Application, Appendix, DEQ Supplement, Direct Testimony and Exhibits of Virginia Electric and Power Company

Before the State Corporation Commission of Virginia

DTC 230 kV Line Loop and DTC Substation

Application No. 311

Case No. PUR-2021-00280

Filed: December 2, 2021

Volume 2 of 3

COMMONWEALTH OF VIRGINIA
BEFORE THE
STATE CORPORATION COMMISSION

APPLICATION OF

VIRGINIA ELECTRIC AND POWER COMPANY

FOR APPROVAL AND CERTIFICATION
OF ELECTRIC FACILITIES

DTC 230 kV Line Loop and DTC Substation

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Based on consultations with the Department of Environmental Quality ("DEQ"), Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") has developed this DEQ Supplement to facilitate review and analysis of the proposed Project by DEQ and other relevant agencies.

1. Project Description

In order to provide service requested by three retail electric service customers (the "Customers"); to maintain reliable service for the overall growth in the area; and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") proposes in Loudoun County, Virginia, to:

(1) Construct a new approximately 1.30-mile overhead 230 kV double circuit transmission line loop on new 100-foot-wide right-of-way by cutting 230 kV Beaumeade-BECO Line #2143 at a junction located between Structures #2143/12-13 adjacent to the Company's existing BECO Substation, resulting in (i) 230 kV Beaumeade-DTC Line #2143, and (ii) 230 kV BECO-DTC Line #2249 ("DTC Loop"). From the junction, the DTC Loop will extend along the Proposed Route approximately 1.30 mile generally northeast to the proposed DTC Substation. While the proposed junction is located in existing right-of-way, the proposed DTC Loop will be constructed on new right-of-way supported by 15 double circuit, single-shaft galvanized steel poles, and two double circuit galvanized steel 2-pole structures, utilizing three-phase twin-bundled 768.2 ACSS/TW type conductor with a summer transfer capability of 1,574 MVA[1]; and

(2) Construct a new 230-34.5 kV substation in Loudoun County, Virginia ("DTC Substation"), and perform relay resets at the Company's existing BECO and Beaumeade Substations.

The DTC Loop, DTC Substation and related substation work are collectively referred to as the "Project."

For this Project, the Company retained the services of Environmental Resources Management ("ERM") to help collect information within the study area, identity potential routes, perform a routing analysis comparing the route alternatives, and document the routing efforts in an Environmental Routing Study. After review of the new build options, Dominion Energy Virginia decided to further investigate two electrical options for this project both of which are located entirely within Loudoun County, Virginia.

Option 1 involved connecting the existing Line #2143 just north of the existing BECO Substation on the west side of Pacific Boulevard just south of Gloucester Parkway and extending a new 230 kV double circuit transmission line northeast to the proposed DTC

[1] Apparent power, measured in megavolt amperes ("MVA"), is made up of real power (megawatt or "MW") and reactive power megavolt ampere reactive ("MVAR"). The power factor ("pf") is the ratio of real power to apparent power. For loads with a high pf (approaching unity), real power will approach apparent power and the two can be used interchangeably. Load loss criteria specify real power (MW) units because that represents the real power that will be dropped; however, MVA is used to describe the equipment ratings to handle the apparent power, which includes the real and reactive load components.

Substation. The DTC Substation will be located on the east side of Route 28 between Atlantic Boulevard and Century Boulevard.

Option 2 involved tapping the existing Line #2150 near the intersection of the Washington & Old Dominion Trail and Sully Road and extending a new 230 kV double circuit transmission line northeast to the proposed DTC Substation.

A study area was then developed that encompassed the area surrounding the proposed DTC Substation and potential junction locations with Line #2143 and Line #2150. The Option 2 routes were studied, but subsequently were rejected. The route development process for the Project is described in more detail in the Environmental Routing Study.

A total of three overhead routes were identified between Line #2143 and the proposed DTC Substation. Since the three routes follow a common alignment for the majority of their lengths, the differences in their impacts are restricted to the location where they diverge in the northeastern portion of the project area at the crossing of Russell Branch Parkway and Sully Road. In general, most of the differences in the impacts of the routes largely are incremental.

Of these three routes, one route, Overhead Route 1C, was identified as the Proposed Route. Two overhead routes (Routes 1A and 1B) were identified as viable alternatives to the Proposed Route.

Proposed Route (Overhead Route 1C)

Overhead Route 1C is approximately 1.30 mile in length. Beginning just north of the BECO Substation, Route 1C heads northwest for about 0.19 mile adjacent to the right-of-way for a Loudoun County Water line and across Gloucester Parkway. A portion of this segment crosses a Loudoun County Board of Supervisors easement. After crossing Gloucester Parkway, the route then continues generally north for 0.57 mile, generally following the Loudoun Water line, and includes an additional crossing of the Board of Supervisors easement and a crossing of Broad Run. The transmission line route then turns to the north and east for 0.20 mile before intersecting Russell Branch Parkway. This segment includes a second crossing of Broad Run and another short crossing of the Board of Supervisors easement. The route then turns northeast to avoid a Virginia Department of Transportation ("VDOT") traffic signal easement. After a 0.09-mile crossing of Russell Branch Parkway and Sully Road, the line next turns north and parallels the eastern side Sully Road, crossing the western edge of a parking lot associated with the adjacent Lerner 21000 Atlantic office building for 0.10 mile. From that point, the line turns east and southeast for 0.08 mile crossing Century Boulevard. Finally, the route heads northeast for 0.07 mile and then enters the proposed DTC Substation property.

Alternative Route (Overhead Alternative Route 1A)

The length of Overhead Alternative Route 1A is approximately 1.31 miles. Beginning

just north of the BECO Substation, Route 1A heads northwest for about 0.19 mile adjacent to the right-of-way for a Loudoun County Water line and across Gloucester Parkway. A portion of this segment of the route also crosses a Loudoun County Board of Supervisors easement. After crossing Gloucester Parkway, the route then continues generally north for 0.57 mile, generally following the Loudoun Water line. This segment of the route includes an additional crossing of the Board of Supervisors easement and also crosses Broad Run. The transmission line route then turns to the north and east for 0.19 mile (including another small crossing of the Loudoun County Board of Supervisors easement) before heading due north for 0.11 mile following the west side of Russell Branch Parkway and paralleling a multi-use trail. After a 0.09-mile crossing of Russell Branch Parkway and Sully Road, the line then continues east and southeast for 0.09 mile crossing Century Boulevard. Finally, the route heads northeast for 0.07 mile and then enters the proposed DTC Substation property.

Alternative Route (Overhead Alternative Route 1B)

The length of Overhead Alternative Route 1B is approximately 1.31 miles. Beginning just north of the BECO Substation, Route 1B heads northwest for about 0.19 mile adjacent to the right-of-way for a Loudoun County Water line and across Gloucester Parkway. A portion of this segment of the route also crosses a Loudoun County Board of Supervisors easement. After crossing Gloucester Parkway, the route then continues generally north for 0.57 mile, generally following the Loudoun Water line. This segment of the route includes an additional crossing of the Board of Supervisors easement and also crosses Broad Run. The transmission line route then turns to the north and east for 0.19 mile (including another additional, small crossing of the Loudoun County Board of Supervisors easement) before heading due north for 0.05 mile following the west side of Russell Branch Parkway and paralleling a multi-use trail. After a 0.10-mile crossing of Russell Branch Parkway and Sully Road, the line then turns north for 0.05 mile paralleling the east side of Sully Road and crossing the western edge of a parking lot associated with an adjacent office building. The route then continues east and southeast for 0.08 mile crossing Century Boulevard. Finally, the route heads northeast for 0.07 mile and then enters the proposed DTC Substation property.

2. Environmental Analysis

The Company solicited comments from all relevant state and local agencies about the proposed Project in October 2021. Copies of these letters are included as Attachment 2. The DEQ responded to the Company's request for the proposed Project on October 5, 2021. A copy of this letter is included as Attachment 2.1.

A. Air Quality

For the Project, the Company will control fugitive dust during construction in accordance with DEQ regulations. During construction, if the weather is dry for an extended period

of time, there will be airborne particles from the use of vehicles and equipment within the right-of-way. However, minimal earth disturbance will take place and vehicle speed, which is often a factor in airborne particulate, will be kept to a minimum. Erosion and sedimentation control is addressed in Section 2.G of this Supplement. Equipment and vehicles that are powered by gasoline or diesel motors will be used during the construction of the line so there will be exhaust from those motors.

Tree clearing will be required as part of this Project. Tree clearing would be on existing, new and temporary right-of-way. The Company does not expect to burn cleared material, but, if necessary, the Company will coordinate with the responsible locality to obtain these permits and will comply with any conditions set forth by the locality, or take actions as otherwise set forth in the Company's right-of-way easements. The Company's tree clearing methods are described in Section 2.K.

B. Water Source

(No water source is required for transmission lines so this discussion will focus on water bodies that will be crossed by the proposed transmission lines.)

On behalf of the Company, ERM identified and mapped waterbodies in the study area using publicly available geographic information system ("GIS") databases, U.S. Geological Survey ("USGS") topographic maps (1:24,000), and recent (2021) digital aerial photography. The Proposed Route and Alternative Routes all cross both perennial (Broad Run) and intermittent waterbodies (tributaries to Broad Run). Waterbodies in the Project area are shown on Figure 2 of Appendix D in the Environmental Routing Study.

The span between transmission line structures proposed by Dominion Energy Virginia would likely be adequate to span the waterbodies identified along the Proposed and Alternative Routes. However, tree clearing would likely be required within the forested riparian areas at these crossing locations. All routes would likely have an effect on surface waters along these routes due to the removal of forested riparian areas adjacent to streams.

According to the U. S. Army Corps of Engineers ("Corps") documentation, no waters considered navigable under Section 10 of the Rivers and Harbors Act are crossed by the Project.

Proposed Route (Overhead Route 1C)

Based on ERM's review of remote sensing data sources including USGS National Hydrography Dataset ("NHD") and Loudoun County data, Overhead Route 1C crosses no natural open water features. Overhead Route 1C crosses Broad Run (a perennial waterbody) in two locations, and crosses two intermittent waterbodies that are unnamed tributaries to Broad Run.

Alternative Route (Overhead Alternative Route 1A)

Based on ERM's review of remote sensing data sources including USGS NHD and Loudoun County data, Overhead Alternative Route 1A crosses no natural open water features. Overhead Alternative Route 1A crosses Broad Run (a perennial waterbody) in two locations, and crosses two intermittent waterbodies that are unnamed tributaries to Broad Run.

Alternative Route (Overhead Alternative Route 1B)

Based on ERM's review of remote sensing data sources including USGS NHD and Loudoun County data, Overhead Alternative Route 1B crosses no natural open water features. Overhead Alternative Route 1B crosses Broad Run (a perennial waterbody) in two locations, and crosses two intermittent waterbodies that are unnamed tributaries to Broad Run.

The Company solicited comments from the Virginia Marine Resources Commission ("VMRC") regarding the proposed Project in October 2021. According to a response letter dated October 29, 2021, the Project is located within the jurisdictional areas of the VMRC and a permit will be required. See Attachment 2.B.1. A Joint Permit Application ("JPA") will be submitted for review by the VMRC, DEQ, and the Corps to authorize jurisdictional crossings and for any impacts to jurisdictional features.

C. Discharge of Cooling Waters

No discharge of cooling waters is associated with the Project.

D. Tidal and Non-tidal Wetlands

No tidal wetlands were identified within the Project area. Non-tidal wetlands are summarized below.

On behalf of the Company, ERM has identified wetlands within the Project area using remote sensing data sources to conduct an offsite desktop wetlands delineation. A copy of ERM's Wetland and Waterbody Desktop Summary for the DTC 230 kV Line Loop and DTC Substation Project is included in Attachment 2.D.1. These sources for this desktop summary include the National Wetland Inventory Online Maps from the U.S. Fish and Wildlife Service ("FWS"), soils data from the Natural Resources Conservation Service Web Soil Survey, U.S Geological Survey ("USGS") 7.5-minute series Topographic Maps (2014), aerial photography dating between 2020 and 2021, and National Agricultural Imagery Program ("NAIP") and Virginia Base Mapping Program ("VBMP") Digital Ortho-Rectified Infrared Images dating from 2020. ERM did not field delineate wetlands within the Project area.

All wetlands will require protective matting to be installed to support construction vehicles and equipment and materials during construction. While most wetlands will be spanned,

forested wetlands will be cleared but allowed to return to scrub-shrub wetlands after construction is completed.

Proposed Route (Overhead Alternative 1C)

Based on ERM's Desktop Wetland Analysis data, the Proposed Route would cross approximately 0.25 linear mile of wetland habitat and would require the clearing and/or disturbance of up to approximately 2.96 acres of wetland area. Of the 2.96 acres of wetland habitat that could be disturbed along this route, approximately 2.02 acres consist of palustrine forested ("PFO") wetland area, 0.57 acre consist of palustrine emergent ("PEM") wetland, and 0.37 acre consist of riverine/stream wetland areas. Of these, 0.03 acre of forested wetlands are within the footprint of the proposed DTC Substation.

Alternative Route (Overhead Alternative Route 1A)

Based on ERM's Desktop Wetland Analysis data, the Overhead Alternative Route 1A would cross approximately 0.25 linear mile of wetland habitat and would require the clearing and/or disturbance of up to approximately 2.96 acres of wetland area. Of the 2.96 acres of wetland habitat that could be disturbed along this route, approximately 2.02 acres consist of PFO wetland area, 0.57 acre consist of PEM wetland, and 0.37 acre consist of riverine/stream wetland areas. Of these, 0.03 acre of forested wetlands are within the footprint of the proposed DTC Substation.

Alternative Route (Overhead Alternative Route 1B)

Based on ERM's Desktop Wetland Analysis data, the Overhead Alternative Route 1B would cross approximately 0.25 linear mile of wetland habitat and would require the clearing and/or disturbance of up to approximately 2.96 acres of wetland area. Of the 2.96 acres of wetland habitat that could be disturbed along this route, approximately 2.02 acres consist of PFO wetland area, 0.57 acre consist of PEM wetland, and 0.37 acre consist of riverine/stream wetland areas. Of these, 0.03 acre of forested wetlands are within the footprint of the proposed DTC Substation.

Prior to construction, the Company will delineate wetlands and other waters of the United States using the *Routine Determination Method*, as outlined in the *1987 Corps of Engineers Wetland Delineation Manual* and methods described in the *2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Version 2.0). The Company will obtain any necessary permits to impact jurisdictional resources. While most wetlands will be spanned, forested wetlands and scrub-shrub wetlands will require at least initial vegetation clearing. All wetlands will require protective matting to be installed to support construction vehicles and equipment and materials during construction.

The Company solicited comments from the DEQ Office of Wetlands and Stream Protection and the Corps in October 2021. In an email response dated October 6, 2021, DEQ indicated

that if the Project will impact surface waters, then a VWP permit from DEQ may be required and that measures should be taken to avoid and minimize impacts to surface waters and wetlands. See Attachment 2.D.2. The Company has sited structures to avoid wetlands and streams to the extent practicable. Temporary impacts will be restored to pre-existing conditions, and permanent impacts will be compensated for in accordance with all applicable state regulations and laws. The Project is expected to require a Virginia Water Protection general permit and a Nationwide Permit 57. A JPA will be submitted for further evaluation and final permit need determination by DEQ.

E. Solid and Hazardous Waste

Environmentally regulated sites in the study area have been identified using publicly available GIS databases obtained from the U.S. Environmental Protection Agency ("EPA") and the DEQ. These databases provide "information about facilities, sites, or places subject to environmental regulation or of environmental interest." These include sites that use and/or store hazardous materials, waste producing facilities operating under permits from the EPA or other regulatory authorities, Superfund sites, the storage of petroleum, petroleum release sites, and solid waste sites. The identification of a site in the databases does not mean that the site necessarily has contaminated soil or groundwater.

A summary of the information from the EPA and DEQ databases within a 1.0-mile buffer of the centerlines of the Proposed or Alternative Routes is provided in Table E-1 below and depicted in Attachment 2.E.1.

TABLE E-1
DTC 230 kV Line Loop and DTC Substation Project

Environmental Regulated Facilities and Hazardous Waste/Petroleum Release Sites within 1.0 Mile

Database	Proposed Route (Overhead Route 1C)	Alternative Route (Overhead Route 1A)	Alternative Route (Overhead Route 1B)
Waste	29	29	29
Toxics	2	2	2
Land	2	2	2
Air	17	17	17
Water	4	4	4
Solid Waste Facilities	0	0	0
Petroleum Facilities	9	9	9
Petroleum Releases	6	6	6
Total [a]	**69**	**69**	**69**

[a] Note that a single facility may be associated with multiple environmental permits; as such, the total number reflects the number of permits and releases within the specified distance from the Project.

Notes

Waste (Facilities that handle or generate hazardous wastes)
Toxics (Facilities that release toxic substances to the environment)
Land (Site cleanup under RCRA, Superfund, Brownfield, DEQ VRP, and DEQ PReP programs)
Air (Facilities with a release of pollutants to the air)
Water (Facilities that discharge storm or process water to surface water)
Solid Waste Facilities (Former and existing landfills)
Petroleum Facilities (Regulated petroleum storage)
Petroleum Releases (Typically associated with storage tank releases)

No Brownfield, Superfund, or Resource Conservation and Recovery Act ("RCRA") Corrective Action sites identified in the reviewed databases were located within 1.0 mile of the Proposed or Alternative Routes. One DEQ Voluntary Remediation Program site, one DEQ Pollution Response and Prevention ("PReP") site, and 12 RCRA facilities are located within 1 mile of the routes; however, due to the distance from the routes, it is unlikely that the sites impacted soil and/or groundwater in the Project area.

To evaluate the potential impact to the routes, ERM further assessed the sites within 1,000 feet of the Proposed or Alternative Routes (Table E-2).

TABLE E-2
DTC 230 kV Line Loop and DTC Substation Project

Environmental Regulated Facilities and Hazardous Waste/Petroleum Release Sites within 1,000 Feet

Database	Proposed Route (Overhead Route 1C)	Alternative Route (Overhead Route 1A)	Alternative Route (Overhead Route 1B)
Waste	0	0	0
Toxics	0	0	0
Land	0	0	0
Air	1	1	1
Water	1	1	1
Solid Waste Facilities	0	0	0
Petroleum Facilities	0	0	0
Petroleum Releases	0	0	0
Total [a]	**2**	**2**	**2**

[a] Note that a single facility may be associated with multiple environmental permits; as such, the total number reflects the number of permits and releases within the specified distance from the Project.

Notes

Waste (Facilities that handle or generate hazardous wastes)
Toxics (Facilities that release toxic substances to the environment)
Land (Site cleanup under RCRA, Superfund, Brownfield, DEQ VRP, and DEQ PReP programs)
Air (Facilities with a release of pollutants to the air)
Water (Facilities that discharge storm or process water to surface water)
Solid Waste Facilities (Former and existing landfills)
Petroleum Facilities (Regulated petroleum storage)
Petroleum Releases (Typically associated with storage tank releases)

Based on a review of sites listed in the EPA and DEQ databases, ERM did not identify petroleum release sites or other sites with documented contaminated soil and/or groundwater located within 1,000 feet of the Proposed or Alternative Routes.

Care will be taken to operate and maintain construction equipment to prevent any fuel or oil spills. Any waste created by the construction crews will be disposed of in a proper manner and recycled where appropriate and will be further detailed in the Company's stormwater pollution prevention plan, a component of the Virginia Stormwater Management Program, which will be submitted to the Virginia Department of Conservation and Recreation ("VDCR").

F. Natural Heritage, Threatened and Endangered Species

On behalf of the Company, ERM conducted online database searches for threatened and endangered species in the vicinity of the Project, including the VDCR Natural Heritage Data Explorer ("NHDE"). The NDHE includes three components: Conservation Sites ("CS"), Stream Conservation Units ("SCU"), and General Location Areas for Natural Heritage Resources ("GLNHR"). ERM also obtained query results from the Virginia Department of Wildlife Resources ("VDWR") Fish and Wildlife Information Service ("VaFWIS"), and the USFWS Information for Planning and Consultation ("IPaC") System to identify federally- and state-listed species that may occur within the Project area. Digital data were obtained from the VDCR NHDE to identify locations within the study area that potentially support protected species.

To obtain the most current eagle nest data, ERM reviewed the Center for Conservation Biology ("CCB") VA Eagle Nest Locator mapping portal, which provides information about the Virginia bald eagle population including the results of the CCB's annual eagle nest survey. The agency lists of threatened and endangered species were reviewed and are described in Section 3.2.4 of the Environmental Routing Study. A total of three federal and state listed species have the potential to occur within the Project area.

The USFWS IPaC review identified two (2) federally listed species protected under the Endangered Species Act ("ESA") that potentially occur or have been documented within the proposed Project area. These species include the northern long-eared bat (*Myotis septentrionalis*) and dwarf wedgemussel (*Alasmidonta heterodon*). The VDWR operates a *Northern Long-eared Bat Winter Habitat and Roost Trees* online mapping system, which shows general locations of known Northern Long-eared Bat hibernacula and roost trees. A review of this system did not show a hibernaculum or roost trees in Loudoun County.

Based on VDCR and VDWR queries, in addition to the two federally listed species discussed above identified by the USFWS IPaC review (which are also state-listed), there are eleven more state-listed species that potentially occur or have been documented within the proposed Project area. One of the VDCR and VDWR identified species (yellow lance [*Elliptio lanceolate*]) is also federally listed. A summary of the 13 species with potential habitat within the Project area are listed in Table F-2 below. Of the 13 species identified, only the Wood turtle has been historically been documented by state agencies in areas adjacent to or crossed by any of the routes.

TABLE F-2
DTC 230 kV Line Loop and DTC Substation Project

Potential Federal-and State-Listed Species in the Project Area

Species	Status	Database	Habitat	Results
Northern long-eared bat (*Myotis septentrionalis*)	FT, ST	USFWS IPaC, VDWR-NLEB Winter Habitat and Roost Tree Map, VDWR VaFWIS	Generally associated with old-growth or late successional interior forests. Partially dead or decaying trees are used for breeding, summer day roosting, and foraging. Hibernation occurs primarily in caves, mines, and tunnels.	Species not confirmed as present, and no known hibernacula or maternity roost trees are documented within the Project area. Project would require clearing of forested areas; however, given lack of confirmed species presence, impacts are not anticipated.
Dwarf wedgemussel (*Alasmidonta heterodon)*	FE, SE	USFWS IPaC and VDWR VaFWIS	Deep quick running water on cobble, fine gravel, or on firm silt or sandy bottoms.	Species not confirmed as present and no instream work would be performed. No impacts are anticipated.
Yellow lance (*Elliptio lanceolate)*	FT, ST	VDWR VaFWIS	Main channels of drainages and streams as small as one meter across with clean, coarse, medium-sized sand or gravel substrate.	Species not confirmed as present and no instream work would be performed. No impacts are anticipated.
Little brown bat (*Myotis lucifugus)*	SE	VDWR VaFWIS and VDWR Little Brown Bat and Tri-colored Bat Winter Habitat and Roosts Application	Roosts in caves, buildings, rocks, trees, under bridges, and in mines and tunnels. Found in all forested regions of the state.	Species not confirmed as present and no hibernaculum identified within 0.5-mile-radius of the Project. No impacts are anticipated.
Tri-colored bat (*Perimyotis subflavus)*	SE	VDWR VaFWIS and VDWR Little Brown Bat and Tri-colored Bat Winter Habitat and Roosts Application	Typically roost in trees near forest edges during summer. Hibernate deep in caves or mines in areas with warm, stable temperatures during winter.	Species not confirmed as present and no hibernaculum identified within 0.5-mile-radius of the Project. No impacts are anticipated.
Appalachian grizzled skipper (*Pyrgus Wyandot)*	ST	VDWR VaFWIS	Semi-open slopes with sparse herbaceous vegetation and exposed rock or soil.	VaFWIS Search Report listed as not confirmed. No impacts are anticipated.
Brook floater (*Alasmidonta varicose)*	SE	VDWR VaFWIS	Creeks and small rivers, found among rocks in gravel substrates and in sandy shoals, flowing-water habitats only.	VaFWIS Search Report listed as not confirmed and no instream work would be performed. No impacts are anticipated.
Green floater (*Lasmigona subviridis)*	ST	VDWR VaFWIS	Small to medium streams in quiet pools and eddies with gravel and sand substrates.	VaFWIS Search Report listed as not confirmed and no instream work would be performed. No impacts are anticipated.
Henslow's sparrow (*Ammodramus henslowii)*	ST	VDWR VaFWIS	Open grasslands with few or no woody plants and tall dense grasses and litter layer.	VaFWIS Search Report listed as not confirmed. No impacts are anticipated.
Loggerhead shrike, and migrant Loggerhead shrike (*Lanius ludovicianus* and *Lanius ludovicianus migrans)*	ST	VDWR VaFWIS	Open country with scattered shrubs and trees or other tall structures for perching.	VaFWIS Search Report listed as not confirmed. No impacts are anticipated.
Peregrine falcon (*Falco peregrinus)*	ST	VDWR VaFWIS	Tall structures, such as powerline poles, buildings, and rock ledges, in generally open landscapes.	VaFWIS Search Report listed as not confirmed. No impacts are anticipated.

TABLE F-2
DTC 230 kV Line Loop and DTC Substation Project

Potential Federal-and State-Listed Species in the Project Area

Species	Status	Database	Habitat	Results
Wood turtle (*Glyptemys insculpta)*	ST	VDWR VaFWIS	Forested floodplains, fields, wet meadows, and farmland with a perennial stream nearby.	Confirmed in VAFWIS Search Report, no instream work would be performed but forested floodplains may be cleared. Coordination with VDWR will be needed to determine if surveys and/or construction timing windows are needed for the Project.

Federal/State Status:
FE *Federally listed as endangered.*
FT *Federally listed as threatened.*
SE *State listed as endangered*
ST *State listed as threatened*

A copy of the database search results can be found in Attachment 2.F.1. Additionally, the Company requested comments from the USFWS, VDWR and VDCR regarding the proposed Project in October 2021. On behalf of the Company, ERM submitted the Project to the VDCR Division of Natural Heritage ("DNH") for review. The DNH completed this request on October 15, 2021.

According to an official review conducted on October 15, 2021, the VDCR DNH concluded that the Proposed Route and Alternative Routes would not affect any documented state-listed plants or insects and does not cross any State Natural Area Preserves under VDCR's jurisdiction. However, according to a VDCR biologist, several rare plants, which are typically associated with prairie vegetation and inhabit semi-open diabase glades in Virginia, may occur in the Project area if suitable habitat is present. Diabase glades are characterized by historically fire-dominated grassland vegetation on relatively nutrient-rich soils underlain by Triassic bedrock. Diabase flatrock, a hard, dark-colored volcanic rock, is found primarily in northern Virginia counties and is located within the geologic formation known as the Triassic Basin. Where the bedrock is exposed, a distinctive community type of drought-tolerant plants occurs. Diabase flatrocks are extremely rare natural communities that are threatened by activities such as quarrying and road construction.

Due to the potential for this site to support populations of natural heritage resources, VDCR recommends an inventory for rare plants associated with diabase glades in the study area. With the survey results, the VDCR can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.

The VDCR review identified an Ecological Core map unit (Core ID 31766, 216 acres) that would be crossed by the Proposed Route and Alternative Routes in the same locations. The area of forested habitat through which the routes pass is ranked by the VDCR as C5

'General' for ecological core value (on a scale of C1 for outstanding value to C5 for general value). There is ongoing and proposed commercial, residential, and data center development in the Project area—some of which will occur prior to the Company's construction of the Project—which will impact greater areas of this same Ecological Core than the Project. Moreover, it is worth noting that the impacted Ecological Core (C5) is the lowest ranking relevant core on the scale.

In addition, the Company notes that it has already made reasonable efforts to minimize fragmentation, as practicable, in designing and routing the Project. For example, the Company collocated the Proposed Route and Alternative Routes along existing Loudoun Water lines in order to minimize forest fragmentation or impact to the ecological cores.

The Proposed Route and Alternative Routes do not intersect with any secondary buffers of currently documented bald eagle nests as identified in The Bald Eagle Protection Guidelines for Virginia (2012). The nearest bald eagle nest (CCB ID: LD 1901) is located approximately 1.6 miles southwest of the BECO Substation and was documented to be occupied in 2019. Neither the Proposed Route nor the Alternative Routes are within the 660-foot management buffer for the nest. The Company will work with the appropriate jurisdictional agencies to minimize impacts on this species.

Construction and maintenance of the new transmission line facilities could have some minor effects on wildlife; however, impacts on most species will be short-term in nature, and limited to the period of construction.

Proposed Route (Overhead Route 1C)

Of the 13 species identified above, none have historically been documented by state agencies in areas crossed by the Proposed Route. Tree clearing requirements for the Proposed Route would be approximately 14.08 acres, which is slightly lower than the amount of tree clearing required for either Alternative Route, thereby marginally reducing potential impacts to bird or bat habitat. The Proposed Route has two perennial and three intermittent waterbody crossings; however, as the crossings would be spanned by the overhead line, impacts to aquatic species are not anticipated. According to the CCB, this route does not cross a primary or secondary buffer zone of a documented bald eagle nest.

Alternative Route (Overhead Alternative Route 1A)

Impacts of Overhead Alternative Route 1A to threatened and endangered species are similar to those described above for the Proposed Route. The only difference between the routes, with regards to potential impacts on wildlife, is that Overhead Alternative Route 1A would require slightly more forested land clearing than the Proposed Route (14.22 acres versus 14.08 acres).

Alternative Route (Overhead Alternative Route 1B)

Impacts of Overhead Alternative Route 1B to threatened and endangered species are similar to those described above for the Proposed Route. The only difference between the routes, with regards to potential impacts on wildlife, is that Overhead Alternative Route 1B would require slightly more forested land clearing than the Proposed Route (14.18 acres versus 14.08 acres).

New and updated information is continually added to DCR's Biotics database. Following the DCR-DNH SCC planning stage project review, the Company shall re-submit project information with completed information services order form and a map to DCR-DNH or submit the project on-line through the Natural Heritage Data Explorer. This review shall occur during the final design stage of engineering and upon any major modifications of the project during construction (i.e., deviations, permanent or temporary, from the original study area and/or the relocation of a tower(s) into sensitive areas) for an update on natural heritage information and coordination of potential project modifications to avoid and minimize impacts to natural heritage resources.

G. Erosion and Sediment Control

The DEQ approved the Company's *Standards & Specification for Erosion & Sediment* Control *and Stormwater Management for Construction of Linear Electric Transmission Facilities (TE VEP 8000).* These specifications are given to the Company's contractors and require erosion and sediment control measures to be in place before construction of the line begins and specifies the requirements for rehabilitation of the right-of-way. A copy of the current DEQ approval letter dated August 13, 2019, is provided as Attachment 2.G.1. According to the approval letter, coverage was effective through August 12, 2020. The Company submitted the renewal application on August 3, 2020 and is awaiting approval.

H. Archaeological, Historic, Scenic, Cultural or Architectural Resources

Dutton + Associates was retained by the Company to conduct a Stage I Pre-Application Analysis for the proposed Project. This analysis was completed in September 2021 and was submitted to Virginia Department of Historic Resource ("VDHR") on November 18, 2021. The report is included as Attachment 2.H.1. Preliminary background research was conducted pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) and *Commonwealth of Virginia State Corporation Commission Division of Public Utility Regulation Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia* (August 2017).

As detailed by VDHR guidance, D+A considered National Historic Landmark ("NHL") properties located within a 1.5-mile radius of the centerline; National Register of Historic Places ("NRHP")-listed properties, NHLs, battlefields, and historic landscapes within a 1.0-mile radius of the centerline; NRHP-eligible and -listed properties, NHLs, battlefields,

and historic landscapes within a 0.5-mile radius of the centerline; and all of the above qualifying architectural resources as well as archaeological sites located within the right-of-way for each alternative route. Information on the resources in each tier was collected from the Virginia Cultural Resource Information System ("VCRIS"). D+A also collected information on battlefields surveyed and assessed by the National Park Service's American Battlefield Protection Program ("ABPP"). In its focus on nationally significant Civil War battlefields, the ABPP identifies the historic extent of the battle (study area), the areas of fighting on the battlefield (core area located within the study area), and potential National Register boundaries. Mapping of those ABPP boundaries in the form of ArcGIS shape files was reviewed as part of the analysis of potential cultural resource impacts. In addition to those resources, Dominion Energy Virginia is considering potential effects to VDHR easements.

A summary of the considered resources identified in the vicinity of each Project route alternative and recommendations concerning Project effects is provided in the following discussion. The information presented here derives from existing records and does not purport to encompass the entire suite of historic and archaeological resources that may ultimately be affected by the undertaking.

Proposed Route (Overhead Route 1C)

A review of the VDHR VCRIS indicates that two previously recorded archaeological sites (44LD0107, and 44LD0727) fall within or adjacent to the right-of-way of the Proposed Route. Neither site has been listed as eligible for consideration by the VDHR. Because formal archaeological survey has not been conducted as part of this Project, impacts have not yet been fully determined. These resources should be further considered for existing conditions, and potential project impacts as additional project details become available.

Only one considered resource defined in accordance with VDHR Guidelines is associated with the Proposed Route. The Broad Run Ford and Bridge and Toll House (053-0110) is a ca. 1820 stone building with later frame additions that served as a toll house for an adjacent bridge that historically carried the Leesburg Turnpike over Broad Run. All that remains of the bridge are stone abutments on either side of Broad Run. Located approximately 0.57 mile from the Proposed Route at its nearest point, the landscape between the resource and the study are is undulating, with undeveloped portions remaining thickly wooded. However, there has been extensive development between the resource and the Proposed Route, including several transportation networks, a large campus of the Virginia Cooperative Extension, and townhouses.

Due to this extensive development, and topography, it is anticipated that there would be no visibility of any of the routes from 053-0110, nor any publicly accessible locations in the immediate vicinity. See Attachment 2.H.1 for additional information on this resource.

Alternative Route (Overhead Alternative Route 1A)

Potential impacts on archaeological, historic, scenic, cultural or architectural resources from Overhead Alternative Route 1A would be the same as those described above for the Proposed Route.

Alternative Route (Overhead Alternative Route 1B)

Potential impacts on archaeological, historic, scenic, cultural or architectural resources from Overhead Alternative Route 1B would be the same as those described above for the Proposed Route.

I. Chesapeake Bay Preservation Areas

The Project is not located in a locality subject to the Chesapeake Bay Preservation Act. Construction, installation, operation and maintenance of electric transmission lines are conditionally exempt from the Chesapeake Bay Act as stated in the exemption for public utilities, railroads, public roads and facilities in 9 VAC 25-830-150. The Company will meet those conditions.

J. Wildlife Resources

Relevant agency databases were reviewed and requests for comments from the USFWS, VDWR, and VDCR were submitted to determine if the proposed Project has the potential to affect any threatened or endangered species. As discussed in Section 2.F and identified in Attachment 2.F.1, certain federal and state listed species were identified as potentially occurring in the Project area. The Company will coordinate with the USFWS, VDWR, and VDCR as appropriate to determine whether additional surveys are necessary and to minimize impacts on wildlife resources. In general, the Project area includes a combination of undeveloped forested land (deciduous species with scattered pine), open space, and developed land consisting of public roads, industrial, and commercial use. Native grasses can be used during revegetation to maintain a healthy plant species diversity.

Proposed Route (Overhead Route 1C)

The majority of Overhead Route 1C crosses undeveloped forested (14.08 acres) and open space (5.26 acres), along with smaller areas of developed land (1.49 acres) and open water (0.32 acre). Based on review of recent (2021) aerial photography, a total of approximately 14.08 acres of trees would need to be cleared within the right-of-way for the transmission line and footprint of the DTC Substation.

Alternative Route (Overhead Alternative Route 1A)

The majority of Alternative Route 1A crosses undeveloped forested (14.22 acres) and open space (5.54 acres), along with smaller areas of developed land (1.15 acres) and open water (0.32 acre). Based on review of recent (2021) aerial photography, a total

of approximately 14.22 acres of trees would need to be cleared within the right-of-way for the transmission line and footprint of the DTC Substation.

Alternative Route (Overhead Alternative Route 1B)

The majority of Alternative Route 1B crosses undeveloped forested (14.18 acres) and open space (5.40 acres), along with smaller areas of developed land (1.33 acres) and open water (0.32 acre). Based on review of recent (2021) aerial photography, a total of approximately 14.18 acres of trees would need to be cleared within the right-of-way of the transmission line and footprint of the DTC Substation.

K. Recreation, Agricultural, and Forest Resources

The Project is expected to have minimal incremental impacts on recreational, agricultural, and forest resources. The Project routes collocation and impacts on forest land are described in the sections below.

The Virginia Scenic Rivers Act seeks to identify, designate, and protect rivers and streams that possess outstanding scenic, recreational, historic, and natural characteristics of statewide significance for future generations. No state scenic rivers would be crossed by the Project.

According to the Virginia Department of Forestry ("VDOF"), the proposed and alternative transmission line routes cross no Agricultural and Forestal Districts ("AFDs"). Approximately 21.24 acres of the soils crossed by the routes are classified as prime farmland or farmlands of state importance.

Under the Virginia Open-Space Land Act, any public body can acquire title or rights to real property to provide means of preservation of open-space land. Such conservation easements must be held for no less than five years in duration and can be held in perpetuity. According to the DCR's NHDE, the Project does not cross Virginia Outdoors Foundation ("VOF") easements. One privately owned parcel with a Loudoun County Board of Supervisors ("BOS") Open Space Easement is crossed by the Proposed and Alternative Routes. At the November 10, 2021, Loudoun County BOS public hearing, the BOS approved conveyance of approximately 6.85 acres of easements to the Company required for the Project. No other conservation lands are crossed by the Project. Additional information on the potential impacts on the BOS Open Space Easement is provided in Section 4.1.4 of the Environmental Routing Study.

Proposed Route (Overhead Route 1C)

The Proposed Route would be collocated for a total of 0.92 mile, including 0.59 mile of paralleled Loudoun Water sewer lines, 0.24 mile of parallel roads, and 0.09 mile paralleling both a Loudoun Water line and roads. The Proposed Route would impact 14.08 acres of forested land.

One Loudoun County BOS managed open space easement is crossed by the Proposed Route for 0.35 mile.

A review of Natural Resources Conservation Service ("NRCS") Data soils data indicates that approximately 1.40 acres of the footprint of the Proposed Route are classified as prime farmland, 3.60 acres of prime farmland with mitigation (flood protection), and 10.36 acres are classified as farmland of statewide importance. According to a review of recent 2021 aerial photography, there is no land being used for agricultural purposes within or near the right-of-way of the Proposed Route. The Proposed Route crosses no AFDs or agricultural lands nor does the route run parallel to or cross any Virginia Byways, Scenic Rivers, Resource Protection Areas, or Virginia Birding and Wildlife Trails.

Alternative Route (Overhead Alternative Route 1A)

Overhead Alternative Route 1A would be collocated for a total of 0.93 mile, including 0.59 mile of paralleled Loudoun Water lines, 0.25 mile of paralleling and crossing roads, and 0.09 mile paralleling both Loudoun Water lines and roads. One Loudoun County BOS managed open space easement is crossed by Overhead Alternative Route 1A for 0.35 mile.

A review of NRCS soils data indicates that approximately 1.40 acres of the footprint of Overhead Alternative Route 1A are classified as prime farmland, 3.60 acres of prime farmland with mitigation (flood protection), and 10.44 acres are classified as farmland of statewide importance. According to a review of recent 2021 aerial photography, there is no land being used for agricultural purposes within or near the right-of-way of the Overhead Alternative 1A. The route crosses no AFDs or agricultural lands nor does the route run parallel to or cross any Virginia Byways, Scenic Rivers, Resource Protection Areas, or Virginia Birding and Wildlife Trails.

Alternative Route (Overhead Alternative Route 1B)

Overhead Alternative Route 1B would be collocated for a total of 0.93 mile, including 0.59 mile of paralleled Loudoun Water lines, 0.25 mile of paralleling and crossing roads, and 0.09 mile paralleling both Loudoun Water lines and roads.

One Loudoun County BOS managed open space easement is crossed by Overhead Alternative Route 1A for 0.35 mile.

A review of NRCS soils data indicates that approximately 1.40 acres of the footprint of the Overhead Alternative Route 1B are classified as prime farmland, 3.60 acres of prime farmland with mitigation (flood protection), and 10.44 acres are classified as farmland of statewide importance. According to a review of recent 2021 aerial photography, there is no land being used for agricultural purposes within or near the right-of-way of Overhead Alternative Route 1B. The route crosses no AFDs or

agricultural lands nor does the route run parallel to or cross any Virginia Byways, Scenic Rivers, Resource Protection Areas, or Virginia Birding and Wildlife Trails.

Any tree along the right-of-way that is tall enough to endanger the conductors if it were to break at the stump or uproot and fall directly towards the conductors and exhibits signs or symptoms of disease or structural defect that make it an elevated risk for falling will be designated as a "danger tree" and may be removed. The Company's arborist will contact the property owner if possible before any danger trees are cut, except in emergency situations. The Company's Forestry Coordinator will field inspect the right-of-way and designate any danger trees present. Qualified contractors working in accordance with the Company's Electric Transmission specifications will perform all danger tree cutting. The Project is expected to have minimal impacts on forest resources.

In October 2021, the Company solicited DCR, VOF and VDOF for comments on the proposed Project. In a response letter dated November 4, 2021, VDOF concluded that the Project will require the removal of forest within the Broad Run watershed and recommended avoidance of impacts to stream-side vegetation as much as possible. If the case where avoidance is not possible, VDOF recommends mitigation of the impacts in such a way as to maintain or improve overall water quality, ecosystem function, and scenic value. See Attachment 2.K.1. In an email dated October 7, 2021, the VOF stated that there are no VOF easements within the immediate vicinity of the Project. See Attachment 2.K.2.

L. Use of Pesticides and Herbicides

Of the techniques available, selective foliar is the preferred method of herbicide application. The Company typically maintains transmission line right-of-way by means of selective, low volume applications of EPA-approved, non-restricted use herbicides. The goal of this method is to exclude tall growing brush species from right-of-way by establishing early successional plant communities of native grasses, forbs, and low growing woody vegetation. "Selective" application means the Company sprays only the undesirable plant species (as opposed to broadcast applications). "Low volume" application means the Company uses only the volume of herbicide necessary to remove the selected plant species. The mixture of herbicides used varies from one cycle to the next to avoid the development of resistance by the targeted plants. There are four means of dispersal available to the Company, including by-hand application, backpack, fixed nozzle-radiarc, and aerial. Very little right-of-way maintenance incorporates aerial equipment. The Company uses licensed contractors to perform this work that are either certified applicators or registered technicians in the Commonwealth of Virginia.

DEQ has previously requested that only herbicides approved for aquatic use by the EPA or the USFWS be used in or around any surface water. The Company intends to comply with this request.

M. Geology and Mineral Resources

The Proposed Route and Alternative Routes are located within the Piedmont geologic province, which is characterized by strongly weathered bedrock due to the humid climate, thick soils overlying saprolite (weathered bedrock), and rolling topography that becomes more rugged to the west near the Blue Ridge mountains. In general, the Piedmont province consists of several complex geologic terranes where faults separate rock units with differing igneous and metamorphic histories. Based on review of the Geologic Map of Virginia, the Project area is located within a basin that formed as the Atlantic Ocean began opening during the early Mesozoic Era. Within this Mesozoic-age basin, the bedrock underlying the Project area comprises Triassic-age sandstones, shales, and siltstones that were deposited between approximately 225 and 190 million years ago and were subsequently intruded by fine-grained dark-colored igneous dikes (William and Mary Department of Geology 2021).

ERM reviewed publicly available Virginia Department of Mines, Minerals, and Energy (DMME 2021) and USGS Mineral Resources Data System (MRDS; USGS 1996) datasets, USGS topographic quadrangles, and recent (2020) digital aerial photographs to identify mineral resources in the Project area. Based on the review, no active mineral resources were identified within 0.25 mile of the Project. The closest active quarry is located approximately 3.2 miles south-southeast of the BECO Substation at the intersection of Route 606 and Route 636 near Herndon. The closest mineral occurrence is a copper mineralization located in a road outcrop on the northeast corner of Route 28 and Route 625, approximately 1.3 miles south of the BECO Substation. As such, Project activities would not impact, or be impacted by, identified mineral resources.

N. Transportation Infrastructure

Major public roads within the study area include the following, all of which are maintained by VDOT: Loudoun County Parkway, Sully Road, Gloucester Parkway, Russell Branch Parkway, Nokes Boulevard, Harry Byrd Highway, and Atlantic Boulevard. There are no planned road projects in the Project vicinity.

Temporary closures of roads and or traffic lanes would be required during construction of the Proposed Route or Alternative Routes. No long-term impacts to roads are anticipated. The Company will comply with VDOT requirements for access to the rights-of-way from public roads as well as the underground crossings of the roads. At the appropriate time, the Company will obtain the necessary VDOT permits as required and comply with permit conditions.

The Company will work with Loudoun County to ensure the planned roads and proposed transmission facilities can co-exist. In October 2021, the Company solicited comments from VDOT on the proposed Project. VDOT responded in an email dated October 22, 2021, indicating that the Company is required to coordinate with federal and state agencies on the Project and that no poles or wires can be located within a VDOT limited access highway without Chief Engineer approval. This response is included as Attachment 2.N.1.

The Company solicited comments from the Virginia Department of Aviation ("DOAv") regarding the proposed Project. The DOAv responded via email dated October 6, 2021, commenting that it appears as though the proposed transmission line and substation are both just beyond the 20,000 linear feet that would mandate a 7460 submission to the FAA. However, since the proposed Project is just beyond the distance from a public use airport that would mandate submission, the DOAv recommends the Company submit an airspace study request to the FAA for evaluation. The DOAv also noted that if the line or any of the structures, permanent or temporary, associated with the structure reaches a height above ground level of 200' or more, the submission of the 7460 form would be necessary regardless of the distance to the public use airport. The Company responded to the DOAv on October 19, 2021, providing the results of the Airport Study, which showed that the Project would not trigger the 7460 submission. This correspondence is included as Attachment 2.N.2.

The design of the proposed Project must prevent interference with pilots' safe ingress and egress at the airport. Such hazard or impediments include interference with navigation and communication equipment and glare from materials and external lights.

Finally, the Company has reviewed the FAA's website to identify airports and helipads within ten miles of the proposed Project. Based on this review, the following FAA-restricted airports are located within 10 miles of the Project:

- Dulles International Airport, approximately 2.7 miles south of the Project
- Leesburg Executive Airport, approximately 6.6 miles west of the Project

The Leesburg Executive Airport is located far enough away from the Project area that there is no potential to impact the airports federally defined airspace. Structures associated with the Proposed Route would be located within the federally-defined airspace of Dulles International Airport. The Company has reviewed and mapped the airspace for the airport and has confirmed that no structures would penetrate into the federally defined airspace. The nearest public airport is the Dulles International Airport located about 3.7 miles from the proposed DTC Substation. Since the FAA manages air traffic in the United States, it will evaluate any physical objects that may affect the safety of aeronautical operations through an obstruction evaluation. If required during the permitting process, the Company will submit a FAA Form 7460-1, Notice of Proposed Construction or Alteration, pursuant to 14 CFR Part 77 (Part 77), for any tower locations that meet the review criteria.

Proposed Route (Overhead Route 1C)

Overhead Route 1C would cross four roads, all of which would be spanned. Beginning just north of the BECO Substation, Overhead Route 1C heads northwest crossing Gloucester Parkway. The route continues in a generally northeastern direction and crosses Russell Branch Parkway and Sully Road. The route then continues north paralleling the east side of Sully Road for 0.1 mile before heading east, crossing Century Boulevard, and entering the proposed DTC Substation parcel.

Alternative Route (Overhead Alternative Route 1A)

Overhead Alternative Route 1A would cross four roads, all of which would be spanned. Beginning just north of the BECO Substation, Overhead Alternative Route 1A heads northwest crossing Gloucester Parkway. The route continues in a generally northeastern direction and parallels the western side of Russell Branch Parkway for about 0.1 mile before crossing Russell Branch Parkway and Sully Road. The route then continues east and crosses Century Boulevard before entering the proposed DTC Substation parcel.

Alternative Route (Overhead Alternative Route 1B)

Overhead Alternative Route 1B would cross four roads, all of which would be spanned. Beginning just north of the BECO Substation, Overhead Alternative Route 1B heads northwest crossing Gloucester Parkway. The route continues in a generally northeastern direction and parallels the western side of Russell Branch Parkway for about 0.05 mile before crossing Russell Branch Parkway and Sully Road. The route then continues north paralleling the east side of Sully Road for 0.05 mile before heading east, crossing Century Boulevard, and entering the proposed DTC Substation parcel.

ATTACHMENTS

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
DominionEnergy.com

October 5, 2021

BY EMAIL

Mr. Troy Andersen
US Fish and Wildlife Service
Ecological Services Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061

RE: Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project Loudoun County, Virginia

Dear Mr. Andersen,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity (CPCN) from the State Corporation Commission ("SCC"). At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or rachel.m.studebaker@dominionenergy.com.

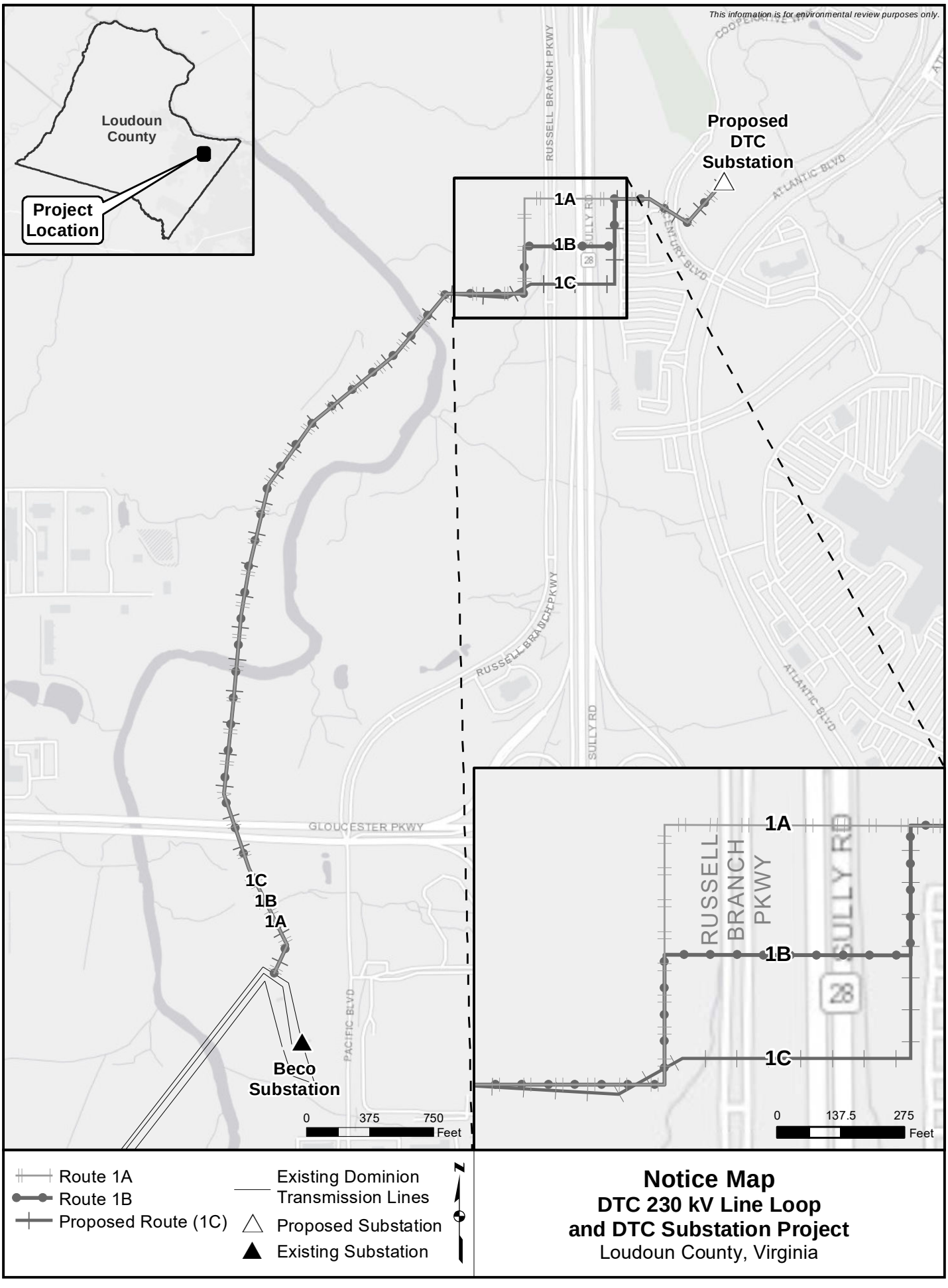
We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map



Notice Map
DTC 230 kV Line Loop and DTC Substation Project
Loudoun County, Virginia

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
DominionEnergy.com

October 5, 2021

BY EMAIL

Mr. Mark Eversole
Habitat Management Division
Virginia Marine Resources Commission
Building 96, 380 Fenwick Road
Fort Monroe, Virginia 23651

RE: Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project Loudoun County, Virginia

Dear Mr. Eversole,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity (CPCN) from the State Corporation Commission ("SCC"). At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or rachel.m.studebaker@dominionenergy.com.

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
DominionEnergy.com

October 5, 2021

BY EMAIL

Ms. Amy M. Ewing
Virginia Department of Wildlife Resources
P.O. Box 90778
Henrico, Virginia 23228

RE: Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project Loudoun County, Virginia

Dear Ms. Ewing,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity (CPCN) from the State Corporation Commission ("SCC"). At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or rachel.m.studebaker@dominionenergy.com.

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
DominionEnergy.com

October 5, 2021

BY EMAIL

Ms. Rene Hypes
Virginia Department of Conservation and Recreation
Environmental Review Coordinator, Natural Heritage Program
600 East Main Street, Suite 1400
Richmond, Virginia 23219

RE: Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project Loudoun County, Virginia

Dear Ms. Hypes,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity (CPCN) from the State Corporation Commission ("SCC"). At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or rachel.m.studebaker@dominionenergy.com.

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
DominionEnergy.com

October 5, 2021

BY EMAIL

Mr. Terry Lasher
Forestland Conservation Division
Virginia Department of Forestry
900 Natural Resources Drive, Suite 800
Charlottesville, Virginia 22903

RE: Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project Loudoun County, Virginia

Dear Mr. Lasher,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity (CPCN) from the State Corporation Commission ("SCC"). At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or rachel.m.studebaker@dominionenergy.com.

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
DominionEnergy.com

October 5, 2021

BY EMAIL

Ms. Bettina Rayfield, Manager
Office of Environmental Impact Review
Department of Environmental Quality, Central Office
PO Box 1105
Richmond, Virginia 23218

RE: Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project Loudoun County, Virginia

Dear Ms. Rayfield,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity (CPCN) from the State Corporation Commission ("SCC"). At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or rachel.m.studebaker@dominionenergy.com.

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
DominionEnergy.com

October 5, 2021

BY EMAIL

Ms. Robbie Rhur
Planning Bureau
Department of Conservation and Recreation
600 East Main Street, 17th Floor
Richmond, Virginia 23219

RE: Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project Loudoun County, Virginia

Dear Ms. Rhur,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity (CPCN) from the State Corporation Commission ("SCC"). At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or rachel.m.studebaker@dominionenergy.com.

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
DominionEnergy.com

October 5, 2021

BY EMAIL

Regulator of the Day
US Army Corps of Engineers
Norfolk District
803 Front Street
Norfolk, Virginia 23510

RE: Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project Loudoun County, Virginia

Dear Regulator of the Day,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity (CPCN) from the State Corporation Commission ("SCC"). At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or rachel.m.studebaker@dominionenergy.com.

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
DominionEnergy.com

October 5, 2021

BY EMAIL

Mr. Keith Tignor
Endangered Plant and Insect Species Program
Virginia Department of Agriculture and Consumer Affairs
102 Governor Street
Richmond, Virginia 23219

RE: Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project Loudoun County, Virginia

Dear Mr. Tignor,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is in the process of preparing an application for a Certificate of Public Convenience and Necessity (CPCN) from the State Corporation Commission ("SCC"). At this time, in advance of an SCC filing, the Company respectfully requests that you submit any comments or additional information on the proposed Project within 30 days of the date of this letter. If you would like to receive a GIS shapefile of the transmission line routes to assist in the project review or if there are any questions, please do not hesitate to contact Rachel Studebaker at (804) 217-1847 or rachel.m.studebaker@dominionenergy.com.

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

October 5, 2021 **[BY EMAIL]**

Scott Denny
Virginia Department of Aviation, Airport Services Division
5702 Gulfstream Road
Richmond, VA 23250

RE: Dominion Energy Virginia's Proposed DTC 230 kV Line Loop and DTC Substation; Loudoun County, Virginia

Dear Mr. Denny,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") to the State Corporation Commission (SCC). At this time, in advance of the SCC filing, the Company respectfully requests that you submit any comments or additional information on the Project within 30 days of the date of this letter. Enclosed is a Project Overview Map depicting the project location. If you would like to receive a GIS shapefile of the route or if you have any questions, please do not hesitate to contact me at (804) 201-3053 or greg.r.baka@dominionenergy.com.

Dominion Energy greatly appreciates your assistance with this project review.

Sincerely,

Greg Baka

Greg Baka
Local Permitting Consultant

Attachment: Project Overview Map **[BY EMAIL]**

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

October 5, 2021 **[BY EMAIL]**

Mike Helvey
Obstruction Evaluation Group Manager
Federal Aviation Administration, FAA Eastern Regional Office
800 Independence Ave, SW, Room 400 East
Washington, D.C. 20591

RE: Dominion Energy Virginia's Proposed DTC 230 kV Line Loop and DTC Substation; Loudoun County, Virginia

Dear Mr. Helvey,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") to the State Corporation Commission (SCC). At this time, in advance of the SCC filing, the Company respectfully requests that you submit any comments or additional information on the Project within 30 days of the date of this letter. Enclosed is a Project Overview Map depicting the project location. If you would like to receive a GIS shapefile of the route or if you have any questions, please do not hesitate to contact me at (804) 201-3053 or greg.r.baka@dominionenergy.com.

Dominion Energy greatly appreciates your assistance with this project review.

Sincerely,

Greg Baka

Greg Baka
Local Permitting Consultant

Attachment: Project Overview Map **[BY EMAIL]**

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

October 5, 2021 **[BY EMAIL]**

Roger Kirchen
Department of Historic Resources, Review and Compliance Division
2801 Kensington Avenue
Richmond, VA 23221

RE: Dominion Energy Virginia's Proposed DTC 230 kV Line Loop and DTC Substation; Loudoun County, Virginia

Dear Mr. Kirchen,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") to the State Corporation Commission (SCC). At this time, in advance of the SCC filing, the Company respectfully requests that you submit any comments or additional information on the Project within 30 days of the date of this letter. Enclosed is a Project Overview Map depicting the project location. If you would like to receive a GIS shapefile of the route or if you have any questions, please do not hesitate to contact me at (804) 201-3053 or greg.r.baka@dominionenergy.com.

Dominion Energy greatly appreciates your assistance with this project review.

Sincerely,

Greg Baka

Greg Baka
Local Permitting Consultant

Attachment: Project Overview Map **[BY EMAIL]**

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

October 5, 2021 **[BY EMAIL]**

Martha Little, Deputy Director
Virginia Outdoors Foundation
600 East Main Street, Suite 402
Richmond, VA 23219

RE: Dominion Energy Virginia's Proposed DTC 230 kV Line Loop and DTC Substation; Loudoun County, Virginia

Dear Ms. Little,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") to the State Corporation Commission (SCC). At this time, in advance of the SCC filing, the Company respectfully requests that you submit any comments or additional information on the Project within 30 days of the date of this letter. Enclosed is a Project Overview Map depicting the project location. If you would like to receive a GIS shapefile of the route or if you have any questions, please do not hesitate to contact me at (804) 201-3053 or greg.r.baka@dominionenergy.com.

Dominion Energy greatly appreciates your assistance with this project review.

Sincerely,

Greg Baka

Greg Baka
Local Permitting Consultant

Attachment: Project Overview Map **[BY EMAIL]**

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

October 5, 2021 **[BY EMAIL]**

John D. Lynch
Northern Virginia District Engineer
Virginia Department of Transportation, Northern Virginia District Office
4975 Alliance Drive
Fairfax, VA 22030

RE: Dominion Energy Virginia's Proposed DTC 230 kV Line Loop and DTC Substation; Loudoun County, Virginia

Dear Mr. Lynch,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") to the State Corporation Commission (SCC). At this time, in advance of the SCC filing, the Company respectfully requests that you submit any comments or additional information on the Project within 30 days of the date of this letter. Enclosed is a Project Overview Map depicting the project location. If you would like to receive a GIS shapefile of the route or if you have any questions, please do not hesitate to contact me at (804) 201-3053 or greg.r.baka@dominionenergy.com.

Dominion Energy greatly appreciates your assistance with this project review.

Sincerely,

Greg Baka

Greg Baka
Local Permitting Consultant

Attachment: Project Overview Map **[BY EMAIL]**

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

October 5, 2021 **[BY EMAIL]**

Kamal Suliman
Regional Operations Director
Virginia Department of Transportation, Northern Virginia District Office
4975 Alliance Drive
Fairfax, VA 22030

RE: Dominion Energy Virginia's Proposed DTC 230 kV Line Loop and DTC Substation; Loudoun County, Virginia

Dear Mr. Suliman,

Dominion Energy Virginia (the "Company") is proposing the DTC 230 kV Line Loop and DTC Substation Project (the "Project") within Loudoun County, Virginia. The Project is necessary to ensure that Dominion Energy can address increased load demand for power and maintain reliable electric service to customers in Loudoun County.

Specifically, the Company is proposing to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing Dominion Energy Virginia Line #2143 at a junction just north of the BECO Substation. From that junction, the Project corridor will extend approximately 1.3 miles generally northeast to the proposed DTC Substation.

The Company is preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") to the State Corporation Commission (SCC). At this time, in advance of the SCC filing, the Company respectfully requests that you submit any comments or additional information on the Project within 30 days of the date of this letter. Enclosed is a Project Overview Map depicting the project location. If you would like to receive a GIS shapefile of the route or if you have any questions, please do not hesitate to contact me at (804) 201-3053 or greg.r.baka@dominionenergy.com.

Dominion Energy greatly appreciates your assistance with this project review.

Sincerely,

Greg Baka

Greg Baka
Local Permitting Consultant

Attachment: Project Overview Map **[BY EMAIL]**

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 FAX (804) 698-4178
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural and Historic Resources

David K. Paylor
Director
(804) 698-4000

October 5, 2021

Rachel Studebaker
Dominion Energy Services
120 Tredegar Street
Richmond, VA 23219

RE: Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project
Loudoun County, Virginia

Dear Ms. Studebaker:

This letter is in response to the scoping request for the above-referenced project.

As you may know, the Department of Environmental Quality, through its Office of Environmental Impact Review (DEQ-OEIR), is responsible for coordinating Virginia's review of environmental impacts for electric power generating projects and power line projects in conjunction with the licensing process of the State Corporation Commission.

DOCUMENT SUBMISSIONS

In order to ensure an effective coordinated review of the environmental impact analysis may be sent directly to OEIR. We request that you submit one electronic to eir@deq.virginia.gov (25 MB maximum) or make the documents available for download at a website, file transfer protocol (ftp) site or the VITA LFT file share system (Requires an "invitation" for access. An invitation request should be sent to eir@deq.virginia.gov.). The required "Wetlands Impact Consultation" can be sent directly to Michelle Henicheck at michelle.henicheck @deq.virginia.gov or at the address above.

ENVIRONMENTAL REVIEW UNDER VIRGINIA CODE 56-46.1

While this Office does not participate in scoping efforts beyond the advice given herein, other agencies are free to provide scoping comments concerning the preparation of the environmental impact analysis document. Accordingly, we have coordinated your request with the following state agencies and those localities and Planning District Commissions, including but not limited to:

Department of Environmental Quality:

- DEQ Regional Office

- Air Division
- Office of Wetlands and Stream Protection
- Office of Local Government Programs
- Division of Land Protection and Revitalization
- Office of Stormwater Management

Department of Conservation and Recreation
Department of Health
Department of Agriculture and Consumer Services
Department of Wildlife Resources
Virginia Marine Resources Commission
Department of Historic Resources
Department of Mines, Minerals, and Energy
Department of Forestry
Department of Transportation

DATA BASE ASSISTANCE

Below is a list of databases that may assist you in the preparation of a NEPA document:

- DEQ Online Database: Virginia Environmental Geographic Information Systems

  Information on Permitted Solid Waste Management Facilities, Impaired Waters, Petroleum Releases, Registered Petroleum Facilities, Permitted Discharge (Virginia Pollution Discharge Elimination System Permits) Facilities, Resource Conservation and Recovery Act (RCRA) Sites, Water Monitoring Stations, National Wetlands Inventory:
  - www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx

- DEQ Virginia Coastal Geospatial and Educational Mapping System (GEMS)

  Virginia's coastal resource data and maps; coastal laws and policies; facts on coastal resource values; and direct links to collaborating agencies responsible for current data:
  - http://128.172.160.131/gems2/

- MARCO Mid-Atlantic Ocean Data Portal

  The Mid-Atlantic Ocean Data Portal is a publicly available online toolkit and resource center that consolidates available data and enables users to visualize and analyze ocean resources and human use information such as fishing grounds, recreational areas, shipping lanes, habitat areas, and energy sites, among others.

  http://portal.midatlanticocean.org/visualize/#x=-73.24&y=38.93&z=7&logo=true&controls=true&basemap=Ocean&tab=data&legends=false&layers=true

- DHR Data Sharing System.

  Survey records in the DHR inventory:

  - www.dhr.virginia.gov/archives/data_sharing_sys.htm

- DCR Natural Heritage Search

  Produces lists of resources that occur in specific counties, watersheds or physiographic regions:
  - www.dcr.virginia.gov/natural_heritage/dbsearchtool.shtml

- DWR Fish and Wildlife Information Service

  Information about Virginia's Wildlife resources:
  - http://vafwis.org/fwis/

- Total Maximum Daily Loads Approved Reports
  - https://www.deq.virginia.gov/programs/water/waterqualityinformationtmdls/tmdl/tmdldevelopment/approvedtmdlreports.aspx

- Virginia Outdoors Foundation: Identify VOF-protected land
  - http://vof.maps.arcgis.com/home/index.html

- Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Database: Superfund Information Systems

  Information on hazardous waste sites, potentially hazardous waste sites and remedial activities across the nation, including sites that are on the National Priorities List (NPL) or being considered for the NPL:
  - www.epa.gov/superfund/sites/cursites/index.htm

- EPA RCRAInfo Search

  Information on hazardous waste facilities:
  - www.epa.gov/enviro/facts/rcrainfo/search.html

- Total Maximum Daily Loads Approved Reports
  - https://www.deq.virginia.gov/programs/water/waterqualityinformationtmdls/tmdl/tmdldevelopment/approvedtmdlreports.aspx

- EPA Envirofacts Database

  EPA Environmental Information, including EPA-Regulated Facilities and Toxics Release Inventory Reports:
  - www.epa.gov/enviro/index.html

- EPA NEPAssist Database

  Facilitates the environmental review process and project planning:
  http://nepaassisttool.epa.gov/nepaassist/entry.aspx

If you have questions about the environmental review process, please feel free to contact me (telephone (804) 698-4204 or e-mail bettina.rayfield@deq.virginia.gov).

I hope this information is helpful to you.

Sincerely,

Bettina Rayfield, Program Manager
Environmental Impact Review and
Long-Range Priorities

COMMONWEALTH of VIRGINIA

Marine Resources Commission
380 Fenwick Road
Bldg 96
Fort Monroe, VA 23651-1064

Ann F. Jennings
Secretary of Natural and Historic Resources

Steven G. Bowman
Commissioner

October 29, 2021

Dominion Energy Services
Attn Rachel Studebaker
120 Tredegar Street
Richmond, VA 23219

Re: Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project Loudoun County, Virginia

Dear Ms. Studebaker,

This will respond to the request for comments regarding Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project, prepared by Dominion Energy. Specifically, Dominion Energy has proposed to construct a new overhead 230 kV double circuit transmission loop on new right-of-way by cutting the existing line (#2143) at a junction just north of the BECO Substation and extend the project corridor approximately 1.3 miles northeast to the proposed DTC Substation in Loudoun County, Virginia. We reviewed the provided project documents and found the proposed project to be within the jurisdictional areas of the Virginia Marine Resources Commission (VMRC) and will require a permit from this agency.

Please be advised that the VMRC, pursuant to §28.2-1200 et seq of the Code of Virginia, has jurisdiction over encroachments in, on, or over the beds of the bays, ocean, rivers, streams, or creeks which are the property of the Commonwealth. Accordingly, if any portion of the subject project involves any encroachments channelward of ordinary high water along non-tidal, natural rivers and streams with a drainage area greater than 5-square miles, a permit may be required from our agency. Any jurisdictional impacts will be reviewed by the VMRC during the JPA process. Please contact me at (757) 247-8028 or by email at mark.eversole@mrc.virginia.gov if you have any questions. Thank you for the opportunity to comment.

Sincerely,

Mark Eversole
Environmental Engineer, Habitat Management

ME/cg
HM

ERM

919 East Main Street
Suite 1701
Richmond, Virginia
23219

Telephone: (804) 253-1090
Fax: (804) 253-1091

www.erm.com

November 9, 2021

Ms. Bettina Rayfield, Manager
Virginia Department of Environmental Quality
Office of Environmental Impact Review
P.O. Box 1105
Richmond, Virginia 23218

Subject: Wetland and Waterbody Desktop Summary
DTC 230 kV Line Loop and DTC Substation Project
New SCC Filing

Dear Ms. Sullivan:

Environmental Resources Management (ERM), on behalf of Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company"), conducted a desktop wetland and waterbody review of publically-available information for the proposed DTC 230 kV Line Loop and DTC Substation Project located in Loudoun County, Virginia. Field delineations were not performed and would be required to verify the accuracy and extent of aquatic resource boundaries. Attachment 1 depicts the general location of the proposed project. Attachment 2 illustrates the wetland boundaries that were identified as part of the desktop review. Dominion Energy Virginia is filing an application with the State Corporation Commission (SCC) for the following:

For this Project, Dominion Energy Virginia evaluated multiple new build options that could address current demand needs and accommodate increased future demand in the Project area in Loudoun County. The Company considered the facilities required to construct and operate the new feeds; the length of new rights-of-way required for each option; the amount of existing development in each area; the potential for environmental impacts on communities; and the relative cost of each option.

After review of the new build options, Dominion Energy Virginia decided to further investigate two electrical options for this Project, both of which are located entirely within Loudoun County, Virginia.

- Option 1 involves connecting with the existing Line #2143 from a point just north of the existing BECO Substation on the west side of Pacific Boulevard and just south of Gloucester Parkway, and extending a new 230 kV double circuit transmission line northeast to the proposed DTC Substation. The DTC Substation site is located on the east side of Route 28 between Atlantic Boulevard and Century Boulevard. Option 1 includes three overhead route alternatives.
- Option 2 involves tapping the existing Line #2150 near the intersection of the Washington and Old Dominion (W&OD) Trail and Sully Road and extending a new 230 kV double circuit transmission line northeast to the proposed DTC Substation.

An underground route alternative and other overhead routes were preliminarily reviewed for Option 1 but dismissed for various reasons and are not included in our analysis. All Option 2 routes were determined not viable and are not included in our analysis.

The purpose of this desktop analysis was to identify and evaluate potential impacts of the project on wetlands and waterbodies (streams, creeks, runs, and open water features). In accordance with Virginia Department of Environmental Quality (DEQ) and the SCC's Memorandum of Agreement, the evaluation was conducted using various data sets that may indicate wetland location and type. The information summarized in this report will be submitted to the DEQ as part of the DEQ Wetland Impacts Consultation.

This assessment did not include the field investigations required for wetland delineations in accordance with the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0).

Project Study Area and Potential Routes

As discussed above, all viable route alternatives would entail constructing a new double circuit 230 kV line from the existing BECO Substation and the proposed DTC Substation. The three potential routes deemed buildable and worthy of further consideration are described below.

Overhead Route Alternatives

Route 1A

Route 1A would involve construction of an overhead double circuit 230 kV line from existing Line #2143 just north of the existing BECO Substation to the proposed DTC Substation. The length of the corridor for Route 1A is approximately 1.31 miles. Beginning just north of the BECO Substation, Route 1A heads northwest for about 0.19 mile adjacent to the right-of-way for a Loudoun County Water line and across Gloucester Parkway. A portion of this segment crosses a Loudoun County Board of Supervisors (BOS) easement. After crossing Gloucester Parkway, the route then continues generally north for 0.57 mile, generally following the Loudoun Water line, and includes an additional crossing of the BOS easement and a crossing of Broad Run. The transmission line route then turns to the north and east for 0.19 mile (including another small crossing of the Loudoun County BOS easement) before heading due north for 0.11 mile following the west side of Russell Branch Parkway and paralleling a multi-use trail. After a 0.09-mile crossing of Russell Branch Parkway and Sully Road, the line then continues east and southeast for 0.09 mile crossing Century Boulevard. Finally, the route heads northeast for 0.07 mile and then enters the proposed DTC Substation property.

Route 1B

Route 1B would involve construction of an overhead double circuit 230 kV line from the existing Line #2143 just north of the existing BECO Substation to the proposed DTC Substation. The length of the corridor for Route 1B is approximately 1.31 miles. Beginning just north of the BECO Substation, Route 1B heads northwest for about 0.19 mile adjacent to the right-of-way for a Loudoun County Water line and across Gloucester Parkway. A portion of this segment crosses a Loudoun County BOS easement. After crossing Gloucester Parkway, the route then continues generally north for 0.57 mile, generally following the Loudoun Water line, and includes an additional crossing of the BOS easement and a crossing of Broad Run. The transmission line route then turns to the north and east for 0.19 mile (including another small crossing of the Loudoun County BOS easement) before heading due north for 0.05 mile following the west side of Russell Branch Parkway and paralleling a multi-use trail. After a 0.10 mile crossing of Russell Branch Parkway and Sully Road, the line then turns north for 0.05 mile paralleling the east side of

Sully Road and crossing the western edge of a parking lot associated with the adjacent Lerner 21000 Atlantic office building. The route then continues east and southeast for 0.08 mile crossing Century Boulevard. Finally, the route heads northeast for 0.07 mile and then enters the proposed DTC Substation property.

Route 1C

Route 1C would involve construction of an overhead double circuit 230 kV line from the existing Line #2143 just north of the existing BECO Substation to the proposed DTC Substation. The length of the corridor for Route 1C is approximately 1.30 miles. Beginning just north of the BECO Substation, Route 1C heads northwest for about 0.19 mile adjacent to the right-of-way for a Loudoun County Water line and across Gloucester Parkway. A portion of this segment crosses a Loudoun County BOS easement. After crossing Gloucester Parkway, the route then continues generally north for 0.57 mile, generally following the Loudoun Water line, and includes an additional crossing of the BOS easement and a crossing of Broad Run. The transmission line route then turns to the north and east for 0.20 mile before intersecting Russell Branch Parkway. This segment includes a second crossing of Broad Run and another short crossing of the BOS easement. As this segment of the route heads east, the route was designed to avoid an existing VDOT traffic signal easement. After a 0.09 mile crossing of Russell Branch Parkway and Sully Road, the line next turns north and parallels the eastern side Sully Road, crossing the western edge of a parking lot associated with the adjacent Lerner 21000 Atlantic office building for 0.10 mile. From that point, the line turns east and southeast for 0.08 mile crossing Century Boulevard. Finally, the route heads northeast for 0.07 mile and then enters the proposed DTC Substation property.

Desktop Evaluation Methodology

The area of effect considered for this study consists of the proposed rights-of-way identified above within which the electric transmission lines would be constructed and operated. Data sources used for this review include the following, each of which is described briefly below:

- National Agricultural Imagery Program (NAIP) Digital Ortho-Rectified Natural Color Images, Virginia, 1-meter pixel resolution, photo date 2020;
- NAIP Digital Ortho-Rectified Infrared Images, Virginia, 1-meter pixel resolution, photo date 2020;
- U.S. Geological Survey (USGS) 7.5-minute current (2014);
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) mapping (2020);
- U.S. Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) Soil Survey Geographic (SSURGO) database for Loudon County, Virginia (2021); and
- Loudoun County, Virginia Weblogis – Online Mapping System (2021)

Natural Color and Infrared Aerial Photography

Recent (2020) natural color aerial photography was used to provide a visual overview of the project area and to assist in evaluating current conditions. Recent (2020) infrared aerial photography was used to identify the potential presence of wetlands based on signatures associated with the levels of reflectance. For example, areas that are inundated with water appear very dark (almost black) due to the low level of

reflectance in the infrared spectrum. The presence of these dark colors can be used as a potential indicator of hydric or inundated soils that are likely associated with wetlands.

USGS Topographic Maps

The recent (2014) USGS topographic maps show the topography of the area. The USGS topographic maps also depict other important landscape features such as forest cover, development, buildings, agricultural areas, streams, lakes, and wetlands.

NWI Maps

The NWI maps provide the boundaries and classifications of potential wetland areas as mapped by the USFWS. However, NWI data are based primarily on aerial photo interpretations with limited ground-truthing and may represent incorrect boundaries or wetland cover types. NWI data can be unreliable in some areas, especially in forested landscapes, when aerial photography is used as the major data source. The classifications of the majority of the NWI polygons in the study area appear to be accurate based on a review of the cover types observed in the aerial photography. However, in areas where there was an obvious discrepancy between the NWI classification and the aerial photography, ERM modified the classification to more accurately reflect current conditions. For example, an area mapped by NWI data as open water was adjusted to an emergent wetland type. For the purposes of this review, wetlands mapped as unconsolidated bottom or riverine were considered open water. In order to acknowledge ERM's adjustment of NWI classifications where appropriate, all of the wetland types referenced in this assessment are referred to as "assigned wetland cover types" regardless of whether the cover type was actually modified from the NWI classification.

USDA-NRCS Soils Data

The soils in the study area were identified and assessed using the SSURGO database, which is a digital version of the original county soil surveys. The attribute data within the SSURGO database provides the proportionate extent of the component soils and their properties (e.g., hydric rating) for each soil map unit. The soils in the study area were grouped into three categories based on the hydric rating of the component soils within each map unit: hydric, partially hydric, and non-hydric. Hydric soils were defined as those where the major component soils, and minor components in some cases, are designated as hydric. Hydric components in these map units account for more than 80 percent of the map unit. Partially hydric soils include map units that only contain minor component soils that are designated as hydric. The partially hydric map units in the project area contain 10 percent or less hydric soils. The remaining map units do not contain any component soils that are designated as hydric. Areas mapped as hydric or partially hydric have a higher probability of containing wetlands than areas with no hydric soils.

USGS Hydrography and Loudoun County Waterbody Datasets

The NHD and County of Loudoun Waterbody datasets contain features such as lakes, ponds, streams, rivers, and canals. The waterbodies mapped by the NHD appeared consistent with those visible on the USGS maps and aerial photography. The County of Loudoun Waterbody datasets were used in coordination with the USGS Hydrography dataset for additional refinement.

Probability Analysis

ERM used a stepwise process to identify probable wetland areas along the transmission line routes, as follows:

1. Infrared and natural color aerial photography was used in conjunction with USGS topographic maps and soils maps to identify potential wetland areas. Boundaries were assigned to the areas that appeared to exhibit wetland signatures based on this review and a cover type was determined based on aerial photo interpretation. For the purpose of the study, these areas are referred to as Interpreted Wetlands.

2. To further determine the probability of a wetland occurring within a given location, the Interpreted Wetland polygon shape files were digitally layered with the NWI mapping and soils information from the SSURGO database.

3. The probability of a wetland occurring was assigned based on the number of overlapping data layers (i.e., indicators of potential wetland presence) that occurred in a particular area.

The criteria assigned to each probability are outlined in Table 1.

Table 1: Criteria Used to Rank the Probability of Wetland Occurrence

Probability	Criteria
High	Areas where layers of hydric soils, Interpreted Wetlands, and NWI data overlap
Medium/High	NWI data overlaps hydric soils; or NWI data overlaps Interpreted Wetlands with or without partially hydric soils; or Hydric soils overlap Interpreted Wetlands
Medium	Interpreted Wetlands with or without overlap by partially hydric soils
Medium/Low	Hydric soils only; or NWI data with or without overlap by partially hydric soils
Low	Partially hydric soils only
Very Low	Non-hydric soils only

Wetland and Waterbody Crossings

The desktop analysis provides a probability of wetlands and waterbody occurrence within each route alternative. As stated above, field delineations were not performed and would be required to verify the accuracy and extent of aquatic resource boundaries. A range of wetland occurrence probabilities are reported by this study from very low to high. The probability of wetland occurrence increases as multiple indicators begin to overlap towards the “high” end of the spectrum. The medium-high and high probability category are the most reliable representation of in-situ conditions, due to overlapping data sets, and these categories are reported in the summary below as a percentage of the total acreage of each alternative route. Attachment 2 depicts the interpreted wetlands displayed on color base map images.

Results

Results of the probability analysis are presented in Table 2 below. Summaries of impacts by route are provided in the sections following the table.

Table 2: Summary of the Probabilities of Wetland and Waterbody Occurrence along Project Routes [a, b]

Probability	Total Acres [c]	Wetland and Waterbody Type (acres)			
		PFO Forested	PSS Scrub/Shrub	PEM Emergent	Riverine Stream
Route 1A					
High	0.63	0.39	0.00	0.02	0.22
Medium/High	2.33	1.63	0.00	0.55	0.15
Medium	0.10	0.02	0.00	0.08	0.00
Medium/Low	3.18	0.95	0.00	0.06	0.00
Low	14.99	0.00	0.00	0.00	0.00
Very Low	0.00	0.00	0.00	0.00	0.00
Route 1B					
High	0.63	0.39	0.00	0.02	0.22
Medium/High	2.33	1.63	0.00	0.55	0.15
Medium	0.10	0.02	0.00	0.08	0.00
Medium/Low	3.18	0.95	0.00	0.06	0.00
Low	14.99	0.00	0.00	0.00	0.00
Very Low	0.00	0.00	0.00	0.00	0.00
Route 1C					
High	0.63	0.39	0.00	0.02	0.22
Medium/High	2.33	1.63	0.00	0.55	0.15
Medium	0.10	0.02	0.00	0.08	0.00
Medium/Low	3.18	0.95	0.00	0.06	0.00
Low	14.91	0.00	0.00	0.00	0.00
Very Low	0.00	0.00	0.00	0.00	0.00

a The numbers in this table have been rounded for presentation purposes; as a result, the totals may not reflect the sum of the addends.
b Substation and transition wetlands and waterbodies are included within each route rather than individually.
c Total acres may not total the sum of wetland and waterbody types. This is due to the fact that some of the lower probability rankings do not overlap with NWI or interpreted wetlands, and therefore do not have a wetland/waterbody type associated with them.

Route 1A

The length of the corridor for the Route 1A is approximately 1.31 miles, and encompasses a total of approximately 15.03 acres of right-of-way and 6.21 acres of substation for a total of 21.42 acres. Based on the methodology discussed above, the right-of-way and substation encompass approximately 13.82 percent (2.96 acres) of land with a medium/high or higher probability of containing wetlands and waterbodies.

Route 1B

The length of the corridor for the Route 1B is approximately 1.31 mile, and encompasses a total of approximately 15.03 acres of right-of-way and 6.21 acres of Substation for a total of 21.42 acres. Based on the methodology discussed above, the right-of-way encompass approximately 13.82 percent (2.96 acres) of land with a medium/high or higher probability of containing wetlands and waterbodies.

Route 1C

The length of the corridor for the Route 1C is approximately 1.30 mile, and encompasses a total of approximately 14.95 acres of right-of-way and 6.21 acres of substation for a total of 21.15 acres. Based on the methodology discussed above, the right-of-way encompass approximately 14.00 percent (2.96 acres) of land with a medium/high or higher probability of containing wetlands and waterbodies.

Waterbody Crossings

Based on the NHD, there are a total of four waterbody crossings that would be common to all three route alternatives. These crossings include two crossings of Broad Run (a perennial waterbody) and two crossings of unnamed tributaries to Broad Run (intermittent waterbodies).

Project Impacts

Avoiding or minimizing new impacts on wetlands and streams was among the criteria Dominion Virginia Power used in developing potential routes for the rebuild project. While crossings of wetlands and streams could not be entirely avoided in siting this linear facility, Dominion Virginia Power has minimized crossings of these features to the extent practicable.

To minimize impacts on wetland areas, the rebuild would be designed to avoid wetlands where possible. Where the removal of shrubby vegetation occurs within wetlands, Dominion Virginia Power would use the least intrusive method reasonably possible to clear the corridor. Hand-cutting of vegetation would be conducted, where needed, to avoid and minimize impacts on streams and/or wetlands. There would be no change in contours or redirection of the flow of water, and the amount of spoil from trenching would be minimal. Excess soil in wetlands generated during construction would be removed from the wetland.

Mats would be used for construction equipment to travel over wetlands, as appropriate. Grading in wetlands will consist of the minimum necessary for safe and efficient equipment operation. Potential direct impacts on wetlands would be temporary in nature, but a reduction in wetland functions and values would occur where tree clearing within wetlands is necessary.

Closing

This Wetland and Waterbody Summary report was prepared in accordance with the Memorandum of Agreement between the Department of Environmental Quality and the State Corporation Commission for purposes of initiating a Wetlands Impact Consultation. Please note: a formal onsite wetland delineation was not conducted as part of this review.

In addition, we have a project website where the SCC application will be available after filing, as well as maps and discussions about the project. It can be accessed by going to dom.com and searching for “BECO to DTC”. If you have any questions regarding this wetland assessment please contact me at 804-338-9099 or by email at jason.teschler@erm.com.

Yours sincerely,

Jason Teschler, PWS
Environmental Resources Management

cc: Greg Baka, Virginia Electric and Power Company
Rachel Studebaker, Virginia Electric and Power Company

Enclosures: Attachments 1 and 2

References

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ATTACHMENT 1

This information is for environmental review purposes only.

PROPOSED DTC SUBSTATION △

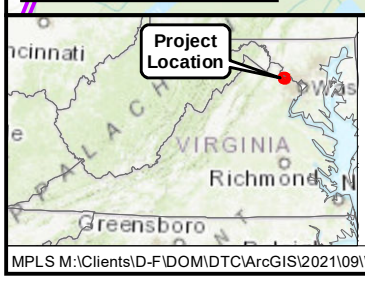
1A

1B

1C

BECO SUBSTATION ▲

0 500 1,000 Feet



△ Proposed Substation

▲ Existing Substation

Existing Dominion Transmission Line

Proposed Substation Boundary

Centerline and Rights of Way

Route 1A (1.31 Miles - 100ft ROW)

Route 1B (1.31 Miles - 100ft ROW)

Route 1C (1.30 Miles - 100ft ROW)

Attachment 1
Overview Map
DTC 230 kV Line Loop and DTC Substation Project
Loudoun County, Virginia

ERM

Dominion Energy

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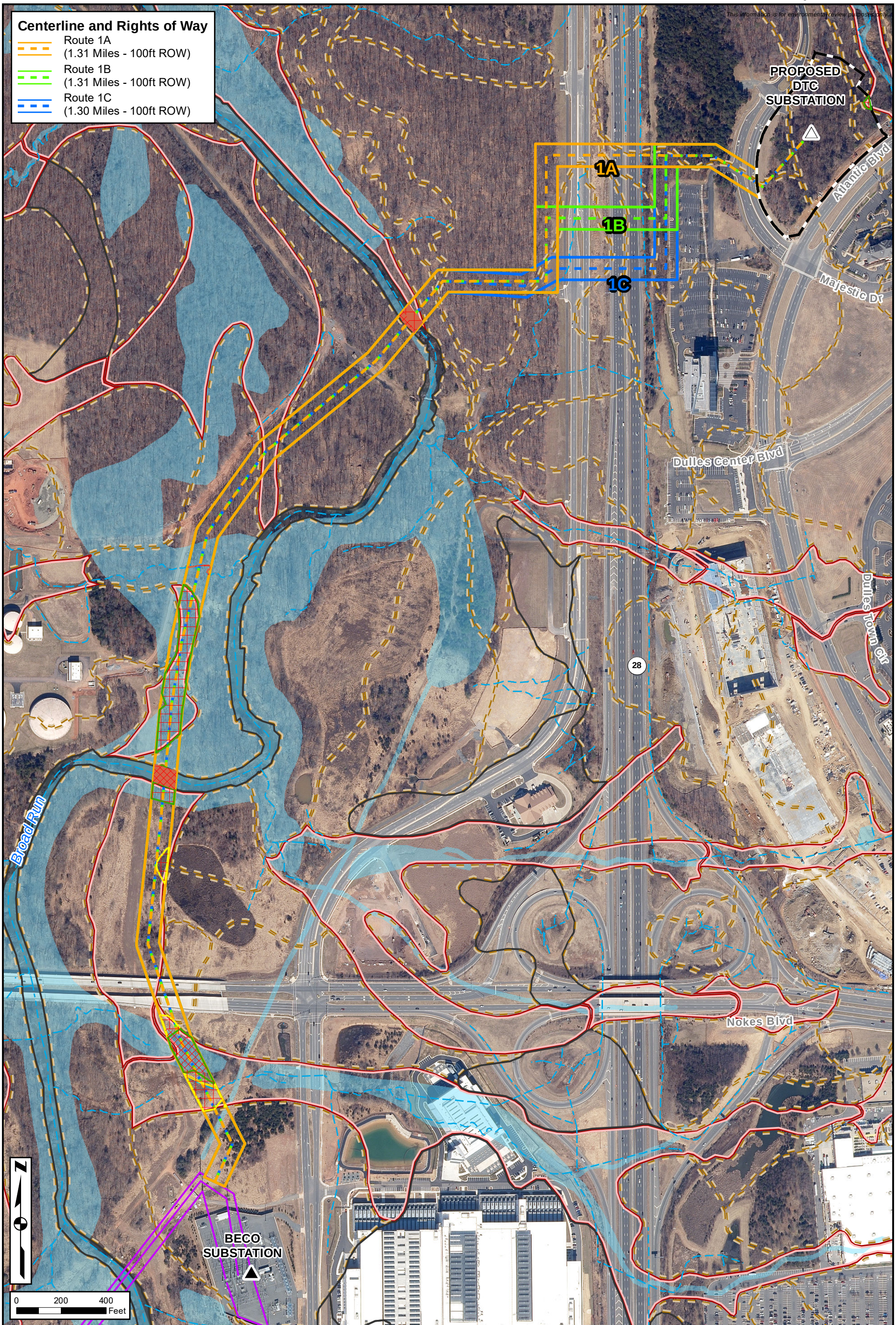
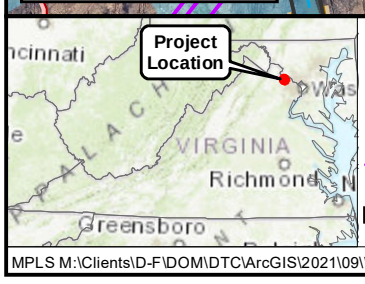
ATTACHMENT 2





Proposed Substation
Existing Substation
Existing Dominion Transmission Line
Proposed Substation Boundary
Loudoun County Stream
NWI Wetland

Wetland Cover Type
PEM
PFO
Riverine

Wetland Probability
High
Medium/High

Hydric Soil - SSURGO
Hydric
Partially Hydric
Not Hydric

Attachment 2
Wetland Probability Map
DTC 230 kV Line Loop and DTC Substation Project

Loudoun County, Virginia

ERM

Dominion Energy

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Rachel M Studebaker (Services - 6)

From: Holland, Benjamin <benjamin.holland@deq.virginia.gov>
Sent: Wednesday, October 6, 2021 10:31 AM
To: Rachel M Studebaker (Services - 6)
Cc: Miller, Mark; rr Environmental Impact Review
Subject: [EXTERNAL] DEQ NRO response to scoping request DTC 230 KV Line Loop and DTC Substation Project

Northern Regional Office comments regarding the scoping request for *Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project Loudoun County, Virginia* are as follows:

Land Protection Division – The project manager is reminded that if any solid or hazardous waste is generated/encountered during construction, the project manager would follow applicable federal, state, and local regulations for their disposal.

Air Compliance/Permitting - The project manager is reminded that during the construction phases that occur with this project; the project is subject to the Fugitive Dust/Fugitive Emissions Rule 9 VAC 5-50-60 through 9 VAC 5-50-120. In addition, should any open burning or use of special incineration devices be employed in the disposal of land clearing debris during demolition and construction, the operation would be subject to the Open Burning Regulation 9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100.

Virginia Water Protection Permit (VWPP) Program – The project manager is reminded that a VWP permit from DEQ may be required should impacts to surface waters be necessary. Measures should be taken to avoid and minimize impacts to surface waters and wetlands during construction activities. The disturbance of surface waters or wetlands may require prior approval by DEQ and/or the U.S. Army Corps of Engineers. The Army Corps of Engineers is the authority for an official confirmation of whether there are federal jurisdictional waters, including wetlands, which may be impacted by the proposed project. DEQ may confirm additional waters as jurisdictional beyond those under federal authority. Review of National Wetland Inventory maps or topographic maps for locating wetlands or streams may not be sufficient; there may need to be a site-specific review of the site by a qualified professional. Even if there will be no intentional placement of fill material in jurisdictional waters, potential water quality impacts resulting from construction site surface runoff must be minimized. This can be achieved by using Best Management Practices (BMPs). If construction activities will occur in or along any streams (perennial, intermittent, or ephemeral), open water or wetlands, the applicant should contact DEQ-NRO VWPP staff to determine the need for any permits prior to commencing work that could impact surface waters or wetlands. Upon receipt of a Joint Permit Application for the proposed surface water impacts, DEQ VWP Permit staff will review the proposed project in accordance with the VWP permit program regulations and current VWP permit program guidance. VWPP staff reserve the right to provide comment upon receipt of a permit application requesting authorization to impact state surface waters, and at such time that a wetland delineation has been conducted and associated jurisdiction determination made by the U.S. Army Corps of Engineers.

Erosion and Sediment Control, Storm Water Management – DEQ has regulatory authority for the Virginia Pollutant Discharge Elimination System (VPDES) programs related to municipal separate storm sewer systems (MS4s) and construction activities. Erosion and sediment control measures are addressed in local ordinances and State regulations. Additional information is available at http://www.deq.virginia.gov/Programs/Water/StormwaterManagement.aspx. Non-point source pollution resulting from this project should be minimized by using effective erosion and sediment control practices and structures. Consideration should also be given to using permeable paving for parking areas and walkways where appropriate, and denuded areas should be promptly revegetated following construction work. If the total land disturbance exceeds 10,000 square feet, an erosion and sediment control plan will be required. Some localities also require an E&S plan for disturbances less than 10,000 square feet. A stormwater management plan may also be required. For any land disturbing activities equal to one acre or more, you are required to apply for coverage under the VPDES General Permit for Discharges of Storm Water from Construction Activities. The Virginia Stormwater Management Permit Authority may be DEQ or the locality.

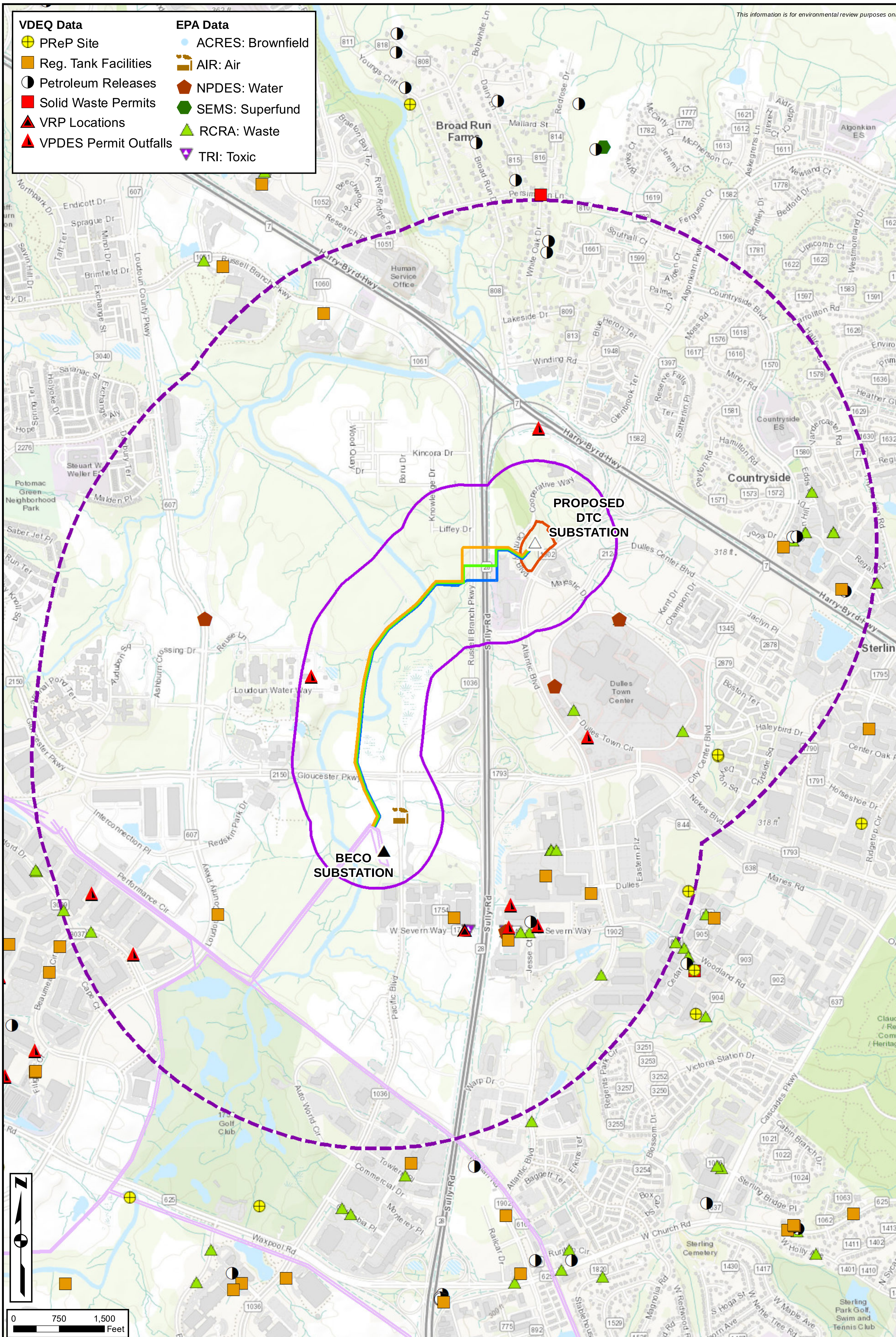
Other VPDES Permitting – A construction project may require coverage under the VAG83 permit for discharges from petroleum contaminated sites, groundwater remediation, and hydrostatic tests for any hydrostatics tests on any new piping installed, or for any potential dewatering during construction if petroleum contamination is encountered.

--

BENJAMIN D. HOLLAND, MPH
DEQ Regional Enforcement Specialist, Senior

VA Department of Environmental Quality
Northern Regional Office
13901 Crown Court
Woodbridge, VA 22193

Phone: (703) 583-3812
Email: benjamin.holland@deq.virginia.gov
Website: www.deq.virginia.gov



△ Proposed Substation	Route 1A Centerline	Proposed Substation Boundary
▲ Existing Substation	Route 1B Centerline	1,000-Foot Buffer
	Route 1C Centerline	1-Mile Buffer

Attachment 2.E.1
Routes 1A, 1B and 1C
DTC 230 kV Line Loop
and DTC Substation Project
Loudoun County, Virginia

ERM | Dominion Energy

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Ann Jennings
Secretary of Natural and Historic Resources and Chief Resilience Officer

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz
Deputy Director of Administration and Finance

Nathan Burrell
Deputy Director of Government and Community Relations

Darryl M. Glover
Deputy Director of Dam Safety & Floodplain Management and Soil & Water Conservation

Thomas L. Smith
Deputy Director of Operations

October 15, 2021

Jason Teschler
Environmental Resource Management
1613 Whitlone Drive
Richmond, VA 23225

Re: DTC 230 KV Delivery Project

Dear Mr. Teschler:

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.

According to the information currently in our files, natural heritage resources have not been documented at this location. However, several rare plants, which are typically associated with prairie vegetation and inhabit semi-open diabase glades in Virginia, may occur at this location if suitable habitat is present. Diabase glades are characterized by historically fire-dominated grassland vegetation on relatively nutrient-rich soils underlain by Triassic bedrock. Diabase flatrock, a hard, dark-colored volcanic rock, is found primarily in northern Virginia counties and is located within the geologic formation known as the Triassic Basin. Where the bedrock is exposed, a distinctive community type of drought-tolerant plants occurs. Diabase flatrocks are extremely rare natural communities that are threatened by activities such as quarrying and road construction (Rawinski, 1995).

In Northern Virginia, diabase supports occurrences of several global and state rare plant species: Earleaf False foxglove (*Agalinis auriculata*, G3/S1/NL/NL), Purple milkweed (*Asclepias purpurascens*, G5?/S2/NL/NL), American bluehearts (*Buchnera americana*, G5?/S1S2/NL/NL), Downy phlox (*Phlox pilosa*, G5/S1/NL/NL), Torrey's Mountain-mint (*Pycnanthemum torreyi*, G2/S2/NL/NL), Stiff goldenrod (*Solidago rigida var. rigida*, G5T5/S2/NL/NL), and Hairy hedgenettle (*Stachys arenicola*, G4?/S1/NL/NL).

Due to the potential for this site to support populations of natural heritage resources, DCR recommends an inventory for the resources in the study area. With the survey results we can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.

DCR-Division of Natural Heritage biologists are qualified to conduct inventories for rare, threatened, and endangered species. Please contact Anne Chazal, Natural Heritage Chief Biologist, at anne.chazal@dcr.virginia.gov or 804-786-9014 to discuss availability and rates for field work.

Furthermore, if tree removal is proposed for the project, it will fragment Ecological Cores **(C5)** as identified in the Virginia Natural Landscape Assessment (https://www.dcr.virginia.gov/natural-heritage/vaconvisvnla), one of a suite of tools in Virginia ConservationVision that identify and prioritize lands for conservation and protection. Mapped cores in the project area can be viewed via the Virginia Natural Heritage Data Explorer, available here: http://vanhde.org/content/map.

Ecological Cores are areas of unfragmented natural cover with at least 100 acres of interior that provide habitat for a wide range of species, from interior-dependent forest species to habitat generalists, as well as species that utilize marsh, dune, and beach habitats. Cores also provide benefits in terms of open space, recreation, water quality (including drinking water protection and erosion prevention), and air quality (including carbon sequestration and oxygen production), along with the many associated economic benefits of these functions. The cores are ranked from C1 to C5 (C5 being the least ecologically relevant) using many prioritization criteria, such as the proportions of sensitive habitats of natural heritage resources they contain.

Fragmentation occurs when a large, contiguous block of natural cover is dissected by development, and other forms of permanent conversion, into one or more smaller patches. Habitat fragmentation results in biogeographic changes that disrupt species interactions and ecosystem processes, reducing biodiversity and habitat quality due to limited recolonization, increased predation and egg parasitism, and increased invasion by weedy species.

Therefore minimizing fragmentation is a key mitigation measure that will reduce deleterious effects and preserve the natural patterns and connectivity of habitats that are key components of biodiversity. DCR recommends efforts to minimize edge in remaining fragments, retain natural corridors that allow movement between fragments and designing the intervening landscape to minimize its hostility to native wildlife (natural cover versus lawns).

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.

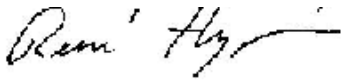
New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

A fee of $1000.00 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 Virginia Department of Wildlife Resources (VDWR) 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 Amy Martin at 804-367-2211 or amy.martin@dwr.virginia.gov.

Should you have any questions or concerns, feel free to contact me at 804-371-2708. Thank you for the opportunity to comment on this project.

Sincerely,



S. René Hypes
Natural Heritage Project Review Coordinator

Literature Cited

Rawinski, T.J. 1995. Natural communities and ecosystems: Conservation priorities for the future. Unpublished report for DCR-DNH.

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: September 29, 2021
Consultation Code: 05E2VA00-2021-SLI-6039
Event Code: 05E2VA00-2021-E-17722
Project Name: Dominion DTC Project

Subject: List of threatened and endangered species that may occur in your proposed project location 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: 05E2VA00-2021-SLI-6039
Event Code: Some(05E2VA00-2021-E-17722)
Project Name: Dominion DTC Project
Project Type: TRANSMISSION LINE
Project Description: Energy transmission project
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.03174405,-77.43843951701308,14z

Counties: Loudoun County, Virginia

Endangered Species Act Species

There is a total of 3 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.

---

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
Dwarf Wedgemussel *Alasmidonta heterodon* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/784	Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

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.

VaFWIS Search Report Compiled on 10/26/2021, 8:31:12 AM

Help

Known or likely to occur within a **2 mile radius around point 39,02,06.2 -77,25,53.2** in **107 Loudoun County, VA**

View Map of Site Location

511 Known or Likely Species ordered by Status Concern for Conservation (displaying first 31) (31 species with Status* or Tier I**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon		BOVA
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata		BOVA
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA,HU6
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
060006	SE	Ib	Floater, brook	Alasmidonta varicosa		BOVA
030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes	BOVA,Habitat,SppObs,HU6
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040379	ST	Ia	Sparrow, Henslow's	Centronyx henslowii		BOVA
100155	ST	Ia	Skipper, Appalachian grizzled	Pyrgus wyandot		HU6
060081	ST	IIa	Floater, green	Lasmigona subviridis		BOVA
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA,HU6
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus		BOVA
040092		Ia	Eagle, golden	Aquila chrysaetos		BOVA
040040		Ia	Ibis, glossy	Plegadis falcinellus		HU6
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera		BOVA
100248		Ia	Fritillary, regal	Speyeria idalia		BOVA,HU6

				idalia		
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	Potential	BOVA,BBA
040181		IIa	Tern, common	Sterna hirundo		HU6
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140		IIa	Woodcock, American	Scolopax minor		BOVA,HU6
060071		IIa	Lampmussel, yellow	Lampsilis cariosa		BOVA,HU6
040203		IIb	Cuckoo, black-billed	Coccyzus erythropthalmus		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA
040304		IIc	Warbler, Swainson's	Limnothlypis swainsonii		HU6
100154		IIc	Butterfly, Persius duskywing	Erynnis persius persius		HU6
100166		IIc	Skipper, Dotted	Hesperia attalus slossonae		BOVA,HU6

To view **All 511 species** View 511

*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.

Species Observations (284 records - displaying first 20 , 2 Observations 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**	
624264	SppObs	Jul 23 2015	Linda; Sieh	1	ST	I	Yes
623115	SppObs	Jul 23 2015	Linda; Sieh	1	ST	I	Yes
618039	SppObs	Aug 27 2013	Bobby; Colicci	2		III	Yes
616962	SppObs	May 29	Dorothy; Lewis	1		III	Yes

		2012					
601718	SppObs	Jun 2 2009	Richard; Browder	8		III	Yes
605059	SppObs	Oct 31 2008	Dorothy; Lewis	1		III	Yes
600623	SppObs	Oct 9 2008	Jan; Cornwell	1		III	Yes
318779	SppObs	Mar 13 2007	Christine Geist	7		III	Yes
318780	SppObs	Jan 9 2007	Christine Geist	1		III	Yes
313415	SppObs	May 4 2005	Meredyth Breed Principle Permitee	1		III	Yes
307934	SppObs	Jul 13 2004	Meredyth Breed Principle Permitee, D Lewis Collector	1		III	Yes
308381	SppObs	Jun 2 2004	Alex Barron	4		III	Yes
303373	SppObs	Oct 8 2003	Meredyth Breed Principle Permitee, D Lewis Collector	1		III	Yes
303366	SppObs	May 30 2003	Meredyth Breed Principle Permitee, D Lewis Collector	2		III	Yes
303357	SppObs	Apr 30 2003	Meredyth Breed Principle Permitee, D Lewis Collector	1		III	Yes
67864	SppObs	Aug 21 2001	Rick Browder (Principle Permittee)	5		III	Yes
55951	SppObs	Oct 3 1998	PAUL ANGERMEIER (PRINCIPAL PERMITTEE), KEVIN R. GOODWIN, (COLLECTOR), VA COOPERATIVE FISH AND WILDLIFE UNIT	1		III	Yes
5181	SppObs	May 17 1993	Joseph C. Mitchell	1		III	Yes
364125	SppObs	Jan 1 1900		1		III	Yes
615462	SppObs	May 18 2011	William; Robertson	1		IV	Yes

Displayed 20 Species Observations

Selected 284 Observations View all 284 Species Observations

Public Holdings:

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

PL19	Broad Run-Beaverdam Run	53	ST	I
PL20	Potomac River-Selden Island	47	ST	I
PL21	Sugarland Run	63	SE	I

Compiled on 10/26/2021, 8:31:12 AM I1145289.0 report=Options searchType= R dist= 3218.688 poi= 39,02,06.2 -77,25,53.2

PixelSize=64; Anadromous=0.017174; BBA=0.036132; BECAR=0.017692; Bats=0.017416; Buffer=0.061737; County=0.045354; HU6=0.046566; Impediments=0.017558; Init=0.092059; PublicLands=0.018768; Quad=0.022903; SppObs=0.295595; TEWaters=0.019973; TierReaches=0.046398; TierTerrestrial=0.024006; Total=0.931477; Tracking_BOVA=0.161978; Trout=0.018219; huva=0.029872

Site Location

39,02,06.2 -77,25,53.2
is **the Search Point**

Show Position Rings
(•) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

Show Search Area
(•) Yes ( ) No
2 Search distance miles radius

Search Point is at map center

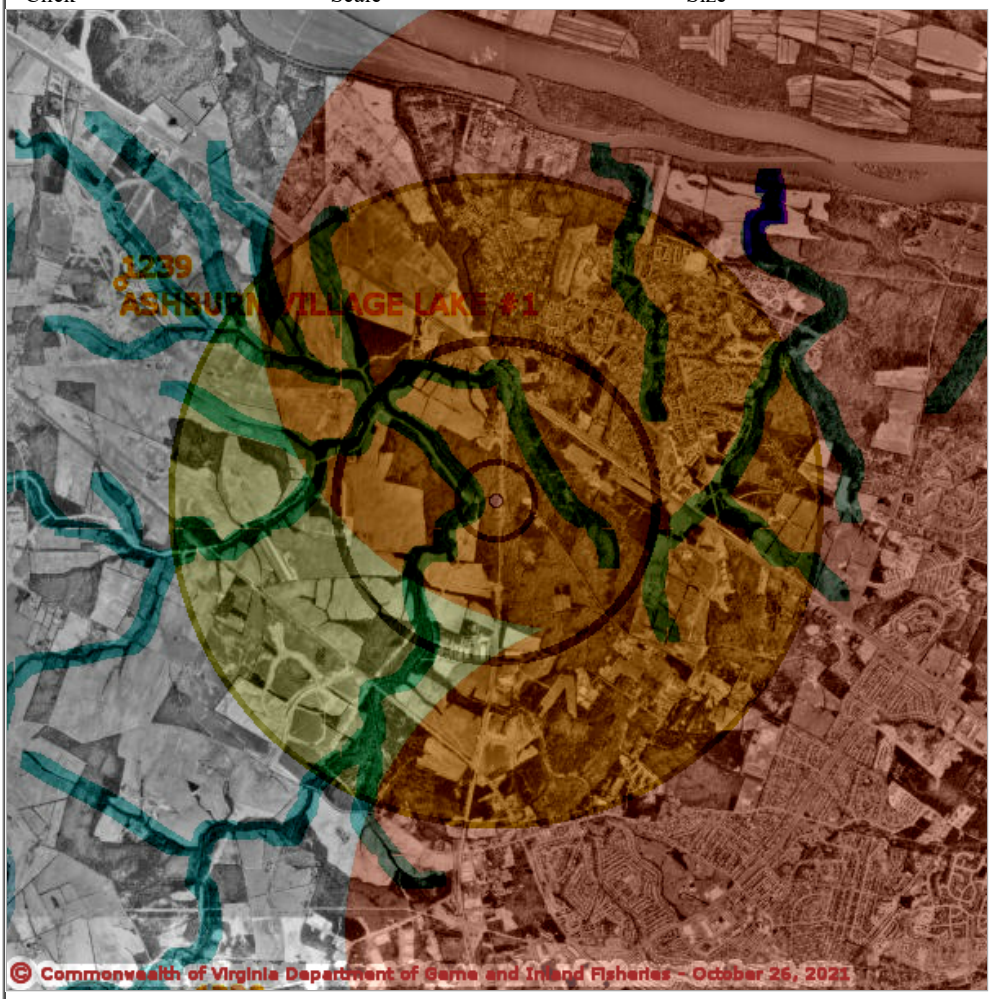
Base Map Choices
BW Aerial Photography

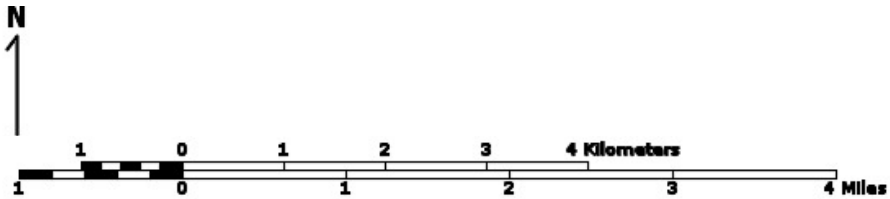
Map Overlay Choices
Current List: Position, Search, BECAR, BAEANests, TEWaters, TierII, Habitat, Trout, Anadromous

Map Overlay Legend

back | Refresh Browser Page | Help

Map Click: Pan Id M
Map Scale: In Zoom Out
Screen Size: Small Size Big





Point of Search 39,02,06.2 -77,25,53.2
Map Location 39,02,06.2 -77,25,53.2

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: Black & White USGS Aerial Photography (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 284750 and top 4328280. Pixel size is 16 meters . 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 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The

T & E Waters

Federal

State

Predicted Habitat WAP Tier I & II

Aquatic

Terrestrial

Trout Waters

Class I - IV

Class V - VI

Anadromous Fish Reach

Confirmed

Potential

123 Impediment

Position Rings 1 mile and 1/4 mile at the Search Point

2 mile radius Search Area

Bald Eagle Concentration Areas and Roosts

map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

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 2021-10-26 08:35:38 (qa/qc March 21, 2016 12:20 - tn=1145289.0 dist=3218.688 I)
$poi=39.0350556 -77.4314444

CCB Mapping Portal

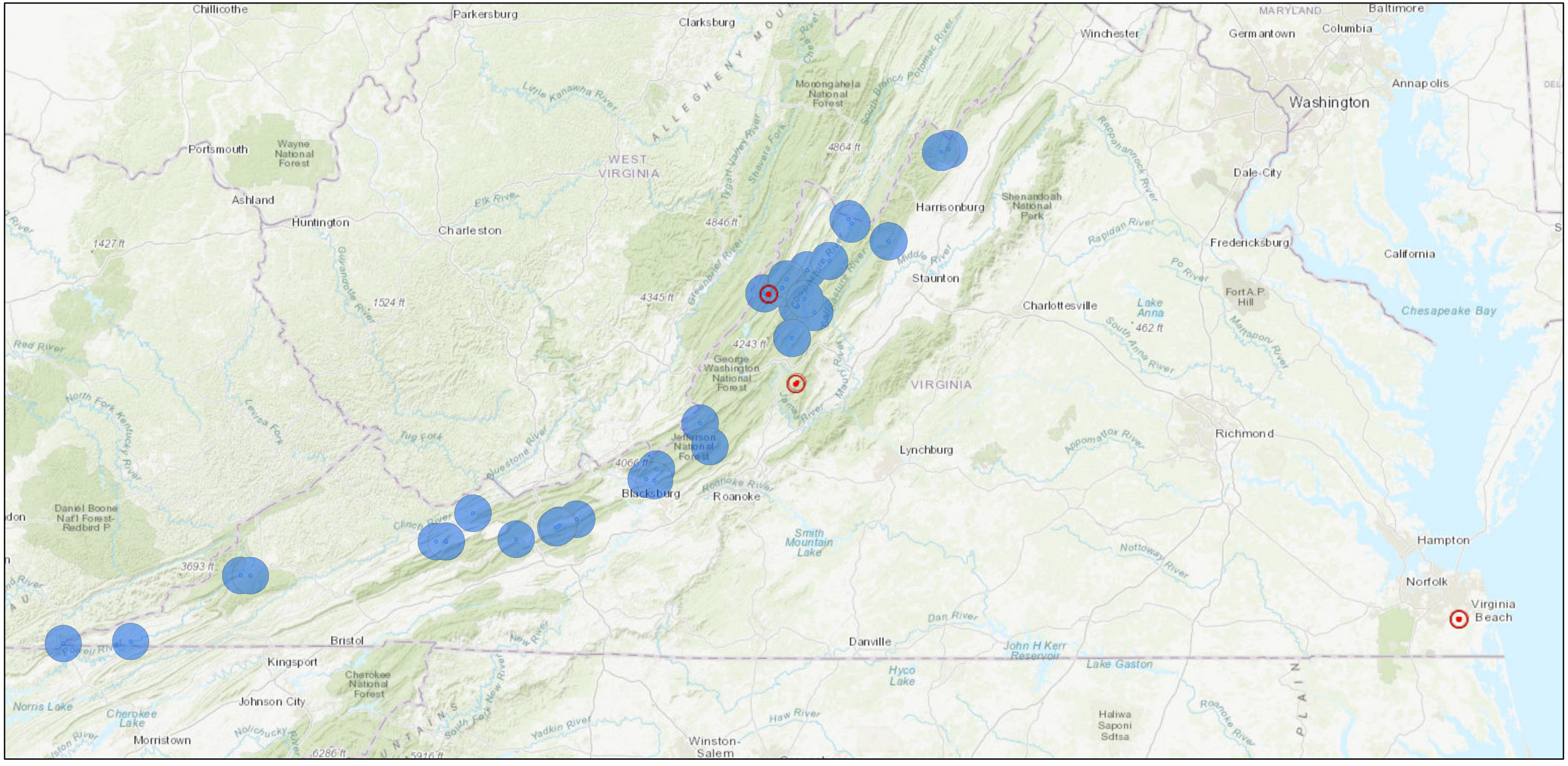
Layers: VA Eagle Nest Locator

Map Center [longitude, latitude]: [-77.4385929107666, 39.01868355189285]

Map Link:
https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&zoom=15&lat=39.01868355189285&lng=-77.4385929107666&legend=legend_tab_7c321b7e-e523-11e4-aaa0-0e0c41326911&base=World+Imagery+%28ESRI%29

Report Generated On: 09/29/2021

NLEB Locations and Roost Trees



7/14/2021, 12:19:23 PM

NLEB Known Occupied Maternity Roost (Summer Habitat)

NLEB Hibernaculum 5.5 Mile Buffer

NLEB Hibernaculum Half Mile Buffer

1:2,311,162

0 20 40 80 mi

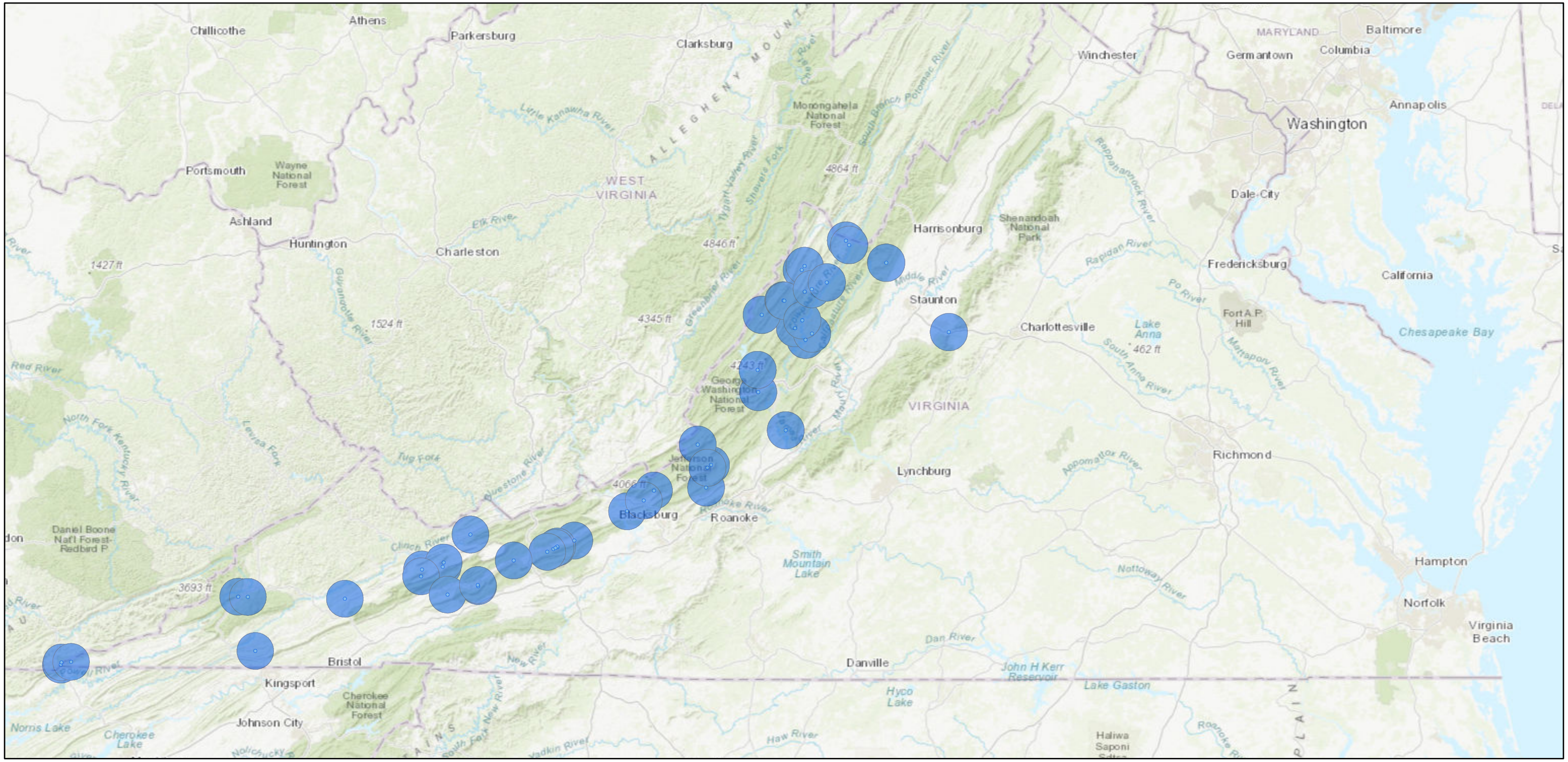
0 35 70 140 km

Esri, HERE, Garmin, FAO, USGS, EPA, NPS

VA Dept. Game & Inland Fisheries
Esri, HERE, Garmin, FAO, USGS, EPA, NPS |

Attachment 2.F.1
Page 17 of 18

ArcGIS Web Map



7/14/2021, 12:46:43 PM

Tri-colored and Little Brown Hibernaculum Half Mile Buffer

Tri-colored and Little Brown Hibernaculum 5.5 Mile Buffer

1:2,311,162

0 20 40 80 mi

0 35 70 140 km

Esri, HERE, Garmin, FAO, USGS, EPA, NPS

Dept. Game and Inland Fisheries
Esri, HERE, Garmin, FAO, USGS, EPA, NPS |

Attachment 2.F.1
Page 18 of 18

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

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.

REPORT >

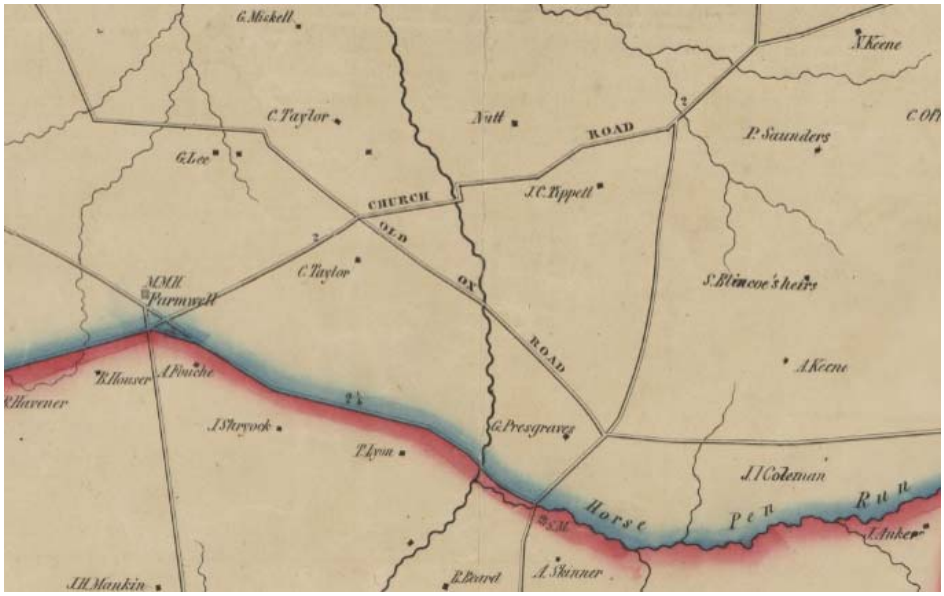
Pre-Application Analysis Of Cultural Resources for the DTC 230kV Line Loop and DTC Substation

LOCATION > Loudoun County, Virginia

DATE> SEPTEMBER 2021

PREPARED FOR >

Dominion Energy



"Loudoun County", 1854 Yardley Taylor. Source: Library of Congress

PREPARED BY >

Dutton + Associates, LLC

PROJECT REVIEW # >

Dutton + Associates

CULTURAL RESOURCE SURVEY, PLANNING, AND MANAGEMENT

SCC Pre-Application Analysis of Cultural Resources for the DTC 230kV Line Loop and DTC Substation

Loudoun County, Virginia

PREPARED FOR:
DOMINION ENERGY
10900 NUCKOLS ROAD, 4TH FLOOR
GLEN ALLEN, VA 23060

PREPARED BY:
DUTTON + ASSOCIATES, LLC
1115 Crowder Drive
Midlothian, Virginia 23236
804.644.8290

PRINCIPAL INVESTIGATOR:
Robert J. Taylor, Jr. M.A.

September 2021

ABSTRACT

In September 2021, Dutton + Associates, LLC (D+A) completed a Pre-Application Analysis (analysis) of cultural resources for the DTC 230kV Line Loop and DTC Substation Project in Loudoun County, Virginia. The analysis was performed for Dominion Energy Virginia (Dominion) in support of a State Corporation Commission (SCC) application. The analysis was conducted in accordance with Virginia Department of Historic Resources' (VDHR) guidance titled Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia (January 2008) and Commonwealth of Virginia State Corporation Commission Division of Public Utility Regulation Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia (August 2017).

The DTC 230kV Line Loop and DTC Substation Project entails the construction of a new electric transmission line to connect to the proposed DTC substation in the Sterling vicinity of Loudoun County. The project is proposed in order to provide service requested by a retail electric service customer (the "Customer"); to maintain reliable service for the overall growth in the area; and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards.

The background research conducted as part of this analysis was consistent with VDHR guidance and designed to identify all previously recorded National Historic Landmarks (NHL) located within 1.5-miles of the proposed project or closer, all National Register of Historic Places (NRHP)-listed properties, battlefields, and historic landscapes located within 1-mile of the proposed project or closer, all historic properties considered eligible for listing in the NRHP located within 0.5-miles of the proposed project or closer, and all archaeological sites located directly within the proposed project area. Historic properties include architectural and archaeological (terrestrial and underwater) resources, historic and cultural landscapes, battlefields, and historic districts. For each historic property within the defined tiers, a review of existing documentation and a field reconnaissance was undertaken to assess each property's significant character-defining features, as well as the character of its current setting. Following identification of historic properties, D+A assessed the potential for impacts to any identified properties as a result of the proposed project. Specific attention was given to determining whether or not construction related to the project could introduce new visual elements into the property's viewshed or directly impact the property through construction, which would either directly or indirectly alter those qualities or characteristics that qualify the historic property for listing in the NRHP.

Review of the VDHR VCRIS inventory records revealed a total of thirty-three (33) previously recorded architectural resources are located within 1.5 mile of the project study area. Of these, there are no (0) NHLs located within 1.5 mile of the proposed project or closer, one (1) property listed in the NRHP located within 1.0 mile or closer of the project, and no (0) properties that have been determined eligible or potentially eligible for listing in the NRHP within 0.5 mile or closer of the project. The one NRHP-listed resource is not located directly within or crossed by any of the project alternatives.

With regards to architectural resources, one (1) historic property that is either designated and NHL, listed in, or determined eligible or potentially eligible for listing in the NRHP is located within the defined study tiers. This includes no (0) NHLs located within 1.5 mile or closer of the proposed project, one (1) NRHP-listed property located 1.0 mile or closer of the project (Broad Run Bridge and Toll House/VDHR# 053-0110), and no (0) properties that have been determined eligible or potentially eligible for listing in the NRHP located within 0.5 mile or closer of the project.

Inspection from the NRHP-listed resource found that it is set within a rapidly developing suburban area with large-scale commercial and industrial properties in the vicinity. Coupled with transportation network and vegetation patterns, it is anticipated that all of the project alternatives will be completely screened from view from the resource, which is supported by photo simulation of the nearest alternative. ***It is therefore D+A's opinion that the proposed DTC 230kV Line Loop and DTC Substation Project will have no impact on any architectural resources that are designated an NHL, listed in the NRHP, or determined eligible or potentially eligible for listing.***

Potential impacts summary for architectural resources.

VDHR #	*Resource Name, Address*	*NRHP-Status*	*Distance from Project*	*Recommended Impact*
053-0110	*Broad Run Bridge and Toll House*	*NRHP-Listed*	*0.57 Mile*	*No Impact*

With regards to archaeology, two previously identified site are located within or adjacent to the project area (within 50 feet of an alternative ROW), both of which are directly crossed by all three alternatives. Both of the sites have been determined not eligible for listing in the NRHP. No archaeological field work was conducted as part of this effort and previously recorded sites within or adjacent to the project were not visited or assessed at this time. ***It is D+A's opinion that these sites should be assessed for existing conditions and project impacts as additional project construction details become available.***

Summary of potential impacts summary for archaeological resources.

VDHR#	*NRHP Status*	*Proximity to Project Area*	*Impacts*
44LD0107 (Prehistoric Unknown)	*DHR Staff: Not Eligible*	*Directly Crossed by Route 1A, 1B, and 1C*	*TBD*
44LD0727 (Prehistoric Camp)	*DHR Staff: Not Eligible*	*Directly Crossed by Route 1A, 1B, and 1C*	*TBD*

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

In September 2021, Dutton + Associates, LLC (D+A) completed a Pre-Application Analysis (analysis) of cultural resources for the DTC 230kV Line Loop and DTC Substation Project in Loudoun County, Virginia (Figure 1-1). The analysis was performed for Dominion Energy Virginia (Dominion) in support of a State Corporation Commission (SCC) application. The analysis was conducted in accordance with Virginia Department of Historic Resources' (VDHR) guidance titled *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (January 2008) and Commonwealth of Virginia State Corporation Commission Division of Public Utility Regulation *Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia* (August 2017).

This analysis was performed at a level that meets the purpose and intent of VDHR and the SCC's guidance. It provides information on the presence of previously recorded National Historic Landmark (NHL) properties located within a 1.5-mile buffer area established around the project area, properties listed on the National Register of Historic Places (NRHP), battlefields, and historic landscapes located within a 1-mile buffer around the project area, and properties previously determined eligible for listing in the NRHP located within a 0.5-mile buffer area around the project area, and previously identified archaeological resources directly within the project area. This analysis will not satisfy Section 106 identification and evaluation requirements in the event federal permits or licenses are needed; however, it can be used as a planning document to assist in making decisions under Section 106 as to whether further cultural resource identification efforts may be warranted.

This report contains a research design which describes the scope and methodology of the analysis, discussion of previously identified historic properties, and an assessment of potential impacts. D+A Senior Architectural Historian Robert J. Taylor, Jr. M.A. served as Principal Investigator and oversaw the general course of the project and supervised all aspects of the work. Copies of all notes, maps, correspondence, and historical research materials are on file at the D+A main office in Midlothian, Virginia.

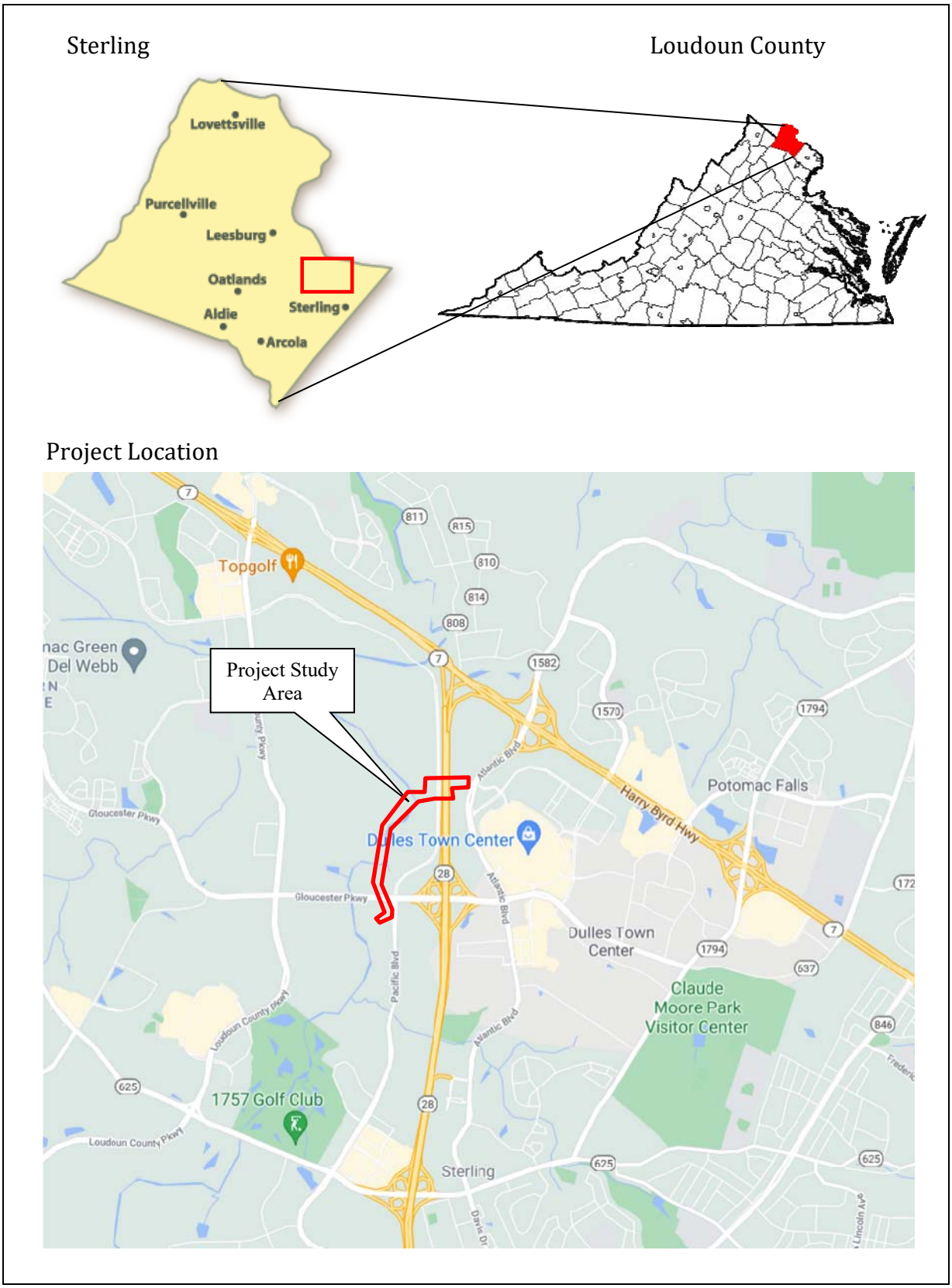


Figure 1-1: Project Study Area general location

2. PROJECT DESCRIPTION

The DTC 230kV Line Loop and DTC Substation Project entails the construction of a new electric transmission line to connect to the proposed DTC substation in the Sterling vicinity of Loudoun County. After review of the potential electrical solutions, Dominion is investigating one potential option with three total alternative alignments to provide connection to the proposed DTC substation. The option would begin at the existing Beco substation on Pacific Boulevard south of Gloucester Parkway with three overhead alternatives (Routes 1A, 1B, and 1C) extending to the proposed DTC substation (Figure 2-1).

All three route alternatives are in relatively close proximity to one other, and therefore are collectively grouped as "the project study area," however, the individual route alternatives are discussed separately within this analysis when appropriate. All three route alternatives would require a new 100-feet ROW that would extend generally from the existing Beco substation north, through property owned by the Loudoun County Sanitation Authority before turning east towards Sully Road. At Sully Road, the three alternative routes would split to cross the road at three different locations before merging on the east side of the road and extending further east into the proposed DTC substation. The proposed structures would be centered within the new ROW and be steel monopoles averaging approximately 110-feet tall (Figure 2-2).

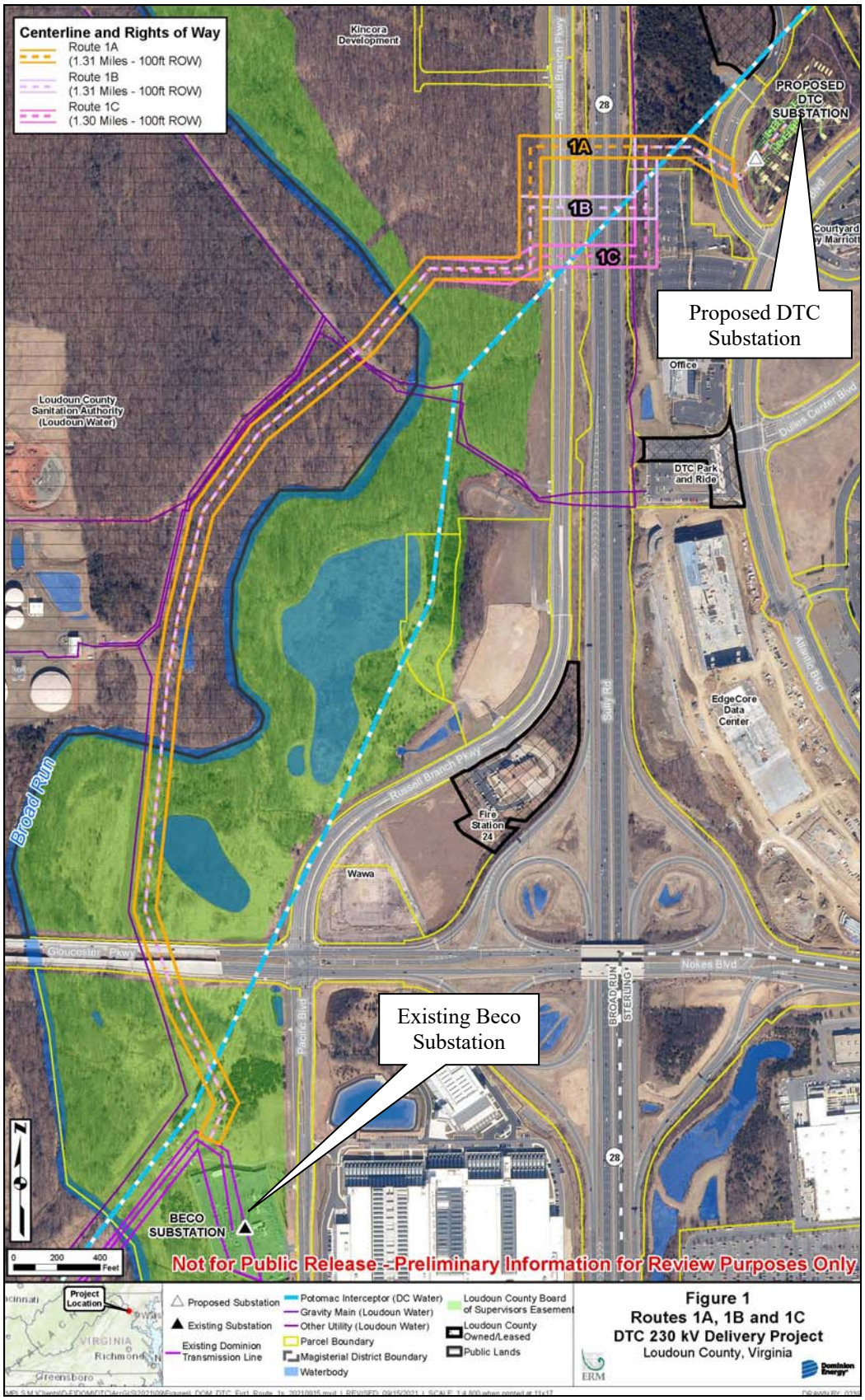


Figure 2-1: DTC 230kV Line Loop alternatives. Source: Dominion Energy

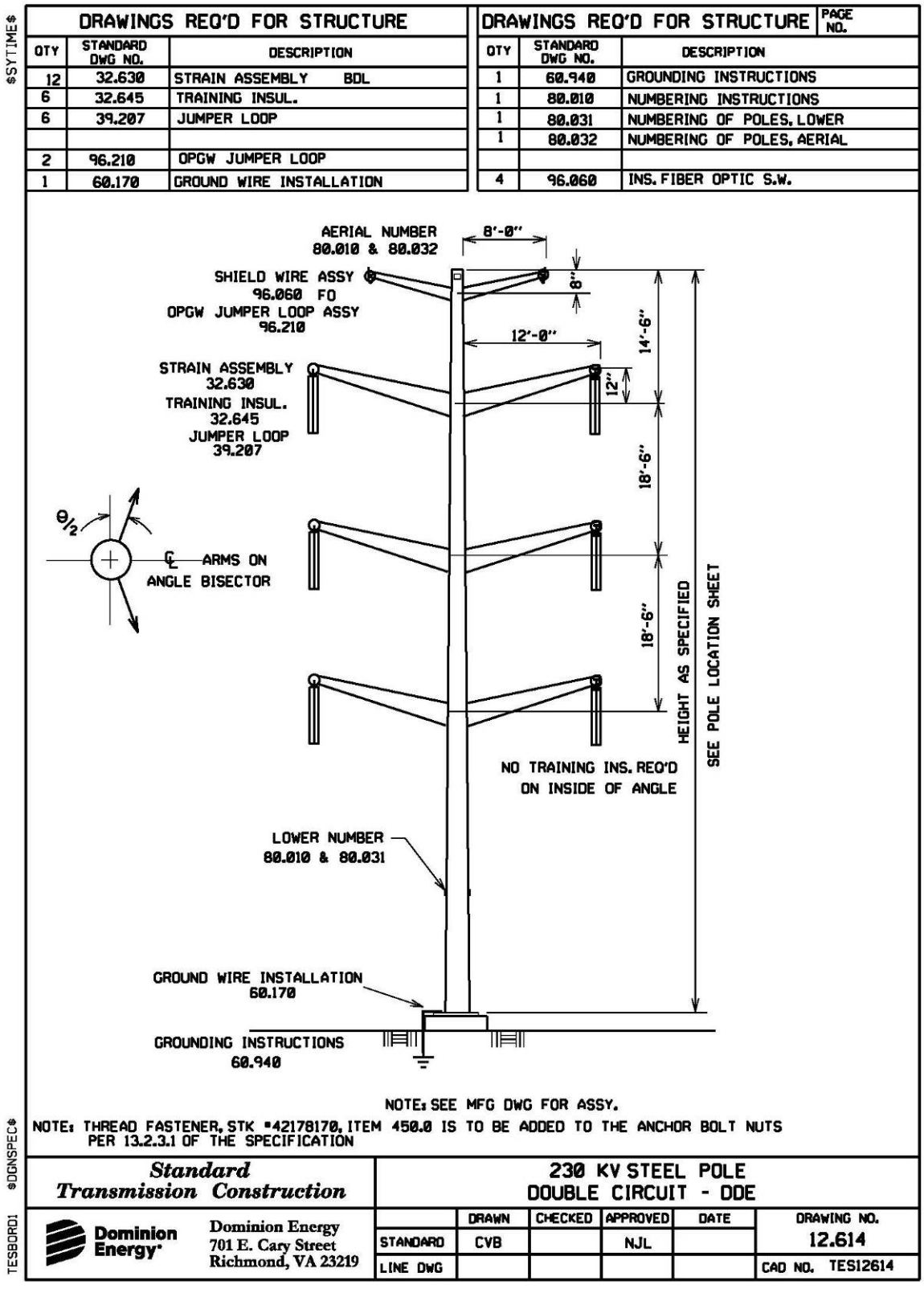


Figure 2-2: Detail of representative proposed typical structure. Source: Dominion Energy Virginia

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3. RESEARCH DESIGN

The intent of this effort was to identify all known historic properties within the vicinity of the proposed project area in order to assess them for potential impacts brought about by the project. Historic properties include architectural and archaeological (terrestrial and underwater) resources, historic and cultural landscapes, battlefields, and historic districts. For each previously recorded historic property, an examination of property documentation, current aerial photography, and a field reconnaissance was undertaken to assess each property's integrity of feeling, setting, and association, and to provide photo documentation of the property including views toward the proposed project. The D+A personnel who directed and conducted this survey meet the professional qualification standards of the Department of the Interior (48 FR 44738-9).

ARCHIVAL RESEARCH

In September 2021, D+A conducted archival research with the goal of identifying all previously recorded historic properties and any additional historic property locations referred to in historic documents and other archives, as well as consultation with local informants and other professionals with intimate knowledge of the project area as appropriate. Background research was conducted at the VDHR and on the internet and included the following sources:

- VDHR Virginia Cultural Resource Information System (VCRIS) site files; and
- National Park Service (NPS), American Battlefield Protection Program (ABPP), maps and related documentation.

Data collection was performed according to VDHR guidance in *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (January 2008) and was organized in a multi-tier approach. As such, the effort was designed to identify all previously recorded NHL's located within 1.5-miles of the proposed project area, all historic properties listed in the NRHP, battlefields, and historic landscapes located within 1-mile of the project area, all historic properties previously determined eligible for listing in the NRHP located within 0.5-mile of the project area, and all properties located directly within the project area.

FIELD RECONNAISSANCE

Field reconnaissance included visual inspection of those previously recorded historic properties listed in the NRHP located within 1-mile of the project area, and all properties considered eligible for listing in the NRHP within 0.5-mile of the project area. Visual inspection included digital photo documentation of each property's existing conditions including its setting and views toward the proposed project. Photographs were taken of primary resource elevations, general setting, and existing viewsheds. All photographs were taken from public right-of-way or where property access was granted. No subsurface archaeological testing was conducted as part of this effort.

ASSESSMENT OF POTENTIAL IMPACTS

Following identification and field inspection of historic properties, D+A assessed each resource for potential impacts brought about by the proposed project. Assessment of impacts was conducted through a combination of field inspection, digital photography, review of topography and aerial photography, and photo simulation. Photo simulation was conducted from vantage points within or near each resource property deemed most likely to have a change in visibility as a result of the project. The photo simulation entailed digital photography, towards the project, which was then loaded into a computer with location coordinates and ground-elevation. The transmission line structures to be rebuilt as part of the project were then also computer modeled to represent the location, height, and configuration following construction. These models were then overlaid onto the digital photograph so that the existing (unaltered) view can be compared with the simulated view that illustrates the proposed structures, as they would appear on the landscape.

When assessing impacts, D+A considered those qualities and characteristics that qualify the property for listing and whether the project had the potential to alter or diminish the integrity of the property and its associated significance. Specific attention was given to determining whether or not the proposed project would introduce new visual elements into a property's viewshed, which would either directly or indirectly alter those qualities or characteristics that qualify the historic property for listing in the NRHP. Identified impacts were characterized as severe (fully visible and incompatible with character-defining viewshed or setting), moderate (partially visible and incompatible with character-defining viewshed or setting), or minimal (not visible and/or not out of character with existing viewscape).

REPORT PREPARATION

The results of the archival resource, field inspection, and analysis were synthesized and summarized in a summary report accompanied by maps, illustrations, and photographs as appropriate. All research material and documentation generated by this project is on file at D+A's office in Midlothian, Virginia.

4. ARCHIVES SEARCH

This section includes a summary of efforts to identify previously known and recorded cultural resources within the tiered project buffers. It includes lists, maps, and descriptive data on all previously conducted cultural resource surveys, and previously recorded architectural resources and archaeological sites according to the VDHR archives and VCRIS database. Because the alternatives for the DTC 230kV Line Loop and DTC Substation Project are all within close proximity of one another within a relatively small defined space, a single project study area that encompasses all alternatives was used for this analysis.

PREVIOUSLY SURVEYED AREAS

VDHR and VCRIS records indicate that there have been seventeen (17) prior Phase I cultural resource surveys within 1-mile of the project study area, including three that overlap portions of the project area or individual alternatives. These surveys are at a minimum archaeological in nature, although some include architectural resources as well. The three surveys overlapping the project area were conducted for transportation-related, utility, and private development projects. As a result of these prior surveys, the proposed underground option and transition station, as well as much of the overhead alternatives, but not all, have been subject to Phase I archaeological identification. The three previously conducted cultural resource surveys that include portions of the project area are listed in Table 4-1. All surveys conducted within one mile are illustrated in Figure 4-1.

Table 4-1: Previously conducted cultural resource surveys that include portions of the Project Area. Source: VDHR.

VDHR Survey #	Title	Author	Date
FX-108	Cultural Resource Inventory and Phase I Archaeological Survey of Route 28 (Sully Road) from I-66 to Route 7, Fairfax and Loudoun Counties, Virginia	Presnell Associates, Inc.	1987
LD-141	Phase I Cultural Resources Investigations of 218 Acres on the 352 Loudoun County Sanitation Authority Tract, Loudoun County, Virginia	Archaeological & Cultural Solutions, Inc.	2001
LD-230	A Phase I Investigation of the Circa 420 Acre A.S. Ray Property Along Broad Run, Loudoun County, Virginia	Thunderbird Archaeological Associates (Thunderbird Research Corp.)	2001

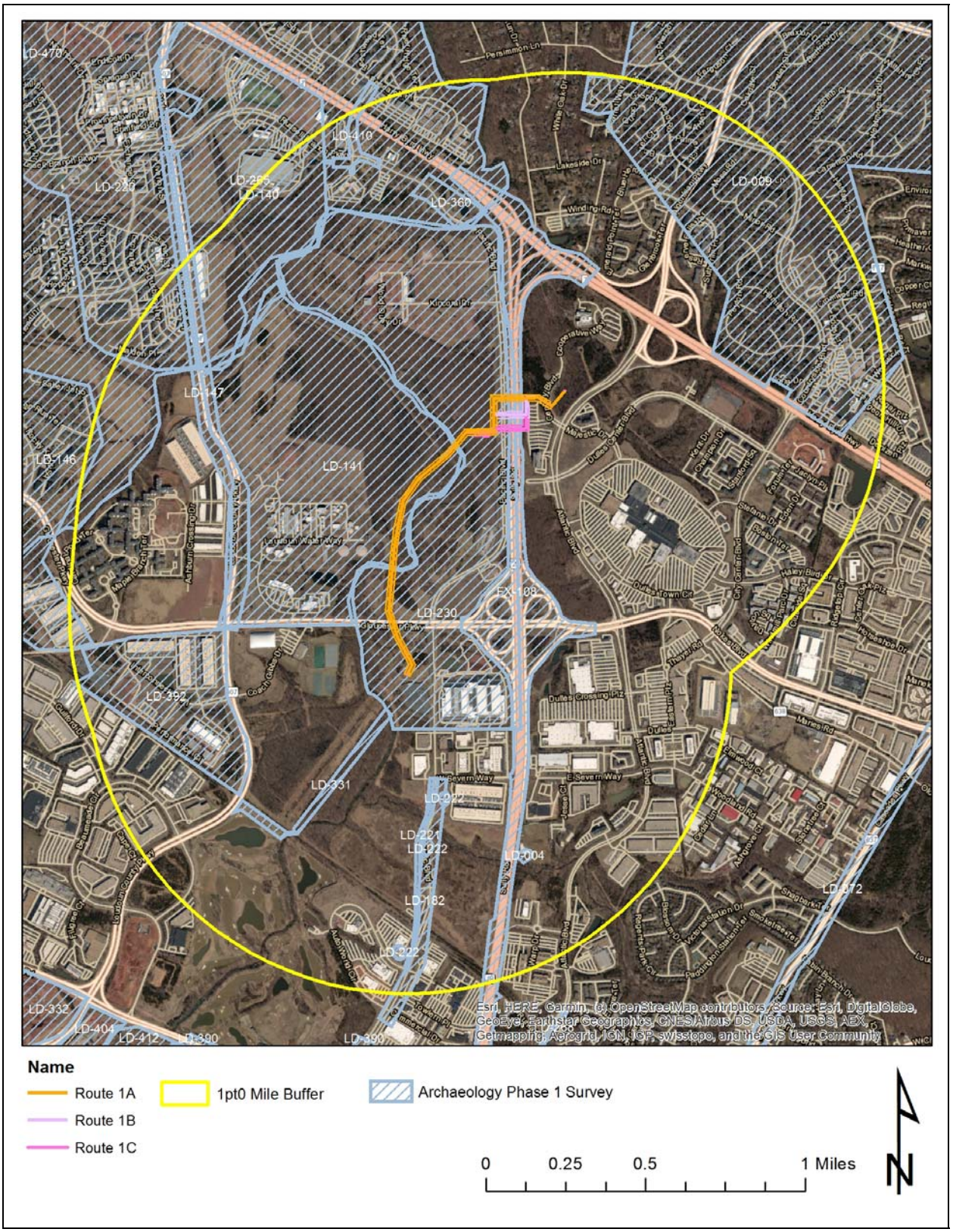

Figure 4-1: Previously conducted surveys within 1-mile of the project study area. Source: VCRIS

ARCHITECTURAL RESOURCES

Review of the VDHR VCRIS inventory records revealed a total of thirty-three (33) previously recorded architectural resources are located within 1.5 mile of the project study area. Of these, there are no (0) NHLs located within 1.5 mile of the proposed project or closer, one (1) property listed in the NRHP located within 1.0 mile or closer of the project, and no (0) properties that have been determined eligible or potentially eligible for listing in the NRHP within 0.5 mile or closer of the project. The one NRHP-listed resource is not located directly within or crossed by any of the project alternatives.

Table 4-2 lists all NHLs, NRHP-listed, and NRHP-eligible resources within their respective buffered tiers. A map of all previously recorded architectural resources within 1.5-mile of the project study area is depicted in Figure 4-2 and a map of any NHL, NRHP-listed, and NRHP-eligible resources within their respective study tiers are included in Figure 4-3.

Table 4-2: Previously recorded architectural resources within their respective tiered buffer zones around the DTC 230kV Line Loop and DTC Substation Project Study Area

Buffer(miles)	Considered Resources	VDHR #	Description
1.5	National Historic Landmarks	None	None
1.0	National Register- Listed	053-0110	Broad Run Bridge and Toll House
	Battlefields	None	None
	Historic Landscapes	None	None
0.5	National Register- Listed	None	None
	Battlefields	None	None
	Historic Landscapes	None	None
	National Register- Eligible	None	None
0.0 (ROW)	National Register- Listed	None	None
	Battlefields	None	None
	Historic Landscapes	None	None
	National Register- Eligible	None	None

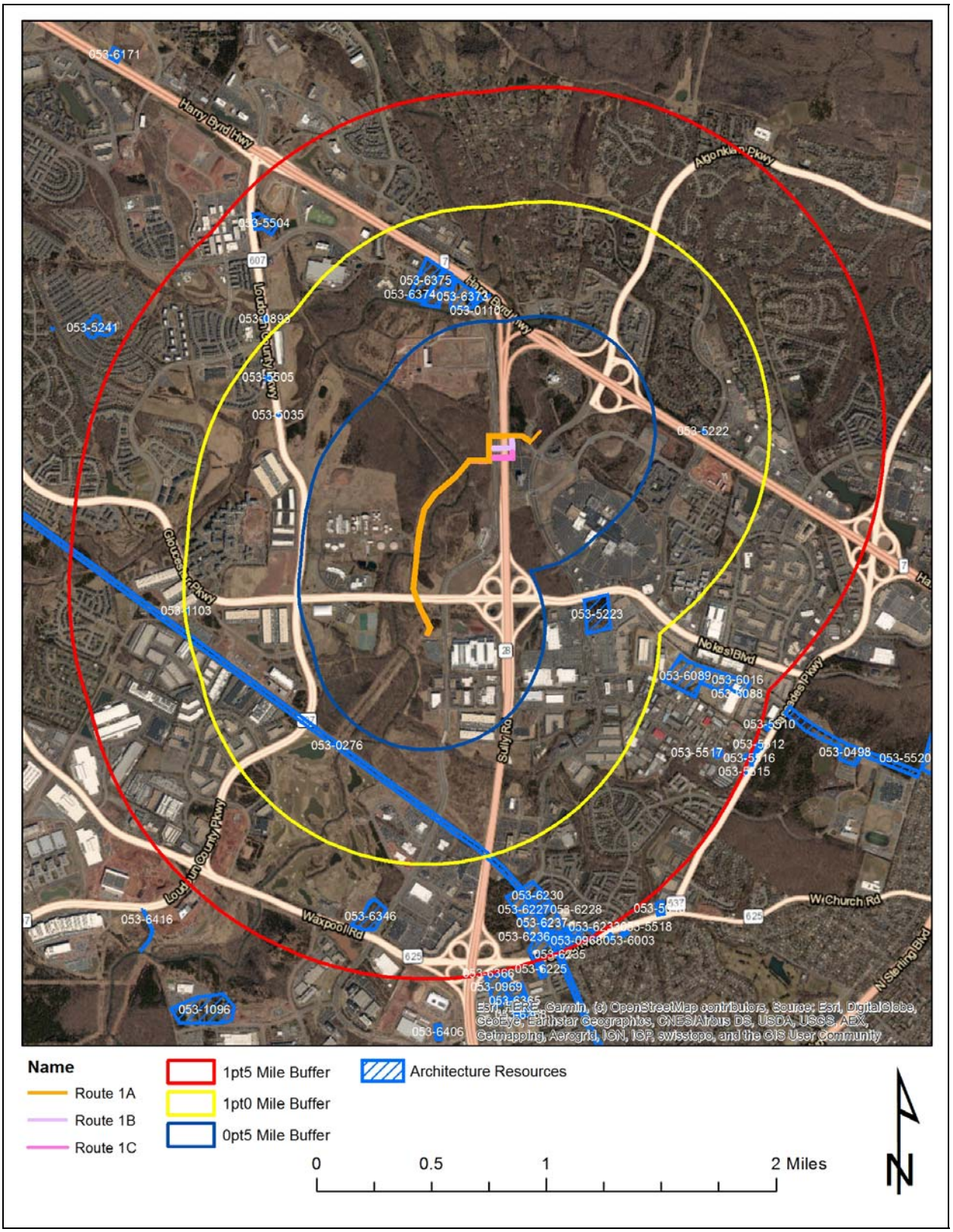

Figure 4-2: All previously identified architectural resources within 1.5-miles of the project study area. Source: VCRIS

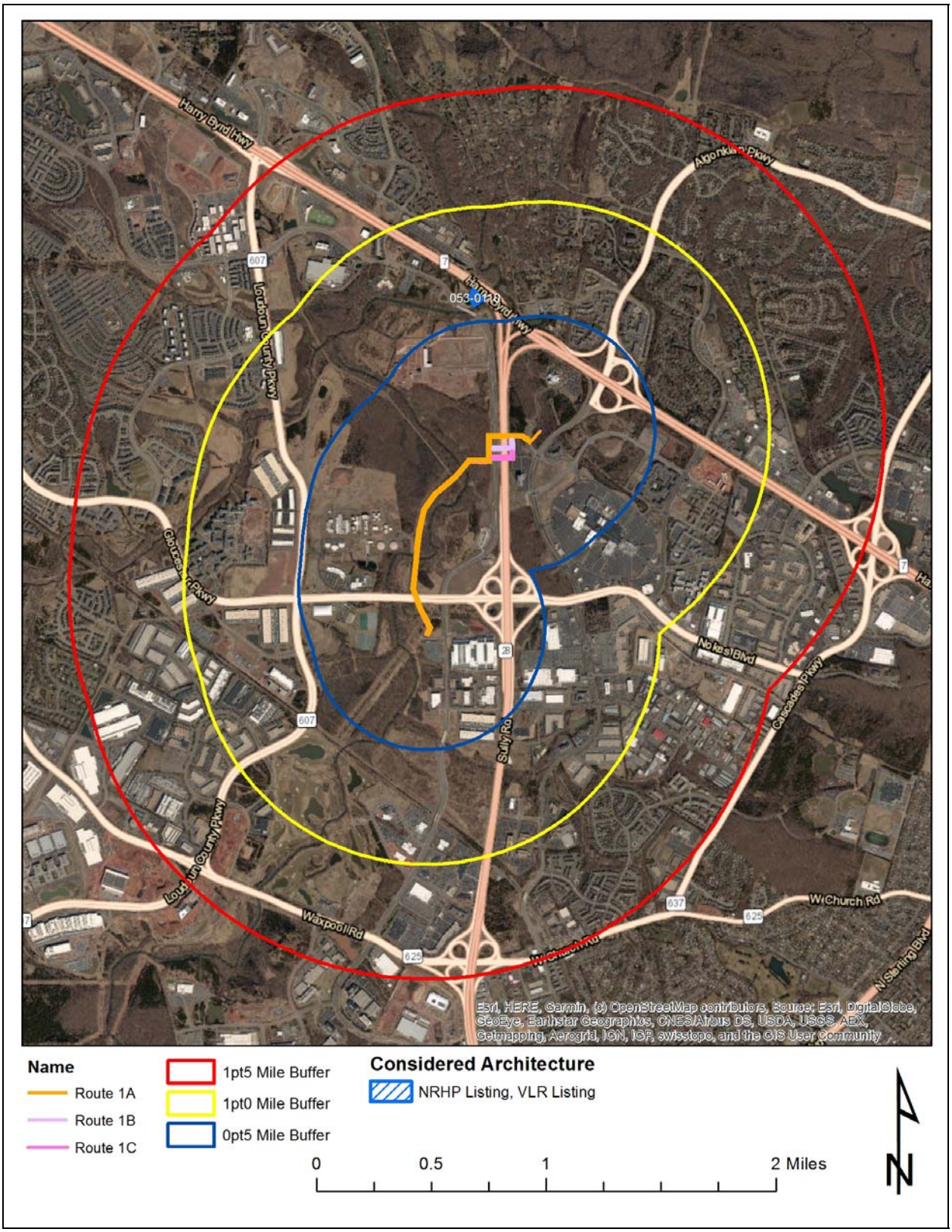

Figure 4-3: NHL, NRHP-Listed, and NRHP-Eligible architectural resources within their respective tiers around project study area. Source: VCRIS

NPS AMERICAN BATTLEFIELD PROTECTION PROGRAM (ABPP)

A review of the National Park Service (NPS) ABPP records reveals that the project study area is not located within one mile of any portions of any defined battlefields.

ARCHAEOLOGICAL SITES

Review of the VDHR VCRIS records reveals there are sixty-nine (69) previously recorded archaeological sites within one mile of the project study area. These include prehistoric lithic scatters and camps; as well as historic domestic sites, farmsteads, and trash scatters. Of these, four (4) have been determined potentially eligible for listing in the NRHP. Twenty-eight (28) sites have been determined not eligible for listing, and the remaining sites have not been formally evaluated. Two (2) of these sites are located directly within or adjacent to the project alternatives (within 50 feet of the proposed ROW); of which both been determined not eligible for listing in the NRHP.

Table 4-4 lists the previously recorded archaeological resources within one-mile of the project study area. Figure 4-4 illustrates the locations of the previously recorded sites within one mile of the project study area and Figure 4-5 illustrates the locations of sites located within or adjacent to the ROW for project alternatives.

Table 4-3: Previously recorded archaeological resources within one mile of the project study area. Bold listings denote sites listed in- or eligible for the NRHP. Orange highlight denotes site is located within or adjacent to a project alternative.

VDHR #	Type	Temporal Association	NRHP Status
44LD0020	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0021	<Null>	Middle Archaic (6500 - 3001 B.C.), Woodland (1200 B.C. - 1606 A.D.)	Not Evaluated
44LD0103	Other	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), Early Archaic (8500 - 6501 B.C.), Middle Archaic (6500 - 3001 B.C.), Late Archaic (3000 - 1201 B.C.), Woodland (1200 B.C. - 1606 A.D.), Middle Woodland (300 - 999 A.D.), Late Woodland (1000 - 1606)	DHR Staff: Not Eligible
44LD0104	<Null>	Woodland (1200 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD0105	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD0106	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD0107	<Null>	Woodland (1200 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD0108	Camp, temporary	Early Archaic (8500 - 6501 B.C.), Woodland (1200 B.C. - 1606 A.D.)	Not Evaluated
44LD0109	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD0110	Artifact scatter	Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E)	DHR Staff: Not Eligible
44LD0136	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0137	Camp, temporary	Archaic (8500 - 1201 B.C.)	Not Evaluated
44LD0138	Camp, temporary	Historic/Unknown, Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0139	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0140	Barn, Camp, temporary, Dwelling, single	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), 19th Century (1800 - 1899), 20th Century: 1st half (1900 - 1949)	Not Evaluated

VDHR #	Type	Temporal Association	NRHP Status
44LD0142	Camp, temporary	Pre-Contact	DHR Staff: Not Eligible
44LD0143	Camp, temporary	Late Woodland (1000 - 1606)	Not Evaluated
44LD0145	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD0151	Camp, temporary	Late Woodland (1000 - 1606)	DHR Staff: Not Eligible
44LD0152	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0153	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0158	**Camp, temporary**	**Pre-Contact**	**DHR Staff: Eligible**
44LD0209	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0210	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0212	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD0245	<Null>	<Null>	Not Evaluated
44LD0270	Camp, temporary, Dwelling, single	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), 18th Century (1700 - 1799), 19th Century (1800 - 1899)	Not Evaluated
44LD0273	**Barn**	**19th Century (1800 - 1899)**	**DHR Staff: Eligible**
44LD0279	Lithic workshop	<Null>	Not Evaluated
44LD0285	Other	19th Century (1800 - 1899)	Not Evaluated
44LD0286	Other	18th Century (1700 - 1799)	Not Evaluated
44LD0290	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0371	Dwelling, single, Outbuilding	19th Century (1800 - 1899), 20th Century (1900 - 1999)	Not Evaluated
44LD0372	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD0373	<Null>	19th Century: 2nd half (1850 - 1899), 20th Century: 1st half (1900 - 1949)	Not Evaluated
44LD0375	Dwelling, single	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), 19th Century: 4th quarter (1875 - 1899), 20th Century (1900 - 1999)	Not Evaluated
44LD0421	Cemetery	19th Century (1800 - 1899)	DHR Staff: Not Eligible
44LD0447	Farmstead	19th Century: 4th quarter (1875 - 1899), 20th Century (1900 - 1999)	Not Evaluated
44LD0495	<Null>	Late Archaic (3000 - 1201 B.C.), Woodland (1200 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD0647	Farmstead	19th Century: 2nd half (1850 - 1899)	DHR Staff: Not Eligible
44LD0648	Farmstead	19th Century: 1st half (1800 - 1849)	DHR Staff: Not Eligible
44LD0649	**Farmstead**	**19th Century: 2nd half (1850 - 1899)**	**DHR Staff: Eligible**
44LD0650	Camp, temporary	Early Archaic (8500 - 6501 B.C.)	Not Evaluated
44LD0651	Farmstead	19th Century: 1st half (1800 - 1849)	DHR Staff: Not Eligible
44LD0652	Camp, base	Early Archaic (8500 - 6501 B.C.)	DHR Staff: Not Eligible

VDHR #	Type	Temporal Association	NRHP Status
44LD0727	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD0728	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD0729	**Tavern/Inn**	**18th Century: 2nd half (1750 - 1799)**	**DHR Board Det. Eligible**
44LD0730	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD0731	Farmstead	20th Century (1900 - 1999)	DHR Staff: Not Eligible
44LD0732	Camp, temporary, Trash scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), 19th Century: 1st half (1800 - 1849)	DHR Staff: Not Eligible
44LD0843	Dwelling, single	Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)	Not Evaluated
44LD0844	Dwelling, single	19th Century (1800 - 1899), 19th Century: 2nd half (1850 - 1899), 20th Century (1900 - 1999), 20th Century: 1st half (1900 - 1949)	Not Evaluated
44LD0845	Trash scatter	19th Century: 2nd half (1850 - 1899), 20th Century: 1st half (1900 - 1949)	Not Evaluated
44LD0919	Farmstead	19th Century: 2nd half (1850 - 1899), 20th Century: 1st half (1900 - 1949), 20th Century: 3rd quarter (1950 - 1974)	DHR Staff: Not Eligible
44LD0920	Dwelling, single	20th Century: 2nd half (1950 - 1999)	DHR Staff: Not Eligible
44LD0921	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD1196	Trash scatter, Well	19th Century: 2nd/3rd quarter (1825 - 1874), 20th Century: 1st half (1900 - 1949)	Not Evaluated
44LD1339	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD1343	Trash scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), 20th Century (1900 - 1999)	Not Evaluated
44LD1435	Farmstead	19th Century: 2nd half (1850 - 1899), 20th Century: 1st quarter (1900 - 1924)	Not Evaluated
44LD1436	Outbuilding, Road	18th Century: 4th quarter (1775 - 1799), 19th Century: 4th quarter (1875 - 1899), 20th Century: 1st half (1900 - 1949)	Not Evaluated
44LD1443	Farmstead	20th Century: 1st half (1900 - 1949)	Not Evaluated
44LD1454	Camp, temporary	Late Archaic (3000 - 1201 B.C.), Woodland (1200 B.C. - 1606 A.D.)	Not Evaluated
44LD1456	Lithic scatter	Pre-Contact	Not Evaluated
44LD1474	Farmstead	World War I to World War II (1917 - 1945), The New Dominion (1946 - 1988), Post Cold War (1989 - Present)	Not Evaluated
44LD1475	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD1684	Trash pit	The New Dominion (1946 - 1988), Post Cold War (1989 - Present)	DHR Staff: Not Eligible
44LD1836	Dwelling, single	Reconstruction and Growth (1866 - 1916)	Not Evaluated

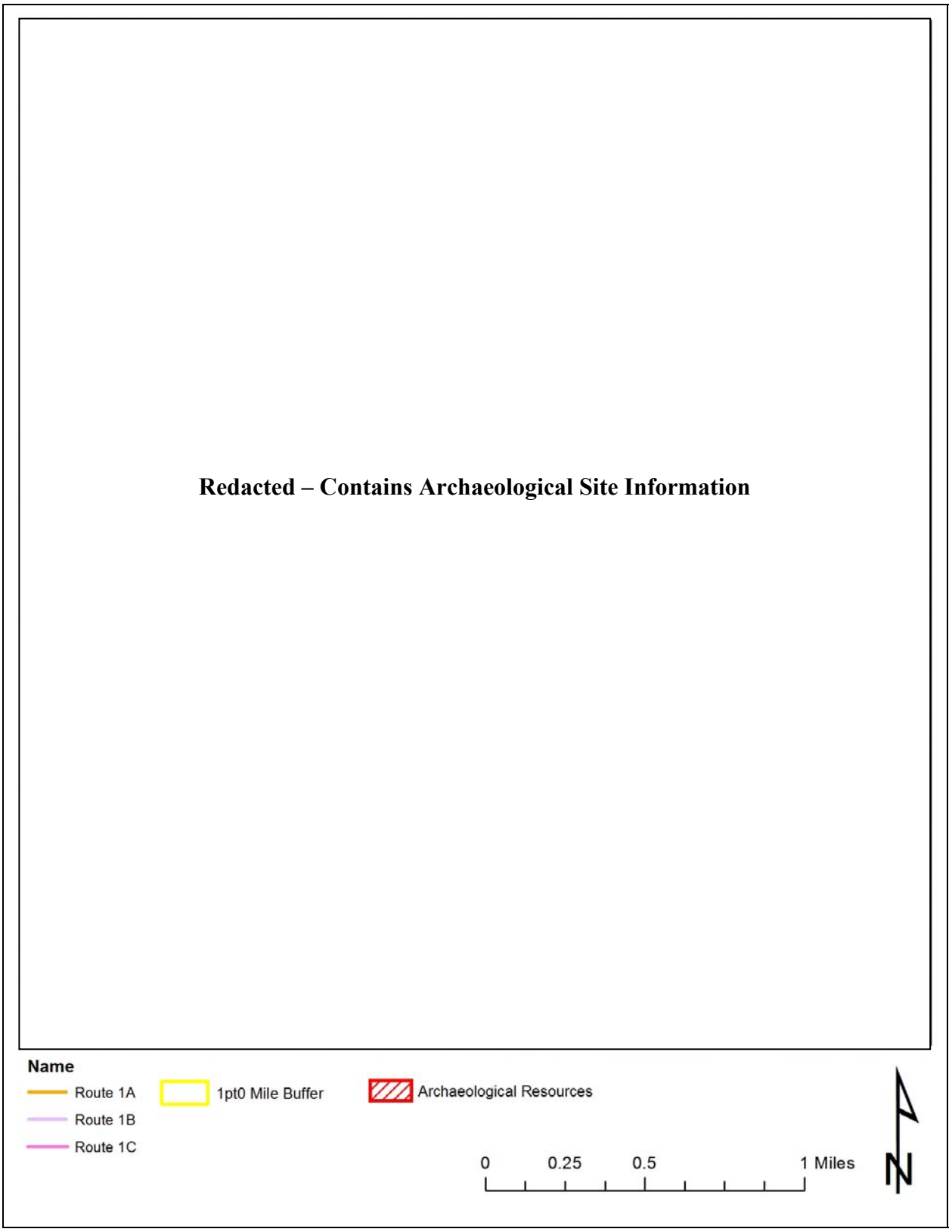

Figure 4-4: Previously recorded archaeological resources located within 1- mile of project study area. (Source: VCRIS)

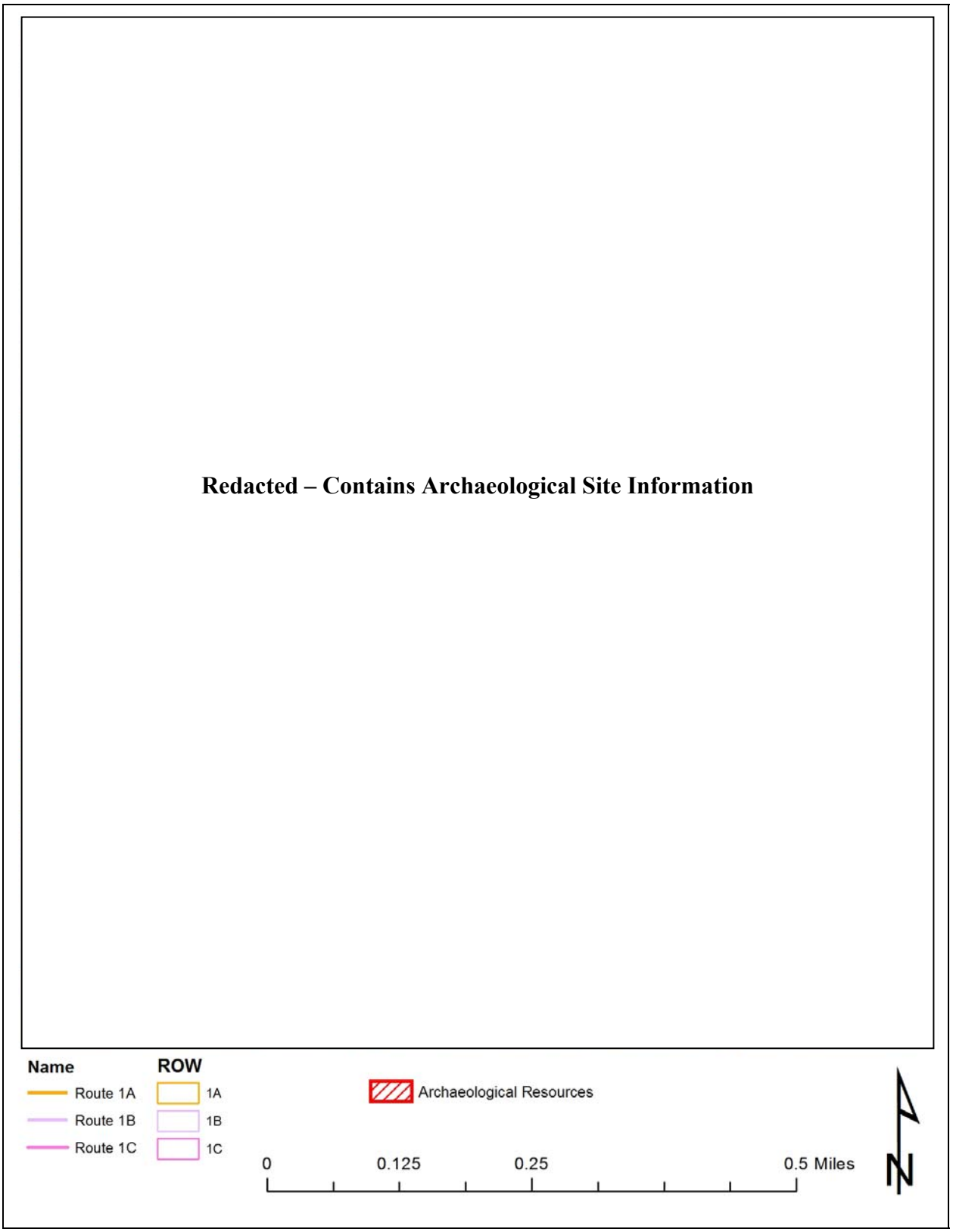

Figure 4-5: Detail of previously recorded archaeological resources located within the ROW for project alternatives. (Source: VCRIS)

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5. RESULTS OF FIELD RECONNAISSANCE

In accordance with the VDHR guidelines for assessing impacts of proposed electric transmission lines on historic resources, previously recorded historic architectural properties designated an NHL, or either listed or determined eligible or potentially eligible for listing in the NRHP located within 1.5 mile, 1.0 mile, or 0.5 mile of the project study area were field verified for existing conditions and photo documented (Table 5-1). Inspection and analysis of the setting around the resource and views towards the project alternatives were also assessed. The results of the field reconnaissance for each resource are organized by NRHP-status, and summarized in the following pages.

Table 5-1: Considered Architectural Resources within their Respective Tiered Buffer Zones for the DTC 230kV Line Loop and DTC Substation Project

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project
053-0110	Broad Run Bridge and Toll House	NRHP-Listed	~0.57 Mile

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NATIONAL REGISTER OF HISTORIC PLACES – LISTED PROPERTIES
BATTLEFIELDS, AND LANDSCAPES
Located within 1.0 Mile of the Project or Closer

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Broad Run Bridge and Toll House (VDHR# 053-0110)

The Broad Run Bridge and Toll House consists of a circa 1820 stone building with later frame additions that served as a toll house for an adjacent bridge that historically carried the Leesburg Turnpike over Broad Run. The original stone bridge remained in place until the 1970s, but now all that remains are stone abutments on each side. The Leesburg Turnpike was built in the early-nineteenth century as part of a state internal improvement project to provide a link between Leesburg and Alexandria. The Broad Run Bridge and Toll House remained as a good example of infrastructure related to the turnpike and thus representative of early-nineteenth century transportation in the region. As such, it was formally listed in the NRHP in 1970.

The Broad Run Bridge and Toll House is located approximately 0.57 mile from the project study area at its nearest point. This point is the northernmost point of Route 1C, just west of the proposed site of the DTC substation. The landscape between the resource and the study area is undulating, as a result of Broad Run and several small tributaries, with a series of finger ridges and troughs. There is extensive development between the resource and the study area, including several major transportation corridors, a large campus of the Virginia Cooperative Extension, and a complex of townhouses. The undeveloped landscape generally remains thickly wooded.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the Broad Run Bridge and Toll House, and photo simulation was prepared with emphasis on views from the resource towards the study area. For the purposes of this effort, the proposed structure locations on Route 1A were modeled as this alternative is the closest to the Broad Run Bridge and Toll House property. Because the property is private and gated, inspection from directly adjacent to the Toll House was not possible, however, inspection and analysis were conducted from nearby including from the modern Leesburg Pike roughly 50-feet to the north, and from a modern crossing of Broad Run on Russell Branch Parkway roughly 300-feet to the south.

Visual inspection revealed that the current landscape and setting surrounding the resource has been subject to extensive development and manipulation. The modern Leesburg Pike corridor extends immediately to the front of the building. The road is now an eight-lane highway on a built-up corridor, leaving the Broad Run Toll House within a low plane beneath the road surface. Inspection from the raised highway adjacent to the toll house revealed that intervening vegetation, including within the Broad Run Bridge and Toll House property, screens views in the direction of the project study area. Access to the property is now from a narrow private road to the west that is gated and prohibits access to the site, however, as it is at a lower elevation than the raised highway, views would be similarly screened. Inspection from a modern bridge over Broad Run on Russell Branch Parkway just to the south revealed that views in the direction of the project study area are interrupted by topography. A wooded ridge that is higher elevation than the project area extends between this location and the study area.

As such, it is anticipated that there will be no visibility of any project alternatives from the Broad Run Bridge and Toll House, or any publicly-accessible locations in the immediate vicinity. The proposed structures nearest to the resource are those within the proposed DTC substation and will be an average of 75-feet in height. The structures extending to the south and away from the

property will be average 110-feet in height. While the structures will be taller than the average mature tree cover in the area, the topography, angle of view, and intervening development are anticipated to inhibit views of the project. This was confirmed with photo simulation that illustrates all of the proposed structures along Route 1A will remain beneath the horizon and vegetation and therefore not be visible from the property.

Visual impacts are defined as the introduction of visual elements that might diminish or alter the setting of any historic property listed on or eligible for listing on the NRHP. The Broad Run Bridge and Toll House is significant for its associations with Virginia's early transportation network. As such, setting as it relates to the relationship between the toll house, the remains of the associated bridge, and the water feature it crosses, are important to its interpretation, and a component of its significance; however, the wider surroundings are not inherently linked to its significance or interpretive capability. Further, the extended setting is already considered compromised by large-scale modern development and infrastructure, and not integral to the significance of the resource. It is D+A's opinion that the significant historical setting is limited to the toll house and bridge, and the immediately surrounding area. It is anticipated that there will no visibility of any of the proposed alternatives, and was confirmed as such for the nearest alternative (Route 1A). Therefore, the DTC 230kV Line Loop and DTC Substation Project will not introduce any change in setting or viewshed and will have ***no impact*** on the Broad Run Bridge and Toll House.

Figure 5-1 depicts the location of the Broad Run Bridge and Toll House in relation to the project study area and viewshed buffers, with the location and direction of all representative photographs. Figures 5-2 through 5-5 are representative photographs of the property, as well as those taken from locations within and near the property towards the project study area. Figures 5-6 through 5-8 provide photo simulation of Route 1A, including maps with the location, direction, and structures included in the photo simulation from the property, the existing view from the simulation location, and a simulated view of the proposed structures along that alternative.

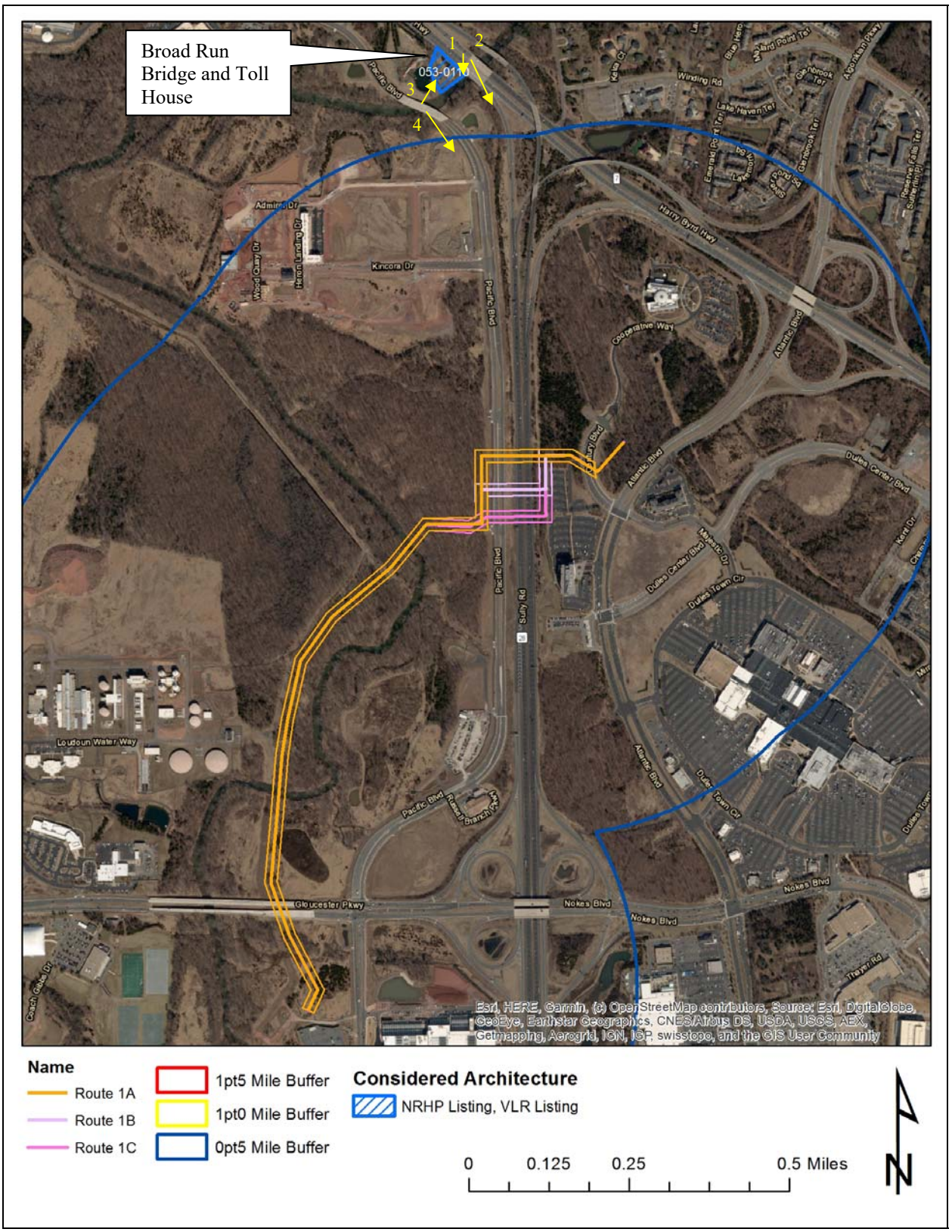

Figure 5-1: Location of Broad Run Bridge and Toll House in relation to the project alternatives (Representative photographs and views towards the project area depicted in yellow).

Figure 5-2: Photo location 1- View towards Broad Run Bridge and Toll House from SR-7 Harry Byrd Highway, facing south.

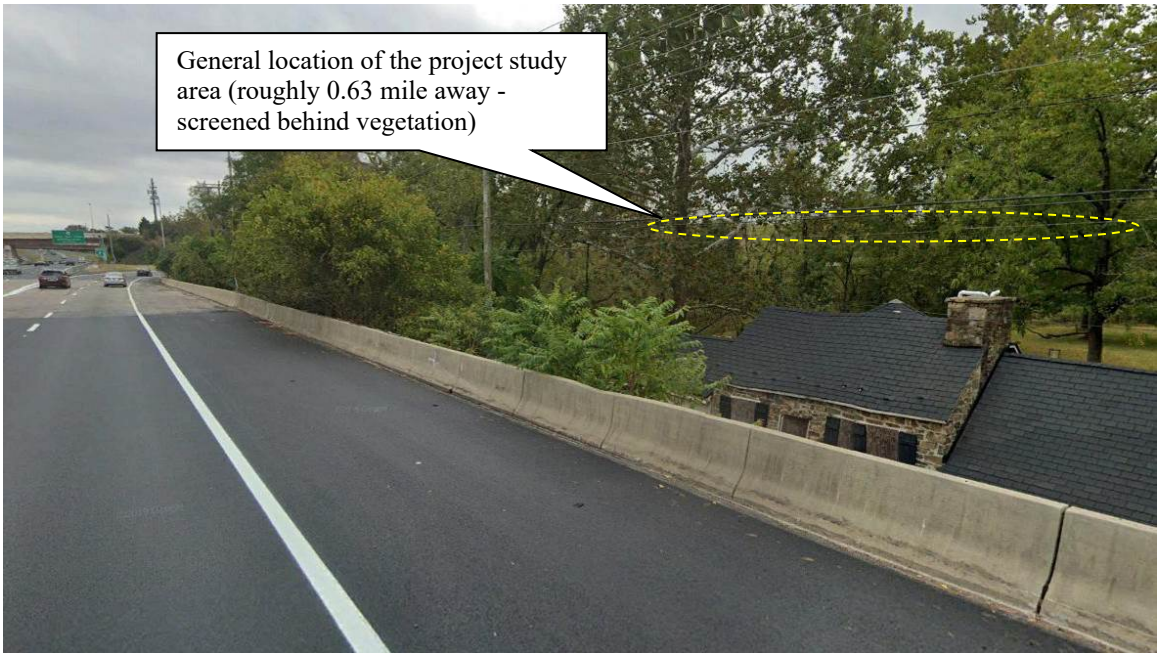

Figure 5-3: Photo location 2- View from the Broad Run Bridge and Toll House towards the project area (not visible), facing southeast.

Figure 5-4: Photo location 3- View of Broad Run Bridge and Toll House setting from Russell Branch Parkway, facing north.

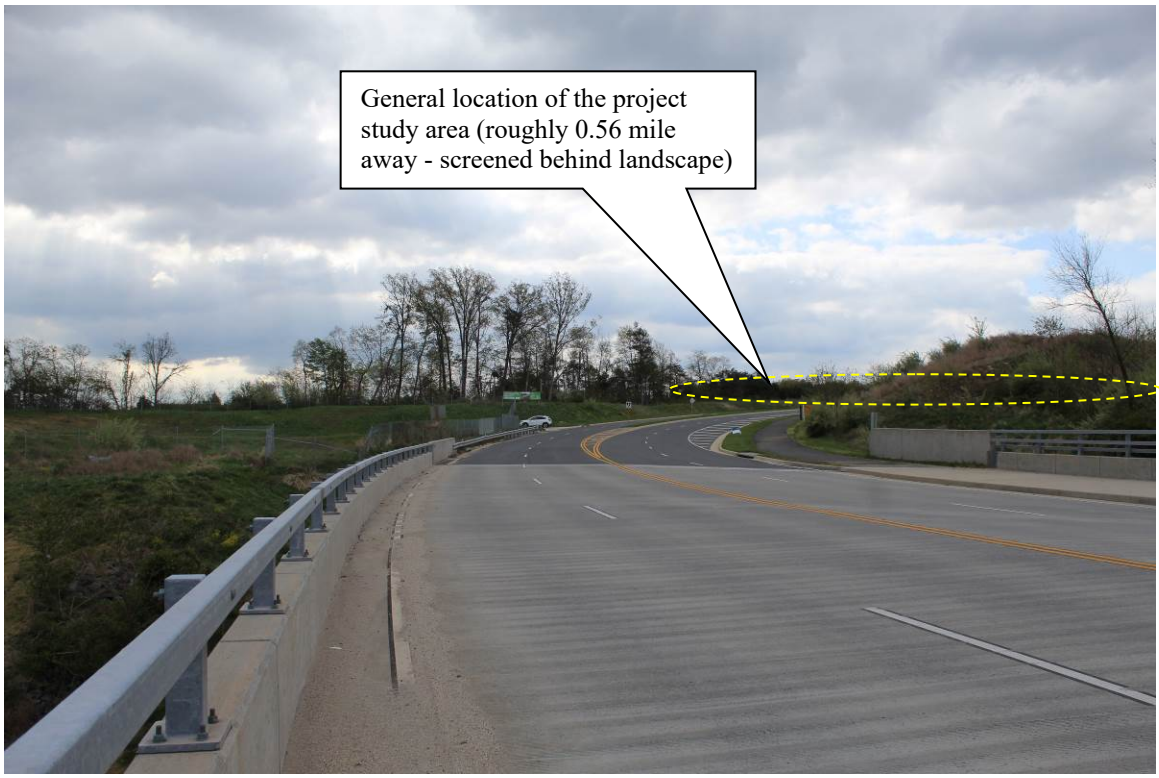

Figure 5-5: Photo location 4- View from Russell Branch Parkway near Broad Run Bridge and Toll House towards the project area (not visible), facing southeast.

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Photo simulations
prepared by:
GTTE LLC
email:
info@gttellc.com
703 447 1350

Location:
Broad Run Toll Keepers House

Project:
DTC 230kV Line Loop and DTC Substation

Structure	Distance (ft)	Height (ft)
New 1	7893	100.0
New 2	7734	100.0
New 3	7328	110.0
New 4	6928	110.0
New 5	6354	100.0
New 6	5874	90.0
New 7	5580	90.0
New 8	5092	95.0

Structure	Distance (ft)	Height (ft)
New 9	4677	90.0
New 10	4412	90.0
New 11	4081	90.0
New 12	3871	95.0
New 13	3873	110.0
New 14	3270	120.0
New 15	3412	120.0
New 16	3565	110.0

Figure 5-6: Broad Run Bridge and Tollkeepers House Photo Simulation – Simulation location, direction of view, and structures modeled on Route 1A. Source: GTTE, LLC

Attachment 2.H.1
Page 37 of 44

Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350	**Project:** DTC 230kV Line Loop and DTC Substation	**Location:** Broad Run Toll Keepers House	**Existing View**	0 1" 2" 3" 4"
	Photo Simulations and diagrams represent approximate heights for electric transmission structures from the conceptual design used for the proposed project. These illustrations do not necessarily depict exact structure design or location.		This simulation is designed for viewing on a computer monitor. To achieve the correct scale, the image should be increased or decreased in size until the scale above measures 4". When viewed with the eye at 31" from the screen the image will have the same scale as if the viewer were standing at the camera location.	

Figure 5-7: Broad Run Bridge and Tollkeepers House Photo Simulation – Existing view towards Route 1A (roughly 0.57 mile away). Source: GTTE, LLC

Attachment 2.H.1
Page 38 of 44

Photo simulations prepared by:
GTTE LLC
email:
info@gttellc.com
703 447 1350

Project: DTC 230kV Line Loop and DTC Substation

Location: Broad Run Toll Keepers House

Proposed View
(Location of towers not visible are overlaid with yellow tower icon)

Photo Simulations and diagrams represent approximate heights for electric transmission structures from the conceptual design used for the proposed project. These illustrations do not necessarily depict exact structure design or location.

This simulation is designed for viewing on a computer monitor. To achieve the correct scale, the image should be increased or decreased in size until the scale above measures 4". When viewed with the eye at 31" from the screen the image will have the same scale as if the viewer were standing at the camera location.

Figure 5-8: Broad Run Bridge and Tollkeepers House Photo Simulation – Proposed view towards Route 1A (Roughly 0.57 miles away - Structures not visible- shown in yellow). Source: GTTE, LLC

Attachment 2.H.1
Page 39 of 44

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Attachment 2.H.1
Page 40 of 44

6. SUMMARY OF POTENTIAL IMPACTS

As part of this pre-application analysis of cultural resources for the DTC 230kV Line Loop and DTC Substation Project, potential impacts to previously recorded historic properties listed or considered eligible for listing in the NRHP within the VDHR-defined buffered tiers were assessed in accordance with the VDHR guidelines. For the purposes of this analysis, an impact is one that alters, either directly or indirectly, those qualities or characteristics that qualify a particular property for listing in the NRHP and does so in a manner that diminishes the integrity of a property's materials, workmanship, design, location, setting, feeling, and/or association. With respect to transmission lines, direct impacts typically are associated with ground disturbance resulting from ROW clearing and structure construction. Indirect impacts typically are associated with the introduction of new visual elements or changes to the physical features of a property's setting or viewshed. According to VDHR guidance, project impacts are characterized as such:

- **None** – Project is not visible from the property
- **Minimal** – Occur within viewsheds that have existing transmission lines, locations where there will only be a minor change in tower height, and/or views that have been partially obstructed by intervening topography and vegetation.
- **Moderate** – Include viewsheds with expansive views of the transmission line, more dramatic changes in the line and tower height, and/or an overall increase in the visibility of the route from the historic properties.
- **Severe** – Occur within viewsheds that do not have existing transmission lines and where the views are primarily unobstructed, locations where there will be a dramatic increase in tower visibility due to the close proximity of the route to historic properties, and viewsheds where the visual introduction of the transmission line is a significant change in the setting of the historic properties.

With regards to architectural resources, one (1) historic property that is either designated and NHL, listed in, or determined eligible or potentially eligible for listing in the NRHP is located within the defined study tiers. This includes no (0) NHLs located within 1.5 mile or closer of the proposed project, one (1) NRHP-listed property located 1.0 mile or closer of the project (Broad Run Bridge and Toll House/VDHR# 053-0110), and no (0) properties that have been determined eligible or potentially eligible for listing in the NRHP located within 0.5 mile or closer of the project.

Inspection from the NRHP-listed resource found that it is set within a rapidly developing suburban area with large-scale commercial and industrial properties in the vicinity. Coupled with transportation network and vegetation patterns, it is anticipated that all of the project alternatives will be completely screened from view from the resource, which is supported by photo simulation of the nearest alternative. ***It is therefore D+A's opinion that the proposed DTC 230kV Line Loop and DTC Substation Project will have no impact on any architectural resources that are designated an NHL, listed in the NRHP, or determined eligible or potentially eligible for listing (Table 6-1).***

Table 6-1: Potential impacts summary for architectural resources.

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project	Recommended Impact
053-0110	Broad Run Bridge and Toll House	NRHP-Listed	0.57 Mile	No Impact

With regards to archaeology, two previously identified site are located within or adjacent to the project area (within 50 feet of an alternative ROW), both of which are directly crossed by all three alternatives. Both of the sites have been determined not eligible for listing in the NRHP. No archaeological field work was conducted as part of this effort and previously recorded sites within or adjacent to the project were not visited or assessed at this time. ***It is D+A's opinion that these sites should be assessed for existing conditions and project impacts as additional project construction details become available (Table 6-2).***

Table 6-2: Summary of potential impacts summary for archaeological resources.

VDHR#	NRHP Status	Proximity to Project Area	Impacts
44LD0107 (Prehistoric Unknown)	DHR Staff: Not Eligible	Directly Crossed by Route 1A, 1B, and 1C	TBD
44LD0727 (Prehistoric Camp)	DHR Staff: Not Eligible	Directly Crossed by Route 1A, 1B, and 1C	TBD

7. REFERENCES

National Park Service
2009 "Civil War Sites Advisory Commission Report Update and Resurvey," American Battlefield Protection Program

Virginia Department of Historic Resources
2008 *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia*

Virginia Department of Historic Resources
2016 Virginia Cultural Resource Information System (VCRIS) database and GIS server.

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Robert Farrell
State Forester

COMMONWEALTH of VIRGINIA

Department of Forestry

900 Natural Resources Drive, Suite 800 • Charlottesville, Virginia 22903
(434) 977-6555 • Fax: (434) 296-2369 • www.dof.virginia.gov

Thursday, November 4, 2021

Rachel Studebaker
Environmental Specialist III
Dominion Energy Services
120 Tredegar Street, Richmond, VA 23219
Cell: (804) 217-1847

Subject: Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project, Loudoun County, Virginia

Dear Rachel,

Thank you for the opportunity to review and comment on the Environmental Impact Review for the proposed DTC 230kV loop and DTC substation project in Loudoun County described in your letter from October 5th, 2021.

The project will likely impact or require the removal of approximately 6-9 acres of forest within the Broad Run watershed including the creation of at least one crossing of Broad Run where no right-of-way currently exists. This forest contributes to the forest and aquatic biodiversity of the watershed and provides key ecosystem services to urban areas including:

- air filtration and removal of pollutants and particulate matter from the adjacent airport and major roads (approximately 1.29 tons annually, see attached iTree Canopy v7.1 analysis),
- hydrological stabilization including avoided runoff, evaporation, interception, and transpiration (approximately 11,123 Kgal annually, see attached iTree Canopy v7.1 analysis),
- and maintenance of healthy temperatures in a potential "urban heat island".

For these reasons, it important to avoid as much as possible impacts to stream-side vegetation and forests. In the case that trees or forest vegetation needs to be removed, converted, or otherwise impacted by project activities, we recommend mitigating these impacts by establishing new trees, forests, or forest vegetation on site or in the general vicinity in such a way as to maintain or improve overall water quality, ecosystem function, and scenic value.

Should you require any advice or assistance with forest management, pre-harvest planning or mitigation practices, please feel free to contact me or other staff at the Department of Forestry.

Sincerely

Sarah Parmelee

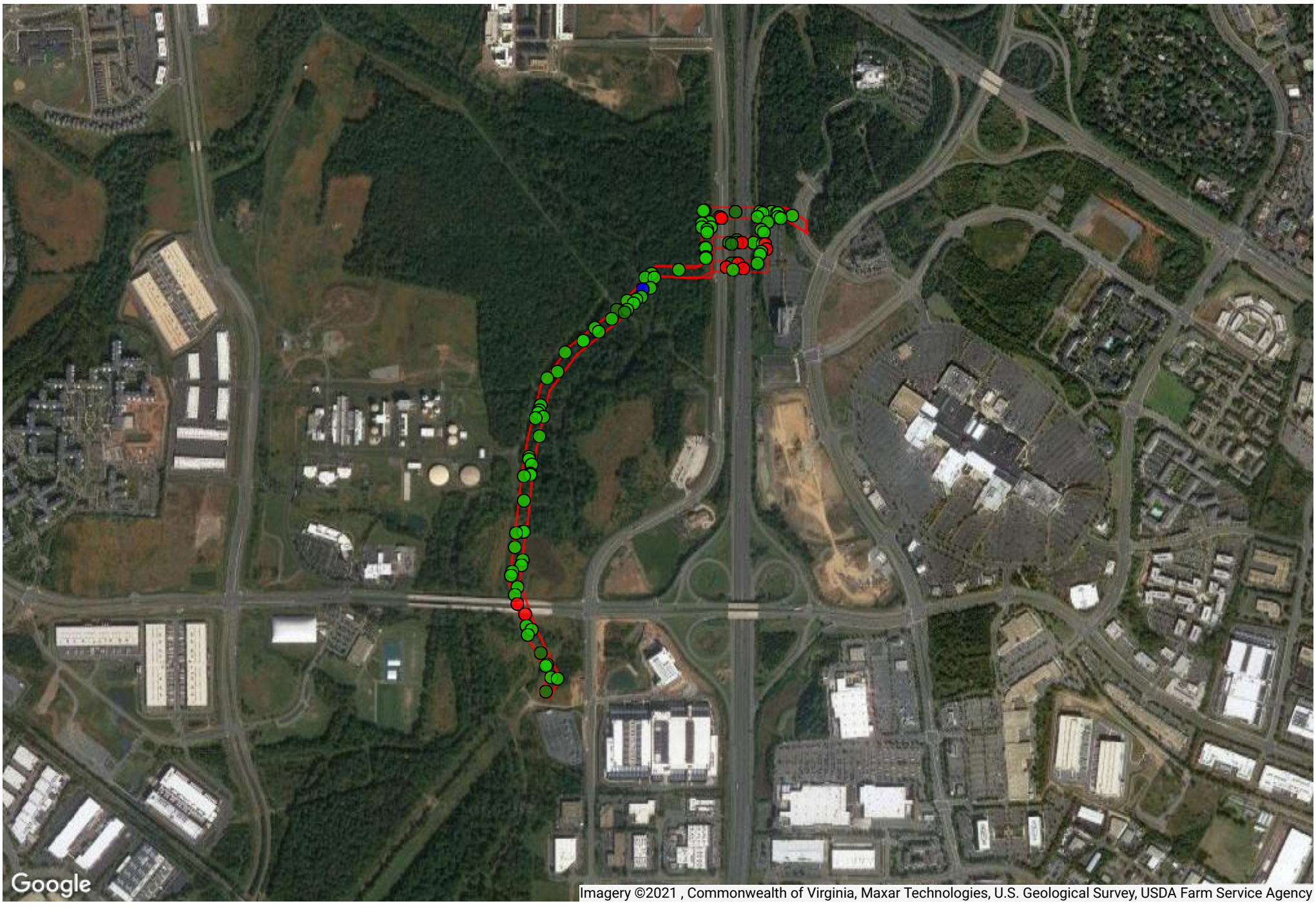
Sarah Parmelee
Forestland Conservation Coordinator

Attachments (1): i-Tree Canopy v7.1_DTC Loop and Substation.pdf

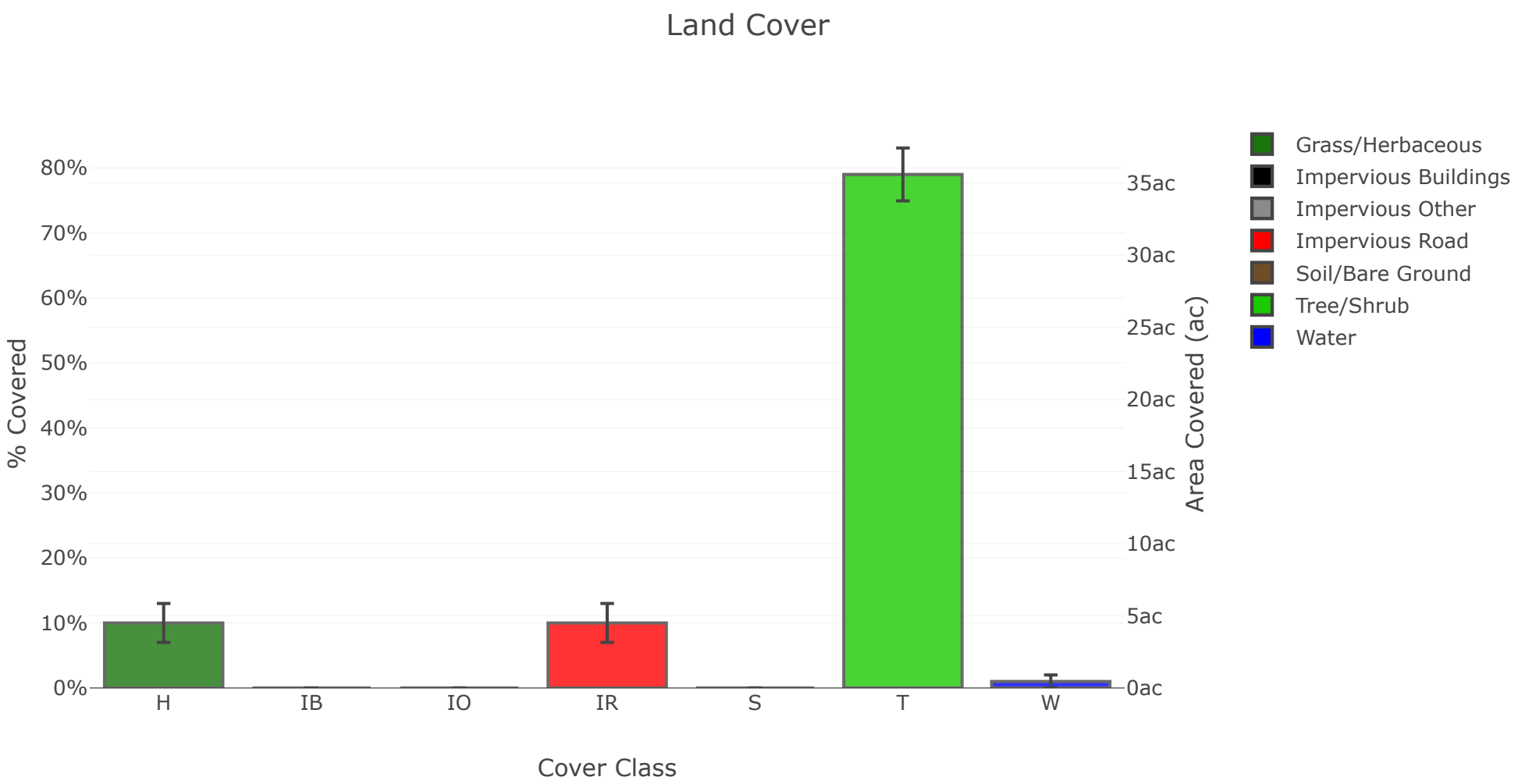
i-Tree Canopy v7.1

Cover Assessment and Tree Benefits Report

Estimated using random sampling statistics on 11/4/2021



Land Cover



Abbr.	Cover Class	Description	Points	% Cover ± SE	Area (ac) ± SE
H	Grass/Herbaceous		10	10.00 ± 3.00	4.51 ± 1.35
IB	Impervious Buildings		0	0.00 ± 0.00	0.00 ± 0.00
IO	Impervious Other		0	0.00 ± 0.00	0.00 ± 0.00
IR	Impervious Road		10	10.00 ± 3.00	4.51 ± 1.35
S	Soil/Bare Ground		0	0.00 ± 0.00	0.00 ± 0.00
T	Tree/Shrub		79	79.00 ± 4.07	35.59 ± 1.84
W	Water		1	1.00 ± 1.00	0.45 ± 0.45
Total			**100**	**100.00**	**45.05**

Tree Benefit Estimates: Carbon (English units)

Description	Carbon (T)	±SE	CO_2 Equiv. (T)	±SE	Value (USD)	±SE
Sequestered annually in trees	46.52	±2.40	170.58	±8.79	$7,934	±409
Stored in trees (Note: this benefit is not an annual rate)	1,220.15	±62.91	4,473.87	±230.66	$208,097	±10,729

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Amount sequestered is based on 1.307 T of Carbon, or 4.792 T of CO_2, per ac/yr and rounded. Amount stored is based on 34.281 T of Carbon, or 125.697 T of CO_2, per ac and rounded. Value (USD) is based on $170.55/T of Carbon, or $46.51/T of CO_2 and rounded. (English units: T = tons (2,000 pounds), ac = acres)

Tree Benefit Estimates: Air Pollution (English units)

Abbr.	Description	Amount (lb)	±SE	Value (USD)	±SE
CO	Carbon Monoxide removed annually	93.66	±4.83	$62	±3
NO2	Nitrogen Dioxide removed annually	150.84	±7.78	$51	±3
O3	Ozone removed annually	1,764.83	±90.99	$1,061	±55
SO2	Sulfur Dioxide removed annually	104.10	±5.37	$8	±0
PM2.5	Particulate Matter less than 2.5 microns removed annually	90.94	±4.69	$2,565	±132
PM10*	Particulate Matter greater than 2.5 microns and less than 10 microns removed annually	366.47	±18.89	$1,149	±59
Total		**2,570.84**	**±132.55**	**$4,896**	**±252**

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Air Pollution Estimates are based on these values in lb/ac/yr @ $/lb/yr and rounded:
CO 2.632 @ $0.67 | NO2 4.238 @ $0.34 | O3 49.585 @ $0.60 | SO2 2.925 @ $0.08 | PM2.5 2.555 @ $28.21 | PM10* 10.296 @ $3.13 (English units: lb = pounds, ac = acres)

Tree Benefit Estimates: Hydrological (English units)

Abbr.	Benefit	Amount (Kgal)	±SE	Value (USD)	±SE
AVRO	Avoided Runoff	547.57	±28.23	$4,893	±252
E	Evaporation	2,699.56	±139.18	N/A	N/A
I	Interception	2,699.88	±139.20	N/A	N/A
T	Transpiration	5,176.00	±266.86	N/A	N/A
PE	Potential Evaporation	22,803.22	±1,175.69	N/A	N/A
PET	Potential Evapotranspiration	16,873.75	±869.98	N/A	N/A

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Hydrological Estimates are based on these values in Kgal/ac/yr @ $/Kgal/yr and rounded:
AVRO 15.385 @ $8.94 | E 75.847 @ N/A | I 75.856 @ N/A | T 145.424 @ N/A | PE 640.677 @ N/A | PET 474.083 @ N/A (English units: Kgal = thousands of gallons, ac = acres)

About i-Tree Canopy

The concept and prototype of this program were developed by David J. Nowak, Jeffery T. Walton, and Eric J. Greenfield (USDA Forest Service). The current version of this program was developed and adapted to i-Tree by David Ellingsworth, Mike Binkley, and Scott Maco (The Davey Tree Expert Company)

Limitations of i-Tree Canopy

The accuracy of the analysis depends upon the ability of the user to correctly classify each point into its correct class. As the number of points increase, the precision of the estimate will increase as the standard error of the estimate will decrease. If too few points are classified, the standard error will be too high to have any real certainty of the estimate.

Additional support provided by:

Use of this tool indicates acceptance of the EULA.

Rachel M Studebaker (Services - 6)

From: ImpactReview <impactreview@vof.org>
Sent: Thursday, October 7, 2021 4:27 PM
To: Fulcher, Valerie; Rachel M Studebaker (Services - 6)
Cc: eir@deq.virginia.gov
Subject: [EXTERNAL] RE: NEW SCOPING DTC 230 KV Line Loop and DTC Substation Project

Follow Up Flag: Flag for follow up
Flag Status: Completed

Ms. Studebaker,

The Virginia Outdoors Foundation has reviewed the project referenced above. As of October 7, 2021, there are not any existing nor proposed VOF open-space easements in the immediate vicinity of the project.

Please contact VOF again for further review if the project area changes or if this project does not begin within 24 months. Thank you for considering conservation easements.

Thanks,
Mike

Mike Hallock-Solomon, AICP
Virginia Outdoors Foundation

From: Fulcher, Valerie <valerie.fulcher@deq.virginia.gov>
Sent: Tuesday, October 5, 2021 4:03 PM
Cc: rachel.m.studebaker@dominionenergy.com
Subject: NEW SCOPING DTC 230 KV Line Loop and DTC Substation Project

Alert: This email originated from outside VOF
Good afternoon—attached is a request for scoping comments on the following:

> **Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project Loudoun County, Virginia**

If you choose to make comments, please send them directly to the project sponsor (rachel.m.studebaker@dominionenergy.com) and copy the DEQ Office of Environmental Impact Review: eir@deq.virginia.gov. We will coordinate a review when the environmental document is completed.

DEQ-OEIR's scoping response is also attached.

If you have any questions regarding this request, please email our office at eir@deq.virginia.gov.

Valerie

--

Valerie A. Fulcher, CAP, OM, Admin/Data Coordinator Senior

Department of Environmental Quality

Environmental Enhancement - Office of Environmental Impact Review

1111 East Main Street

Richmond, VA 23219

804/698-4330

Email: Valerie.Fulcher@deq.virginia.gov

https://www.deq.virginia.gov/permits-regulations/environmental-impact-review

OUR ENFORCEABLE POLICIES HAVE BEEN UPDATED FOR 2020: https://www.deq.virginia.gov/permits-regulations/environmental-impact-review/federal-consistency

For program updates and public notices please subscribe to Constant Contact: https://lp.constantcontact.com/su/MVcCump/EIR

From: Dabestani, Cina <cina.dabestani@vdot.virginia.gov>
Sent: Friday, October 22, 2021 2:22 PM
To: Rachel M Studebaker (Services - 6) <Rachel.M.Studebaker@dominionenergy.com>; rr Environmental Impact Review <eir@deq.virginia.gov>; rr EIR Coordination <eir.coordination@vdot.virginia.gov>
Cc: Norman Whitaker <norman.whitaker@vdot.virginia.gov>; Trivedi, Rahul <rahul.trivedi@vdot.virginia.gov>
Subject: [EXTERNAL] Dominion Energy Virginia's Proposed DTC 230kV Line Loop and DTC Substation Project Loudoun County, Virginia

Ms. Studebaker:

Thank you for the opportunity to review and comment on the scope of the subject project. After careful review following comments are offered for your considerations:

1. Dominion Energy Virginia or its designee would be responsible for compliance with applicable Federal and state environmental laws/regulations for any activities within existing VDOT right-of-way associated with their construction of a proposed new overhead 230 kV double circuit transmission loop.
2. Dominion Energy Virginia or its designee should coordinate their project with the state natural and historic agencies listed in the VA Dept. of Environmental Quality letter dated October 5, 2021 as well as any Federal agencies with regulatory oversight.
3. There can not be any poles and/or wires within or crossing VDOT limited access highway without Chief Engineer approval.

Thank you,

--

Cina S. Dabestani
Sr. Transportation Engineer, NOVA Transportation Planning
Virginia Department of Transportation
703-259-2991
Cina.Dabestani@VDOT.Virginiia.Gov

From: Greg.R.Baka@dominionenergy.com
Sent: Tuesday, October 19, 2021 3:26 PM
To: Scott Denny
Cc: Andrea Thornton; Jon Berkin; Matt Teichert; Justin Bakken; john.j.kascsak@dominionenergy.com; Rachel.M.Studebaker@dominionenergy.com; Dale Smith (asac@asacsafety.com)
Subject: RE: DTC 230kV Line Loop and DTC Substation
Attachments: _DOM_DTC_Fig1_StructureHeights.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Mr. Denny,

I wanted to respond to your email from October 6, 2021 below. Dominion Energy ("Dominion") and its Electric Transmission Consultant, ERM, conducted an Airport Study to determine if any of the proposed structures associated with the DTC Project would have an impact on the Dulles International Airport. This information will be provided in the project's Virginia State Corporate Commission filing.

Dominion reviewed the height limitations associated with FAA-defined imaginary surveys for all runways associated with the Dulles International Airport to determine whether any of the tower heights, associated with each specific tower location, would penetrate any of the relevant flight surfaces for any of the runways. Dominion conducted a preliminary evaluation of the tower heights and locations using the FAA-defined Civil Airport Imaginary Surfaces and applying standard GIS tools, including ESRI's ArcMap 3D and Spatial Extension software. This software was used to create and geo-reference the imaginary surfaces in space and in relationship to the transmission towers. The ground surface elevation data for the Project area was derived by using USGS 10 Meter Digital Elevation Model.

The civil Airport Imaginary Surfaces evaluated for the Project include:

- Horizontal surface at 463 feet AMSL: A horizontal plane 150 feet above the established airport elevation of 313 feet AMSL, the perimeter of which is constructed by swinging arcs of radius 10,000 feet from the center of each end of the primary surface of each runway and connecting the adjacent arcs by lines tangent to those arcs.
- Conical surface: A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet. The conical surfaces for this airport have an elevation that extends from 313 feet to 513 feet AMSL.
- Primary surface: A surface longitudinally centered on the runway. The primary surface extends 200 feet beyond each end of the runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline (313 feet AMSL). The width of the primary surface is 1,000 feet.
- Approach surface: A surface longitudinally centered on the extended runway centerline and extending outward and upward from the end of each primary surface. The inner edge of the approach surface is the same width as the primary surface and it expands uniformly to a width of 16,000 feet. The approach surfaces extends for a horizontal distance of 10,000 feet at a slope of 50 to 1 with an additional 40,000 feet at a slope of 40 to 1.
- Transitional Surface: These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces.

The airport surveyed ground elevation is 313 AMSL. The ground elevation in the project vicinity ranges from 215 AMSL on the southern end of the project to 300 AMSL at the northern end. The Project is located approximately 25,000 feet north of the end of Runway 19L. Based on the ground elevation at the project area and the distance from the end of the nearest runway, Dominion has determined there would be no potential for impacts to any of the imaginary surfaces or TERPS imaginary surfaces associated with the Dulles International Airport. The attached map shows the extents of some of the surfaces referenced above and their location relative to the project area and the maximum tower heights that would be permissible at each location without impacting airport surfaces. Structures associated with the project will range from 90-120 feet in height.

Should you have any further questions, please do not hesitate to contact Andrea Thornton at ERM at 503-459-6864 or me at 804-201-3053 by phone and we'd be glad to discuss further.

Thank you,

Greg Baka
Electric Transmission – Local Permitting Consultant
Dominion Energy
10900 Nuckols Road; 4th Floor
Glen Allen, VA 23060
804-201-3053 cell
greg.r.baka@dominionenergy.com

From: Scott Denny <scott.denny@doav.virginia.gov>
Sent: Wednesday, October 6, 2021 3:08 PM
To: Greg R Baka (DEV Trans Distribution - 1) <Greg.R.Baka@dominionenergy.com>
Subject: [EXTERNAL] DTC 230kV Line Loop and DTC Substation

Dear Mr. Baka:

The Virginia Department of Aviation has reviewed the proposed location of the DTC Substation and DTC 230kV Line Loop. Based on the information provided in your October 5, 2021 email, it appears as though the site of both the line and the substation are just beyond the 20,000' that would mandate a 7460 submission to the Federal Aviation Administration (FAA). However, since the proposed site is just beyond the distance from a public use airport that would mandate submission, the Department recommends Dominion submit an airspace study request to the FAA for evaluation.

Please note that the information provided did not indicate the overall height of the proposed Loop Line. If the line or any structure, permanent or temporary, associated with the structure reaches a height above ground level of 200' or more, the submission of the 7460 would become necessary regardless of the distance to the public use airport.

If you have any questions regarding this matter, please contact me at (804) 236-3638.

Sincerely,

S. Scott Denny
Senior Aviation Planner
Virginia Department of Aviation
--
S. Scott Denny
Senior Aviation Planner
Virginia Department of Aviation
804-236-3638
scott.denny@doav.virginia.gov

Maximum Structure Height
2047 Feet
-99 Feet

PROPOSED DTC SUBSTATION

719 690 652 686 638 691 673 632 614 603 598 591 579 586 602 596

BECO SUBSTATION

0 2,000 4,000 Feet

This information is for environmental review purposes only.

Project Location

- Proposed Substation
- Existing Substation
- Route Alternative
- Proposed Stucture Location Labeled with Maximum Allowable FAA Structure Height in Feet
- Existing Dominion Transmission Line
- Airport Boundaries
- Approach Surface
- Primary Surface
- Approach Clearance Surface
- Inner Horizontal Surface

Figure 1
Airport Surfaces and Maximum Structure Heights
DTC 230 kV Line Loop and DTC Substation Project
Loudoun County, Virginia

MPLS M:\Clients\D-F\DOM\DTC\ArcGIS\2021\10\Figures_DOM_DTC_Fig1_StructureHeights.mxd | REVISED: 10/19/2021 | SCALE: 1:48,000 when printed at 11x17 DRAWN BY: 0239