FACU**
6. **Euonymus americanus**	**3**		**FAC**
7. **Juniperus virginiana**	**1**		**FACU**
8. **Liquidambar styraciflua**	**1**		**FAC**
9. **Panicum verrucosum**	**1**		**FACW**
10. **Desmodium paniculatum**	**1**		**FACU**
11.			
12.			
	70 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **4** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**1**	x 2 = **2**
FAC	**4**	x 3 = **12**
FACU	**50**	x 4 = **200**
UPL	**15**	x 5 = **75**
Sum:	**70** (A)	**289** (B)

Prevalence Index = B/A = **4.13**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DL-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/14/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DL-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **4 to 6**
Subregion (LRR or MLRA): **LRR P** Lat: **38.265228** Long: **-77.589436** Datum: **WGS 1984**
Soil Map Unit: **Partlow sandy loam, 0 to 7 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 4/6**	**90**	**10YR 5/8**	**10**	**C**	**PL**	**sandy clay loam**	**Auger refusal after 6 inches**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **6**
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

DL-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Arthraxon hispidus**	**63**	**X**	**FAC**
2. **Panicum verrucosum**	**38**	**X**	**FACW**
3. **Persicaria sagittata**	**15**		**OBL**
4. **Eupatorium perfoliatum**	**15**		**FACW**
5. **Juncus effusus**	**15**		**FACW**
6. **Euthamia graminifolia**	**3**		**FAC**
7. **Coleataenia stipitata**	**3**		**FACW**
8. **Dichanthelium scoparium**	**3**		**FACW**
9. **Ambrosia artemisiifolia**	**3**		**FACU**
10.			
11.			
12.			
	158	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**15**	x 1 =	**15**
FACW	**74**	x 2 =	**148**
FAC	**66**	x 3 =	**198**
FACU	**3**	x 4 =	**12**
UPL		x 5 =	
Sum:	**158** (A)		**373** (B)

Prevalence Index = B/A = **2.36**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DL-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/14/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DL-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley slope** Local relief (concave, convex, none): **Concave** Slope (%): **5 to 7**
Subregion (LRR or MLRA): **LRR P** Lat: **38.264992** Long: **-77.589062** Datum: **WGS 1984**
Soil Map Unit: **Appling-Wedowee sandy loams, 15 to 25 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	**2.5Y 5/4**	**100**					**sandy loam**	**Auger refusal after 7 inches**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **7**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

DL-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Coleataenia anceps**	38	X	FAC
2. **Eragrostis spectabilis**	38	X	UPL
3. **Schizachyrium scoparium**	15		FACU
4. **Lonicera japonica**	15		FACU
5. **Dichanthelium aciculare**	15		FACU
6. **Eupatorium rotundifolium**	3		FAC
7. **Liatris squarrosa**	3		UPL
8. **Symphyotrichum dumosum**	3		FAC
9. **Rubus pensilvanicus**	3		FAC
10.			
11.			
12.			
	133	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL		x 1 =	
FACW		x 2 =	
FAC	**47**	x 3 =	**141**
FACU	**45**	x 4 =	**180**
UPL	**41**	x 5 =	**205**
Sum:	**133** (A)		**526** (B)

Prevalence Index = B/A = **3.95**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DO-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/14/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DO-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.256406** Long: **-77.587851** Datum: **WGS 1984**
Soil Map Unit: **Appling-Wedowee sandy loams, 15 to 25 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
x	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	**10YR 4/2**	**90**	**7.5YR 4/6**	**10**	**C**	**M**	**silt loam**	
2-6	**10YR 5/1**	**85**	**5YR 4/6**	**15**	**C**	**PL**	**sandy loam**	
6-18	**N 6/**	**95**	**5YR 4/6**	**5**	**C**	**PL**	**sandy clay loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)	X	Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met. Also meets Indicator F2 (Loamy Gleyed Matrix)**

VEGETATION - Use scientific names of plants.

DO-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Dichanthelium scoparium**	38	X	FACW
2. **Juncus effusus**	15	X	FACW
3. **Rhynchospora globularis**	15	X	FACW
4. **Dichanthelium dichotomum**	15	X	FAC
5. **Gentiana clausa**	3		FACW
6. **Solidago rugosa**	3		FAC
7. **Vernonia noveboracensis**	3		FACW
8. **Eupatorium pilosum**	3		FACW
9. **Spiraea tomentosa**	3		FACW
10. **Euthamia graminifolia**	3		FAC
11. **Thalictrum dioicum**	1		FAC
12.			
	102	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **4** (A)

Dominants across all strata: **4** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:	
OBL		x 1 =	
FACW	**80**	x 2 =	**160**
FAC	**22**	x 3 =	**66**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**102** (A)		**226** (B)

Prevalence Index = B/A = **2.22**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DO-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/14/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DO-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley slope** Local relief (concave, convex, none): **Concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.257336** Long: **-77.58786** Datum: **WGS 1984**
Soil Map Unit: **Partlow sandy loam, 0 to 7 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	**7.5YR 5/4**	**97**	**5YR 4/6**	**3**	**C**	**M**	**loam**	**Auger refusal after 14 inches**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **14**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

DO-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Lonicera japonica**	**63**	**X**	**FACU**
2. **Solidago altissima**	**15**		**FACU**
3. **Rubus pensilvanicus**	**3**		**FAC**
4. **Pycnanthemum tenuifolium**	**3**		**FACW**
5. **Setaria parviflora**	**3**		**FAC**
6. **Rudbeckia hirta**	**3**		**FACU**
7. **Eragrostis hirsuta**	**3**		**UPL**
8.			
9.			
10.			
11.			
12.			
	93	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:	
OBL		x 1 =	
FACW	**3**	x 2 =	**6**
FAC	**6**	x 3 =	**18**
FACU	**81**	x 4 =	**324**
UPL	**3**	x 5 =	**15**
Sum:	**93** (A)		**363** (B)

Prevalence Index = B/A = **3.90**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DP-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/14/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DP-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.219435** Long: **-77.569622** Datum: **WGS 1984**
Soil Map Unit: **Dogue loam** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 4/3**	**92**	**5YR 4/6**	**8**	**C**	**PL**	**clay loam**	
6-18	**10YR 4/2**	**85**	**5YR 4/6**	**10**	**C**	**PL**	**clay loam**	**5% Mn concentrations**

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)	X	Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**
Also meets Indicator F12 (Iron-Manganese Masses)

VEGETATION - Use scientific names of plants.

DP-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1. **Rubus pensilvanicus**	**15**	**X**	**FAC**
2.			
3.			
4.			
5.			
6.			
7.			
	15 = Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Panicum dichotomiflorum**	**63**	**X**	**FACW**
2. **Cyperus strigosus**	**15**		**FACW**
3. **Sorghastrum nutans**	**15**		**FACU**
4. **Juncus effusus**	**15**		**FACW**
5. **Lonicera japonica**	**3**		**FACU**
6. **Symphyotrichum puniceum**	**3**		**OBL**
7. **Cinna arundinacea**	**3**		**FACW**
8. **Setaria parviflora**	**3**		**FAC**
9.			
10.			
11.			
12.			
	120 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**3**	x 1 =	**3**
FACW	**96**	x 2 =	**192**
FAC	**18**	x 3 =	**54**
FACU	**18**	x 4 =	**72**
UPL		x 5 =	
Sum:	**135** (A)		**321** (B)

Prevalence Index = B/A = **2.38**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DP-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/14/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DP-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Concave** Slope (%): **4 to 6**
Subregion (LRR or MLRA): **LRR P** Lat: **38.219471** Long: **-77.569578** Datum: **WGS 1984**
Soil Map Unit: **Dogue loam** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features				Texture	Remarks
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-10	**10YR 5/4**	**100**					**sandy clay loam**	**Matrix mixed with mica, charcoal, and other materials**

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2cm Muck (A10)
- 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)
- Thin Dark Surface (S9)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12)
- Umbric Surface (F13)
- Piedmont Floodplain Soils (F19)
- Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Coast Prairie Redox (A16)
- Piedmont Floodplain Soils (F19)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

Matrix mixed

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

DP-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Sorghastrum nutans**	**63**	**X**	**FACU**
2. **Lonicera japonica**	**63**	**X**	**FACU**
3. **Euthamia graminifolia**	**38**	**X**	**FAC**
4. **Rubus pensilvanicus**	**15**		**FAC**
5. **Solidago rugosa**	**3**		**FAC**
6. **Symphoricarpos orbiculatus**	**3**		**FACU**
7. **Setaria parviflora**	**3**		**FAC**
8.			
9.			
10.			
11.			
12.			
	188 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC	**59**	x 3 = **177**
FACU	**129**	x 4 = **516**
UPL		x 5 =
Sum:	**188** (A)	**693** (B)

Prevalence Index = B/A = **3.69**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DS-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/14/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DS-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.231849** Long: **-77.577894** Datum: **WGS 1984**
Soil Map Unit: **Fluvaquents-Udifluvents complex** NWI Classif.: **PEM1A**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	**10YR 5/1**	**85**	**7.5YR 5/8**	**15**	**C**	**PL**	**loam**	
12-18	**5B 4/1**	**95**	**5YR 4/6**	**5**	**C**	**PL**	**loam**	

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)	X	Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met. Also meets Indicator F2 (Loamy Gleyed Matrix)**

VEGETATION - Use scientific names of plants.

DS-1

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Leersia oryzoides**	**63**	**X**	**OBL**
2.	**Persicaria sagittata**	**38**	**X**	**OBL**
3.	**Typha latifolia**	**15**		**OBL**
4.	**Scirpus georgianus**	**15**		**OBL**
5.	**Mikania scandens**	**15**		**FACW**
6.	**Cinna arundinacea**	**3**		**FACW**
7.	**Cyperus strigosus**	**3**		**FACW**
8.				
9.				
10.				
11.				
12.				
		152	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**131**	x 1 =	**131**
FACW	**21**	x 2 =	**42**
FAC		x 3 =	
FACU		x 4 =	
UPL		x 5 =	
Sum:	**152** (A)		**173** (B)

Prevalence Index = B/A = **1.14**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DS-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/14/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DS-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Swale** Local relief (concave, convex, none): **Concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.233304** Long: **-77.578617** Datum: **WGS 1984**
Soil Map Unit: **Appling-Wedowee sandy loams, 7 to 15 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	**10YR 4/3**	**97**	**10YR 5/8**	**3**	**C**	**M**	**loam**	**Auger refusal after 12 inches**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **12**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

DS-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Persicaria longiseta**	**63**	**X**	**FAC**
2. **Microstegium vimineum**	**38**	**X**	**FAC**
3. **Digitaria ciliaris**	**15**		**FAC**
4. **Viola sororia**	**15**		**FAC**
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	131	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**2**	(A)
# Dominants across all strata:	**2**	(B)
% Dominants OBL, FACW, FAC:	**100%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:	
OBL		x 1 =	
FACW		x 2 =	
FAC	**131**	x 3 =	**393**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**131** (A)		**393** (B)

Prevalence Index = B/A = **3.00**

Hydrophytic Vegetation Indicators:

X	Dominance Test is > 50%
X	Prevalence Index is <= 3.0
	Problematic Hydrophytic Vegetation[1] (explain)
	Rapid Test for Hydrophytic Vegetation
	Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

DW-1

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/15/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DW-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **4 to 6**
Subregion (LRR or MLRA): **LRR P** Lat: **38.198025** Long: **-77.56493** Datum: **WGS 1984**
Soil Map Unit: **Partlow sandy loam, 0 to 7 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
X	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

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

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	**10YR 5/6**	**100**					**loam**	
7-13	**10YR 5/2**	**75**	**10YR 5/6**	**20**	**C**	**M**	**loam**	**Auger refusal after 13 inches**
			10YR 4/6	**5**	**C**	**PL**		

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

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **13**
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

DW-1

	Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: **10' radius**)			
1. **Dichanthelium scoparium**	**38**	**X**	**FACW**
2. **Juncus effusus**	**38**	**X**	**FACW**
3. **Euthamia graminifolia**	**15**		**FAC**
4. **Bidens aristosa**	**15**		**FACW**
5. **Schizachyrium scoparium**	**3**		**FACU**
6. **Rhynchospora globularis**	**3**		**FACW**
7. **Diodia teres**	**3**		**UPL**
8.			
9.			
10.			
11.			
12.			
	115 = Total Cover		
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**94**	x 2 = **188**
FAC	**15**	x 3 = **45**
FACU	**3**	x 4 = **12**
UPL	**3**	x 5 = **15**
Sum:	**115** (A)	**260** (B)

Prevalence Index = B/A = **2.26**

Hydrophytic Vegetation Indicators:

- _____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DW-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/15/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DW-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Swale** Local relief (concave, convex, none): **Convex** Slope (%): **8 to 10**
Subregion (LRR or MLRA): **LRR P** Lat: **38.197778** Long: **-77.564971** Datum: **WGS 1984**
Soil Map Unit: **Partlow sandy loam, 0 to 7 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

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

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

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

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**2.5Y 5/3**	**100**					**silt loam**	**Auger refusal after 8 inches**

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **13**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

DW-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Schizachyrium scoparium**	**38**	**X**	**FACU**
2. **Sophronanthe pilosa**	**15**	**X**	**FACU**
3. **Bidens aristosa**	**15**	**X**	**FACW**
4. **Achillea millefolium**	**15**	**X**	**FACU**
5. **Lonicera japonica**	**15**	**X**	**FACU**
6. **Coleataenia anceps**	**15**	**X**	**FAC**
7. **Chrysopsis mariana**	**3**		**UPL**
8. **Euphorbia hypericifolia**	**3**		**UPL**
9.			
10.			
11.			
12.			
	119	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **6** (B)

% Dominants OBL, FACW, FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL		x 1 =	
FACW	**15**	x 2 =	**30**
FAC	**15**	x 3 =	**45**
FACU	**83**	x 4 =	**332**
UPL	**6**	x 5 =	**30**
Sum:	**119** (A)		**437** (B)

Prevalence Index = B/A = **3.67**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DZ-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/15/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DZ-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.204504** Long: **-77.565298** Datum: **WGS 1984**
Soil Map Unit: **Fluvaquents-Udifluvents complex** NWI Classif.: **PEM1E**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
	High Water Table (A2)		Marl Deposits (B15)
	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	**2.5Y 4/2**	**94**	**7.5YR 4/6**	**6**	**C**	**PL**	**sandy clay loam**	
12-18	**2.5Y 4/1**	**92**	**10YR 5/6**	**8**	**C**	**PL**	**sandy clay**	**5% Mn concentrations**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)	X	Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met. Also meets Indicator F12 (Iron-Manganese Masses)**

VEGETATION - Use scientific names of plants.

DZ-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Persicaria sagittata**	85	X	OBL
2. **Juncus effusus**	38	X	FACW
3. **Symphyotrichum puniceum**	15		OBL
4. **Rubus pensilvanicus**	15		FAC
5. **Euphorbia purpurea**	15		FAC
6. **Cinna arundinacea**	15		FACW
7. **Leersia oryzoides**	15		OBL
8. **Agrimonia parviflora**	3		FACW
9.			
10.			
11.			
12.			
	201	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**115**	x 1 =	**115**
FACW	**56**	x 2 =	**112**
FAC	**30**	x 3 =	**90**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**201** (A)		**317** (B)

Prevalence Index = B/A = **1.58**

Hydrophytic Vegetation Indicators:

- _____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

DZ-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/15/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **DZ-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Concave** Slope (%): **13 to 15**
Subregion (LRR or MLRA): **LRR P** Lat: **38.204806** Long: **-77.565366** Datum: **WGS 1984**
Soil Map Unit: **Louisburg sandy loam, 15 to 25 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial (B7)
- Water-Stained Leaves (B9)
- True Aquatic Plants (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**2.5Y 4/4**	**100**					**sandy loam**	**Auger refusal after 8 inches**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2cm Muck (A10)
- 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)
- Thin Dark Surface (S9)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12)
- Umbric Surface (F13)
- Piedmont Floodplain Soils (F19)
- Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Coast Prairie Redox (A16)
- Piedmont Floodplain Soils (F19)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **8**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

DZ-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Solidago altissima**	15	X	FACU
2. **Lespedeza cuneata**	15	X	FACU
3. **Lonicera japonica**	15	X	FACU
4. **Coleataenia anceps**	15	X	FAC
5. **Elymus virginicus**	15	X	FACW
6. **Symphyotrichum lateriflorum**	3		FACW
7. **Lezpedeza repens**	3		UPL
8. **Saccharum brevibarbe**	3		OBL
9.			
10.			
11.			
12.			
	84	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **5** (B)

% Dominants OBL, FACW, FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**3**	x 1 =	**3**
FACW	**18**	x 2 =	**36**
FAC	**15**	x 3 =	**45**
FACU	**45**	x 4 =	**180**
UPL	**3**	x 5 =	**15**
Sum:	**84** (A)		**279** (B)

Prevalence Index = B/A = **3.32**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

EE-1

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/15/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **EE-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.212414** Long: **-77.565769** Datum: **WGS 1984**
Soil Map Unit: **Fluvaquents-Udifluvents complex** NWI Classif.: **PEM1A**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
	High Water Table (A2)		Marl Deposits (B15)
	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**10YR 5/2**	**90**	**7.5YR 5/8**	**90**	**C**	**PL**	**sandy loam**	
8-12	**10YR 5/6**	**75**	**10YR 4/2**	**15**	**C**	**M**	**loamy sand**	**Auger refusal after 12 inches**
			10YR 4/6	**10**	**C**	**PL**		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **12**
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

EE-1

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Bidens aristosa**	**38**	**X**	**FACW**
2.	**Carex lurida**	**15**	**X**	**OBL**
3.	**Leersia oryzoides**	**15**	**X**	**OBL**
4.	**Persicaria sagittata**	**15**	**X**	**OBL**
5.	**Dichanthelium dichotomum**	**15**	**X**	**FAC**
6.	**Solidago gigantea**	**15**	**X**	**FACW**
7.	**Arthraxon hispidus**	**15**	**X**	**FAC**
8.	**Vernonia noveboracensis**	**3**		**FACW**
9.				
10.				
11.				
12.				
		131	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **7** (A)

Dominants across all strata: **7** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**45**	x 1 =	**45**
FACW	**56**	x 2 =	**112**
FAC	**30**	x 3 =	**90**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**131** (A)		**247** (B)

Prevalence Index = B/A = **1.89**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

EE-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/15/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **EE-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Terrace** Local relief (concave, convex, none): **Concave** Slope (%): **4 to 6**
Subregion (LRR or MLRA): **LRR P** Lat: **38.213758** Long: **-77.565857** Datum: **WGS 1984**
Soil Map Unit: **Fluvaquents-Udifluvents complex** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial (B7)
- ___ Water-Stained Leaves (B9)
- ___ True Aquatic Plants (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**10YR 5/4**	**100**					**loam**	**Auger refusal after 4 inches**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Compaction**
Depth (inches): **4**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

EE-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: **10' radius**)			
1. **Sorghastrum nutans**	**63**	**X**	**FACU**
2. **Euthamia graminifolia**	**38**	**X**	**FAC**
3. **Lonicera japonica**	**38**	**X**	**FACU**
4. **Dichanthelium clandestinum**	**15**		**FAC**
5. **Rubus pensilvanicus**	**3**		**FAC**
6. **Desmodium paniculatum**	**3**		**FACU**
7. **Juniperus virginiana**	**3**		**FACU**
8. **Euphorbia hypericifolia**	**3**		**UPL**
9.			
10.			
11.			
12.			
	166	= Total Cover	
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC	**56**	x 3 = **168**
FACU	**107**	x 4 = **428**
UPL	**3**	x 5 = **15**
Sum:	**166** (A)	**611** (B)

Prevalence Index = B/A = **3.68**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

EH-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/15/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **EH-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Depression** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.179449** Long: **-77.564015** Datum: **WGS 1984**
Soil Map Unit: **Myatt loam, 0 to 2 percent slopes, rarely flooded** NWI Classif.: **PEM1C**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
	High Water Table (A2)		Marl Deposits (B15)
	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**2.5Y 5/2**	**95**	**10YR 5/8**	**5**	**C**	**PL**	**loam**	
3-12	**10YR 6/1**	**92**	**10YR 5/8**	**8**	**C**	**PL**	**loam**	**Auger refusal after 12 inches**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **12**
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

EH-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Scirpus georgianus**	**38**	**X**	**OBL**
2. **Dulichium arundinaceum**	**15**	**X**	**OBL**
3. **Onoclea sensibilis**	**15**	**X**	**FACW**
4. **Apocynum cannabinum**	**15**	**X**	**FACU**
5. **Schedonorus arundinaceus**	**15**	**X**	**FACU**
6. **Woodwardia areolata**	**3**		**FACW**
7. **Symphyotrichum racemosum**	**3**		**FACW**
8. **Digitaria ciliaris**	**3**		**FAC**
9.			
10.			
11.			
12.			
	107 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**3**	(A)
# Dominants across all strata:	**5**	(B)
% Dominants OBL, FACW, FAC:	**60%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**53**	x 1 =	**53**
FACW	**21**	x 2 =	**42**
FAC	**3**	x 3 =	**9**
FACU	**30**	x 4 =	**120**
UPL		x 5 =	
Sum:	**107** (A)		**224** (B)

Prevalence Index = B/A = **2.09**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

EH-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/15/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **EH-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Terrace** Local relief (concave, convex, none): **Convex** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.179209** Long: **-77.564045** Datum: **WGS 1984**
Soil Map Unit: **Goldsboro sandy loam** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial (B7)
- Water-Stained Leaves (B9)
- True Aquatic Plants (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 5/3**	**85**	**10YR 7/2**	**15**			**clay loam**	**ixed profile. Old ag field, with feces spread througho**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2cm Muck (A10)
- 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)
- Thin Dark Surface (S9)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12)
- Umbric Surface (F13)
- Piedmont Floodplain Soils (F19)
- Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Coast Prairie Redox (A16)
- Piedmont Floodplain Soils (F19)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

Mixed profile.

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

EH-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: **10' radius**)			
1. **Achillea millefolium**	**38**	**X**	**FACU**
2. **Scirpus ancistrochaetus**	**38**	**X**	**OBL**
3. **Persicaria longiseta**	**15**		**FAC**
4. **Digitaria ciliaris**	**3**		**FAC**
5. **Setaria parviflora**	**3**		**FAC**
6. **Hydrocotyle ranunculoides**	**3**		**OBL**
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL	**41**	x 1 = **41**
FACW		x 2 =
FAC	**21**	x 3 = **63**
FACU	**38**	x 4 = **152**
UPL		x 5 =
Sum:	**100** (A)	**256** (B)

Prevalence Index = B/A = **2.56**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 3 (Prevalence Index) present with a Prevalence Index value of 3.0 or less.

** Indicator Status utilizes 2016 NWPL*

EN-1

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/15/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **EN-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley slope** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.168779** Long: **-77.563495** Datum: **WGS 1984**
Soil Map Unit: **Partlow sandy loam, 0 to 7 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
	High Water Table (A2)		Marl Deposits (B15)
	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**10YR 4/2**	**90**	**7.5YR 4/6**	**10**	**C**	**PL**	**sandy loam**	
8-18	**10YR 5/1**	**95**	**7.5YR 4/6**	**5**	**C**	**PL**	**sandy loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

EN-1

	Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: **10' radius**)			
1. **Rubus pensilvanicus**	**38**	**X**	**FAC**
2. **Solidago rugosa**	**38**	**X**	**FAC**
3. **Leersia oryzoides**	**38**	**X**	**OBL**
4. **Cinna arundinacea**	**15**		**FACW**
5. **Dichanthelium dichotomum**	**15**		**FAC**
6. **Rubus hispidus**	**15**		**FACW**
7. **Persicaria sagittata**	**15**		**OBL**
8.			
9.			
10.			
11.			
12.			
	174 = Total Cover		
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **3** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**53**	x 1 =	**53**
FACW	**30**	x 2 =	**60**
FAC	**91**	x 3 =	**273**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**174** (A)		**386** (B)

Prevalence Index = B/A = **2.22**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

EN-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/15/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **EN-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley slope** Local relief (concave, convex, none): **Concave** Slope (%): **5 to 7**
Subregion (LRR or MLRA): **LRR P** Lat: **38.168647** Long: **-77.563486** Datum: **WGS 1984**
Soil Map Unit: **Partlow sandy loam, 0 to 7 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial (B7)
- ___ Water-Stained Leaves (B9)
- ___ True Aquatic Plants (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	**10YR 4/4**	**50**	**7.5YR 5/8**	**50**			**sandy loam**	**Auger refusal after 12 inches**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **12**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

EN-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Achillea millefolium**	**38**	**X**	**FACU**
2. **Agrimonia striata**	**38**	**X**	**FACU**
3. **Bidens aristosa**	**15**		**FACW**
4. **Chasmanthium latifolium**	**15**		**FACU**
5. **Solidago rugosa**	**3**		**FAC**
6. **Diodia teres**	**3**		**UPL**
7.			
8.			
9.			
10.			
11.			
12.			
	112 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**15**	x 2 = **30**
FAC	**3**	x 3 = **9**
FACU	**91**	x 4 = **364**
UPL	**3**	x 5 = **15**
Sum:	**112** (A)	**418** (B)

Prevalence Index = B/A = **3.73**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

EQ-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/17/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **EQ-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.159245** Long: **-77.56075** Datum: **WGS 1984**
Soil Map Unit: **Louisburg sandy loam, 15 to 25 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
	High Water Table (A2)		Marl Deposits (B15)
X	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **>18**
Saturation Present? **YES** Depth (inches): **surface**
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met. Rained all day 10/16/2019.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	97	10YR 4/4	3	C	M	sandy loam	
2-10	10YR 4/2	92	7.5YR 4/6	8	C	PL	sandy clay loam	
10-18	5YR 4/6	100					loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

EQ-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1. **Elaeagnus umbellata**	15	X	UPL
2.			
3.			
4.			
5.			
6.			
7.			
	15 = Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Microstegium vimineum**	85	X	FAC
2. **Rubus pensilvanicus**	15		FAC
3. **Helianthus heterophyllus**	15		OBL
4. **Arthraxon hispidus**	15		FAC
5. **Eupatorium serotinum**	3		FAC
6. **Persicaria longiseta**	3		FAC
7. **Cinna arundinacea**	3		FACW
8. **Impatiens capensis**	3		FACW
9. **Persicaria sagittata**	3		OBL
10.			
11.			
12.			
	145 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	18	x 1 =	18
FACW	6	x 2 =	12
FAC	121	x 3 =	363
FACU		x 4 =	
UPL	15	x 5 =	75
Sum:	160 (A)		468 (B)

Prevalence Index = B/A = **2.93**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- X Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 3 (Prevalence Index) present with a Prevalence Index value of 3.0 or less.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

EQ-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/17/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **EQ-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Convex** Slope (%): **22 to 25**
Subregion (LRR or MLRA): **LRR P** Lat: **38.159375** Long: **-77.560817** Datum: **WGS 1984**
Soil Map Unit: **Louisburg sandy loam, 15 to 25 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial (B7)
- ___ Water-Stained Leaves (B9)
- ___ True Aquatic Plants (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	**7.5YR 4/4**	**100**					**sandy loam**	**gravelly**
7-14	**7.5YR 4/6**	**100**					**sandy clay loam**	**Auger refusal after 14 inches**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **14**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

EQ-2

	Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: **10' radius**)			
1. **Schizachyrium scoparium**	**85**	**X**	**FACU**
2. **Packera anonyma**	**15**		**UPL**
3. **Lonicera japonica**	**15**		**FACU**
4. **Solidago pinetorum**	**3**		**UPL**
5. **Pseudognaphalium obtusafolium**	**3**		**UPL**
6. **Potentilla canadensis**	**3**		**UPL**
7. **Quercus falcata**	**3**		**FACU**
8.			
9.			
10.			
11.			
12.			
	127 = Total Cover		
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC		x 3 =
FACU	**103**	x 4 = **412**
UPL	**24**	x 5 = **120**
Sum:	**127** (A)	**532** (B)

Prevalence Index = B/A = **4.19**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

EQ-3

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/17/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **EQ-3**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Swale** Local relief (concave, convex, none): **Concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.138315** Long: **-77.553754** Datum: **WGS 1984**
Soil Map Unit: **Appling-Wedowee sandy loams, 7 to 15 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial (B7)
- ___ Water-Stained Leaves (B9)
- ___ True Aquatic Plants (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/3	100					loam	
2-8	10YR 6/3	92	10YR 6/8	5	C	M	loam	
			10YR 4/6	3	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **8**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

EQ-3

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: **10' radius**)			
1. **Solanum americanum**	**85**	**X**	**FACU**
2. **Lonicera japonica**	**15**		**FACU**
3. **Toxicodendron radicans**	**3**		**FAC**
4. **Potentilla canadensis**	**1**		**UPL**
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	104 = Total Cover		
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC	**3**	x 3 = **9**
FACU	**100**	x 4 = **400**
UPL	**1**	x 5 = **5**
Sum:	**104** (A)	**414** (B)

Prevalence Index = B/A = **3.98**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

EU-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/17/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **EU-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Swale** Local relief (concave, convex, none): **Concave** Slope (%): **5 to 10**
Subregion (LRR or MLRA): **LRR P** Lat: **38.135241** Long: **-77.553717** Datum: **WGS 1984**
Soil Map Unit: **Appling-Wedowee sandy loams, 7 to 15 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
	High Water Table (A2)		Marl Deposits (B15)
	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	**10YR 4/2**	**90**	**7.5YR 5/8**	**10**	**C**	**PL**	**loam**	
2-12	**10YR 5/4**	**80**	**7.5YR 5/8**	**15**	**C**	**M**	**sandy clay loam**	
			10YR 8/1	**5**	**C**	**M**		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

EU-1

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Coleataenia anceps**	**63**	**X**	**FAC**
2.	**Rhynchospora globularis**	**38**	**X**	**FACW**
3.	**Pycnanthemum tenuifolium**	**15**		**FACW**
4.	**Symphyotrichum dumosum**	**15**		**FAC**
5.	**Dichanthelium dichotomum**	**15**		**FAC**
6.	**Schizachyrium scoparium**	**3**		**FACU**
7.	**Liatris squarrosa**	**3**		**UPL**
8.	**Solidago pinetorum**	**3**		**UPL**
9.	**Solidago rugosa**	**3**		**FAC**
10.	**Bidens aristosa**	**3**		**FACW**
11.				
12.				
		161	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:	
OBL		x 1 =	
FACW	**56**	x 2 =	**112**
FAC	**96**	x 3 =	**288**
FACU	**3**	x 4 =	**12**
UPL	**6**	x 5 =	**30**
Sum:	**161** (A)		**442** (B)

Prevalence Index = B/A = **2.75**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

EY-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/17/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **EY-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Depression** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.111149** Long: **-77.552896** Datum: **WGS 1984**
Soil Map Unit: **Fluvaquents-Udifluvents complex** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
	High Water Table (A2)		Marl Deposits (B15)
X	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)		Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **>18**
Saturation Present? **YES** Depth (inches): **Surface**
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	**10YR 4/2**	**90**	**10YR 3/4**	**10**	**C**	**M**	**loam**	**5% Mn concentrations**
14-18	**10YR 5/2**	**75**	**10YR 3/4**	**20**	**C**	**M**	**clay loam**	**10% Mn concentrations**
			10YR 5/6	**5**	**C**	**M**		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)	X	Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met. Also meets Indicator F12 (Iron-Manganese Masses)**

VEGETATION - Use scientific names of plants.

EY-1

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
			= Total Cover	
Herb Stratum	(Plot size: **10' radius**)			
1.	**Juncus effusus**	**38**	**X**	**FACW**
2.	**Rubus pensilvanicus**	**15**	**X**	**FAC**
3.	**Persicaria sagittata**	**15**	**X**	**OBL**
4.	**Carex lurida**	**15**	**X**	**OBL**
5.	**Viburnum dentatum**	**3**		**FAC**
6.	**Carex intumescens**	**3**		**FACW**
7.	**Cinna arundinacea**	**3**		**FACW**
8.	**Symphyotrichum racemosum**	**3**		**FACW**
9.	**Hibiscus moscheutos**	**3**		**OBL**
10.	**Euthamia graminifolia**	**3**		**FAC**
11.	**Eragrostis hirsuta**	**3**		**UPL**
12.				
		104	= Total Cover	
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
			= Total Cover	

Dominance Test Worksheet:

# Dominants OBL, FACW, FAC:	**4**	(A)
# Dominants across all strata:	**4**	(B)
% Dominants OBL, FACW, FAC:	**100%**	(A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**33**	x 1 =	**33**
FACW	**47**	x 2 =	**94**
FAC	**21**	x 3 =	**63**
FACU		x 4 =	
UPL	**3**	x 5 =	**15**
Sum:	**104** (A)		**205** (B)

Prevalence Index = B/A = **1.97**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

FB-1

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/17/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **FB-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Flatwoods** Local relief (concave, convex, none): **None** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.119161** Long: **-77.553363** Datum: **WGS 1984**
Soil Map Unit: **Goldsboro sandy loam** NWI Classif.: **PEM1C**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **NO**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
X	High Water Table (A2)		Marl Deposits (B15)
X	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **YES** Depth (inches): **10**
Saturation Present? **YES** Depth (inches): **surface**
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15	**10YR 5/2**	**95**	**7.5YR 5/6**	**5**	**C**	**PL**	**clay**	**Auger refusal after 15 inches**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Compaction**
Depth (inches): **15**
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

FB-1

	Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: **10' radius**)			
1. **Coleataenia longifolia**	**85**	**X**	**FACU**
2. **Andropogon glomeratus**	**15**		**FACW**
3. **Eupatorium pilosum**	**3**		**FACW**
4. **Coleataenia stipitata**	**3**		**FACW**
5. **Juncus effusus**	**3**		**FACW**
6. **Rhynchospora globularis**	**3**		**FACW**
7. **Scirpus georgianus**	**3**		**OBL**
8. **Dichanthelium scoparium**	**3**		**FACW**
9. **Lyonia ligustrina**	**3**		**FACW**
10. **Eupatorium rotundifolium**	**3**		**FAC**
11. **Chasmanthium latifolium**	**3**		**FACU**
12.			
	127 = Total Cover		
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**3**	x 1 =	**3**
FACW	**33**	x 2 =	**66**
FAC	**3**	x 3 =	**9**
FACU	**88**	x 4 =	**352**
UPL		x 5 =	
Sum:	**127** (A)		**430** (B)

Prevalence Index = B/A = **3.39**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

Coleataenia longifolia is a common wetland plant with an indicator status of FACU. Parameter is assumed to be met

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

FB-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/17/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **FB-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **hillslope** Local relief (concave, convex, none): **concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.122885** Long: **-77.553517** Datum: **WGS 1984**
Soil Map Unit: **Savannah sandy loam, 2 to 7 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial (B7)
- ___ Water-Stained Leaves (B9)
- ___ True Aquatic Plants (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**2.5Y 5/3**	**100**					**fine sandy loam**	
6-12	**2.5Y 5/3**	**95**	**10YR 5/6**	**5**	**C**	**M**	**fine sand**	**Auger refusal after 12 inches**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Compaction**
Depth (inches): **12**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

FB-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Agrostis hyemalis**	**38**	**X**	**FAC**
2. **Solidago altissima**	**15**	**X**	**FACU**
3. **Bidens aristosa**	**15**	**X**	**FACW**
4. **Dactylis glomerata**	**15**	**X**	**FACU**
5. **Agalinis purpurea**	**3**		**FACW**
6. **Solidago rugosa**	**3**		**FAC**
7. **Lonicera japonica**	**3**		**FACU**
8.			
9.			
10.			
11.			
12.			
	92	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **4** (B)

% Dominants OBL, FACW, FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**18**	x 2 = **36**
FAC	**41**	x 3 = **123**
FACU	**33**	x 4 = **132**
UPL		x 5 =
Sum:	**92** (A)	**291** (B)

Prevalence Index = B/A = **3.16**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

FC-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/17/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **FC-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.099138** Long: **-77.5533** Datum: **WGS 1984**
Soil Map Unit: **Partlow sandy loam, 0 to 7 percent slopes** NWI Classif.: **PUBGb**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

X	Surface Water (A1)		True Aquatic Plants (B13)
X	High Water Table (A2)		Marl Deposits (B15)
X	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)		Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **YES** Depth (inches): **1**
Water Table Present? **YES** Depth (inches): **Surface**
Saturation Present? **YES** Depth (inches): **Surface**
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	**10YR 5/1**	**100**					**fine sandy loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

FC-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Leersia oryzoides**	**98**	**X**	**OBL**
2. **Impatiens capensis**	**3**		**FACW**
3. **Persicaria sagittata**	**3**		**OBL**
4. **Juncus effusus**	**3**		**FACW**
5. **Bidens aristosa**	**3**		**FACW**
6. **Eupatorium perfoliatum**	**3**		**FACW**
7.			
8.			
9.			
10.			
11.			
12.			
	113 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**101**	x 1 =	**101**
FACW	**12**	x 2 =	**24**
FAC		x 3 =	
FACU		x 4 =	
UPL		x 5 =	
Sum:	**113** (A)		**125** (B)

Prevalence Index = B/A = **1.11**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

FC-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/17/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **FC-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Swale** Local relief (concave, convex, none): **Concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.107013** Long: **-77.552663** Datum: **WGS 1984**
Soil Map Unit: **Fluvanna fine sandy loam, 7 to 15 percent slopes, eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial (B7)
- ___ Water-Stained Leaves (B9)
- ___ True Aquatic Plants (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 4/4**	**100**					**loam**	
6-14	**7.5YR 5/6**	**70**	**7.5YR 5/4**	**30**			**clay loam**	**Mixed profile; auger refusal after 14 inches**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **14**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

FC-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Solidago altissima**	**63**	**X**	**FACU**
2. **Dichanthelium clandestinum**	**38**	**X**	**FAC**
3. **Rubus pensilvanicus**	**15**		**FAC**
4. **Schedonorus arundinaceus**	**15**		**FACU**
5. **Lonicera japonica**	**15**		**FACU**
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	146	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC	**53**	x 3 = **159**
FACU	**93**	x 4 = **372**
UPL		x 5 =
Sum:	**146** (A)	**531** (B)

Prevalence Index = B/A = **3.64**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

FF-1

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/18/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **FF-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Depression** Local relief (concave, convex, none): **Concave** Slope (%): **3 to 5**
Subregion (LRR or MLRA): **LRR P** Lat: **38.086943** Long: **-77.553579** Datum: **WGS 1984**
Soil Map Unit: **Partlow sandy loam, 0 to 7 percent slopes** NWI Classif.: **PEM1C**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
	High Water Table (A2)		Marl Deposits (B15)
	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	**5GY 4/1**	**80**	**5YR 5/6**	**20**	**C**	**PL**	**sandy clay loam**	
7-18	**5GY 4/1**	**70**	**5YR 4/6**	**20**	**C**	**PL**	**sandy loam**	
			2.5Y 6/3	**10**	**C**	**PL**		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)	X	Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)		Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F2 (Loamy Gleyed Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

FF-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Arthraxon hispidus**	63	X	FAC
2. **Juncus effusus**	15		FACW
3. **Cyperus strigosus**	3		FACW
4. **Vernonia noveboracensis**	3		FACW
5. **Symphyotrichum puniceum**	3		OBL
6. **Agalinis paupercula**	3		FACW
7. **Andropogon virginicus**	3		FACU
8. **Agalinis purpurea**	1		FACW
9. **Apocynum cannabinum**	1		FACU
10. **Onoclea sensibilis**	1		FACW
11.			
12.			
	96 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**3**	x 1 =	**3**
FACW	**26**	x 2 =	**52**
FAC	**63**	x 3 =	**189**
FACU	**4**	x 4 =	**16**
UPL		x 5 =	
Sum:	**96** (A)		**260** (B)

Prevalence Index = B/A = **2.71**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

FF-2

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/18/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **FF-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hilltop** Local relief (concave, convex, none): **Convex** Slope (%): **4 to 6**
Subregion (LRR or MLRA): **LRR P** Lat: **38.087055** Long: **-77.553331** Datum: **WGS 1984**
Soil Map Unit: **Colfax sandy loam, 2 to 7 percent slopes** NWI Classif.: **PEM1C**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial (B7)
- ___ Water-Stained Leaves (B9)
- ___ True Aquatic Plants (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**10YR 4/2**	**100**					**sandy loam**	
3-14	**5YR 5/8**	**60**	**2.5Y 6/3**	**40**			**clay**	**Mixed profile; auger refusal after 14 inches**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **14**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

FF-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Schizachyrium scoparium**	**63**	**X**	**FACU**
2. **Symphyotrichum pilosum**	**15**		**FAC**
3. **Coleataenia anceps**	**3**		**FAC**
4. **Tridens flavus**	**3**		**FACU**
5. **Eragrostis spectabilis**	**3**		**UPL**
6. **Dichanthelium scoparium**	**3**		**FACW**
7. **Lespedeza cuneata**	**3**		**FACU**
8. **Achillea millefolium**	**1**		**FACU**
9. **Setaria pumila**	**1**		**FAC**
10.			
11.			
12.			
	95 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**3**	x 2 = **6**
FAC	**19**	x 3 = **57**
FACU	**70**	x 4 = **280**
UPL	**3**	x 5 = **15**
Sum:	**95** (A)	**358** (B)

Prevalence Index = B/A = **3.77**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

FI-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Caroline** Samp. Date: **10/18/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **FI-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **0 to 2**
Subregion (LRR or MLRA): **LRR P** Lat: **38.071396** Long: **-77.551232** Datum: **WGS 1984**
Soil Map Unit: **Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded** NWI Classif.: **PEM1E**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
X	High Water Table (A2)		Marl Deposits (B15)
X	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **YES** Depth (inches): **8**
Saturation Present? **YES** Depth (inches): **Surface**
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	**10YR 5/1**	**85**	**7.5YR 5/6**	**15**	**C**	**PL**	**silt loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

FI-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Persicaria sagittata**	**98**	**X**	**OBL**
2. **Leersia oryzoides**	**38**	**X**	**OBL**
3. **Bidens aristosa**	**38**	**X**	**FACW**
4. **Coleataenia stipitata**	**15**		**FACW**
5. **Cinna arundinacea**	**15**		**FACW**
6. **Impatiens capensis**	**15**		**FACW**
7. **Scirpus cyperinus**	**15**		**FACW**
8. **Boehmeria cylindrica**	**3**		**FACW**
9.			
10.			
11.			
12.			
	237	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL	**136**	x 1 = **136**
FACW	**101**	x 2 = **202**
FAC		x 3 =
FACU		x 4 =
UPL		x 5 =
Sum:	**237** (A)	**338** (B)

Prevalence Index = B/A = **1.43**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

FI-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Caroline** Samp. Date: **10/18/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **FI-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Convex** Slope (%): **4 to 6**
Subregion (LRR or MLRA): **LRR P** Lat: **38.0703** Long: **-77.551298** Datum: **WGS 1984**
Soil Map Unit: **Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded** NWI Classif.: **PEM1E**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial (B7)
- ___ Water-Stained Leaves (B9)
- ___ True Aquatic Plants (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	**10YR 5/4**	**100**					**sandy loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

FI-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Solidago altissima**	**63**	**X**	**FACU**
2. **Ambrosia artemisiifolia**	**15**		**FACU**
3. **Euthamia graminifolia**	**15**		**FAC**
4. **Solidago rugosa**	**15**		**FAC**
5. **Schizachyrium scoparium**	**3**		**FACU**
6. **Persicaria sagittata**	**3**		**OBL**
7. **Eupatorium perfoliatum**	**1**		**FACW**
8. **Dichanthelium dichotomum**	**1**		**FAC**
9.			
10.			
11.			
12.			
	116	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**3**	x 1 =	**3**
FACW	**1**	x 2 =	**2**
FAC	**31**	x 3 =	**93**
FACU	**81**	x 4 =	**324**
UPL		x 5 =	
Sum:	**116** (A)		**422** (B)

Prevalence Index = B/A = **3.64**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

FL-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Caroline** Samp. Date: **10/18/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **FL-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Drainage way** Local relief (concave, convex, none): **Concave** Slope (%): **4 to 6**
Subregion (LRR or MLRA): **LRR P** Lat: **38.049655** Long: **-77.550013** Datum: **WGS 1984**
Soil Map Unit: **Helena-Appling complex, 2 to 15 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
X	High Water Table (A2)		Marl Deposits (B15)
X	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)		Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **YES** Depth (inches): **12**
Saturation Present? **YES** Depth (inches): **Surface**
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	**10YR 5/2**	**85**	**10YR 5/6**	**15**	**C**	**M**	**sandy clay loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

FL-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Carex lurida**	**63**	**X**	**OBL**
2. **Alisma subcordatum**	**15**		**OBL**
3. **Juncus effusus**	**15**		**FACW**
4. **Bidens aristosa**	**3**		**FACW**
5. **Woodwardia virginica**	**3**		**OBL**
6. **Schizachne purpurascens**	**3**		**FACU**
7. **Cyperus strigosus**	**3**		**FACW**
8.			
9.			
10.			
11.			
12.			
	105 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**81**	x 1 =	**81**
FACW	**21**	x 2 =	**42**
FAC		x 3 =	
FACU	**3**	x 4 =	**12**
UPL		x 5 =	
Sum:	**105** (A)		**135** (B)

Prevalence Index = B/A = **1.29**

Hydrophytic Vegetation Indicators:

- _____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

FL-2

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Caroline** Samp. Date: **10/18/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **FL-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Convex** Slope (%): **6 to 8**
Subregion (LRR or MLRA): **LRR P** Lat: **38.049631** Long: **-77.550175** Datum: **WGS 1984**
Soil Map Unit: **Helena-Appling complex, 2 to 15 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial (B7)
- Water-Stained Leaves (B9)
- True Aquatic Plants (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	**2.5YR 4/6**	**80**	**10YR 5/6**	**20**			**clay**	**Mixed profile; auger refusal after 14 inches**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2cm Muck (A10)
- 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)
- Thin Dark Surface (S9)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12)
- Umbric Surface (F13)
- Piedmont Floodplain Soils (F19)
- Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Coast Prairie Redox (A16)
- Piedmont Floodplain Soils (F19)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Compaction**
Depth (inches): **14**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

FL-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Schizachyrium scoparium**	**63**	**X**	**FACU**
2. **Solidago nemoralis**	**15**		**UPL**
3. **Solidago pinetorum**	**15**		**UPL**
4. **Achillea millefolium**	**3**		**FACU**
5. **Rubus pensilvanicus**	**3**		**FAC**
6. **Potentilla canadensis**	**1**		**UPL**
7. **Bidens aristosa**	**1**		**FACW**
8.			
9.			
10.			
11.			
12.			
	101	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW	**1**	x 2 = **2**
FAC	**3**	x 3 = **9**
FACU	**66**	x 4 = **264**
UPL	**31**	x 5 = **155**
Sum:	**101** (A)	**430** (B)

Prevalence Index = B/A = **4.26**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

FO-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Caroline** Samp. Date: **10/18/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **FO-1**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Drainage way** Local relief (concave, convex, none): **Concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.062372** Long: **-77.550234** Datum: **WGS 1984**
Soil Map Unit: **Altavista sandy loam, 0-4 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
	High Water Table (A2)		Marl Deposits (B15)
	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**7.5YR 4/6**	**100**					**sandy loam**	
3-6	**10YR 5/3**	**85**	**7.5YR 5/6**	**15**	**C**	**M**	**sandy loam**	
6-18	**10YR 5/2**	**95**	**7.5YR 5/6**	**5**	**C**	**PL**	**sandy loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

FO-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Panicum verrucosum**	**38**	**X**	**FACW**
2. **Schoenoplectus purshianus**	**15**	**X**	**OBL**
3. **Rhynchospora globularis**	**15**	**X**	**FACW**
4. **Juncus acuminatus**	**3**		**OBL**
5. **Eupatorium perfoliatum**	**3**		**FACW**
6. **Rubus pensilvanicus**	**3**		**FAC**
7. **Scirpus georgianus**	**3**		**OBL**
8.			
9.			
10.			
11.			
12.			
	80	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**21**	x 1 =	**21**
FACW	**56**	x 2 =	**112**
FAC	**3**	x 3 =	**9**
FACU		x 4 =	
UPL		x 5 =	
Sum:	**80** (A)		**142** (B)

Prevalence Index = B/A = **1.78**

Hydrophytic Vegetation Indicators:

- _____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

FO-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Caroline** Samp. Date: **10/18/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **FO-2**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Concave** Slope (%): **8 to 10**
Subregion (LRR or MLRA): **LRR P** Lat: **38.062465** Long: **-77.550165** Datum: **WGS 1984**
Soil Map Unit: **Altavista sandy loam, 0-4 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial (B7)
- ___ Water-Stained Leaves (B9)
- ___ True Aquatic Plants (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 4/3**	**100**					**sandy loam**	
6-14	**7.5YR 5/6**	**100**					**sandy clay loam**	**Auger refusal after 14 inches**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Compaction**
Depth (inches): **14**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

FO-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Panicum verrucosum**	15	X	FACW
2. **Carex blanda**	15	X	FAC
3. **Solidago rugosa**	15	X	FAC
4. **Trichostema dichotomum**	3		UPL
5. **Chelidonium majus**	3		UPL
6. **Agrostis hyemalis**	3		FAC
7. **Rubus hispidus**	3		FACW
8. **Dichanthelium scoparium**	3		FACW
9. **Acalypha gracilens**	1		FAC
10.			
11.			
12.			
	61 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **3** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:	
OBL		x 1 =	
FACW	**21**	x 2 =	**42**
FAC	**34**	x 3 =	**102**
FACU		x 4 =	
UPL	**6**	x 5 =	**30**
Sum:	**61** (A)		**174** (B)

Prevalence Index = B/A = **2.85**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

FO-3

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Caroline** Samp. Date: **10/18/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **FO-3**
Investigator(s): **J. Thompson, P. Bailey, D. Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Swale** Local relief (concave, convex, none): **Concave** Slope (%): **2 to 4**
Subregion (LRR or MLRA): **LRR P** Lat: **38.063895** Long: **-77.550354** Datum: **WGS 1984**
Soil Map Unit: **Altavista sandy loam, 0-4 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial (B7)
- ___ Water-Stained Leaves (B9)
- ___ True Aquatic Plants (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	**7.5YR 5/6**	**100**					**sandy loam**	**Auger refusal after 14 inches**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Compaction**
Depth (inches): **14**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

FO-3

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: **15' radius**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: **10' radius**)			
1. **Ambrosia artemisiifolia**	**63**	**X**	**FACU**
2. **Schizachyrium scoparium**	**15**		**FACU**
3. **Angelica venenosa**	**3**		**UPL**
4. **Pinus echinata**	**3**		**UPL**
5. **Packera anonyma**	**1**		**UPL**
6. **Pseudognaphalium obtusafolium**	**1**		**UPL**
7. **Solidago rugosa**	**1**		**FAC**
8.			
9.			
10.			
11.			
12.			
	87 = Total Cover		
Woody Vines (Plot size: **30' radius**)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **1** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC	**1**	x 3 = **3**
FACU	**78**	x 4 = **312**
UPL	**8**	x 5 = **40**
Sum:	**87** (A)	**355** (B)

Prevalence Index = B/A = **4.08**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AU-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/8/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AU-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Terrace** Local relief (concave, convex, none): **Concave** Slope (%): **2-5%**
Subregion (LRR or MLRA): **LRR P** Lat: **38.437879** Long: **-77.595693** Datum: **WGS 1984**
Soil Map Unit: **Worsham loam** NWI Classif.: **PF01A**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
	High Water Table (A2)		Marl Deposits (B15)
	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
X	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
X	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

X	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
	Geomorphic Position (D2)
	Microtopographic Relief (D4)
	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**10YR 4/2**	**98**	**7.5YR 5/6**	**2**	**C**	**PL**	**sandy clay loam**	
8-12	**7.5YR 4/1**	**80**	**5YR 4/6**	**20**	**C**	**PL**	**sandy loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)	X	Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met. Also meets Indicator F12 (Iron-Manganese Masses).**

VEGETATION - Use scientific names of plants.

AU-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Juncus effusus**	**85**	**X**	**FACW**
2. **Agrimonia parviflora**	**38**	**X**	**FACW**
3. **Mimulus alatus**	**15**		**OBL**
4. **Vernonia noveboracensis**	**15**		**FACW**
5. **Carex lurida**	**15**		**OBL**
6. **Lonicera japonica**	**15**		**FACU**
7. **Rubus pensilvanicus**	**3**		**FAC**
8. **Acer rubrum**	**3**		**FAC**
9.			
10.			
11.			
12.			
	189	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**30**	x 1 =	**30**
FACW	**138**	x 2 =	**276**
FAC	**6**	x 3 =	**18**
FACU	**15**	x 4 =	**60**
UPL		x 5 =	
Sum:	**189** (A)		**384** (B)

Prevalence Index = B/A = **2.03**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

AW-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/8/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **AW-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Valley** Local relief (concave, convex, none): **Concave** Slope (%): **6-8%**
Subregion (LRR or MLRA): **LRR P** Lat: **38.428517** Long: **-77.59552** Datum: **WGS 1984**
Soil Map Unit: **Worsham loam** NWI Classif.: **PFO1A**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
	High Water Table (A2)		Marl Deposits (B15)
X	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): **N/A**
Water Table Present? **NO** Depth (inches): **N/A**
Saturation Present? **YES** Depth (inches): **Surface**
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 5/2**	**97**	**7.5YR 4/6**	**3**	**C**	**PL**	**clay loam**	
6-14	**10YR 5/1**	**80**	**10YR 6/4**	**20**	**D**	**M**	**sandy clay**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

AW-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Murdannia keisak**	**63**	**X**	**OBL**
2. **Carex lurida**	**38**	**X**	**OBL**
3. **Juncus effusus**	**38**	**X**	**FACW**
4. **Dichanthelium scoparium**	**3**		**FACW**
5. **Leersia oryzoides**	**3**		**OBL**
6. **Onoclea sensibilis**	**3**		**FACW**
7. **Eleocharis acicularis**	**3**		**OBL**
8. **Persicaria sagittata**	**3**		**OBL**
9.			
10.			
11.			
12.			
	154	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: _____ (A)

Dominants across all strata: _____ (B)

% Dominants OBL, FACW, FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**110**	x 1 =	**110**
FACW	**44**	x 2 =	**88**
FAC		x 3 =	
FACU		x 4 =	
UPL		x 5 =	
Sum:	**154** (A)		**198** (B)

Prevalence Index = B/A = **1.29**

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- **X** Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 1 (Rapid Test) present due to dominance of FACW or OBL species.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CE-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/9/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CE-2**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Upland Swale** Local relief (concave, convex, none): **Concave** Slope (%): **2-4%**
Subregion (LRR or MLRA): **LRR P** Lat: **38.390105** Long: **-77.600183** Datum: **WGS 1984**
Soil Map Unit: **Alluvial Land, Wet** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial (B7)
- ___ Water-Stained Leaves (B9)
- ___ True Aquatic Plants (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**10YR 4/4**	**100**					**loam**	
4-10	**10YR 4/4**	**60**	**10YR 3/6**	**40**			**loam**	**Gravel present in the matrix, auger refusal at 10 inche**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **10**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

CE-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10' radius)			
1. **Kummerowia stipulacea**	**63**	**X**	**FACU**
2. **Digitaria ischaemum**	**38**	**X**	**UPL**
3. **Dichanthelium laxiflorum**	**38**	**X**	**FACU**
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	139	= Total Cover	
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **0** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC		x 3 =
FACU	**101**	x 4 = **404**
UPL	**38**	x 5 = **190**
Sum:	**139** (A)	**594** (B)

Prevalence Index = B/A = **4.27**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CG-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Stafford** Samp. Date: **10/9/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CG-2**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Upland Swale** Local relief (concave, convex, none): **Concave** Slope (%): **3-5%**
Subregion (LRR or MLRA): **LRR P** Lat: **38.379811** Long: **-77.605755** Datum: **WGS 1984**
Soil Map Unit: **Cullen clay loam, 6 to 15 percent slopes, severely eroded** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial (B7)
- ___ Water-Stained Leaves (B9)
- ___ True Aquatic Plants (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary and only one secondary indicator of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	**5YR 4/6**	**100**					**clay loam**	**Charcoal present in soil profile**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches): ___
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

CG-2

		Absolute % Cover	Dom. Sp?	Indicator Status*
Tree Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		= Total Cover		
Sapling Stratum	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		= Total Cover		
Shrub Stratum	(Plot size: **15' radius**)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		= Total Cover		
Herb Stratum	(Plot size: **10' radius**)			
1.	**Digitaria ciliaris**	**85**	**X**	**FAC**
2.	**Arthraxon hispidus**	**38**	**X**	**FAC**
3.	**Persicaria longiseta**	**15**		**FAC**
4.	**Rumex crispus**	**3**		**FAC**
5.	**Perilla frutescens**	**3**		**FACU**
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		144 = Total Cover		
Woody Vines	(Plot size: **30' radius**)			
1.				
2.				
3.				
4.				
5.				
		= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **2** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC	**141**	x 3 = **423**
FACU	**3**	x 4 = **12**
UPL		x 5 =
Sum:	**144** (A)	**435** (B)

Prevalence Index = B/A = **3.02**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- ____ Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CO-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/10/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CO-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **Concave** Slope (%): **0-2%**
Subregion (LRR or MLRA): **LRR P** Lat: **38.344065** Long: **-77.624453** Datum: **WGS 1984**
Soil Map Unit: **Partlow sandy loam, 0 to 7 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
	High Water Table (A2)		Marl Deposits (B15)
	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	**10YR 4/3**	**98**	**7.5YR 5/8**	**2**	**C**	**PL**	**loam**	
4-14	**10YR 6/1**	**96**	**7.5YR 5/8**	**4**	**C**	**PL**	**clay loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

CO-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Rubus hispidus**	63	X	FACW
2. **Dichanthelium dichotomum**	38	X	FAC
3. **Bidens aristosa**	38	X	FACW
4. **Panicum verrucosum**	15		FACW
5. **Persicaria sagittata**	15		OBL
6. **Solidago altissima**	15		FACU
7. **Eupatorium pilosum**	3		FACW
8.			
9.			
10.			
11.			
12.			
	187 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **3** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL	**15**	x 1 =	**15**
FACW	**119**	x 2 =	**238**
FAC	**38**	x 3 =	**114**
FACU	**15**	x 4 =	**60**
UPL		x 5 =	
Sum:	**187** (A)		**427** (B)

Prevalence Index = B/A = **2.28**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- _____ Problematic Hydrophytic Vegetation[1] (explain)
- _____ Rapid Test for Hydrophytic Vegetation
- _____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CS-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/10/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CS-2**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Terrace** Local relief (concave, convex, none): **Convex** Slope (%): **0-2%**
Subregion (LRR or MLRA): **LRR P** Lat: **38.337344** Long: **-77.623924** Datum: **WGS 1984**
Soil Map Unit: **Fluvaquents-Udifluvents complex** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial (B7)
- Water-Stained Leaves (B9)
- True Aquatic Plants (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	**10YR 5/4**	**85**	**7.5YR 5/8**	**15**	**C**	**PL**	**loam**	
8-10	**10YR 4/3**	**80**	**5YR 4/6**	**20**	**C**	**PL**	**clay loam**	**Auger refusal at 10 inches**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2cm Muck (A10)
- 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)
- Thin Dark Surface (S9)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12)
- Umbric Surface (F13)
- Piedmont Floodplain Soils (F19)
- Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Coast Prairie Redox (A16)
- Piedmont Floodplain Soils (F19)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **Gravel**
Depth (inches): **10**
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

CS-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Solidago altissima**	63	X	FACU
2. **Dichanthelium clandestinum**	38	X	FAC
3. **Bromus inermis**	38	X	UPL
4. **Lonicera japonica**	15		FACU
5. **Glechoma hederacea**	15		FACU
6. **Microstegium vimineum**	15		FAC
7. **Solanum carolinense**	3		FACU
8.			
9.			
10.			
11.			
12.			
	187 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **1** (A)

Dominants across all strata: **3** (B)

% Dominants OBL, FACW, FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC	**53**	x 3 = **159**
FACU	**96**	x 4 = **384**
UPL	**38**	x 5 = **190**
Sum:	**187** (A)	**733** (B)

Prevalence Index = B/A = **3.92**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CT-1

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/10/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CT-1**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Floodplain** Local relief (concave, convex, none): **Concave** Slope (%): **1-3%**
Subregion (LRR or MLRA): **LRR P** Lat: **38.323472** Long: **-77.616782** Datum: **WGS 1984**
Soil Map Unit: **Fluvaquents-Udifluvents complex** NWI Classif.: **PEM1Cb**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **YES**
Hydric Soil Present? **YES**
Wetland Hydrology Present? **YES**
Is This Sample Area Within a Wetland? **YES**

Remarks: **All parameters are met. Area is classified as a palustrine emergent (PEM) wetland. Data were collected during a moderate drought.**

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		True Aquatic Plants (B13)
	High Water Table (A2)		Marl Deposits (B15)
	Saturation (A3)		Hydrogen Sulfide Odor (C1)
	Water Marks (B1)	X	Oxidized Rhizospheres on Living Roots (C3)
	Sediment Deposits (B2)		Presence of Reduced Iron (C4)
	Drift Deposits (B3)		Recent Iron Reduction in Tilled Soils (C6)
	Algal Mat or Crust (B4)		Thin Muck Surface (C7)
	Iron Deposits (B5)		Other (Explain in Remarks)
	Inundation Visible on Aerial (B7)		
	Water-Stained Leaves (B9)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Sparsely Vegetated Concave Surface (B8)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Microtopographic Relief (D4)
	FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches):
Water Table Present? **NO** Depth (inches):
Saturation Present? **NO** Depth (inches):
Wetland Hydrology Present? **YES**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **At least one primary or two secondary indicators of wetland hydrology present; parameter is met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 3/2**	**97**	**5YR 4/6**	**3**	**C**	**PL**	**loam**	
6-14	**7.5YR 4/4**	**70**	**7.5YR 5/3**	**30**	**D**	**M**	**clay loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Dark Surface (S7)
	Histic Epipedon (A2)		Polyvalue Below Surface (S8)
	Black Histic (A3)		Thin Dark Surface (S9)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)	X	Depleted Matrix (F3)
	2cm Muck (A10)		Redox Dark Surface (F6)
	Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
	Thick Dark Surface (A12)		Redox Depressions (F8)
	Sandy Mucky Mineral (S1)		Iron-Manganese Masses (F12)
	Sandy Gleyed Matrix (S4)		Umbric Surface (F13)
	Sandy Redox (S5)		Piedmont Floodplain Soils (F19)
	Stripped Matrix (S6)		Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Coast Prairie Redox (A16)
	Piedmont Floodplain Soils (F19)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **YES**

Remarks: **Indicator F3 (Depleted Matrix) present and soil meets NTCHS definition of hydric soil; parameter is met.**

VEGETATION - Use scientific names of plants.

CT-1

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Dichanthelium dichotomum**	**63**	**X**	**FAC**
2. **Solidago rugosa**	**15**	**X**	**FAC**
3. **Lonicera japonica**	**15**	**X**	**FACU**
4. **Rubus pensilvanicus**	**15**	**X**	**FAC**
5. **Euthamia graminifolia**	**15**	**X**	**FAC**
6. **Dichanthelium clandestinum**	**15**	**X**	**FAC**
7. **Potentilla pensylvanica**	**3**		**FACU**
8.			
9.			
10.			
11.			
12.			
	141 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **5** (A)

Dominants across all strata: **6** (B)

% Dominants OBL, FACW, FAC: **83%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC	**123**	x 3 = **369**
FACU	**18**	x 4 = **72**
UPL		x 5 =
Sum:	**141** (A)	**441** (B)

Prevalence Index = B/A = **3.13**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- ____ Prevalence Index is <= 3.0
- ____ Problematic Hydrophytic Vegetation[1] (explain)
- ____ Rapid Test for Hydrophytic Vegetation
- ____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Indicator 2 (Dominance Test) present with >50% of dominant species across all vegetation strata FAC or wetter.

** Indicator Status utilizes 2016 NWPL*

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

CX-2

Project Site: **Bristers Ladysmith 500kV Rebuild** City/County: **Spotsylvania** Samp. Date: **10/11/2019**
Applicant/Owner: **Dominion Power** State: **VA** Sampling Point: **CX-2**
Investigator(s): **Joey Thompson, Phil Bailey, Dakota Hunter** Section, Township, Range: **N/A**
Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **Convex** Slope (%): **5-7%**
Subregion (LRR or MLRA): **LRR P** Lat: **38.311696** Long: **-77.608345** Datum: **WGS 1984**
Soil Map Unit: **Lousburg sandy loam, 25 to 50 percent slopes** NWI Classif.: **None**
Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**
Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? **NO**
Hydric Soil Present? **NO**
Wetland Hydrology Present? **NO**
Is This Sample Area Within a Wetland? **NO**

Remarks: **One or more parameters lacking. Area is not a jurisdictional wetland.**
Data were collected during a moderate drought.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial (B7)
- ___ Water-Stained Leaves (B9)
- ___ True Aquatic Plants (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? **NO** Depth (inches): ___
Water Table Present? **NO** Depth (inches): ___
Saturation Present? **NO** Depth (inches): ___
Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A

Remarks: **No primary or secondary indicators of wetland hydrology present; parameter is not met.**

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	**10YR 4/4**	**97**	**7.5YR 4/6**	**3**	**C**	**PL**	**clay loam**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2cm Muck (A10)
- ___ 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)
- ___ Thin Dark Surface (S9)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12)
- ___ Umbric Surface (F13)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (F21)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Coast Prairie Redox (A16)
- ___ Piedmont Floodplain Soils (F19)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: **N/A**
Depth (inches):
Hydric Soil Present? **NO**

Remarks: **No hydric soil indicators present and soil does not meet NTCHS definition of hydric soil; parameter is not met.**

VEGETATION - Use scientific names of plants.

CX-2

Tree Stratum (Plot size: **30' radius**)	Absolute % Cover	Dom. Sp?	Indicator Status*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (Plot size: 15' radius)			
1. **Pinus taeda**	**15**	**X**	**FAC**
2. **Ilex opaca**	**3**		**FACU**
3.			
4.			
5.			
6.			
7.			
	18 = Total Cover		
Herb Stratum (Plot size: 10' radius)			
1. **Andropogon virginicus**	**38**	**X**	**FACU**
2. **Eupatorium hyssopifolium**	**15**	**X**	**UPL**
3. **Packera anonyma**	**15**	**X**	**UPL**
4. **Potentilla pensylvanica**	**15**	**X**	**FACU**
5. **Euthamia caroliniana**	**15**	**X**	**FAC**
6. **Rubus flagellaris**	**15**	**X**	**FACU**
7. **Pseudognaphalium obtusifolium**	**3**		**UPL**
8.			
9.			
10.			
11.			
12.			
	116 = Total Cover		
Woody Vines (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **2** (A)

Dominants across all strata: **7** (B)

% Dominants OBL, FACW, FAC: **29%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL		x 1 =
FACW		x 2 =
FAC	**30**	x 3 = **90**
FACU	**71**	x 4 = **284**
UPL	**33**	x 5 = **165**
Sum:	**134** (A)	**539** (B)

Prevalence Index = B/A = **4.02**

Hydrophytic Vegetation Indicators:

_____ Dominance Test is > 50%

_____ Prevalence Index is <= 3.0

_____ Problematic Hydrophytic Vegetation[1] (explain)

_____ Rapid Test for Hydrophytic Vegetation

_____ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **NO**

Remarks: (If observed, list morphological adaptations below).

No hydrophytic vegetation indicators present; parameter is not met.

** Indicator Status utilizes 2016 NWPL*

Attachment 3 – Norfolk District Regulatory Office Pre-application and/or Jurisdictional Waters Determination Request Form

NORFOLK DISTRICT REGULATORY OFFICE PRE-APPLICATION AND/OR JURISDICTIONAL WATERS DETERMINATION REQUEST FORM

This form is used when you want to determine if areas on your property fall under regulatory requirements of the U.S. Army Corps of Engineers (USACE). Please supply the following information and supporting documents described below. This form can be filled out online and/or printed and then mailed, faxed, or e-mailed to the Norfolk District. Submitting this request authorizes the US Army Corps of Engineers to field inspect the property site, if necessary, to help in the determination process. **THIS FORM MUST BE SIGNED BY THE PROPERTY OWNER TO BE CONSIDERED A FORMAL REQUEST.**

The printed form and supporting documents should be mailed to:

U.S. Army Corps of Engineers, Norfolk District
Regulatory Office
803 Front Street
Norfolk, Virginia 23510-1096

Or faxed to (757) 201-7678

Or sent via e-mail to: CENAO.REG_ROD@usace.army.mil

Additional information on the Regulatory Program is available on our website at:
http://www.nao.usace.army.mil/
Please contact us at 757-201-7652 if you need any assistance with filling out this form.

Location and Information about Property to be subject to a Jurisdictional Determination:

1. Date of Request: 04/07/2020
2. Project Name: Bristers Ladysmith 500kV Rebuild
3. City or County where property located: Fauquier, Stafford, Spotsylvania, & Caroline Counties
4. Address of property and directions (attach a map of the property location and a copy of the property plat): See attached map
5. Coordinates of property (if known): Start: 38.567632, -77.594545 Terminus: 38.046874, -77.550268
6. Size of property in acres: 783.8
7. Tax Parcel Number / GPIN (if available): N/A
8. Name of Nearest Waterway: Rappahhanock River, Motto River, Po River, Ni River

7. Brief Description of Proposed Activity, Reason for Preapplication Request, and/or Reason for Jurisdictional Waters Determination Request:
The project involves the wreck and rebuild of an existing approximate 36-mile overhead transmission line.

8. Has a wetland delineation/determination been completed by a consultant or the Corps on the property previously? ☐ YES ☐ NO ☒ UNKNOWN

If yes, please provide the name of the consultant and/or Corps staff and Corps permit number, if available:

Property Owner Contact Information:

Property Owner Name: Dominion Energy c/o Mark Allen
Mailing Address: 10900 Nuckols Road
City: State: Zip: Glen Allen, Virginia 23060
Daytime Telephone: (804) 257-4711
E-mail Address: Mark.Allen@dominionenergy.com

If the person requesting the Jurisdictional Determination is **NOT** the Property Owner, please also supply the Requestor's contact information here:

Requestor Name: Rachel Studebaker - Dominion Energy Environmental Services
Mailing Address: 120 Tredegar Street
City: State: Zip: Richmond, VA 23219
Daytime Telephone: (804) 217-1847
E-mail Address: Rachel.M.Studebaker@dominionenergy.com

Additionally, if you have any of the following information, please include it with your request: wetland delineation map, other relevant maps, drain tile survey, topographic survey, and/or site photographs.

CERTIFICATION: I am hereby requesting a preapplication consultation or jurisdictional waters and/or wetlands determination from the U.S. Army Corps of Engineers, for the property(ies) I have described herein. I agree to allow the duly authorized representatives of the Norfolk District Corps of Engineers and other regulatory or advisory agencies to enter upon the premises of the project site at reasonable times to evaluate inspect and photograph site conditions. This consent to enter the property is superior to, takes precedence over, and waives any communication to the contrary. For example, if the property is posted as "no trespassing" this consent specifically supercedes and waives that prohibition and grants permission to enter the property despite such posting. I hereby certify that the information contained in the Request for a Jurisdictional Determination is accurate and complete:

Mark L Allen
Property Owner's Signature

04/14/2020
Date

Attachment 4 – Wetland Delineation Report Site Information Summary Form

Waters of the U.S. Delineation Report Site Information Summary
Bristers Ladysmith 500kV Rebuild
Fauquier, Stafford, Spotsylvania, & Caroline Counties, Virginia

Date
April 7, 2020

Latitude/ Longitude in Decimal Degrees using coordinate plane (NAD 1983)
38.408109, -77.595802

Has a previous delineation or JD been performed? If so please provide USACE Project Number: Unknown

8-Digit Hydrologic Unit Code (HUC)
02070010, 02070011, 02080103, 02080104, and 02080105

USGS Topographic Sheet
USGS 7.5 min Somerville, Storck, Salem Church, Chancellorsville, Spotsylvania, and Ladysmith, Virginia Quadrangles

Nearest Waterbody
Rappahannock River, Motto River, Po River, and Ni River

Delineation Methods
VHB applied the technical criteria outlined in 1987 *Corps of Engineers Wetland Delineation Manual* and the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0) to complete the wetland delineation*. Vegetation data was recorded on data forms based on the USACE *2016 National Wetland Plant List*.

On-Site Investigation Date
Waters of the U.S. boundary delineation and site data collection conducted between September 30 and October 18, 2019.

Waters of the U.S. Delineation
The proposed wetland boundaries and data sampling point locations are depicted on the map entitled "Waters of the U.S. Delineation Map" prepared by VHB on December 2, 2019.

Waters of the U.S. Investigation Results
A total of approximately 74.74 acres of PEM, 3.54 acres of PSS, 3.45 acres of PFO wetlands, 1.46 acres of PUB (open water), 16,172 linear feet (LF) of R3 stream channel, 4,528 LF of R4 stream channel, and 357 LF of EPH stream channel were identified within the 783.8-acre project area during this investigation.

Water bodies onsite identified as Section 10: Rappahannock River

100-Year Floodplains

As depicted on the Federal Emergency Management Agency's (FEMA) on-line Flood Insurance Rate Map (FIRM) # 5103080075C (02/18/1998), a small segment along the Rappahannock River lies within the 100-Year floodplain (Zone A). All remaining FIRM #'s 51061C0475C (2/6/2008), 5101540105E (2/4/2005), 5101540115E (2/4/2005), 5103080200C (02/18/1998), 5103080325C (2/18/1998), 51033C0200C (3/2/2009) are in Zone X, which is outside the 100-year floodplain.

National Wetlands Inventory

The on-line National Wetland Inventory (Attachment 1, Figure 3) depicts Freshwater ponds (PuBHh), Riverine (R2UBH, R3UBH, R4SBC, R5UBH), Freshwater Emergent Wetland (PFO1A, PEM1C), and Freshwater Forested /Shrub Wetland (PSS1Eb).

USDA Soil Survey

Soil map units within the project area (Attachment 1, Figure 2) include:

6 Myatt loam, 0-2% slopes, rarely flooded	**32C2** Nason silt loam, 7-15% slopes, eroded
16 Dogue loam	**32D2** Nason silt loam, 15-25% slopes, eroded
23 Fluvaquents-Udifluvents complex	**33C2** Orange-Iredell loams, 7-15% slopes, eroded
24 Goldsboro sandy loam	**33D** Brinklow silt loam, 15-25% slopes
10A Mongle silt loam, 0-2% slopes, frequently flooded	**33E** Brinklow silt loam, 25-45% slopes
11B Kempsville-Emporia complex, 2 to 6 percent slopes	**34B** Yellowbottom loam, 2-7% slopes
13B Sumerduck loam, 2-7% slopes, frequently flooded	**34C** Yellowbottom loam, 7-15% slopes
13C2 Cecil-Pacolet complex, 7-15% slopes, eroded	**35C** Poindexter loam, 7-15% slopes
14B Colfax sandy loam, 2-7% slopes	**35D** Poindexter loam, 15-25% slopes
14C Colfax sandy loam, 7-15% slopes	**36B** Savannah sandy loam, 2-7% slopes
15D2 Cullen loam, 15-25% slopes, eroded	**37B** Spotsylvania fine sandy loam, 2-7% slopes
17B Middleburg loam, 2-7% slopes, frequently flooded	**37C** Spotsylvania fine sandy loam, 7-15% slopes
17D Dystrochrepts-Udults complex, moderately steep	**39B** Tatum loam, 2-7% slopes
18B Emporia sandy loam, 2-7% slopes	**39C2** Tatum loam, 7-15% slopes, eroded

18C Emporia sandy loam, 7-15% slopes	**3B** Appling sandy loam, 2-7% slopes
19B Faceville loam, 2-7% slopes	**43B** Turbeville loam, 2-7% slopes
1B Abell sandy loam, 2-7% slopes	**45B** Udorthents-Udifluvents complex, gently sloping
20B Faceville-Marlboro complex, 2-7% slopes	**47E** Watt channery silt loam, 15-35% slopes
20C2 Faceville-Marlboro complex, 7-15% slopes, eroded	**4A** Hatboro silt loam, 0-2% slopes, frequently flooded
21B Faceville-Varina complex, 2-7% slopes	**4C2** Appling-Wedowee sandy loams, 7-15% slopes, eroded
21C2 Faceville-Varina complex, 7-15% slopes, eroded	**4D2** Appling-Wedowee sandy loams, 15-25% slopes, eroded
22B Fluvanna fine sandy loam, 2-7% slopes	**50B** Goldvein fine gravelly silt loam, 2-7% slopes
22C2 Fluvanna fine sandy loam, 7-15% slopes, eroded	**50C** Goldvein fine gravelly silt loam, 7-15% slopes
22D2 Fluvanna fine sandy loam, 15-25% slopes, eroded	**6A** Bowmansville silt loam, 0-2% slopes, frequently flooded
26C LaRoque loam, 7-15% slopes	**6B** Cecil sandy loam, 2 to 7 percent slopes
26D LaRoque loam, 15-25% slopes	**73B** Penn silt loam, 2-7% slopes
26E LaRoque loam, 25-55% slopes	**73C** Penn silt loam, 7-15% slopes
27D Louisburg sandy loam, 15-25% slopes	**75B** Clover loam, 2-7% slopes
27E Louisburg sandy loam, 25-50% slopes	**76C** Sudley-Oatlands complex, 7-15% slopes
28A Wehadkee silt loam, 0 to 2 percent slopes, frequently flooded	**77E** Nestoria channery loam, 15-45% slopes
29B Masada loam, 2-7% slopes	**78A** Dulles silt loam, 0-2% slopes
29C2 Masada loam, 7-15% slopes, eroded	**79A** Albano silt loam, 0-2% slopes, frequently flooded
2B Appling sandy loam, 2 to 7 percent slopes	**9B** Brockroad silt loam, 2-7% slopes
2C Appling sandy loam, 7 to 15 percent slopes	**9C** Helena-Appling complex, 2 to 15 percent slopes
31C2 Mattaponi sandy clay loam, 7-15% slopes, eroded	**W** Water

Notes

The site contains an existing underground natural gas pipelines throughout the majority of the project area. The easements over the underground pipelines were mowed during the time of this investigation.

Attachment 5 – OMBIL Regulatory Module

Attachment 6 – Norfolk District Pre-application and Jurisdictional Determination Checklist

US ARMY CORPS OF ENGINEERS, NORFOLK DISTRICT PRE-APPLICATION AND JURISDICTIONAL DETERMINATION CHECKLIST

This checklist is to assist you in submitting complete and proper information. Please keep in mind that this is not an exhaustive list. Each project has unique components and **more or less information may be required** by the project manager to complete the Jurisdictional Determination (JD) on any given project. However, this list contains information typically necessary for this office to issue a JD. We appreciate your cooperation in providing this information at the time of your request. Failure to provide this information may delay our response to you.

1. __X__ **Written request** using the two page form, "NORFOLK DISTRICT REGULATORY OFFICE PRE-APPLCIATION AND/OR JURISDICTIONAL WATERS DETERMINATION REQUEST FORM" available at: http://www.nao.usace.army.mil/Portals/31/docs/regulatory/commonreq/Preapplication_Request_Form.pdf The form must be filled out completely and include all contact information and written permission (signature) from the property owner or the owner's legal representative for USACE personnel to access the property.
   a. __X__ **Date of Request**.
   b. __X__ **Project Name**.
   c. __X__ **Location** City or County.
   d. __X__ **Address of property** or review area and directions (road names, cross streets, nearest town, etc).
   __X__ **Coordinates** of center of property or review area in **decimal degrees** (xx.xxxx˚N, –xx.xxxx˚W format). Linear projects should also include decimal degrees location of the start and end of the review/project area.
   e. **Size** of property or review area in acres.
   f. __ **Tax Parcel Number/GPIN** (if available).
   g. __X__ **Name of nearest named waterbody** (stream/river/lake) to which the property or review area is hydrologically connected, closest TNW, name and number of drainage basin (if the property is connected to an unnamed tributary, then specify the nearest named waterbody, e.g. unnamed tributary to James River).
   h. __X__ **Name, address, and phone number** of applicant, current property owner(s), and agent/consultant (if applicable).
   i. __X__ **Reason for request**.
   j. __ **Past Actions** including JDs, Permits, etc with the Corps Action ID number.
   k. __X__ **Property Owner Contact Information**.
   l. __ Requestor Name (if applicable).
   m. **Signature of Property Owner (REQUIRED)**.

IF A WETLAND DELINEATION HAS BEEN PERFORMED AND YOU REQUIRE CONFIRMATION OF THE DELINEATION, PLEASE PROVIDE:

__X__

2. **Completed Wetland Delineation Report Site Information Summary form** for all jurisdictional waters on-site. This form will assist us in expediting your JD request and determining if a site visit is necessary. http://www.nao.usace.army.mil/Portals/31/docs/regulatory/commonreq/Wetland%20Delineation%20Report%20Site%20Information%20Summary.docx?ver=2018-07-23-102034-137

3. **Photographs** should be representative of the site and may include pictures of the wetlands, soils, tributaries, on the site. Photographs will help in determining the need for a site visit.

4. __X__ **Data forms** of both upland and wetland data points for **each** wetland type; forms available at: http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/atlantic_gcp_df25.pdf

http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/int_emp_df25b.pdf. All data points shall include distinct decimal degrees location of the point taken.

5. X **Size of waters of the US**. Total area (acreage or square feet) of each wetland and open water on site. Total linear feet of each on site tributary. A distinct name for each water (i.e. Wetland A, Wetland B, Tributary A, Open Water A).

6. **Sketch or Drawing** of the approximate location(s) of waters of the United States, including wetlands, on the parcel being evaluated.

7. X **Maps** which must include: scale, north arrow, title block with date, property name, drawing number/preparer, revision dates, roads and waterway names and project/property boundaries.
   a. X **Vicinity/Location Map** including exact location of the property or review area. It should include the nearest intersection of two state highways or other identifiable reference points. A USGS quadrangle map and/or street atlas is preferred.
   b. X **Soils Map** available at: http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm.
   c. X **Aerial Map** with property or review area limits and wetland/waters sketch including date of photo, available at: http://earth.google.com/.
   d. X **USGS Topographic Map** including quadrangle name and date, available at: https://store.usgs.gov/filter-products?country=US&region=VA&map_filters=[22711]&type=US+Topo&sort=relevance
   e. _____ **Flood Plain Map**, available at: http://msc.fema.gov.
   f. X **National Wetlands Inventory (NWI) Map**, available at: http://www.fws.gov/wetlands/Data/Mapper.html.
   g. _____ **Infra-red maps** (optional).
   h. _____ **Engineering Surveys**, e.g. two foot or less topographic map of the site (optional).
   i. _____ **LiDAR** is highly recommended where available and eases the review of a project including: desktop verification requests, re-verification requests and determining whether a site visit is necessary. LiDAR data is available from NOAA https://coast.noaa.gov/dataviewer/#/lidar/search/ and USGS The National Map https://viewer.nationalmap.gov/basic/
   j. **Shapefiles** if provided will assist in the review of the project.

Questions can be directed to the following phone number: Regulator of the Day 757-201-7652

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 1111 E. Main Street, Suite 1400, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

April 9, 2020

Ms. Rachel Studebaker
Dominion Energy Services
5000 Dominion Boulevard
Glen Allen, VA 23060

RE: Wetland Impact Consultation; Proposed Bristers to Ladysmith 500kV Electric Transmission Line Re-Build Project, Fauquier, Stafford, Spotsylvania and Caroline Counties, Virginia

Dear Mr. Studebaker:

In accordance with the Department of Environmental Quality-State Corporation Commission *Memorandum of Agreement Regarding Wetland Impact Consultation* (July 2003), we have reviewed the information submitted by Dominion Energy Services (here after, Dominion**)** regarding potential wetland impacts on the above referenced project. The purpose of the project requires replacement of older structures within an existing right of way (ROW) which extends approximately 36.7-miles long. Since the rebuild will occur within existing right-of-way, no new right-of-way will be required for the project.

Based on review of the information provided by Dominion, both wetland areas and stream areas were identified within the existing 500 kV transmission line alignment. Because this project proposes to use existing Dominion right-of-way, no other alternatives for this project were considered. Given that this project involves rebuilding the transmission line; Dominion anticipates minimum permanent impacts to State waters associated with this project.

Resource	**Area (±)**
Palustrine Forested Wetland	3.44 AC
Palustrine Emergent Wetland	77.03 AC
Palustrine Scrub Shrub	3.54 AC
Palustrine Unconsolidated Bottom	1.55 AC
Perennial Stream	14,787 LF
Intermittent Stream	2,910 LF
Ephemeral Stream	311 LF

Summary of Findings

According to the above-referenced wetland delineation provided by Dominion, both wetland areas and stream corridors were identified within the project route. Information in an email from Ms. Studebaker dated April 6, 2020 identifies nontidal wetlands and open water (nontidal streams and ponds) within the project route as shown in the table below:

DEQ recommends structures should be sited to avoid wetlands to the extent practicable and should be sited outside of stream channels. Timbering debris should not be placed in wetlands or streams. DEQ further recommends wetland and stream avoidance and minimization efforts, where practical, during project construction by: (1) spanning wetlands and streams, (2) maintaining 100-foot buffers along either side of streams, (3) placing support structure foundations outside of wetlands and streambeds, and (4) using removable mats in wetland areas to reduce compaction and rutting.

The DEQ Northern Virginia Regional Office (NVRO) will make the final permitting decisions.

Recommendations and Potential Permits

Based upon review of the information provided by Dominion, we offer the following recommendations:

1. Prior to commencing project work, all wetlands and streams within the project corridor should be field delineated and verified by the U.S. Army Corps of Engineers (the Corps), using accepted methods and procedures.
2. Wetland and stream impacts should be avoided and minimized to the maximum extent practicable. Stream impacts should be minimized or avoided by spanning the transmission line across each stream. No foundations should be placed within streambeds. Where access is required across a wetland, removable mats should be used to reduce compaction and rutting. Towers should be placed avoid wetlands, wherever possible. To the extent where any footings must be installed in wetlands, each footing should occupy the minimum space necessary. When excavation for a structure is necessary in a wetland, excess spoil should not be disposed of in adjacent wetland areas unless authorized by a state or federal wetland permit.
3. If the scope of the project changes, additional review will be necessary by this office.
4. At a minimum, compensation for impacts to State Waters, if necessary, should be in accordance with all applicable state wetland regulations and wetland permit requirements, including the compensation for permanent conversion of forested wetlands to emergent wetlands.
5. Any temporary impacts to surface waters associated with this project should require restoration to pre-existing conditions.
6. No activity may substantially disrupt the movement of aquatic life indigenous to the water body, including those species, which normally migrate through the area, unless the primary purpose of the activity is to impound water. Culverts placed in streams must be installed to maintain low flow conditions. No activity may cause more than minimal adverse effect on navigation. Furthermore the activity must not impede the passage of normal or expected high flows and the structure or discharge must withstand expected high flows.
7. Erosion and sedimentation controls should be designed in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992. These controls should be placed prior to clearing and grading and maintained in good working order to minimize impacts to state waters. These

controls should remain in place until the area is stabilized and should then be removed. Any exposed slopes and streambanks should be stabilized immediately upon completion of work in each permitted area. All denuded areas should be properly stabilized in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992.

8. No machinery may enter surface waters, unless authorized by a Virginia Water Protection (VWP) permit.
9. Heavy equipment in temporarily impacted surface waters should be placed on mats, geotextile fabric, or other suitable material, to minimize soil disturbance to the maximum extent practicable. Equipment and materials should be removed immediately upon completion of work.
10. Activities should be conducted in accordance with any Time-of-Year restriction(s) as recommended by the Department of Game and Inland Fisheries, the Department of Conservation and Recreation, or the Virginia Marine Resources Commission. The permittee should retain a copy of the agency correspondence concerning the Time-of-Year restriction(s), or the lack thereof, for the duration of the construction phase of the project.
11. All construction, construction access, and demolition activities associated with this project should be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters, unless authorized by a permit. Wet, excess, or waste concrete should be prohibited from entering surface waters.
12. Herbicides used in or around any surface water should be approved for aquatic use by the United States Environmental Protection Agency (EPA) or the U.S. Fish & Wildlife Service. These herbicides should be applied according to label directions by a licensed herbicide applicator. A non-petroleum based surfactant should be used in or around any surface waters.
13. Consider mitigating impacts to forested or converted wetlands by establishing new forested wetlands within the impacted watershed.

Further, the following permits may be required:

1. If the project qualifies for a Nationwide Permit 12 (NWP 12) from the Corps, then a Virginia Water Protection (VWP) permit is not necessary. If the applicant does not obtain a NWP 12, then a VWP permit may be necessary.
2. If the project proposes permanent impacts to more than one-half (1/2) acre of wetlands, then a VWP permit will be required from DEQ.

Should you have any questions, please don't hesitate to contact me at 804-698-4007 or at **michelle.henicheck@deq.virginia.gov.**

Sincerely,

Michelle Henicheck

Michelle Henicheck, PWS
Senior Wetland Ecologist
Office of Wetlands & Stream Protection

Cc: Trisha Beasley, DEQ - NVRO
Bettina Sullivan, DEQ - Office of Environmental Review

MEMORANDUM

To: Rachel M. Studebaker, Dominion Energy Virginia

From: Christine F. Conrad, PhD, C2 Environmental, Inc.

Date: April 3, 2020

Project: Bristers to Ladysmith 500kV Rebuild Project

Reference: Solid and Hazardous Waste Review

On behalf of Dominion Energy Virginia (Dominion), C2 Environmental, Inc. (C2Env) has completed online database searches for solid and hazardous wastes and petroleum release sites within a 0.5-mile radius of the proposed Bristers to Ladysmith 500 kV Rebuild Project. The proposed project includes the rebuild of the of approximately 36.7 miles of existing 500 kV overhead electric transmission line. This project will take place in the existing, cleared transmission line right-of-way (ROW) that runs between Bristers Substation in Faquier County, Virginia to Ladysmith Substation in Caroline County, Virginia.

Publicly available data from the Environmental Protection Agency (EPA) Facility Registry System (FRS) were obtained, which provide information about facilities, sites, or places subject to environmental regulation or of environmental interest. Although this data set includes all sites subject to environmental regulation by the EPA or other state authority, such as sites that fall under air emissions or wastewater programs, the results reported here only include those sites which fall under the EPA's hazardous waste, solid waste, remediation, and underground storage tank programs. These sites include the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)/Superfund; Resource Conservation and Recovery Act (RCRA); and brownfield sites. Per this database, there are no registered RCRA sites present within 0.5-mile of the project.

The Virginia Department of Environmental Quality (DEQ) records were also searched for the presence of solid waste management facilities, Voluntary Remediation Program sites and petroleum releases within 0.5-mile of the proposed project. A total of thirteen (13) petroleum release sites were identified within the search area. The closest site (PC Number: 20183099) is located approximately 290 linear feet from the project area. This site falls outside of the ROW and has been closed. Additionally, none of the other identified petroleum release sites identified within 0.5-mile of the proposed project intersect with the project ROW and all have been closed (Table 1). Dominion has a procedure in place to handle petroleum

contaminated soil if encountered; however, as all the release sites are located outside of the project area, none of the petroleum release sites are expected to have an impact on the proposed project.

Five registered tank facilities were identified within the 0.5-mile search radius of the proposed project. The nearest site (Facility ID: 3003232) is located approximately 712 linear feet from the project area. This site has 3 inactive underground storage tanks. The site is not within the project ROW (Table 2).

In conclusion, there are no RCRA sites, thirteen (13) petroleum release sites, and five (5) registered tank sites that are located within a 0.5-mile radius of the project site. None of the sites are located within the project ROW. No EPA registered Brownfield sites or CERCLA/Superfund sites, no solid waste permit and not Virginia Voluntary Remediation Program (VRP) sites are located within 0.5-mile of the project area.

Table 1. Petroleum releases identified by the DEQ as occurring within 0.5-mile of the Bristers to Ladysmith 500kV Rebuild Project

Site Name	PC Number	Location	Latitude	Longitude	Status	Type of Release	Federally Registered Tank	Proximity to Centerline (feet)
Bear L Eugene and Gloria C Property	20163040	Spotsylvania	38.319761	-77.605148	Closed	Confirmed	N	2251
Fichthorn Peter A and Nicole M Residence	20183099	Fredericksburg	38.412695	-77.596801	Closed	Confirmed	N	290
Folkerts Gerriet F and Elizabeth B Residence	20183252	Fredericksburg	38.270891	-77.583345	Closed	Confirmed	N	1937
Mullco Incorporated Property	20033268	Fredericksburg	38.296287	-77.598580	Closed	Confirmed	N	457
NOVEC - Stafford	19993375	Hartwood	38.490953	-77.586460	Closed	Confirmed	Y	2612
Ramer Harold Residence	20083261	Fredericksburg	38.406865	-77.590227	Closed	Confirmed	N	1596
Warrenton Farm Credit	19911880	Hartwood	38.477481	-77.589114	Closed	Confirmed	N	1853
Fairchild Trucking Incorporated	20053179	Spotsylvania	38.195233	-77.573501	Closed	Confirmed	Y	2457
Indian Acres Campground	20073122	Spotsylvania	38.142612	-77.553424	Closed	Confirmed	N	458
Indian Acres Campground	19993163	Spotsylvania	38.143909	-77.552298	Closed	Confirmed	Y	905
Kitz Residence	19973650	Spotsylvania	38.199810	-77.558516	Closed	Confirmed	N	1905
Rees Tracy A Residence	20183196	Spotsylvania	38.208456	-77.567803	Closed	Confirmed	N	612
Via Well	19920412	Spotsylvania	38.172517	-77.568735	Closed	Confirmed	N	1487

Table 2. Registered Tank Sites identified by the DEQ as occurring within 0.5-mile of the Bristers to Ladysmith 500kV Rebuild Project
UST: Underground Storage Tank, AST: Aboveground Storage Tank

Site Name	Facility ID	Location	Latitude	Longitude	Number and Type of Tank	Status	Proximity to Centerline (feet)
7 Eleven 33288	3038761	Fredericksburg	38.262096	-77.581832	2 UST	Active	1978
Acors Logging	3014654	Woodford	38.095949	-77.547495	1 UST & 1 AST	Active	1678
G&P Market	3014060	Spotsylvania	38.139359	-77.551419	3 UST	Inactive	739
G&V Market	3003232	Spotsylvania	38.139322	-77.551493	3 UST	Inactive	712
Indian Acres Campground	3012077	Spotsylvania	38.143312	-77.547299	5 UST	Active	2267

MEMORANDUM

To: Rachel M. Studebaker, Dominion Energy Virginia

From: Christine F. Conrad, PhD, C2 Environmental, Inc.

Date: April 8, 2020

Project: Bristers to Ladysmith 500kV Rebuild Project

Reference: Threatened and Endangered Species Review

On behalf of Dominion Energy Virginia (Dominion), C2 Environmental, Inc. (C2Env) has completed online database searches for federal and state threatened and endangered species for the Bristers to Ladysmith 500kV Rebuild Project. The proposed project includes the rebuild of approximately 36.7 miles of existing 500kV overhead electric transmission line. The project will take place within the existing, cleared transmission line right-of-way (ROW) that begins as the Bristers Substation in Faquier County, Virginia and terminates at the Ladysmith Substation in Caroline County, Virginia. The online database searches included the following:

- U.S. Fish & Wildlife (USFWS) Information, Planning, and Conservation (IPaC)
- USFWS Critical Habitat for Threatened and Endangered Species Mapper
- USFWS Bald Eagle Concentration Area Map
- Center for Conservation Biology (CCB) Eagle Nest Locator for Virginia
- Department of Game and Inland Fisheries (DGIF) Virginia Fish and Wildlife Information Service (VAFWIS)
- DGIF Northern Long-eared Bat (NLEB) Winter Habitat and Roost Trees Map
- Virginia Department of Conservation and Recreation (DCR) Natural Heritage Data Explorer (NHDE)
- National Oceanic and Atmospheric Administration (NOAA) Section 7 Program

Original database searches were completed on September 9, 2019. The results were re-verified on April 3, 2020. No changes to the original results were noted.

Results

Species identified by the database searches to have a confirmed or potential presence within the project vicinity are discussed below in Table 1.

Table 1. Database Search Results

Species	Status	Database	Results
Northern long-eared bat (*Myotis septentrionalis*)	FT, ST	USFWS-IPaC, DGIF-NLEB Winter Habitat and Roost Tree Map	No known hibernacula or summer roosts are identified in the vicinity of the project.
Indiana bat *(Myotis sodalis)*	FE	USFWS - IPaC	No known hibernacula are identified in the vicinity of the project. The project location is outside of critical habitat.
Dwarf Wedgemussel *(Alasmidonta heterodon)*	FE, SE	USFWS – IPaC, DGIF - VAFWIS, DCR-NHDE	Observed within the vicinity of the project.
Yellow Lance *(Elliptio lanceolata)*	FT	USFWS-IPaC, DGIF - VAFWIS	Noted as potentially occurring in the vicinity of the project.
Green Floater *(Lasmigona subviridis)*	ST	DGIF - VAFWIS	Observed within the vicinity of the project.
Atlantic Sturgeon *(Acipenser oxyrinchus)*	FE, SE	DGIF - VAFWIS	Observed within the vicinity of the project. The project site is not within the designated critical habitat.
Small Whorled Pogonia *(Isotria medeoloides)*	FT, SE	USFWS-IPaC, DCR-NHDE	Noted as potentially occurring in the vicinity of the project.
Harperella *(Ptilimnium nodosum)*	FE, SE	USFWS-IPaC, DCR-NHDE	Noted as potentially occurring in the vicinity of the project.
New Jersey Rush *(Juncus caesariensis)*	ST	DCR-NHDE	Noted as potentially occurring in the vicinity of the project.
Bald eagle *(Haliaeetus leucocephalus)*	FP	CCB Eagle Nest Locator; USFWS Eagle Concentration Areas	No bald eagle nests are located within 660 feet of the project area. No bald eagle concentration areas are present within the project vicinity.

FT: federally threatened, FE: federally endangered, FP: federally protected, ST: state threatened, SE: state endangered

Conclusions

The following conclusions are based upon the proposed scope of work, as described by Dominion. The proposed scope of work assumes construction access will avoid stream crossings where practical or use crane mats to span stream crossings, and erosion and sediment controls will be used as appropriate throughout the Project to protect wetlands and water resources. The scope of work assumes the work will occur within the existing, cleared and maintained ROW, although limited clearing may be required within the existing ROW easement and construction access roads.

The Project is located within the White Nose Syndrome Zone for the federal and state threatened northern long-eared bat (NLEB). The NLEB has been identified by USFWS and DGIF as potentially occurring within the proposed project area. However, DGIF records indicate that no known hibernacula or maternity roost trees occur within the vicinity. The proposed project will occur within an existing maintained ROW and tree removal is expected to be limited to danger trees and select limbing. The project is expected to rely upon the Programmatic Biological Opinion for the Final 4(d) Rule on the NLEB with a time of year restriction of June 1 – July 31 for tree removal.

The federal endangered Indiana bat has been identified by USFWS as potentially occurring within the proposed project area. The project occurs outside the designated critical habitat for this species. According to DGIF, this species is not known or likely to occur within Spotsylvania or Caroline Counties. Tree removal, if necessary, is expected to follow a time of year restriction of June 1 – July 31.

USFWS and DGIF recorded observations of the federal and state endangered dwarf wedgemussel within the project area. The species commonly lives on cobble, fine gravel or on firm silt or sandy bottoms in creeks and rivers or various sizes. Typically, this species is found in areas of slow to moderate current, good water quality, and little silt deposits.

The federal endangered yellow lance has been identified by USFWS and DGIF as potentially occurring within the project area. Although it prefers clean, coarse to medium sized sands as substrate, on occasion, specimens are also found in gravel substrates. This species is found in the main channels of drainages down to small streams.

DGIF recorded observations of the state threatened green floater within the project area. This species favors quiet waters and prefers the quiet parts, pools and eddies with gravelly and sandy bottoms. The green floater is often found in small creeks, canals and rivers. The preferred substrate is gravel and sand in shallow waters.

DGIF recorded observations of the federal and state endangered Atlantic sturgeon within the project area. However, the species is not noted as occurring within the project area by the NOAA Section 7 mapper tool. The project is outside of the designated critical habitat for the species.

The federal threatened and state endangered small whorled pogonia has been identified by USFWS and DCR as potentially occurring within the project area. This species occurs in acidic soils of dry to mesic second-growth, deciduous or deciduous-coniferous forests with an open herb layer, although occasionally dense ferns, moderate to light shrub layer, and a relatively open canopy.

The federal and state endangered harperella has been identified by USFWS and DCR as potentially occurring within the project area. This species occurs in three habitat types: rocky/gravelly shoals or cracks in bedrock outcrops beneath the water surface in clear, swift-flowing streams (usually in microsites that are sheltered from rapidly moving water); edges of intermittent pineland ponds or low, wet savannah meadows on the Coastal Plain; and granite outcrop seeps. In all habitat-types, the species occurs in a narrow range of water depths and is intolerant of deep water and of conditions that are too dry.

The state threatened New Jersey rush has been identified by DCR as potentially occurring within the project area. This species occurs in very acidic, sphagnous, extremely wet spring or seep areas with a stable source of flowing water, but without standing water. Typical habitats include open to shaded stream banks, seepy pond margins, swales, pine barren savannas, edges of bogs, and Atlantic white cedar swamps, frequently within pine barrens.

The CCB Bald Eagle Nest Locator identified no bald eagle nests within 660-feet of the project. The closest identified nest to the project is located approximately 1.86-miles from the project area. The USFWS Bald Eagle Concentration Area Map additionally confirms that the project is not located within a designated Eagle Concentration Area.

The complete results from the database searches are attached for your reference. If you have any questions, please contact me at your earliest convenience.

Attachments: USFWS-IPaC Database Search Results
USFWS Critical Habitat for Threatened and Endangered Species Mapper Database Search Results
USFWS Bald Eagle Concentration Area Database Search Results
CCB Bald Eagle Nest Locator for Virginia Database Search Results
VAFWIS-DGIF Database Search Results
DGIF-NLEB Winter Habitat and Roost Tree Map Database Search Results
DCR - NHDE Database Search Results
NOAA Section 7 Mapper Database Search Results

USFWS-IPaC

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
http://www.fws.gov/northeast/virginiafield/

In Reply Refer To:
Consultation Code: 05E2VA00-2019-SLI-6177
Event Code: 05E2VA00-2019-E-15605
Project Name: TL552 Bristers to Chancellor

September 06, 2019

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2019-SLI-6177

Event Code: 05E2VA00-2019-E-15605

Project Name: TL552 Bristers to Chancellor

Project Type: TRANSMISSION LINE

Project Description: Transmission Line

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.412718085876485N77.59575443721033W



Counties: Fauquier, VA | Spotsylvania, VA | Stafford, VA

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Clams

NAME	STATUS
Yellow Lance *Elliptio lanceolata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4511	Threatened

Flowering Plants

NAME	STATUS
Harperella *Ptilimnium nodosum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3739	Endangered
Small Whorled Pogonia *Isotria medeoloides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

USFWS Critical Habitat for Threatened and Endangered Species Mapper



Legend

- Critical Habitat - Polygon Features - Final
- Critica Habitat - Line Features - Final
- Approximate Project Location



Map Details

Datasets



Final Critical Habitat for Threatened and Endangered Species, USFWS

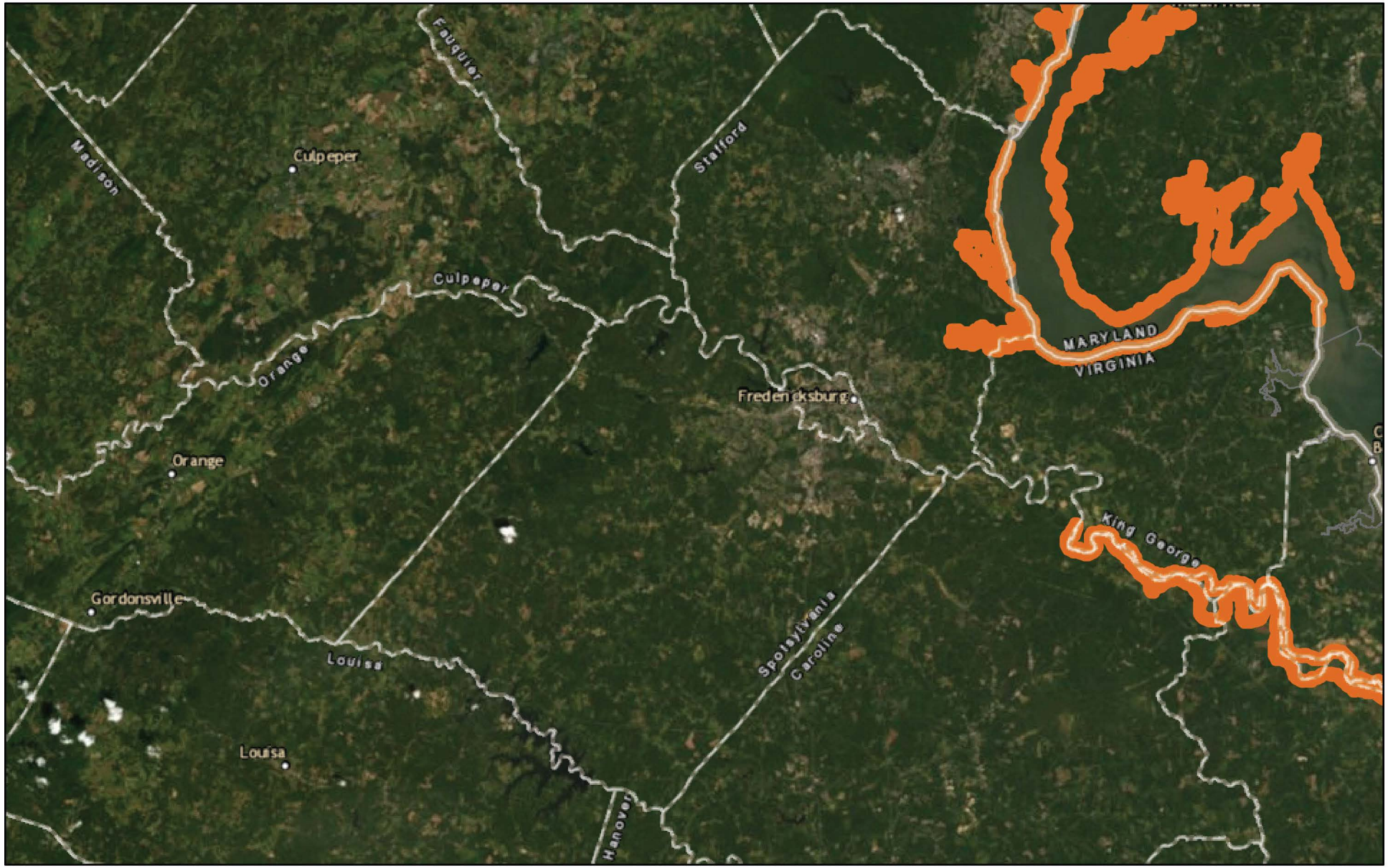
https://databasin.org/datasets/d579d87eb54f4374a77ea53e7ef66449

Credits: U.S. Fish and Wildlife Service

Layers:
- Critical Habitat - Polygon Features - Final
- Critica Habitat - Line Features - Final

USFWS Bald Eagle Concentration Area

TL581 Eagle Concentration Area



September 6, 2019

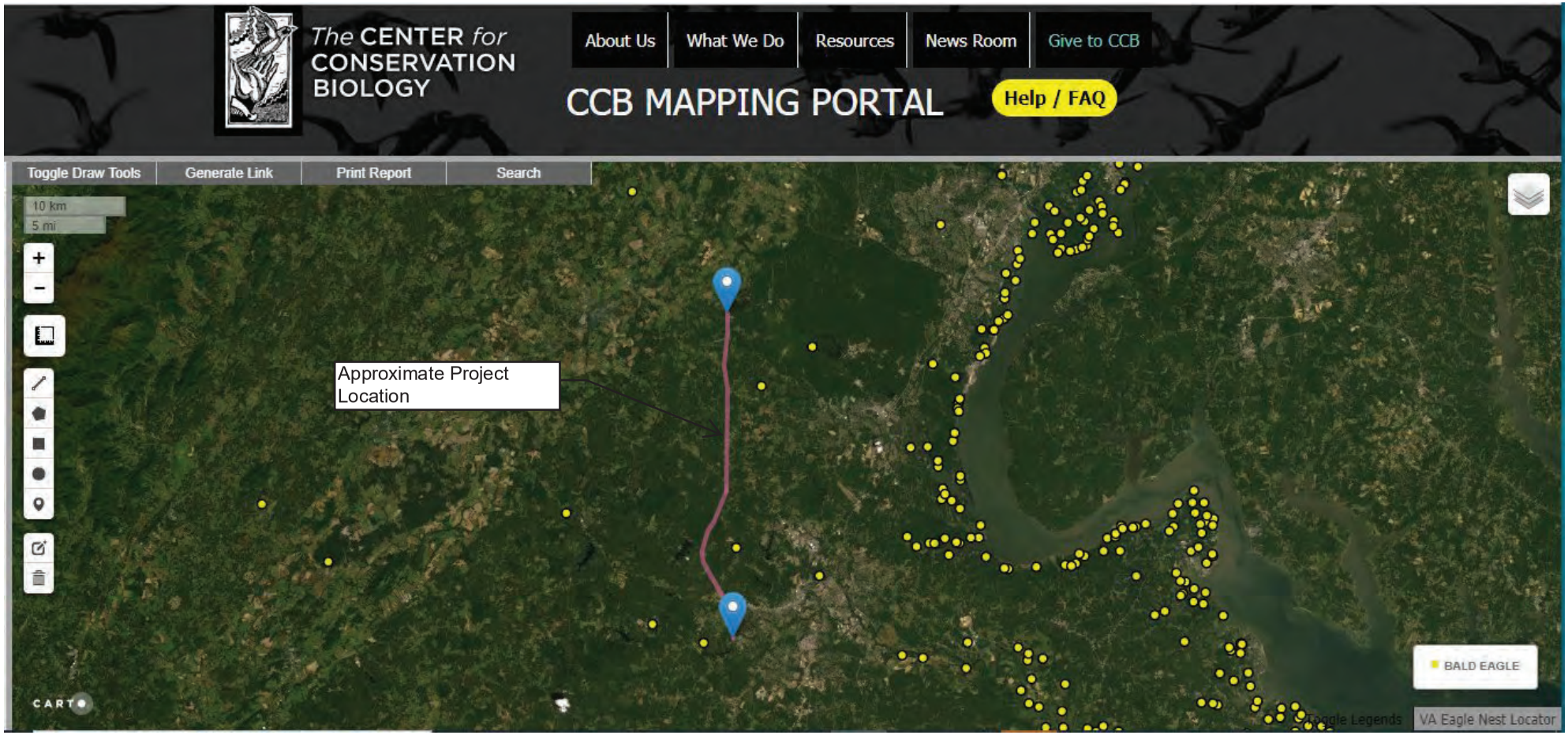
1:577,791

0 3.75 7.5 15 mi

0 5 10 20 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user

CCB Bald Eagle Nest Locator


The CENTER for CONSERVATION BIOLOGY
About Us
What We Do
Resources
News Room
Give to CCB
CCB MAPPING PORTAL
Help / FAQ
Toggle Draw Tools
Generate Link
Print Report
Search
10 km
5 mi
Approximate Project Location
BALD EAGLE
Toggle Legends
VA Eagle Nest Locator
CARTO

VAFWIS-DGIF

Known or likely to occur within a **2 mile buffer around line beginning 38,15,44.1 -77,35,21.3**
in **047 Culpeper County, 061 Fauquier County, 177 Spotsylvania County, 179 Stafford County, VA**

View Map of Site Location

604 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 26) (26 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes	BOVA,TEWaters,Habitat,HU6
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes	BOVA,TEWaters
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
060029	FT	IIa	Lance, yellow	Elliptio lanceolata		BOVA
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
060006	SE	Ib	Floater, brook	Alasmidonta varicosa		HU6
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040379	ST	Ia	Sparrow, Henslow's	Ammodramus henslowii		BOVA
060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes	BOVA,TEWaters,Habitat,HU6
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata	Yes	BOVA,SppObs,HU6
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus		BOVA
010077		Ia	Shiner, bridle	Notropis bifrenatus		BOVA,HU6
040092		Ia	Eagle, golden	Aquila chrysaetos		BOVA
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera		BOVA
100248		Ia	Fritillary, regal	Speyeria idalia idalia		BOVA,HU6
040213		Ic	Owl, northern saw-whet	Aegolius acadicus		BOVA,HU6
040052		IIa	Duck, American black	Anas rubripes		BOVA,HU6
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040181		IIa	Tern, common	Sterna hirundo		BOVA,HU6
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140		IIa	Woodcock, American	Scolopax minor	Potential	BOVA,BBA,HU6
040203		IIb	Cuckoo, black-billed	Coccyzus erythropthalmus		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA,HU6
060175		IIb	Slabshell, Roanoke	Elliptio roanokensis		BOVA

To view **All 604 species** View 604

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
Virginia Widlife Action Plan Conservation Opportunity Ranking:
a - On the ground management strategies/actions exist and can be feasibly implemented.;
b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

View Map of All Query Results from All Observation Tables

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams (2 records)

View Map of All Anadromous Fish Use Streams

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE*	Highest Tier**	
C98	Rappanannock river 3	Confirmed	3		IV	Yes
P186	Rapidan river	Potential	0			Yes

Impediments to Fish Passage (4 records)

View Map of All Fish Impediments

ID	Name	River	View Map
1276	CURTIS DAM	LONG BRANCH	Yes
1191	DALTON DAM	DARRELS RUN	Yes
646	NI RIVER DAM #1	NI RIVER	Yes
1196	WINSLOW DAM	NEGRO RUN	Yes

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters (71 Reaches - displaying first 20)

View Map of All Threatened and Endangered Waters

Stream Name	T&E Waters Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
Aquia Creek (063297)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (063875)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (064419)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes

Aquia Creek (067246)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (068693)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (070810)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (070872)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (071288)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (072062)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (075029)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (081174)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (083760)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (089353)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (089540)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (089585)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (089603)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (089683)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (089742)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (089744)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Aquia Creek (090601)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Rappahannock River (041325)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
		060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	
		060081	ST	IIa	Floater, green	Lasmigona subviridis	
Rappahannock River	FESE	010032	FESE	Ib	Sturgeon,	Acipenser	Yes

(045683)					Atlantic	oxyrinchus	
		060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	
		060081	ST	IIa	Floater, green	Lasmigona subviridis	
Rappahannock River (048336)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes

To view **All 71 Threatened and Endangered Waters records** View 71

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Species Observations (98 records - displaying first 20 , 1 Observation with Threatened or Endangered species)

View Map of All Query Results
Species Observations

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
617936	SppObs	Apr 13 2013	David; Ek	1	CC	III	Yes
603655	SppObs	Sep 9 2009	Katelyn; Shank| Werner; Wieland| Andrew; Hogan	8		III	Yes
425798	SppObs	Jun 14 2007	VCU - INSTAR	10		III	Yes
425799	SppObs	Jun 14 2007	VCU - INSTAR	12		III	Yes
11603	SppObs	Aug 8 1990	ANGERMEIER ET AL	27		III	Yes
302073	SppObs	Jul 30 2003	Dave Desante (PRINCIPLE PERMITTEE) & Denise Jones	7		IV	Yes
302072	SppObs	Jul 22 2003	Dave Desante (PRINCIPLE PERMITTEE) & Denise Jones	1		IV	Yes
302071	SppObs	Jul 20 2003	Dave Desante (PRINCIPLE PERMITTEE) & Denise Jones	11		IV	Yes
302070	SppObs	Jul 12	Dave Desante (PRINCIPLE PERMITTEE) & Denise	8		IV	Yes

		2003	Jones				
302069	SppObs	Jul 4 2003	Dave Desante (PRINCIPLE PERMITTEE) & Denise Jones	11		IV	Yes
302068	SppObs	Jun 25 2003	Dave Desante (PRINCIPLE PERMITTEE) & Denise Jones	9		IV	Yes
302067	SppObs	Jun 14 2003	Dave Desante (PRINCIPLE PERMITTEE) & Denise Jones	9		IV	Yes
302066	SppObs	Jun 6 2003	Dave Desante (PRINCIPLE PERMITTEE) & Denise Jones	5		IV	Yes
55581	SppObs	Aug 22 1996	NEVES, VAUGHAN, DOROSHEFF, JONES, AND YOUNG, VIRGINIA COOPERATIVE FISH AND WILDLIFE RESEARCH UNIT, VA TECH	4		IV	Yes
55580	SppObs	Aug 21 1996	NEVES, VAUGHAN, DOROSHEFF, JONES, AND YOUNG, VIRGINIA COOPERATIVE FISH AND WILDLIFE RESEARCH UNIT, VA TECH	3		IV	Yes
5967	SppObs	Oct 18 1993	Stevenson, P. H.	1		IV	Yes
334831	SppObs	Jan 1 1974	JRR-R-REED	23		IV	Yes
624520	SppObs	Apr 14 2014	Matt; Lajoie	1			Yes
624699	SppObs	Apr 14 2014	Matt; Lajoie	1			Yes
620100	SppObs	Apr 8 2013	Matt; Lajoie| Sarah; Woodford	1			Yes

Displayed 20 Species Observations

Selected 98 Observations View all 98 Species Observations

Habitat Predicted for Aquatic WAP Tier I & II Species (8 Reaches)

View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species

Stream Name	Tier Species					View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name				
Aquia Creek (20700112)	FESE	060003	FESE	Ia	Wedgemussel, dwarf Alasmidonta heterodon	Yes
Horsepen Run (20801041)	FESE	060003	FESE	Ia	Wedgemussel, dwarf Alasmidonta heterodon	Yes
Mine Run (20801041)	FESE	060003	FESE	Ia	Wedgemussel, dwarf Alasmidonta heterodon	Yes
Ni River (20801051)	FESE	060003	FESE	Ia	Wedgemussel, dwarf Alasmidonta heterodon	Yes
Rapidan River (20801031)	ST	060081	ST	IIa	Floater, green Lasmigona subviridis	Yes
Rappahannock River (20801031)	ST	060081	ST	IIa	Floater, green Lasmigona subviridis	Yes

Rappahannock River (20801041)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidon heterodon	**Yes**
		060081	ST	IIa	Floater, green	Lasmigona subviridis	**Yes**
tributary (20700112)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
tributary (20700112)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (19 records)

View Map of All Query Results
Virginia Breeding Bird Atlas Blocks

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE*	Highest Tier**	
49154	Chancellorsville, CE	26		III	Yes
49152	Chancellorsville, NE	29		III	Yes
49156	Chancellorsville, SE	61		III	Yes
49176	Midland, SE	76		III	Yes
49164	Richardsville, CE	13		IV	Yes
49162	Richardsville, NE	14		III	Yes
49166	Richardsville, SE	71		II	Yes
50153	Salem Church, CW	18		IV	Yes
50156	Salem Church, SE	54		III	Yes
50155	Salem Church, SW	6		IV	Yes
50173	Somerville, CW	64		III	Yes
50171	Somerville, NW	60		III	Yes
50176	Somerville, SE	69		II	Yes
50175	Somerville, SW	75		III	Yes
50141	Spotsylvania, NW	12		III	Yes
50164	Storck, CE	55		III	Yes
50162	Storck, NE	49		III	Yes
50161	Storck, NW	54		III	Yes
50166	Storck, SE	74		III	Yes

Public Holdings: (2 names)

Name	Agency	Level
Fredericksburg & Spotsylvania National Military Park	National Park Service	Federal
Quantico MCCDC - Guadalcanal side	U.S. Dept. of Navy	Federal

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
047	Culpeper	349	FTSE	I
061	Fauquier	416	FESE	I
177	Spotsylvania	379	FTSE	I
179	Stafford	431	FESE	I

USGS 7.5' Quadrangles:
Chancellorsville
Richardsville
Midland
Spotsylvania
Salem Church
Storck
Somerville

USGS NRCS Watersheds in Virginia:

N/A

USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
PL39	Town Run	52		I
PL40	Cedar Run-Slate Run	62	SE	I
PL56	Upper Aquia Creek	54	FESE	I
PL59	Potomac Creek-Long Branch	50	SS	I
RA23	Rappahannock River-Deep Run	60	ST	I
RA44	Rapidan River-Hazel Run	57	ST	I
RA45	Rappahannock River-Motts Run	57	FESE	I
RA46	Rappahannock River-Hazel Run	63	ST	I
RA47	Massaponax Creek	53	SS	I
YO38	Ni River	54	FESE	I

Compiled on 9/5/2019, 1:57:10 PM I991402.0 report=all searchType= L dist= 3218 poi= 38,15,44.1 -77,35,21.3 siteDD= 38.2622777 -77.5892776;38.2785361 -77.5912665;38.3030555 -77.6023360;38.3329916 -77.6233082;38.3430361 -77.6250137;38.3624083 -77.6184193;38.3696777 -77.6109971;38.3979666 -77.5958137;38.4944888 -77.5955332;38.5153472 -77.5986943;38.5622277 -77.5947887;38.5631027 -77.5954999

PixelSize=64; Anadromous=0.066586; BBA=0.153022; BECAR=0.051172; Bats=0.043716; Buffer=0.877841; County=0.149538; HU6=0.223412; Impediments=0.056652; Init=0.954419; PublicLands=0.098621; Quad=0.139846; SppObs=0.583945; TEWaters=0.075985; TierReaches=0.110267; TierTerrestrial=0.2291; Total=3.426856; Tracking_BOVA=0.204986; Trout=0.077071; huva=0.152468

VaFWIS - Department of Game and Inland Fisheries

38,24,46.6 -77,36,07.0
is the Search Point
Submit Cancel

Search Point
- **Change** to "clicked" map point
- **Fixed** at 38,24,46.6 -77,36,07.0

Show Position Rings
Yes No
4 miles and 1 mile at the **Search Point**

Show Search Area
Yes No
2 Search distance miles buffer

Search Point is at map center

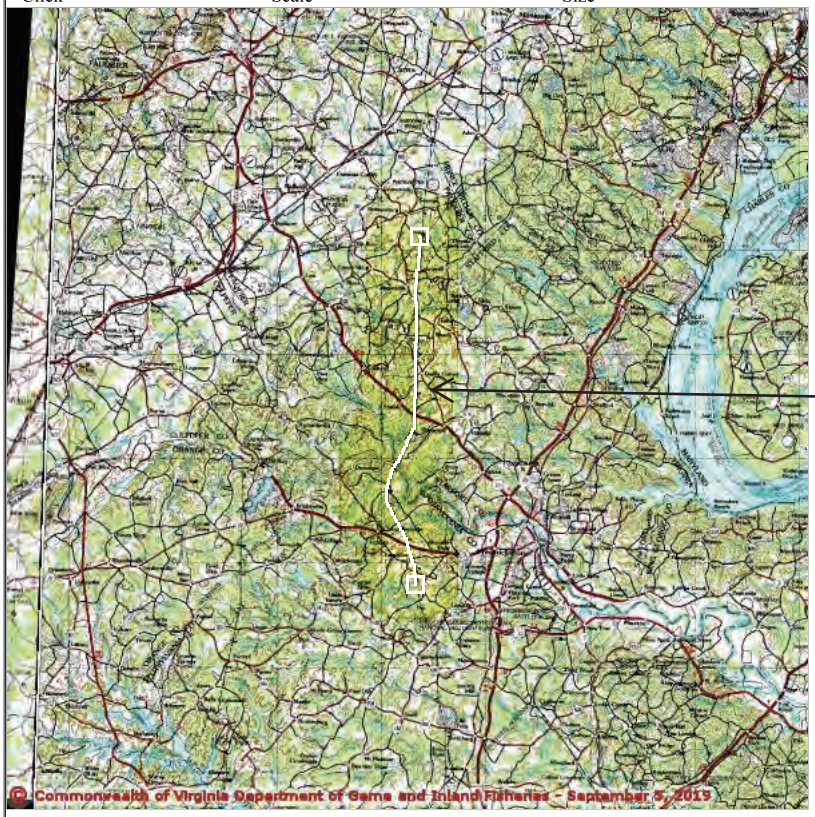
Base Map Choices
Topography

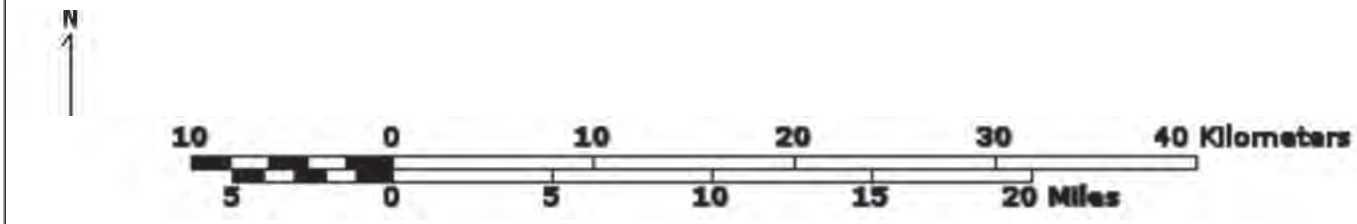
Map Overlay Choices
Current List: Search

Map Overlay Legend
2 mile radius Search Area

Refresh Browser Page

Map Click Pan Id M Map Scale In Zoom Screen Size Small Size Big Help





Point of Search 38,24,46.6 -77,36,07.0
Map Location 38,24,46.6 -77,36,07.0

Select **Coordinate System:**
- Degrees,Minutes,Seconds Latitude - Longitude
- Decimal Degrees Latitude - Longitude
- Meters UTM NAD83 East North Zone
- Meters UTM NAD27 East North Zone

Base Map source: USGS 1:250,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 234426 and top 4293241. Pixel size is 66. . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 76800 meters east to west by 76800 meters north to south for a total of 5898.2 square kilometers. The map display represents 252011 feet east to west by 252011 feet north to south for a total of 2278.0 square miles.

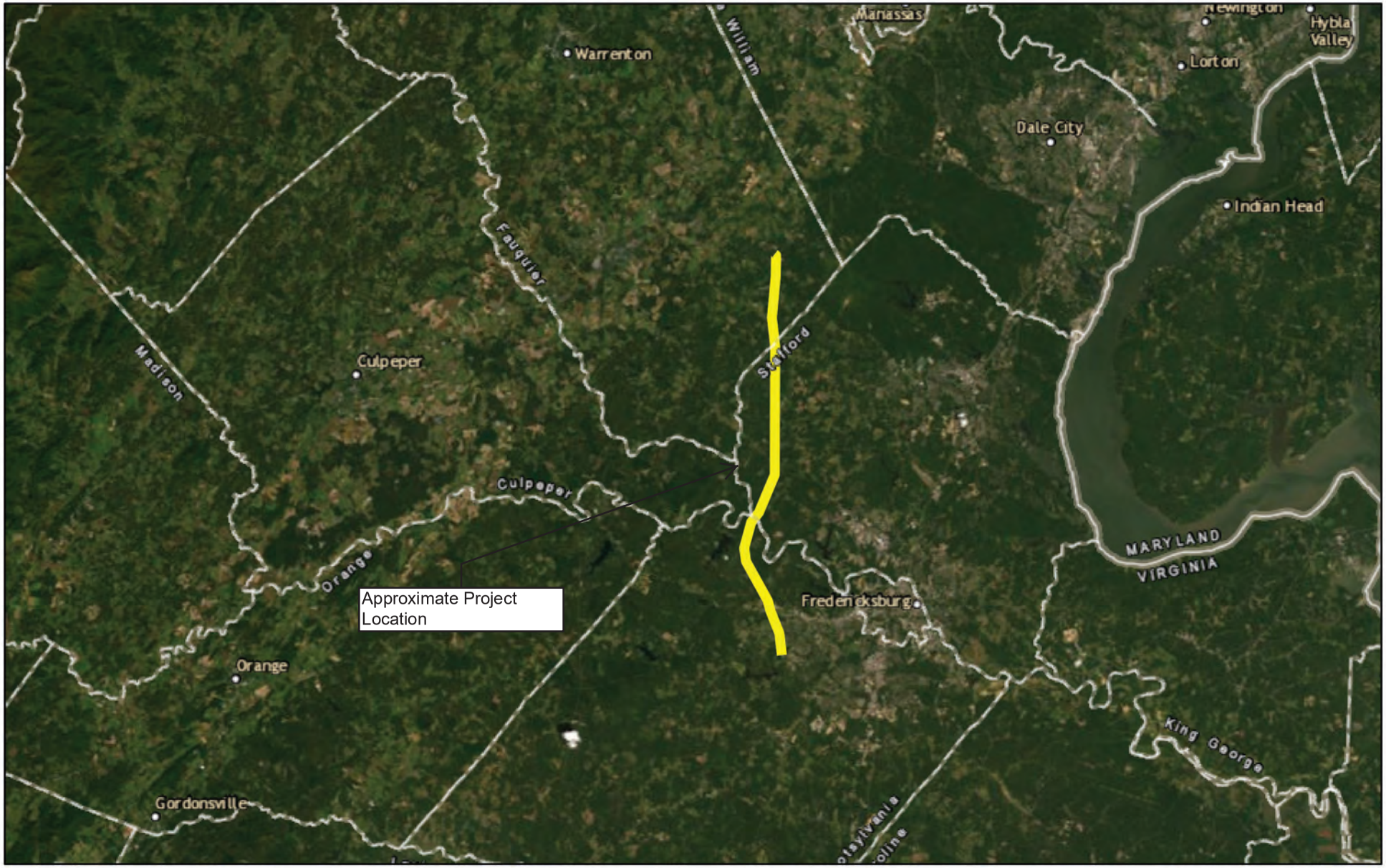
A UTM Zone change occurs within the image.The left-hand side of the image is a pseudo projection from UTM Zone 17 into UTM Zone 18 resulting in reduced spatial accuracy within the portion of the image occurring in UTM Zone 17.

Topographic maps and Black and white aerial photography for year 1990+- are from the United States Department of the Interior, United States Geological Survey.
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
Shaded topographic maps are from TOPO! ©2006 National Geographic http://www.national.geographic.com/topo
All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2019-09-05 14:22:05 (qa/qc March 21, 2016 12:20 - tn=991410 dist=3218 I)
$poi=38.2622700 -77.5892700

DGIF-NLEB Winter Habitat and Roost Tree Map

NLEB Locations and Roost Trees



9/5/2019, 2:17:08 PM

1:577,791

0 3.75 7.5 15 mi

0 5 10 20 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user

VA Dept Game & Inland Fisheries
Earthstar Geographics | Esri, HERE, Garmin |

DCR - NHDE

Natural Heritage Resources

Your Criteria

Taxonomic Group: Select All

Federal Legal Status: Select All

State Legal Status: Select All

Watershed (8 digit HUC): 02070011 - Lower Potomac River

Subwatershed (12 digit HUC): PL56 - (Upper) Aquia Creek-Cannon Creek

Search Run: 9/5/2019 15:28:21 PM

Result Summary

Total Species returned: 3

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Lower Potomac								
(Upper) Aquia Creek-Cannon Creek								
BIVALVIA (MUSSELS)								
Dwarf Wedge mussel	Alasmidonta heterodon	Alasmidonta heterodon	G1G2	S1	LE	LE	15	Y
VASCULAR PLANTS								
Harperella	Harperella nodosa	Harperella nodosa	G2	S1	LE	LE	1	Y
Small Whorled Pogonia	Isotria medeoloides	Isotria medeoloides	G2?	S2	LT	LE	59	Y

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an information request.

To Contribute information on locations of natural heritage resources, please fill out and submit a rare species sighting form.

Natural Heritage Resources

Your Criteria

Taxonomic Group: Select All

Federal Legal Status: Select All

State Legal Status: Select All

Watershed (8 digit HUC): 02080103 - Rapidan-Upper Rappahannock

Subwatershed (12 digit HUC): RA23 - Rappahannock River-Deep Run

Search Run: 9/5/2019 15:26:35 PM

Result Summary

Total Species returned: 1

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Rapidan-Upper Rappahannock								
Rappahannock River-Deep Run								
VASCULAR PLANTS								
Small Whorled Pogonia	Isotria medeoloides	Isotria medeoloides	G2?	S2	LT	LE	59	Y

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an information request.

To Contribute information on locations of natural heritage resources, please fill out and submit a rare species sighting form.

Natural Heritage Resources

Your Criteria

Taxonomic Group: Select All

Federal Legal Status: Select All

State Legal Status: Select All

Watershed (8 digit HUC): 02080104 - Lower Rappahannock River

Subwatershed (12 digit HUC): RA45 - Rappahannock River-Motts Run

Search Run: 9/5/2019 15:25:04 PM

Result Summary

Total Species returned: 2

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Lower Rappahannock								
Rappahannock River-Motts Run								
BIVALVIA (MUSSELS)								
Dwarf Wedge mussel	Alasmidonta heterodon	Alasmidonta heterodon	G1G2	S1	LE	LE	15	Y
VASCULAR PLANTS								
Small Whorled Pogonia	Isotria medeoloides	Isotria medeoloides	G2?	S2	LT	LE	59	Y

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an information request.

To Contribute information on locations of natural heritage resources, please fill out and submit a rare species sighting form.

Natural Heritage Resources

Your Criteria

Taxonomic Group: Select All

Federal Legal Status: Select All

State Legal Status: Select All

Watershed (8 digit HUC): 02080104 - Lower Rappahannock River

Subwatershed (12 digit HUC): RA47 - Massaponax Creek

Search Run: 9/5/2019 15:23:27 PM

Result Summary

Total Species returned: 1

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Lower Rappahannock								
Massaponax Creek								
VASCULAR PLANTS								
Small Whorled Pogonia	Isotria medeoloides	Isotria medeoloides	G2?	S2	LT	LE	59	Y

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an information request.

To Contribute information on locations of natural heritage resources, please fill out and submit a rare species sighting form.

Natural Heritage Resources

Your Criteria

Taxonomic Group: Select All

Federal Legal Status: Select All

State Legal Status: Select All

Watershed (8 digit HUC): 02080105 - Mattaponi River

Subwatershed (12 digit HUC): YO38 - Ni River

Search Run: 9/5/2019 15:19:41 PM

Result Summary

Total Species returned: 2

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

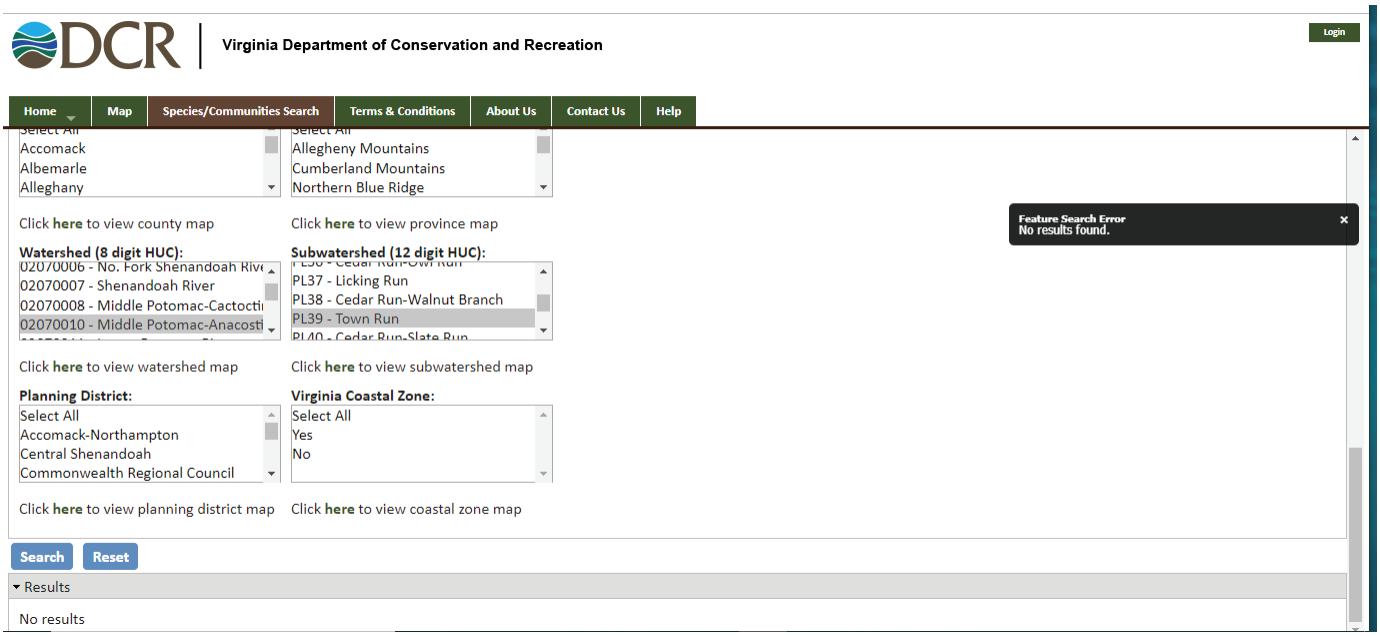
Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Mattaponi								
Ni River								
BIVALVIA (MUSSELS)								
Dwarf Wedge mussel	Alasmidonta heterodon	Alasmidonta heterodon	G1G2	S1	LE	LE	15	Y
VASCULAR PLANTS								
Small Whorled Pogonia	Isotria medeoloides	Isotria medeoloides	G2?	S2	LT	LE	59	Y

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an information request.

To Contribute information on locations of natural heritage resources, please fill out and submit a rare species sighting form.


DCR
Virginia Department of Conservation and Recreation
Login
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Species/Communities Search
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About Us
Contact Us
Help
Accomack
Albemarle
Alleghany
Allegheny Mountains
Cumberland Mountains
Northern Blue Ridge
Click here to view county map
Click here to view province map
Feature Search Error
No results found.
Watershed (8 digit HUC):
02070006 - No. Fork Shenandoah Rive
02070007 - Shenandoah River
02070008 - Middle Potomac-Cactocti
02070010 - Middle Potomac-Anacosti
Subwatershed (12 digit HUC):
PL37 - Licking Run
PL38 - Cedar Run-Walnut Branch
PL39 - Town Run
Click here to view watershed map
Click here to view subwatershed map
Planning District:
Select All
Accomack-Northampton
Central Shenandoah
Commonwealth Regional Council
Virginia Coastal Zone:
Select All
Yes
No
Click here to view planning district map
Click here to view coastal zone map
Search
Reset
Results
No results

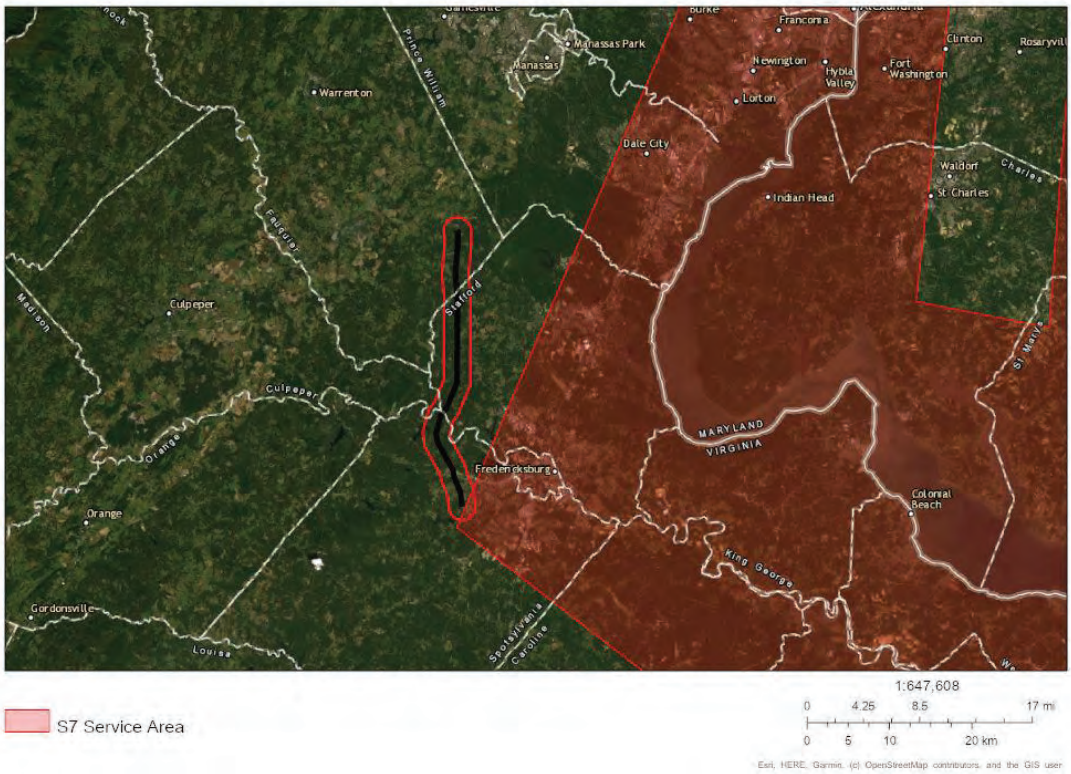
NOAA Section 7 Mapper

Drawn Action Area & overlapping S7 Consultation Areas

Area of Interest (AOI) Information

Area : 29,624.97 acres

Sep 6 2019 11:15:39 Eastern Daylight Time



Summary

Name	Count	Area(acres)	Length(mi)
Atlantic Sturgeon	0	0	N/A
Shortnose Sturgeon	0	0	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	0	0	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	0	0	N/A

DISCLAIMER: Use of this App does NOT replace the Endangered Species Act (ESA) Section 7 consultation process; it is a first step in determining if a proposed Federal action overlaps with listed species or critical habitat presence. Because the data provided through this App are updated regularly, reporting results must include the date they were generated. The report outputs (map/tables) depend on the options picked by the user, including the shape and size of the action area drawn, the layers marked as visible or selectable, and the buffer distance specified when using the "Draw your Action Area" function. Area calculations represent the size of overlap between the user-drawn Area of Interest (with buffer) and the specified S7 Consultation Area. Summary table areas represent the sum of these overlapping areas for each species group.

From: Rhur, Roberta <robbie.rhur@dcr.virginia.gov>
Sent: Wednesday, April 8, 2020 4:00 PM
To: Rachel M Studebaker (Services - 6) <Rachel.M.Studebaker@dominionenergy.com>
Subject: [EXTERNAL] Re: Re: Re: Re: Proposed Bristers to Ladysmith 500kV Transmission Line Rebuild

Afternoon;

I wanted to thank you for sending me the shapefiles, after a review of the data, the project crossed a the scenically designated Rappahannock River; however we do not anticipate the project will impact the resource. We recommend that this project be submitted to the Division of Natural Heritage for review as well.

Thank you for the opportunity to comment

Robbie Rhur
DCR EIR Coordinator

On Wed, Apr 8, 2020 at 12:30 PM Rachel.M.Studebaker@dominionenergy.com <Rachel.M.Studebaker@dominionenergy.com> wrote:

Hello Robbie,

I apologize for the confusion. I have attached a shapefile of the entire ROW for the proposed project. Please let me know if you need anything additional for your review.

Thank you,

Rachel

From: Rhur, Roberta <robbie.rhur@dcr.virginia.gov>
Sent: Wednesday, April 8, 2020 11:50 AM
To: Rachel M Studebaker (Services - 6) <Rachel.M.Studebaker@dominionenergy.com>
Subject: [EXTERNAL] Re: Re: Re: Proposed Bristers to Ladysmith 500kV Transmission Line Rebuild

Morning;

I just downloaded and opened this file, this appears to be wetland delineation data, this is not what DCR need to review a project since we are not looking at wetland impacts, what I need is a line file that shows the route of the project, that way I can tell if it will impact DCR resources,

On Fri, Apr 3, 2020 at 2:28 PM Rachel.M.Studebaker@dominionenergy.com <Rachel.M.Studebaker@dominionenergy.com> wrote:

> Hi Robbie,
>
> Please see the attached shapefile for this project. Please let me know if you need any additional information to complete your review.
>
> Thank you,
>
> Rachel
>
> ---
>
> **From:** Rachel M Studebaker (Services - 6)
> **Sent:** Monday, March 23, 2020 3:10 PM
> **To:** Rhur, Roberta <robbie.rhur@dcr.virginia.gov>
> **Subject:** RE: [EXTERNAL] Re: Re: Proposed Bristers to Ladysmith 500kV Transmission Line Rebuild
>
> Hi Robbie,
>
> We are still in the process of finalizing the shapefile, but I should be able to forward it towards the end of the week.

Thank you,

Rachel

From: Rhur, Roberta <robbie.rhur@dcr.virginia.gov>
Sent: Monday, March 23, 2020 1:19 PM
To: Rachel M Studebaker (Services - 6) <Rachel.M.Studebaker@dominionenergy.com>
Subject: [EXTERNAL] Re: Re: Proposed Bristers to Ladysmith 500kV Transmission Line Rebuild

Hi Rachel;

after looking at my GIS resource, I can't make a solid set of comments without a GIS line file - can you send?

On Thu, Mar 19, 2020 at 3:57 PM Rachel.M.Studebaker@dominionenergy.com <Rachel.M.Studebaker@dominionenergy.com> wrote:

> Apologies, I forgot to include a copy of the project map. Please see attached.
>
> **From:** Rhur, Roberta <robbie.rhur@dcr.virginia.gov>
> **Sent:** Thursday, March 19, 2020 3:54 PM
> **To:** Rachel M Studebaker (Services - 6) <Rachel.M.Studebaker@dominionenergy.com>
> **Subject:** [EXTERNAL] Re: Proposed Bristers to Ladysmith 500kV Transmission Line Rebuild
>
> Got it - thank you
>
> On Thu, Mar 19, 2020 at 3:41 PM Rachel.M.Studebaker@dominionenergy.com <Rachel.M.Studebaker@dominionenergy.com> wrote:
>
> > Ms. Rhur,
> >
> > Please find the attached letter notifying you of the proposed transmission line rebuild project located in Fauquier, Stafford, Spotsylvania and Caroline Counties, Virginia.

Please contact me with any questions or for additional information.

Thank you,

Rachel Studebaker

Environmental Specialist II

Dominion Energy Services

5000 Dominion Boulevard, Glen Allen, VA 23060

Office: (804) 273-4086

Cell: (804) 217-1847



--

Robbie Rhur

DCR VOP Project Planner and Environmental Review Coordinator

600 East Main Street

Richmond VA 23219

804-371-2594

--

Matthew J. Strickler
Secretary of Natural Resources

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz
Deputy Director of Administration and Finance

Russell W. Baxter
Deputy Director of Dam Safety & Floodplain Management and Soil & Water Conservation

Thomas L. Smith
Deputy Director of Operations

April 9, 2020

Christine Conrad
C2 Environmental, Inc.
P.O. Box 2218
Poquoson, VA 23662

Re: Bristers to Ladysmith 500 kV Rebuild

Dear Ms. Conrad:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

Somerville Quad
Biotics documents the presence of natural heritage resources within the project boundary including a 100ft buffer. However, due to the scope of the activity we do not anticipate that this project will adversely impact these natural heritage resources.

Aquia Creek, which has been designated by the Virginia Department of Game and Inland Fisheries (VDGIF) as a "Threatened and Endangered Species Water" for the Dwarf wedgemussel (*Alasmidonta heterodon,* G1G2/S1/LE/LE) is within the submitted project boundary including a 100-foot buffer.

Storck Quad
According to the information currently in our files, the Richland Run Stream Conservation Unit (SCU) is located within the project site. SCUs identify stream reaches that contain aquatic natural heritage resources, including 2 miles upstream and 1 mile downstream of documented occurrences, and all tributaries within this reach. SCUs are also given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain. The Richland Run SCU has been given a biodiversity ranking of B3, which represents a site of high significance. The natural heritage resource associated with this site is:

Aquatic Natural Community (NP-Rapidan-Upper Rappahannock Second Order Stream)	G2G33/S2S3/NL/NL

The documented Aquatic Natural Community is based on Virginia Commonwealth University's INSTAR (*Interactive Stream Assessment Resource*) database which includes over 2,000 aquatic (stream and river) collections statewide for fish and macroinvertebrate. These data represent fish and macroinvertebrate assemblages, instream habitat, and stream health assessments. First, this stream is a grade B+, per the VCU-Center for Environmental Sciences (CES), indicating its relative regional significance, considering its aquatic community composition and the present-day conditions of other streams in the region. This stream reach holds a

"Healthy" stream designation per the INSTAR Virtual Stream Assessment (VSS) score. This score assesses the similarity of this stream to ideal stream conditions of biology and habitat for this region. Lastly, this stream contributes to high Biological Integrity at the watershed level (6th order) based on number of native/non-native, pollution-tolerant/intolerant and rare, threatened or endangered fish and macroinvertebrate species present.

Threats to the significant Aquatic Natural Community and the surrounding watershed include water quality degradation related to point and non-point pollution, water withdrawal and introduction of non-native species.

Salem Church Quad

According to the information currently in our files, the Mine Run Stream Conservation Unit is located within the project site. The Mine Run SCU has been given a biodiversity ranking of B2, which represents a site of very high significance. The natural heritage resource associated with this site is:

Aquatic Natural Community (NP-Lower Rappahannock Third Order Stream) G1/S1/NL/NL

The documented Aquatic Natural Community is based on Virginia Commonwealth University's **INSTAR** (*Interactive Stream Assessment Resource*) database which includes over 2,000 aquatic (stream and river) collections statewide for fish and macroinvertebrate. This stream is a grade B-, as per the VCU-Center for Environmental Sciences (CES), indicating its relative regional significance, considering its aquatic community composition and the present-day conditions of other streams in the region. This stream reach also holds as a "Healthy" stream designation as per the INSTAR Virtual Stream Assessment (VSS) score. This score assesses the similarity of this stream to ideal stream conditions of biology and habitat for this region. Lastly, this stream contributes to high Biological Integrity at the watershed level (6th order) based on number of native/non-native, pollution-tolerant/intolerant and rare, threatened or endangered fish and macroinvertebrate species present. Threats to the significant Aquatic Natural Community and the surrounding watershed include water quality degradation related to point and non-point pollution, water withdrawal and introduction of non-native species.

The Rappahannock River, which has been designated by the VDGIF as a "Threatened and Endangered Species Water" for the Dwarf wedgemussel and the Green floater is within the submitted project boundary including a 100-foot buffer.

Please note this project is within a section of the Rappahannock that has been designated as a scenic river in the state of Virginia. Due to this designation, DCR recommends you contact Lynn Crump of the DCR-Division of Planning and Recreational Resources at 804-786-5054 or Lynn.Crump@dcr.virginia.gov.

Spotsylvania Quad

According to the information currently in our files, the Po River - Andrews Bridge Stream Conservation Unit (SCU) is located within the project site. The Po River - Andrews Bridge SCU has been given a biodiversity ranking of B2, which represents a site of very high significance. The natural heritage resources associated with this site are:

Alasmidonta heterodon	Dwarf Wedgemussel	G1G2/S1/LE/LE
Elliptio lanceolata	Yellow Lance	G2G3/S2S3/LT/NL

The Dwarf wedgemussel grows to a length of approximately 30 mm. This species inhabits creeks of varying sizes, residing in muddy sand, sand, and gravel bottoms, in areas of slow to moderate current and little silt deposition (USFWS, 1993). Currently, this species exists in widely scattered, small populations in the Chowan, James, York, Rappahannock, and Potomac River drainages. Its native host fishes are mottled sculpin (*Cottus bairdi*), Johnny darter (*Etheostoma nigrum*), tessellated darter (*Etheostoma olmstedi*) and sculpins (*Cottus* sp.)

(Michaelson and Neves, 1995). Please note that this species is currently classified as endangered by the United States Fish and Wildlife Service (USFWS) and the VDGIF.

The Yellow lance occurs in mid-sized rivers and second and third order streams. To survive, it needs a silt-free, stable streambed and well-oxygenated water that is free of pollutants. In Virginia, the yellow lance is currently known from populations in the Chowan, James, York, Rappahannock, and Potomac River drainages. Please note that this species is currently classified as threatened by the USFWS.

Considered good indicators of the health of aquatic ecosystems, freshwater mussels are dependent on good water quality, good physical habitat conditions, and an environment that will support populations of host fish species (Williams et al., 1993). Because mussels are sedentary organisms, they are sensitive to water quality degradation related to increased sedimentation and pollution. They are also sensitive to habitat destruction through dam construction, channelization, and dredging, and the invasion of exotic mollusk species.

In addition, the Po River has been designated by the VDGIF as a "Threatened and Endangered Species Water" for the Dwarf wedgemussel.

Ladysmith Quad

According to the information currently in our files, the Matta River Stream Conservation Unit is located within the project site. The Matta River SCU has been given a biodiversity ranking of B2, which represents a site of very high significance. The natural heritage resources associated with this site are:

Elliptio lanceolata	Yellow lance	G2G3/S2S3/LT/NL
Aquatic Natural Community (NP-Mattaponi First Order Stream)		G3?/S3?/NL/NL
Aquatic Natural Community (NP-Mattaponi Fourth Order Stream)		G1/S1/NL/NL

The documented Aquatic Natural Communities are based on Virginia Commonwealth University's INSTAR (*Interactive Stream Assessment Resource*) database which includes over 2,000 aquatic (stream and river) collections statewide for fish and macroinvertebrate. The first order streams is a grade B and the fourth order stream is a grade A-, per the VCU-Center for Environmental Sciences (CES), indicating its relative regional significance, considering its aquatic community composition and the present-day conditions of other streams in the region. These stream reaches also hold a "Healthy" stream designation per the INSTAR Virtual Stream Assessment (VSS) score. This score assesses the similarity of these streams to ideal stream conditions of biology and habitat for this region. Lastly, these streams contribute to high Biological Integrity at the watershed level (6^{th} order) based on number of native/non-native, pollution-tolerant/intolerant and rare, threatened or endangered fish and macroinvertebrate species present. Threats to the significant Aquatic Natural Community and the surrounding watershed include water quality degradation related to point and non-point pollution, water withdrawal and introduction of non-native species.

All Quads

To minimize adverse impacts to the aquatic ecosystems as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations, establishment/enhancement of riparian buffers with native plant species and maintaining natural stream flow. Due to the legal status of the Yellow lance, Dwarf wedgemussel and the Green floater, DCR also recommends coordination with the USFWS and the VDGIF, Virginia's regulatory authority for the management and protection of these species, to ensure compliance with protected species legislation.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-

listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

A fee of $810.00 has been assessed for the service of providing this information. Please find attached an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, DCR Finance, 600 East Main Street, 24th Floor, Richmond, VA 23219. Payment is due within thirty days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

The VDGIF maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Ernie Aschenbach at 804-367-2733 or Ernie.Aschenbach@dgif.virginia.gov.

Should you have any questions or concerns, please contact me at 804-225-2429. Thank you for the opportunity to comment on this project.

Sincerely,

Tyler Meader

Tyler Meader
Natural Heritage Locality Liaison

CC: Troy Andersen, USFWS
Amy Ewing, VDGIF
Lynn Crump, DCR-PRR

Literature Cited

Michaelson, D.L. and R.J. Neves. 1995. Life history and habitat of the endangered Dwarf wedgemussel *Alasmidonta heterodon* (Bivalvia:Unionidae). Journal of the North American Benthol Society 14(2): 324-340.

NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: April 5, 2010).

U.S. Fish and Wildlife Service. 1993. Dwarf Wedge Mussel (*Alasmidonta heterodon*) Recovery Plan. Hadley, Massachusetts. p. 52.

Williams, J.D., M.L. Warren, Jr., K.S. Cummings, J.L. Harris, and R.J. Neves. 1993. Conservation status of freshwater mussels of the United States and Canada. Fisheries 18: 6-9.

Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219
P.O. Box 1105, Richmond, Virginia 23218
(800) 592-5482
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

August 13, 2019

Mr. Jason E. Williams
Director Environmental Services
Dominion Energy
5000 Dominion Boulevard
Glen Allen, VA 23060

Transmitted electronically: jason.e.william@dominionenergy.com

Subject: Dominion Energy (Electric Transmission) – Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management (AS&S for ESC and SWM)

Dear Mr. Williams:

The Virginia Department of Environmental Quality ("DEQ") hereby approves the Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management for Dominion Energy (Electric Transmission) dated "May 29, 2019". This coverage is effective from August 13, 2019 to August 12, 2020.

To ensure compliance with approved specifications, the Virginia Erosion and Sediment Control Law and the Virginia Stormwater Management Act, DEQ staff will conduct random site inspections, respond to complaints, and provide on-site technical assistance with specific erosion and sediment control and stormwater management measures and plan implementation.

Please note that your approved Annual Standards and Specifications include the following requirements:

1. Variance, exception, and deviation requests must be submitted separately from this Annual Standards and Specifications submission to DEQ. DEQ may require project-specific plans associated with variance requests to be submitted for review and approval.

2. The following information must be submitted to DEQ for each project at least two weeks in advance of the commencement of regulated land-disturbing activities. Notifications shall be sent by email to: StandardsandSpecs@deq.virginia.gov
   - i: Project name or project number;
   - ii: Project location (including nearest intersection, latitude and longitude, access point);
   - iii: On-site project manager name and contact info;
   - iv: Responsible Land Disturber (RLD) name and contact info;
   - v: Project description;

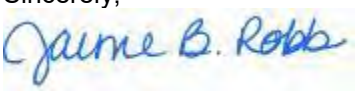
vi: Acreage of disturbance for project;
vii: Project start and finish date; and
viii: Any variances/exceptions/waivers associated with this project.

3. Project tracking of all regulated land disturbing activities (LDA) must be submitted to the DEQ on a bi-annual basis. Project tracking records shall contain the same information as required in the two week e-notifications for each regulated LDA.
4. Erosion & Sediment Control and Stormwater Management plan review and approval must be conducted by DEQ-Certified plan reviewers and documented in writing.

To ensure an efficient information exchange and response to inquiries, the DEQ Central Office is your primary point of contact. Central Office staff will coordinate with our Regional Office staff as appropriate.

Thank you very much for your submission and continued efforts to conserve and protect Virginia's precious natural resources.

Sincerely,



Jaime B. Robb, Manager
Office of Stormwater Management

Cc: Amelia Boschen, *Amelia.h.boschen@dominionenergy.com*
Elizabeth Hester, *Elizabeth.l.hester@dominionenergy.com*
Stacey Ellis, *Stacey.t.ellis@dominionenergy.com*

Case Decision Information:
As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.