Dominion Energy®

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

Before the State Corporation Commission of Virginia

230 kV Altair Loop and Altair Switching Station

Application No. 319

Case No. PUR-2022-00197

Filed: November 17, 2022

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 TRANSMISSION FACILITIES

230 kV Altair Loop and Altair Switching Station

Application No. 319

DEQ Supplement

Case No. PUR-2022-00197

Filed: November 17, 2022

Table of Contents

Page

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 230 kV Altair Loop and Altair Switching Station (the "Project") by DEQ and other relevant agencies.

1. Project Description –

In order to provide requested transmission service to Northern Virginia Electric Cooperative ("NOVEC"), to maintain reliable service for the overall load growth in the area, and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, Dominion Energy Virginia proposes in Loudoun County, Virginia, to:

- Construct two new approximately 1.66-mile 230 kV single circuit lines on new right-of-way by cutting 230 kV Belmont-Brambleton Line #201 between Structure #201/52 and #201/53 south of Belmont Switching Station ("Belmont Station"), resulting in (i) 230 kV Altair-Brambleton Line #201, and (ii) 230 kV Altair-Belmont Line #2263 ("Altair Loop"). From the cut-in location, the Altair Loop will extend to the Company's proposed new 230 kV Altair Switching Station adjacent to NOVEC's future Altair Delivery Point ("DP"). While the cut-in location is within existing right-of-way, the proposed Altair Loop will be constructed on new 120-foot-wide right-of-way for the majority of the 1.66-mile route (approximately 1.55 miles) supported primarily by two side-by-side single circuit weathering steel monopoles.[1] Approximately 0.06 mile of the Altair Loop will be constructed on new 200-foot-wide right-of-way, supported by single circuit weathering steel H-frame structures.[2] The remaining 0.05 mile of the route will be located either within the Altair Switching Station or within the Company's existing

[1] For the majority (approximately 1.55 miles) of the proposed Altair Loop, the new single circuit conductors will be supported by two single circuit weathering steel monopoles installed side-by-side within the proposed 120-foot-wide transmission corridor. The Company is proposing to install two single circuit structures instead of one double circuit structure at the request of NOVEC's customer. An additional 20 feet of right-of-way (120 feet for two single circuit structures installed side-by-side versus 100 feet for one double circuit structure) is required to install the two single circuit monopoles. The cost differential associated with utilization of two single circuit structures and the additional 20 feet of right-of-way will be collected from NOVEC through an excess facilities charge. See Appendix Section I.A.

[2] Within the existing Belmont-Brambleton Line #201 right-of-way, the Company will install two new single circuit 3-pole structures to support the proposed Altair-Brambleton Line #201 and the proposed Altair-Belmont Line #2263. From there, the proposed Altair Loop will extend approximately 0.06 mile along new 200-foot-wide right-of-way supported by two side-by-side single circuit H-frame structures. This approximately 0.06-mile segment of 200-foot-wide right-of-way is necessary to meet clearance requirements of the existing 500 kV Brambleton-Goose Creek Line #558 in the existing transmission corridor. Specifically, the structures will need to be in the horizontal configuration (H-frame structures) at the cut-in location in order to maintain clearances between the existing Line #558 and the proposed Lines #201 and #2263. Within that 0.06-mile segment, the Altair Loop will transition from horizontal (H-frame structures) to vertical (monopoles), thereby reducing the necessary right-of-way from 200 feet to 120 feet. The 120-foot-wide right-of-way for the remainder of the route is required to maintain adequate clearances for blowout and forestry maintenance for the single circuit monopole structures. See Appendix Attachment II.A.2 for the location of the 120-foot-wide and 200-foot-wide right-of-way segments.

Line #201 right-of-way.[3] The entire proposed Altair Loop will be constructed utilizing three-phase twin-bundled 768.2 ACSS/TW type conductor with a summer transfer capability of 1,573 MVA.

- Construct a new 230 kV delivery point switching station in Loudoun County, Virginia (the "Altair Switching Station" or "Altair Station"), which will provide interconnection to NOVEC's future Altair DP; and

- Perform minor related work at the Belmont Station and Brambleton Substation.

Collectively, the Altair Loop, Altair Station, and related station work comprise the Project.

For this Project, the Company retained the services of Environmental Resources Management ("ERM") to help collect information within the study area, identify potential routes, perform a routing analysis comparing the route alternatives, and document the routing efforts in an Environmental Routing Study. After investigating various electrical solutions, the Company identified two viable electrical solutions for the Project: a 230 kV overhead route that would cut the existing Belmont-Brambleton Line #201 (Option 1) or Belmont-Pleasant View Line #2180 (Option 2) and extend northwest to the proposed Altair Station. ERM then developed a study area for these solutions that encompassed the area surrounding the proposed Altair Station and potential cut-in locations with Line #201 or Line #2180.

---

[3] As noted herein, the Project requires 120-foot-wide new right-of-way for approximately 1.55 miles of the route and 200-foot-wide new right-of-way for approximately 0.06 mile of the route. See Appendix Attachment II.A.2 for the location of the 120-foot-wide and 200-foot-wide right-of-way segments of the route. That said, the Company proposes to seek to acquire 160-foot-wide new right-of-way for a 1.55-mile segment of the route (with the exception of one span that will require 170-foot-wide right-of-way due to airport structure height restrictions), and 280-foot-wide new right-of-way for a 0.06-mile segment of the route. The additional right-of-way is necessary in order to accommodate installation of a third circuit within the corridor of these segments in the future. To be clear, only the proposed 120-foot-wide right-of-way (1.55 miles) and proposed 200-foot-wide right-of-way (0.06 mile) will be cleared and utilized for the proposed Project. Dominion Energy Virginia asks that the State Corporation Commission ("Commission") not prohibit the Company from voluntarily obtaining the full right-of-way—at 160, 170, and 280 feet wide as described above—with the understanding that the Company could not condemn for more than the proposed 1.55-mile segment of 120-foot-wide right-of-way and 0.06-mile segment of 200-foot-wide right-of-way needed for the proposed Project, as shown in Appendix Attachment II.A.2. This approach is consistent with the approach approved by the Commission in the Company's recent DTC Line Loop and Substation proceeding. *See Application of Virginia Electric and Power Company for approval and certification of electric facilities: DTC 230 kV Line Loop and DTC Substation*, Case No. PUR-2021-00280, Final Order at 13 (July 7, 2022). The 160-foot-wide right-of-way (approximately 1.55 miles, with the exception of one span that will be 170 feet wide) will accommodate a future 230 kV line to serve another potential future data center campus development in the Project area. This potential future development has separate load growth drivers (another data center campus) and is distinct from the need for the proposed Project, as described in Appendix Sections I.B and II.A.9. The 280-foot-wide right-of-way within the 0.06-mile segment of the route at the cut-in of Line #201 will accommodate a future 230 kV line necessary to satisfy NERC reliability criteria (specifically, to prevent a 300 MW N-1-1 load drop scenario) in the Project area. See Appendix Attachments I.A.4 and III.E.1. To the extent that the Company's Project is approved as proposed, the Company believes that it is reasonable and prudent to construct the Altair Loop on right-of-way that will allow for the future construction of these additional circuits.

ERM and Dominion Energy Virginia originally identified six potential overhead routes (Routes 1 through 6) between Lines #201 and #2180 and the proposed Altair Switching Station (four Option 1 alternatives and two Option 2 alternatives). In consultation with a landowner and a land acquisition and development company headquartered in Loudoun County, a seventh alternative (Route 7) was proposed to the Company for consideration in its analysis of route alternatives for this Project. This seventh route would involve cutting Line #2180 and, therefore, is considered an Option 2 alternative. Of the seven overhead routes, one overhead route (Route 1) was identified as the Proposed Route and one overhead Alternative Route (Alternative Route 2) was identified as a potentially viable alternative to the Proposed Route. Both the Proposed and Alternative Routes cut Line #201 (*i.e.*, Option 1).

The remaining three overhead Option 2 routes cutting Line #2180 (Route 4, Route 5, and Route 7) and two Option 1 routes cutting Line #201 (Route 3 and Route 6) were all rejected from further consideration and not noticed due to fatal flaws in the routes identified during initial route development (Route 6) or due to excessive impacts identified during ERM's comparative analysis (Route 3, Route 4, Route 5, and Route 7).

The two viable routes for the Project, both of which the Company is proposing for State Corporation Commission ("Commission") consideration and notice, are described below:

Proposed Route (Route 1)

The Proposed Route would construct two side-by-side overhead single circuit 230 kV lines from the proposed cut-in of existing 230 kV Line #201 to the proposed Altair Station. The length of the corridor for Route 1 is approximately 1.66 miles. The route extends northwest from Line #201 for about 1.04 mile, crossing over two existing TC Energy gas pipelines in the same easement, paralleling the southern side of the Dulles Greenway and crossing Sycolin Creek. The route then turns north and continues for approximately 0.62 mile, crossing the Dulles Greenway, Sycolin Creek, Shreve Mill Road, Sycolin Creek in a third location, and the future Crosstrail Boulevard Extension, and terminates at the proposed Altair Station.

Alternative Route 2

Alternative Route 2 would construct two side-by-side overhead single circuit 230 kV lines from an alternate cut-in of existing 230 kV Line #201 to the proposed Altair Station. The length of the corridor for Alternative Route 2 is approximately 1.52 miles. The route extends northwest from Line #201 for about 0.25 mile, crosses over two existing TC Energy gas pipelines in the same easement, crosses Sycolin Road, and then continues northwest for another 0.75 mile, continuing to parallel the northern side of the Dulles Greenway and crossing Sycolin Creek. The route then turns to the north for approximately 0.52 mile, crossing Sycolin Creek, Shreve Mill Road, Sycolin Creek in a third location, and the future Crosstrail Boulevard Extension, and terminates at the proposed Altair Station.

2. Environmental Analysis

The Company solicited comments from all relevant state and local agencies about the proposed Project on August 9, 2022, including those identified in Section V.C of the Appendix. Copies of these letters are included as Attachment 2.[4] The DEQ responded to the Company's request for the proposed Project in an email dated August 10, 2022 (see Attachment 2.1), attaching the agency's Scoping Response Letter dated August 10, 2022 (see Attachment 2.2).

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.H 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 and new 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.L.

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 (2017) digital aerial photography. The Proposed Route and Alternative Route both cross Sycolin Creek (perennial waterbody) and intermittent waterbodies (tributaries to Sycolin Creek). Waterbodies in the Project area are shown on Figure 2 of Appendix D in the Environmental Routing Study.

[4] Note that Attachment 2 includes information on Route 3. Subsequent to the Company's preparation of the Agency Letters, the Company determined this route was not viable due to excessive impacts identified during ERM's comparative analysis and, therefore, it is not being proposed by the Company for Commission consideration and notice.

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 (Route 1)

Based on ERM's review of remote sensing data sources including USGS National Hydrography Dataset ("NHD") and Loudoun County data, the Proposed Route crosses Sycolin Creek (a perennial waterbody) in three locations. All three of these crossings would be perpendicular. Two of the crossings would be in locations where the majority of riparian vegetation has already been cleared, thereby minimizing the amount of riparian vegetation clearing required for the route. The Proposed Route would also have two crossings of intermittent unnamed tributaries to Sycolin Creek. No open waterbody features are crossed by this route.

Alternative Route 2

Based on ERM's review of remote sensing data sources including USGS NHD and Loudoun County data, Alternative Route 2 crosses Sycolin Creek (a perennial waterbody) in three locations. All three of these crossings would be perpendicular. Two of the crossings would be in locations where the majority of riparian vegetation has already been cleared, thereby minimizing the amount of riparian vegetation clearing required for the route. Alternative Route 2 would also have two crossings of intermittent unnamed tributaries to Sycolin Creek. No open waterbody features are crossed by this route.

The Virginia Marine Resources Commission ("VMRC") has jurisdiction over streams with drainage areas of greater than five square miles and will require a permit for encroachment over state-owned bottom associated with aerial stream crossings of the transmission lines. The Company solicited comments from VMRC regarding the proposed Project in August 2022. The VMRC responded by letter dated September 8, 2022, indicating that the proposed Project is within the jurisdictional areas of the VMRC and will require a permit. The response is attached as Attachment 2.B.1. The Company will submit a Joint Permit Application ("JPA") 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 Project is included in Attachment 2.D.1.[5] These sources include the USGS 7.5-minute series topographic quadrangle maps, the National Wetland Inventory Online Maps from the U.S. Fish and Wildlife Service ("USFWS"), soils data from the Natural Resources Conservation Service Web Soil Survey, USGS Topographic Maps (2019), aerial photography dating between 2020 and 2022, and National Agricultural Imagery Program and Virginia Base Mapping Program 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 (Route 1)

Based on ERM's Desktop Wetland Analysis data, the Proposed Route would cross approximately 0.39 linear mile of wetland habitat and will require the clearing and/or disturbance of approximately 5.76 acres of wetland area. Of the 5.76 acres of wetland habitat that could be disturbed along this route, approximately 1.91 acres consist of palustrine forested ("PFO") wetland area, 3.33 acre consist of palustrine emergent ("PEM") wetland, and 0.52 acre consist of riverine/stream wetland areas.

Alternative Route 2

Based on ERM's Desktop Wetland Analysis data, Alternative Route 2 would cross approximately 0.36 linear mile of wetland habitat and will require the clearing and/or disturbance of approximately 5.16 acres of wetland area. Of the 5.16 acres of wetland habitat that could be disturbed along this route, approximately 1.18 acres consist of PFO wetland area, 3.54 acres consist of PEM wetland, and 0.44 acre consist of riverine/stream wetland areas.

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*

[5] Note that Attachment 2.D.1 includes information on Routes 3, 4, 5, and 7. The Company determined these routes were not viable due to excessive impacts identified during ERM's comparative analysis and, therefore, they are not being proposed by the Company for Commission consideration and notice.

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.

The Company solicited comments from the DEQ Office of Wetlands and Stream Protection ("DEQ OWSP") and the Corps in August 2022. 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 Company received a letter dated September 28, 2022, from the DEQ OWSP indicating that the Project may require a Virginia Water Protection individual permit or general permit coverage. See Attachment 2.D.2.[6] The Project also is expected to require a Nationwide Permit 57. A JPA will be submitted for further evaluation and final permit need determination by DEQ.

E. Floodplains

As depicted on the Federal Emergency Management Agency's online Flood Insurance Rate Maps #51107C0235E (eff. Feb. 17, 2017) and #51107C0245E (eff. Feb. 17, 2017), the Project area lies within Zone X (areas of minimal flood hazard) and Zone AE (areas within the 100-year floodplain with an established base flood elevation and a regulatory floodway). Temporary grading and timbermats may be used within the 100-year floodplain during construction. Placement of utility structures (transmission line poles) to be located within the floodplain are considered exempt under the Loudoun County Special Exception uses (4-1506) and are permitted in the Floodplain Overlay District ("FOD") (Major Floodplain or Minor Floodplain) by the Board of Supervisors special exception, subject to Section 6-1300 and Section 4-1507, provided that such uses conform with Section 5-1000 and such uses shall not cause any increase in the base flow elevation of the FOD (Major Floodplain) unless otherwise provided. None of the structures are located within the regulatory floodway. The Company will coordinate with the local floodplain coordinators as required.

F. 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,

[6] *See supra*, n. 5. Routes 3, 4, 5, and 7, which are discussed in Attachment 2.D.2, are not being proposed by the Company for Commission consideration and notice.

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 and Alternative Routes is provided in Table F-1 below and depicted in Attachment 2.F.1.

TABLE F-1
230 kV Altair Loop and Altair Switching Station

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

Database	Proposed Route (Route 1)	Alternative Route (Alternative Route 2)
Waste	7	7
Toxics	0	0
Land	8	8
Air	6	6
Water	6	6
Solid Waste Facilities	0	0
Petroleum Facilities	3	3
Petroleum Releases	11	11
Total [a]	**41**	**41**

[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, or Brownfield programs, and/or DEQ VRP and 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 or Superfund sites identified in the reviewed databases were located within 1.0 mile of the Proposed and Alternative Routes.

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

TABLE F-2
230 kV Altair Loop and Altair Switching Station

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

Database	Proposed Route (Route 1)	Alternative Route (Alternative Route 2)
Waste	0	0
Toxics	0	0
Land	1	1
Air	0	1
Water	1	1
Solid Waste Facilities	0	0
Petroleum Facilities	0	0
Petroleum Releases	0	0
Total [a]	**2**	**3**

[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, or Brownfield programs, and/or DEQ VRP and 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, no petroleum releases or other potentially contaminated sites were identified within 1,000 feet of the Proposed or Alternatives 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").

G. 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 NHDE includes three components: Conservation Sites, Stream Conservation Units, and General Location Areas for Natural Heritage Resources. 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 federal- and state-listed species that may occur within the study area. Digital data were obtained from the VDCR NHDE to identify locations within the study area (an approximately 2.2 square mile

area surrounding the Proposed and Alternative Routes) 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 12 federal and state-listed species have the potential to occur within the Project study area.

The USFWS IPaC review identified two federally listed species protected under the Endangered Species Act that potentially occur or have been documented within the proposed Project study area. These species are the Northern long-eared bat (*Myotis septentrionalis*) and Dwarf wedgemussel (*Alasmidonta heterodon*). One additional federally listed species (Yellow lance [*Elliptio lanceolate*]) was identified through the VDCR and VDWR queries. 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 three federally listed species discussed above identified by the USFWS IPaC review (which are also state-listed), there are nine additional state-listed species that potentially occur or have been documented within the area crossed by or adjacent to the Project. A summary of the 12 species with potential habitat within the Project area are listed in Table G-1 below. Of the 12 species identified, only the Green floater has historically been documented by state agencies in areas within 2 miles of the geographic center of the study area.

TABLE G-1
230 kV Altair Loop and Altair Switching Station

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, 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.

TABLE G-1
230 kV Altair Loop and Altair Switching Station

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

Species	Status	Database	Habitat	Results
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.
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. 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.	Confirmed in VAFWIS Search Report. No instream work would be performed, but forested floodplains may be cleared. Coordination with VDWR will be needed.
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.
Wood turtle (*Glyptemys insculpta)*	ST	VDWR VaFWIS	Forested floodplains, fields, wet meadows, and farmland with a perennial stream nearby.	VaFWIS Search Report listed as not confirmed. No impacts are anticipated.

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.G.1. Additionally, the Company requested comments from the USFWS, VDWR, and VDCR regarding the proposed Project in August 2022. USFWS responded on August 12, 2022. See Attachment 2.G.2. 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 August 9, 2022.

According to an official review conducted on August 9, 2022, the VDCR DNH concluded that the Proposed Route and Alternative Route 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 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.

For context, diabase refers to unique plant communities that form in certain circumstances in the presence of underlying igneous diabase rock. Diabase associated plant species, whose occurrence in Virginia is often associated with diabase derived soils, are not formally listed as endangered or threatened. These plants and associated habitat, while considered rare by VDCR DNH, are not protected by any regulations.

Based on VDCR review, the impacts to the Diabase Flatrocks are primarily associated with quarrying and road construction, which have a very direct permanent impact to the habitats within a potential defined project area. Electric transmission lines, as proposed in this Application, typically do not have a significant permanent impact outside of the structure foundation locations. Habitat conversion is possible, but the right-of-way will be maintained as a natural emergent/scrub shrub habitat that resembles successional conditions that would allow for natural communities to exist within this converted habitat regime. The permanent impacts associated with this Project are discrete and limited to the structure foundation locations only.

Diabase communities are most likely to occur in semi-open areas that have a disturbance regime similar to that of pre-settlement wildfires, and that also have not been heavily infested by invasive plants. Areas that do not receive this type of intermediate disturbance (including areas that are subject to intense disturbance) typically do not provide high-quality habitat for the diabase associated species.

Dominion Energy Virginia strives to be in compliance with local, state, and federal regulations. Rare species are not classified as endangered or threatened, so are not protected by any regulations, and a requirement to inventory these resources prior to

construction would result in significant delay to the construction schedule, potentially increasing Project costs.

Due to the low likelihood of diabase plants in the Project area, and the lack of any legal status via federal or state law, the Company concludes that VDHR DNH's recommendation for an inventory for rare plants associated with diabase glades in the Project area is not required. In lieu of conducting an inventory of these resources prior to construction, Dominion Energy Virginia suggests that it provide the Company's construction team with information about the rare diabase plant species and coordinate with VDCR DNH if a species of concern is observed.[7]

The VDCR identified three ecological core map units (Core ID 31353, Core ID 31186, and Core ID 31017) within the study area. Core ID 31353 and 31186 are described as having an ecological integrity ranking of C5 (General). Core ID 31017 is described as having an ecological integrity ranking of C4 (Moderate). The rights-of-way of the Proposed and Alternative Routes crosses Core 31017 for a total of about 0.16 acre of impact. With such a small area of the core crossed by the Project, impacts are expected to be minimal.

It should also be noted that Altair Station will be located on NOVEC's customer's data center complex. This data center complex will encompass a large portion of Core 31017. Construction of this data center will occur prior to the Company's construction of the proposed Project. Consequently, the construction of the data center will impact a much greater area of Core 31017 than construction of the proposed Project. Moreover, it also is worth noting that the impacted ecological core (C4) has the second lowest ranking relevant core on the scale.

The Proposed Route and Alternative Route 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: 0501) is located approximately 3.8 miles southwest of the southern boundary of the Project study area and was documented to be occupied in 2010. Neither the Proposed Route nor the Alternative Route 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.

---

[7] This is approach is consistent with the Commission's directive in prior proceedings. *See*, *e.g.*, *Application of Virginia Electric and Power Company For approval and certification of electric transmission facilities: DTC 230 kV Line Loop and DTC Substation*, Case No. PUR-2021-00280, Final Order at 15 ("Based on the record developed herein, the Commission agrees with Dominion [Energy Virginia] that customers should not bear the costs of the recommended survey. The Commission therefore declines to adopt VDCR's recommendation but directs the Company to educate its construction personnel regarding the plant species prior to the commencement of construction activities and to coordinate with VDCR if the species is found within the Project area.") (internal citations omitted).

Proposed Route (Route 1)

Of the 12 species identified above, none have historically been documented by state agencies in areas crossed by the Proposed Route. The Proposed Route would require approximately 5.64 acres of tree clearing, which is less than the amount of tree clearing required for Alternative Route 2 (11.12 acres). Therefore, tree clearing associated with the Proposed Route would have a lesser impact to bird or bat habitat. In addition, the Proposed Route has three perennial and two intermittent waterbody crossings; however, as these crossings would be spanned by the transmission 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 2

Impacts of Alternative Route 2 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 Alternative Route 2 would require more forested land clearing than the Proposed Route (11.12 acres versus 5.64 acres).

New and updated information is continually added to Biotics. The Company shall re-submit Project information and a map for an update on this natural heritage information if the scope of the Project changes and/or six months have passed before this information is utilized.[8]

H. 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.H.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.

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

Dutton + Associates ("D+A") was retained by the Company to conduct a Stage I Pre-Application Analysis ("Stage I Report") for the proposed Project. This analysis was completed in August 2022 and was submitted to Virginia Department of Historic Resources ("VDHR") on August 31, 2022. The Stage I Report is included as Attachment

[8] The Company updated this commitment consistent with discussions held between Company and VDCR representatives on August 23, 2022.

2.I.1.[9] 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 required by VDHR guidance for electric transmission line projects, 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.

Following identification and field inspection of historic properties, D+A assessed each architectural resource for potential impacts from the Project. Assessment of impacts was conducted through a combination of field inspection, digital photography, review of topography and aerial photography, and photo simulation. Photo simulations were prepared to depict the new transmission infrastructure from vantage points within or near each resource. The photo simulations used digital photography, facing from the resources towards a Project route or routes, which was then loaded into a computer with location coordinates and ground-elevation data. The transmission line structures to be built as part of the Project were computer modeled to represent their location, height, and configuration within the viewshed of a resource. The models were then overlaid onto the digital photography so that the existing (unaltered) view can be compared with the simulated view illustrating the proposed structures, as they would appear on the landscape.

[9] Note that Attachment 2.I.1 includes information on Routes 3, 4, 5, and 7. The Company determined these routes were not viable due to excessive impacts identified during ERM's comparative analysis and, therefore, they are not being proposed by the Company for Commission consideration and notice.

A summary of the considered resources identified in the vicinity of the Proposed and Alternative Routes and recommendations concerning the Project's effects on these resources is provided in the following discussion. The information presented here is derived 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.

The Company solicited general comments from VDHR about the proposed Project in August 2022. A copy of VDHR's response dated September 2, 2022, is included as Attachment 2.I.2.

By letter dated September 30, 2022, VDHR indicated it had received the Company's Stage I Report. A copy of that letter is included as Attachment 2.I.3.[10]

Proposed Route (Route 1)

A review of the VDHR VCRIS indicates that six previously recorded archaeological sites fall within or adjacent to the right-of-way for the Proposed Route and the Altair Switching Station (see Table I-1 below). Because a formal archaeological survey has not been conducted as part of this Project, potential impacts of the Project on these archaeological sites have not yet been determined. The clearing of the right-of-way during the construction of the transmission lines and the installation of the transmission line structures could impact the cultural deposits associated with these sites. Many of the sites have not been evaluated for inclusion in the NRHP. A formal evaluation of these sites would be required as a part of an archaeological survey to determine their eligibility. This would be followed by an assessment of the Project's impacts on any site recommended eligible for listing on the NRHP if the site cannot be avoided. One site, 44LD0413 is recommended not eligible for inclusion in the NRHP, and no further consideration of this site is anticipated. The remaining five sites have not been evaluated for inclusion in the NRHP and further studies would be needed to determine Project impacts.

[10] *See supra*, n. 9. Routes 3, 4, 5, and 7, which are discussed in Attachment 2.I.3, are not being proposed by the Company for Commission consideration and notice.

Table I-1: Previously Recorded Archaeological Sites in or Adjacent to Right-of-Way for the Proposed Route (Route 1) and Altair Switching Station

Location	Site Number	Description	NRHP Status
Proposed Route (Route 1)	44LD0199	Camp, temporary, Late Woodland (1000-1606)	Not Evaluated
	44LD0413	Lithic scatter, Mill, Pre-Contact, Contact Period (1607 - 1750), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	DHR Evaluation Committee: Not Eligible
	44LD0465	Historic/Unknown	Not Evaluated
	44LD1411	Trash scatter, Historic/Unknown	Not Evaluated
	44LD1964	Artifact scatter, Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Not Evaluated
Altair Switching Station	44LD0389	Prehistoric/Unknown (15000 B.C.-1606 A.D.)	Not Evaluated

Two historic resources that conform to the categories in VDHR's tiered study area model were identified for the Proposed Route (see Table I-2 below): the Sycolin General Store and Post Office (053-5276) and the William Manning House (053-6453). The Sycolin General Store and Post Office (053-5276) was built in 1881 by Thomas D. Moffett. In 1885, the building began service as a post office for Sycolin. By that time, the community of Lower Sycolin had emerged as a thriving African American community, although it was also inhabited by some white residents, such as Thomas Moffett and his wife. The post office operated until 1905 when Leesburg's Rural Free Delivery began serving both Lower and Upper Sycolin, although the general store remained open until 1944. In 2014, VDHR determined the resource to be potentially eligible for listing in the NRHP under Criterion A for its historic role as a rural general store. The Proposed Route is anticipated to have no impact to the resource. The route would be located at a slightly lower elevation than the resource and views of the transmission lines would be screened by the intervening topography and vegetation.

The William Manning House (053-6453) is a small dwelling believed to have been built circa 1880 by William Manning, a prominent member of the Lower Sycolin African American community around the turn of the twentieth century. During the late-nineteenth century, Manning was integral to the formation of the nearby Union Church for which he served as a trustee. Manning was a carpenter by trade and is believed to have been responsible for the construction of the church, as well as most of

the homes in the community, including 053-5276, built prior to his passing in 1902. The small building at this site is of log construction, which Manning is known to have employed as evidenced by land records and an order for another home nearby nearly identical in design. Although the building at 053-6453 has been altered and enlarged over time, the original log core remains intact. The resource has not been formally evaluated for NRHP eligibility by the VDHR. However, it was noted by Loudoun County as significant for its association to Manning and the African American community of Lower Sycolin during a locally reviewed development project in 2020. The resource will be demolished due to the construction of the Sycolin Road Distribution Facility. The Proposed Route is anticipated to have no impact to the resource. The route would be located at a slightly lower elevation than the resource and views of the transmission lines would be screened by the intervening topography and vegetation.

The same two previously recorded architectural resources described above fall within the VDHR study tiers for the Altair Switching Station. Construction and operation of the new facilities associated with this route would have no impact on resource 053-5276 or resource 053-6453. The proposed Altair Switching Station is located to the northwest of the Sycolin General Store and Post Office site (053-5276) property, roughly 0.33 mile away at its nearest point. The proposed Altair Switching Station is located to the northwest of the William Manning House (053-6453) property, roughly 0.5 mile away at its nearest point. The landscape between these properties and the Altair Station site is densely wooded with an elevated ridge extending through it. Therefore, it is anticipated that the terrain and vegetation would completely inhibit views of the Altair Switching Station from these properties.

Table I-2: Previously Recorded Historic Resources in VDHR Tier for the Proposed Route (Route 1)

Location	VDHR Tier	Resource Name and VDHR #	NRHP Status	Impact
Proposed Route (Route 1)	1.0 to 1.5	None identified	Not applicable	Not applicable
	0.5 to 1.0	None identified	Not applicable	Not applicable
	0.0 to 0.5	053-5276, Sycolin General Store and Post Office	NRHP-Eligible	None
		053-6453, William Manning House	Locally Significant	None
	0.0 (within the right-of-way)	None identified	Not applicable	Not applicable

Alternative Route 2

A review of the VDHR VCRIS indicates that five previously recorded archaeological sites fall within or adjacent to the rights-of-way for Alternative Route 2 and the Altair

Switching Station (see Table I-3 below). Because a formal archaeological survey has not been conducted as part of this Project, the potential impacts of the Project on archaeological sites have not yet been fully determined. The clearing of the right-of-way during the construction of the transmission lines and the installation of the transmission line structures could impact the cultural deposits associated with the archaeological sites crossed by the route. Many of the sites have not been evaluated for inclusion in the NRHP. A formal evaluation of these sites would be required as a part of an archaeological survey to determine their eligibility for listing in the NRHP. This would be followed by an assessment of the Project's impacts for any site recommended eligible for listing on the NRHP if the site could not be avoided. One site, 44LD0413 is recommended not eligible for inclusion in the NRHP, and no further consideration of this site is anticipated. The remaining four sites have not been evaluated for inclusion in the NRHP and further studies would be needed to determine the Project's impact on these sites.

Table I-3: Previously Recorded Archaeological Sites in or Adjacent to Right-of-Way for Alternative Route 2 and Altair Switching Station

Location	Site Number	Description	NRHP Status
Alternative Route 2	44LD0199	Camp, temporary, Late Woodland (1000-1606)	Not Evaluated
	44LD0413	Lithic scatter, Mill, Pre-Contact, Contact Period (1607 - 1750), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	DHR Evaluation Committee: Not Eligible
	44LD0466	Prehistoric/Unknown (15000 B.C. – 1606 A.D.)	Not Evaluated
	44LD1964	Artifact scatter, Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Not Evaluated
Altair Switching Station	44LD0389	Prehistoric/Unknown (15000 B.C.-1606 A.D.)	Not Evaluated

Two historic resources that conform to the categories in VDHR's tiered study area model were identified for Alternative Route 2 (see Table I-4 below). Descriptions of these two resources are presented above in the discussion of the Proposed Route. Alternative Route 2 is anticipated to have no impact to the Sycolin General Store and Post Office (053-5276) or the William Manning House (053-6453). The route would be located at a slightly lower elevation than the resources and views of the transmission lines would be screened by the intervening topography and vegetation. See the

discussion of the Proposed Route above for impacts associated with the Altair Switching Station.

Table I-4: Previously Recorded Historic Resources in VDHR Tiers for Alternative Route 2

Location	VDHR Tier	Resource Name and VDHR #	NRHP Status	Impact
Alternative Route 2	1.0 to 1.5	None identified	Not applicable	Not applicable
	0.5 to 1.0	None identified	Not applicable	Not applicable
	0.0 to 0.5	053-5276, Sycolin General Store and Post Office	NRHP-Eligible	None
		053-6453, William Manning House	Locally Significant	None
	0.0 (within the right-of-way)	None identified	Not applicable	Not applicable

J. 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.

K. 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.G and identified in Attachment 2.G.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, agricultural land, 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.

Dominion Energy Virginia would further minimize potential effects by avoiding trees favorable for bat maternity roosting locations and cutting trees and vegetation during the time-of-year restriction from April 15–August 15 to avoid nesting birds and bat maternity roosting locations, to the extent practicable.

Proposed Route (Route 1)

The majority of the Proposed Route crosses agricultural land (11.93 acres), open space (7.24 acres), and forested land (5.64 acres), with smaller areas of developed land (0.69 acre) and open water (0.24 acre) also crossed. Based on review of recent (2022) aerial photography, a total of approximately 5.64 acres of trees would need to be cleared within the right-of-way for the transmission lines and the area of disturbance of the Altair Switching Station.

Alternative Route 2

The majority of Alternative Route 2 crosses undeveloped forested land (11.12 acres), open space (9.84 acres), and agricultural land (2.58 acres), with smaller areas of developed land (0.88 acre) and open water (0.25 acre) also crossed. Based on review of recent (2022) aerial photography, a total of approximately 11.12 acres of trees would need to be cleared within the right-of-way for the transmission lines and the area of disturbance of the Altair Switching Station.

L. 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 will be crossed by the Project.

According to the Virginia Department of Forestry ("VDOF"), the Proposed and Alternative Routes cross no Agricultural and Forestal Districts ("AFDs"). Combined (including overlapping portions of routes), approximately 5.63 acres of soils classified as prime farmland and 28.38 acres of soils classified as farmland of statewide importance are crossed by the two Project routes.

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 VDCR's NHDE, the Project does not cross Virginia Outdoors Foundation ("VOF") easements. No Loudoun County conservation easements, or other conservation lands are crossed by the Project.

Proposed Route (Route 1)

The Proposed Route would be collocated for a total of 1.15 miles, all of which is collocated with the Dulles Greenway. The Dulles Greenway is owned and operated by

Toll Road Investors Partnership II, L.P., and consists of a paved six lane divided highway. In order to maintain a tree buffer along the highway, the Proposed Route is offset from the edge of the road right-of-way. The Proposed Route also would impact 5.64 acres of forested land.

A review of Natural Resources Conservation Service Data ("NRCS") soils data indicates that approximately 2.49 acres of the area of disturbance of the Proposed Route are classified as prime farmland and 15.61 acres are classified as farmland of statewide importance. According to a review of recent (2022) aerial photography, an approximately 0.9-mile segment of the route crosses land being used for agricultural purposes. 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 2

Alternative Route 2 would be collocated for a total of about 0.78 mile, all of which is collocation with the Dulles Greenway. Alternative Route 2 also would impact 11.12 acres of forested land.

A review of NRCS soils data indicates that approximately 3.14 acres of the area of disturbance of Alternative Route 2 are classified as prime farmland and 12.77 acres are classified as farmland of statewide importance. According to a review of recent (2022) aerial photography, a portion of an approximately 0.3-mile segment of the right-of-way crosses land being used for agricultural purposes. Alternative Route 2 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 August 2022, the Company solicited VDCR, VOF, and VDOF for comments on the proposed Project. Dominion Energy Virginia received correspondence from VOF dated August 11, 2022. The VOF correspondence is included as Attachment 2.L.1.

M. 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 the 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.

Additionally, based on a discussion between Company and VDCR DNH representatives on August 23, 2022, the Company will review its Integrated Vegetation Management Plan ("IVMP") for application to both woody and herbaceous species, based on the species list available on the VDCR website. The Company will submit its updated IVMP to VDCR DNH for review once it is complete.[11]

N. Geology and Mineral Resources

The Proposed Route and Alternative Route 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, conglomerates, shales, and siltstones that were deposited between approximately 225 and 190 million years ago and

[11] *See, Application of Virginia Electric and Power Company, For approval and certification of electric transmission facilities: 230 kV Line #293 and 115 kV Line #83 Rebuild Project*, Case No. PUR-2021-00272, Final Order at 9-11 (Aug. 31, 2022) *(The Commission agreed with the Chief Hearing Examiner and declined to adopt VDCR DNH's recommendation regarding an invasive species management plan ("ISMP"), but directed the Company to meet with VDCR DNH and to report on the status of the meetings in the Company's next transmission certificate of public convenience and necessity ("CPCN") filing)*; *see also* Report of Alexander F. Skirpan, Jr., Chief Hearing Examiner (Jun. 22, 2022) at 22 *(agreeing with the Company that, with its IVMP, the Company should not be required to undergo the additional cost of VDCR DNH's ISMP; however, recommending that the Company meet with VDCR DNH regarding its IVMP and report the results of the meeting in the next transmission CPCN filing).*

were subsequently intruded by fine grained, dark colored igneous dikes (William and Mary Department of Geology 2021).

ERM reviewed publicly available Virginia Department of Energy datasets (2022), USGS topographic quadrangles, and recent (2022) digital aerial photographs to identify mineral resources in the Project area. Based on the review, no active mining operations were identified within 0.25 mile of the Project. The closest active mine, the Luck Stone Leesburg Plant, is located approximately 0.8 mile east of the study area at the intersection of Luck Lane and Belmont Ridge Road. Therefore, the Project would have no impacts on any mining operations.

O. Transportation Infrastructure

Multiple public and private roads occur within the study area. These include the Dulles Greenway, Crosstrail Boulevard, Energy Park Drive, Shreve Mill Road, Cochran Mill Road, Sycolin Road, Energy Park Drive, Guilick Mill Road, and Hogeland Mill Road. The Dulles Greenway is a public road that is privately owned and operated by Toll Road Investors Partnership II, L.P. Other public roads are owned and maintained by the Virginia Department of Transportation ("VDOT").

In addition to these existing roads, there is one planned road project and one future road project in the study area: the future Crosstrail Boulevard Extension and the future expansion of Sycolin Road. The Crosstrail Boulevard Extension currently is in the road design phase, with the design set to be completed by spring of 2023. Construction is anticipated to begin in 2024 with project completion by the end of 2026. Based on design files provided by Loudoun County Department of Transportation and Capital Infrastructure ("DTCI"), the road extension would start on the east side of Sycolin Road and head southwest crossing Shreve Mill Road and extending to the Dulles Greenway. Because both the Proposed Route and Alternative Route would cross the future Crosstrail Boulevard Extension at the same location, the Company consulted with Loudoun County DTCI to ensure that the routes developed for the Project would not conflict with the County's road development plans. The Company adjusted the crossings of Crosstrail Boulevard Extension to avoid impacts with a planned stormwater pond on the south side of the roadway.

Limited information is available from DTCI on the future road widening project for Sycolin Road other than that the planned width of the four-lane road would be 90 feet. No construction/design workspaces or locations of potential stormwater mitigation are available.

Proposed Route (Route 1)

The Proposed Route crosses three existing roads (Sycolin Road, the Dulles Greenway, and Shreve Mill Road) and the future Crosstrail Boulevard Extension. All road crossings would be spanned and no impacts are anticipated.

Alternative Route 2

Alternative Route 2 crosses four existing roads (Energy Park Drive [two crossings], Sycolin Road, and Shreve Mill Road) and the future Crosstrail Boulevard Extension. All road crossings would be spanned and no impacts are anticipated.

Temporary closures of roads and or traffic lanes would be required during construction of the Proposed Route or Alternative Route. 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 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 August 2022, the Company solicited comments from VDOT on the proposed Project.

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

The Company reviewed the Federal Aviation Administration's ("FAA") website to identify airports within 10 miles of the proposed Project. Based on this review, the following FAA-restricted airports are located within ten miles of the Project:

- Leesburg Executive Airport, approximately 0.4 mile north of the Project; and
- Dulles International Airport, approximately 5.7 miles southeast of the Project.

The Washington Dulles International Airport is located far enough away from the Project area that there is no potential to impact the airport's federally defined airspace.

The Project would be in close proximity to the Leesburg Executive Airport and within 0.4 mile of the proposed extension of Runway 35. The Company met with Leesburg Executive Airport representatives to discuss the 2017 Airport Master Plan and Airport Layout Plan ("Master Plan").[12] During these meetings, the airport staff informed the Company about the airport's future plan to convert existing Runway 35 to a precision approach. While the Master Plan only includes plans of converting this runway to a Category C runway, the future change to a precision approach would impose stricter structure height limitations on the proposed Project. In order to avoid the need of relocating structures or changing structure types in the future, the Company has designed the proposed Project to meet the structure height limitations of a precision approach.

[12] *See* https://www.leesburgva.gov/departments/airport/about-leesburg-executive-airport/airport-improvements/airport-master-plan.

The Project will have transmission line structures located below some of these surfaces, but the structures will not penetrate any of the surfaces. Portions of the Project would be within the transitional, approach, and horizontal surfaces for the airport, which will restrict the maximum tower heights, as some of the proposed routes are located in areas with higher ground elevations than the 313 above mean sea level ("AMSL") of the airport. 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.

In August 2022, the Company solicited comments from the Virginia Department of Aviation (the "DOAv"), FAA, and Metropolitan Washington Airports Authority ("MWAA") on the proposed Project. The FAA responded on August 17, 2022, indicating that an aeronautical study will be required for each transmission pole and, if a crane is needed for the installation of the transmission poles, a notification will be required. The response is included as Attachment 2.O.1. MWAA responded on August 11, 2022, requesting additional information to help determine if the project will impact MWAA property. The response is included as Attachment 2.O.2.

ATTACHMENTS

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

August 9, 2022

BY EMAIL

RE: Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia

To Whom it Concerns,

Dominion Energy Virginia (the "Company") is proposing to build a new 230 kV double circuit transmission line loop ("Altair Loop") and 230 kV delivery point switching station ("Altair Station") in Loudoun County, Virginia, in order to provide requested transmission service to Northern Virginia Electric Cooperative ("Project") and to maintain reliable service for the overall growth in the Project area. The Project requires the construction of the Altair Loop by cutting the existing 230 kV Belmont-Brambleton Line #201 at a junction located south of the Company's existing Belmont Substation and extending along new right-of-way before terminating at the proposed Altair Station. The Company has identified three possible routes for the Altair Loop between the cut-in junction and the Altair Station. Specifically, the Company identified one approximately 1.52-mile overhead proposed route (Proposed Route 2), one approximately 1.66-mile overhead alternative route (Alternative Route 1), and one approximately 1.45-mile overhead alternative route (Alternative Route 3), all of which the Company is proposing for notice.

The Company is in the process of preparing an application for a certificate of public convenience and necessity for filing with 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 that would have bearing 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 James P. Young at (804) 426-6648 or James.P.Young @dominionenergy.com.

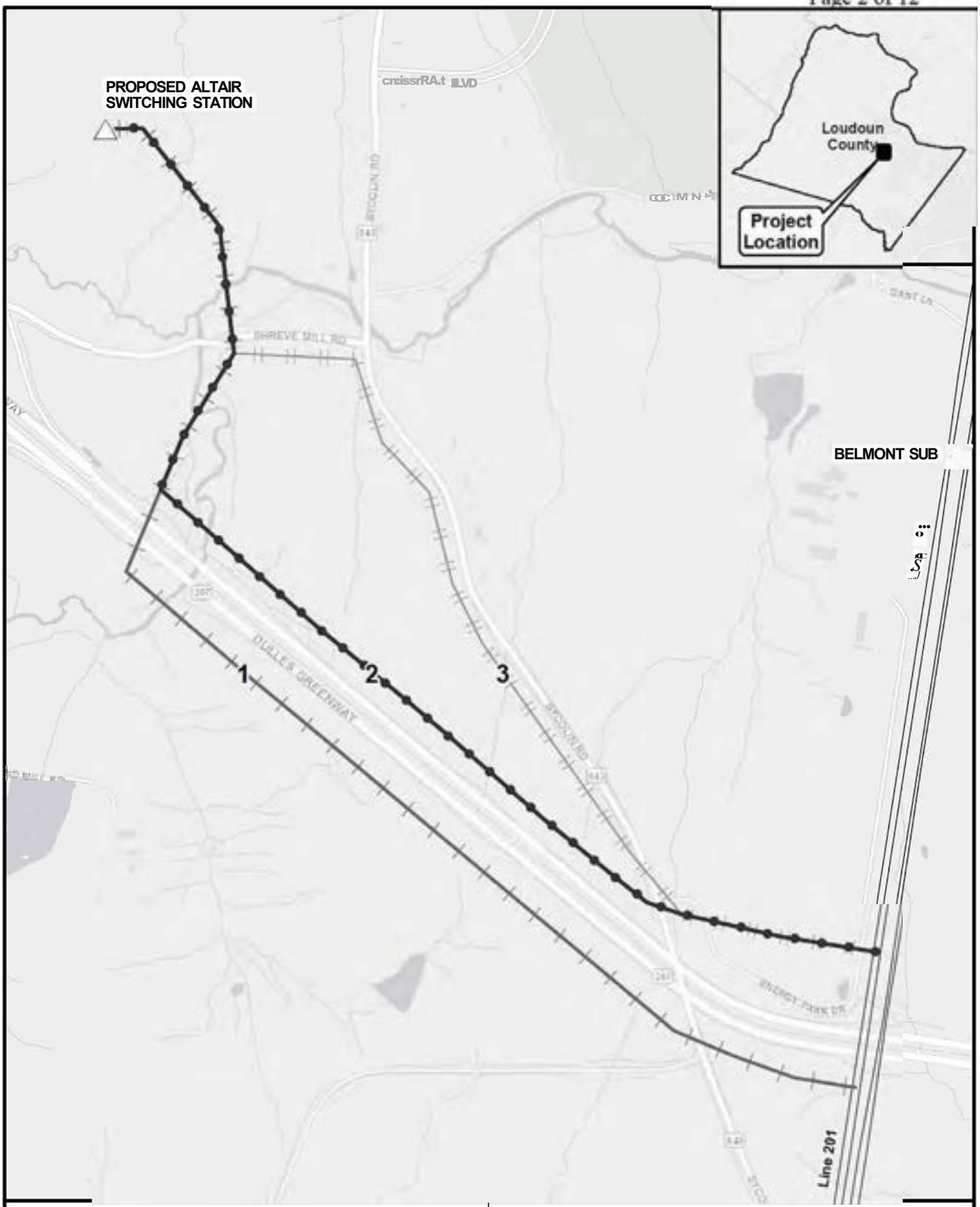
We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Sincerely,

Dominion Energy Virginia

Jason P. Ericson
Director, Environmental Services

Attachment: Project Notice Map



Proposed Route 2 - 1.52 Miles
Alternative Route 1 - 1.66 Miles
Alternative Route 3 - 1.45 Miles
Existing Dominion Transmission Line

Prq>osed Altair Switching Station
Existing SUbstation

1:9,600

0 400 800 Feet

Overview Map
230 kV Altair Loop and Altair Switching Station Project
Loudoun County, Virginia

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

Dominion Energy®

August 9, 2022

BY EMAIL

Ms. Michelle Henicheck
Office of Wetlands and Streams
Department of Environmental Quality
1111 East Main Street, Suite 1400
Richmond, Virginia 23219

RE: Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia

Dear Ms. Henicheck,

Dominion Energy Virginia (the "Company") is proposing to build a new 230 kV double circuit transmission line loop ("Altair Loop") and 230 kV delivery point switching station ("Altair Station") in Loudoun County, Virginia, in order to provide requested transmission service to Northern Virginia Electric Cooperative ("Project") and to maintain reliable service for the overall growth in the Project area. The Project requires the construction of the Altair Loop by cutting the existing 230 kV Belmont-Brambleton Line #201 at a junction located south of the Company's existing Belmont Substation and extending along new right-of-way before terminating at the proposed Altair Station. The Company has identified three possible routes for the Altair Loop between the cut-in junction and the Altair Station. Specifically, the Company identified one approximately 1.52-mile overhead proposed route (Proposed Route 2), one approximately 1.66-mile overhead alternative route (Alternative Route 1), and one approximately 1.45-mile overhead alternative route (Alternative Route 3), all of which the Company is proposing for notice.

The Company is preparing an application for a certificate of public convenience and necessity for filing with the State Corporation Commission ("SCC"). Pursuant to the July 2003 Memorandum Wetlands Impact Consultation, the Company is sending this letter to initiate consultation with the DEQ prior to filing an application with the SCC.

A wetland delineation has not been conducted at this time. However, Environmental Resources Management conducted a wetland desktop study to identify probable wetlands based on a review of multiple data sources.

Table 1 below provides a summary of the medium to high probability wetlands expected to be affected within the Project right-of-way.

TABLE 1
230 kV Altair Loop and Altair Switching Station Project
Summary of the Medium to High Probability of Wetland Occurrence by Type along Route

Probability	Total Acres	Wetland Type (acres)		
		Emergent (PEM)	Forested (PFO)	Riverine
Route 1				
High	1.63	1.24	0.12	0.26

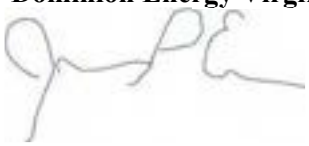
Medium/High	3.00	1.49	1.25	0.26
Medium	1.13	0.60	0.53	NA
Route 2				
High	1.09	0.77	0.12	0.20
Medium/High	2.79	1.98	0.57	0.24
Medium	1.28	0.79	0.49	NA
Route 3				
High	0.16	NA	0.13	0.03
Medium/High	1.93	0.69	0.93	0.30
Medium	1.15	0.66	0.49	NA

The full Wetland Desktop Study will be submitted once finalized. Subsequently, a wetland delineation will be conducted and the limits of wetlands of other waters of the United States will be submitted to the U.S. Army Corps of Engineers for confirmation. At this time, in advance of the SCC filing, the Company respectfully requests that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter. Enclosed is a Project Overview Map depicting the Proposed and Alternative Routes and Project location.

If you would like to receive a GIS shapefile of the route to assist in your project review or if you have any questions, please do not hesitate to contact James P. Young at (804) 426-6648 or James.P.Young@dominionenergy.com. The Company appreciates your assistance with this project review and looks 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
Electric Transmission
10900 Nuckols Road, Suite 400, Glen Allen, VA 23060

August 9, 2022

BY EMAIL

Mr. Scott Denny
Virginia Department of Aviation
Airport Services Division
5702 Gulfstream Road
Richmond, Virginia 23250-2422

RE: Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia

Mr. Denny,

Dominion Energy Virginia (the "Company") is proposing to build a new 230 kV double circuit transmission line loop ("Altair Loop") and 230 kV delivery point switching station ("Altair Station") in Loudoun County, Virginia, to provide requested transmission service to Northern Virginia Electric Cooperative ("Project") and to maintain reliable service for the overall growth in the Project area. The Project requires the construction of the Altair Loop by cutting the existing 230 kV Belmont-Brambleton Line #201 at a junction located south of the Company's existing Belmont Substation and extending along new right-of-way before terminating at the proposed Altair Station. The Company has identified three possible routes for the Altair Loop between the cut-in junction and the Altair Station.

Specifically, the Company identified one approximately 1.52-mile overhead proposed route (Proposed Route 2), one approximately 1.66-mile overhead alternative route (Alternative Route 1), and one approximately 1.45-mile overhead alternative route (Alternative Route 3), all of which the Company is proposing for notice.

The Company is in the process of preparing an application for a certificate of public convenience and necessity for filing with 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 that would have bearing 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 Nancy Reid at 434.532.7579 or nancy.r.reid@dominionenergy.com.

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

Sincerely,

Nancy

Nancy Reid
Sr. Siting & Permitting Specialist
[redacted]
nancy.r.reid@dominionenergy.com

Attachment: Project Notice Map

Dominion Energy Virginia
Electric Transmission
10900 Nuckols Road, Suite 400, Glen Allen, VA 23060

August 9, 2022

BY EMAIL

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

RE: Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia

Mr. Helvey,

Dominion Energy Virginia (the "Company") is proposing to build a new 230 kV double circuit transmission line loop ("Altair Loop") and 230 kV delivery point switching station ("Altair Station") in Loudoun County, Virginia, to provide requested transmission service to Northern Virginia Electric Cooperative ("Project") and to maintain reliable service for the overall growth in the Project area. The Project requires the construction of the Altair Loop by cutting the existing 230 kV Belmont-Brambleton Line #201 at a junction located south of the Company's existing Belmont Substation and extending along new right-of-way before terminating at the proposed Altair Station. The Company has identified three possible routes for the Altair Loop between the cut-in junction and the Altair Station.

Specifically, the Company identified one approximately 1.52-mile overhead proposed route (Proposed Route 2), one approximately 1.66-mile overhead alternative route (Alternative Route 1), and one approximately 1.45-mile overhead alternative route (Alternative Route 3), all of which the Company is proposing for notice.

The Company is in the process of preparing an application for a certificate of public convenience and necessity for filing with 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 that would have bearing 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 Nancy Reid at 434.532.7579 or nancy.r.reid@dominionenergy.com.

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

Sincerely,

Nancy

Nancy Reid
Sr. Siting & Permitting Specialist
[redacted]
nancy.r.reid@dominionenergy.com

Attachment: Project Notice Map

Dominion Energy Virginia
Electric Transmission
10900 Nuckols Road, Suite 400, Glen Allen, VA 23060

August 9, 2022

BY EMAIL

Tim Hemstreet, Loudoun County Administrator
P.O. Box 7000 Leesburg, VA 20177

RE: Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia

Mr. Hemstreet,

Dominion Energy Virginia (the "Company") is proposing to build a new 230 kV double circuit transmission line loop ("Altair Loop") and 230 kV delivery point switching station ("Altair Station") in Loudoun County, Virginia, to provide requested transmission service to Northern Virginia Electric Cooperative ("Project") and to maintain reliable service for the overall growth in the Project area. The Project requires the construction of the Altair Loop by cutting the existing 230 kV Belmont-Brambleton Line #201 at a junction located south of the Company's existing Belmont Substation and extending along new right-of-way before terminating at the proposed Altair Station. The Company has identified three possible routes for the Altair Loop between the cut-in junction and the Altair Station.

Specifically, the Company identified one approximately 1.52-mile overhead proposed route (Proposed Route 2), one approximately 1.66-mile overhead alternative route (Alternative Route 1), and one approximately 1.45-mile overhead alternative route (Alternative Route 3), all of which the Company is proposing for notice.

The Company is in the process of preparing an application for a certificate of public convenience and necessity for filing with 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 that would have bearing 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 Nancy Reid at 434.532.7579 or nancy.r.reid@dominionenergy.com.

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

Sincerely,

Nancy

Nancy Reid
Sr. Siting & Permitting Specialist
[redacted]
nancy.r.reid@dominionenergy.com

Attachment: Project Notice Map

Dominion Energy Virginia
Electric Transmission
10900 Nuckols Road, Suite 400, Glen Allen, VA 23060

August 9, 2022

BY EMAIL

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

RE: Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia

Mr. Kirchen,

Dominion Energy Virginia (the "Company") is proposing to build a new 230 kV double circuit transmission line loop ("Altair Loop") and 230 kV delivery point switching station ("Altair Station") in Loudoun County, Virginia, to provide requested transmission service to Northern Virginia Electric Cooperative ("Project") and to maintain reliable service for the overall growth in the Project area. The Project requires the construction of the Altair Loop by cutting the existing 230 kV Belmont-Brambleton Line #201 at a junction located south of the Company's existing Belmont Substation and extending along new right-of-way before terminating at the proposed Altair Station. The Company has identified three possible routes for the Altair Loop between the cut-in junction and the Altair Station.

Specifically, the Company identified one approximately 1.52-mile overhead proposed route (Proposed Route 2), one approximately 1.66-mile overhead alternative route (Alternative Route 1), and one approximately 1.45-mile overhead alternative route (Alternative Route 3), all of which the Company is proposing for notice.

The Company is in the process of preparing an application for a certificate of public convenience and necessity for filing with 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 that would have bearing 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 Nancy Reid at 434.532.7579 or nancy.r.reid@dominionenergy.com.

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

Sincerely,

Nancy

Nancy Reid
Sr. Siting & Permitting Specialist
[redacted]
nancy.r.reid@dominionenergy.com

Attachment: Project Notice Map

Dominion Energy Virginia
Electric Transmission
10900 Nuckols Road, Suite 400, Glen Allen, VA 23060

August 9, 2022

BY EMAIL

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

RE: Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia

Ms. Little,

Dominion Energy Virginia (the "Company") is proposing to build a new 230 kV double circuit transmission line loop ("Altair Loop") and 230 kV delivery point switching station ("Altair Station") in Loudoun County, Virginia, to provide requested transmission service to Northern Virginia Electric Cooperative ("Project") and to maintain reliable service for the overall growth in the Project area. The Project requires the construction of the Altair Loop by cutting the existing 230 kV Belmont-Brambleton Line #201 at a junction located south of the Company's existing Belmont Substation and extending along new right-of-way before terminating at the proposed Altair Station. The Company has identified three possible routes for the Altair Loop between the cut-in junction and the Altair Station.

Specifically, the Company identified one approximately 1.52-mile overhead proposed route (Proposed Route 2), one approximately 1.66-mile overhead alternative route (Alternative Route 1), and one approximately 1.45-mile overhead alternative route (Alternative Route 3), all of which the Company is proposing for notice.

The Company is in the process of preparing an application for a certificate of public convenience and necessity for filing with 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 that would have bearing 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 Nancy Reid at 434.532.7579 or nancy.r.reid@dominionenergy.com.

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

Sincerely,

Nancy

Nancy Reid
Sr. Siting & Permitting Specialist
[redacted]
nancy.r.reid@dominionenergy.com

Attachment: Project Notice Map

Dominion Energy Virginia
Electric Transmission
10900 Nuckols Road, Suite 400, Glen Allen, VA 23060

August 9, 2022

BY EMAIL

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

RE: Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia

Mr. Lynch,

Dominion Energy Virginia (the "Company") is proposing to build a new 230 kV double circuit transmission line loop ("Altair Loop") and 230 kV delivery point switching station ("Altair Station") in Loudoun County, Virginia, to provide requested transmission service to Northern Virginia Electric Cooperative ("Project") and to maintain reliable service for the overall growth in the Project area. The Project requires the construction of the Altair Loop by cutting the existing 230 kV Belmont-Brambleton Line #201 at a junction located south of the Company's existing Belmont Substation and extending along new right-of-way before terminating at the proposed Altair Station. The Company has identified three possible routes for the Altair Loop between the cut-in junction and the Altair Station.

Specifically, the Company identified one approximately 1.52-mile overhead proposed route (Proposed Route 2), one approximately 1.66-mile overhead alternative route (Alternative Route 1), and one approximately 1.45-mile overhead alternative route (Alternative Route 3), all of which the Company is proposing for notice.

The Company is in the process of preparing an application for a certificate of public convenience and necessity for filing with 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 that would have bearing 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 Nancy Reid at 434.532.7579 or nancy.r.reid@dominionenergy.com.

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

Sincerely,

Nancy

Nancy Reid
Sr. Siting & Permitting Specialist
[redacted]
nancy.r.reid@dominionenergy.com

Attachment: Project Notice Map

Dominion Energy Virginia
Electric Transmission
10900 Nuckols Road, Suite 400, Glen Allen, VA 23060

August 9, 2022

BY EMAIL

Sunil Rabindranath
Project Manager, Engineering Division
Metropolitan Washington Airports Authority
P.O. Box 17045, MA-224
Washington, DC 20041

RE: Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia

Mr. Rabindranath,

Dominion Energy Virginia (the "Company") is proposing to build a new 230 kV double circuit transmission line loop ("Altair Loop") and 230 kV delivery point switching station ("Altair Station") in Loudoun County, Virginia, to provide requested transmission service to Northern Virginia Electric Cooperative ("Project") and to maintain reliable service for the overall growth in the Project area. The Project requires the construction of the Altair Loop by cutting the existing 230 kV Belmont-Brambleton Line #201 at a junction located south of the Company's existing Belmont Substation and extending along new right-of-way before terminating at the proposed Altair Station. The Company has identified three possible routes for the Altair Loop between the cut-in junction and the Altair Station.

Specifically, the Company identified one approximately 1.52-mile overhead proposed route (Proposed Route 2), one approximately 1.66-mile overhead alternative route (Alternative Route 1), and one approximately 1.45-mile overhead alternative route (Alternative Route 3), all of which the Company is proposing for notice.

The Company is in the process of preparing an application for a certificate of public convenience and necessity for filing with 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 that would have bearing 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 Nancy Reid at 434.532.7579 or nancy.r.reid@dominionenergy.com.

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

Sincerely,

Nancy

Nancy Reid
Sr. Siting & Permitting Specialist
[redacted]
nancy.r.reid@dominionenergy.com

Attachment: Project Notice Map

Dominion Energy Virginia
Electric Transmission
10900 Nuckols Road, Suite 400, Glen Allen, VA 23060

August 9, 2022

BY EMAIL

Kamal Suliman
Regional Operations Director
Virginia Department of Transportation
4975 Alliance Drive
Fairfax, Virginia 22030

RE: Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia

Mr. Suliman,

Dominion Energy Virginia (the "Company") is proposing to build a new 230 kV double circuit transmission line loop ("Altair Loop") and 230 kV delivery point switching station ("Altair Station") in Loudoun County, Virginia, to provide requested transmission service to Northern Virginia Electric Cooperative ("Project") and to maintain reliable service for the overall growth in the Project area. The Project requires the construction of the Altair Loop by cutting the existing 230 kV Belmont-Brambleton Line #201 at a junction located south of the Company's existing Belmont Substation and extending along new right-of-way before terminating at the proposed Altair Station. The Company has identified three possible routes for the Altair Loop between the cut-in junction and the Altair Station.

Specifically, the Company identified one approximately 1.52-mile overhead proposed route (Proposed Route 2), one approximately 1.66-mile overhead alternative route (Alternative Route 1), and one approximately 1.45-mile overhead alternative route (Alternative Route 3), all of which the Company is proposing for notice.

The Company is in the process of preparing an application for a certificate of public convenience and necessity for filing with 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 that would have bearing 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 Nancy Reid at 434.532.7579 or nancy.r.reid@dominionenergy.com.

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

Sincerely,

Nancy

Nancy Reid
Sr. Siting & Permitting Specialist
[redacted]
nancy.r.reid@dominionenergy.com

Attachment: Project Notice Map

James P Young (Services - 6)

From: Fulcher, Valerie <valerie.fulcher@deq.virginia.gov>
Sent: Wednesday, August 10, 2022 3:56 PM
To: rr dgif-ESS Projects; Keith Tignor; rr DCR-PRR Environmental Review; odwreview (VDH); Carlos Martinez; Kotur Narasimhan; Lawrence Gavan; Daniel Moore; Roger Kirchen; ImpactReview; Mark Miller; coadmin@loudoun.gov; rr EIR Coordination; Terrance Lasher; Karl Didier; Parmelee, Sarah; Bob Lazaro; David Spears; Scott Kudlas; Michelle Henicheck
Cc: jason.ericson@dominionenergy.com; James P Young (Services - 6)
Subject: [EXTERNAL] NEW SCOPING 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia
Attachments: Scoping Response - Altair Loop and Switching Station.pdf; _DOM_Altair_Agency_Letter_Overview Map.pdf; 2. Agency Letter - Signed - To Whom it may Concern - Flat.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon—attached is a request for scoping comments on the following:

Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia

If you choose to make comments, please send them directly to the project sponsor (jason.ericson@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

NEW PHONE NUMBER: [redacted]

Email: Valerie.Fulcher@deq.virginia.gov

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

OUR ENFORCEABLE POLICIES HAVE BEEN UPDATED FOR 2021: 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

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

Travis A. Voyles
Acting Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director
(804) 698-4020

August 10, 2022

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

RE: Dominion Energy Virginia's Proposed 230 kV Altair Lop and Altair Switching Station, Loudoun County, Virginia

Dear Mr. Ericson:

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

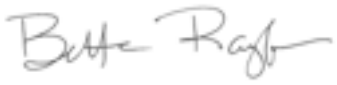
- EPA NEPAssist Database

  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) 659-1915 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

Travis A. Voyles
Acting Secretary of Natural and Historic Resources

Jamie L. Green
Commissioner

September 8, 2022

Dominion Energy Services, Inc.
Attn: James Young
120 Tredegar Street
Richmond, VA 23219

Re: Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station

Dear Mr. Young,

This will respond to the request for comments regarding the scoping comments for the Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, prepared by Dominion Energy. Specifically, Dominion Energy has proposed to construct a new 230 kV double circuit transmission line loop and 230 kV delivery point switching station adjacent to Dulles Greenway in Loudoun County, Virginia.

We reviewed the provided project documents and found the proposed project is 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 Chapters 12, 13 and 14 of Title 28.2 of the Code of Virginia, administers permits required for submerged lands, tidal wetlands, and beaches and dunes. Any jurisdictional impacts will be reviewed by the VMRC during the Joint Permit Application process. Should the proposed project change, a new review by this agency may be required relative to these jurisdictional areas.

Sincerely,

Claire Gorman
Environmental Engineer, Habitat Management

CG
HM

ERM

919 East Main Street
Suite 1701
Richmond, Virginia
23219

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

www.erm.com

August 26, 2022

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
230 kV Altair Loop and Altair Switching Station Project
New SCC Filing

Dear Ms. Rayfield:

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 publicly available information for the proposed 230 kV Altair Loop and Altair Switching Station Project (Project) located in Loudoun County, Virginia. Field delineations were not performed and would be required to verify 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.

For this Project, Dominion Energy Virginia proposes to construct a new-build transmission line option that will address reliability and current demand needs and accommodate increased future demand in the area. The Company considered the facilities required to construct and operate the new feeds; the length of new rights-of-way that will be required; the amount of existing development in each area; the potential for environmental impacts on communities; and the relative cost of the Project. Dominion Energy Virginia is filing an application with the State Corporation Commission (SCC) for the Project.

After review of the new-build options, Dominion Energy Virginia decided to further investigate two electrical options for this Project, which is located entirely within Loudoun County, Virginia. The routes for Option 1 involve cutting of existing Line #201 (Belmont-Brambleton) and the routes for Option 2 involve cutting of existing Line #2180 (Belmont-Pleasant View) and extending two new 230 kV single circuit transmission lines northwest to the proposed Altair Switching Station. ERM and the Company originally identified six overhead routes between Lines #201 / #2180 and the proposed Altair Switching Station (four Option 1 alternatives and two Option 2 alternatives). In consultation with a landowner and JK Land Holdings, LLC, a seventh alternative (Route 7) was proposed to the Company for consideration in its analysis of route alternatives for this Project. This seventh route would involve cutting Line #2180 and, therefore, is considered an Option 2 alternative. Of the seven routes identified, ERM and the Company reviewed six overhead route alternatives for the Project (the Company rejected Route 6 during the initial route development phase). All routes require the construction of the proposed Altair Switching Station located on a large undeveloped parcel situated east of the Dulles Greenway and west of the Leesburg Executive Airport in the Leesburg area of Loudoun County, Virginia.

The purpose of this desktop analysis was to identify and evaluate potential impacts of the Project on Waters of the United Sates, including wetlands (WOTUS). 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

The Project study area lies within a mostly undeveloped portion of Loudoun County consisting primarily of forested and agricultural land south of the Leesburg Executive Airport. The study area's southern boundary extends approximately 1.7 miles along the property lines of a high school (i.e., Academies of Loudoun) and several undeveloped/agricultural properties. The western boundary then extends north for approximately 1.1 miles through agricultural properties and a firearms training center then ends just west of the Dulles Greenway. The northern boundary of the study area crosses the Dulles Greenway and extends east approximately 1.6 miles to the south of the Leesburg Executive Airport and through Loudoun County owned land. The eastern boundary of the study area follows Dominion Energy Virginia's existing transmission lines south for approximately 1.4 miles to a point approximately 0.25 mile south of the Dulles Greenway.

Within the Project study area, ERM identified multiple preliminary route alternatives that could meet the Project's objectives. Given the amount of planned development in the general area, ERM focused on developing routes that, where possible, followed existing roadways, transportation, and utility corridors within the Project study area. The three viable overhead routes (Routes 1, 2, and 3), which each include the proposed Altair Switching Station, are described below. The discussion below also includes descriptions of the three routes that were subsequently rejected due to their significant environmental impacts and conflicts with planned developments (Routes 4, 5, and 7).

Route Alternatives

Route 1

Route 1 would construct two side-by-side single circuit 230 kV lines from the proposed cut-in of existing 230 kV Line #201 (Belmont-Brambleton) to the proposed Altair Switching Station. The length of the corridor for Route 1 is approximately 1.66 miles. The route extends northwest from Line #201 for about 1.04 mile, paralleling the southern side of the Dulles Greenway and crosses Sycolin Creek. The route then turns north, and continues for approximately 0.62 mile, crossing the Dulles Greenway, Sycolin Creek, Shreve Mill Road, Sycolin Creek in a third location, and the future Crosstrail Boulevard Extension, and terminates at the proposed Altair Switching Station.

Route 2

Route 2 would construct two side-by-side single circuit 230 kV lines from the proposed cut-in of existing 230 kV Line #201 (Belmont-Brambleton) to the proposed Altair Switching Station. The length of the corridor for Route 2 is approximately 1.52 miles. The route extends northwest from Line #201 for about 0.25 mile, crosses Sycolin Road, and then continues northwest for another 0.75 mile, paralleling the northern side of the Dulles Greenway and crossing Sycolin Creek. The route then turns to the north for approximately 0.52 mile, crossing Sycolin Creek, Shreve Mill Road, Sycolin Creek in a third location, and the future Crosstrail Boulevard Extension, and terminates at the proposed Altair Switching Station.

Route 3

Route 3 would construct two side-by-side single circuit 230 kV lines from the proposed cut-in of existing 230 kV Line #201 (Belmont-Brambleton) to the proposed Altair Switching Station. The length of the corridor for Route 3 is approximately 1.45 miles. Beginning from the cut-in location, the route extends west from Line #201 for about 0.28 mile, crosses Sycolin Road, and continues northwest for about 0.70 mile along the west side of Sycolin Road. The route then turns west for about 0.14 mile and extends along the south side of Shreve Mill Road. The route then continues to the north for approximately 0.33 mile, crossing Shreve Mill Road, Sycolin Creek, and the future Crosstrail Boulevard Extension, and then terminates at the proposed Altair Switching Station.

Rejected Routes

Route 4

Route 4 would construct two side-by-side sing circuit 230 kV lines from the proposed cut-in of existing 230 kV Line #2180 (Belmont-Pleasant View) to the proposed Altair Switching Station. The length of the corridor for Route 4 is approximately 1.08 miles. The route extends west from Line #2180 for about 0.47 mile, crossing along the northern edge of Potomac Stonewall Energy Center property and south of Sycolin Creek and Loudoun County owned land just south of Phillip A. Bolen Memorial Park. This portion of the route generally parallels Sycolin Creek. The route then continues west for about 0.61 mile crossing Sycolin Creek, Cochran Mill Road, and Sycolin road, and terminates at the proposed Altair Switching Station.

Route 5

Route 5 would construct two side-by-side single circuit 230 kV lines from the proposed cut-in of existing 230 kV Line #2180 (Belmont-Pleasant View) to the proposed Altair Switching Station. The length of the corridor for Route 5 is approximately 1.22 miles. The route extends west from Line #2180 for about 0.29 mile, crossing along the northern edge of Potomac Stonewall Energy Center property and south of Sycolin Creek and Loudoun County owned land just south of Phillip A. Bolen Memorial Park. This portion of the route generally parallels Sycolin Creek. The route then continues west for about 0.60 mile, crossing Sycolin Road and paralleling the south side of Shreve Mill Road. The route then turns to the north for approximately 0.33 mile along the same alignment as Route 1. The route crosses Shreve Mill Road, Sycolin Creek, and the planned Crosstrail Boulevard Extension, and terminates at the proposed Altair Switching Station.

Route 7

Route 7 was proposed to Dominion for consideration as a route alternative by JK Land Holdings. JK Land Holdings is a land acquisition and development company who are in the process of purchasing land in the Project area. Route 7 would construct two side-by-side single circuit 230 kV lines from the proposed cut-in of existing 230 kV Line #2180 (Belmont-Pleasant View) to the proposed Altair Switching Station. The length of the corridor for Route 7 is approximately 1.27 miles. The route extends west from Line #2180 for about 0.58 mile, crossing along the northern edge of Potomac Stonewall Energy Center property and south of Sycolin Creek and Loudoun County owned land just south of Phillip A. Bolen Memorial Park. This segment of the route generally parallels Sycolin Creek. The route then continues west for approximately 0.22 mile, crossing Sycolin Creek (paralleling the northern edge of the creek) and Sycolin Road. The route next turns to the west for about 0.14 mile and follows along the south side of Shreve Mill Road. The route then extends north for approximately 0.33 mile, and continues along the same alignment as Route 1. The route crosses Shreve Mill Road, Sycolin Creek, and the planned Crosstrail Boulevard Extension before terminating at the proposed Altair Switching Station.

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 2021;
- NAIP Digital Ortho-Rectified Infrared Images, Virginia, 1-meter pixel resolution, photo date 2020;
- U.S. Geological Survey (USGS) 7.5-minute current (2019);
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) mapping (2021);
- USGS National Hydrography Dataset (NHD; USGS 2021);
- 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 (2022) 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 (2019) 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 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, 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. Based on the analysis, no areas with a low or very low probability of wetland occurrences were identified along the alternative routes, therefore Table 2 only contains high to medium/low probability wetlands.

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

Probability [c]	Total Acres [d]	Wetland and Waterbody Type (acres)			
		Palustrine Emergent	Palustrine Forested	Palustrine Unconsolidated Bottom	Riverine Stream
Route 1					
High	1.63	1.24	0.12	NA	0.26
Medium/High	3.00	1.49	1.25	NA	0.26
Medium	1.13	0.60	0.53	NA	NA
Medium/Low	0.72	0.03	0.01	NA	NA
Route 2					
High	1.09	0.77	0.12	NA	0.20
Medium/High	2.79	1.98	0.57	NA	0.24
Medium	1.28	0.79	0.49	NA	NA
Medium/Low	1.76	0.02	0.01	NA	NA
Route 3					
High	0.16	NA	0.13	NA	0.03
Medium/High	1.93	0.69	0.93	NA	0.30
Medium	1.15	0.66	0.49	NA	NA
Medium/Low	1.09	NA	0.01	NA	NA
Route 4					
High	0.38	0.16	0.08	0.04	0.10
Medium/High	4.43	0.88	3.09	0.15	0.31
Medium	1.23	0.09	0.92	0.06	0.15

Probability [c]	Total Acres [d]	Wetland and Waterbody Type (acres)			
		Palustrine Emergent	Palustrine Forested	Palustrine Unconsolidated Bottom	Riverine Stream
Medium/Low	0.46	NA	0.00	0.02	NA
Route 5					
High	0.42	0.16	0.14	0.04	0.08
Medium/High	3.54	0.88	2.06	0.15	0.45
Medium	1.15	0.22	0.84	0.06	0.04
Medium/Low	0.53	NA	0.01	0.02	NA
Route 7					
High	0.75	0.16	0.30	0.04	0.25
Medium/High	6.18	0.88	4.27	0.15	0.88
Medium	1.68	0.22	1.32	0.06	0.07
Medium/Low	1.92	NA	0.01	0.02	NA

NA Not applicable due to absence of wetland or waterbody type within the alternative route
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 Switching Station wetlands and waterbodies are included within each route rather than individually.
c Based on the analysis, no areas with a low, or very low probability of wetland occurrences were identified along the alternative route.
d 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 1

The length of the corridor for Route 1 is approximately 1.66 miles and encompasses a total of approximately 23.97 acres of right-of-way for the transmission line and 1.77 acres of property for the switching station, totaling 25.74 acres. Based on the methodology discussed above, the right-of-way and switching station would encompass approximately 22.38 percent (5.76 acres) of land with a medium or higher probability of containing wetlands and waterbodies.

Route 2

Route 2 is approximately 1.52 miles long and encompasses a total of approximately 22.90 acres of right-of-way for the transmission line and 1.77 acres of property for the switching station, totaling 24.67 acres. Based on the methodology discussed above, the right-of-way and switching station would encompass approximately 20.92 percent (5.16 acres) of land with a medium or higher probability of containing wetlands and waterbodies.

Route 3

Route 3 is approximately 1.45 miles and encompasses a total of approximately 22.11 acres of right-of-way for the transmission line and 1.77 acres of property for the switching station, totaling 23.88 acres. Based on the methodology discussed above, the right-of-way and switching station would encompass approximately 13.53 percent (3.23 acres) of land with a medium or higher probability of containing wetlands and waterbodies.

Route 4

Route 4 is approximately 1.09 miles and encompasses a total of approximately 16.48 acres of right-of-way and 1.77 acres of property for the switching station, totaling 18.25 acres. Based on the methodology discussed above, the right-of-way and switching station would encompass approximately 33.1 percent (6.04 acres) of land with a medium or higher probability of containing wetlands and waterbodies.

Route 5

Route 5 is approximately 1.23 miles long and encompasses a total of approximately 18.13 acres of right-of-way for the transmission line and 1.77 acres of property for the switching station, totaling 19.90 acres. Based on the methodology discussed above, the right-of-way and switching station would encompass approximately 25.68 percent (5.11 acres) of land with a medium or higher probability of containing wetlands and waterbodies.

Route 7

Route 7 is approximately 1.27 miles long and encompasses a total of approximately 18.71 acres of right-of-way for the transmission line and 1.77 acres of property for the switching station, totaling 20.48 acres. Based on the methodology discussed above, the right-of-way and switching station would encompass approximately 42.04 percent (8.61 acres) of land with a medium or higher probability of containing wetlands and waterbodies.

Waterbody Crossings

Based on the NHD and USGS quadrangle map, the study area contains four waterbodies: the perennial Sycolin Creek and three unnamed, intermittent tributaries to Sycolin Creek. The number and type of waterbody crossings for each of the proposed routes are described below and presented on Attachment 2. There were no open waterbodies (e.g., reservoirs, lakes, or ponds) identified within the study area.

Route 1

The Route 1 right-of-way crosses the perennial Sycolin Creek in three locations and two unnamed intermittent tributaries to Sycolin Creek. No open waterbody features are crossed by this route.

Route 2

The Route 2 right-of-way crosses the perennial Sycolin Creek in three locations and two unnamed intermittent tributaries to Sycolin Creek. No open waterbody features are crossed by this route.

Route 3

The Route 3 right-of-way crosses the perennial Sycolin Creek in one location and three unnamed intermittent tributaries to Sycolin Creek. No open waterbody features are crossed by this route.

Route 4

The Route 4 right-of-way crosses the perennial Sycolin Creek in two locations, seven unnamed intermittent tributaries to Sycolin Creek, and one crossing of a small open waterbody feature.

Route 5

The Route 5 right-of-way crosses the perennial Sycolin Creek in two locations, seven unnamed intermittent tributaries to Sycolin Creek, and one small open waterbody feature.

Route 7

The Route 7 right-of-way crosses the perennial Sycolin Creek in four locations with a portion of the line running parallel over the stream, eight unnamed intermittent tributaries to Sycolin Creek, and one small open waterbody feature.

Project Impacts

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

Where the removal of woody vegetation occurs within wetlands, Dominion Energy Virginia 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 in compliance with current Clean Water Act regulations.

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 Desktop Summary report was prepared in accordance with the Memorandum of Agreement between the DEQ and the SCC 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, Dominion Energy Virginia has 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 www.dominionenergy.com/Altair If you have any questions regarding this wetland assessment please contact me by email at chris.senfield@erm.com.

Yours sincerely,

Environmental Resources Management

Chris Senfield, PWS, PWD
Principal Consultant, Scientist

cc: Nancy Reid, Virginia Electric and Power Company
James Young, Virginia Electric and Power Company

Enclosures: Attachments 1 and 2

References

County of Loudoun (VA) GIS Office. 2021. Environmental GIS Layers. Available online at https://logis.loudoun.gov/weblogis/. Accessed May 2022.

Environmental Laboratory. 1987. Technical Report Y-87-1: Corps of Engineers Wetlands Delineation Manual US Army Corps of Engineers, Waterways Experiment Station. January 1987.

Environmental Laboratory. 2012. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region. Prepared for U.S. Army Corps of Engineers Wetlands Regulatory Assistance Program. ERDC/EL TR-12-9. July 2012.

National Agricultural Imagery Program (NAIP). 2021. Digital Ortho-Rectified Natural Color Images and NAIP Digital Ortho-Rectified Infrared Images. Available online at https://www.fsa.usda.gov/programs-and-services/aerial-photography/imagery-programs/naip-imagery/. Accessed May 2022.

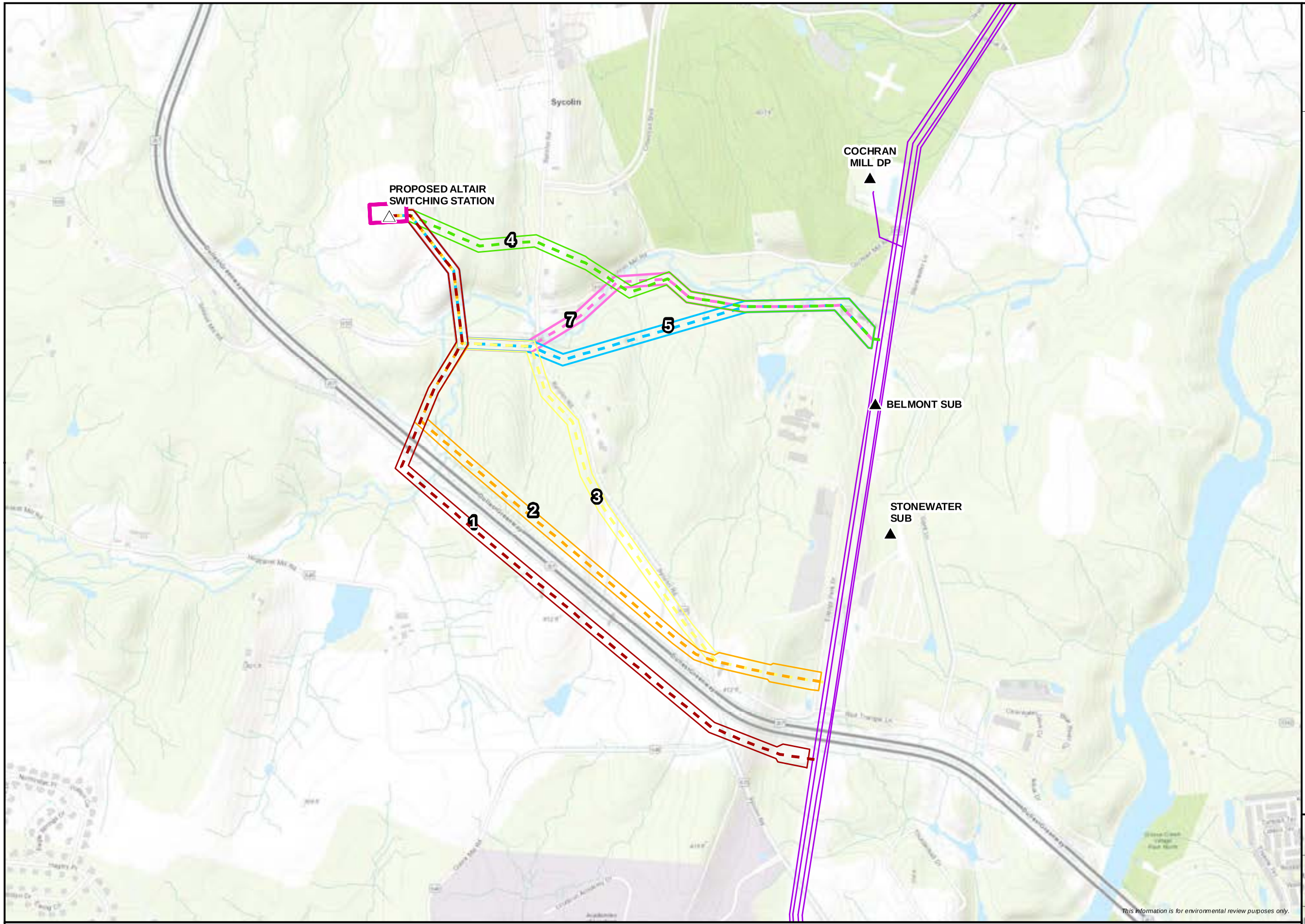
National Agricultural Imagery Program (NAIP). 2020. Digital Ortho-Rectified Color Infrared Images and NAIP Digital Ortho-Rectified Infrared Images. Available online at https://www.fsa.usda.gov/programs-and-services/aerial-photography/imagery-programs/naip-imagery/. Accessed May 2022.

Natural Resource Conservation Service (NRCS). 2021. Soil Survey Geographic Data (SSURGO). Available online at https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed May 2022.

U.S. Fish and Wildlife (USFWS). 2021. National Wetlands Inventory. Available online at http://www.fws.gov/wetlands/. Accessed May 2022.

U.S. Geological Survey (USGS). 2021. U.S. Geological Survey. The National Hydrography Dataset. Available online at https://www.usgs.gov/core-science-systems/ngp/national-hydrography. Accessed May 2022.

ATTACHMENT 1



Dominion Energy®

Attachment 1
Overview Map
230 kV Altair Loop and Altair Switching Station Project
Catoctin District
Loudoun County, Virginia

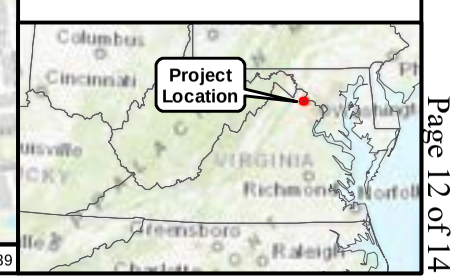
- Existing Substation
- Proposed Switching Station
- Proposed Switching Station Boundary
- Route 1 Centerline and Right of Way
- Route 2 Centerline and Right of Way
- Route 3 Centerline and Right of Way
- Route 4 Centerline and Right of Way
- Route 5 Centerline and Right of Way
- Route 7 Centerline and Right of Way
- Existing Dominion Transmission Line

0 500 1,000
Feet

1:12,000

ERM

N W E S



FILE: M:\Clients\D-F\DOM\Altair\ArcGIS\2022\08\Wet_Prob_DOM_Altair_WDR_Att_1_Overview_20220815.mxd | REVISED: 08/15/2022 | SCALE: 1:12,000 when printed at 11x17 DRAWN BY: 0239

ATTACHMENT 2

FILE: M:\Clients\D-F\DOM\Altair\ArcGIS\2022\08\Wet_Prob_DOM_Altair_WDR_Att_2_Wet_Prob_20220815.mxd | REVISED: 08/15/2022 | SCALE: 1:9,000 when printed at 11x17 DRAWN BY: 0239

Dominion Energy®

Attachment 2
Wetland Probability Map
230 kV Altair Loop and Altair Switching Station Project
Catoctin District
Loudoun County, Virginia

- Existing Substation
- Proposed Switching Station
- Proposed Switching Station Boundary
- Route 1 Centerline and Right of Way
- Route 2 Centerline and Right of Way
- Route 3 Centerline and Right of Way
- Route 4 Centerline and Right of Way
- Route 5 Centerline and Right of Way
- Route 7 Centerline and Right of Way
- Existing Dominion Transmission Line
- NWI Wetland

Hydric Soil - SSURGO

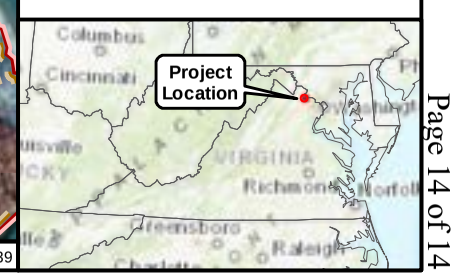
- Hydric
- Partially Hydric
- Not Hydric

0 375 750
Feet

1:9,000

ERM

N W E S



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

Andrew R. Wheeler
Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director
(804) 698-4020

September 28, 2022

James P. Young
DEES ET Contractor
Dominion Energy
120 Tredegar Street, Richmond, VA 23219

RE: Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia

Dear Mr. Young:

In accordance with the Department of Environmental Quality-State Corporation Commission *Memorandum of Agreement Regarding Wetland Impact Consultation* (July 2003), we have reviewed the information submitted by Dominion Energy (here after, Dominion) regarding potential wetland impacts on the above referenced project. Dominion is proposing to construct a new-build transmission line option that will address reliability and current demand needs and accommodate increased future demand in the area.

After review of the new-build options, Dominion Energy Virginia decided to further investigate two electrical options for this Project, which is located entirely within Loudoun County, Virginia. The routes for Option 1 involve cutting of existing Line #201 (Belmont-Brambleton) and the routes for Option 2 involve cutting of existing Line #2180 (Belmont-Pleasant View) and extending two new 230 kV single circuit transmission lines northwest to the proposed Altair Switching Station. ERM and the Company originally identified six overhead routes between Lines #201 / #2180 and the proposed Altair Switching Station (four Option 1 alternatives and two Option 2 alternatives). In consultation with a landowner and JK Land Holdings, LLC, a seventh alternative (Route 7) was proposed to the Company for consideration in its analysis of route alternatives for this Project. This seventh route would involve cutting Line #2180 and, therefore, is considered an Option 2 alternative. Of the seven routes identified, ERM and the Company reviewed six overhead route alternatives for the Project (the Company rejected Route 6 during the initial route development phase). All routes require the construction of the proposed Altair Switching Station located on a large undeveloped parcel situated east of the Dulles Greenway and west of the Leesburg Executive Airport in the Leesburg area of Loudoun County, Virginia.

Summary of Findings

Based on the wetland desktop report provided, Environmental Resources Management ("ERM") identified surface waters including wetlands within the proposed project area. 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 2021;
- NAIP Digital Ortho-Rectified Infrared Images, Virginia, 1-meter pixel resolution, photo date 2020;
- U.S. Geological Survey (USGS) 7.5-minute current (2019);
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) mapping (2021);
- USGS National Hydrography Dataset (NHD; USGS 2021);
- 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).

The desktop analysis provides a probability of wetlands and waterbody occurrence within each route alternative. Field delineations were not performed and would be required to verify the accuracy and extent of aquatic resource boundaries.

Summary of the Probabilities of Wetland and Waterbody Occurrence along Project Routes

Probability	Total Acres	Palustrine Emergent	Palustrine Forested	Palustrine Unconsolidated Bottom	Riverine Stream
Route 1					
High	1.63	1.24	0.12	NA	0.26
Medium/High	3.00	1.49	1.25	NA	0.26
Route 2					
High	1.09	0.77	0.12	NA	0.20
Medium/High	2.79	1.98	0.57	NA	0.24
Route 3					
High	0.16	NA	0.13	NA	0.03
Medium/High	1.93	0.69	0.93	NA	0.30
Route 4					
High	0.38	0.16	0.08	0.04	0.10
Medium/High	4.43	0.88	3.09	0.15	0.31
Route 5					
High	0.42	0.16	0.14	0.04	0.08
Medium/High	3.54	0.88	2.06	0.15	0.45
Route 7					
High	0.75	0.16	0.30	0.04	0.25
Medium/High	6.18	0.88	4.27	0.15	0.88

Water Quality and Wetlands. Measures such as but not limited to Best Management Practices (BMPs) must be taken to avoid and minimize impacts to surface waters during construction activities, including potential water quality impacts resulting from construction site runoff. The disturbance of land and surface waters, which include wetlands, open water, and streams, may require prior approval by DEQ; the U.S. Army Corps of Engineers; the Virginia Marine Resources Commission (VMRC); and/or local government wetlands boards (generally in the northern and piedmont regions of Virginia). The Army Corps of Engineers and DEQ work in conjunction to provide official confirmation of whether there are federal and/or state jurisdictional surface waters that may be impacted by the proposed project. VMRC provides its own review to determine its agency jurisdiction. Review of National Wetland Inventory maps or topographic maps for locating wetlands, open waters, or streams may not be sufficient; there may need to be a site-specific review by a qualified professional. If construction activities will occur in or along any streams (perennial, intermittent, or ephemeral), open water or wetlands, the applicant should contact the DEQ-VWP managers at our Northern Virginia Regional Office to determine the need for any permits prior to commencing work that could impact surface waters. DEQ's permit need decisions neither replace nor supersede requirements set forth by other local, state, federal, and Tribal laws, nor eliminate the need to obtain additional permits, approvals, consultations, or authorizations as required by law before proposed activities may commence.

Recommendations and Potential Permits

DEQ offers the following recommendations:

1. Prior to commencing project work, all surface waters on the project site should be delineated by a qualified professional and verified by the U.S. Army Corps of Engineers (the Corps) for federal jurisdictional waters and by DEQ for state jurisdictional waters.
2. Wetland and stream impacts should be avoided and minimized to the maximum extent practicable.
3. If the scope of the project changes, additional review will be necessary by one or more offices in the Commonwealth's Secretariat of Natural Resources and/or the Corps.
4. At a minimum, any required compensation for impacts to State Waters, including the compensation for permanent conversion of forested wetlands to emergent wetlands, should be in accordance with all applicable state regulations and laws. Consider mitigating impacts to forested or converted wetlands by establishing new forested wetlands within the impacted watershed.
5. Any temporary impacts to surface waters associated with this project should be restored to pre-existing conditions.
6. No activity may substantially disrupt the movement of aquatic life indigenous to the water body, including those species, which normally migrate through the area, unless the primary purpose of the activity is to impound water. Culverts placed in streams must be installed to maintain low flow conditions. No activity may cause more than minimal adverse effect on navigation. Furthermore the activity must not impede the passage of normal or expected high flows and the structure or discharge must withstand expected high flows.
7. Erosion and sedimentation controls should be designed in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992. These controls should be placed prior to clearing and grading and maintained in good working order to minimize impacts to state waters. These controls should remain in place until the area is stabilized and should then be removed. Any exposed slopes and streambanks should be stabilized immediately upon completion of work in each permitted area. All denuded areas should be properly stabilized in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992.
8. No machinery may enter surface waters, unless authorized by a Virginia Water Protection (VWP) individual permit, general permit, or general permit coverage.

9. Heavy equipment in temporarily impacted surface waters should be placed on mats, geotextile fabric, or other suitable material, to minimize soil disturbance to the maximum extent practicable. Equipment and materials should be removed immediately upon completion of work.
10. Activities should be conducted in accordance with any Time-of-Year restriction(s) as recommended by the Department of Game and Inland Fisheries, the Department of Conservation and Recreation, or the Virginia Marine Resources Commission. The permittee should retain a copy of the agency correspondence concerning the Time-of-Year restriction(s), or the lack thereof, for the duration of the construction phase of the project.
11. All construction, construction access, and demolition activities associated with this project should be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters, unless authorized by a Virginia Water Protection (VWP) individual permit, general permit, or general permit coverage. Wet, excess, or waste concrete should be prohibited from entering surface waters.
12. Herbicides used in or around any surface water should be approved for aquatic use by the United States Environmental Protection Agency (EPA) or the U.S. Fish & Wildlife Service. These herbicides should be applied according to label directions by a licensed herbicide applicator. A non-petroleum based surfactant should be used in or around any surface waters.

Permits:
Based on DEQ's review of the wetland desktop analysis dated August 26, 2022 provided by Dominion and received on August 28, 2022; the proposed project may require a Virginia Water Protection (VWP) individual permit or general permit coverage. The applicant may submit a Joint Permit Application (JPA) in accordance with form instructions for further evaluation and final permit need determination by DEQ.

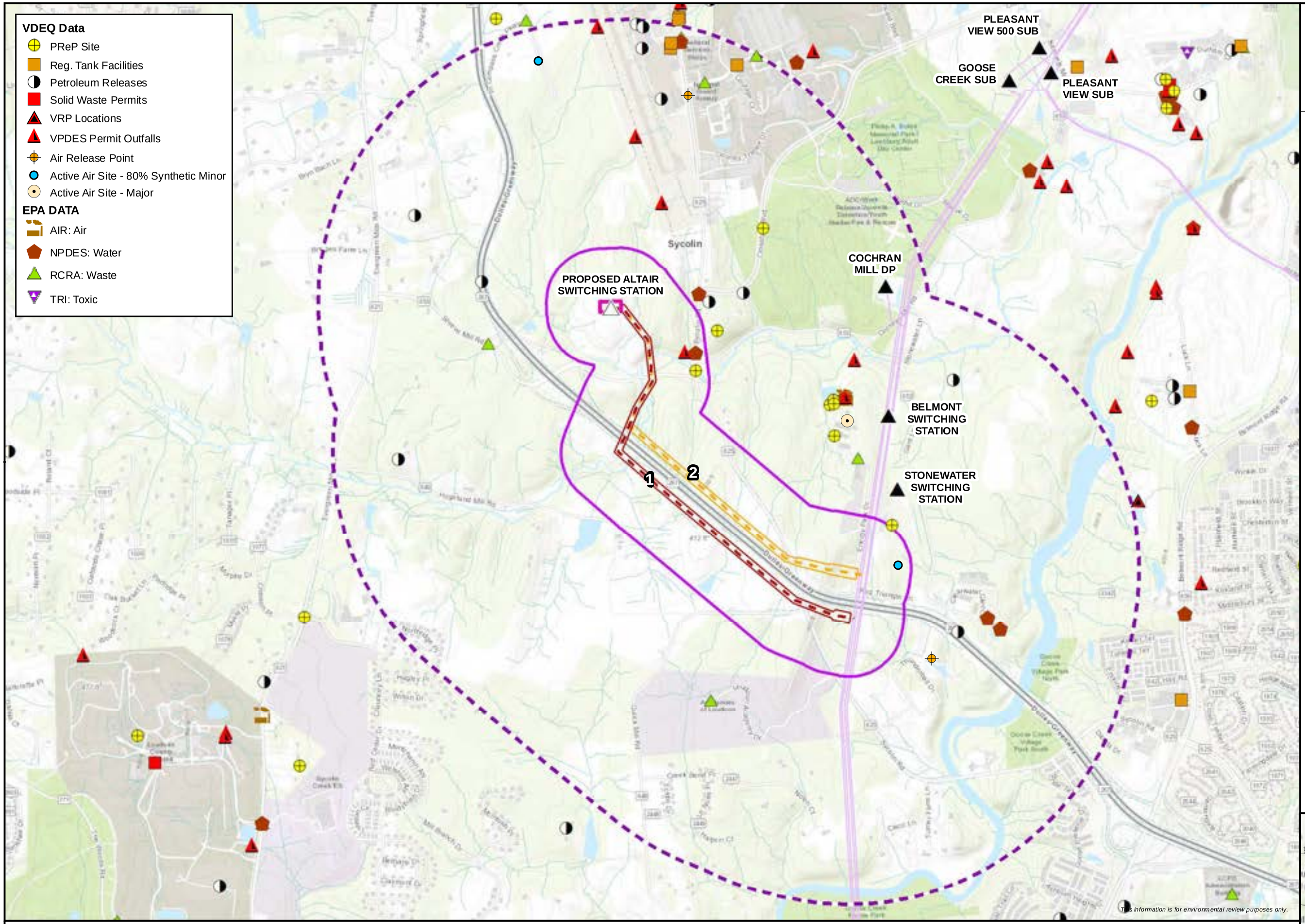
Should you have any questions, please don't hesitate to contact me at 804-965-4329 or at **michelle.henicheck@deq.virginia.gov**.

Sincerely,

Michelle Henicheck

Michelle Henicheck, PWS
Senior Wetland Ecologist
Office of Wetlands & Stream Protection

Cc: Christoph Quasney DEQ - NVRO
Bettina Sullivan, DEQ - Office of Environmental Review



Dominion Energy

Attachment 2.F.1
Solid and Hazardous Waste Sites
230 kV Altair Loop and Altair Switching Station Project
Catoctin District
Loudoun County, Virginia

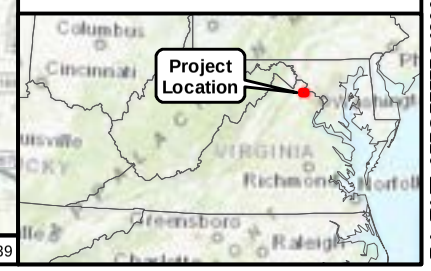
- Existing Substation/ Switching Station
- Proposed Switching Station
- Proposed Switching Station Boundary
- Route 1 Centerline and Right of Way
- Route 2 Centerline and Right of Way
- Existing Dominion Transmission Line
- 1,000-Foot Buffer
- 1-Mile Buffer

0 875 1,750
Feet

1:21,000

ERM

N W E S



FILE: M:\Clients\D-F\DOM\Altair\ArcGIS\2022\09\FigsR12_DOM_Altair_DEQ_Att_2_F_1_Waste_20220912.mxd | REVISED: 09/12/2022 | SCALE: 1:21,000 when printed at 11x17 DRAWN BY: 0239

Attachment 2.F.1

Matthew S. Wells
Director

Frank N. Stovall
Deputy Director for Operations

Darryl Glover
Deputy Director for Dam Safety, Floodplain Management and Soil and Water Conservation

Laura Ellis
Interim Deputy Director for Administration and Finance

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

August 9, 2022

Kathlynn Lewis
Environmental Resources Management
919 East Main Street, Suite 1701
Richmond VA, 23219

Re: 0592682, Altair Routing Study

Dear Ms. Lewis:

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 Biotics, natural heritage resources have not been documented within the submitted project boundary including a 100 foot buffer. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

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.

In addition, the proposed project will fragment Ecological Cores **(C4 and 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 at least 100 acres of continuous interior, natural cover 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. Interior core areas begin 100 meters inside core edges and continue to the deepest parts of cores. Cores also provide the natural, economic, and quality of life benefits of open space, recreation, thermal moderation, water quality (including drinking water recharge and protection, and erosion prevention), and air quality (including sequestration of carbon, absorption of gaseous pollutants, and production of oxygen). Cores are ranked from C1 to C5 (C5 being the least significant) using nine prioritization criteria, including the habitats of natural heritage resources they contain.

Impacts to cores occur when their natural cover is partially or completely converted permanently to developed land uses. Habitat conversion to development causes reductions in ecosystem processes, native biodiversity, and habitat quality due to habitat loss; less viable plant and animal populations; increased predation; and increased introduction and establishment of invasive species.

DCR recommends avoidance of impacts to cores. When avoidance cannot be achieved, DCR recommends minimizing the area of impacts overall and concentrating the impacted area at the edges of cores, so that the most interior remains intact.

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.

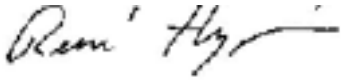
New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

A fee of $500.00 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

In Reply Refer To:
Project Code: 2022-0026755
Project Name: 0592682-Bristow 230kV

August 15, 2022

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

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

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 Project Code 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
- Migratory Birds

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

Project Code: 2022-0026755
Project Name: 0592682-Bristow 230kV
Project Type: Transmission Line - New Constr - Above Ground
Project Description: ERM is examining routing options for a new electric transmission line to connect existing substations near Nokesville Road in Prince William County, Virginia. Project review is needed to assist preliminary routing feasibility studies within the Bristow study area.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.05591685,-77.54958387705183,14z

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.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10

NAME	BREEDING SEASON
Cerulean Warbler *Dendroica cerulea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 28 to Jul 20
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Kentucky Warbler *Oporornis formosus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
King Rail *Rallus elegans* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Prairie Warbler *Dendroica discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week

months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

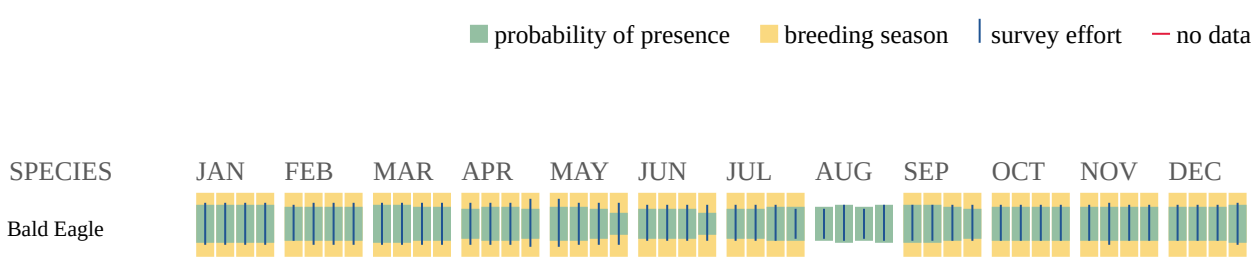
1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of

certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

IPaC User Contact Information

Agency: ERM Group
Name: Kathlynn Lewis
Address: 919 E. Main St.
Address Line 2: Suite 1701
City: Richmond
State: VA
Zip: 23219
Email kathlynn.lewis@erm.com
Phone: 4349879866

VaFWIS Search Report Compiled on 8/15/2022, 4:39:22 PM

Help

Known or likely to occur within a **2 mile radius around point 39.0568440 -77.5498156** in **107 Loudoun County, VA**

View Map of Site Location

490 Known or Likely Species ordered by Status Concern for Conservation (displaying first 27) (27 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon		BOVA
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata		BOVA,HU6
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
060006	SE	Ib	Floater, brook	Alasmidonta varicosa		BOVA
030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Potential	BOVA,Habitat,HU6
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA,HU6
040379	ST	Ia	Sparrow, Henslow's	Centronyx henslowii		BOVA
060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes	BOVA,TEWaters,Habitat,HU6
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus		BOVA,HU6
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 idalia		BOVA,HU6
040213		Ic	Owl, northern	Aegolius acadicus		BOVA,HU6

			saw-whet			
040052		IIa	Duck, American black	Anas rubripes		BOVA,HU6
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
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
100166		IIc	Skipper, Dotted	Hesperia attalus slossonae		BOVA,HU6

To view **All 490 species** View 490

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need;
IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
Virginia Widlife Action Plan Conservation Opportunity Ranking:
a - On the ground management strategies/actions exist and can be feasibly implemented.;
b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

View Map of All Query Results from All Observation Tables

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams

N/A

Impediments to Fish Passage (1 records)

View Map of All Fish Impediments

ID	Name	River	View Map
1216	GOOSE CREEK DAM	GOOSE CREEK	Yes

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters (12 Reaches)

View Map of All Threatened and Endangered Waters

Stream Name	T&E Waters Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
Goose Creek (022535)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (023151)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (025464)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (026509)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (026603)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (027795)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (028846)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (030915)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (032895)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (034177)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (034352)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Goose Creek (036348)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Species Observations (15 records)

View Map of All Query Results
Species Observations

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
332209	SppObs	Jan 1 1956	VPI-VA. TECH	13		III	Yes
332215	SppObs	Jan 1 1956	VPI-VA. TECH	7		III	Yes
62557	SppObs	May 1 1999	Richard H. Efthim (Principle Permittee), Smithsonian Institute, Naturalist Center	1		IV	Yes
11560	SppObs	Oct 5 1989	ANGERMEIER ET AL	13		IV	Yes
363837	SppObs	Jan 1 1900		1		IV	Yes
604426	SppObs	Sep 2 2008	Richard; Efthim	1			Yes
614305	SppObs	Jul 5 2008	William ; Robertson	1			Yes
614302	SppObs	Jun 28 2008	William ; Robertson	1			Yes
300635	SppObs	Jun 18 2001	ROGER B. CLAPP	1			Yes
300230	SppObs	May 16 2001	Mark F. Causey, Ken H. Bass, Liam J. McGranaghan	1			Yes
63294	SppObs	Jul 24 1998	Billy M. Teels, NRCS Wetland Science Institute	23			Yes
58864	SppObs	Apr 29 1998	Roger B. Clapp (PRINCIPLE PERMITTEE), MILENSKI, SCHMIDT, USGS/PWRC NATIONAL MUSEUM OF NATURAL HISTORY	1			Yes
54543	SppObs	May 3 1997	R. B. CLAPP	1			Yes
51006	SppObs	Apr 19 1997	Mike Mulligan, Chesapeake Bay Foundation	4			Yes
363828	SppObs	Jan 1 1900		1			Yes

Displayed 15 Species Observations

Habitat Predicted for Aquatic WAP Tier I & II Species (4 Reaches)

View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species

Stream Name	Tier Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
Beaverdam Creek (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
Goose Creek (20700081)	ST	060081	ST	IIa	Floater, green	Lasmigona subviridis	Yes
Sycolin Creek (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
tributary (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
tributary (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (5 records)

View Map of All Query Results
Virginia Breeding Bird Atlas Blocks

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE*	Highest Tier**	
50214	Leesburg, CE	63		III	Yes
50213	Leesburg, CW	46		III	Yes
50212	Leesburg, NE	58		III	Yes
50216	Leesburg, SE	69		III	Yes
50215	Leesburg, SW	57		III	Yes

Public Holdings:

N/A

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
107	Loudoun	438	FTSE	I

USGS 7.5' Quadrangles:
Leesburg

USGS NRCS Watersheds in Virginia:

N/A

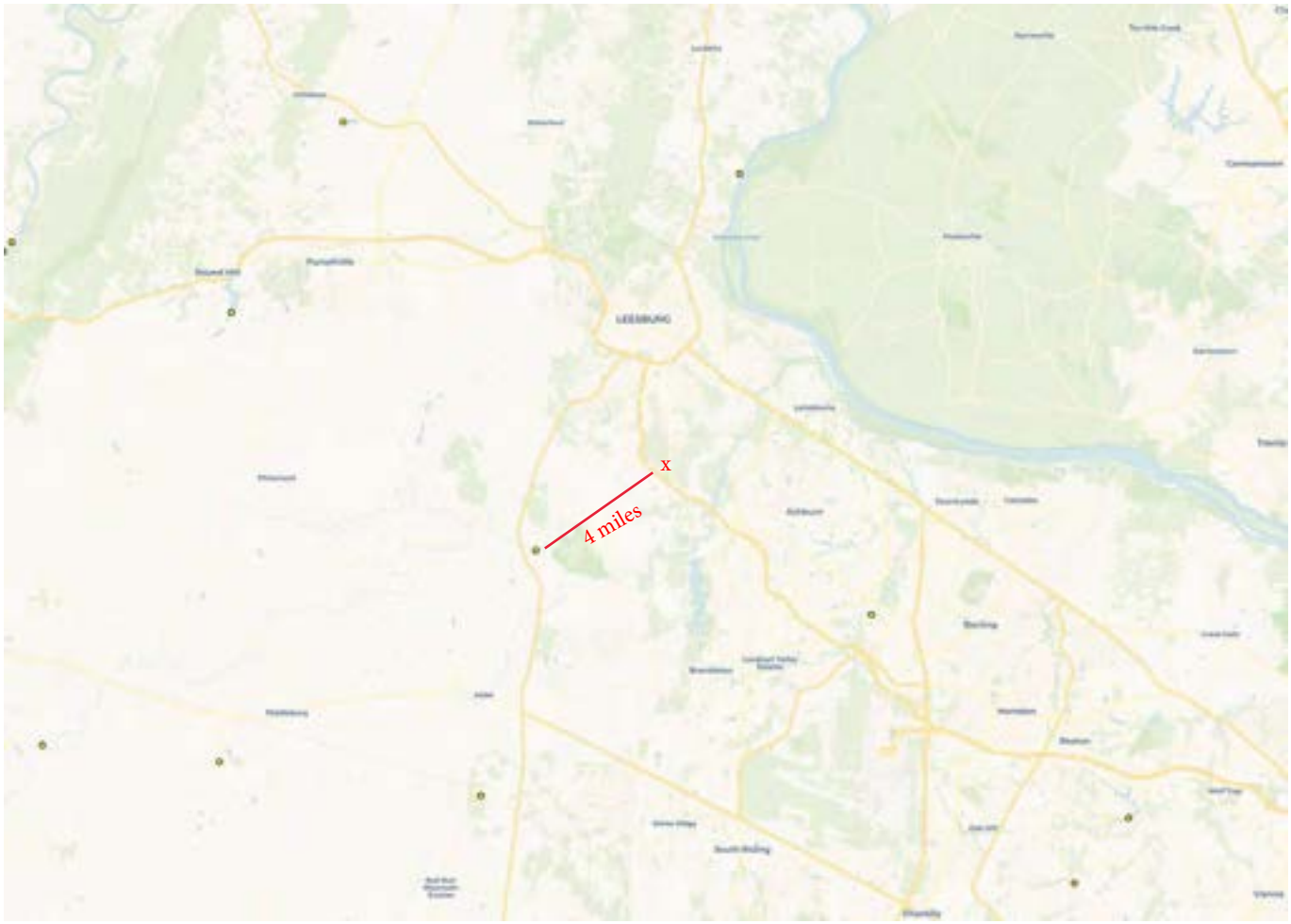
USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
PL14	Goose Creek-Big Branch	59	FTST	I
PL15	Sycolin Creek	54	ST	I
PL16	Goose Creek-Cattail Branch	56	ST	I
PL19	Broad Run-Beaverdam Run	53	ST	I

Compiled on 8/15/2022, 4:39:22 PM I1400775.0 report=all searchType= R dist= 3218 poi= 39.0568440 -77.5498156

PixelSize=64; Anadromous=0.019937; BBA=0.034044; BECAR=0.019391; Bats=0.018488; Buffer=0.062399; County=0.050116; HU6=0.0453; Impediments=0.020295; Init=0.093011; PublicLands=0.022343; Quad=0.024889; SppObs=0.241407; TEWaters=0.031848; TierReaches=0.049841; TierTerrestrial=0.027102; Total=0.914687; Tracking_BOVA=0.166983; Trout=0.021422; huva=0.023915

CCB Mapping Portal



X = Approximate Site Location

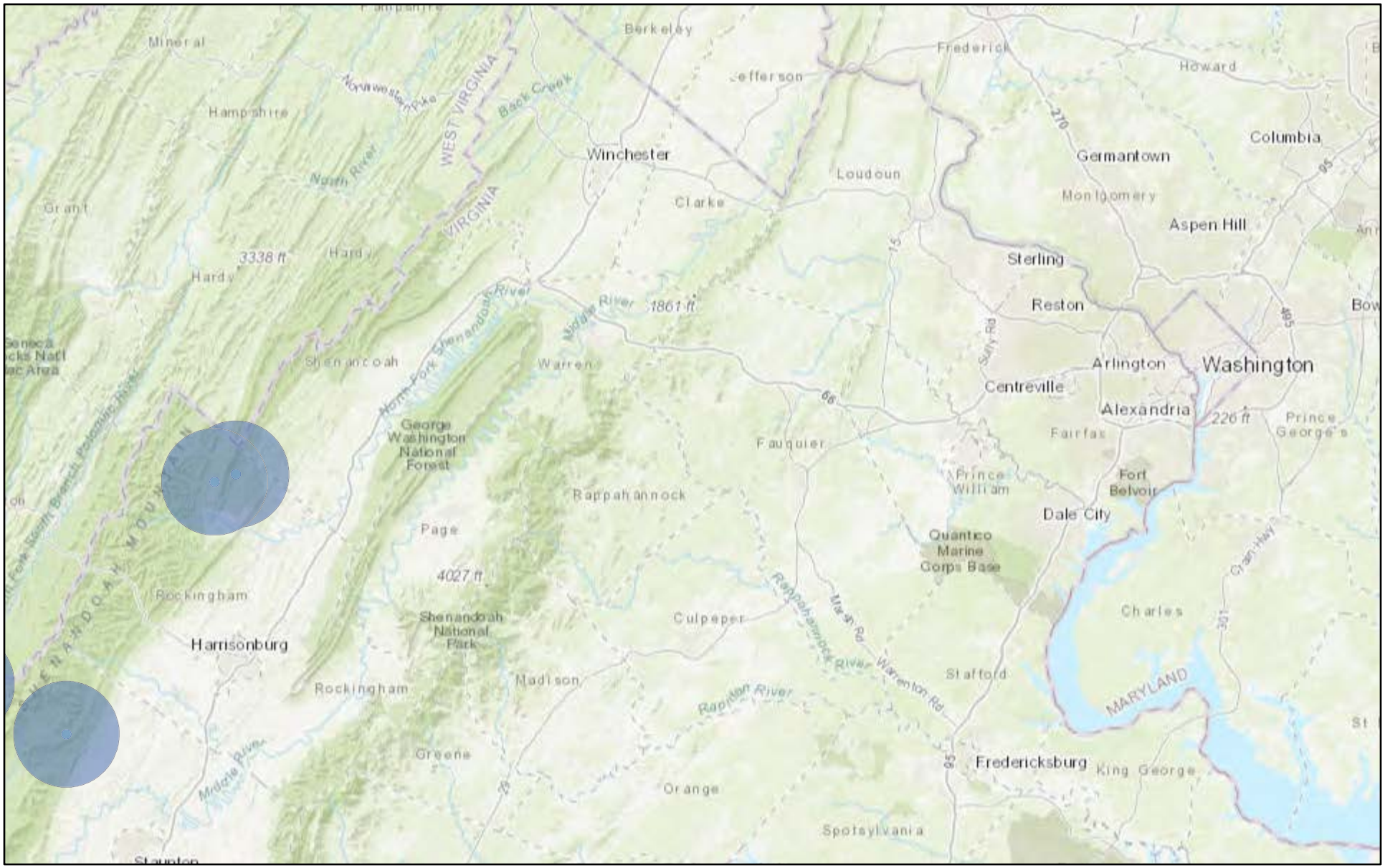
Layers: VA Eagle Nest Locator

Map Center [longitude, latitude]: [-77.56072998046875, 39.055984163572404]

Map Link:
https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&zoom=12&lat=39.055984163572404&lng=-77.56072998046875&legend=legend_tab_7c321b7e-e523-11e4-aaa0-0e0c41326911&base=Street+Map+%28OSM%2FCarto%29

Report Generated On: 08/15/2022

NLEB Locations and Roost Trees



8/15/2022, 4:44:41 PM

NLEB Hibernaculum 5.5 Mile Buffer

NLEB Hibernaculum Half Mile Buffer

1:1,155,581

0 5 10 20 mi

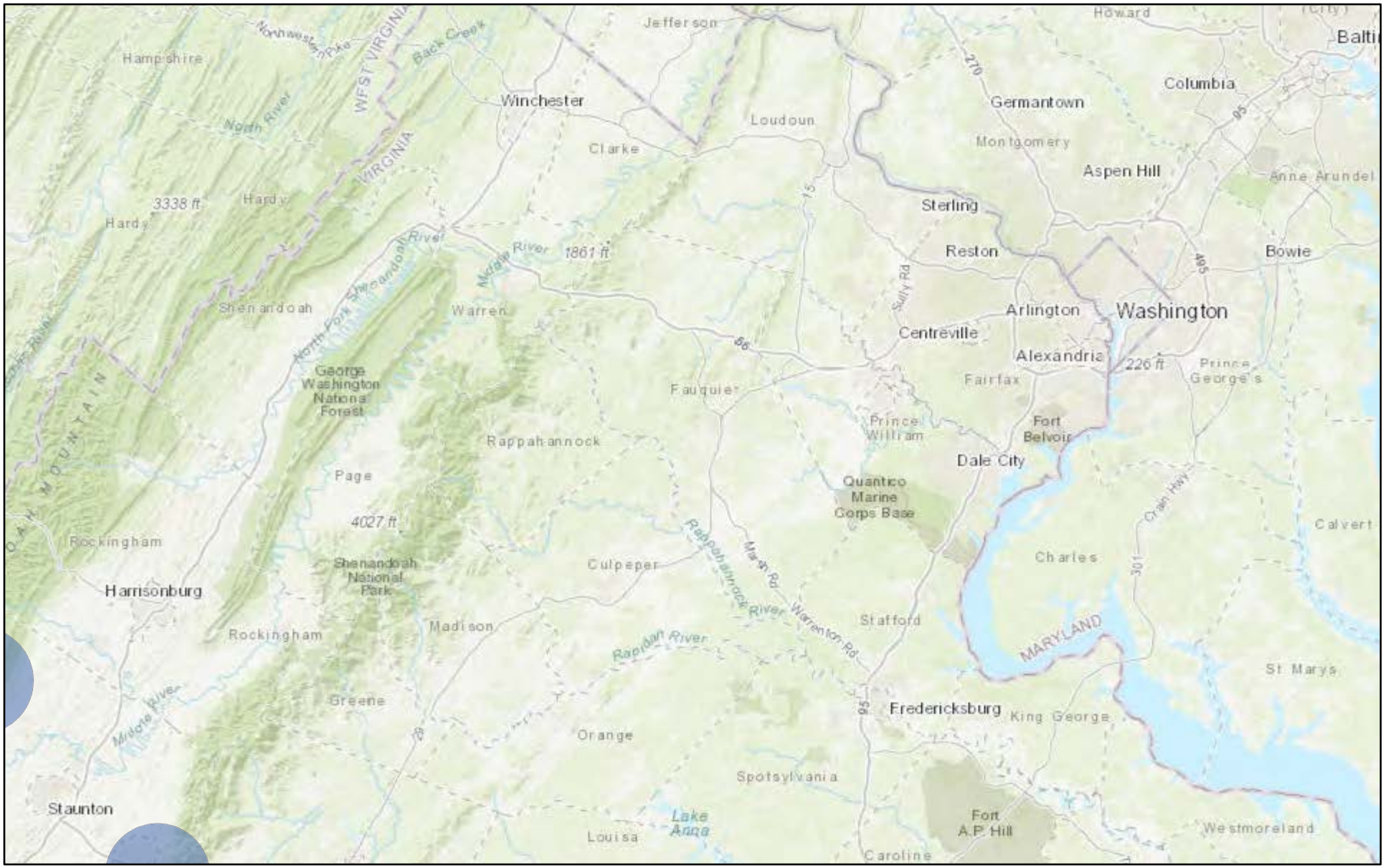
0 12.5 25 50 km

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

VA Dept. Game & Inland Fisheries

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

ArcGIS Web Map



8/15/2022, 4:42:24 PM

Tri-colored and Little Brown Hibernaculum 5.5 Mile Buffer

1:1,155,581

0 5 10 20 mi

0 12.5 25 50 km

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

Dept. Game and Inland Fisheries

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

From: Case, Rachel L <rachel_case@fws.gov>
Sent: Friday, August 12, 2022 1:46 PM
To: James P Young (Services - 6) <james.p.young@dominionenergy.com>
Subject: [EXTERNAL] Re: [EXTERNAL] Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia

Hi James,

Thanks for reaching out. Our office utilizes an online project review process to facilitate ESA Section 7 compliance. An overview of the process and the associated steps can be found on our website.

Please let me know if you have any questions.

Thanks,
Rachel

Rachel Case
Biological Science Technician
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061
[redacted]

From: james.p.young@dominionenergy.com <james.p.young@dominionenergy.com>
Sent: Tuesday, August 9, 2022 6:16 PM
Cc: Keith Tignor <keith.tignor@vdacs.virginia.gov>; bettina.rayfield@deq.virginia.gov; Didier, Karl <karl.didier@dof.virginia.gov>; Hypes, Rene' <Rene.hypes@dcr.virginia.gov>; amy.ewing@dwr.virginia.gov; Eversole, Mark (MRC) <mark.eversole@mrc.virginia.gov>; Andersen, Troy M <troy_andersen@fws.gov>; CENAO-REG_ROD <CENAO.REG_ROD@usace.army.mil>; kristal.mckelvey@dcr.virginia.gov; jvalaika@mcguirewoods.com; Nancy.R.Reid@dominionenergy.com
Subject: [EXTERNAL] Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia
Importance: High

attachments, or responding.

Good Afternoon,

Please see the attached project notification and project location map for the Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station, Loudoun County, Virginia. If you have any questions, please feel free to contact me.

Thank you!

James P. Young
DEES ET Contractor
Dominion Energy
120 Tredegar Street, Richmond, VA 23219
C: [redacted]

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219
P.O. Box 1105, Richmond, Virginia 23218
(800) 592-5482
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

August 13, 2019

Mr. Jason E. Williams
Director Environmental Services
Dominion Energy
5000 Dominion Boulevard
Glen Allen, VA 23060

Transmitted electronically: jason.e.william@dominionenergy.com

Subject: Dominion Energy (Electric Transmission) – Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management (AS&S for ESC and SWM)

Dear Mr. Williams:

The Virginia Department of Environmental Quality ("DEQ") hereby approves the Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management for Dominion Energy (Electric Transmission) dated "May 29, 2019". This coverage is effective from August 13, 2019 to August 12, 2020.

To ensure compliance with approved specifications, the Virginia Erosion and Sediment Control Law and the Virginia Stormwater Management Act, DEQ staff will conduct random site inspections, respond to complaints, and provide on-site technical assistance with specific erosion and sediment control and stormwater management measures and plan implementation.

Please note that your approved Annual Standards and Specifications include the following requirements:

1. Variance, exception, and deviation requests must be submitted separately from this Annual Standards and Specifications submission to DEQ. DEQ may require project-specific plans associated with variance requests to be submitted for review and approval.

2. The following information must be submitted to DEQ for each project at least two weeks in advance of the commencement of regulated land-disturbing activities. Notifications shall be sent by email to: StandardsandSpecs@deq.virginia.gov
   - i: Project name or project number;
   - ii: Project location (including nearest intersection, latitude and longitude, access point);
   - iii: On-site project manager name and contact info;
   - iv: Responsible Land Disturber (RLD) name and contact info;
   - v: Project description;

vi: Acreage of disturbance for project;
vii: Project start and finish date; and
viii: Any variances/exceptions/waivers associated with this project.

3. Project tracking of all regulated land disturbing activities (LDA) must be submitted to the DEQ on a bi-annual basis. Project tracking records shall contain the same information as required in the two week e-notifications for each regulated LDA.
4. Erosion & Sediment Control and Stormwater Management plan review and approval must be conducted by DEQ-Certified plan reviewers and documented in writing.

To ensure an efficient information exchange and response to inquiries, the DEQ Central Office is your primary point of contact. Central Office staff will coordinate with our Regional Office staff as appropriate.

Thank you very much for your submission and continued efforts to conserve and protect Virginia's precious natural resources.

Sincerely,

Jaime B. Robb, Manager
Office of Stormwater Management

Cc: Amelia Boschen, *Amelia.h.boschen@dominionenergy.com*
Elizabeth Hester, *Elizabeth.l.hester@dominionenergy.com*
Stacey Ellis, *Stacey.t.ellis@dominionenergy.com*

Case Decision Information:
As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.

REPORT >

Pre-Application Analysis of Cultural Resources for the 230 kV Altair Loop and Altair Switching Station Project

LOCATION > Loudoun County, Virginia

DATE> AUGUST 2022

PREPARED FOR >

Dominion Energy

PREPARED BY >

Dutton + Associates, LLC

PROJECT REVIEW # >

Dutton + Associates
CULTURAL RESOURCE SURVEY, PLANNING, AND MANAGEMENT

SCC Pre-Application Analysis of Cultural Resources for the 230 kV Altair Loop and Altair Switching Station Project

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.

August 2022

ABSTRACT

In August 2022, Dutton + Associates, LLC (D+A) completed a Pre-Application Analysis (analysis) of cultural resources for the 230 kV Altair Loop and Altair Switching Station 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 230 kV Altair Loop and Altair Switching Station Project entails the construction of two new single circuit 230 kV lines within a shared right-of-way (ROW) to connect the proposed Altair Switching Station to the existing Lines #201/#2180 in the Sycolin vicinity of Loudoun County. After review of the potential electrical solutions, Dominion is investigating six potential routes for the project. All six route alternatives would generally require a new 120-feet ROW, with some sections of wider ROW required. The two sets of proposed structures for each route alternative would be centered within the new ROW and be steel monopoles that range from approximately 60- to 140-feet tall.

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 seventy-three (73) 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, no (0) NRHP-listed properties located within 1.0 mile or closer of the project, and one (1) property that has been determined eligible or potentially eligible for listing in the NRHP within 0.5 mile or closer of the project by the VDHR. Additionally, there is one (1) property that has not been formally evaluated by the VDHR, but has been acknowledged by Loudoun County as potentially significant

as part of a recent cultural resources study. One of these resources, the potentially NRHP-eligible property is directly crossed by one of the project route alternatives.

Assessment of impacts for the one NRHP-eligible property, the Sycolin General Store and Post Office (VDHR# 053-5276) found that much of all six alternatives and switching station would be screened from view from the property, although some in closer proximity may be visible and one directly crossed through the property. As such, the various route alternatives vary in the degree of potential impact they may pose to the resource. One alternative, Route 7, crosses the property and therefore would result in a direct impact to the setting and landscape of the property. This route would also introduce a dramatic change to both the setting and viewshed of and from the property resulting in indirect impacts as well. Because the alignment would directly cross through the property, it may result in clearing and grading associated with construction, and would also introduce a significant change in viewshed of and from the property with one set of structures on the property clearly visible, and additional sets visible up and down the new ROW. ***Overall, the impact from Route 7 would be the most substantial and may pose as much as a severe impact according the VDHR's impact definitions.*** *None of the other route alternatives cross the property and therefore impacts would be limited to indirect.* ***Routes 3 and 5 are anticipated to be visible immediately across the road and creek from the property resulting in a noticeable change of setting and viewshed from the property as well as public ROW. Visibility would be limited to a few structures and a short portion of Route 3 and a bit more of the line and ROW clearing for Route 5. As such, both are recommended to pose a moderate impact to the property. Route 4 would also be in close proximity to the property and be visible, although views are anticipated to be limited to a short length and several structures just east of the house, and another short length of Sycolin Road to the north. The potentially visible portion to the east would be see in conjunction with an existing distribution-grade transmission line that crosses the property. As such, the project would result in an increase in visibility of utility infrastructure, but would not be a completely new or different feature on the landscape. As such, Route 4 is recommended to pose no more than a minimal impact to the property. As Routes 1 and 2 are anticipated to not be visible from any points on the property or public ROW in the vicinity, these routes are recommended to pose no impact to the property. As the switching station would likewise not be visible from the property, it would have no impact on the resource.***

Assessment of impacts for the locally acknowledged property, the William Manning House (VDHR# 053-6453) found that the surrounding vegetation and topography will likely inhibit visibility of all six route alternatives, the switching station, and associated structures and line from the house itself, and screen much of them from public ROW to the front with the exception of Route 3 that would immediately parallel the road in front of the property. As such, Route 3 is expected to be visible from the property immediately along its western edge, and as such, would introduce a noticeable change to both the setting and viewshed of and from the property. However, these impacts would be primarily limited to the edge of the resource property along the road where the house itself is not visible. Meanwhile, the impact to setting and views from the house would be less due to vegetation and development that would interrupt any wide and/or unobstructed views of the route. ***As such, the impact from Route 3 would be the most substantial, but would still pose no more than a minimal impact overall according the VDHR's impact definitions.*** *None of the other route alternatives are expected to be visible from the resource or public ROW in the vicinity.* ***As***

such, Routes 1, 2, 4, 5, and 7, and the switching station, are recommended to pose no impact to the resource.

Potential impacts summary for architectural resources.

VDHR #	*Resource Name, Address*	*NRHP-Status*	*Distance from Project*	*Recommended Impact*
053-5276	*Sycolin General Store and Post Office, 41087 Cochran Mill Road*	*Potentially NRHP-Eligible*	*Route 1 - ~0.16 Mile* *Route 2 - ~0.16 Mile* *Route 3 - ~0.02 Mile* *Route 4 - ~0.03 Mile* *Route 5 - ~0.01 Mile* *Route 7 - Directly Crossed* *Switching Station – 0.33 Mile*	*Route 1 – No Impact* *Route 2 – No Impact* *Route 3 – Moderate* *Route 4 – Minimal* *Route 5 - Moderate* *Route 7 – Severe* *Switching Station – No Impact*
053-6453	*William Manning House, Sycolin Road*	*Locally Acknowledged*	*Route 1 - ~0.26 Mile* *Route 2 - ~0.26 Mile* *Route 3 - ~0.06 Mile* *Route 4 - ~0.21 Mile* *Route 5 - ~0.10 Mile* *Route 7 - ~0.16 Mile* *Switching Station - ~0.5 Mile*	*Route 1 – No Impact* *Route 2 – No Impact* *Route 3 – Minimal* *Route 4 – No Impact* *Route 5 – No Impact* *Route 7 – No Impact* *Switching Station – No Impact*

With regards to archaeology, portions of all six route alternatives and the switching station site have been subject to previous phase I survey, although just the switching station and one route (Route 4), have been surveyed in its entirety. As a result of these surveys, eleven (11) previously recorded sites are located directly within or crossed by the ROW of at least one of the project route alternatives. Of these sites, one has been determined eligible for listing in the NRHP by the VDHR, one has been determined not eligible, and the rest have not been formally evaluated. The one NRHP-eligible site is located within the proposed ROW of one project alternative, Route 3. The other sites are scattered around the other route alternatives and switching station location. While no survey or formal assessment of impacts to archaeological sites was conducted as part of this effort, ***it is D+A's opinion that any portions of the selected route alternative that have not been subject to previous cultural resource survey be investigated, and any sites identified 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 #	*Description*	*NRHP Status*	*Proximity to Project*	*Impacts*
44LD0199	*Camp, temporary, Late Woodland (1000 - 1606)*	*Not Evaluated*	*Crossed by Switching Station, Route 1, 2, 3, 4, 5, 7*	*TBD*
44LD0398	*<Null>, Prehistoric/Unknown (15000 B.C. - 1606 A.D.)*	*Not Evaluated*	*Crossed by Switching Station*	*TBD*
44LD0413	*Lithic scatter, Mill, Pre-Contact, Contact Period (1607 - 1750), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth*	*DHR Evaluation Committee: Not Eligible*	*Crossed by Route 1, 2, 3, 5*	*TBD*

VDHR #	Description	NRHP Status	Proximity to Project	Impacts
	(1866 - 1916), World War I to World War II (1917 - 1945)			
44LD0465	*<Null>, Historic/Unknown*	*Not Evaluated*	*Crossed by Route 1*	*TBD*
44LD0466	*<Null>, Prehistoric/Unknown (15000 B.C. - 1606 A.D.)*	*Not Evaluated*	*Crossed by Route 2*	*TBD*
44LD1195	***Dwelling, single, Kiln, pottery, Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)***	***DHR Staff: Eligible***	*Crossed by Route 3*	***TBD***
44LD1328	*Farmstead, 20th Century: 1st half (1900 - 1949)*	*Not Evaluated*	*Crossed by Route 4, 5, 7*	*TBD*
44LD1411	*Trash scatter, Historic/Unknown*	*Not Evaluated*	*Crossed by Route 1*	*TBD*
44LD1874	*Dwelling, World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)*	*Not Evaluated*	*Crossed by Route 5*	*TBD*
44LD1877	*Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)*	*Not Evaluated*	*Crossed by Route 5*	*TBD*
44LD1964	*Artifact scatter, Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)*	*Not Evaluated*	*Crossed by Route 1, 2, 3, 5, 7*	*TBD*

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

In August 2022, Dutton + Associates, LLC (D+A) completed a Pre-Application Analysis (analysis) of cultural resources for the 230 kV Altair Loop and Altair Switching Station 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.

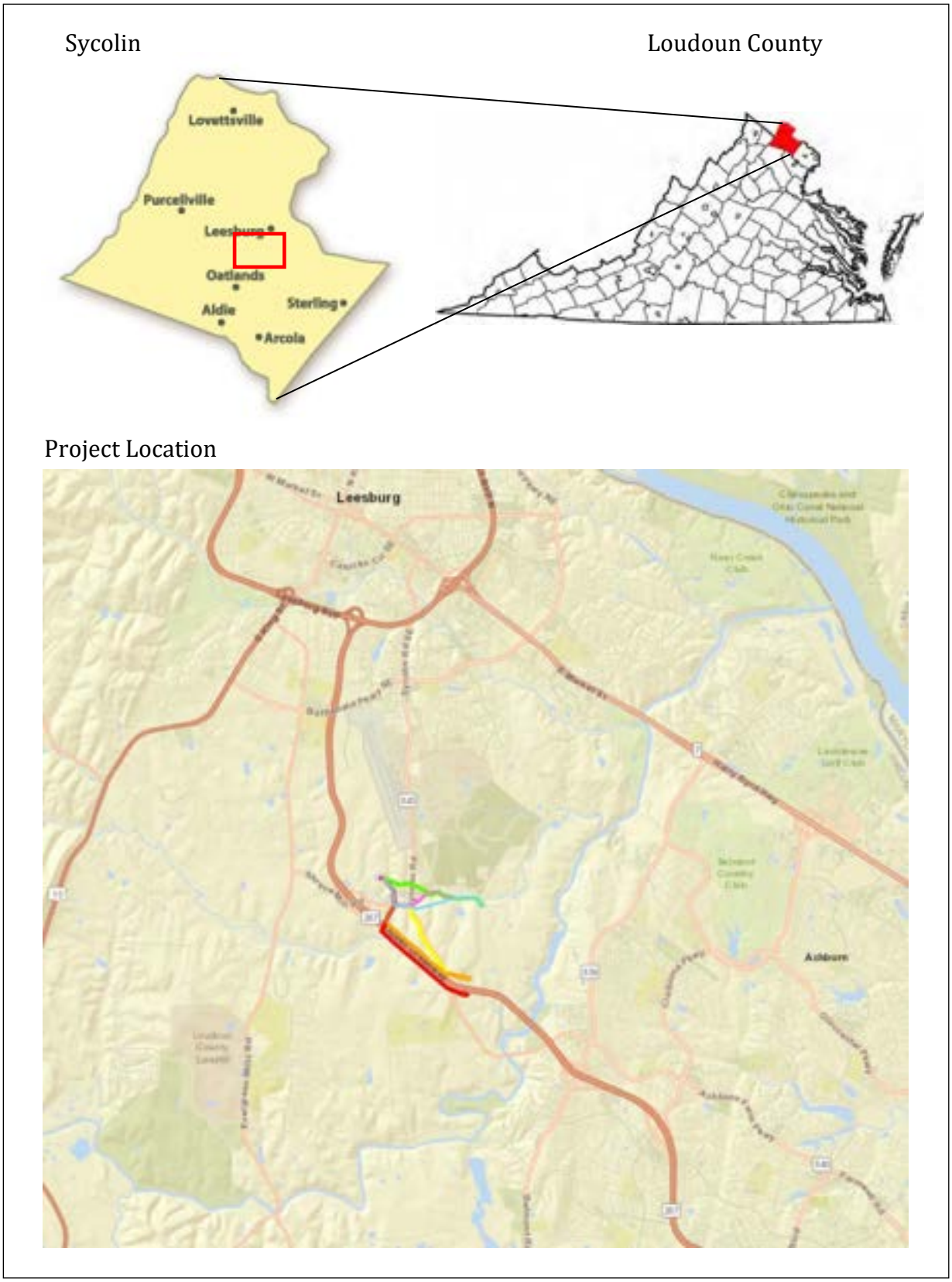


Figure 1-1: Project Study Area general location

2. PROJECT DESCRIPTION

The 230 kV Altair Loop and Altair Switching Station Project entails the construction of two new single circuit 230 kV lines within a shared right-of-way (ROW) to connect the proposed Altair Switching Station to the existing Line#201 or Line #2180 in the Sycolin vicinity of Loudoun County. After review of the potential electrical solutions, Dominion is investigating six potential routes for the project. Three route alternatives would tap the existing Lines #201 near the Dulles Greenway and extend roughly 1.5 miles to the proposed Altair switching station, while three route alternatives tap the existing Line #2180 near Cochran Mill Road and extend 1.0 mile to the proposed Altair switching station (Figure 2-1).

All six route alternatives are in relatively close proximity to one other, and therefore are collectively grouped as the "project study area" for analysis, however, the individual route alternatives are discussed separately within this analysis when appropriate. All six route alternatives would generally require a new 120-feet ROW, although the first one to two spans just west of the existing Lines #201/#2180 would be 160-200 feet. There is also a segment of several routes that would be expanded to 130 feet due to structure height limitations associated with the Leesburg Executive Airport. The two sets of proposed structures for each route alternative would be centered within the new ROW and be steel monopoles that range from approximately 60- to 140-feet tall (Figure 2-2).

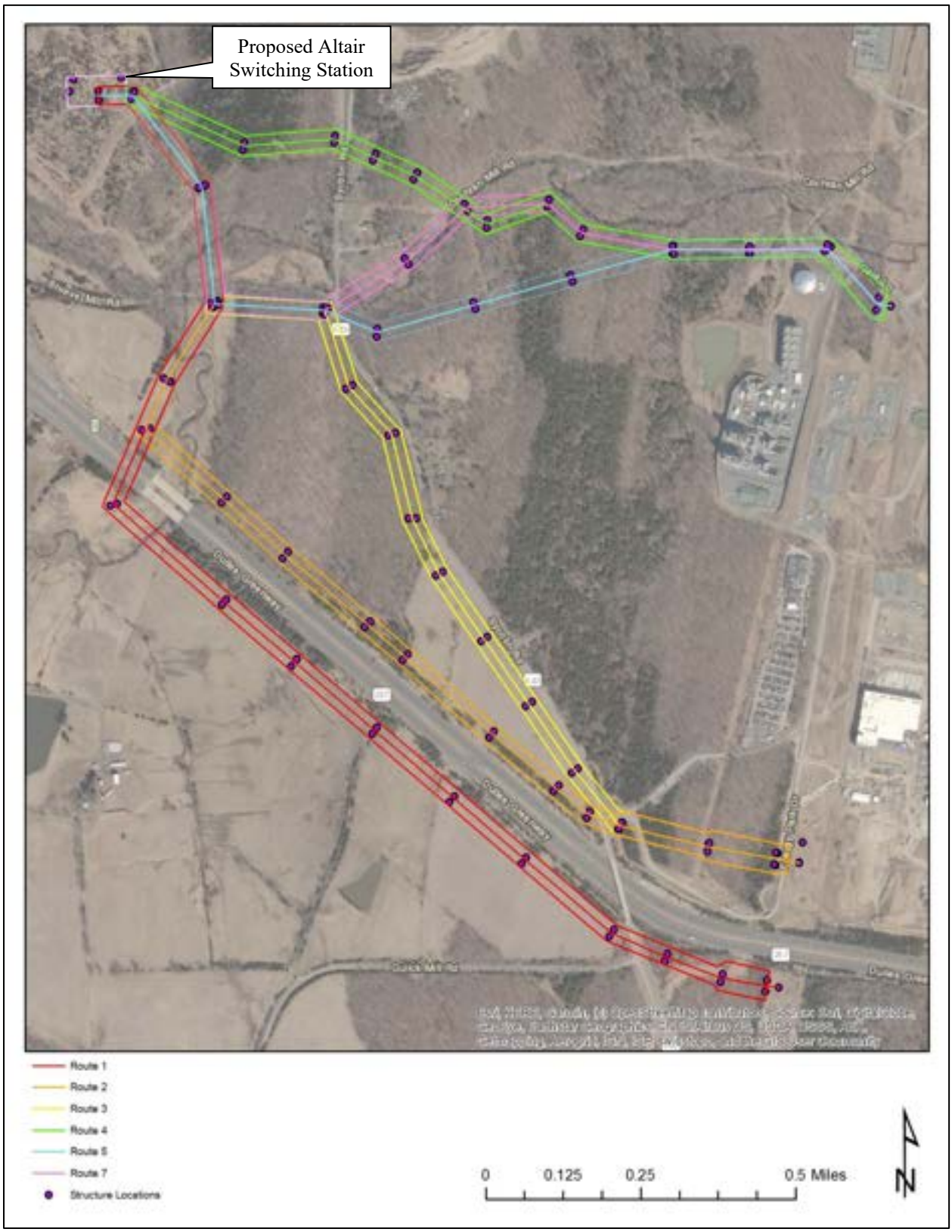


Figure 2-1: 230 kV Altair Loop and Altair Switching Station Project Route Alternatives.

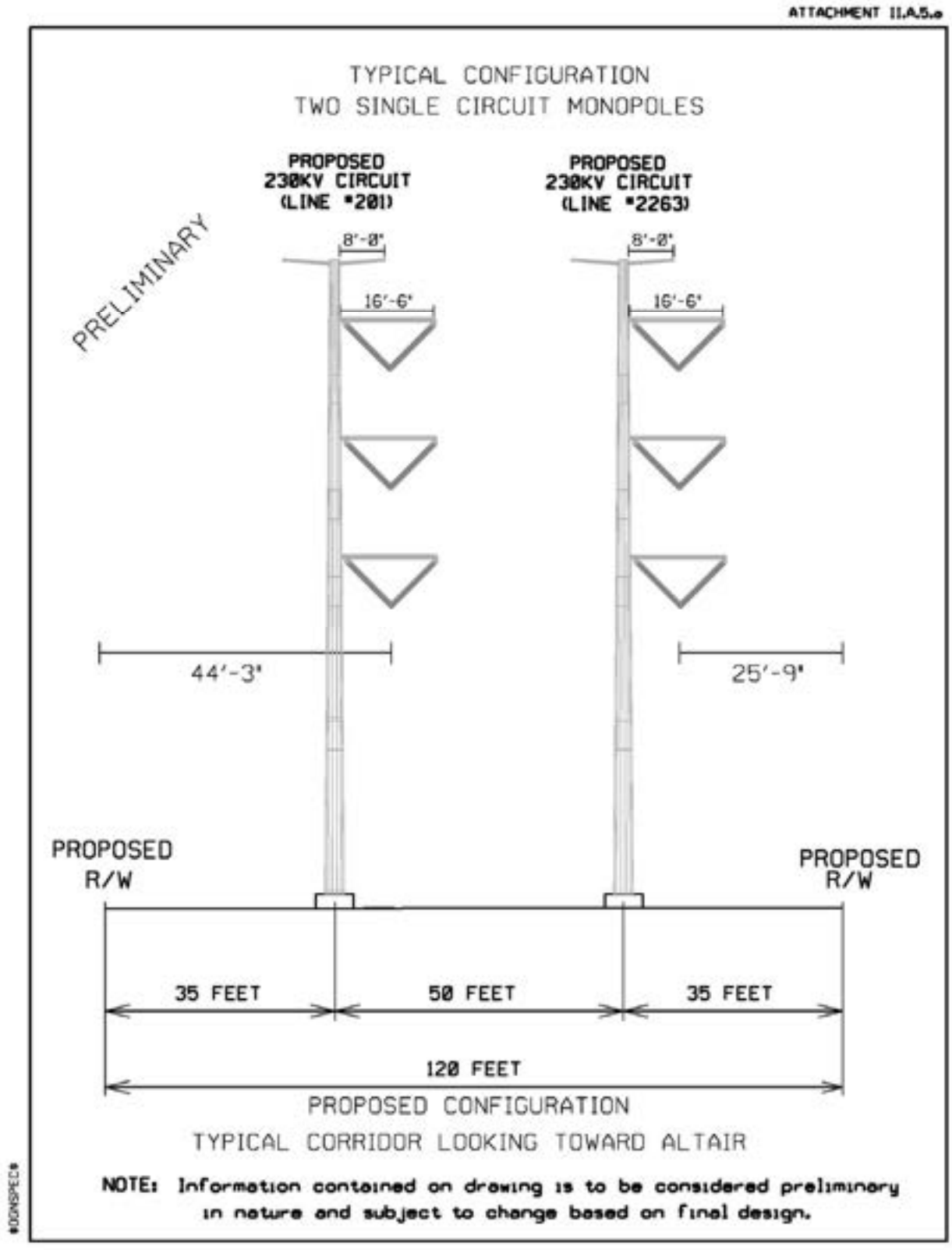


Figure 2-2: Detail of representative proposed typical structure. Source: Dominion Energy Virginia

THIS PAGE INTENTIONALLY LEFT BLANK

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 July 2022, 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; as well as any properties identified by the local municipality.

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 architectural 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 has 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, moderate, minimal, or none in accordance with the following guidance:

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.

Impacts to archaeological sites were not assessed as part of this effort.

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 230 kV Altair Loop and Altair Switching Station 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 thirty (30) prior Phase I cultural resource surveys within 1-mile of the project study area, including twelve (12) that overlap portions of the project area ROW for individual alternatives. These surveys are at a minimum archaeological in nature, although some include architectural resources as well. The 12 surveys overlapping the project area were conducted primarily for transportation and utility-related projects, as well as some private development projects and a county-wide contextual study. As a result of these prior surveys, portions of each of the five route alternatives have been subject to previous investigation, although just one (Route 4) has been surveyed in its entirety. The 12 previously conducted cultural resource surveys that include portions of the individual route ROWs are listed in Table 4-1. All surveys conducted within one mile are illustrated in Figure 4-1 and a detail of those that include portions of the project ROWs is illustrated in Figure 4-2.

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

VDHR Survey #	Title	Author	Date
LD-037	Report on Cultural Resources Survey for the Proposed Dulles Toll Road Extension	WAPORA, Inc.	1988
LD-062	Dulles Toll Road Extension: Phase I Archaeological Survey Report for the Selected Alignment	WAPORA, Inc.	1990
LD-162	Loudoun County African-American Historic Architectural Resources Survey	History Matters	2004
LD-167	Archaeological Survey of Route 643 (Sycolin Road) and Archaeological Evaluation of Site 44LD1195, Loudoun County, Virginia	Louis Berger Group (Louis Berger and Associates)	2006
LD-308	Cultural Resources Survey for the Proposed Crosstrail Boulevard Project, Loudoun County, Virginia	(College of) William and Mary Center for Archaeological Research	2011
LD-321	Phase I Archeological Investigations of the Circa 652 Acre Creekside Areas 4 and 5 Property, Loudoun County, Virginia	Thunderbird Archaeological Associates (Thunderbird Research Corp.)	2005

VDHR Survey #	Title	Author	Date
LD-350	A Phase I Cultural Resources Survey of Approximately 8.0 Miles of Proposed Improvements to the Dominion Virginia Power 500kV Transmission Line from the Goose Creek Substation to the Brambleton Substation, Loudoun County, Virginia	Stantec Consulting Services	2013
LD-378	Cross Trails Property, Loudoun County, Virginia: Phase I Archeological Investigation (+/-549 acres)	Thunderbird Archaeological Associates (Thunderbird Research Corp.)	2005
LD-379	Cross Trails Property, Loudoun County, Virginia: Addendum to the Phase I Archeological Investigation (+/-549 acres)	Thunderbird Archaeological Associates (Thunderbird Research Corp.)	2015
LD-498	Report on the Cultural Resources Survey: Dulles Toll Road Extension Alignment P	WAPORA, Inc.	1988
LD-526	Phase I Archaeological Survey of Approximately 27.59 Acres Associated with the Proposed Wildwood Substation, Loudoun County, Virginia	Stantec Consulting Services	2019
LD-541	Phase I Cultural Resource Survey of the ±17.5 Hectare (±43.3 Acre) 20280 Sycolin Road Project Area, Loudoun County, Virginia	Dutton & Associates	2020

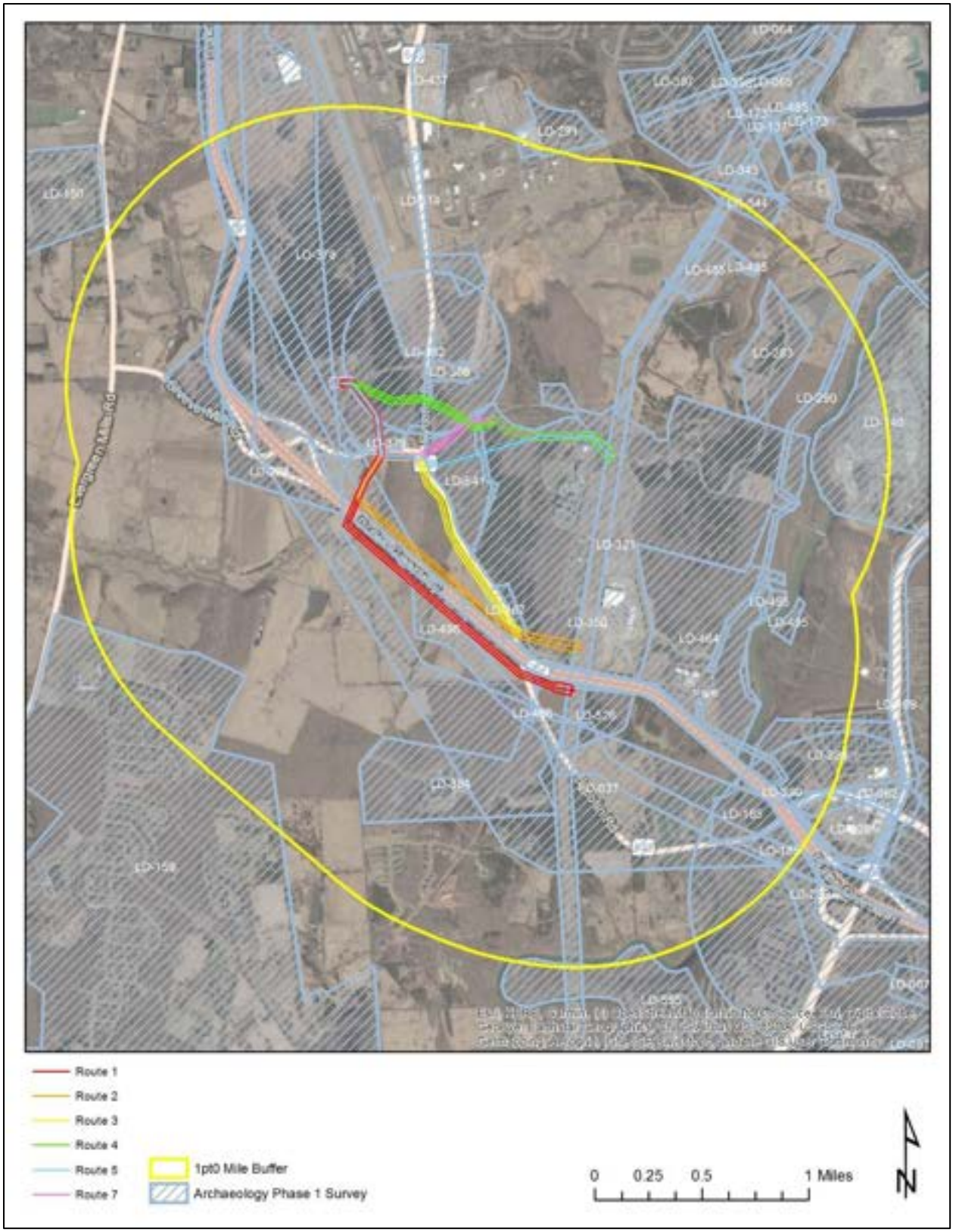


Figure 4-1: Previously conducted surveys within 1-mile of the project study area. Source: VCRIS

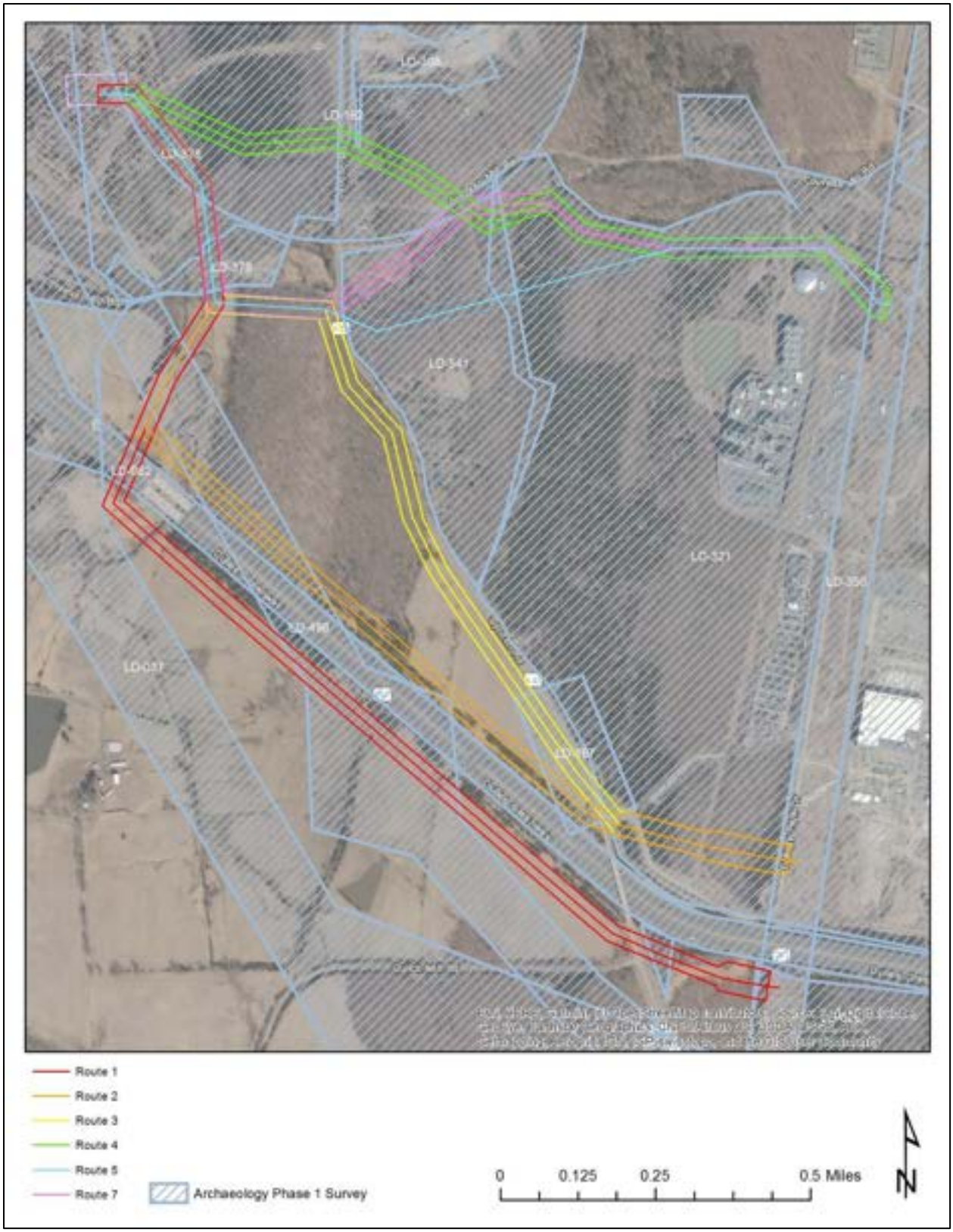


Figure 4-2: Detail of previously conducted surveys that include the project route alternative ROWs. Source: VCRIS

ARCHITECTURAL RESOURCES

Review of the VDHR VCRIS inventory records revealed a total of seventy-three (73) 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, no (0) NRHP-listed properties located within 1.0 mile or closer of the project, and one (1) property that has been determined eligible or potentially eligible for listing in the NRHP within 0.5 mile or closer of the project by the VDHR. Additionally, there is one (1) property that has not been formally evaluated by the VDHR, but has been acknowledged by Loudoun County as potentially significant as part of a recent cultural resources study. One of these resources, the potentially NRHP-eligible property is directly crossed by one of the project route 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 4-3 and a map of any NHL, NRHP-listed, and NRHP-eligible resources within their respective study tiers are included in Figure 4-4 and Figure 4-5.

Table 4-2: Previously recorded architectural resources within their respective tiered buffer zones around the 230 kV Altair Loop and Altair Switching Station Project study area

Buffer (miles)	Considered Resources	VDHR #	Description
1.5	National Historic Landmarks	None	None
1.0	National Historic Landmarks	None	None
	National Register- Listed	None	None
	Battlefields	None	None
	Historic Landscapes	None	None
0.5	National Historic Landmarks	None	None
	National Register- Listed	None	None
	Battlefields	None	None
	Historic Landscapes	None	None
	National Register- Eligible	053-5276	Sycolin General Store and Post Office, 41087 Cochran Mill Road (Routes 1, 2, 3, 4, 5)
	Locally Recognized	053-6453	William Manning House, Sycolin Road
0.0 (ROW)	National Historic Landmarks	None	None
	National Register- Listed	None	None
	Battlefields	None	None
	Historic Landscapes	None	None
	National Register- Eligible	053-5276	Sycolin General Store and Post Office, 41087 Cochran Mill Road (Route 7)

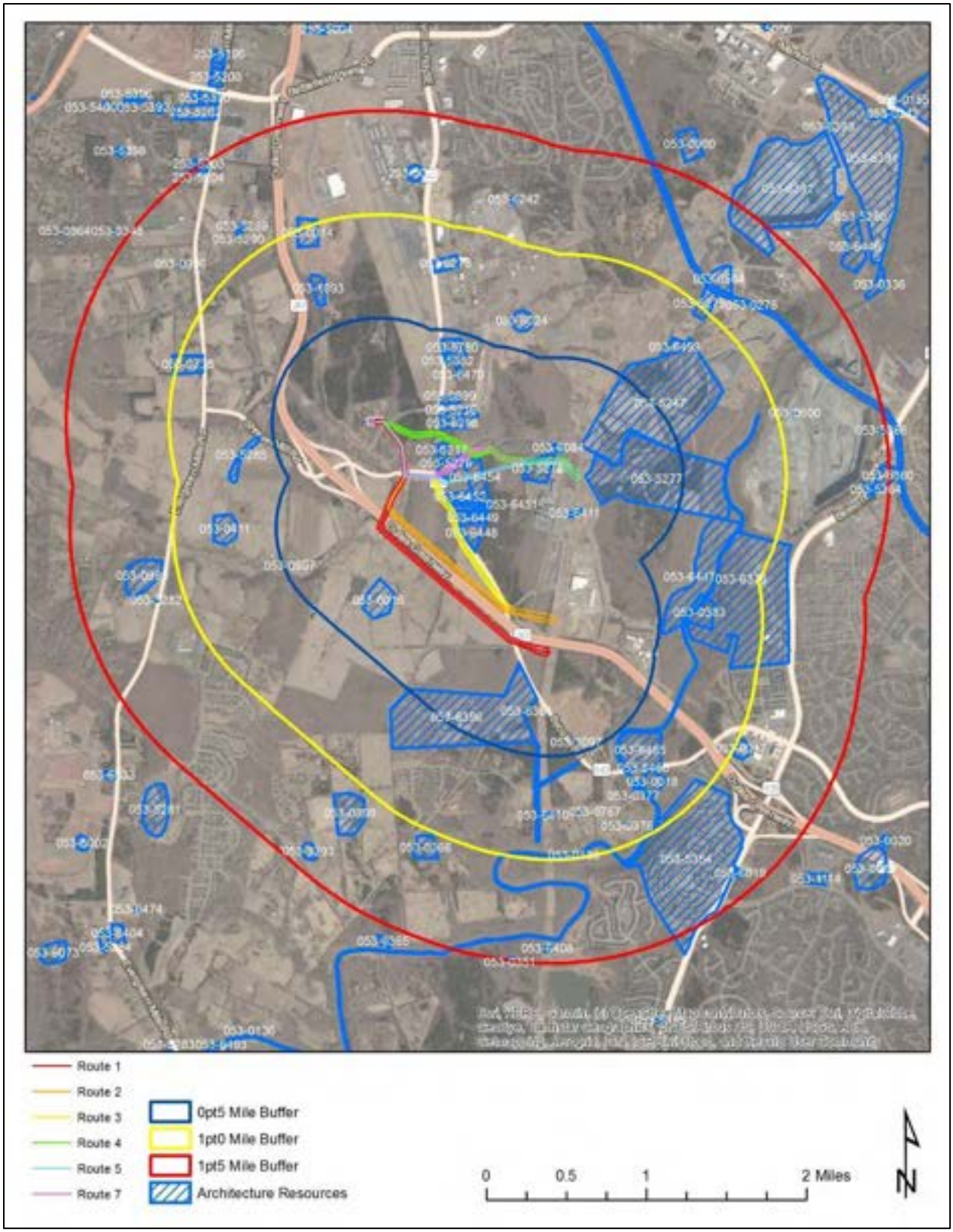


Figure 4-3: All previously identified architectural resources within 1.5-miles of the project study area. Source: VCRIS

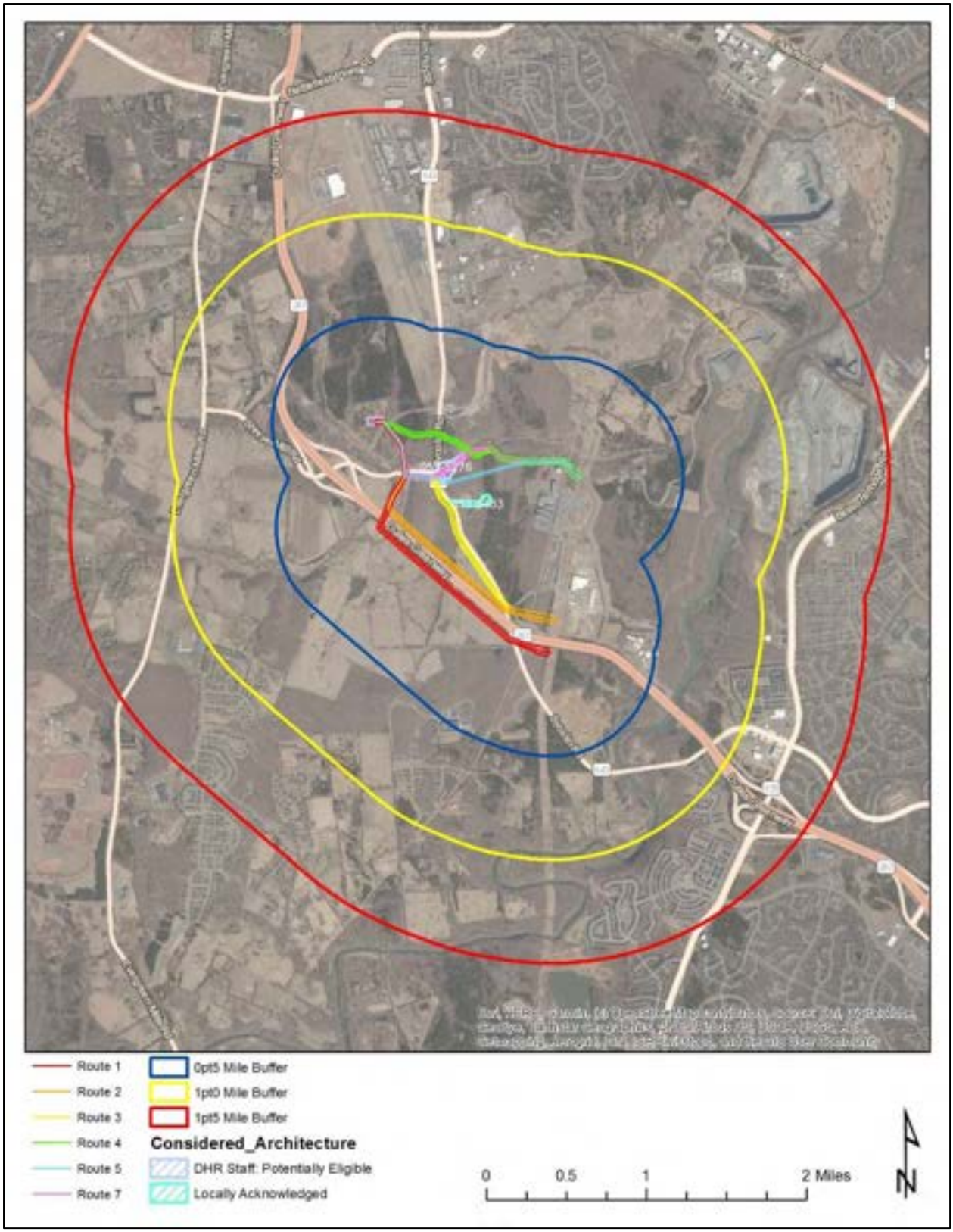


Figure 4-4: Considered architectural resources within their respective tiers around project study area. Source: VCRIS

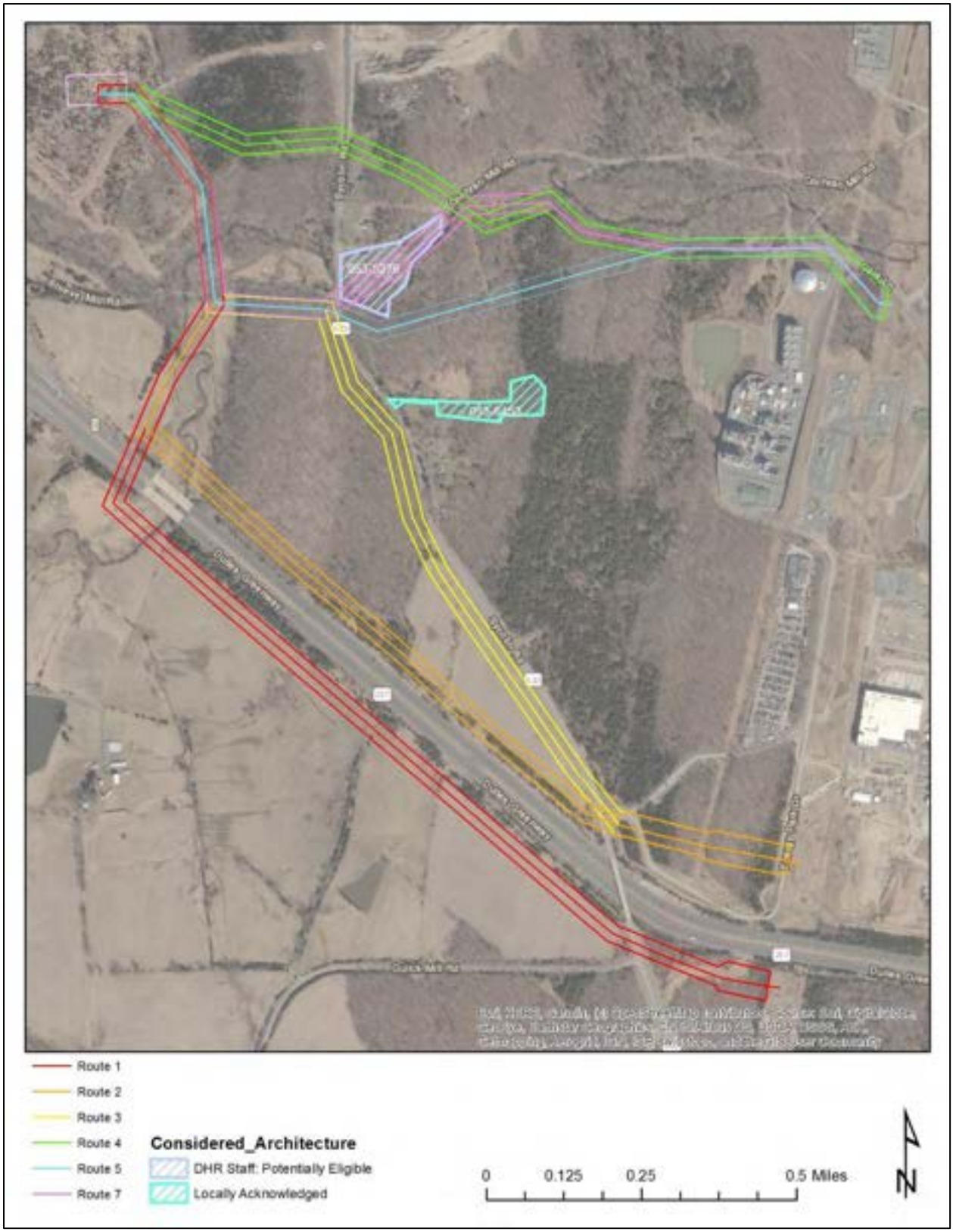


Figure 4-5: Detail of considered architectural resources in relation to the project route alternatives. Source: VCRIS

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 eighty (80) 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, canal features, a cemetery, kiln, and trash scatters. Of these, one (1) has been determined potentially eligible for listing in the NRHP. Fifteen (15) sites have been determined not eligible for listing, and the remaining sites have not been formally evaluated. Eleven (11) of the sites are located directly within or crossed by the ROW of at least one of the project route alternatives.

Table 4-3 lists all previously recorded archaeological resources within one-mile of the project study area and Table 4-4 provides additional information on those that are located within or crossed by a project route alternative. Figure 4-6 illustrates the locations of all previously recorded sites within one mile of the project study area and Figure 4-7 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
44LD0199	Camp, temporary	Late Woodland (1000 - 1606)	Not Evaluated
44LD0200	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0201	Camp, temporary	Late Woodland (1000 - 1606)	Not Evaluated
44LD0202	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0204	Camp, temporary	<Null>	Not Evaluated
44LD0205	Camp, temporary	<Null>	Not Evaluated
44LD0231	Canal lock	Historic/Unknown	Not Evaluated
44LD0234	Canal lock, Dam	<Null>	Not Evaluated
44LD0235	Canal lock, Dam	Historic/Unknown	Not Evaluated
44LD0236	Canal lock, Dam	Historic/Unknown	Not Evaluated
44LD0237	Canal lock, Dam	Historic/Unknown	Not Evaluated
44LD0241	Canal lock, Mill	Historic/Unknown	Not Evaluated
44LD0387	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0388	Lithic scatter	Early Archaic (8500 - 6501 B.C.), Late Archaic (3000 - 1201 B.C.)	DHR Staff: Not Eligible
44LD0389	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44LD0394	<Null>	18th Century: 4th quarter (1775 - 1799), 19th Century: 1st quarter (1800 - 1825)	Not Evaluated
44LD0395	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0397	Lithic scatter	Pre-Contact	Not Evaluated
44LD0398	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated

VDHR #	Type	Temporal Association	NRHP Status
44LD0413	Lithic scatter, Mill	Pre-Contact, Contact Period (1607 - 1750), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	DHR Evaluation Committee: Not Eligible
44LD0414	<Null>	18th Century (1700 - 1799), 19th Century (1800 - 1899)	DHR Staff: Not Eligible
44LD0415	<Null>	<Null>	Not Evaluated
44LD0416	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0417	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0431	Farmstead	19th Century (1800 - 1899), 20th Century (1900 - 1999)	DHR Staff: Not Eligible
44LD0462	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0463	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0464	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0465	<Null>	Historic/Unknown	Not Evaluated
44LD0466	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0467	<Null>	Late Archaic (3000 - 1201 B.C.), Middle Woodland (300 - 999 A.D.)	Not Evaluated
44LD0468	Lithic scatter	Pre-Contact	DHR Staff: Not Eligible
44LD0469	<Null>	Middle Archaic (6500 - 3001 B.C.), Late Archaic (3000 - 1201 B.C.), Early Woodland (1200 B.C. - 299 A.D.), Woodland (1200 B.C. - 1606 A.D.), 19th Century (1800 - 1899)	Not Evaluated
44LD0470	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0471	<Null>	<Null>	Not Evaluated
44LD0493	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0494	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD0747	Camp, temporary, Trash scatter	Indeterminate, 19th Century: 2nd half (1850 - 1899), 20th Century: 1st half (1900 - 1949)	Not Evaluated
44LD0748	Camp, temporary	Archaic (8500 - 1201 B.C.)	Not Evaluated
44LD1004	Dwelling, single, Farmstead, Ironworks, Springhouse	Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated
44LD1005	Farmstead, Springhouse	Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated
44LD1006	Farmstead	20th Century: 1st half (1900 - 1949)	Not Evaluated
44LD1128	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD1195	**Dwelling, single, Kiln, pottery**	**Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)**	**DHR Staff: Eligible**
44LD1236	Lithic scatter	Middle Archaic (6500 - 3001 B.C.)	DHR Staff: Not Eligible

VDHR #	Type	Temporal Association	NRHP Status
44LD1237	Barn, Cemetery, Dwelling, single	Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)	DHR Evaluation Committee: Not Eligible
44LD1238	Camp, temporary	Middle Archaic (6500 - 3001 B.C.)	DHR Staff: Not Eligible
44LD1239	Lithic scatter, Trash scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), 18th Century: 4th quarter (1775 - 1799), 19th Century (1800 - 1899)	DHR Staff: Not Eligible
44LD1321	Lithic scatter	Pre-Contact	DHR Evaluation Committee: Not Eligible
44LD1322	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD1323	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD1324	Camp, temporary, Dwelling, single	Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	DHR Evaluation Committee: Not Eligible
44LD1325	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD1326	Farmstead	20th Century: 1st quarter (1900 - 1924)	DHR Staff: Not Eligible
44LD1327	Farmstead	19th Century: 2nd quarter (1825 - 1849)	Not Evaluated
44LD1328	Farmstead	20th Century: 1st half (1900 - 1949)	Not Evaluated
44LD1329	Camp, temporary, Farmstead	Late Archaic Period (3000 - 1201 B.C.E), Early National Period (1790 - 1829), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated
44LD1330	Farmstead	20th Century: 1st half (1900 - 1949)	DHR Staff: Not Eligible
44LD1410	Camp, temporary	Late Woodland (1000 - 1606)	Not Evaluated
44LD1411	Trash scatter	Historic/Unknown	Not Evaluated
44LD1547	Other	20th Century (1900 - 1999)	DHR Staff: Not Eligible
44LD1609	Farmstead	19th Century (1800 - 1899), 20th Century (1900 - 1999)	Not Evaluated
44LD1631	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44LD1632	Dwelling, single	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), 18th Century: 4th quarter (1775 - 1799), 19th Century (1800 - 1899), 20th Century: 1st quarter (1900 - 1924)	Not Evaluated
44LD1800	Artifact scatter, Lithic scatter	Pre-Contact, Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991), Post Cold War (1992 - Present)	Not Evaluated
44LD1810	Dwelling, single	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991), Post Cold War (1992 - Present)	Not Evaluated

VDHR #	Type	Temporal Association	NRHP Status
44LD1811	Dwelling, single	Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991), Post Cold War (1992 - Present)	Not Evaluated
44LD1870	Artifact scatter	Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)	Not Evaluated
44LD1871	Dwelling, single	Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)	Not Evaluated
44LD1872	Artifact scatter	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Not Evaluated
44LD1874	Dwelling, single	World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated
44LD1875	Dwelling, single	World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated
44LD1876	Midden	The New Dominion (1946 - 1991)	Not Evaluated
44LD1877	Dwelling, single	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated
44LD1881	Lithic procurement site	Pre-Contact	Not Evaluated
44LD1923	Cemetery	Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Not Evaluated
44LD1964	Artifact scatter	Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Not Evaluated
44LD1986	Artifact scatter	Pre-Contact	Not Evaluated
44LD1987	Farmstead	Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)	Not Evaluated
44LD1988	Dwelling, single	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated

Table 4-4: Previously recorded archaeological resources directly crossed by or adjacent to a project alternative.

VDHR #	Description	NRHP Status	Proximity to Project
44LD0199	Camp, temporary, Late Woodland (1000 - 1606)	Not Evaluated	Crossed by Switching Station, Route 1, 2, 3, 4, 5, 7
44LD0398	<Null>, Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated	Crossed by Switching Station
44LD0413	Lithic scatter, Mill, Pre-Contact, Contact Period (1607 - 1750), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	DHR Evaluation Committee: Not Eligible	Crossed by Route 1, 2, 3, 5
44LD0465	<Null>, Historic/Unknown	Not Evaluated	Crossed by Route 1
44LD0466	<Null>, Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated	Crossed by Route 2

VDHR #	Description	NRHP Status	Proximity to Project
44LD1195	**Dwelling, single, Kiln, pottery, Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)**	**DHR Staff: Eligible**	Crossed by Route 3
44LD1328	Farmstead, 20th Century: 1st half (1900 - 1949)	Not Evaluated	Crossed by Route 4, 5, 7
44LD1411	Trash scatter, Historic/Unknown	Not Evaluated	Crossed by Route 1
44LD1874	Dwelling, World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated	Crossed by Route 5
44LD1877	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated	Crossed by Route 5
44LD1964	Artifact scatter, Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Not Evaluated	Crossed by Route 1, 2, 3, 5, 7

Redacted – Contains Archaeological Site Information

Figure 4-6: Previously recorded archaeological resources located within 1- mile of project study area. Source: VCRIS

Redacted – Contains Archaeological Site Information

Figure 4-7: Detail of previously recorded archaeological resources in the vicinity of the project route alternative ROWs. Source: VCRIS

5. RESULTS OF FIELD RECONNAISSANCE

In accordance with the VDHR guidelines for assessing impacts of proposed electric transmission lines on historic resources, historic properties identified within the VDHR-defined study tiers around 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 conducted to assess potential project impacts. The results of the field reconnaissance for each resource are organized by status, and summarized in the following pages.

Previously recorded archaeological sites located within the project area were not field inspected or subject to assessment at this time.

Table 5-1: Considered Architectural Resources within their Respective Tiered Buffer Zones for the 230 kV Altair Loop and Altair Switching Station Project

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project
053-5276	Sycolin General Store and Post Office, 41087 Cochran Mill Road	Potentially NRHP-Eligible	Route 1 – ~0.16 Mile Route 2 – ~0.16 Mile Route 3 – ~0.02 Mile Route 4 – ~0.03 Mile Route 5 - ~0.01 Mile Route 7 – Directly Crossed Switching Station - ~0.33 Mile
053-6453	William Manning House, Sycolin Road	Locally Acknowledged	Route 1 – ~0.26 Mile Route 2 – ~0.26 Mile Route 3 – ~0.06 Mile Route 4 – ~0.21 Mile Route 5 - ~0.10 Mile Route 7 – ~0.16 Mile Switching Station - ~0.5 Mile

THIS PAGE INTENTIONALLY LEFT BLANK

NATIONAL REGISTER OF HISTORIC PLACES – ELIGIBLE
Located within 0.5 Mile of the Project or Closer

THIS PAGE INTENTIONALLY LEFT BLANK

Sycolin General Store and Post Office, 41087 Cochran Mill Road (VDHR# 053-5276)

The Sycolin General Store and Post Office was built in 1881 by Thomas D. Moffett. In 1885 the building began service as a post office for Sycolin as well. By that time, the community of Lower Sycolin was emerging as a thriving African American community, although it was interspersed with white residents, such as Thomas Moffett and his wife. The post office operated until 1905 when Leesburg's Rural Free Delivery began serving both Lower and Upper Sycolin, although the general store remained open until 1944. In 2014, VDHR determined the resource to be potentially eligible for listing in the NRHP under Criterion A for its historic role as a rural general store.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the Sycolin General Store and Post Office property, and photo simulation was prepared with emphasis on views from the resource towards the project route alignments. The property is located centrally within the project study area with route alternatives extending through the landscape to all sides, with one (Route 7) crossing directly through the property.

A site visit to the property found that the historic setting is generally intact. The building remains on a small parcel situated along Sycolin Road just north of Sycolin Creek in a rural area. The property is mostly open and grassy but is bordered by wooded hills to all sides. Views of and towards the building are generally short due to the wooded nature of the landscape and the surrounding topography, particularly from the north, although it can be seen from a greater distance from along the road to the south due to the open landscape of the property between the building and the creek. Views outward from the property are also short and interrupted by vegetation and topography with views to the south being the widest.

Inspection from the property towards the project route alternatives revealed that the surrounding vegetation and topography will generally inhibit visibility of much of all six route alternatives and associated structures and line, as well as the proposed switching station. Routes 1 and 2 are the furthest away from the property, sharing the same alignment in the general vicinity, roughly 0.16 mile to the west at their nearest point. The landscape between the property and these routes is rolling and mostly wooded. Because the alignment is at a slightly lower elevation than the property, it is anticipated that the topography and vegetation would screen views of either of these routes. A short length of Route 3 extends much closer to the property with one set of proposed structures at a bend in the alignment set 0.02 mile away at their nearest point. This point is just across the road and creek from the property, however, the open landscape of this area would likely allow views of the structures and a portion of line extending from them in each direction. However, because the alignment turns from an east-west to a north-south orientation at this bend, it is expected that the lines and additional structures up and down the alignment would become screened by topography and vegetation from the building itself, but may still be visible from the edge of the property along Sycolin Road. A short length of Route 4 also extends within close proximity to the property, roughly 0.03 mile to the east where it crosses Cochran Mill Road at its nearest point. It is anticipated that at least a short length of this line would likely be visible from throughout the property, however, because the alignment extends into wooded areas beyond the road crossing, views would likely be limited to only a short length of line and a few sets of structures. Another segment of Route 4 located further from the property may also be visible at it crosses Sycolin Road roughly 0.14 mile north of the property due to the straight and open alignment of the road. Route

5 would extend immediately along the southern edge of the property, crossing Sycolin Road just south of the creek and then extending through a wooded area to the east. At least two sets of associated structures would be expected to be visible, including one just across Sycolin Road from the property and one immediately across the creek to the south. Route 7 would likely be the most visible from the property as its ROW would cross directly through a wide swath of the property with one set of structures located on the property. As such, it is anticipated that views up and down the ROW from the property would permit views of the structures on the property, as well as multiple sets in both directions. The proposed Altair switching station is located to the northwest of the property, roughly 0.33 mile away at its nearest point. The landscape between the property and the switching station site is densely wooded and an elevated ridge extends through it. Therefore, it is anticipated that the terrain and vegetation would completely inhibit views of the switching station and associated improvements from the property.

As such, the various route alternatives and switching station vary in the degree of potential impact they may pose to the resource. Just one alternative, Route 7 crosses the property and therefore would result in a direct impact. This route would also introduce a dramatic change to both the setting and viewshed of and from the property resulting in indirect impacts as well. Because the alignment would directly cross through the property, it may result in clearing and grading associated with construction, and would also introduce a significant change in viewshed of and from the property with one set of structures on the property clearly visible, and additional sets visible up and down the new ROW. ***Overall, the impact from Route 7 would be the most substantial and may pose as much as a severe impact according the VDHR's impact definitions.*** None of the other route alternatives cross the property and therefore impacts would be limited to indirect. ***Routes 3 and 5 are anticipated to be visible immediately across the road and creek from the property resulting in a noticeable change of setting and viewshed from the property as well as public ROW. Visibility would be limited to a few structures and a short portion of Route 3 and a bit more of the line and ROW clearing for Route 5. As such, both are recommended to pose a moderate impact to the property. Route 4 would also be in close proximity to the property and be visible, although views are anticipated to be limited to a short length and several structures just east of the house, and another short length of Sycolin Road to the north. The potentially visible portion to the east would be see in conjunction with an existing distribution-grade transmission line that crosses the property. As such, the project would result in an increase in visibility of utility infrastructure, but would not be a completely new or different feature on the landscape. As such, Route 4 is recommended to pose no more than a minimal impact to the property. As Routes 1 and 2 are anticipated to not be visible from any points on the property or public ROW in the vicinity, these routes are recommended to pose no impact to the property. As the switching station would likewise not be visible from the property, it would have no impact on the resource.***

Figure 5-1 depicts the location of the Sycolin General Store and Post Office in relation to the project route alternatives and viewshed buffers. Figure 5-2 illustrates the location of all representative photographs and photo simulations. Figures 5-3 through 5-12 are representative photographs of the property, as well as those taken from locations within and near the property towards the project area. Figures 5-13 through 5-33 provide photo simulation of the route alternatives from the property.

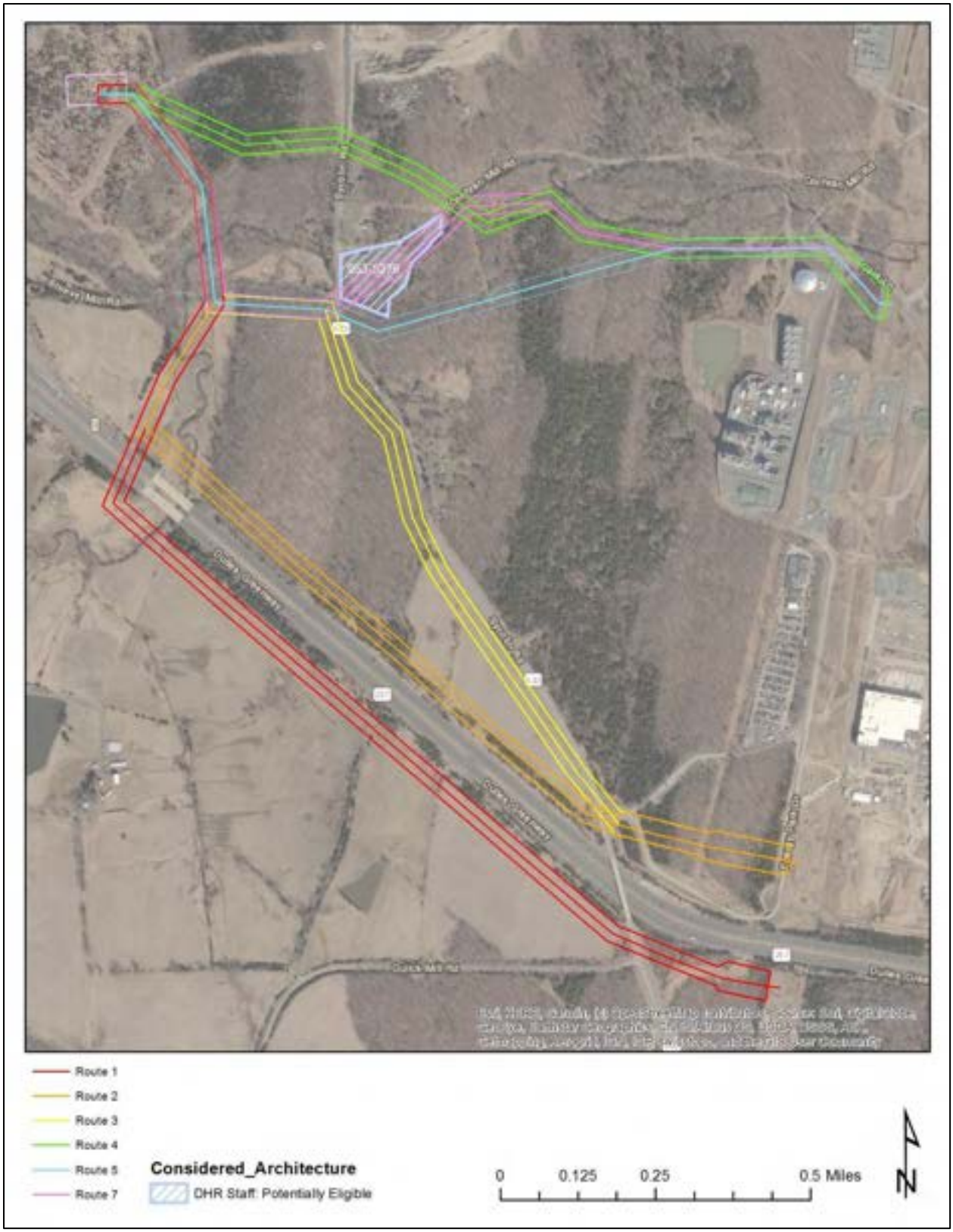


Figure 5-1: Location of Sycolin General Store and Post Office in relation to the project route alternatives.

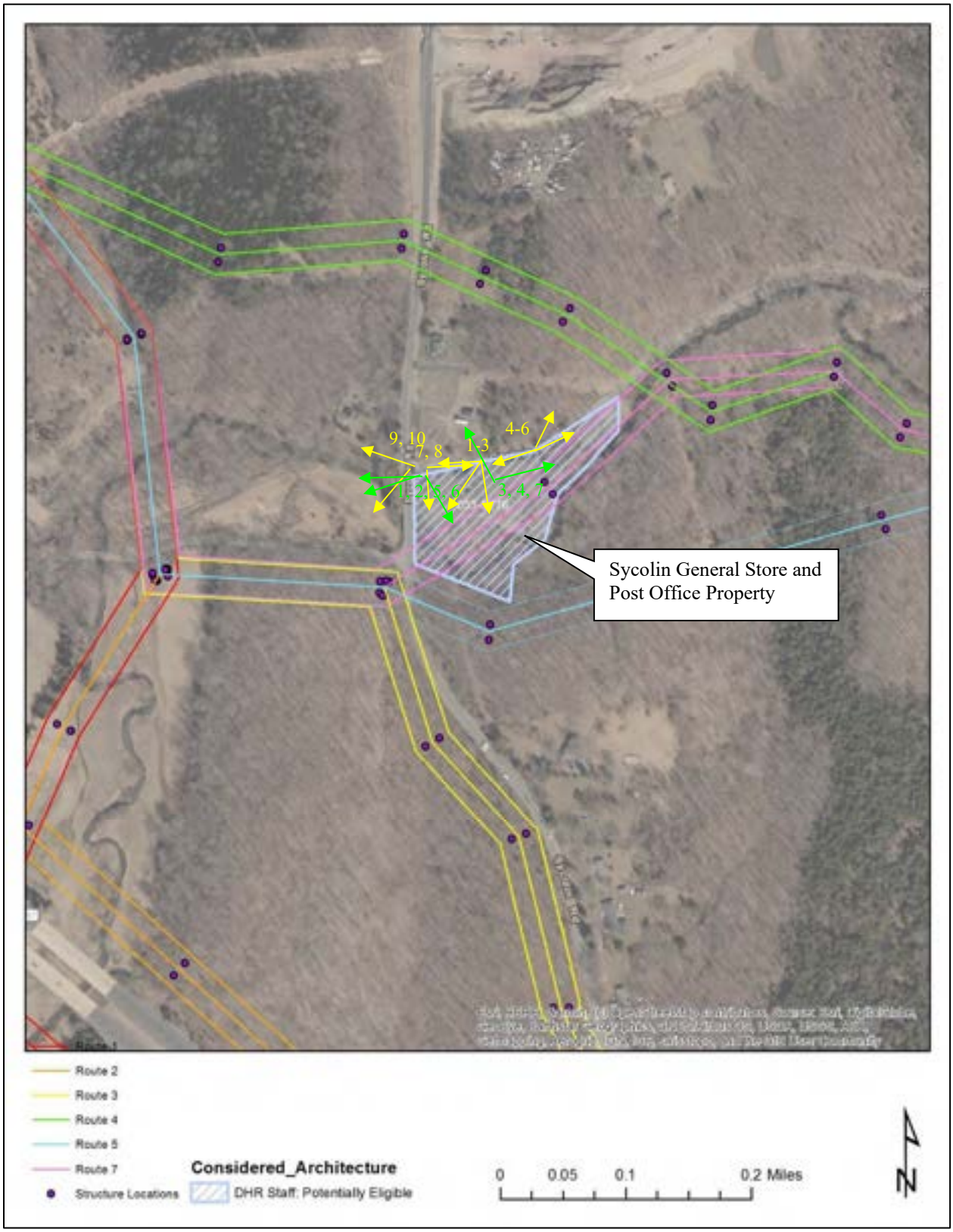


Figure 5-2: Location and direction of representative photographs and views towards the project depicted in yellow. Location of photo simulations depicted in green.

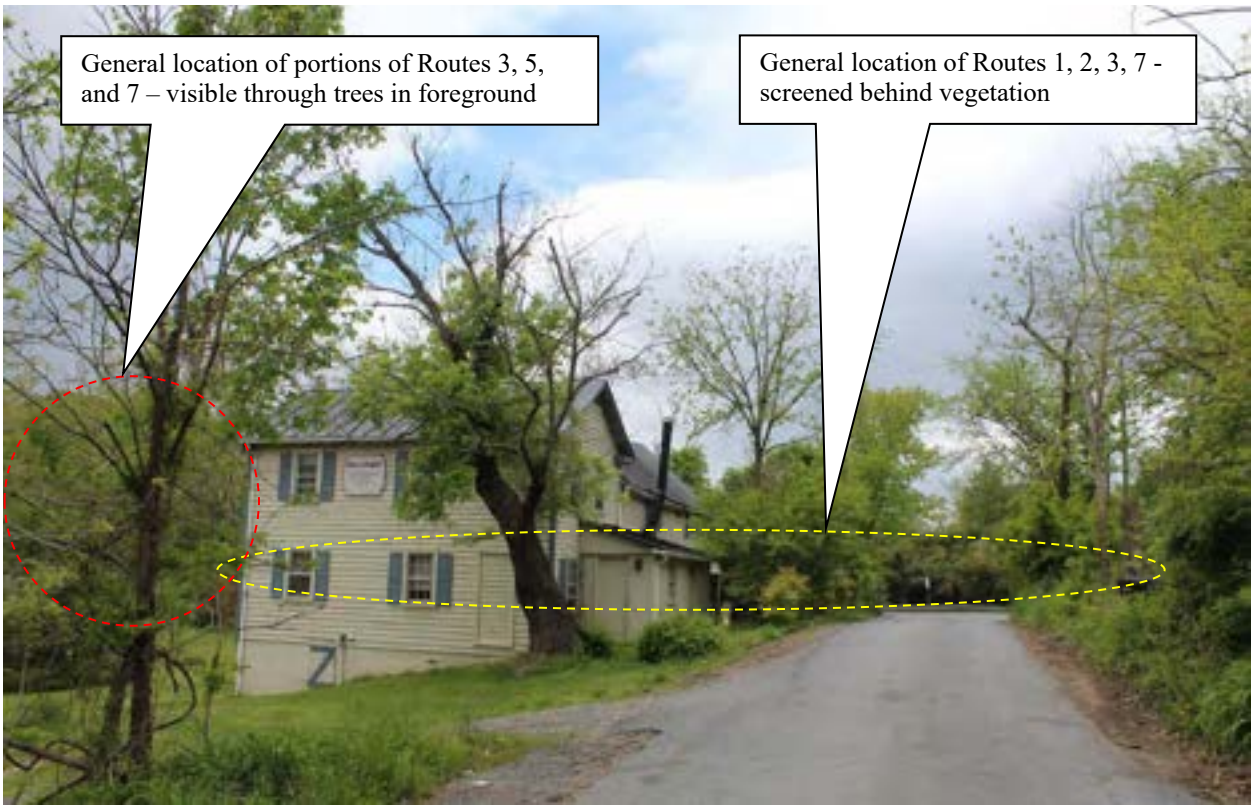


Figure 5-3: Photo location 1- View of Sycolin General Store and Post Office from Cochran Mill Road, facing west. Routes 1 and 2 not visible – screened by vegetation. Portion of Routes 3, 5, and 7 visible.

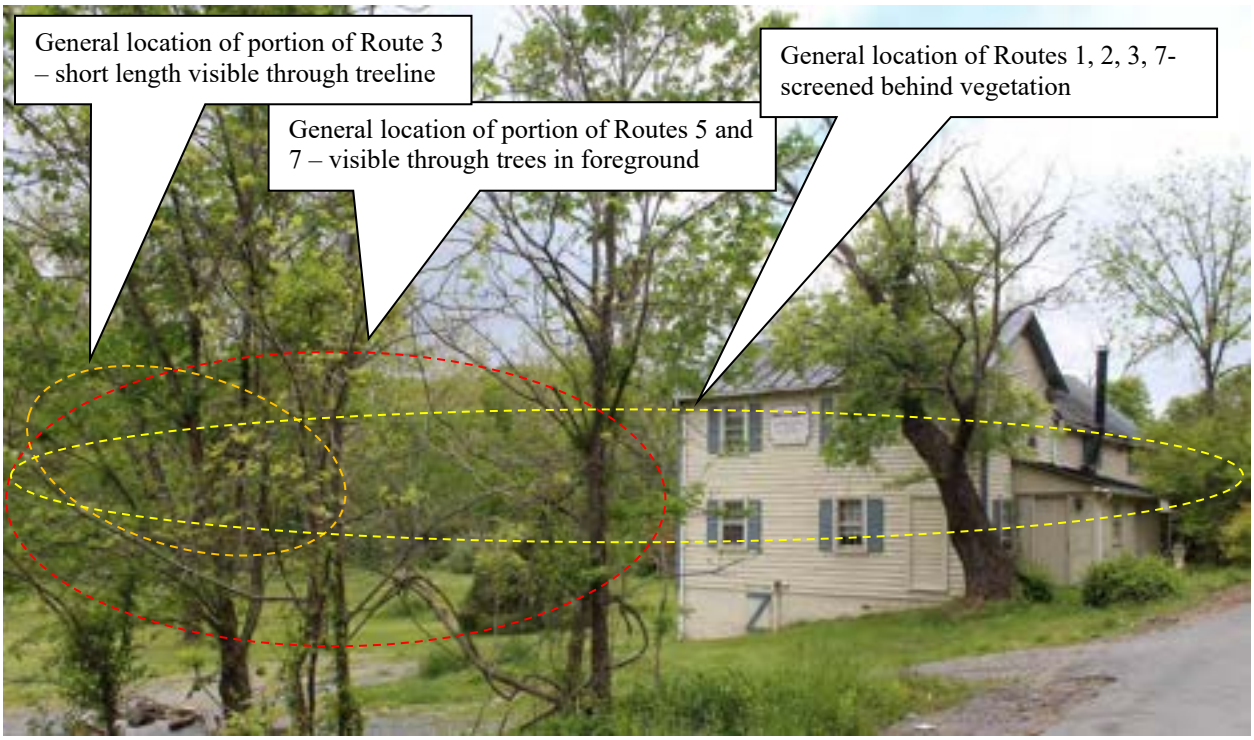


Figure 5-4: Photo location 2- View from Sycolin General Store and Post Office along Cochran Mill Road, facing southwest. Routes 1 and 2 are screened by vegetation. A short portion of Routes 3, 5, and 7 are visible in foreground.

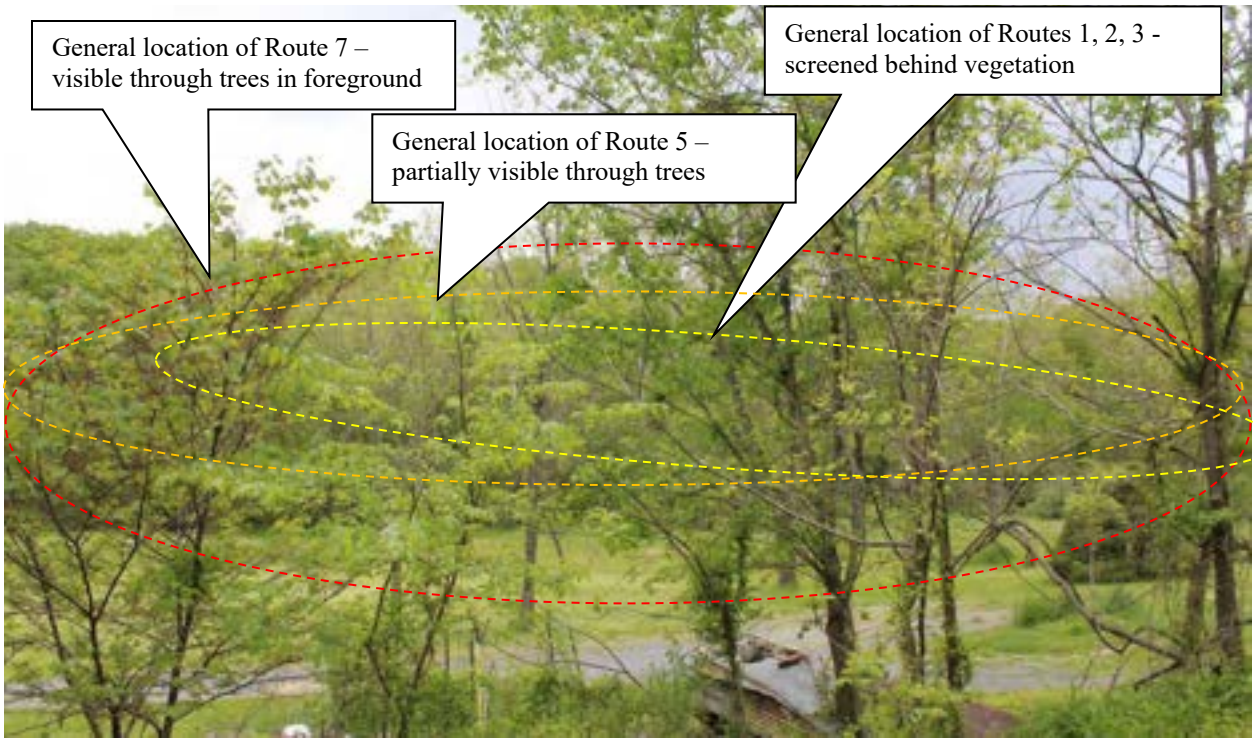


Figure 5-5: Photo location 3- View from Sycolin General Store and Post Office along Cochran Mill Road, facing south. Routes 1, 2, and 3 are screened by vegetation. Portion of Route 5 visible through treeline. Portion of Route 7 visible in foreground.

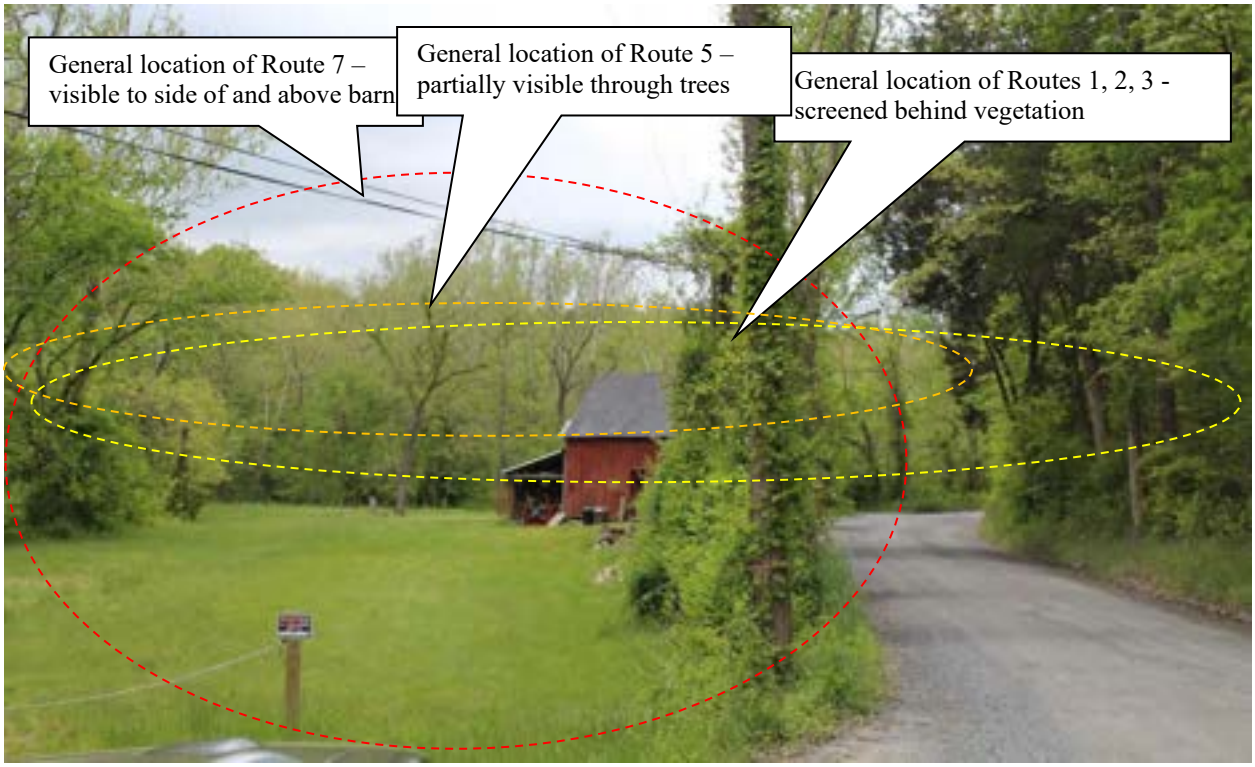


Figure 5-6: Photo location 4- View from Sycolin General Store and Post Office along Cochran Mill Road, facing west. Routes 1, 2, and 3 are screened by vegetation. Route 5 visible through and above treeline. Portion of Route 7 visible in foreground.

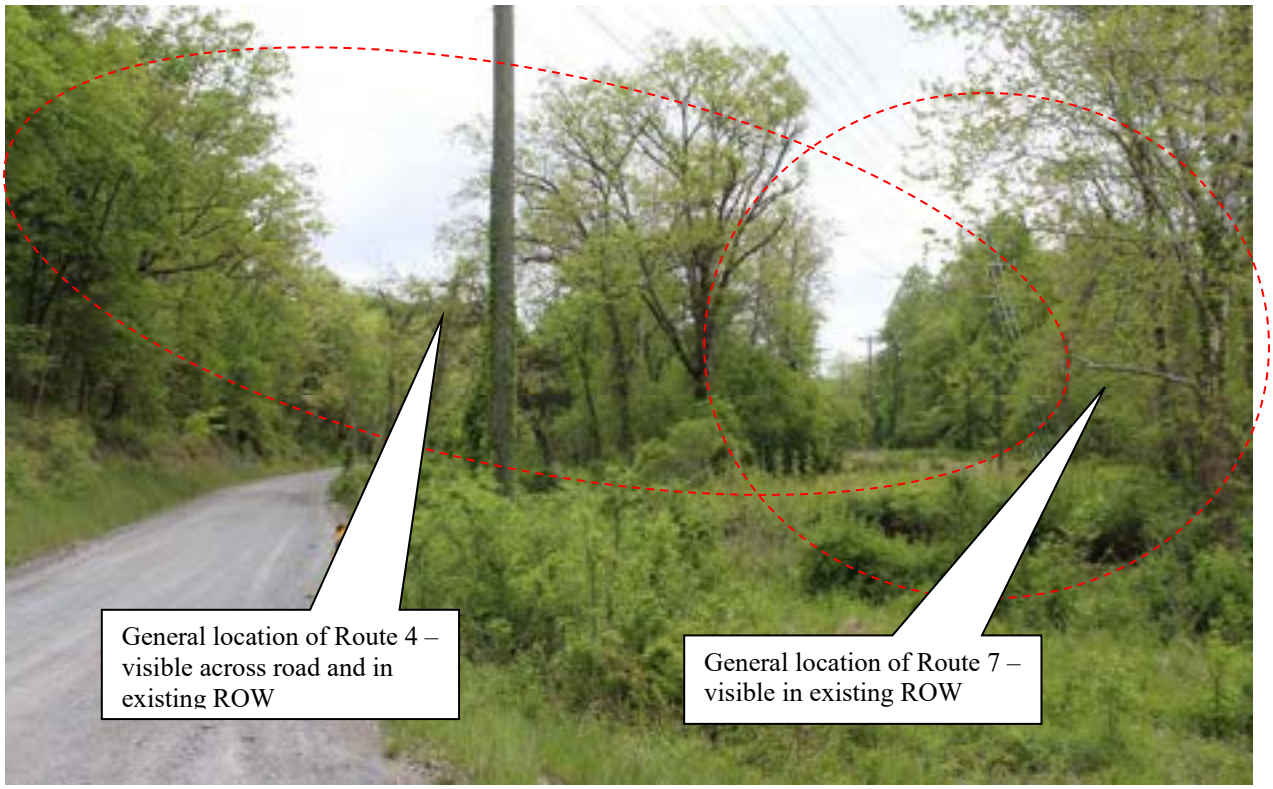


Figure 5-7: Photo location 5- View from Cochran Mill Road at edge of Sycolin General Store and Post Office property, facing east. Portions of Routes 4 and 7 visible across open road and within existing utility ROW.

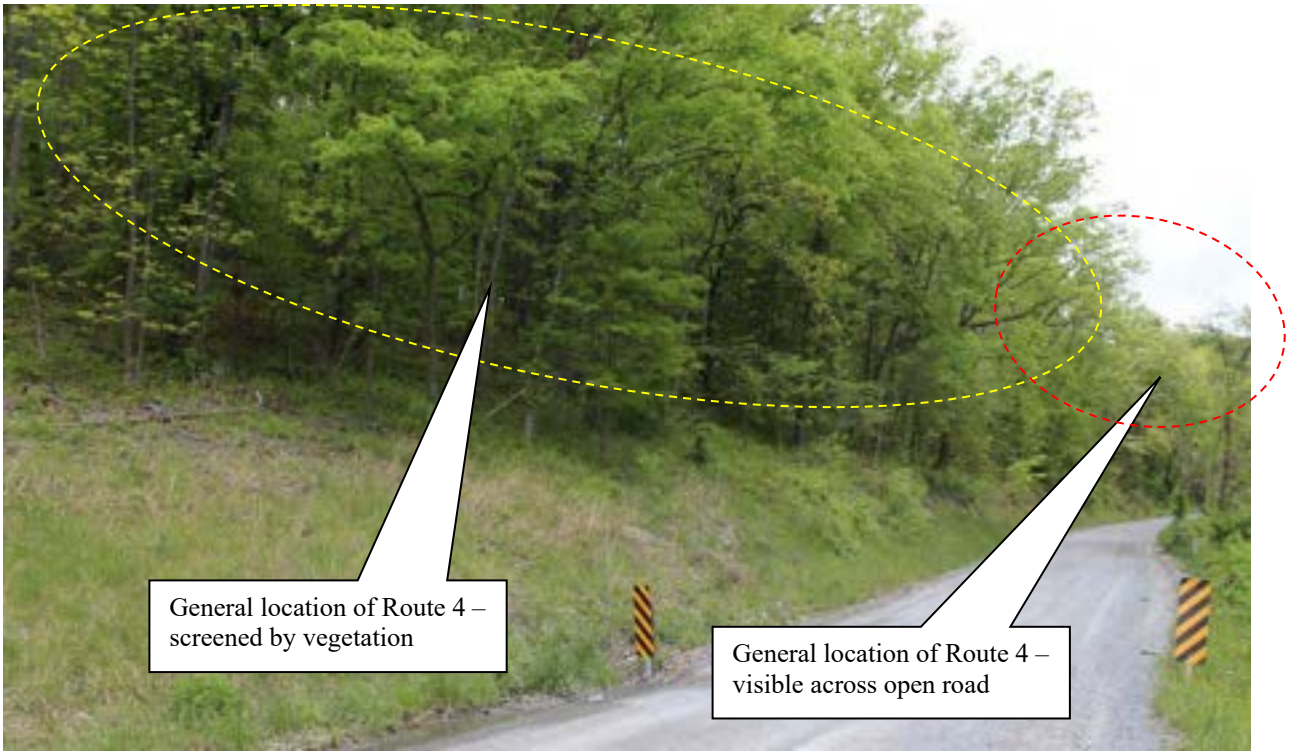


Figure 5-8: Photo location 6- View from Cochran Mill Road at edge of Sycolin General Store and Post Office property, facing northeast. Portions of Routes 4 visible across open road.

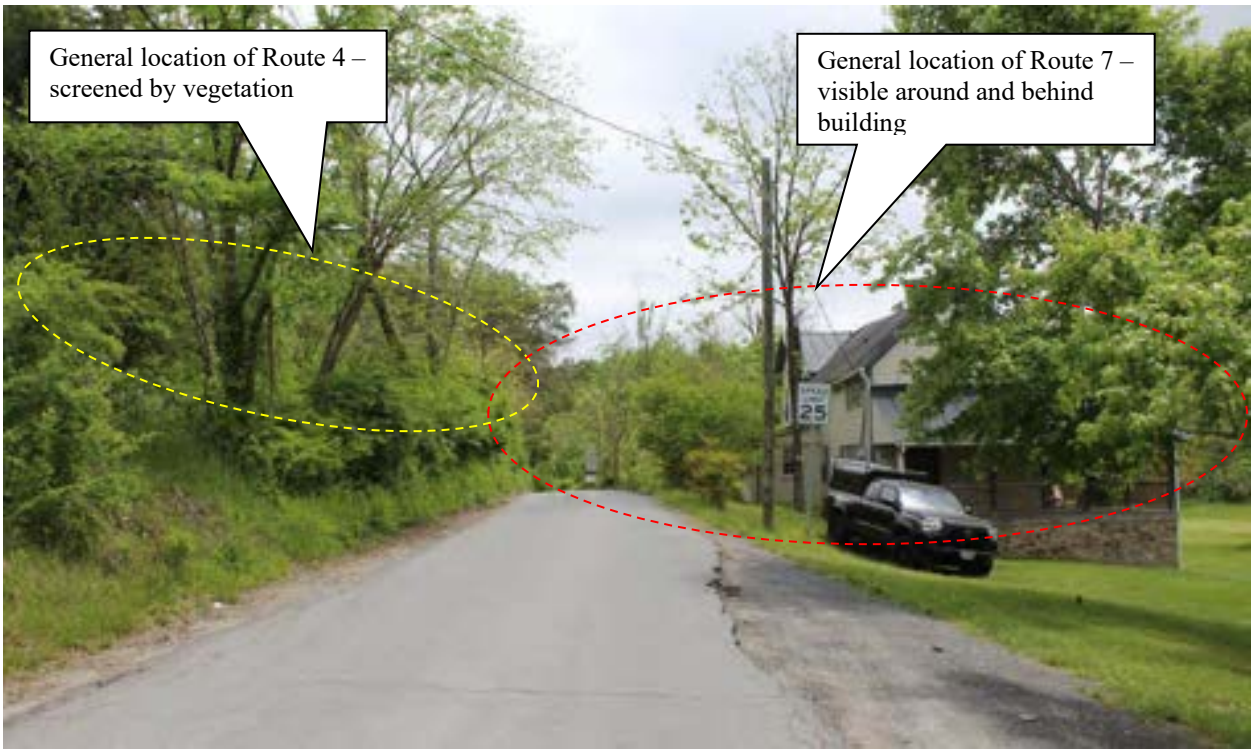


Figure 5-9: Photo location 7- View from Cochran Mill Road near Sycolin General Store and Post Office, facing east. Route 4 screened by vegetation and topography. Portions of Routes 7 visible through property.

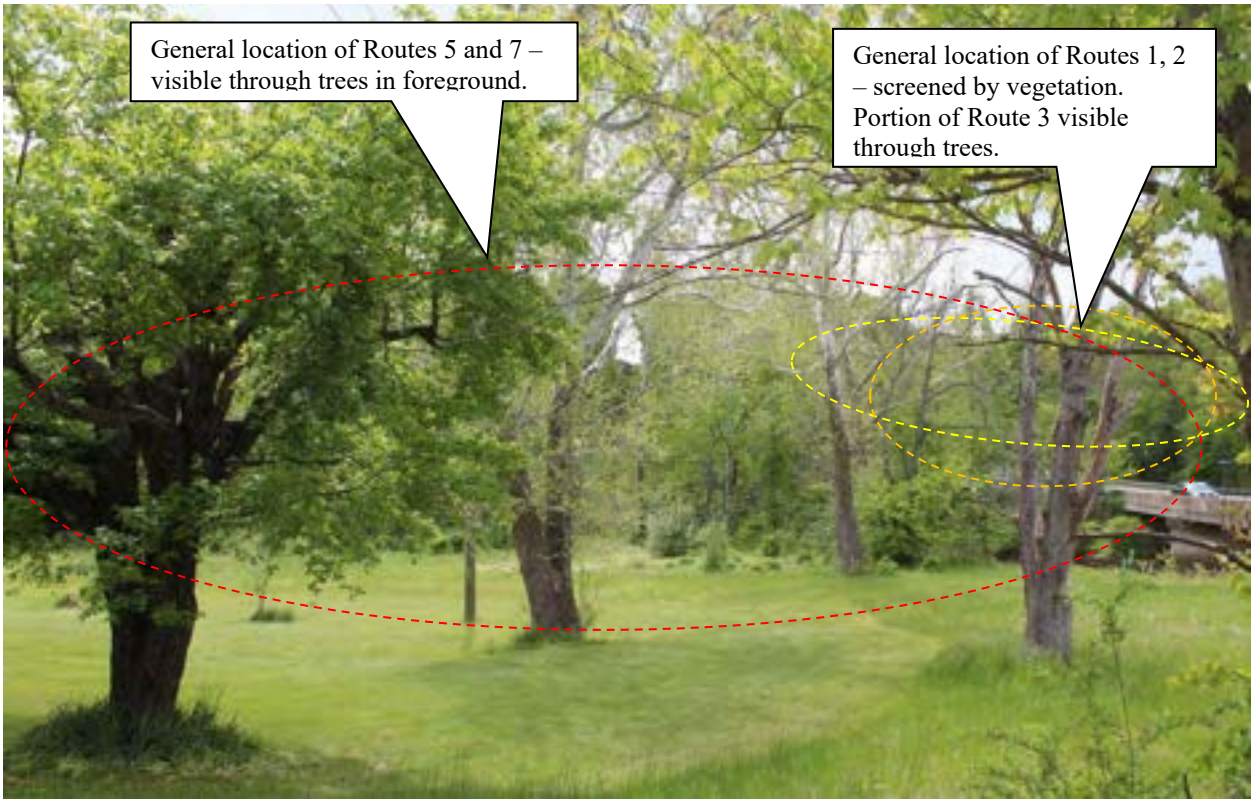


Figure 5-10: Photo location 8- View from Cochran Mill Road near Sycolin General Store and Post Office, facing south. Route 4 screened by vegetation and topography. Portions of Routes 7 visible through property.

Figure 5-11: Photo location 9- View from intersection of Cochran Mill Road and Sycolin Road, facing west. Routes 1, 2, 3, and 7 and switching station screened by vegetation and topography.

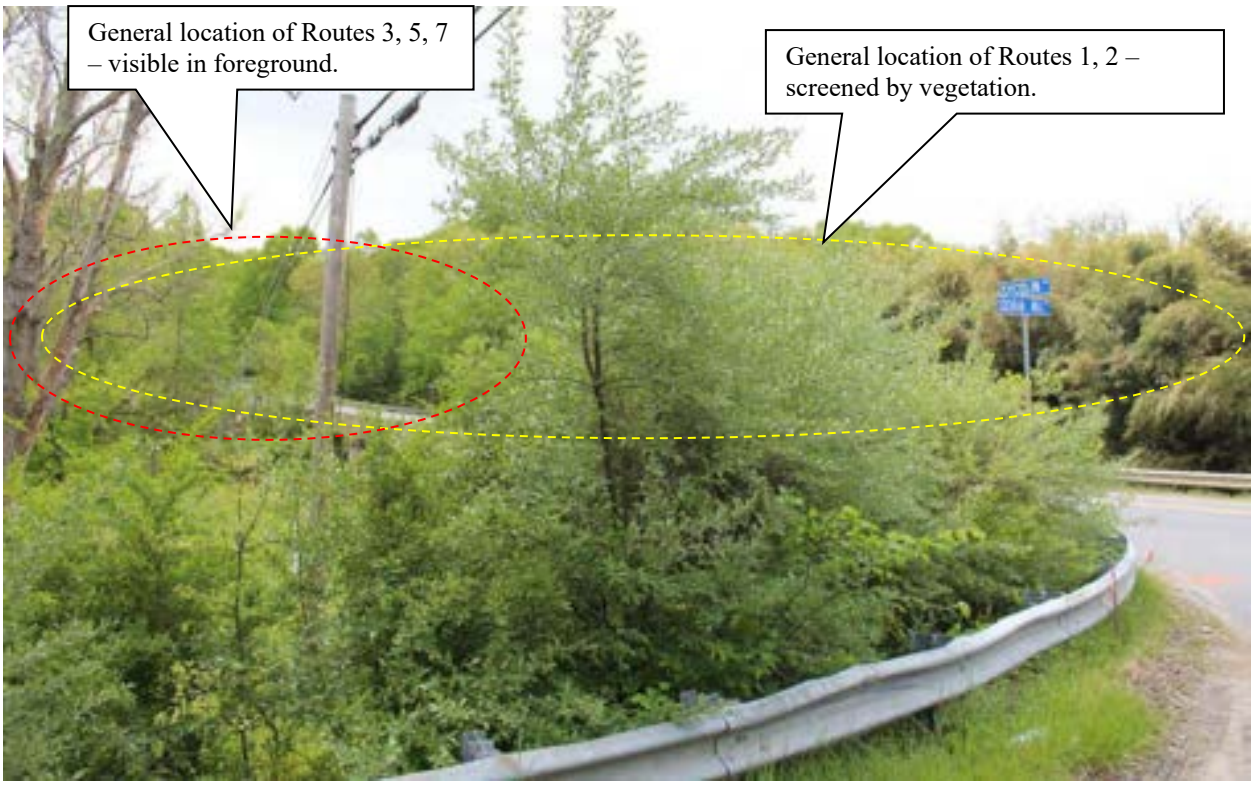


Figure 5-12: Photo location 10- View from intersection of Cochran Mill Road and Sycolin Road, facing west. Routes 1, 2, 3, and 7 screened by vegetation and topography.

THIS PAGE INTENTIONALLY LEFT BLANK

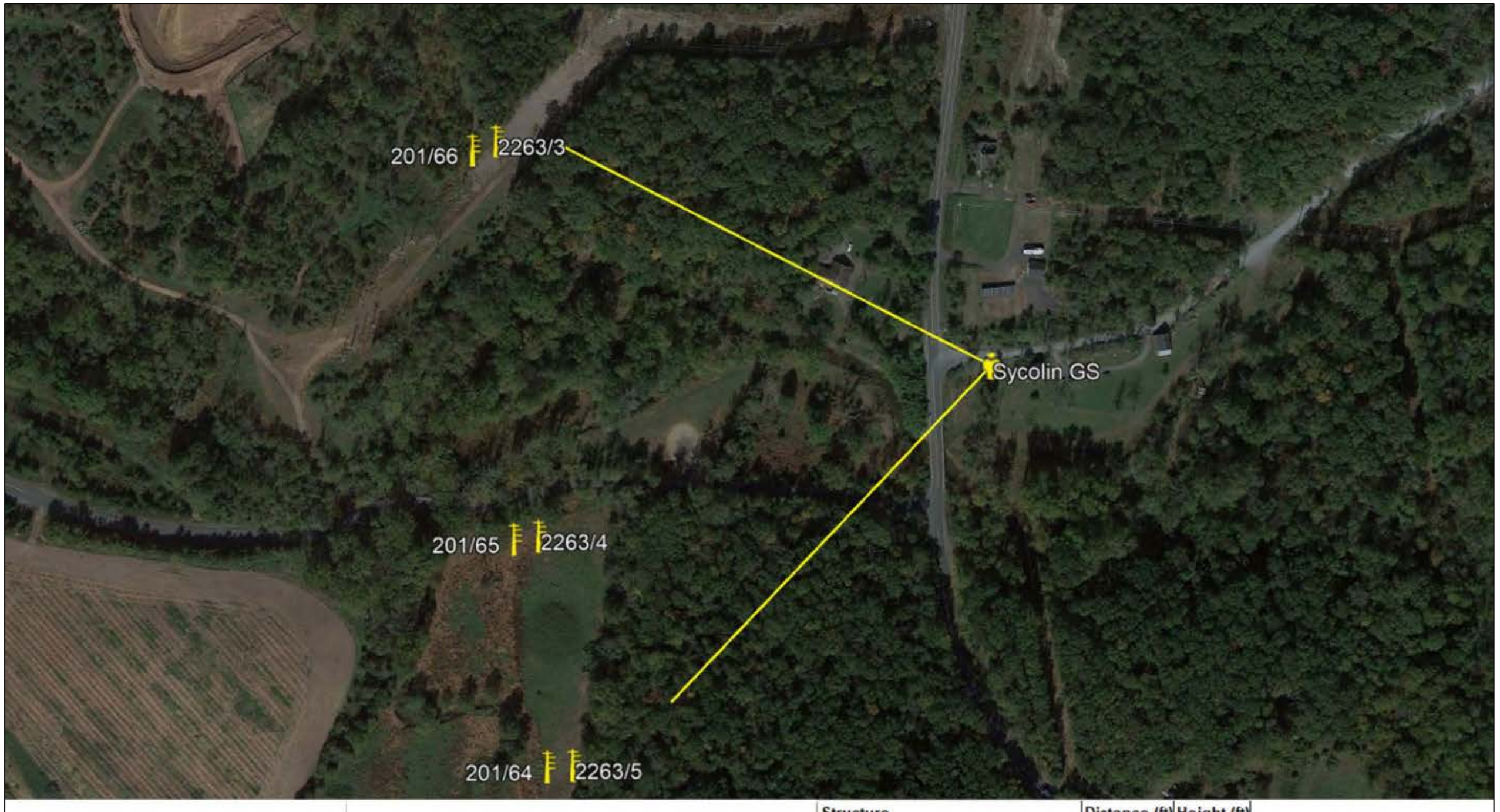


Photo simulations prepared by:
GTTE LLC
email:
info@gttellc.com
703 447 1350

Location:
Sycolin General Store

Project: Altair Red Rt1 & Orange Rt2

Structure	Distance (ft)	Height (ft)
201/64	1184	121.5
201/65	1007	122.5
201/66	1114	123.5
Structure	**Distance (ft)**	**Height (ft)**
2263/5	1145	106.0
2263/4	959	120.0
2263/3	1078	128.0

Figure 5-13: Sycolin General Store and Post Office Simulation 1 – Simulation location, direction of view, and structures modeled on Routes 1 and 2. Source: GTTE, LLC

Figure 5-14: Sycolin General Store and Post Office Simulation 1 – Existing view towards Routes 1 and 2. Source: GTTE, LLC

Figure 5-15: Sycolin General Store and Post Office Simulation 1 – Proposed view towards Routes 1 and 2 – (Structures not visible shown in yellow). Source: GTTE, LLC

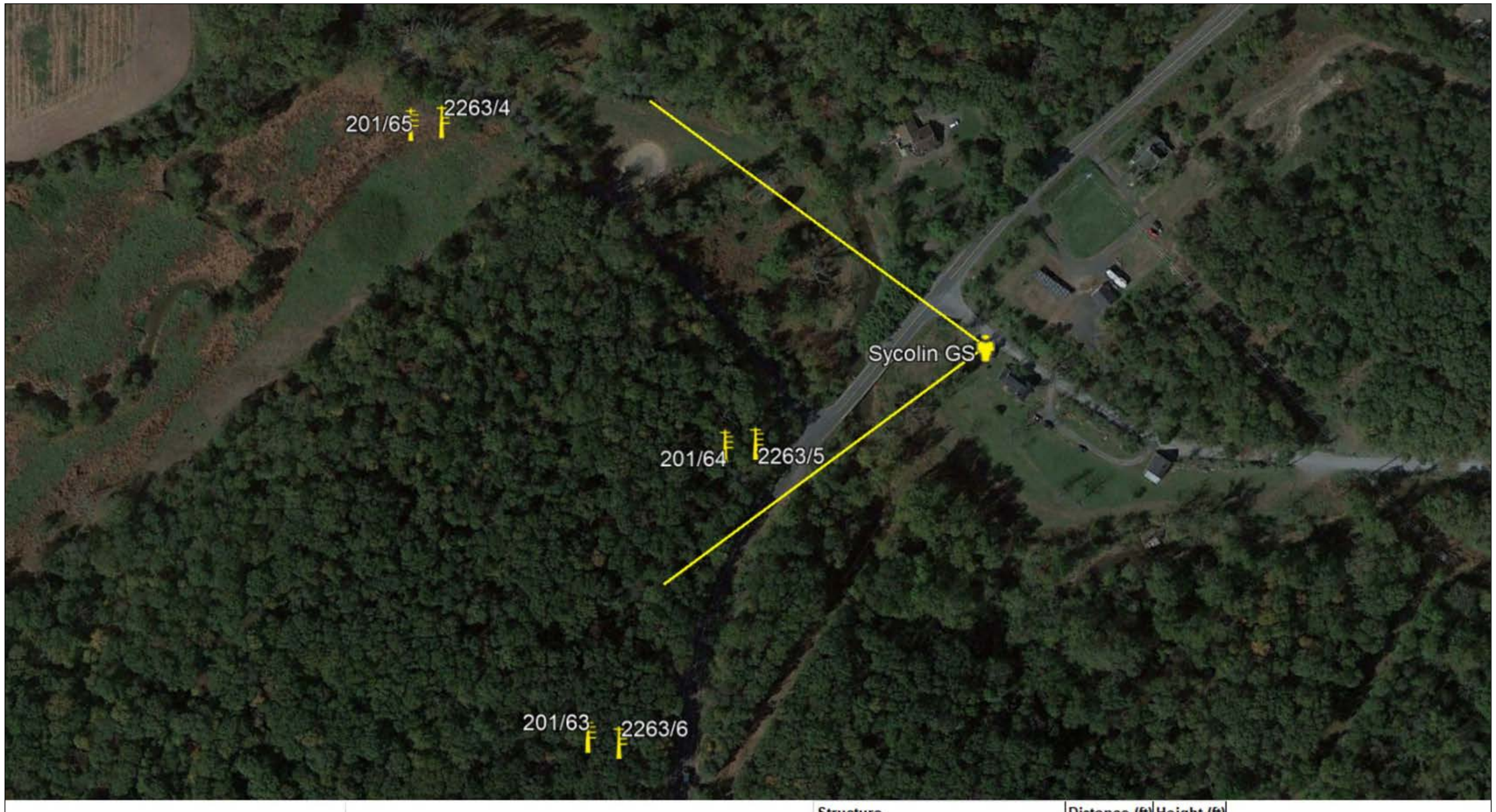


Photo simulations
prepared by:
GTTE LLC
email:
info@gttellc.com
703 447 1350

Location:
Sycolin General Store

Project: Altair Yellow Rt3

Structure	Distance (ft)	Height (ft)
201/64	451	115.0
201/65	1004	125.0

Structure	Distance (ft)	Height (ft)
2263/5	404	115.0
2263/4	959	125.0

Figure 5-16: Sycolin General Store and Post Office Simulation 2 – Simulation location, direction of view, and structures modeled on Route 3 (same structure locations for Route 5 as well). Source: GTTE, LLC

Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350	**Project: Altair Yellow Route 3**	**Location: Sycolin GS**	**Existing View**
	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 5-17: Sycolin General Store and Post Office Simulation 2 – Existing view towards Route 3 (and Route 5). Source: GTTE, LLC

Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350	**Project: Altair Yellow Route 3**	**Location: Sycolin GS**	**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 5-18: Sycolin General Store and Post Office Simulation 2 – Proposed view towards Route 3 (and Route 5)–(One set of structure visible – shown as they would appear. Structures not visible shown in yellow). Source: GTTE, LLC

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

Location:
Sycolin GS

Project: Altair Green Route 4

Structure	Distance (ft)	Height (ft)
2180/13	794	90.0
2180/14	1128	87.0
Structure	**Distance (ft)**	**Height (ft)**
2263/4	835	88.0
2263/3	1151	89.0

Figure 5-19: Sycolin General Store and Post Office Simulation 3 – Simulation location, direction of view, and structures modeled on Route 4 to north. Source: GTTE, LLC

Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350	**Project: Altair Green Rt4**	**Location: Sycolin GS Side View**	**Existing View**
	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 5-20: Sycolin General Store and Post Office Simulation 3 – Existing view towards Route 4 to the north. Source: GTTE, LLC

Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350	**Project: Altair Green Rt4**	**Location: Sycolin GS Side View**	**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 5-21: Sycolin General Store and Post Office Simulation 3 – Proposed view towards Route 4 to the north – (Structures not visible shown in yellow). Source: GTTE, LLC

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

Location:
Sycolin GS

Project: Altair Green Route 4

Structure	Distance (ft)	Height (ft)
2263/8	1191	100.2
2263/7	762	111.2
Structure	Distance (ft)	Height (ft)
2180/9	1169	100.2
2180/10	744	111.2

Figure 5-22: Sycolin General Store and Post Office Simulation 4 – Simulation location, direction of view, and structures modeled on Route 4 to east. Source: GTTE, LLC

Figure 5-23: Sycolin General Store and Post Office Simulation 4 – Existing view towards Route 4 to the east. Source: GTTE, LLC

Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350	**Project: Altair Green Route 4**	**Location: Sycolin GS Rear**	**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 5-24: Sycolin General Store and Post Office Simulation 4 – Proposed view towards Route 4 to the east – (Structures not visible shown in yellow). Source: GTTE, LLC

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

Location:
Sycolin General Store

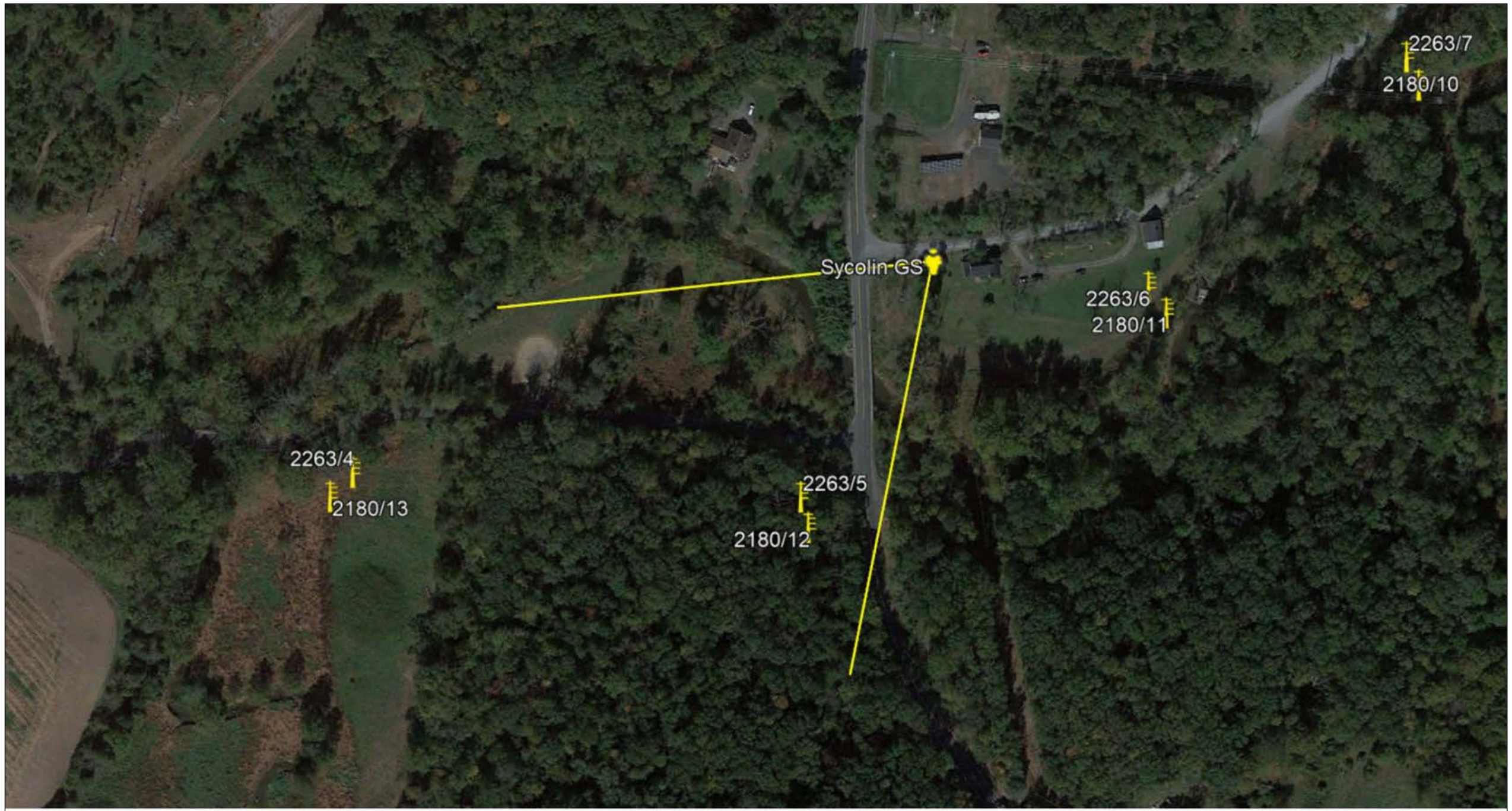
Project: Altair Lt Blue Route 5

Structure	Distance (ft)	Height (ft)
2263/7	862	130.0
2263/6	530	115.0
Structure	**Distance (ft)**	**Height (ft)**
2180/9	893	130.0
2180/10	578	115.0

Figure 5-25: Sycolin General Store and Post Office Simulation 5 – Simulation location, direction of view, and structures modeled on Route 5. Source: GTTE, LLC

Figure 5-26: Sycolin General Store and Post Office Simulation 5 – Existing view towards Route 5. Source: GTTE, LLC

Figure 5-27: Sycolin General Store and Post Office Simulation 5 – Proposed view towards Route 5 – (Structures not visible shown in yellow). Source: GTTE, LLC



Structure	Distance (ft)	Height (ft)
2180/12	453	126.0
2180/13	1000	126.2

Structure	Distance (ft)	Height (ft)
2263/5	416	126.0
2263/4	954	125.2

Figure 5-28: Sycolin General Store and Post Office Simulation 6 – Simulation location, direction of view, and structures modeled on Route 7 to west. Source: GTTE, LLC

Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350	Project: Altair Pink Route 7	Location: Sycolin GS	Existing View
	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 5-29: Sycolin General Store and Post Office Simulation 6 – Existing view towards Route 7 to the west. Source: GTTE, LLC

Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350	**Project: Altair Pink Route 7**	**Location: Sycolin GS**	**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 5-30: Sycolin General Store and Post Office Simulation 6 – Proposed view towards Route 7 to the west – (One set of structures visible – shown as they would appear. Structures not visible shown in yellow). Source: GTTE, LLC

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

Location:
Sycolin General Store Rear

Project: Altair Pink Rt7

Structure	Distance (ft)	Height (ft)
2180/9	1169	100.0
2180/10	663	100.0
2180/11	215	98.0
Structure	**Distance (ft)**	**Height (ft)**
2263/8	1191	100.0
2263/7	666	100.0
2263/6	179	99.0

Figure 5-31: Sycolin General Store and Post Office Simulation 7 – Simulation location, direction of view, and structures modeled on Route 7 to east. Source: GTTE, LLC

Figure 5-32: Sycolin General Store and Post Office Simulation 7 – Existing view towards Route 7 to the east. Source: GTTE, LLC

Figure 5-33: Sycolin General Store and Post Office Simulation 7 – Proposed view towards Route 7 to the east – (One set of structures visible – shown as they would appear. Structures not visible shown in yellow). Source: GTTE, LLC

THIS PAGE INTENTIONALLY LEFT BLANK

LOCALLY ACKNOWLEDGED PROPERTIES
Located within 0.5 Mile of the Project or Closer

THIS PAGE INTENTIONALLY LEFT BLANK

William Manning House, Sycolin Road (VDHR# 053-6453)

This small dwelling is believed to have been built circa 1880 by William Manning, a prominent member of the Lower Sycolin African American community around the turn of the twentieth century. During the late-nineteenth century, Manning was integral to the formation of the nearby Union Church of which he served as a trustee. Manning was a carpenter by trade and is believed to have been responsible for the construction of the church, as well as most of the homes in the community built prior to his passing in 1902, including this dwelling. The small building is of log construction, which Manning is known to have employed as evidenced by land records and an order for another home nearby nearly identical in design. Although the building has been altered and enlarged over time, the original log core remains intact within. The resource has not been formally evaluated for NRHP eligibility by the VDHR, however, as part of a locally-reviewed development project in 2020, it was noted by Loudoun County as significant for its association to Manning and the African American community of Lower Sycolin.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the William Manning House, and photo simulation was prepared with emphasis on views from the resource towards the project route alignments. The property is located on the eastern side of the project study area with route alternatives extending through the landscape to the north, west, and south.

A site visit to the property found that the historic setting is generally intact, although has been encroached upon by later residential development. The building remains on a small rural parcel situated on the east side of Sycolin Road. The home and property are set back from the road, with later homes built closer to the road in front. The home is set in a small clearing with narrow treelines between it and neighboring properties to the west and north, and thicker wooded areas to the south and east. Because the building is set back from the road with other development and vegetation between, it cannot be seen from public ROW. Views outward from the property are also short and interrupted by vegetation and development with views to the north across a neighboring field being the widest.

Inspection from the property towards the project route alternatives revealed that the surrounding vegetation and topography will likely inhibit visibility of all six route alternatives and associated structures and line, as well as the switching station, from the house itself, and screen much of them from public ROW to the front with the exception of one route that would immediately parallel the road. Routes 1 and 2 are the furthest away from the property, sharing the same alignment in the general vicinity, roughly 0.26 mile to the west at their nearest point. The landscape between the property and these routes is rolling and wooded. Because the alignment is at a lower elevation than the property with a higher ridge in between, it is anticipated that the topography and vegetation would completely screen views of either of these routes. Route 3 would be the closest to the property, immediately across Sycolin Road as it extends parallel to the road through this length. As such, a length of the alignment would be visible from the driveway at the western edge of the property, however, it is anticipated that it would be mostly screened from the house itself due to a treeline bordering the homesite in that direction as well as an adjacent home. It is expected that there could be some visibility of the alignment through breaks in the treeline, particularly seasonally, however, views would likely be limited to just a

few sets of structures. Routes 4, 5, and 7 are all located further to the north of the property, roughly 0.21 mile, 0.06 mile, and 0.16 mile away at their nearest points respectively. The landscape between the property and these routes is thickly wooded and sloped so that their ROWs are substantially lower (nearly 50 feet for Route 5 and nearly 100 feet for Routes 4 and 7) lower than the elevation of the house. As such, the terrain and intervening vegetation would be expected to completely inhibit visibility of either of these routes. The proposed switching station is located to the northwest of the property, roughly 0.5 mile away at its nearest point. The intervening landscape is densely wooded, and an elevated ridgeline that extends between the two is anticipated to completely inhibit views of the switching station and associated infrastructure from the property.

The various route alternatives vary in the degree of potential impact they may pose to the resource. Just one alternative, Route 3, is expected to be visible from the property immediately along its western edge, and as such, would introduce a noticeable change to both the setting and viewshed of and from the property. However, these impacts would be primarily limited to the edge of the resource property along the road where the house itself is not visible. Meanwhile, the impact to setting and views from the house would be less due to vegetation and development that would interrupt any wide and/or unobstructed views of the route. The rest of the route alternatives and switching station would not be visible from the property or public ROW in the vicinity. ***The impact from Route 3 would be the most substantial, but would still pose no more than a minimal impact overall according the VDHR's impact definitions.*** None of the other route alternatives or switching station are expected to be visible from the resource or public ROW in the vicinity. ***As such, Routes 1, 2, 4, 5, and 7, and the switching station, are recommended to pose no impact to the resource.***

Figure 5-34 depicts the location of the William Manning House in relation to the project route alternatives and viewshed buffers. Figure 5-35 illustrates the location of all representative photographs and photo simulations. Figures 5-36 through 5-43 are representative photographs of the property, as well as those taken from locations within and near the property towards the project area. Figures 5-44 through 5-52 provide photo simulation of the route alternatives from the property.

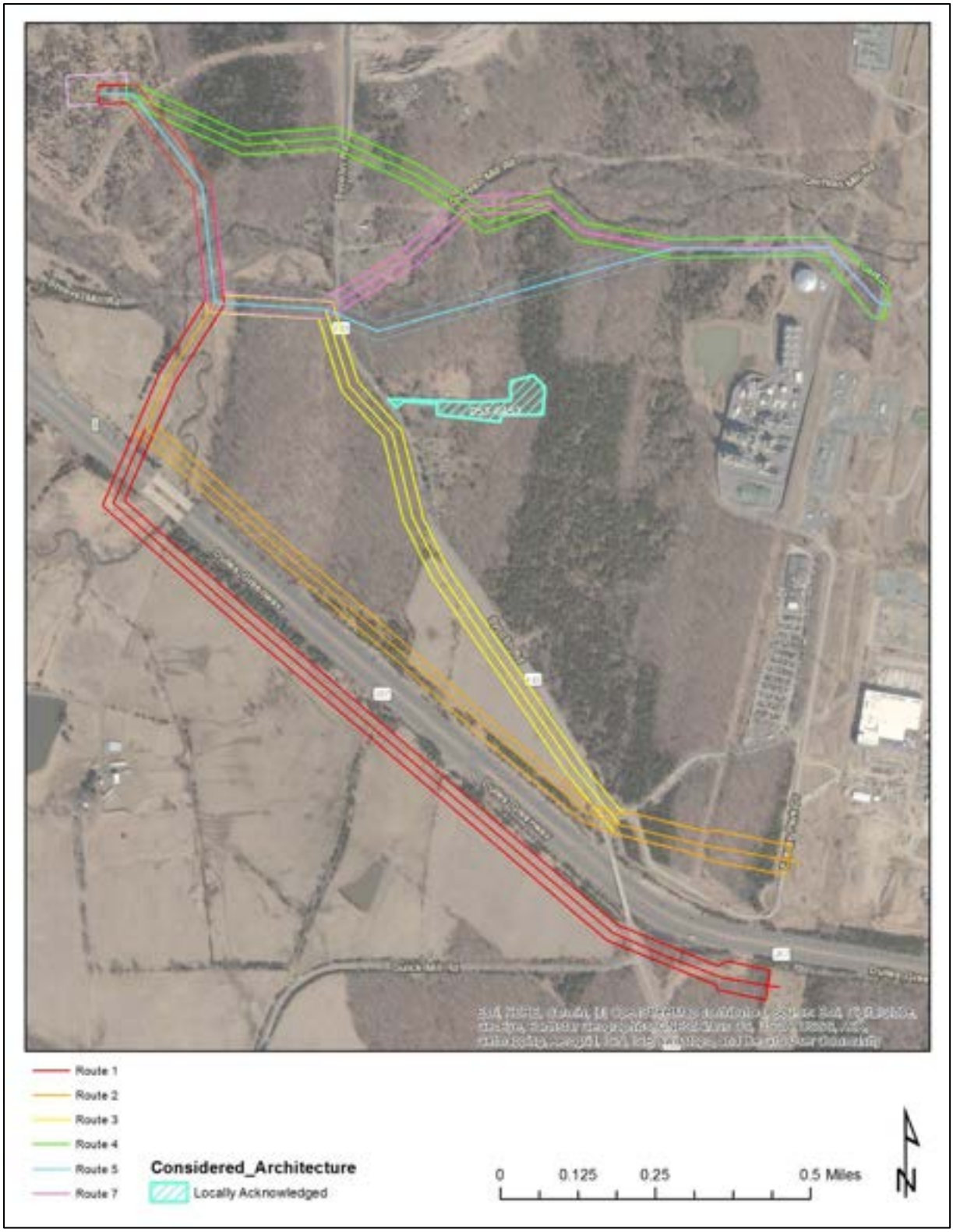


Figure 5-34: Location of William Manning House in relation to the project route alternatives.

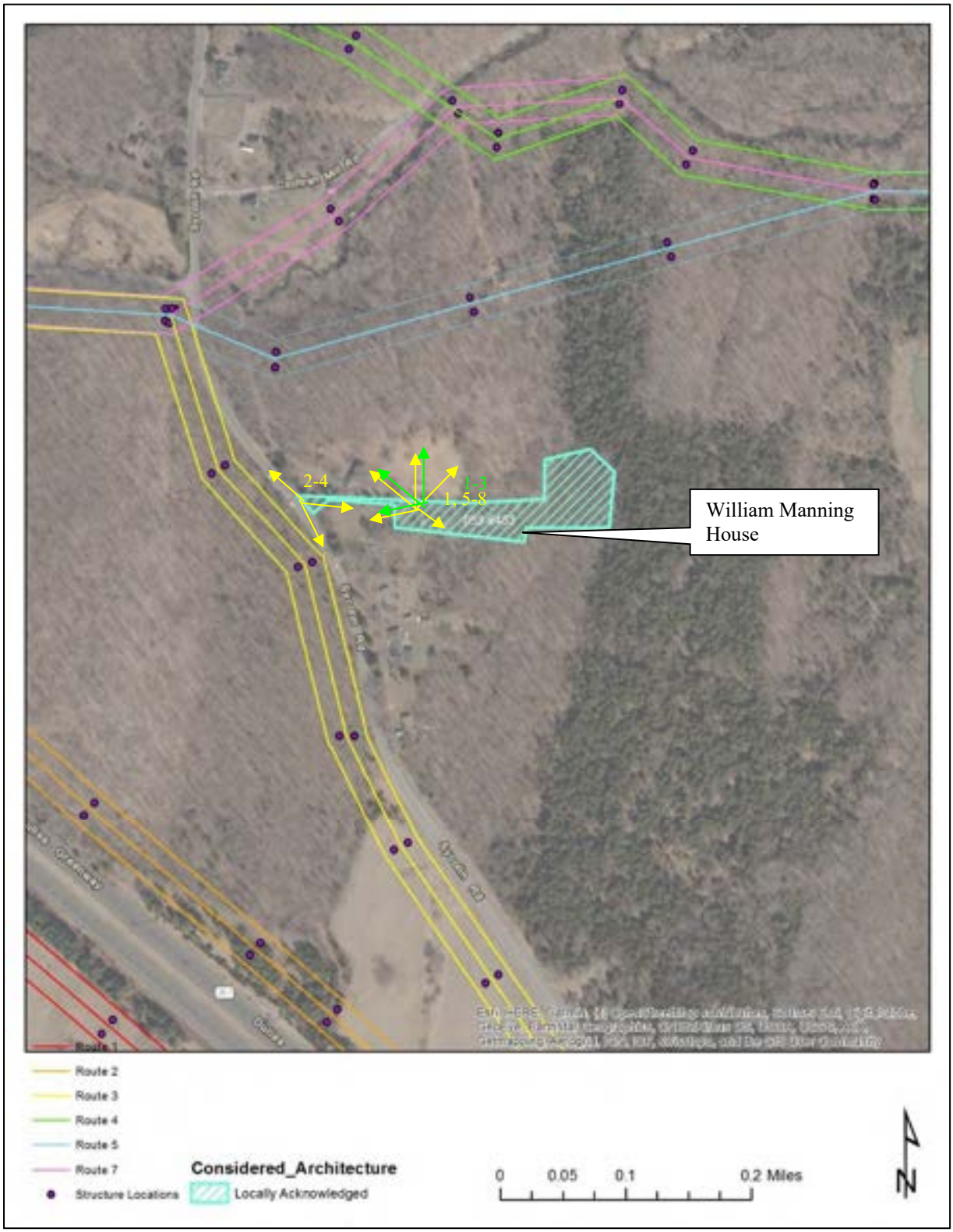


Figure 5-35: Location and direction of representative photographs and views towards the project depicted in yellow. Location of photo simulations depicted in green.

Figure 5-36: Photo location 1- View towards William Manning House from Sycolin Road, facing west. House not visible.

Figure 5-37: Photo location 2- View of William Manning House setting, facing east.

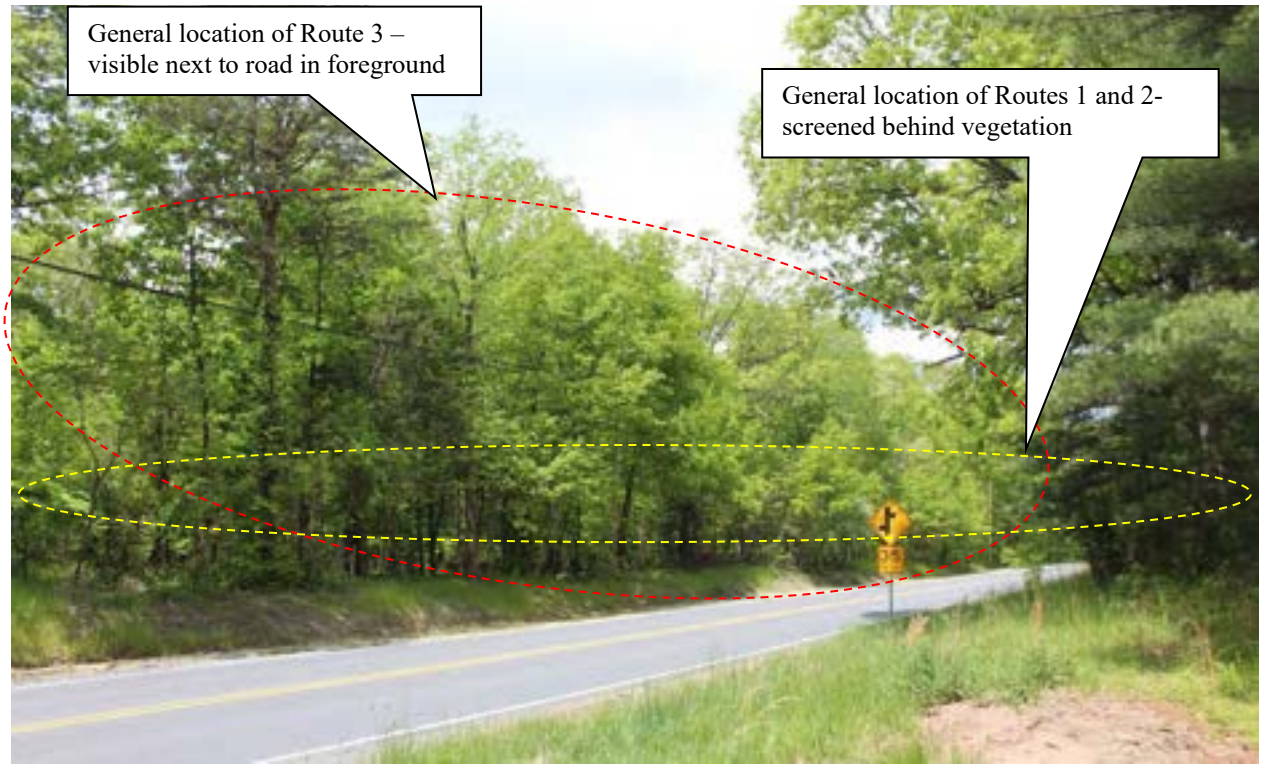


Figure 5-38: Photo location 3- View from edge of Manning House property along Sycolin Road, facing northwest. Routes 1 and 2 are screened by vegetation. Routes 3 visible along road in foreground.

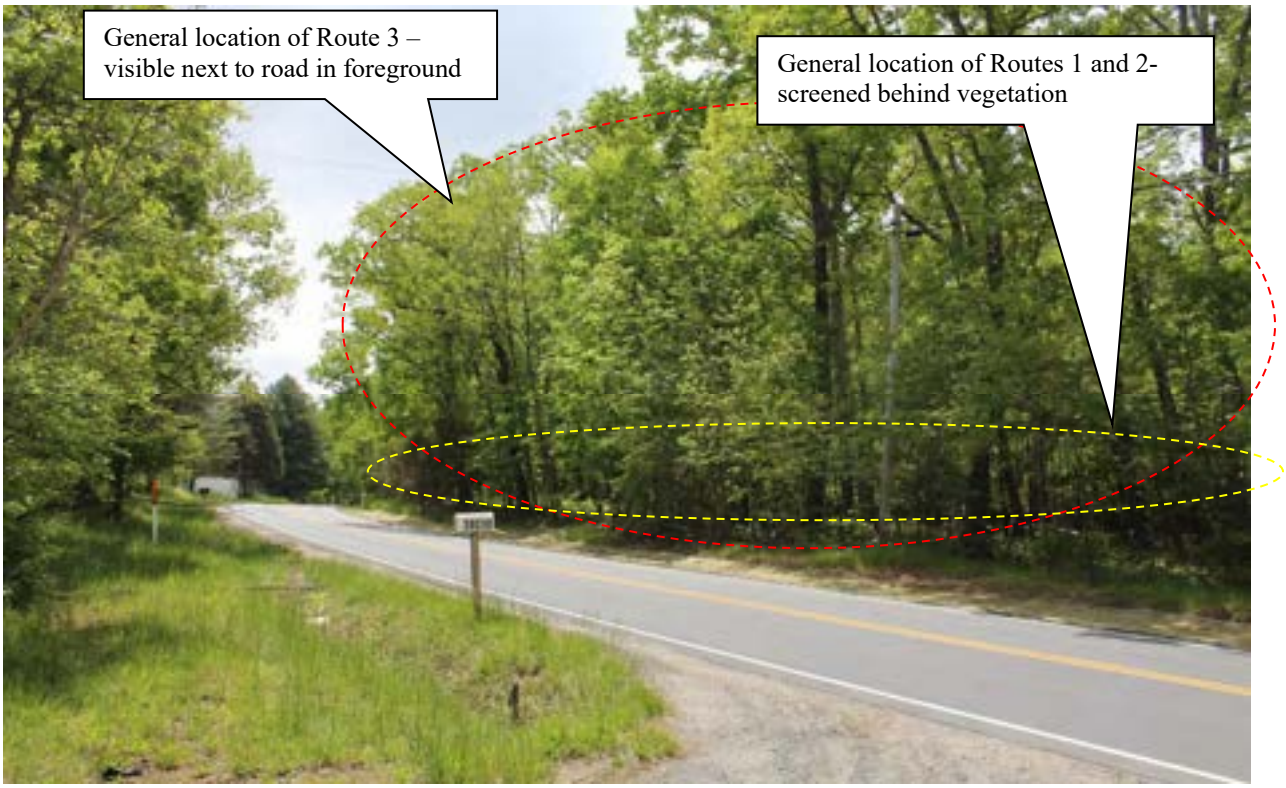


Figure 5-39: Photo location 4- View from edge of Manning House property along Sycolin Road, facing northwest. Routes 1 and 2 are screened by vegetation. Routes 3 visible along road in foreground.

Figure 5-40: Photo location 5- View from Manning House, facing west. Routes 1, 2, 3 are screened by vegetation.

Figure 5-41: Photo location 6- View from Manning House, facing northwest. All routes are screened by vegetation.

Figure 5-42: Photo location 7- View from Manning House, facing north. Routes 4, 5, and 7 are screened by vegetation.

Figure 5-43: Photo location 8- View from Manning House, facing northeast. Routes 4, 5, and 7 are screened by vegetation.

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

Location:
William Manning House

Project: Altair Red Route 1 & Orange Route 2

Structure	Distance (ft)	Height (ft)
201/64	1246	121.5
201/65	1444	122.5
201/66	1965	123.5
Structure	**Distance (ft)**	**Height (ft)**
2263/5	1196	106.0
2263/4	1404	120.0
2263/3	1946	128.0

Figure 5-44: William Manning House Simulation 1 – Simulation location, direction of view, and structures modeled on Routes 1 and 2. Source: GTTE, LLC

Figure 5-45: William Manning House Simulation 1 – Existing view towards Routes 1 and 2. Source: GTTE, LLC

Figure 5-46: William Manning House Simulation 1 – Proposed view towards Routes 1 and 2 – (Structures not visible shown in yellow). Source: GTTE, LLC

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

Location:
William Manning House 2

Project: Altair Yellow Route 3

Structure	Distance (ft)	Height (ft)
201/62	392	90.0
201/63	662	100.0
Structure	**Distance (ft)**	**Height (ft)**
2263/7	342	90.0
2263/6	625	100.0

Figure 5-47: William Manning House Simulation 2 – Simulation location, direction of view, and structures modeled on Route 3. Source: GTTE, LLC

Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350	**Project: Altair Yellow Route 3**	**Location: William Manning House 2**	**Existing View**
	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 5-48: William Manning House Simulation 2 – Existing view towards Route 3. Source: GTTE, LLC

Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350	**Project: Altair Yellow Route 3**	**Location: William Manning House 2**	**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 5-49: William Manning House Simulation 2 – Proposed view towards Route 3– (Structures not visible shown in yellow). Source: GTTE, LLC

Structure	Distance (ft)	132.0
2263/7	754	130.0
2263/6	699	115.0
Structure	Distance (ft)	147.0
2180/9	714	130.0
2180/10	661	115.0

Figure 5-50: William Manning House Simulation 3 – Simulation location, direction of view, and structures modeled on Route 5. Source: GTTE, LLC

Figure 5-51: William Manning House Simulation 3 – Existing view towards Route 5. Source: GTTE, LLC

Figure 5-52: William Manning House Simulation 3 – Proposed view towards Route 5– (Structures not visible shown in yellow). Source: GTTE, LLC

THIS PAGE INTENTIONALLY LEFT BLANK

6. SUMMARY OF POTENTIAL IMPACTS

As part of this pre-application analysis of cultural resources for the 230 kV Altair Loop and Altair Switching Station Project, potential impacts to previously recorded historic properties that qualify for consideration under 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, there are no (0) NHLs located within 1.5 mile of the proposed project or closer, no (0) NRHP-listed properties located within 1.0 mile or closer of the project, and one (1) property that has been determined eligible or potentially eligible for listing in the NRHP within 0.5 mile or closer of the project by the VDHR. Additionally, there is one (1) property that has not been formally evaluated by the VDHR, but has been acknowledged by Loudoun County as potentially significant as part of a recent cultural resources study. One of these resources, the potentially NRHP-eligible property is directly crossed by one of the project route alternatives.

Assessment of impacts for the one NRHP-eligible property, the Sycolin General Store and Post Office (VDHR# 053-5276) found that much of all six alternatives and switching station would be screened from view from the property, although some in closer proximity may be visible and one directly crossed through the property. As such, the various route alternatives vary in the degree of potential impact they may pose to the resource. One alternative, Route 7, crosses the property and therefore would result in a direct impact to the setting and landscape of the property. This route would also introduce a dramatic change to both the setting and viewshed of and from the property resulting in indirect impacts as well. Because the alignment would directly cross through the property, it may result in clearing and grading associated with construction, and would also introduce a significant change in viewshed of and from the property with one set of structures on the property clearly visible, and additional sets visible up

and down the new ROW. ***Overall, the impact from Route 7 would be the most substantial and may pose as much as a severe impact according the VDHR's impact definitions.*** None of the other route alternatives cross the property and therefore impacts would be limited to indirect. ***Routes 3 and 5 are anticipated to be visible immediately across the road and creek from the property resulting in a noticeable change of setting and viewshed from the property as well as public ROW. Visibility would be limited to a few structures and a short portion of Route 3 and a bit more of the line and ROW clearing for Route 5. As such, both are recommended to pose a moderate impact to the property. Route 4 would also be in close proximity to the property and be visible, although views are anticipated to be limited to a short length and several structures just east of the house, and another short length of Sycolin Road to the north. The potentially visible portion to the east would be see in conjunction with an existing distribution-grade transmission line that crosses the property. As such, the project would result in an increase in visibility of utility infrastructure, but would not be a completely new or different feature on the landscape. As such, Route 4 is recommended to pose no more than a minimal impact to the property. As Routes 1 and 2 are anticipated to not be visible from any points on the property or public ROW in the vicinity, these routes are recommended to pose no impact to the property. As the switching station would likewise not be visible from the property, it would have no impact on the resource.***

Assessment of impacts for the locally acknowledged property, the William Manning House (VDHR# 053-6453) found that the surrounding vegetation and topography will likely inhibit visibility of all six route alternatives, the switching station, and associated structures and line from the house itself, and screen much of them from public ROW to the front with the exception of Route 3 that would immediately parallel the road in front of the property. As such, Route 3 is expected to be visible from the property immediately along its western edge, and as such, would introduce a noticeable change to both the setting and viewshed of and from the property. However, these impacts would be primarily limited to the edge of the resource property along the road where the house itself is not visible. Meanwhile, the impact to setting and views from the house would be less due to vegetation and development that would interrupt any wide and/or unobstructed views of the route. ***As such, the impact from Route 3 would be the most substantial, but would still pose no more than a minimal impact overall according the VDHR's impact definitions.*** None of the other route alternatives are expected to be visible from the resource or public ROW in the vicinity. ***As such, Routes 1, 2, 4, 5, and 7, and the switching station, are recommended to pose no impact to the resource.***

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

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project	Recommended Impact
053-5276	Sycolin General Store and Post Office, 41087 Cochran Mill Road	Potentially NRHP-Eligible	Route 1 - ~0.16 Mile Route 2 - ~0.16 Mile Route 3 - ~0.02 Mile Route 4 - ~0.03 Mile Route 5 - ~0.01 Mile Route 7 - Directly Crossed Switching Station – 0.33 Mile	Route 1 – No Impact Route 2 – No Impact Route 3 – Moderate Route 4 – Minimal Route 5 - Moderate Route 7 – Severe Switching Station – No Impact
053-6453	William Manning House, Sycolin Road	Locally Acknowledged	Route 1 - ~0.26 Mile Route 2 - ~0.26 Mile Route 3 - ~0.06 Mile	Route 1 – No Impact Route 2 – No Impact Route 3 – Minimal

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project	Recommended Impact
			Route 4 - ~0.21 Mile Route 5 - ~0.10 Mile Route 7 - ~0.16 Mile Switching Station - ~0.5 Mile	Route 4 – No Impact Route 5 – No Impact Route 7 – No Impact Switching Station – No Impact

With regards to archaeology, portions of all six route alternatives and the switching station site have been subject to previous phase I survey, although just the switching station and one route (Route 4) has been surveyed in its entirety. As a result of these surveys, eleven (11) previously recorded sites are located directly within or crossed by the ROW of at least one of the project route alternatives. Of these sites, one has been determined eligible for listing in the NRHP by the VDHR, one has been determined not eligible, and the rest have not been formally evaluated. The one NRHP-eligible site is located within the proposed ROW of one project alternative, Route 3. The other sites are scattered around the other route alternatives and switching station location. While no survey or formal assessment of impacts to archaeological sites was conducted as part of this effort, ***it is D+A's opinion that any portions of the selected route alternative that have not been subject to previous cultural resource survey be investigated, and any sites identified 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 #	Description	NRHP Status	Proximity to Project	Impacts
44LD0199	Camp, temporary, Late Woodland (1000 - 1606)	Not Evaluated	Crossed by Switching Station, Route 1, 2, 3, 4, 5, 7	TBD
44LD0398	<Null>, Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated	Crossed by Switching Station	TBD
44LD0413	Lithic scatter, Mill, Pre-Contact, Contact Period (1607 - 1750), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	DHR Evaluation Committee: Not Eligible	Crossed by Route 1, 2, 3, 5	TBD
44LD0465	<Null>, Historic/Unknown	Not Evaluated	Crossed by Route 1	TBD
44LD0466	<Null>, Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated	Crossed by Route 2	TBD
44LD1195	**Dwelling, single, Kiln, pottery, Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)**	**DHR Staff: Eligible**	Crossed by Route 3	**TBD**
44LD1328	Farmstead, 20th Century: 1st half (1900 - 1949)	Not Evaluated	Crossed by Route 4, 5, 7	TBD
44LD1411	Trash scatter, Historic/Unknown	Not Evaluated	Crossed by Route 1	TBD
44LD1874	Dwelling, World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated	Crossed by Route 5	TBD

VDHR #	Description	NRHP Status	Proximity to Project	Impacts
44LD1877	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated	Crossed by Route 5	TBD
44LD1964	Artifact scatter, Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Not Evaluated	Crossed by Route 1, 2, 3, 5, 7	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.

THIS PAGE LEFT INTENTIONALLY BLANK

DHR VIRGINIA DEPARTMENT OF HISTORIC RESOURCES

Julie V. Langan
Director
(804) 482-6446
dhr.virginia.gov

Travis A. Voyles
Acting Secretary of Natural & Historic Resources

Nancy Reid
Dominion Energy Virginia
Electric Transmission
P.O. Box 26666
Richmond, VA 23261

September 2, 2022

RE- Dominion Energy Virginia's Proposed 230 kV Altair Loop and Altair Switching Station
Loudoun County, VA
DHR File No. 2022-4394

Dear Ms. Reid

We have received your request for comments on the project referenced above. The undertaking, as presented, involves the construction of a new approximately 1.5 mile 230 kV double circuit transmission line loop ("Altair Loop") and 230 kV delivery point switching station ("Altair Station") in Loudoun County, Virginia. Our comments are provided as technical assistance to Dominion. We have not been notified by any state or federal agency of their involvement in this project; however, we reserve the right to provide additional comment pursuant to the National Historic Preservation Act, if applicable.

Based on the submission Dominion plans to prepare an application for a certificate of public convenience and necessity (CPCN) from the State Corporation Commission (SCC). Typically, we recommend that Dominion follow the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* developed by DHR to assist project proponents in developing transmission line projects that minimize impacts to historic resources.

Generally, we recommend that the project proponent establish a study area for each route alternative under consideration and gather information on known resources. A qualified cultural resources consultant in the appropriate discipline should perform an assessment of impact for each known historic resource present within the proposed study area.

Once the route alternatives have been finalized, DHR recommends that full archaeological and architectural surveys be performed to determine the effect of the project on all historic resources listed in or eligible for listing in the National Register. This process involves the identification and recordation of all archaeological sites and structures greater than 50 years of age, the evaluation of those resources for listing in the National Register, determining the degree of impact of the project on eligible resources, and developing a plan to avoid, minimize, or mitigate any negative impacts. Comments received from the public or other stakeholder regarding impacts to specific historic resources should be addressed as part of this survey and assessment process.

Thank you for seeking our comments on this project. If you have any questions at this time, please do not hesitate to contact me at jennifer.bellville-marrion@dhr.virginia.gov.

Sincerely,

Jenny Bellville-Marrion
Project Review Archaeologist
Review and Compliance Division

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5443
Fax: (540) 387-5446

Northern Region Office
5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7029
Fax: (540) 868-7033

Eastern Region Office
2801 Kensington Avenue
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

COMMONWEALTH of VIRGINIA

Travis A. Voyles
Acting Secretary of Natural and Historic Resources

Department of Historic Resources
2801 Kensington Avenue, Richmond, Virginia 23221

Julie V. Langan
Director
Tel: (804) 367-2323
Fax: (804) 367-2391
www.dhr.virginia.gov

September 30, 2022

Robert Taylor
Dutton + Associates, LLC
1115 Crowder Dr.
Midlothian, VA 23113

Re: SCC Pre-Application Analysis of Cultural Resources for the 230 kV Altair Loop and Altair Switching Station
Loudoun County, Virginia
DHR File No. 2022-4394

Dear Mr. Taylor

We have received for review the report, *SCC Pre-Application Analysis of Cultural Resources for the 230 kV Altair Loop and Altair Switching Station* prepared by Dutton and Associates (D+A), in accordance with Section I of DHR's *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (2008). The below comments are provided as technical assistance to Virginia Dominion Energy (Dominion) in its preparation of an application to the State Corporation Commission (SCC). We have not been notified by any Federal agency of their involvement in this project; however, we reserve the right to provide additional comment pursuant to the National Historic Preservation Act, if applicable.

The pre-application analysis considers the potential impact of the proposed project on recorded archaeological sites and on known historic architectural properties listed or previously determined eligible for listing in the Virginia Landmarks Register (VLR) and the National Register of Historic Places (NRHP) within a tiered study area. DHR's comments on the pre-application analysis are provided in the attached table and utilize the following scale in describing impacts:

- **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.

Architecture

To summarize, the pre-application analysis identifies one (1) potentially Virginia Landmarks Register (VLR) and National Register of Historic Places (NRHP) eligible individual architectural resource, Sycolin General Store and Post Office (DHR ID #053-5276); and one (1) resource that has not been formally evaluated by the VDHR, but has been acknowledged by Loudoun County as potentially significant as part of a recent cultural resources study, William Manning House (DHR ID #053-6453).

DHR concurs with the area of potential effects (APE) and identification of previously-identified resources. D+A analyzed seven route options, as well as a Switching Station. *DHR concurs* with all of D+A's impact recommendations, which includes two (2) Moderate Adverse Impact to the General Store and Post Office (DHR ID #053-5276) for Route 3 and Route 5 and a Severe Adverse Impact to #053-5276 for Route 7. See the table below for impact details. Remember that all moderate and severe impacts will require mitigation to be coordinated with our office.

DHR ID #	Resource Name	VLR/NRHP Status	Route Distance and Impact
053-5276	Sycolin General Store and Post Office, 41087 Cochran Mill Road	Eligible	Route 1 - ~0.16 Mile, No Impact
			Route 2 - ~0.16 Mile, No Impact
			Route 3 - ~0.02 Mile, Moderate Impact
			Route 4 - ~0.03 Mile, Minimal Impact
			Route 5 - ~0.01 Mile, Moderate Impact
			Route 7 – Directly Crossed, Severe Impact
			Switching Station –0.33 Mile, No Impact
053-6453	William Manning House, Sycolin Road	Locally Acknowledged	Route 1 - ~0.26 Mile, No Impact
			Route 2 - ~0.26 Mile, No Impact
			Route 3 - ~0.06 Mile
			Route 4 - ~0.21 Mile, No Impact
			Route 5 - ~0.10 Mile, No Impact
			Route 7 - ~0.16 Mile, No Impact
			Switching Station -~0.5 Mile, No Impact

TABLE KEY:	Warrants Mitigation	Needs Attention	**DHR does not concur**

Archaeology

Portions of all six route alternatives and the switching station site have been subject to previous phase I survey. The switching station and one route (Route 4), have been surveyed in its entirety. As a result of these surveys, eleven (11) previously recorded sites (44LD0199, 44LD0398, 44LD0413, 44LD0465, 44LD0466, 44LD1195, 44LD1328, 44LD1411, 44LD1874, 44LD1877, and 44LD1964) are located directly within or crossed by the ROW of at least one of the project route alternatives. Of these sites, one has been determined eligible for listing in the NRHP (44LD1195), one has been determined not eligible (44LD0413), and the rest have not been formally evaluated. The one NRHP-eligible site is located within the proposed ROW of one project alternative (Route 3). The other sites are found throughout the other route alternatives and switching station location. It is D+A's opinion that any portions of the selected route alternative that have not been subject to previous cultural

resource survey be investigated, and any sites identified should be assessed for existing conditions and project impacts as additional project construction details become available. DHR *concurs* with these recommendations

In accordance with Section II of the above-referenced *Guidelines* and to fully identify and address impacts to historic resources, we recommend the following:

1. Comprehensive archaeological and architectural surveys in accordance with DHR guidelines by qualified professionals prior to construction of any SCC-approved alternative.
2. Evaluation of all identified resources for listing in the VLR/NRHP.
3. Assessment of potential direct and indirect impacts to all VLR/NRHP-eligible/listed resources, including previously inaccessible properties.
4. Avoidance, minimization, and/or mitigation of moderate to severe impacts to VLR/NRHP-eligible/listed resources by Dominion in consultation with DHR and other stakeholders.

Thank you for your coordination. If you have any questions regarding these comments, please contact me at 804-482-8091 or via email, jennifer.bellville-marrion@dhr.virginia.gov.

Sincerely,

Jenny Bellville-Marrion, Project Review Archaeologist
Review and Compliance Division

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5443
Fax: (540) 387-5446

Northern Region Office
5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7029
Fax: (540) 868-7033

Eastern Region Office
2801 Kensington Avenue
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

From: ImpactReview
To: Nancy R Reid (Services - 6)
Cc: James P Young (Services - 6); Valaika, Jennifer Dvorak
Subject: [EXTERNAL] RE: Dominion Energy Virginia"s Proposed Altair Loop & Altair Station
Date: Thursday, August 11, 2022 10:59:56 AM
Attachments: image001.png

Ms. Reid,

The Virginia Outdoors Foundation has reviewed the project referenced above. As of August 11, 2022, 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: Nancy.R.Reid@dominionenergy.com <Nancy.R.Reid@dominionenergy.com>
Sent: Tuesday, August 9, 2022 6:57 PM
To: ImpactReview <impactreview@vof.org>
Cc: james.p.young@dominionenergy.com; jvalaika@mcguirewoods.com
Subject: Dominion Energy Virginia's Proposed Altair Loop & Altair Station

Alert: This email originated from outside VOF
Ms. Little,

Please see the attached letter and project map notifying you that Dominion Energy Virginia (the “Company”) is proposing to build a new 230 kV double circuit transmission line loop (“Altair Loop”)
and 230 kV delivery point switching station (“Altair Station”) in Loudoun County, Virginia, to provide
requested transmission service to Northern Virginia Electric Cooperative (“Project”) and to maintain
reliable service for the overall growth in the Project area.

Please contact me with any questions or for additional information.

Nancy

Nancy Reid
Siting & Permitting Specialist
DEQ Dual Combined Administrator
Electric Transmission
10900 Nuckols Rd, 4th Floor
Glen Allen, VA 23060
[redacted]

From: Goodly, Nick (FAA)
To: Nancy R Reid (Services - 6)
Subject: [EXTERNAL] RE: Dominion Energy Virginia"s Proposed Altair Loop & Altair Station Loudoun County, VA
Date: Wednesday, August 17, 2022 9:43:27 AM
Attachments: image002.png
image003.png
General Frequently Asked Questions - Public Website - dtd 10-27-17.pdf
Notice Criteria Tool and FAA E-Filing (002).doc

Good morning Nancy,

As I mentioned in the voice message I left you, you will need to submit aeronautical studies for each of the transmission poles. The instruction for filing are as follows:

If you need to erect a crane or are proposing to construct a new structure near an airport, please use the "Notice Criteria Tool" at the following website to determine if you are require to e-file an FAA Form 7460-1: https://oeaaa.faa.gov.

On the website, select the "Notice Criteria Tool" option, halfway down the left column. Next, input the coordinates and heights requested to complete your analysis. You will immediately get a response screen telling you whether or not to e-file an aeronautical study. You should also review the General FAQ's attached.

If e-filing is required, please select the homepage screen option that says, "Click here for instructions to e-file the Notice of Proposed Construction or Alteration". A pop up window will display the steps to follow for to e-file a study.

Please contact me if you have further questions.

Nick Goodly, P.E.
Air Traffic Organization
Obstruction Evaluation Group (AJV-A5)
Office: 404-305-6337
Fax: 404-305-6588
Email: [redacted]

MissionSupport

From: Nancy.R.Reid@dominionenergy.com <Nancy.R.Reid@dominionenergy.com>

Sent: Tuesday, August 9, 2022 6:24 PM
To: 9-AJO-AWA-OEGroup (FAA) <OEGroup@faa.gov>
Cc: james.p.young@dominionenergy.com; jvalaika@mcguirewoods.com
Subject: Dominion Energy Virginia's Proposed Altair Loop & Altair Station

Mr. Helvey,

Please see the attached letter and project map notifying you that Dominion Energy Virginia (the "Company") is proposing to build a new 230 kV double circuit transmission line loop ("Altair Loop")
and 230 kV delivery point switching station ("Altair Station") in Loudoun County, Virginia, to provide
requested transmission service to Northern Virginia Electric Cooperative ("Project") and to maintain
reliable service for the overall growth in the Project area.

Please contact me with any questions or for additional information.

Thank you,

Nancy

Nancy Reid
Siting & Permitting Specialist
DEQ Dual Combined Administrator
Electric Transmission
10900 Nuckols Rd, 4th Floor
Glen Allen, VA 23060
[redacted]

COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

From: Nancy R Reid (Services - 6)
To: Rabindranath, Sunil
Cc: Concepcion, Jay
Bcc: Nancy R Reid (Services - 6)
Subject: RE: Dominion Energy Virginia's Proposed Altair Loop & Altair Station
Date: Monday, August 22, 2022 9:08:00 AM
Attachments: Altair_Routes_ROW_123_SS_20220819.dxf
Altair_Routes_ROW_123_SS_20220819.zip
image001.png

Good morning,

I have attached two files (1st dxf the 2nd a zip) with the requested information. Please note that there are three routes being researched.

We appreciate your help and if you have any questions or difficulty accessing the attached files, please let me know.

Have an awesome day,

Nancy

From: Rabindranath, Sunil <Sunil.Rabindranath@MWAA.com>
Sent: Thursday, August 11, 2022 5:27 PM
To: Nancy R Reid (Services - 6) <Nancy.R.Reid@dominionenergy.com>
Cc: James P Young (Services - 6) <james.p.young@dominionenergy.com>; Valaika, Jennifer Dvorak <jvalaika@mcguirewoods.com>; Concepcion, Jay <Boanerges.Concepcion@mwaa.com>
Subject: [EXTERNAL] Re: Dominion Energy Virginia's Proposed Altair Loop & Altair Station

Good Afternoon, Ms. Reid,

Thank you for sharing this information.

I am trying to confirm that this does not encroach MWAA property and would like to request the GIS shapefile of the transmission line routes to assist in locating the project. Additionally, CAD files would be helpful as well.

Thank you and Best Regards,
Sunil

From: Nancy.R.Reid@dominionenergy.com <Nancy.R.Reid@dominionenergy.com>
Sent: Wednesday, August 10, 2022 8:40 AM

To: Rabindranath, Sunil <Sunil.Rabindranath@MWAA.com>
Cc: james.p.young@dominionenergy.com <james.p.young@dominionenergy.com>; jvalaika@mcguirewoods.com <jvalaika@mcguirewoods.com>
Subject: Dominion Energy Virginia's Proposed Altair Loop & Altair Station

Mr. Rabindranath,

Please see the attached letter and project map notifying you that Dominion Energy Virginia (the "Company") is proposing to build a new 230 kV double circuit transmission line loop ("Altair Loop") and 230 kV delivery point switching station ("Altair Station") in Loudoun County, Virginia, to provide requested transmission service to Northern Virginia Electric Cooperative ("Project") and to
Maintain reliable service for the overall growth in the Project area.

Please contact me with any questions or for additional information.

Nancy

Nancy Reid
Siting & Permitting Specialist
DEQ Dual Combined Administrator
Electric Transmission
10900 Nuckols Rd, 4th Floor
Glen Allen, VA 23060
[redacted] cell