



**Dominion
Energy[®]**

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

**Before the State Corporation
Commission of Virginia**

**Partial Rebuild of Lines #256
and #2090/#2335 and New 230
kV Lines #2372 and #2372
(Ladysmith - New Post) and
#2378 (Lee's Hill - New Post)**

Application No. 340

Case No. PUR-2024-00159

Filed: August 29, 2024

Volume 2 of 2

COMMONWEALTH OF VIRGINIA
BEFORE THE
STATE CORPORATION COMMISSION

APPLICATION OF
VIRGINIA ELECTRIC AND POWER COMPANY

FOR APPROVAL AND CERTIFICATION
OF ELECTRIC TRANSMISSION FACILITIES

**Partial Rebuild of Lines #256 and #2090/#2335
and New 230 kV Lines # 2372 (Ladysmith – New Post)
and 2378 (Lee’s Hill – New Post)**

Application No. 340

DEQ Supplement

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Table of Contents

	Page
1. Project Description	1
2. Environmental Analysis.....	4
A. Air Quality	4
B. Water Source.....	4
C. Discharge of Cooling Waters.....	5
D. Tidal and Non-tidal Wetlands.....	5
E. Floodplains.....	6
F. Solid and Hazardous Waste	6
G. Natural Heritage, Threatened and Endangered Species.....	7
H. Erosion and Sediment Control.....	11
I. Archaeological, Historic, Scenic, Cultural or Architectural Resources.....	12
J. Chesapeake Bay Preservation Areas.....	14
K. Wildlife Resources.....	14
L. Recreation, Agricultural, and Forest Resources.....	15
M. Use of Pesticides and Herbicides	17
N. Geology and Mineral Resources.....	18
O. Transportation Infrastructure	19
P. Drinking Water Wells.....	21
Q. Pollution Prevention	21

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

1. Project Description

In order to resolve identified violations of North American Electric Reliability Corporation (“NERC”) Reliability Standards and to maintain the structural integrity and reliability of its transmission system in compliance with mandatory NERC Reliability Standards, Virginia Electric and Power Company (“Dominion Energy Virginia” or the “Company”) proposes in Caroline County, Virginia, and Spotsylvania County, Virginia to:

- (1) **Partially rebuild 230 kV Line #256 from Ladysmith Combustion Turbine (“CT”) to St. Johns Substation.** Line #256 currently shares an existing double-circuit tower line with Line #2090, which was constructed in 2010-2011, from Ladysmith CT to Structure #256/107, #2090/107 (“Elmont Junction”). Line #256 will be reconducted on existing structures for approximately 5.1 miles, starting at Ladysmith CT and traveling to Elmont Junction. The existing right-of-way (“ROW”) in this 5.1-mile section is 250 feet in width. This portion of Line #256 will be reconducted with 2-768 ACSS conductor. One new Design Number (“DNO”)-11410 48-fiber shield wire will be installed above Line #256 for lightning protection shielding and telecommunication purposes. The existing towers for this portion of Line #256 will remain unimproved.¹ After reconducting the 5.1-mile section of Line #256, Line #256 and Line #2090 will split at Elmont Junction. Line #256 will proceed south and be rebuilt along an existing 200-foot-wide ROW to St. Johns Substation for approximately 7.3 miles on new double-circuit weathering steel monopole structures. Line #256 will be strung on one side of the double-circuit monopoles, and a new 230 kilovolt (“kV”) line will be installed on the other side of the double-circuit monopoles for a future circuit that will be extended to Elmont Substation. The conductor on both sides of the structures will be 2-768 ACSS conductor. Two new DNO-11410 48-fiber shield wires will also be installed for lightning protection shielding and telecommunication purposes. The new line and substation equipment will have a minimum summer rating of 1573 MVA² using 4000 Ampere (“A”) substation equipment.

¹ While a component of the proposed Project, the reconducting portions of the project are deemed ordinary course, pursuant to Va. Code § 56-265.2 A 1 and consistent with the Staff’s July 6, 2017 guidance (available at <https://scc.virginia.gov/getdoc/7f6ec0f6-7d14-4ca9-bd8a-9bd2511c5cdb/StaffGuidanceOrdvsNonOrd.pdf>), which provides that any transmission project that only requires reconducting, maintenance or station work does not require a CPCN, except as noted therein.

² Apparent power, measured in megavolt amperes (“MVA”), is made up of real power (megawatt or “MW”) and reactive power megavolt ampere reactive (“MVAR”). The power factor (“pf”) is the ratio of real power to apparent power. For loads with a high pf (approaching unity), real power will approach apparent power and the two can be used interchangeably. Load loss criteria specify real power (MW) units because that represents the real power that will be dropped; however, MVA is used to describe retail customer projected load, reflecting representative pf, and the equipment ratings to handle the apparent power, which includes the real and reactive load components.

(2) **Partially rebuild Line #2090 from Ladysmith CT to Lee's Hill Substation.** As previously noted, the 2090 Line shares an existing double-circuit tower line with Line #256 in this section that was constructed in 2010-2011. Line #2090 will be reconducted on the same existing structures as Line #256 for approximately 5.1 miles along a 250-foot-wide ROW, traveling from Ladysmith CT to Elmont Junction. This portion of the line will be reconducted with 2-768 ACSS conductor. One new DNO-11410 48-fiber shield wire will be installed above Line #2090 for lightning protection shielding and telecommunication purposes. The existing towers will remain unimproved.³ After reconducting the first 5.1-mile section, Line #256 and Line #2090 split at Elmont Junction. From Elmont Junction, Line #2090 will proceed north and be rebuilt along an existing 200-foot-wide ROW for approximately 5.5 miles on new double-circuit weathering steel monopoles to New Post Substation. Line #2090 will then continue for approximately 0.9 mile on existing 200-foot-wide ROW to Lee's Hill Substation but will be renumbered Line #2335. Line #2090/Line #2335 will be strung on one side of the double-circuit monopoles, and a new 230 kV line (Line #2372/Line #2378) will be installed on the other side of the double-circuit monopoles. The conductor on both sides of the structures will be 2-768 ACSS conductor. Two new DNO-11410 48-fiber shield wires will also be installed for lightning protection shielding and telecommunication purposes. The new line and substation equipment will have a minimum summer rating of 1573 MVA using 4000 A substation equipment.

(3) **Construct a new approximately 14.1-mile overhead 230 kV line between Ladysmith and Lee's Hill Substations, connecting at New Post Substation.** The new Ladysmith – New Post line will be numbered Line #2372 and the new Lee's Hill – New Post line will be numbered #2378. Line #2372 will be installed onto the existing structures of Line #2089. Line 2089 will be reconducted from Ladysmith Substation to Ladysmith CT.⁴ Line #2372 will have three segments. Starting at Ladysmith Substation, the first segment will travel approximately 3.2 miles along an existing 250-foot-wide ROW on existing double-circuit galvanized steel towers from structure #2089/3 to 2089/18. The second segment of Line #2372 will travel approximately 4.5-miles on existing 250-foot-wide ROW from Ladysmith CT junction (Structure #2089/19) ("Ladysmith Junction") to Elmont Junction. For this segment of Line #2372, the new line will be installed on new single-circuit weathering steel 230 kV monopoles. Finally, the third segment will travel approximately 5.5 miles from Elmont Junction to New Post Substation and will be constructed on the same double-circuit weathering steel monopoles as Line #2090 along an existing 200-foot-wide ROW. All three segments will be installed with 2-768 ACSS conductor. One new DNO-11410 OPGW will be installed for lightning protection shielding and telecommunications

³ See *supra*, n. 2.

⁴ See *supra*, n.1.

purposes above the new Line #2372 from Ladysmith Substation to the New Post Substation. The Company will install equipment as needed at Ladysmith Substation to provide a termination point for Line #2372. Because the existing right-of-way is adequate for the new proposed Line #2372, no new right-of-way is required. Line #2372 will become Line #2378 at New Post Substation and will continue north approximately 0.9 mile along existing 200-foot-wide ROW up to Lee's Hill Substation, sharing structures with Line #2335. The same structure framing, finishing, conductor and telecom/shielding wire described for Line # 2335 will be used for Line #2378.

The components described above are collectively referred to as the "Project." PJM identified NERC reliability violations expected to occur within the Project area that, if not relieved, will severely impact the transmission system's ability to provide reliable service to the Company's customers in the Project area. Accordingly, the Project is required to mitigate identified potential NERC reliability violations and to maintain reliable service for overall load growth.

For the Line #256 reconductoring and partial rebuild, the existing ROW to be used is 250 feet in width from Ladysmith CT to Elmont Junction and 200 feet in width from Elmont Junction to St. Johns Substation. Because the existing ROW and Company-owned property is adequate for the proposed Line #256 reconductoring and partial rebuild, no new right-of-way is required. As a result, the ROW for the Line #256 reconductoring and partial rebuild has been identified as the proposed route. Given the availability of existing ROW, statutory preference for use of existing rights-of-way, and because additional costs and environmental impacts would be associated with the acquisition of and construction on new ROW, the Company did not consider any alternative routes for the Line #256 reconductoring and partial rebuild.

For the Line #2090/#2335 reconductoring and partial rebuild, the existing ROW to be used is 250 feet in width from Ladysmith CT to Elmont Junction and 200 feet in width to New Post Substation and to Lee's Hill Substation. Because the existing ROW and Company-owned property is adequate for the proposed Line #2090 reconductoring and partial rebuild, no new ROW is required, and the ROW for the Line #2090/#2335 rebuild has been identified as the proposed route. Given the availability of existing ROW, the statutory preference for use of existing rights-of-way, and because additional costs and environmental impacts would be associated with the acquisition of and construction on new ROW, the Company did not consider any alternative routes requiring new ROW for the Line #2090/#2335 reconductoring and partial rebuild.

For the new 230 kV sources, Lines #2372 and #2378, the Company identified an approximately 14.1-mile overhead route. The existing ROW to be used is 250 feet in width from Ladysmith Substation to Elmont Junction and 200 feet in width from Elmont Junction to New Post Substation and from New Post Substation to Lee's Hill Substation. Because the existing ROW is adequate for the new proposed Lines #2372 and #2378, no new ROW is required. The Company did not consider any alternative routes requiring new ROW for Lines #2372 and #2378.

2. Environmental Analysis

As part of Dominion Energy Virginia’s environmental compliance, the Company has a comprehensive Environmental Management System Manual in place that ensures it is committed to complying with environmental laws and regulations, reducing risk, minimizing adverse environmental impacts, setting environmental goals, and achieving improvements in its environmental performance, consistent with the Company’s core values.

A. Air Quality

For the proposed 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, 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 lines so there will be exhaust from those motors. Exhaust from those motors will result in minimal air pollution.

The existing transmission right-of-way corridor currently is maintained for transmission facility operations. The Project may require some trimming of tree limbs along the right-of-way edges to support construction activities or danger tree removal. 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 in accordance with the Company’s property rights. 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.

The proposed Project is located within the Lower Rappahannock and Mattaponi watersheds, 02080104 and 02080105 respectively. According to the United States Geologic Survey (“USGS”) topographic quadrangles (Guinea [2022], Ladysmith [2022], and Woodford [2022]) and the Virginia Department of Conservation and Recreation’s (“DCR”) National Hydrography Dataset found on the Natural Heritage Data Explorer, the existing transmission line corridors cross Motto River, Matta River, South River, Po River, Ni River, and Downers Branch as well as unnamed tributaries to these waterbodies.

During detailed engineering, the Company will aim to span these waterbodies with no foundations being located below ordinary high water or mean high water marks, if possible. Any clearing, if required, in the vicinity of streams will be performed by hand within 100 feet of both sides, and vegetation less than three inches in diameter will be left undisturbed.

A subaqueous encroachment permit is expected to be required as there are multiple river crossings (Ni River, Po River, Matta River, and South River) with a drainage area of five square miles or greater crossed by the proposed Project. The proposed Project does not appear to cross any tidal waterbodies. A Joint Permit Application will be submitted for review by the VMRC, DEQ and the U.S. Army Corps of Engineers (the “Corps”) as needed to authorize jurisdictional crossings and for any impacts to jurisdictional features. See Section 2.D below.

C. Discharge of Cooling Waters

No discharge of cooling waters is associated with the Project.

D. Tidal and Non-tidal Wetlands

On behalf of the Company, C2 Environmental, Inc. (“C2 Environmental”) conducted a desktop wetland review to identify potential wetlands, streams and other waters of the United States (“WOUS”) crossed by the proposed Project. Sources for this desktop review include the United States Fish and Wildlife Service (“USFWS”) National Wetland Inventory (“NWI”), the U.S. Department of Agriculture-Natural Resources Conservation Service Soil Survey data, USGS topographic maps and digital elevation model data, Virginia Geographic Information Network ortho-rectified natural color and infrared images, Federal Emergency Management Agency 100-year floodplain maps, and historic aerial imagery (Google Earth). A copy of the Desktop Wetland Review is included in Attachment 2.D.1.

Table D-1. Results of Desktop Wetland Review

Project Summary				
	Low	Medium	High	Total
PEM/PSS Wetlands	10.2 AC	61.5 AC	102.2 AC	173.9 AC
Non-tidal Stream Channel	-	-	-	4.9 AC (21,375 LF)
Jurisdictional Ditch	-	-	-	0.7 AC (6,632 LF)
Open Water	-	-	-	3.1 AC

Prior to construction, the Company will delineate wetlands and other waters of the United States using the *Routine Determination Method*, as outlined in the *1987 Corps of Engineers Wetland Delineation Manual* and methods described in the *2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Version 2.0) or the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (Version 2.0), depending on the location of the wetlands. The Company will obtain any necessary permits to impact jurisdictional resources.

E. Floodplains

As depicted on the Federal Emergency Management Agency's ("FEMA") online Flood Insurance Rate Maps #51033C02005 (effective date 5/23/2023), 51033C0205D (effective date 5/23/2023), 51033C0065D (effective date 5/23/2023), 51033C0210D (effective date 5/23/2023), 51033C0220D (effective date 5/23/2023), and 51177C0250D (effective date 5/9/2023), the proposed Project lies within Zone X, areas of minimal flood hazard, Zone A, base flood elevation and 100-year floodplain, and Zone AE, areas with a 1% annual chance of flooding. The Company will coordinate with the local floodplain coordinators as required.

F. Solid and Hazardous Waste

On behalf of the Company, C2 Environmental conducted database searches for environmentally regulated sites that use and/or store hazardous materials or waste producing facilities operating under regulatory permits within a 0.5-mile radius of the proposed Project. Environmentally regulated sites in the study area were identified using publicly available geographic information system (GIS) databases obtained from the United States Environmental Protection Agency ("EPA") and the DEQ. These databases provide information about a variety of facilities, sites, or places subject to environmental regulation or of environmental interest, including Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA" or "Superfund") sites; Resource Conservation and Recovery Act ("RCRA") sites; Brownfield sites; petroleum storage and petroleum release sites; Pollution Response Programs (PREP 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.

Sites regulated by the EPA under the Clean Air Act ("CAA") Compliance Monitoring Program, Toxic Release Inventory ("TRI"), National Pollutant Discharge Elimination System ("NPDES") and RCRA, and sites regulated by the DEQ under the Air, Solid Waste, Virginia Pollutant Discharge Elimination System ("VPDES"), Voluntary Response Program ("VRP"), and Registered Petroleum Tank Facilities programs not associated with a petroleum leak, site assessment, remediation, corrective action or emergency response case are anticipated to have no effect on, and will not be affected by, the proposed Project. These sites are not discussed further.

Sites within 0.5 miles of the proposed Project regulated by the EPA as Superfund, Brownfield, and RCRA, and regulated by the DEQ, including Petroleum Release, VRP, and PREP sites, were evaluated for potential impacts and are discussed below.

EPA Regulated Sites

No CERCLA/Superfund or Brownfield sites or RCRA sites were identified within the 0.5-mile search radius for the proposed Project.

DEQ Regulated Sites

No solid waste permits were identified within the 0.5-mile search radius for the proposed Project. Only one petroleum release site (Dudley James Residence) was identified within the 0.5-mile search radius for the proposed Project. The PC number for the site is 20033188, the release date was April 2, 2007, and the status of the site is Closed. This site is approximately 1,130 feet west of the proposed Project.

EPA and DEQ Regulated Sites within 200 feet

No EPA or DEQ regulated sites are within 200 feet of the proposed Project.

Summary

In summary, all the Petroleum Release cases within 0.5-mile of the proposed Project have been closed by the DEQ. The DEQ deems a petroleum release case closed once there is no further risk to the general public, although petroleum residue might remain. The DEQ's risk assessments do not always consider the risk associated with temporary excavations and construction. Although the proposed Project involves construction of overhead lines, some subsurface work is required during installation of the proposed structures. This disturbance occurs at discrete locations along the route, with temporary spoils contained as they are generated. The Company has a procedure in place to safely identify, manage, and dispose of any suspected hazardous or contaminated media encountered during construction. If contaminated soil or groundwater are identified, the Company will coordinate with the associated regulatory agency and dispose of the soils in accordance with applicable regulations. Therefore, the Company believes that no further evaluation of the petroleum release sites is warranted.

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. This is further detailed in the Company's stormwater pollution prevention plan, a component of the Virginia Stormwater Management Program, which falls under the purview of the DEQ.

G. Natural Heritage, Threatened and Endangered Species

On behalf of the Company, C2 Environmental conducted online database searches to identify federal- and state-listed threatened and endangered species that may occur in the vicinity of the proposed Project, including the Virginia Department of Conservation and Recreation ("DCR") Natural Heritage Data Explorer ("NHDE"). The NHDE includes Conservation Sites, Stream Conservation Units ("SCUs"), General Location Areas for Natural Heritage Resources, and Ecological Cores. The Virginia Department of Wildlife Resources ("DWR") Fish and Wildlife Information Service ("VaFWIS") and the USFWS Information for Planning and Consultation ("IPaC") System were also searched to identify federally and state-listed species that may occur within the vicinity. The identified federal-

and state-listed threatened and endangered species within the vicinity are presented in Table G-1 below, and the individual search results are included as Attachment 2.G.1.

Searches of the above referenced databases identified multiple federal- and state-listed threatened and endangered species potentially occurring in the vicinity of the Project (Table G-1). The federally listed species include the Northern long-eared bat (“NLEB”) (*Myotis septentrionalis*), Indiana bat (*Myotis sodalist*), Dwarf wedgemussel (*Alasmidonta heterodon*), Green floater (*Lasmigona subviridis*), Yellow lance (*Ellipito lanceolata*), Small Whorled Pogonia (*Isotria medeoloides*), Swamp pink (*Helonias bullata*), and Atlantic sturgeon (*Acipenser oxyrinchus*), all of which are also listed at the state level. Of these eight species, three were identified and confirmed by VAFWIS as occurring within a 2-mile radius of the proposed Project, (Dwarf wedgemussel, Yellow lance, and Atlantic sturgeon). These searches also identified the Tri-colored bat (*Perimyotis subflavus*) (“TCB”), which is currently proposed for federal listing, and the Monarch butterfly (*Danaus Plexippus*), which is a candidate for federal listing; neither species was listed at the time of this filing.

The DWR operates a *Northern Long-eared Bat Winter Habitat and Roost Tree* and a *Little Brown Bat and Tri-colored Bat Winter Habitat & Roosts* online mapping systems, which show general locations of known hibernacula and roost trees. A review of these systems did not identify any known hibernacula or roost trees in Caroline or Spotsylvania Counties. The Company will coordinate with the appropriate agencies, as necessary, should tree clearing be required.

Based on the DCR query, there are two additional state-listed species that have the potential to occur within the same watershed as the proposed Project (New Jersey Rush [*Juncus Caesariensis*] and Virginia Piedmont Water Boatman [*Sigara depressa*]). The DWR query also identified Anadromous Fish Use Areas near the Project. The Mattaponi River, located to the east of the proposed Project, is a confirmed Anadromous Fish Use Area. The Po River, Poni River, and Matta River (all crossed by the proposed Project) are identified as potential Anadromous Fish Use Areas.

To obtain the most current eagle nest data, C2 Environmental reviewed the Center for Conservation Biology (“CCB”) Virginia Eagle Nest Locator mapping portal, which provides information about the Virginia bald eagle (*Haliaeetus leucocephalus*) population, including the results of the CCB’s annual eagle nest survey. The CCB mapping portal did not identify any bald eagle or osprey nests within 660 feet of the proposed Project. Further, according to the USFWS Bald Eagle Concentration Area Map, the proposed Project is not located within a designated Eagle Concentration Area.

A summary of the 12 species identified by the search results potentially occurring in the proposed Project area are listed in Table G-1 below. A copy of the database search results can be found in Attachment 2.G.1.

Table G-1. Potential Federal- and State-Listed Species in the vicinity of the Proposed Project

Species (Scientific Name)	Status	Database	Habitat	Results
Northern long-eared bat (<i>Myotis septentrionalis</i>)	FE, ST	USFWS IPaC	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 potentially occurs within the vicinity of the proposed Project. No known hibernacula or maternity roosts are identified within 0.5 mile. Project to be constructed within existing cleared ROW, no impacts are anticipated.
Tricolored bat (<i>Perimyotis subflavus</i>)	FPE, SE	USFWS IPaC	Typically roost in trees near forest edges during summer. Hibernates deep in caves or mines in areas with warm, stable temperatures during winter.	Species potentially occurs within the vicinity of the proposed Project. Summer foraging habitat may be present, but no hibernacula or roost trees identified within 0.5 mile. Project to be constructed within existing cleared ROW, no impacts are anticipated.
Indiana bat (<i>Myotis sodalist</i>)	FE, SE	USFWS IPaC	In the winter, Indiana bats gather in caves and mines as they require colder temperatures than other bat species. During summer months they roost under exfoliating bark of trees. Species feeds along forested stream corridors and in upland and bottomland forests.	Species potentially occurs within the vicinity of the proposed Project. Summer foraging habitat may be present. No known species occurrences were identified. Project to be constructed within existing cleared ROW, no impacts are anticipated.
Dwarf Wedgemussel (<i>Alasmodonta heterodon</i>)	FE, SE	USFWS IPaC, DWR VaFWIS, DCR	Deep quick running water on cobble, fine gravel, or on firm silt or sandy bottoms.	Species confirmed as present by VaFWIS Search Report. No instream work will be performed. No impacts are anticipated.
Green Floater (<i>Lasmigona subviridis</i>)	FPT, ST	USFWS IPaC	Small to medium streams in quiet pools and eddies with gravel and sand substrates.	Species not confirmed as present by VaFWIS. No instream work will be performed. No impacts are anticipated.
Yellow Lance (<i>Ellipito lanceolata</i>)	FT, ST	USFWS IPaC, DWR VaFWIS, DCR	Main channels of drainages and streams as small as one meter across with clean, coarse, medium-sized sand or gravel substrate.	Species confirmed as present by VaFWIS Search Report. No instream work will be performed. No impacts are anticipated.

Species (Scientific Name)	Status	Database	Habitat	Results
Small Whorled Pogonia (<i>Isotria medeoloides</i>)	FT, SE	USFWS IPaC, DCR	Mature hardwood stands of beech, maple, oak, birch, and hickory with an open understory and softwood hemlock stands. Species prefers acidic soil with thick litter layer near small streams.	Existing right-of-way is already cleared and suitable habitat is unlikely present. No impacts are anticipated.
Swamp Pink (<i>Helonias bullata</i>)	FT, SE	USFWS IPaC, DCR	Acidic, sandy seeps and seepage swamps, palustrine forested and scrub/shrub wetlands, often rooted in sphagnum hummocks.	Existing right-of-way is already cleared; however, suitable habitat may be present in or adjacent to the right-of- way depending on field conditions at the time of construction.
Monarch Butterfly (<i>Danaus plexippus</i>)	FC	USFWS IPaC,	Typically found in herbaceous and scrub-shrub areas particularly with the presence of milkweed.	Suitable habitat may be present in the right-of-way. Vegetation may be temporarily disturbed due to construction access; however, no long term or adverse effects are expected.
Atlantic Sturgeon (<i>Acipenser oxyrinchus</i>)	FE, SE	DWR VaFWIS	Large rivers and near-shore environments, lives the majority of its life in marine and estuarine environments and migrates up large rivers with rocky substrate to spawn.	Species confirmed as present by VaFWIS Search Report. No instream work will be performed. No impacts are anticipated.
New Jersey Rush (<i>Juncus Caesariensis</i>)	ST	DCR	Shady stream banks, pond margins, swales, and swamps. Acidic, sphagnum, wet springs or seeps with a source of flowing water but no standing water.	Existing right-of-way is already cleared; however, suitable habitat may be present in or adjacent to the right-of- way depending on field conditions at the time of construction.
Virginia Piedmont Water Boatman (<i>Sigara depressa</i>)	SE	DCR	Historic distribution is limited to four small streams in Virginia's Piedmont physiographic province. Quiet, deep sand and muck- bottomed pools.	Species has not been identified since 1997. Suitable habitat may be present within the right- of-way. No instream work will be performed. No impacts are anticipated.

FE= Federally listed as endangered, FT = Federally listed as threatened, FPE = Federally proposed as endangered, FPT = Federally proposed as threatened, SE=State listed as endangered, ST=State listed as threatened, FC= Federally proposed as candidate

A Project Review request was submitted to DCR on July 24, 2024. DCR completed its Project Review, as discussed in detail below, and provided its response on August 7, 2024

(See Attachment 2.G.2). According to this official review, DCR concluded that the Project does not cross any State Natural Area Preserves under DCR's jurisdiction. A biologist from DCR studied the project area and recommended a survey of New Jersey Rush be conducted during the fruiting period of this plant. Temporary impacts to vegetation will occur during construction of the Project; however, as the Project consists of rebuilding an existing transmission line no permanent change in habitat will occur. If the existing maintained ROW were to currently provide suitable habitat for New Jersey rush, this habitat would continue to exist post construction. As such, the Company is not proposing surveys be completed for New Jersey Rush.

Additionally, according to the DCR's predicted suitable habitat model and review by a DCR biologist, DCR indicated that there is the potential for Yellow lance to occur in the Project area. To minimize potential adverse impacts of this aquatic species, DCR recommended the implementation and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations. As noted in Section 2.H., Dominion will adhere to the Company's DEQ approved *Standards & Specification for Erosion & Sediment Control and Stormwater Management for Construction of Linear Electric Transmission Facilities*. Due to the implementation of these measures and the lack of in-stream work for this Project, no impacts to Yellow lance are anticipated.

DCR's review of the Guinea Quadrangle and Ladysmith Quadrangle noted that natural heritage resources have not been documented within the Project boundary, including a 100-foot buffer. Predictive modeling identified the potential habitat for Small whorled pogonia; however, based on the DCR's review, surveys were not recommended for this species. DCR recommended the development and implementation of an invasive species plan to be included as part of the maintenance practices of the ROW. As noted in Section 2.M., the Company is in coordination with the DCR on their Integrated Vegetation Management Plan ("IVMP").

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

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 February 27, 2024, is provided as Attachment 2.H.1. According to the approval letter, coverage is effective from February 27, 2024, through February 26, 2025.

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

The Company retained Dutton + Associates (“Dutton”) to conduct a Stage I Pre-Application Analysis (“Stage I Analysis”) of potential impacts on cultural resources for the proposed Project in accordance with the Virginia Department of Historic Resources’ (“VDHR”) Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia (Guidelines) (VDHR 2008). A copy of the Stage I Analysis, which was provided to VDHR on August 28, 2024, is included as Attachment 2.I.1. Preliminary background research was conducted pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* 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*.

The analysis identified and considered previously recorded resources within the following study tiers as specified in the Guidelines. Information on the resources in each tier (see Table I-1) was collected from the Virginia Cultural Resource Information System (“VCRIS”)

Table I-1. VDHR Guidelines Study Tiers

Radial Buffer (in miles)	Considered Resources
1.5	National Historic Landmarks
1.0	Above resources, and: National Register Properties (listed) Battlefields Historic Landscapes (e.g. Rural HD)
0.5	Above resources, and: National Register-eligible (as determined by DHR)
0.0 (within ROW)	Above resources, and: Archaeological Sites

Following identification and field inspection of historic properties, D+A assessed each architectural resource for potential impacts from 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 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 the proposed Project, which was then loaded into a computer with location and ground-elevation data. The transmission line structures to be built as part of the proposed 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. Archaeological assessment was limited to desktop review of project improvements in relation to previously delineated site boundaries, however, existing conditions of sites remain unknown at this level of investigation.

A summary of the considered resources identified in the vicinity of the proposed Project 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 is in accordance with VDHR's Guidelines and does not purport to encompass the entire suite of historic and archaeological resources that could be affected by the proposed Project.

A review of the VDHR VCRIS indicates that four previously recorded archaeological sites fall within or adjacent to the existing right-of-way of the proposed Project, one of which was determined potentially eligible for listing in the NRHP (see Table I-2 below). Because a formal archaeological survey has not been conducted as part of this Project, the potential impacts of the proposed Project on archaeological sites have not yet been fully determined; however, a preliminary assessment of potential impacts was conducted based upon previous site data and preliminary Project details. 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. Additional information on these sites is provided in [Attachment 2.I.1](#).

Table I-2. Previously Recorded Archaeological Resources in or Adjacent to the Existing Right-of-Way for the Proposed Project

Site Number	Site Type	Description	NRHP Status
44CE0225	Camp, temporary	No Data	Not Evaluated
44CE0227	Camp, temporary	(Paleo-Indian (15000 – 8501 B.C.E), Early Archaic Period (8500 - 6501 B.C.E), Middle Archaic Period (6500 – 3001 B.C.E), Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606)	Not Evaluated
44CE0829	Camp, temporary	Early Woodland (1200 B.C.E - 299 C.E)	VDHR: Potentially Eligible
44CE1046	Camp, temporary	Pre-Contact, Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated

Four architectural sites that conform to the categories in VDHR's tiered study area were identified for the proposed Project (see Table I-3 below). Additional information on these sites, including photo simulations and mapping, is provided in [Attachment 2.I.1](#).

Table I-3. Previously Recorded Historic Resources in VDHR Tiers for the Proposed Project

VDHR Study Tier	Resource Name and VDHR #	NRHP Status	Impact
1.0 to 1.5 mile	None Identified	Not applicable	Not applicable
0.5 to 1.0 mile	None Identified	Not applicable	Not applicable
0.0 to 0.5 mile	Braynefield: 016-0003	NRHP-Eligible	Minimal Impact
	Nyland: 088-0100	NRHP-Eligible	No Impact
0.0 mile (within the right-of-way)	Edge Hill: 016-0006	NRHP-Listed	Minimal Impact
	Woodpecker Farm: 016-0028	NRHP-Eligible	Minimal Impact

J. Chesapeake Bay Preservation Areas

Caroline County and Spotsylvania County are subject to the Chesapeake Bay Preservation Act (“CBPA”), which regulates development of lands that could impact water quality in the Chesapeake Bay and its tributaries. Chesapeake Bay Preservation Areas that help maintain water quality are broken into Resource Protection Areas (“RPAs”), including tidal wetlands, tidal waterbodies, perennially flowing streams, wetlands associated with perennially flowing streams, and a 100-foot buffer around them; and Resource Management Areas, land that could degrade water quality or value of RPAs. The proposed Project is expected to cross features regulated under the CBPA.

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 and will use Best Management Practices to limit impacts to RPAs to the maximum extent possible while safely and effectively constructing and maintaining this infrastructure.

K. Wildlife Resources

Relevant agency databases were reviewed to determine if the proposed Project has the potential to affect any threatened or endangered species, and a request for Project Review was submitted to DCR as described in Section 2.G and included as Attachments 2.G.1 and 2.G.2, respectively. As discussed in Section 2.G, certain federal and state listed species were identified as confirmed and potentially occurring in the vicinity of the proposed Project. The Company will coordinate with the USFWS, DWR, and DCR as appropriate to determine whether surveys are necessary and to minimize impacts on wildlife resources.

In addition, the Company is actively monitoring regulatory changes and requirements associated with the NLEB and how it could potentially impact construction timing associated with time of year restrictions (“TOYRs”). The USFWS previously indicated that it planned to issue final NLEB guidance to replace the interim guidance by April 1, 2024; however, in March 2024, USFWS extended the interim guidance through late summer 2024. The Company is actively tracking updates from the USFWS with respect to the final guidance. Once issued, the Company plans to review and follow the final

guidance to the extent it applies to the Company’s projects. Until the final guidance is issued, the Company will continue following the interim guidance. For projects that may require additional coordination, the Company will coordinate with the USFWS.

The Company is also monitoring potential regulatory changes associated with the potential up-listing of the Tri-colored bat (“TCB”). On September 14, 2022, the USFWS published a proposed rule to the Federal Register to list the TCB as endangered under the Endangered Species Act. USFWS extended its Final Rule issuance target from September 2023 to September 2024. The Company is actively tracking this ruling and evaluating the effects of potential outcomes on Company projects’ permitting, construction, and in-service dates, including electric transmission projects.

L. Recreation, Agricultural, and Forest Resources

The general character of the area crossed by the existing ROW to be used for the proposed Project is characterized as predominantly low-density and rural residential, agricultural, and forested land with minimal business and commercial land uses. The Project is expected to have minimal incremental impacts on recreational, agricultural, and forest resources as the right-of-way is existing and no additional right-of-way is required.

The Company reviewed publicly available data sets and maps, County websites, and recent digital aerial photography to identify recreational areas within 0.5 mile of the Project. Four recreational areas were identified as shown in Table L-1 below. Given the distance between these recreational areas and the Project, and that the Project consists of the partial rebuilding and reconductoring of an existing transmission line and the construction of a new circuit within existing rights-of-way, no impacts to these recreational areas are anticipated.

Table L-1. Recreational Areas Within 0.5 Mile of the Proposed Project

Name	Facilities Summary	Distance/Direction From Proposed Project
Cedar Forest Elementary School Recreational Facilities	Two general recreational fields and a playground	0.5 mile East
Fredericksburg / Washington DC South KOA Holiday	Private campground with RV sites, cabins, and tent sites. Facilities include fishing, bike rentals, pool, gemstone mining, cornhole, trails, horseshoe pits, playground, and more	0.4 mile West
Woodpecker Farm Equestrian	Private horse farm that offers boarding and training, riding lessons, summer camps, and horse shows	0.4 mile West
Moonstruck Sport Horses	Private horse farm that offers lessons with a lighted jump course	0.4 mile West

One recreational trail (US Bicycle Route 1) is crossed by the proposed Project. This bicycle trail was established in 1982 and the portion of the trail in Virginia travels 274 miles through 14 counties. The trail is crossed four times by the existing transmission line rights-of-way. The trail crosses the proposed Project along Massaponax Church Road and then again further south along Guinea Station Road between Elmont Junction and Lee's Hill Substation where Line #2090 and Line #2372 will be installed on new, shared monopole structures. The trail then crosses along Edgehill Academy Road between Elmont Junction and the St. Johns Substation where Line #256 will be rebuilt on new monopole structures. Finally, the trail crosses the proposed Project along Cedon Road between Ladysmith Substation and Elmont Junction where Line #2372 will be installed onto the existing structures of Line #2089. No new right-of-way will be required, and visual impacts are anticipated to be minimal as riders are likely accustomed to the existing transmission line crossing this roadway.

The Virginia Scenic Rivers Program identifies and designates outstanding scenic, recreational, and historic waterbodies of statewide significance to conserve their natural corridors. There are no designated scenic rivers crossed by the existing right-of-way to be used for the proposed Project. One Virginia Byway is crossed by the Project (Guinea Station Road – Spotsylvania County). This roadway is crossed by the existing right-of-way and occurs along a portion of the proposed Project between Elmont Junction and the Lee's Hill Substation where Line #2090 will be rebuilt on new double-circuit weathering steel monopole structures which will also hold the new Line #2372. No new right-of-way will be required, and visual impacts are anticipated to be minimal as drivers are likely accustomed to the existing transmission line crossing this roadway.

The Virginia Agricultural and Forestal Districts Act provides for the creation of conservation districts designed to conserve, protect, and encourage the development and improvement of a locality's agricultural and forested lands. Spotsylvania County has designated Agricultural and Forestal Districts ("AFDs") under Va. Code § 3.2-205 B, however, no districts will be crossed by the proposed Project. While Caroline County does not contain AFDs, the county has designated Agricultural Preservation Districts within the county zoning ordinance. These districts are intended to "encourage economic development and to preserve farmland by providing for the viability of the county's agricultural sector by encouraging the orderly and responsible growth of its livestock, dairy, and poultry industry." No Agricultural Preservation Districts are crossed by the proposed Project. U.S. Department of Agriculture ("USDA") National Resource Conservation Service soils data indicate the existing right-of way to be used for the proposed Project crosses a total of approximately 275 acres of prime farmland and approximately 125 acres of farmland of statewide importance. Agricultural uses are present within the existing right-of-way and these activities have been occurring within the right-of-way while the existing transmission lines have been in operation. The proposed Project may result in temporary impacts to farmland during construction but would otherwise not be expected to impact farmlands and would not alter the agricultural use.

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. Most easements created under the Act are held by the Virginia Outdoors Foundation ("VOF"), but any state agency

is authorized to create and hold an open-space easement. Such conservation easements are designed to preserve and protect open space and other resources and must be held for no less than five years in duration and can be held in perpetuity. According to the DCR's NHDE, the existing right-of-way to be used for the proposed Project crosses three existing conservation easements, including a VOF easement (CLN-VOF-2320), and one VDHR easement (DHR 016-006). For additional information on the VDHR easement see Attachment 2.I.1. The Company does not expect new right-of-way will be required across these easements as the Project will be located within existing rights-of-way. Additional conservation areas were identified within 1-mile of the proposed Project including additional VOF easements and the DWR managed Mattaponi State Wildlife Management Area.

The Project as proposed takes place within existing right-of-way. Routine right-of-way maintenance requires trimming of tree limbs along the right-of-way edges and/or trimming for access roads along the corridor to support construction activities. 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 toward 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 inspect the rights-of-way within the field and designate any danger trees present. Qualified contractors working in accordance with the Company's Electric Transmission specifications will perform all danger tree cutting. As such, the Project is expected to have minimal impacts on forest resources.

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 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 the DCR Department of Natural Heritage (“DCR-DNH”) representatives, the Company reviewed its IVMP for application to both woody and herbaceous species based on the species list available on the DCR website. The Company continues to coordinate with DCR-DNH on an addendum to the IVMP to further explain how the Company’s operations and maintenance forestry program addresses invasive species. In November 2023, the Company submitted the addendum draft to DCR for review and continued discussions. DCR provided an initial response to the addendum in January 2024. The Company will continue to meet with DCR to further discuss the documentation provided. Once the addendum is finalized, the Company will report on the results of its communications with DCR in future transmission certificate of public convenience and necessity filings.⁵

N. Geology and Mineral Resources

The proposed Project is located within the Piedmont geologic province, which is the largest geologic province in the state. The province is bounded on the east by the Fall Zone and on the west by the mountainous Blue Ridge province and the terraced slopes of the Coastal Plain province to the east. The Piedmont province is characterized by rolling topography, thick soils, and deeply weathered bedrock due to the region’s humid climate. Bedrock in the Piedmont province includes a variety of igneous and metamorphic rock formations. Geologic formations crossed by the proposed Project include but are not limited to: Pliocene sand and gravel, Chesapeake Group, Bacons Castle Formation, Windsor Formation, Miocene sand and gravel, and Alluvium.

C2 Environmental reviewed USGS topographic quadrangles, digital aerial photographs, and a search of the Virginia Department of Energy (“VDOE”) online resources to identify mineral resources within 0.25-mile of the proposed Project. Based on that review, two mineral resources were identified: The Pitt (13413AB), which had a status of Active and MRV169B_801 (DMM20031), which had a status of Abandoned. Both resources were identified through the VDOE online resources. The Pitt (13413AB) is depicted on the VDOE website as being on Overview Drive, just east of the future Lee’s Hill Substation. Based on a review of recent (2023) aerial photography and parcel data, these sites were confirmed as not being directly crossed by the proposed Project and as such, no impacts to these sites are expected. The Company does not anticipate that the Project will result in negative impacts to geology or mineral resources.

⁵ 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 DCR-DNH’s recommendation regarding an invasive species management plan (“ISMP”), but directed the Company to meet with DCR-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 DCR-DNH’s ISMP; however, recommending that the Company meet with DCR-DNH regarding its IVMP and report the results of the meeting in the next transmission CPCN filing*).

O. Transportation Infrastructure

Road and Railroad Crossings

The existing transmission line corridors to be used for the proposed Project extend approximately 21 miles between the existing Ladysmith Substation, existing St. Johns Substation, and the future Lee's Hill Substation. Interstate-95 and Jefferson Davis Highway (Route 1) are an interstate and principal arterial (respectively) that extend north/south across the proposed Project. Other roads crossed by the existing right-of-way include: Lynnwood Lane, Cedon Road (Route 661), Ruby Road, Mudville Road, Powers Lane (Route 1421), Quarters Road (Route 632), Nancy Wrights Drive, Paige Road (Route 605), Newchok Farm Road, Stonewall Jackson Road (Route 606), Edgehill Academy Road (Route 632), Woodford Road (Route 626), S River Road (Route 638), Guinea Station Road (Route 607), Flippo Drive (Route 634), Braxton Street, Tasha Lane, Grapevine Lane, Black Road, Ivory Lane, Claiborne Plantation Way, Massaponax Church Road (Route 608), Ladysmith Road (Route 639), and private roads.

Temporary closures of roads and or traffic lanes may be required during construction of the Project. No long-term impacts to roads are anticipated and the Company will comply with Virginia Department of Transportation ("VDOT") requirements for access to the rights-of-way from public roads. At the appropriate time, the Company will obtain the necessary VDOT permits as required and comply with permit conditions. Increases in structure heights and the addition of a new circuit along portions of the Project will cause a minor change in visual impacts to drivers along these roadways. As all these roads already have transmission line crossings, impacts are expected to be minimal.

No railroads are crossed by the proposed Project. The nearest railroad to the proposed Project is a CSX railroad that shares the lines with Amtrak. At its nearest point, the railroad is approximately 0.5 mile east of the proposed Project.

Airports

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, aerial photography, and the AirNav website to identify public use airports, airports operated by a federal agency or the U.S. Department of Defense, airports, or heliports with at least one FAA-approved instrument approach procedure, and public use or military airports under construction within 10.0 miles of the Project. Table O-1 provides a summary of the airports and heliports identified.

Table O-1. Airports and Heliports within 10 Nautical Miles of the Proposed Project

Name	Approximate Distance and Direction from the Proposed Project	Use
Mary Walker LZ Airport (KAPH)	5.6 miles east of St Johns Substation	Private
Shannon Airport (EZF)	2.8 miles north of proposed Lee's Hill Substation	Public
Dogwood Airpark (VA42)	9.3 miles north of proposed Lee's Hill Substation	Private
Woodford Airpark (20VA)	1.0 mile southeast of existing Line #256/2090	Private
Robbie Campbell Memorial Airfield (4VG8)	3.3 miles west of existing Line #256/2090	Private
Spotsylvania Regional Medical Center Hospital Heliport (03VA)	1.2 miles west of existing Line #2090	Private
Mary Washington Hospital Heliport (6VA7)	5.9 miles north of proposed Lee's Hill Substation	Private

The Shannon Airport is the only public airport that was identified. Based on the review of the FAA defined Civil Airport Imaginary Surfaces and the Spotsylvania County Airport Overlay District, it was determined that the proposed Project is located outside of all approach and transitional surfaces for this airport. A portion of the proposed Project does fall within the "FAA Tower Zone" of the Spotsylvania County Airport Overlay District. 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, Dominion Energy Virginia will submit an FAA Form 7460-1 Notice pursuant to 14 CFR Part 77 for any structure locations that meet the review criteria.

The regulations that govern objects that may affect navigable airspace are codified in the Code of Federal Regulations, Title 14, Part 77. In these regulations, it states that restrictions to structure heights only apply to public use airports and do not apply to privately owned airports. The privately owned airports identified are located between 1.2 and 9.3 miles from the proposed Project. Even though private airports are not granted the same height restrictions of the surrounding area (as opposed to a public use airport), the Project should not have any impacts on the navigable airspace of these airports and FAA Form 7460-1 Notices will be submitted as appropriate.

P. Drinking Water Wells

Based on a review of Virginia Department of Energy's VA Water Wells data layer, no water wells were identified within the existing transmission line right-of-way and two water wells were identified within 1,000 feet of the proposed Project. As a general matter, water wells within 1,000 feet of the route of the Project may be outside of the transmission line corridor and located on private property. The Company does not have the ability or right to field mark the wells on private property. In August 2021, the Company contacted VDH-ODW to propose a method of well protection, including plotting and calling out the wells on the Project's Erosion and Sediment Control Plan, to which VDH-ODW indicated that the Company's proposed method is reasonable. A copy of that correspondence is included as Attachment 2.P.1. The Company intends to follow this same approach in this proceeding, as it has in other cases, and will coordinate with VDH-ODW, as needed.

Q. Pollution Prevention

Generally, as to pollution prevention, as part of Dominion Energy Virginia's commitment to environmental compliance, the Company has a comprehensive Environmental Management System Manual in place that ensures it is complying with environmental laws and regulations, reducing risk, minimizing adverse environmental impacts, setting environmental goals, and achieving improvements in its environmental performance, consistent with the Company's core values. Accordingly, any recommendation by the DEQ to consider development of an effective environmental management system has already been satisfied.

ATTACHMENTS



DESKTOP WETLAND REVIEW
LINES #256 AND #2090 PARTIAL REBUILD AND NEW 230 kV
LINES #2372 AND #2378

Caroline and Spotsylvania Counties, Virginia

Prepared For:

Dominion Energy Virginia
c/o Luke DuPont
120 Tredegar Street
Richmond, Virginia 23219

Prepared By:

C2 Environmental, Inc.
11846 Rock Landing Drive, Suite A
Newport News, Virginia 23606
Project No. 0354

August 2024

TABLE OF CONTENTS

Section	Page
1.0 Introduction.....	1
2.0 Desktop Data Sources	2
3.0 Methodology and wetland occurrence probability.....	2
4.0 Results.....	3
5.0 Conclusion	3

TABLES

Table 1. Criteria for Probability of Wetland Occurrence	3
Table 2. Results of Desktop Wetland Review	3

APPENDICES

Appendix A: Project Graphics

1.0 INTRODUCTION

C2 Environmental, Inc (C2 Environmental) has been retained by Dominion Energy Virginia (Dominion or the Company) to complete a desktop wetland review on the Lines #256 and #2090 Partial Rebuild and New 230 kV Lines #2372 and #2378 project located in Caroline and Spotsylvania Counties, Virginia. Below is a description of the individual segments of the project:

- (1) **Partially rebuild 230 kV Line #256 from Ladysmith Combustion Turbine (CT) to St. Johns Substation.** Line #256 currently shares an existing double-circuit tower line with Line #2090, which was constructed in 2010-2011, from Ladysmith CT to Structure #2090/107, 256/107 ("Elmont Junction"). Line #256 will be reconducted on existing structures for approximately 5.1 miles, starting at Ladysmith CT and traveling to Elmont Junction. The existing right-of-way ("ROW") in this 5.13-mile section is 250 feet in width. The existing towers for this portion of Line #256 will remain unimproved. After reconducting the 5.1-mile section of Line #256, Line #256 and Line #2090 will split at Elmont Junction. Line #256 will proceed south and be rebuilt along an existing 200-foot-wide ROW to St. Johns Substation for approximately 7.3 miles on new double-circuit weathering steel monopole structures. Line #256 will be strung on one side of the double-circuit monopoles, and a new 230 kilovolt ("kV") line will be installed on the other side of the double-circuit monopoles for a future circuit that will be extended to Elmont Substation.
- (2) **Partially rebuild Line #2090 from Ladysmith CT to Lees Hill Substation.** As previously noted, the 2090 Line shares an existing double-circuit tower line with the 256 Line in this section that was constructed in 2010-2011. Line #2090 will be reconducted on the same existing structures as Line #256 for approximately 5.1 miles along a 250-foot-wide ROW, traveling from Ladysmith CT to Elmont Junction. The existing towers will remain unimproved. After reconducting the first 5.1-mile section, Line #256 and Line #2090 split at Elmont Junction. From Elmont Junction, Line #2090 will proceed north and be rebuilt along an existing 200-foot-wide ROW for approximately 5.5 miles along new double-circuit weathering steel monopoles to New Post Substation. Line #2090 will then continue for approximately 0.9 mile on existing 200-foot-wide ROW to Lee's Hill Substation but will be renumbered to Line #2335. Line #2090/Line #2335 will be strung on one side of the double-circuit monopoles, and a new 230 kV line (Line #2372 / Line #2378) will be installed on the other side of the double-circuit monopoles.
- (3) **Construct a new approximately 14.1-mile overhead 230 kV line between Ladysmith and Lee's Hill Substations, connecting at New Post Substation.** The new Ladysmith-New Post line will be numbered #2372 and the new Lee's Hill - New Post line will be numbered #2378. Line #2372 will be installed onto the existing structures of Line #2089. Line #2098 will be reconducted from Ladysmith Substation to Ladysmith CT. Line #2372 will have three segments. Starting at Ladysmith Substation, the first segment will travel approximately 3.2 miles along an existing 250-foot-wide ROW on existing double-circuit galvanized steel towers

from structure #2089/3 to 2089/18. The second segment of Line #2372 will travel approximately 4.5 miles on existing 250-foot-wide ROW from Ladysmith CT junction (Structure #2089/19) (Ladysmith Junction) to Elmont Junction. For this segment of Line #2372, the new line will be installed on new single-circuit weathering steel 230 kV monopoles. Finally, the third segment will travel 5.5 miles from Elmont Junction to New Post Substation and will be constructed on the same double-circuit weathering steel monopoles as Line #2090 along an existing 200-foot-wide ROW. Because the existing right-of-way is adequate for the new proposed Line #2372, no new right-of-way is required. Line #2372 will become Line #2378 at New Post Substation and will continue north for approximately 0.9 mile along existing 200-foot-wide ROW up to Lee's Hill Substation, sharing structures with Line #2335.

The rebuild and new line project components described above are included in the desktop wetland review and illustrated on the enclosed Desktop Wetland Review Map.

It should be noted that this study does not include any on-site wetland delineation field investigations utilizing the *1987 Army Corps of Engineers Wetland Delineation Manual* in conjunction with the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)* and the *2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)*. Rather, publicly available data was used to identify the potential limits of wetlands and other Waters of the U.S. (WOUS).

2.0 DESKTOP DATA SOURCES

Resources used to complete the desktop review include the following:

- VGIN aerial imagery dated 2021;
- VGIN infrared imagery dated 2021;
- Google Earth historic imagery ranging from 1994 to 2023;
- U.S. Geologic Survey (USGS) topographic maps;
- USGS Digital Elevation Model (DEM) 1-meter contour data;
- U.S. Department of Agriculture National Resources Conservation Service (USDA-NRCS) hydric soil survey data;
- U.S. Fish and wildlife service (USFWS) National Wetland Inventory (NWI) wetland mapping;
- Federal Emergency Management Agency (FEMA) 100-year floodplain maps

3.0 METHODOLOGY AND WETLAND OCCURANCE PROBABILITY

Using the available infrared and aerial imagery along with the DEM and USGS topography, potential wetland areas were identified within the study area. The areas identified using the aerial imagery were typically darker in color, which is indicative of inundation or saturated soil conditions associated with wetlands. In many instances these dark signature areas are confined to concave landscapes as defined by the topography. However, wetland occurrence is not limited to concave landforms and can occur in flat landscapes. A probability of occurrence was assigned to each potential wetland based upon the presence or absence of

additional supporting data layers including USDA-NRCS hydric soil data, NWI wetland mapping, and FEMA 100-year floodplain maps. Table 1 lists the probability criteria of wetland occurrence based upon the number of layers present in a given area. It should be noted that streams, jurisdictional ditches, and open water (palustrine unconsolidated bottom) have not been assigned a probability of occurrence and have been identified based upon their consistent presence in multiple years of aeriels.

Table 1: Criteria for Probability of Wetland Occurrence

Probability	Criteria
Low	Areas identified with only topography and aeriels.
Medium	Areas identified with topography and aeriels with one additional data source (NRCS hydric soil mapping, NWI wetland mapping, or FEMA 100-year floodplain maps).
High	Areas identified with topography and aeriels with two or more additional data sources (NRCS hydric soil mapping, NWI wetland mapping, or FEMA 100-year floodplain maps).

4.0 RESULTS

The results of the desktop wetland review are provided in the Desktop Wetland Review Map (Appendix A). The Cowardin Classification of the wetlands within the existing ROW have been combined into palustrine scrub-shrub (PSS) / palustrine emergent wetlands (PEM) and not separated. This is because it is difficult to differentiate between scrub-shrub and emergent wetlands within the existing ROW even with the highest resolution aeriels. Table 2 lists wetland acreages by probability as well as palustrine unconsolidated bottom (PUB) open water features, stream channels, and jurisdictional ditches.

Table 2: Results of Desktop Wetland Review

	Low	Medium	High	Total
PEM/PSS Wetlands	10.2 AC	61.5 AC	102.2 AC	173.9 AC
Stream Channel	-	-	-	4.9 AC (21,375 LF)
Jurisdictional Ditch	-	-	-	0.7 AC (6,632 LF)
Open Water	-	-	-	3.1 AC

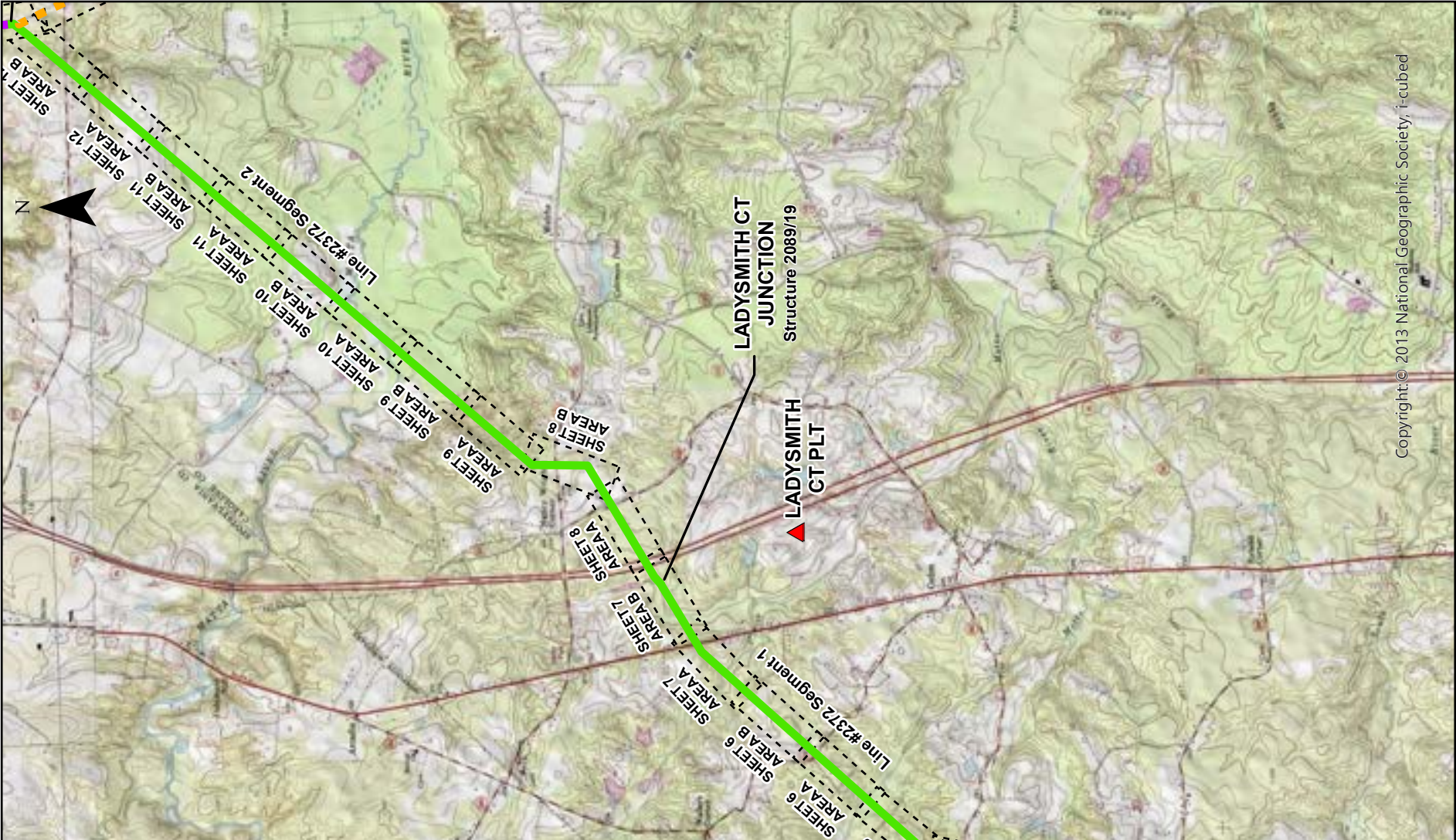
5.0 CONCLUSION

C2 Environmental performed a desktop wetland review on the Lines #256 and #2090 Partial Rebuild and New 230 kV Lines #2372 and #2378 project to determine the potential limits of wetlands and other WOUS within the project area using publicly available off-site resources. Prior to any land disturbing activities, C2 Environmental recommends a detailed delineation of wetlands and other WOUS followed by confirmation by U.S. Army Corps of Engineers.

APPENDIX A

Project Graphics

Site Summary			
Project Area +/- 607.9 AC			
Project Length +/- 26.78 MI			
Desktop Evaluated Features			
Palustrine Emergent/Palustrine Scrub-Shrub (PEM/PSS) Wetlands - High Probability	Area (+/-)	Length (+/-)	
	102.2 AC	--	
Palustrine Emergent/Palustrine Scrub-Shrub (PEM/PSS) Wetlands - Medium Probability	61.5 AC	--	
Palustrine Emergent/Palustrine Scrub-Shrub (PEM/PSS) Wetlands - Low Probability	10.2 AC	--	
Palustrine Unconsolidated Bottom (PUB) Open Water	3.1 AC	--	
Stream Channel	4.9 AC	21,375 LF	
Jurisdictional Ditch (JD)	0.7 AC	6,632 LF	



DESKTOP WETLAND REVIEW MAP

Lines #256 and #2090 Partial Rebuild and New 230 kV Lines #2372 and #2378

Caroline and Spotsylvania Counties, Virginia

Client:

Dominion Energy Virginia

C2 Env Project:

Prepared By:

0354

ELW

Date:

08/15/24

0

0.5

1

2 Miles

Scale is 1 IN = 4,000 FT when printed at original size of 11x17

SITE DATA

Proposed 230 kV Line #2372 in Existing ROW

Proposed 230 kV Line #2378 in Existing ROW

Existing 230 kV Line #2090 (and Future Line #2335) Partial Rebuild

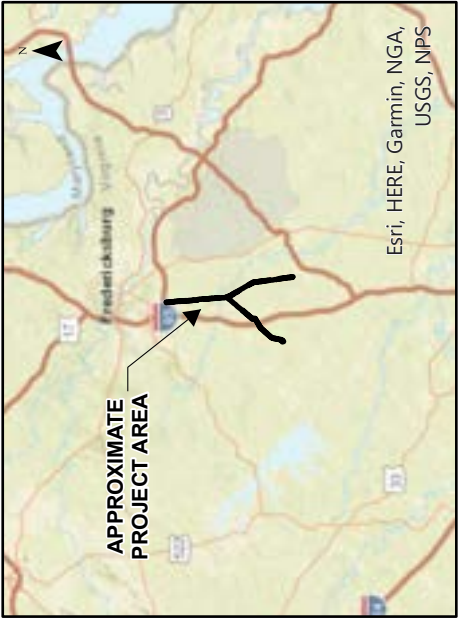
Existing 230 kV Line #256 Partial Rebuild

Proposed Substation

Existing Substation

Map Sheet

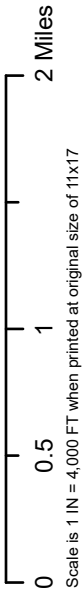
- Notes:
- 1. Basemap from ESRI World Street Map, VGIN 2021 aerial imagery, USGS Guinea, Ladysmith, and Woodford VA Topographic Quad Maps
 - 2. Road centerlines and parcels from VGIN
 - 3. Contours generated from USGS 1-meter DEM Sandy VA 2014
 - 4. Structure locations provided by Dominion Energy
 - 5. Wetland boundaries from VGIN
 - 6. Desktop wetland evaluation conducted by C2 during July 2024



DESKTOP WETLAND REVIEW MAP

Lines #256 and #2090 Partial Rebuild
and New 230 kV Lines #2372 and #2378
Caroline and Spotsylvania Counties, Virginia

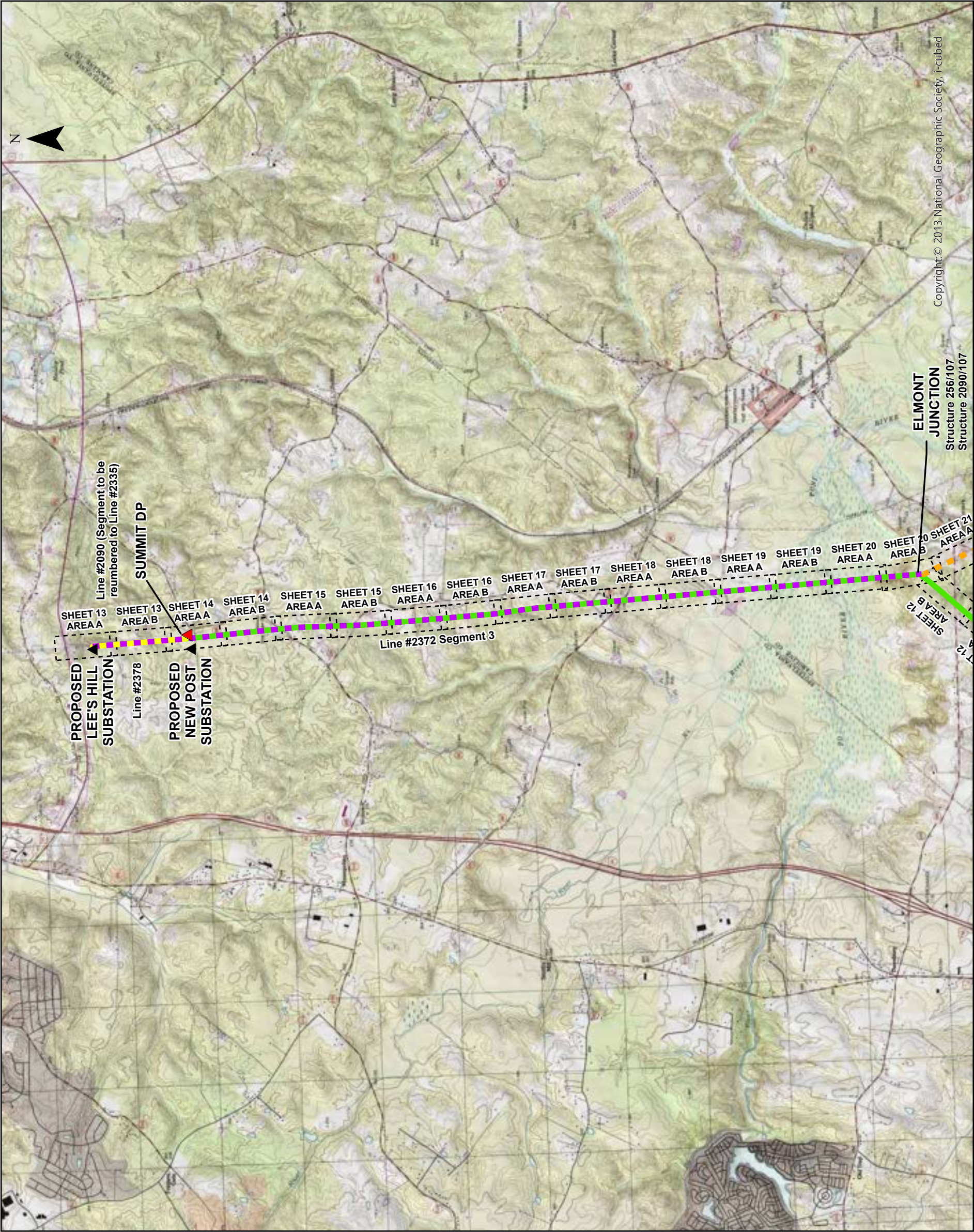
Client:			
Dominion Energy Virginia			
C2 Env Project:		Prepared By:	Date:
0354		ELW	08/15/24



SITE DATA

- Proposed 230 kV Line #2372 in Existing ROW
- Proposed 230 kV Line #2378 in Existing ROW
- Existing 230 kV Line #2090 (and Future Line #2335) Partial Rebuild
- Existing 230 kV Line #256 Partial Rebuild
- Proposed Substation
- Existing Substation
- Map Sheet

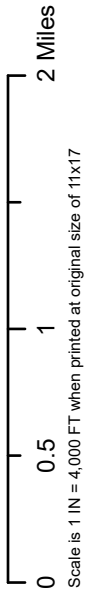
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Lines #256 and #2090 Partial Rebuild
and New 230 kV Lines #2372 and #2378
Caroline and Spotsylvania Counties, Virginia

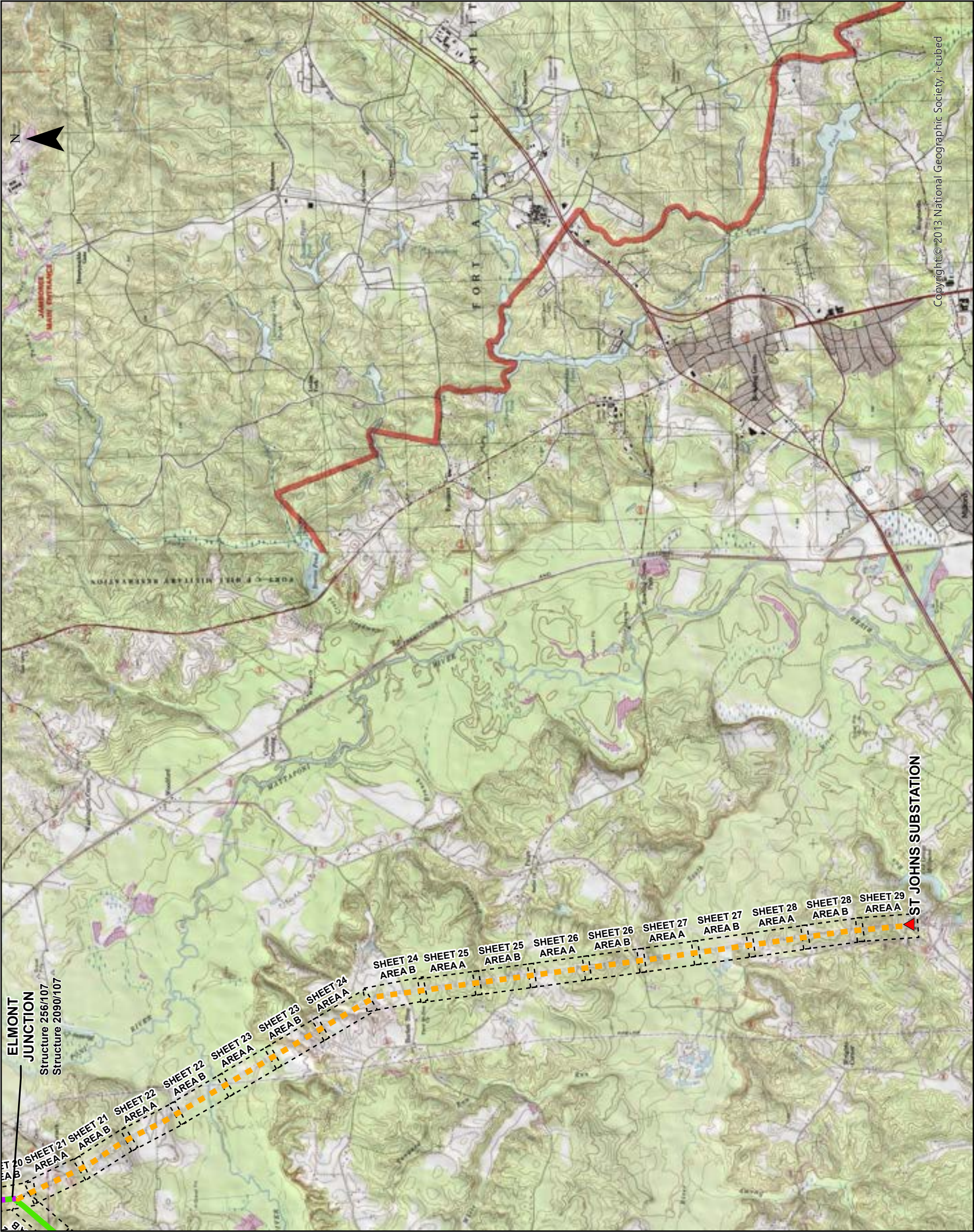
Client:		Dominion Energy Virginia	
C2 Env Project:	Prepared By:	Date:	
0354	ELW	08/15/24	

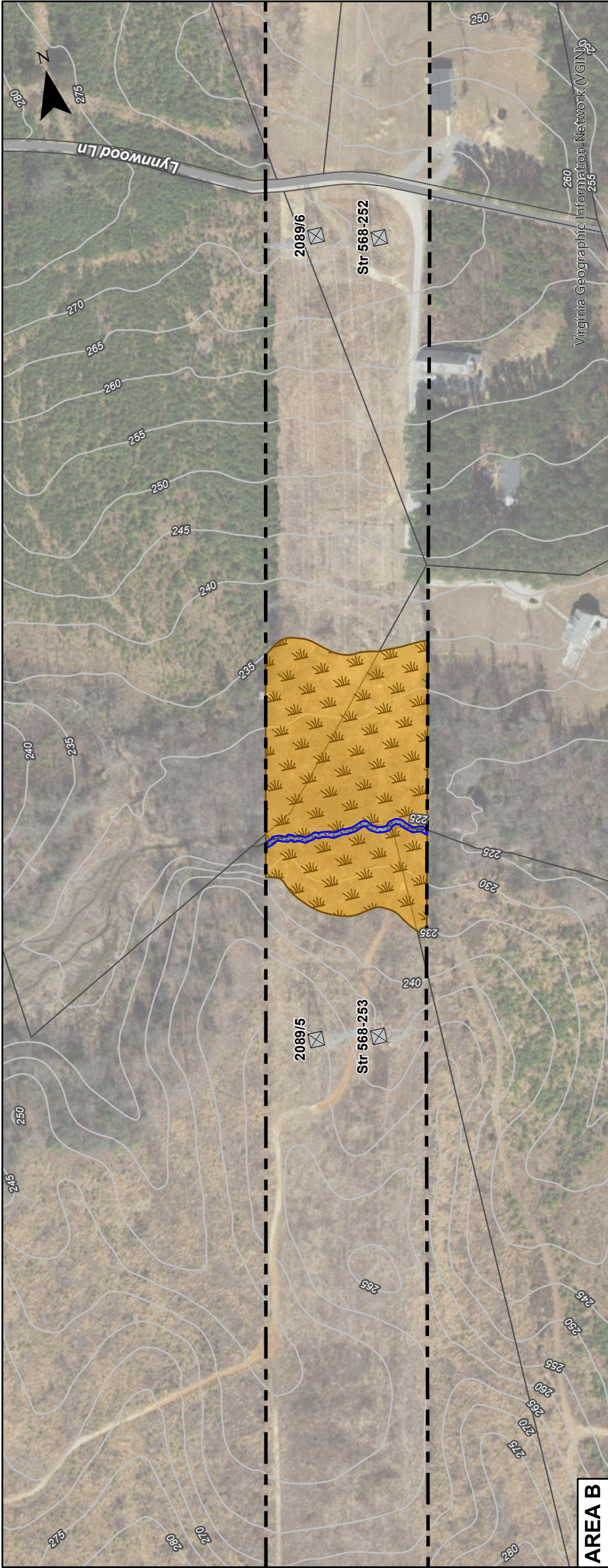


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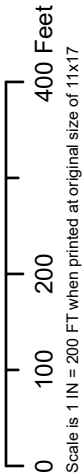


DESKTOP WETLAND REVIEW MAP

Lines #256 and #2090 Partial Rebuild
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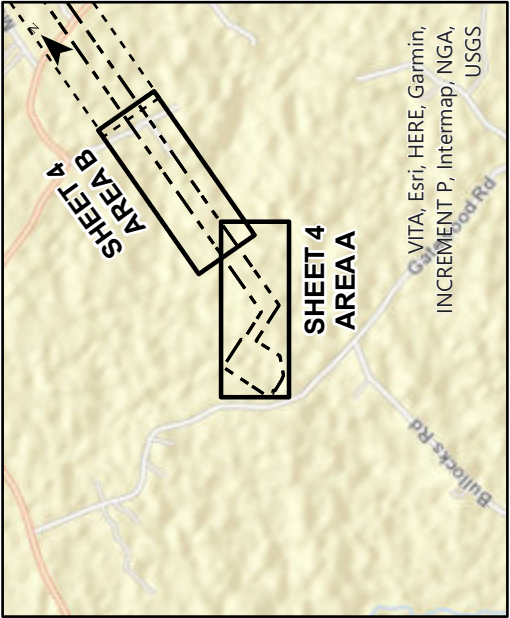
Caroline and Spotsylvania Counties, Virginia

Client:	
Dominion Energy Virginia	
C2 Env Project:	Prepared By:
0354	ELW
Date:	
08/15/24	



SITE DATA

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- Approximate Open Water Limits
- Existing 5 FT Contour
- Parcel Boundary

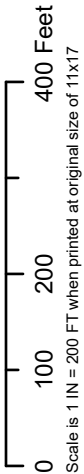


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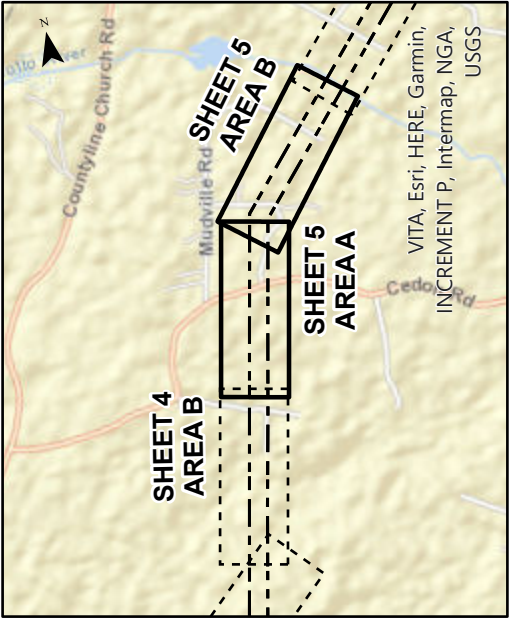
Caroline and Spotsylvania Counties, Virginia

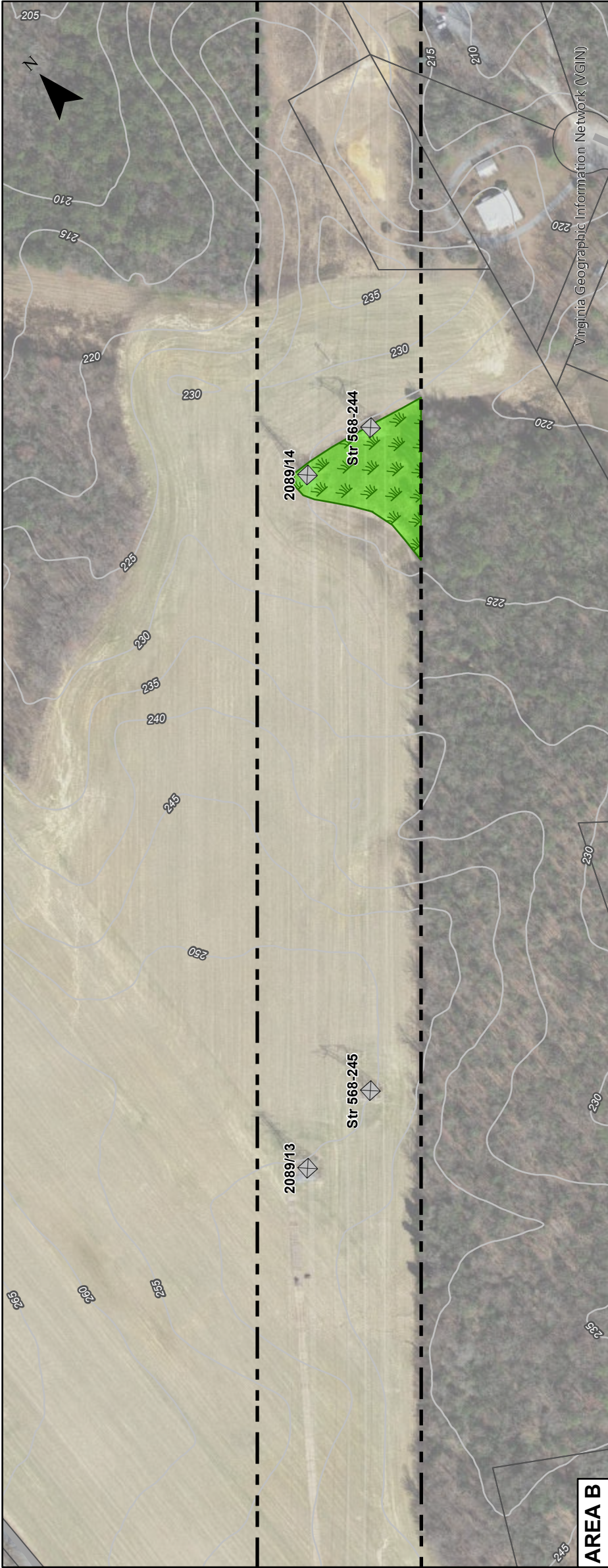
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0354	ELW
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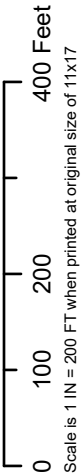


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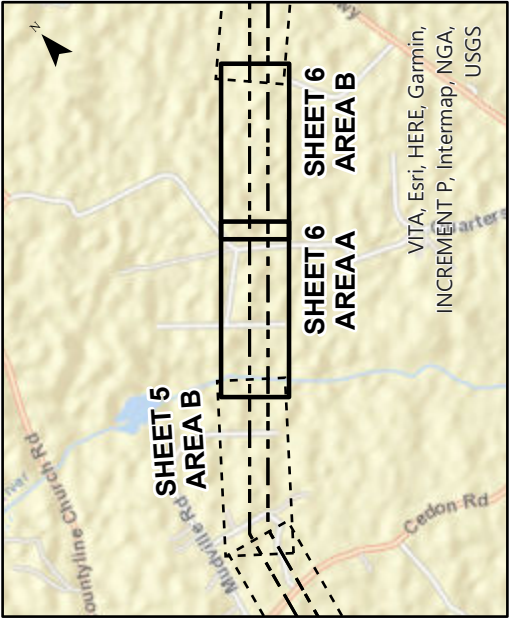
Caroline and Spotsylvania Counties, Virginia

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DESKTOP WETLAND REVIEW MAP

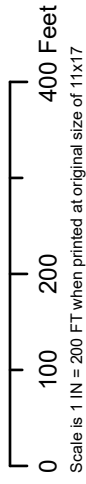
Lines #256 and #2090 Partial Rebuild
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Caroline and Spotsylvania Counties, Virginia

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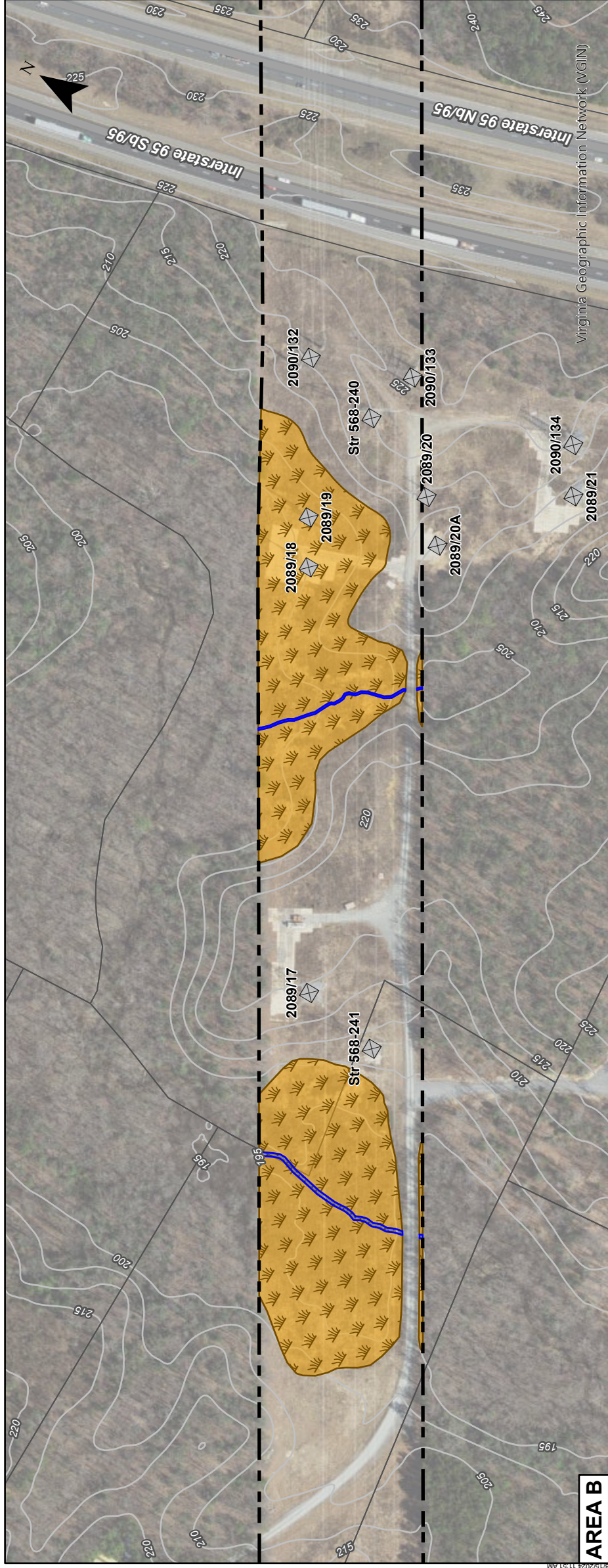
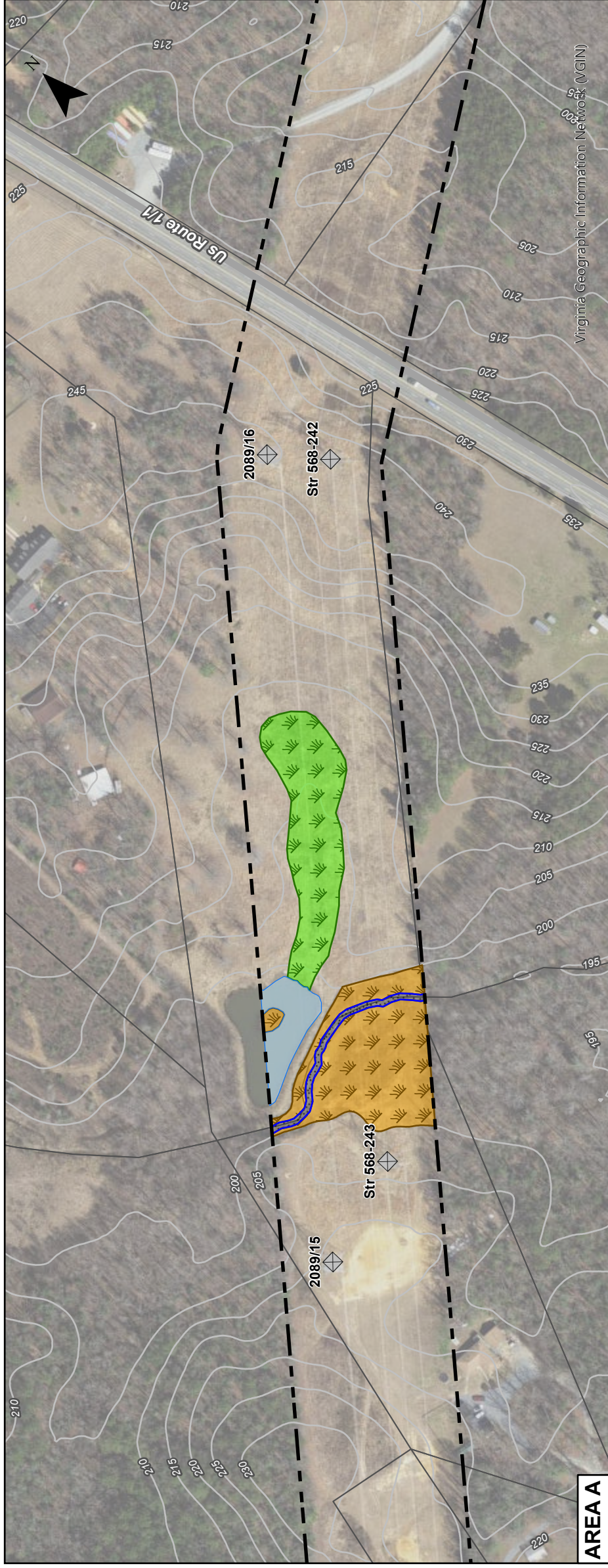
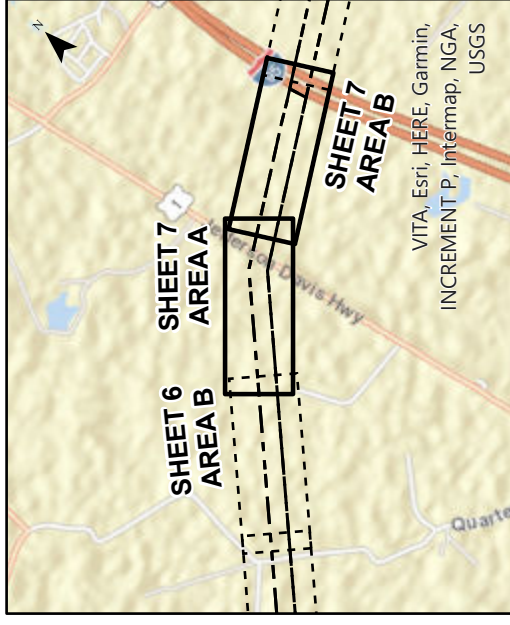
Dominion Energy Virginia

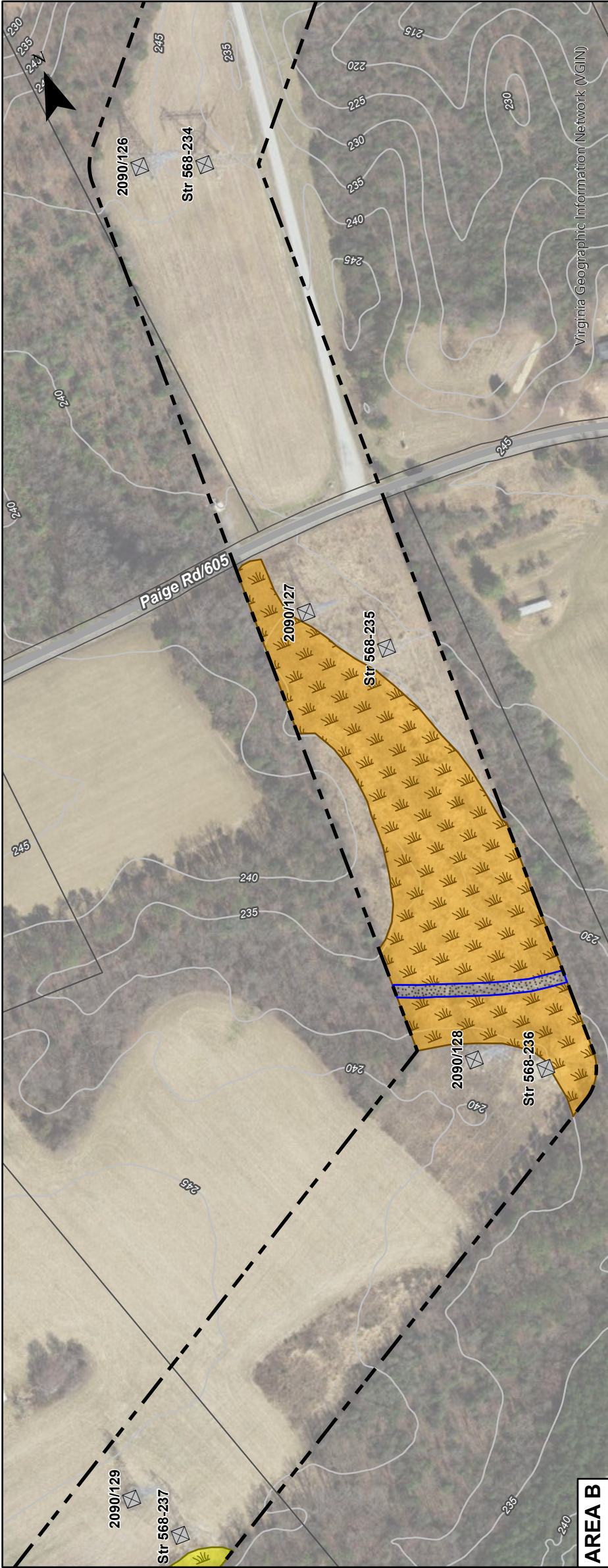
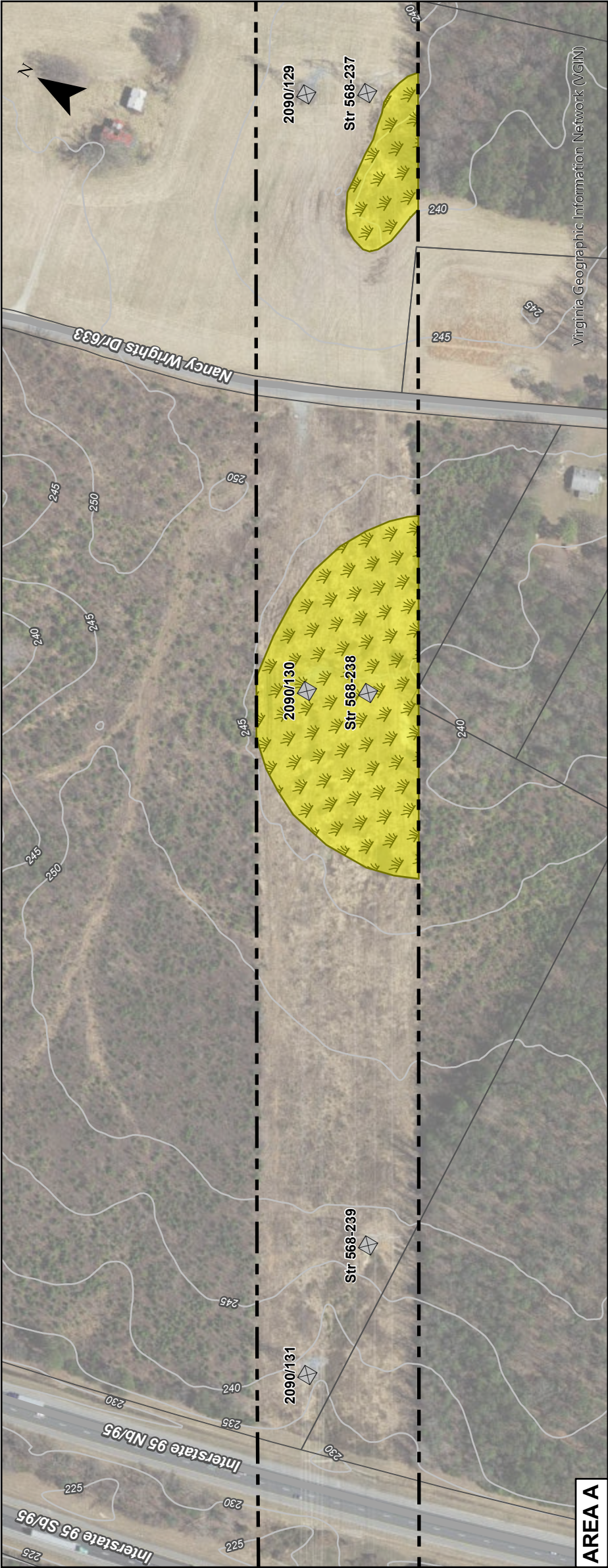
C2 Env Project:	Prepared By:	Date:
0354	ELW	08/15/24



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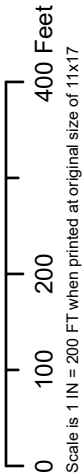


DESKTOP WETLAND REVIEW MAP

Lines #256 and #2090 Partial Rebuild
and New 230 kV Lines #2372 and #2378

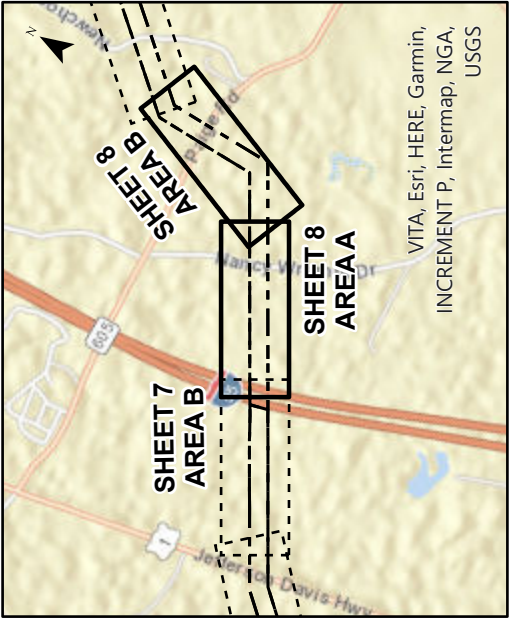
Caroline and Spotsylvania Counties, Virginia

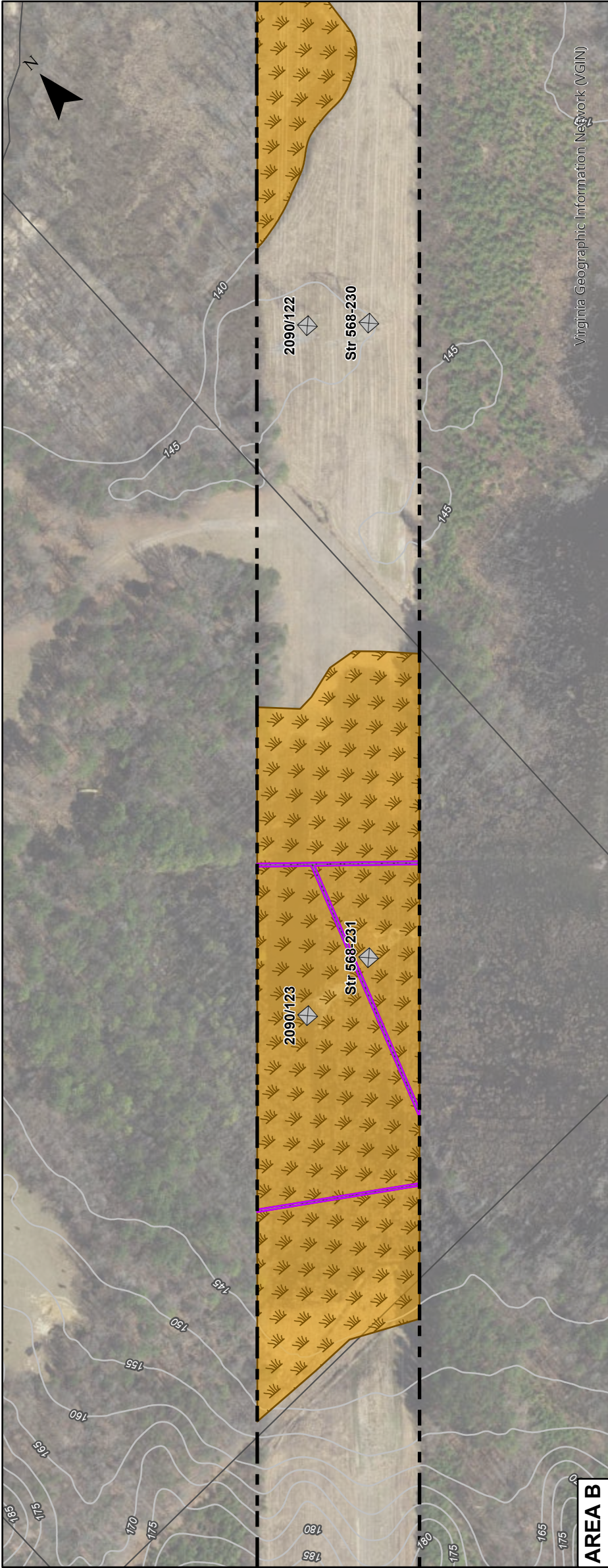
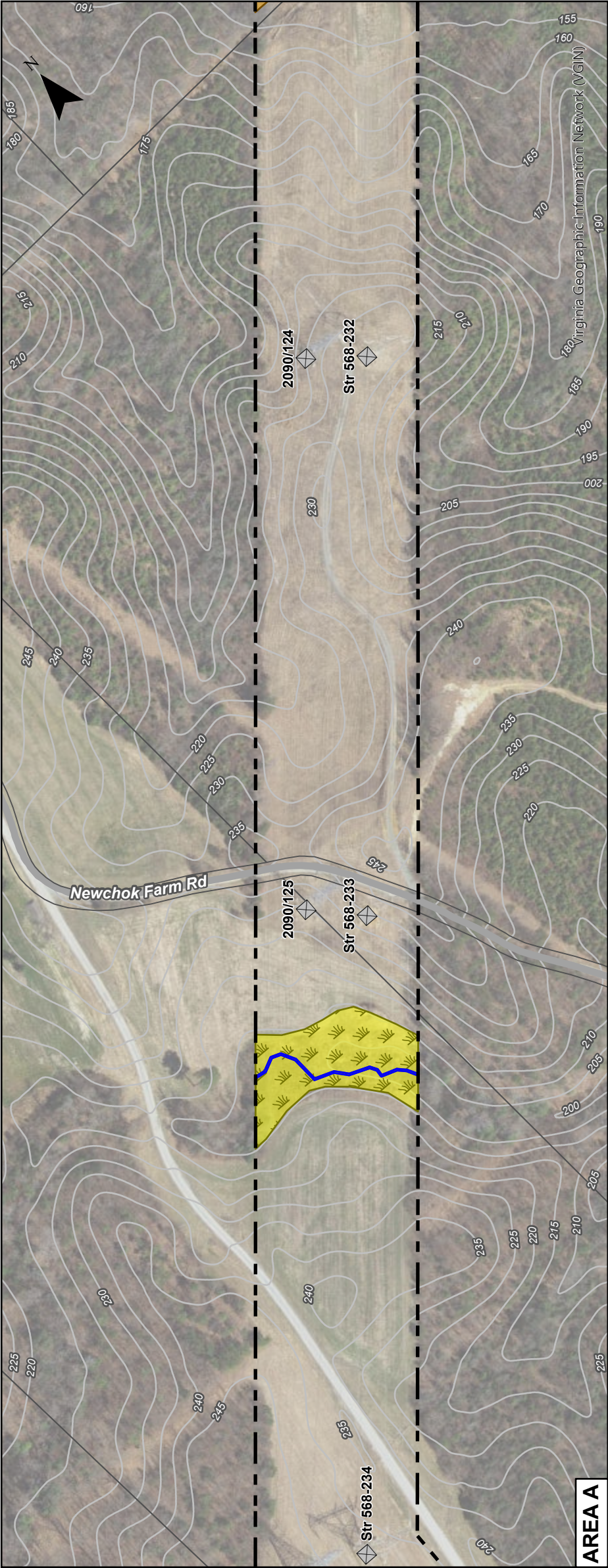
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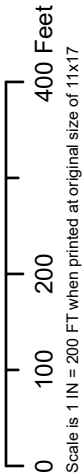


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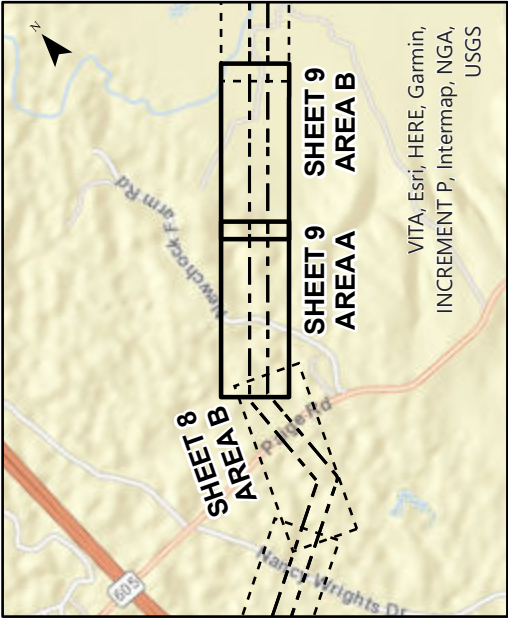
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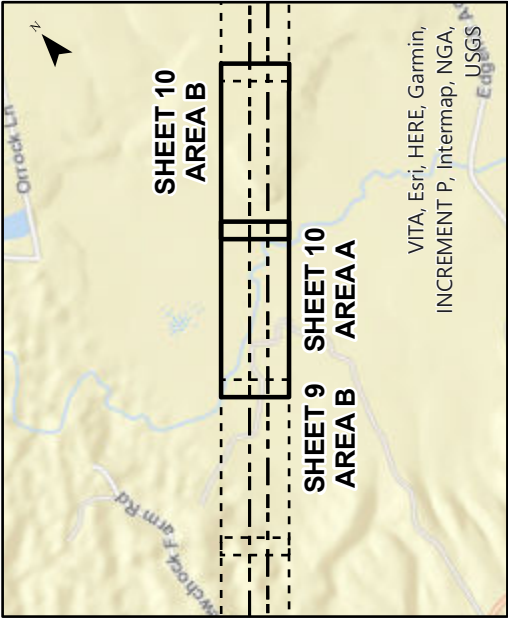
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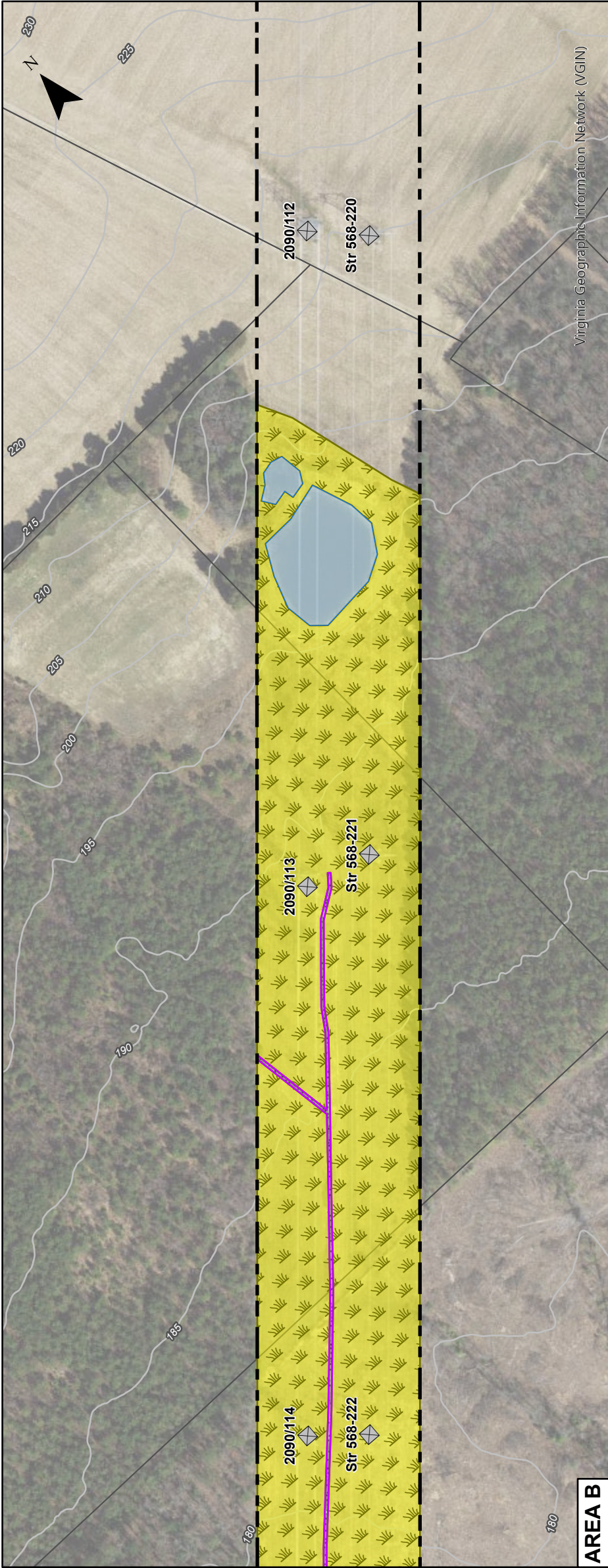
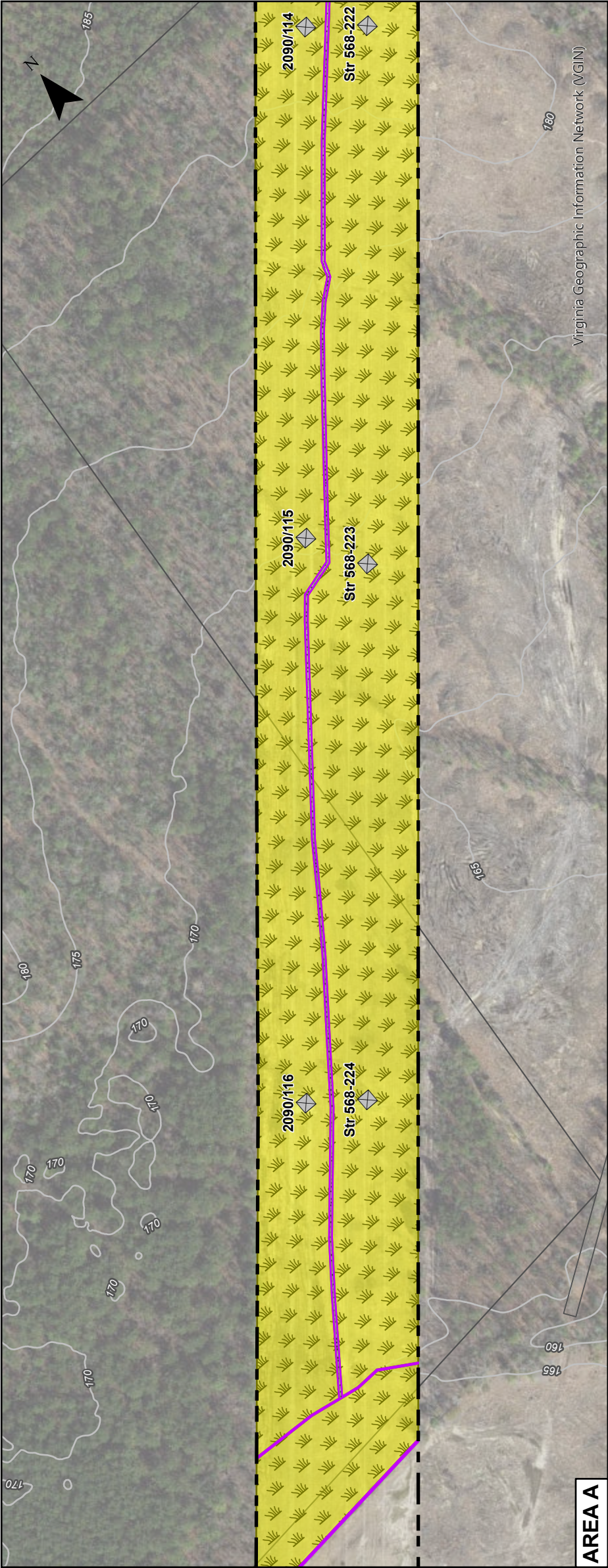
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0354	ELW
Date:	
08/15/24	



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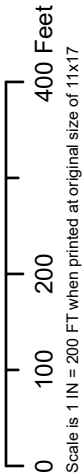


DESKTOP WETLAND REVIEW MAP

Lines #256 and #2090 Partial Rebuild
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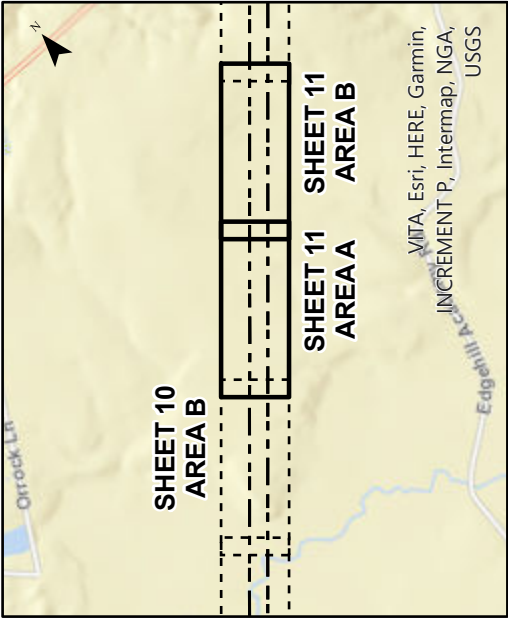
Caroline and Spotsylvania Counties, Virginia

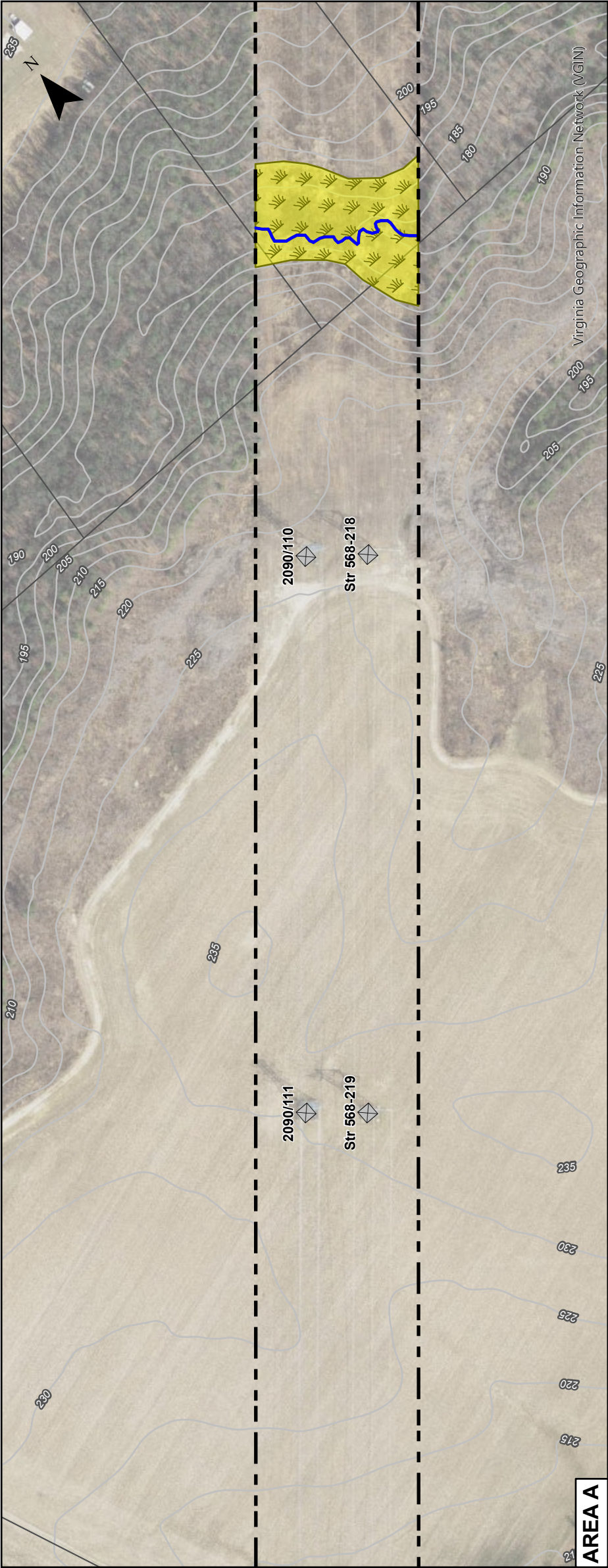
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Dominion Energy Virginia	
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0354	ELW
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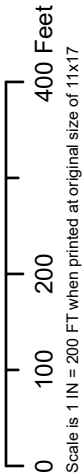


DESKTOP WETLAND REVIEW MAP

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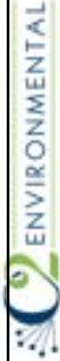
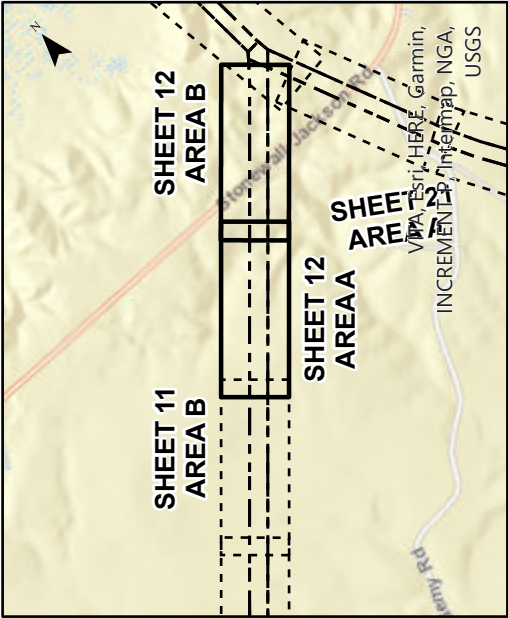
Caroline and Spotsylvania Counties, Virginia

Client:	
Dominion Energy Virginia	
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0354	ELW
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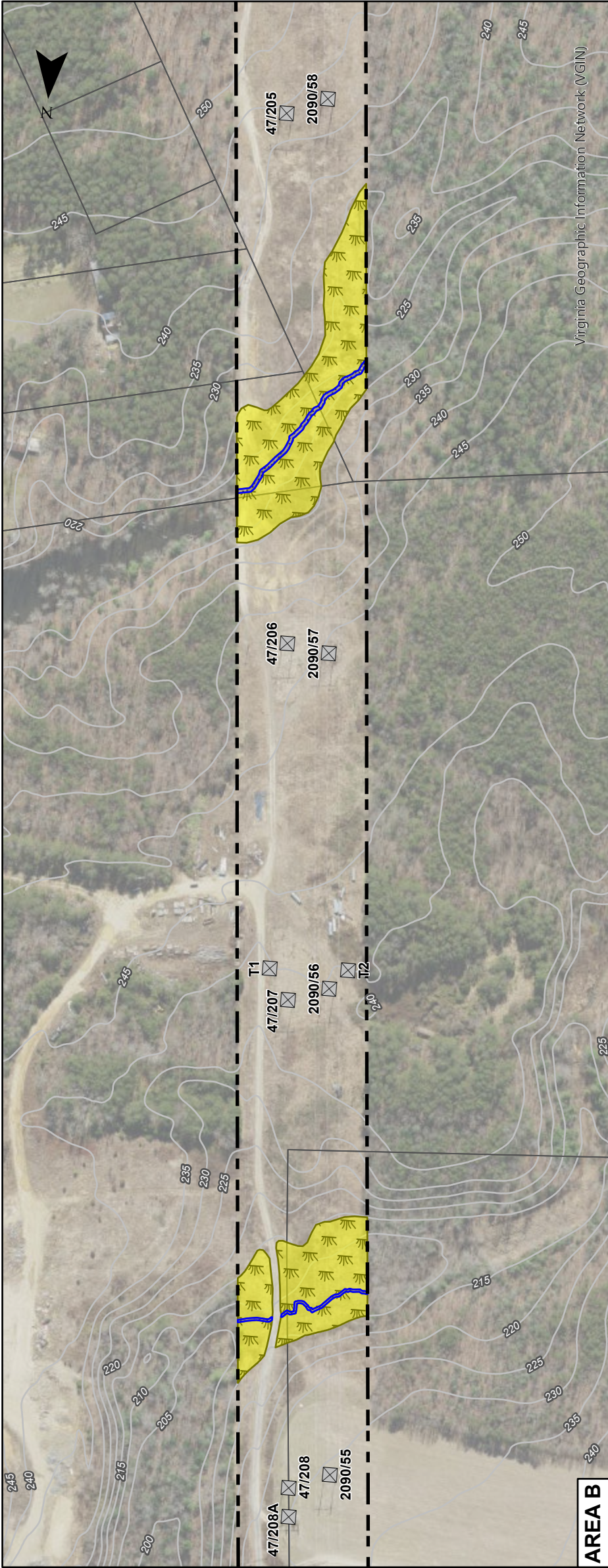


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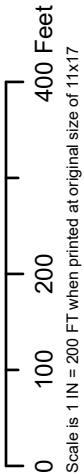
SHEET 12 OF 29



DESKTOP WETLAND REVIEW MAP

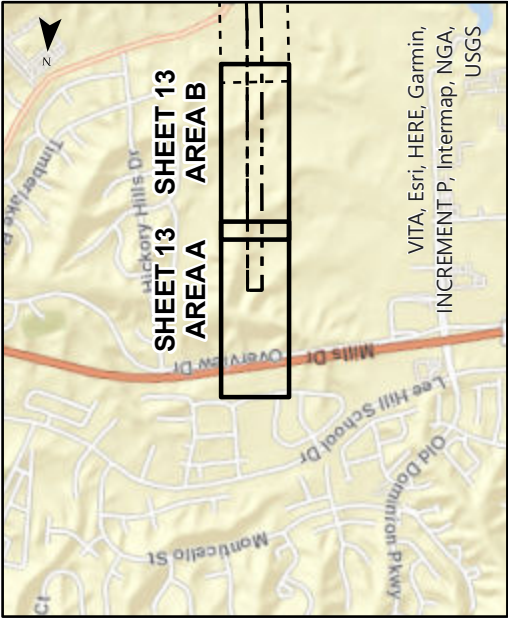
Lines #256 and #2090 Partial Rebuild
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Caroline and Spotsylvania Counties, Virginia

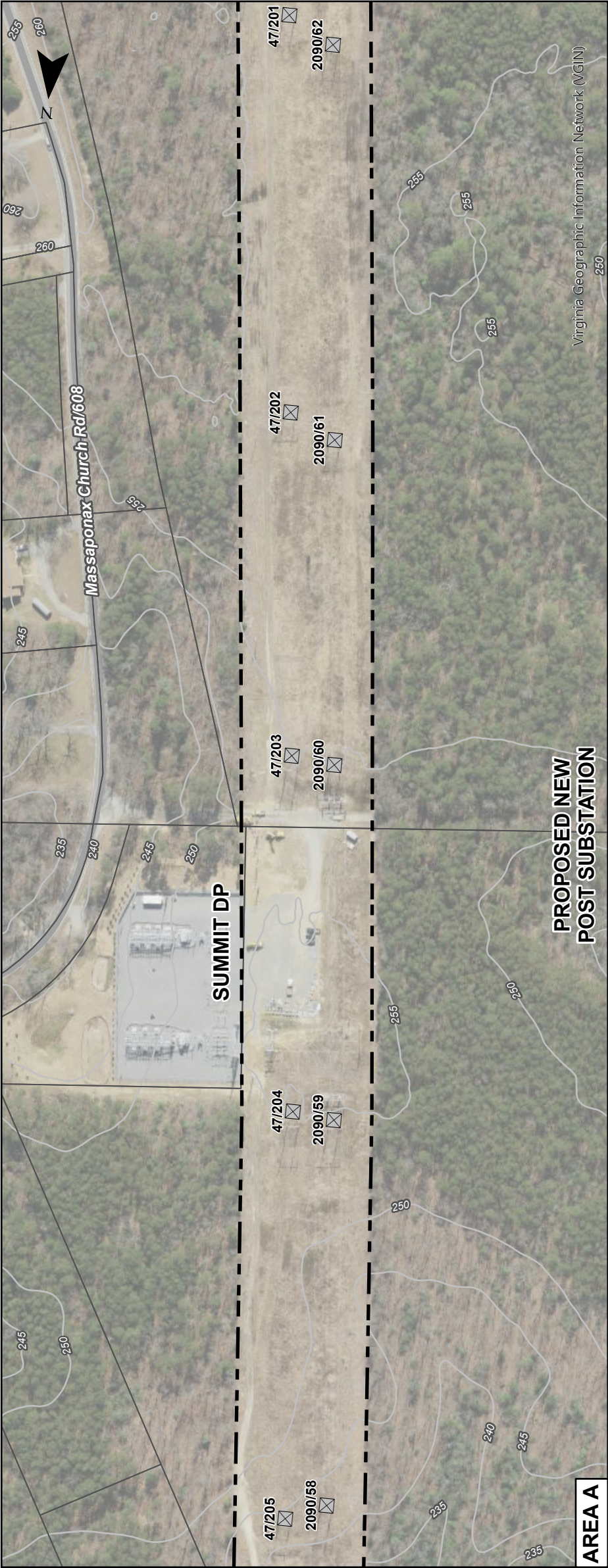
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0354	ELW
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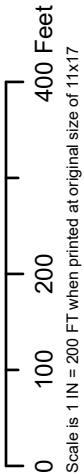




DESKTOP WETLAND REVIEW MAP

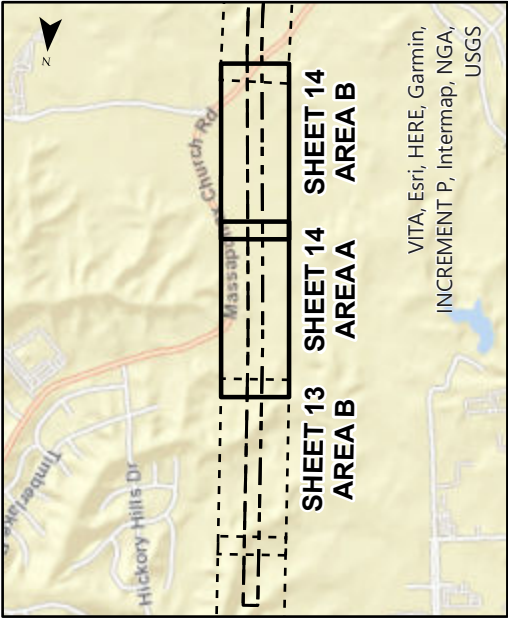
Lines #256 and #2090 Partial Rebuild
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Caroline and Spotsylvania Counties, Virginia

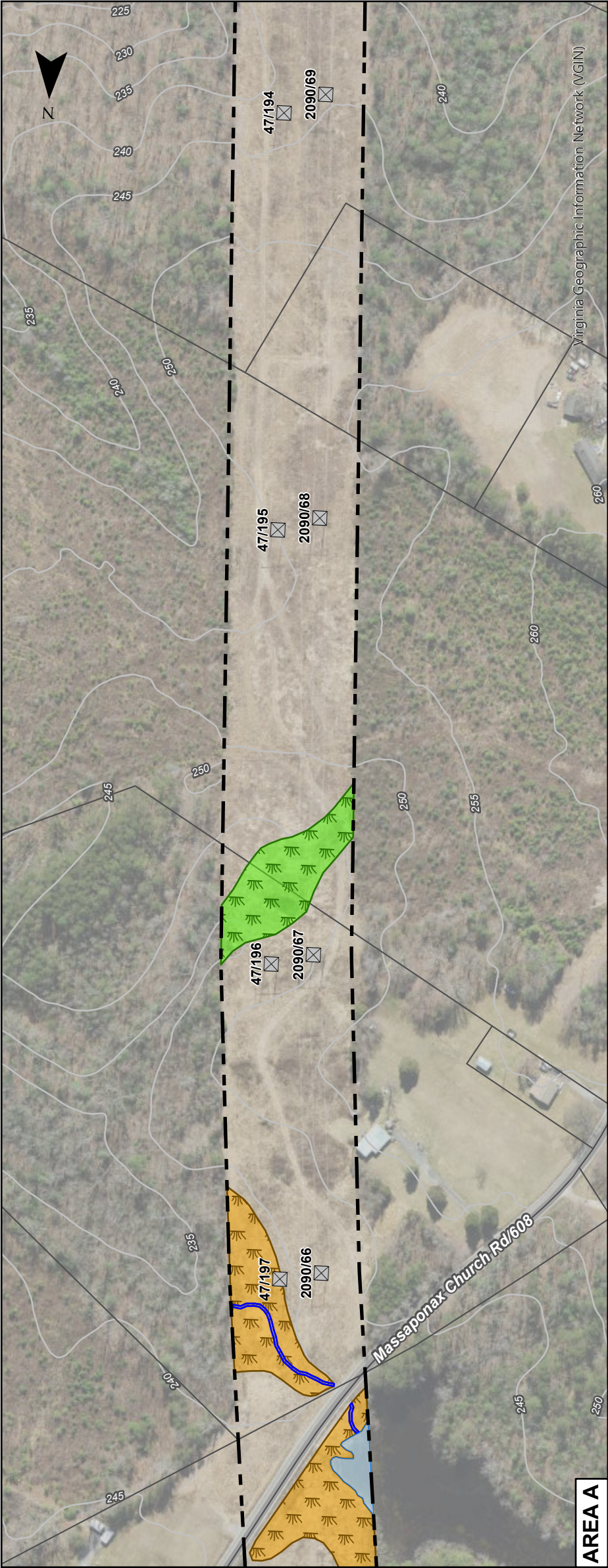
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0354	ELW	08/15/24	



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DESKTOP WETLAND REVIEW MAP

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Caroline and Spotsylvania Counties, Virginia

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Dominion Energy Virginia

C2 Env Project:

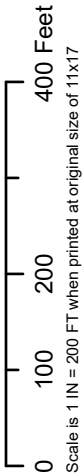
0354

Prepared By:

ELW

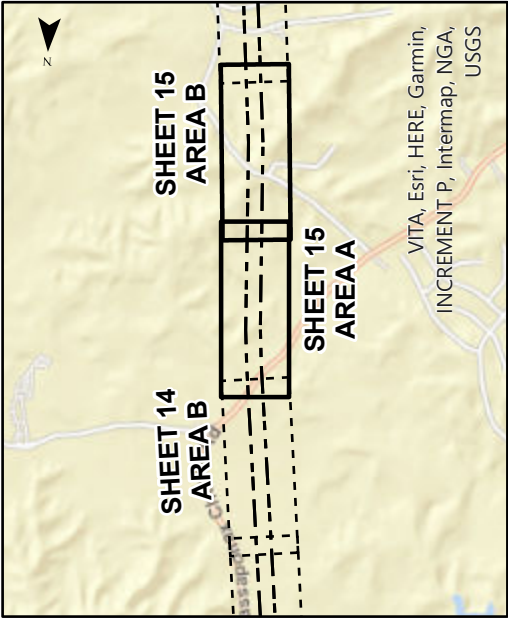
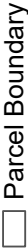
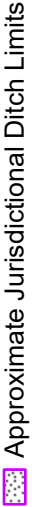
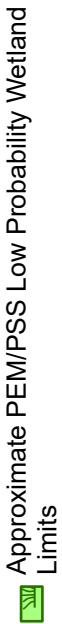
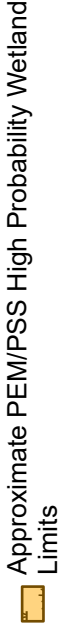
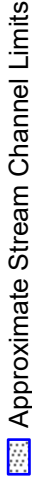
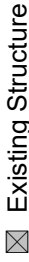
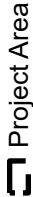
Date:

08/15/24

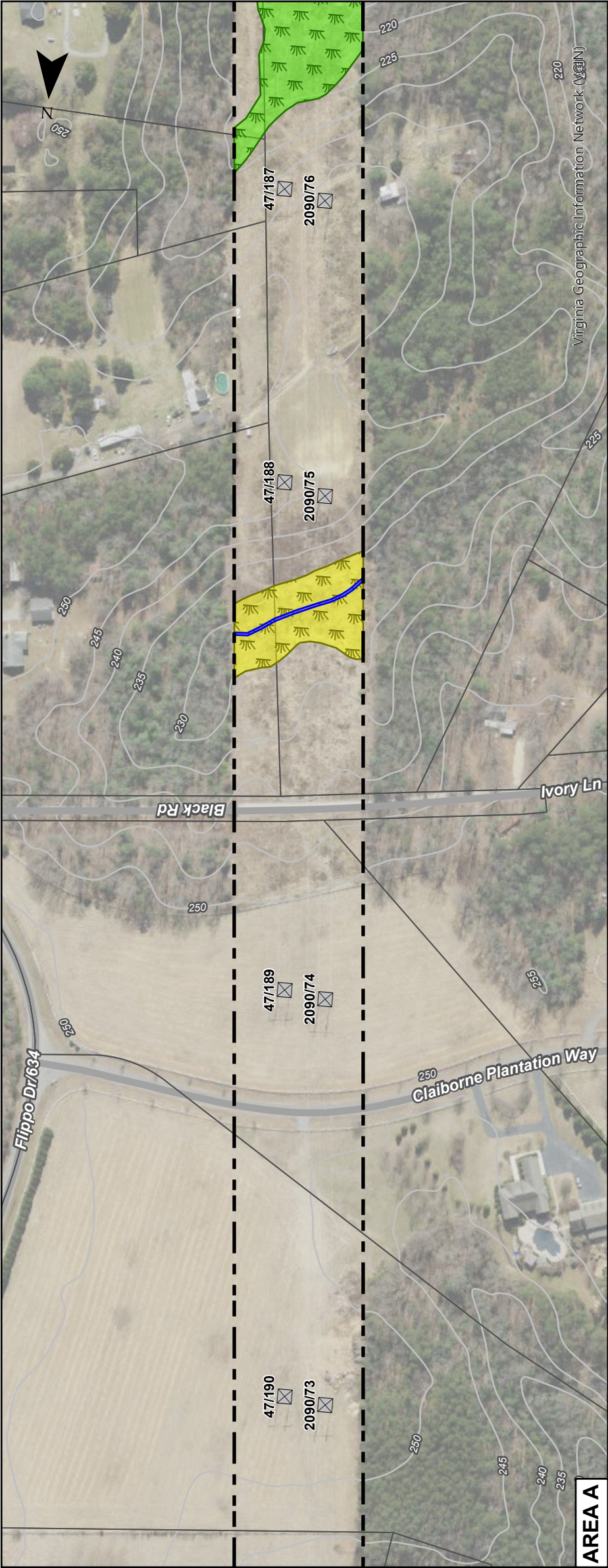


Scale is 1 IN = 200 FT when printed at original size of 11x17

SITE DATA



SHEET 15 OF 29



DESKTOP WETLAND REVIEW MAP

Lines #256 and #2090 Partial Rebuild
and New 230 kV Lines #2372 and #2378

Caroline and Spotsylvania Counties, Virginia

Client:

Dominion Energy Virginia

C2 Env Project:

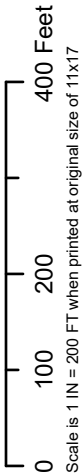
Prepared By:

ELW

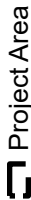
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08/15/24

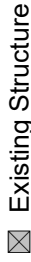
0354



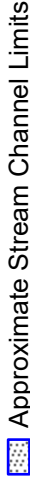
SITE DATA



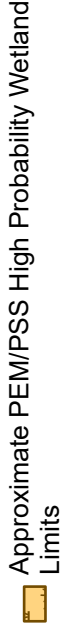
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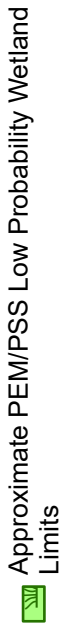
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Approximate Stream Channel Limits



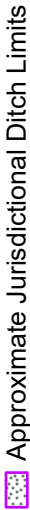
Approximate PEM/PSS High Probability Wetland Limits



Approximate PEM/PSS Low Probability Wetland Limits



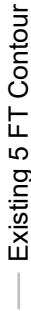
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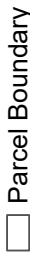
Approximate Jurisdictional Ditch Limits



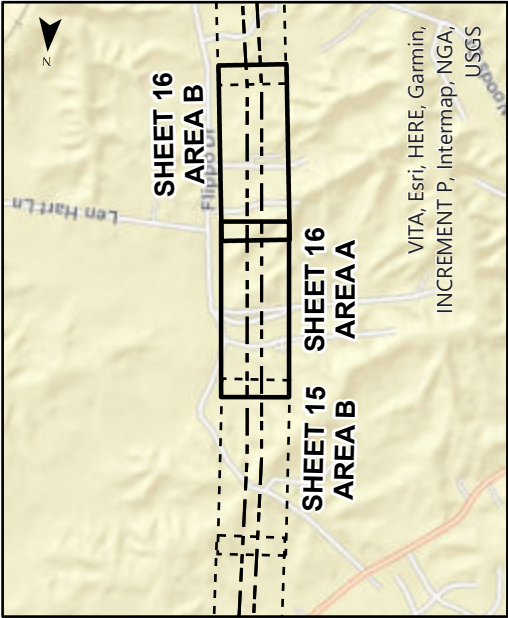
Approximate Open Water Limits



Existing 5 FT Contour



Parcel Boundary



SHEET 16 OF 29

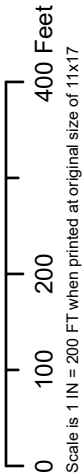


DESKTOP WETLAND REVIEW MAP

Lines #256 and #2090 Partial Rebuild
and New 230 kV Lines #2372 and #2378

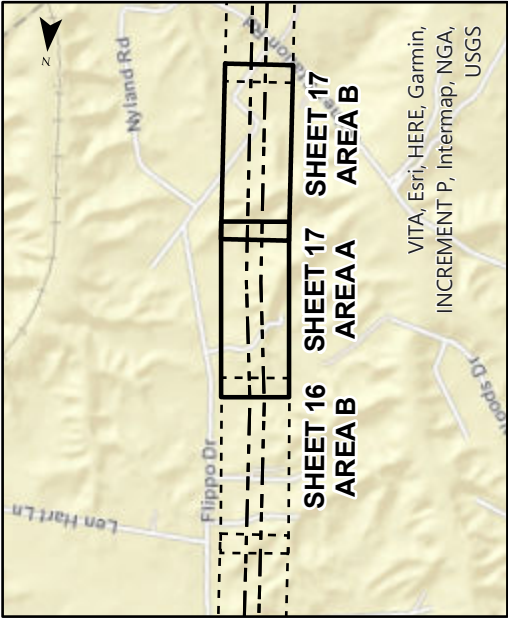
Caroline and Spotsylvania Counties, Virginia

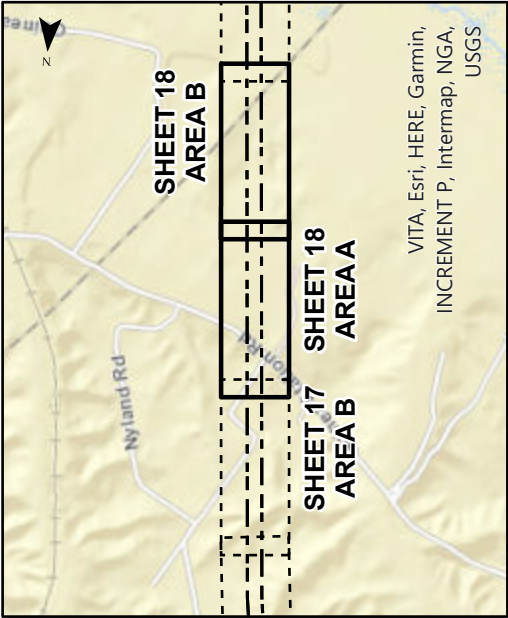
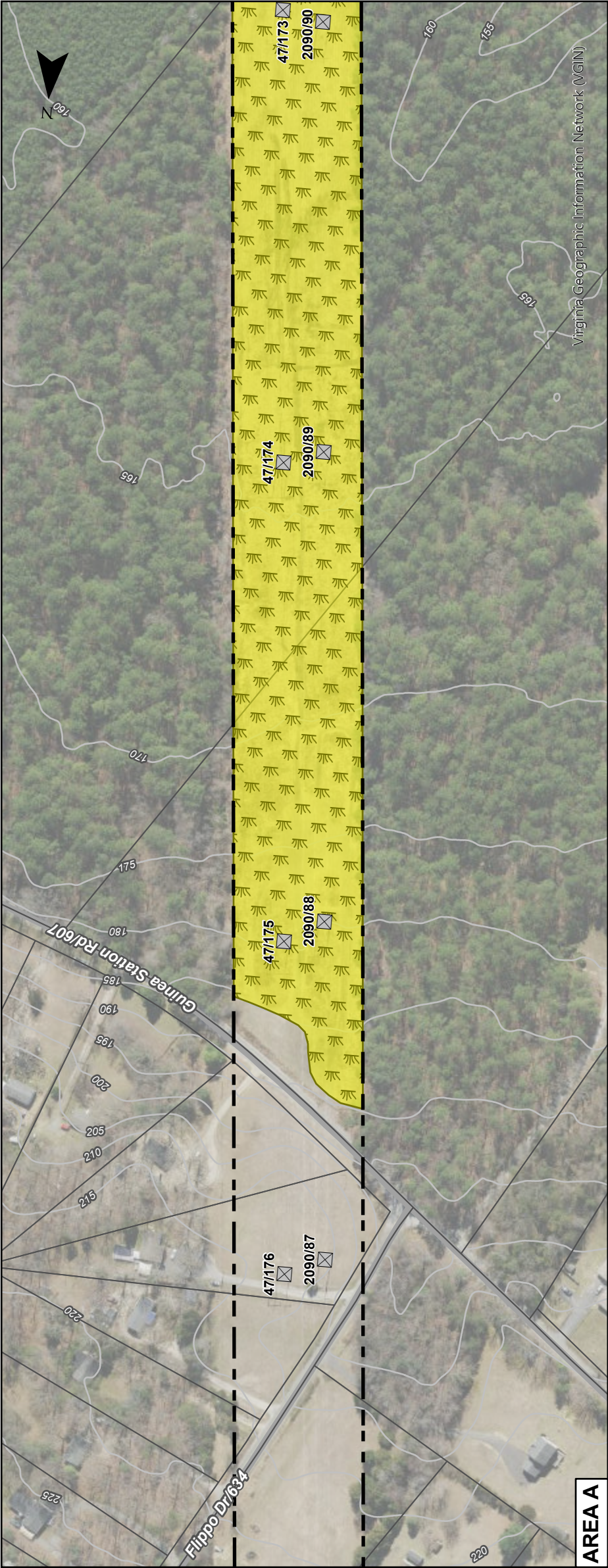
Client:		Dominion Energy Virginia	
C2 Env Project:	Prepared By:	Date:	
0354	ELW	08/15/24	

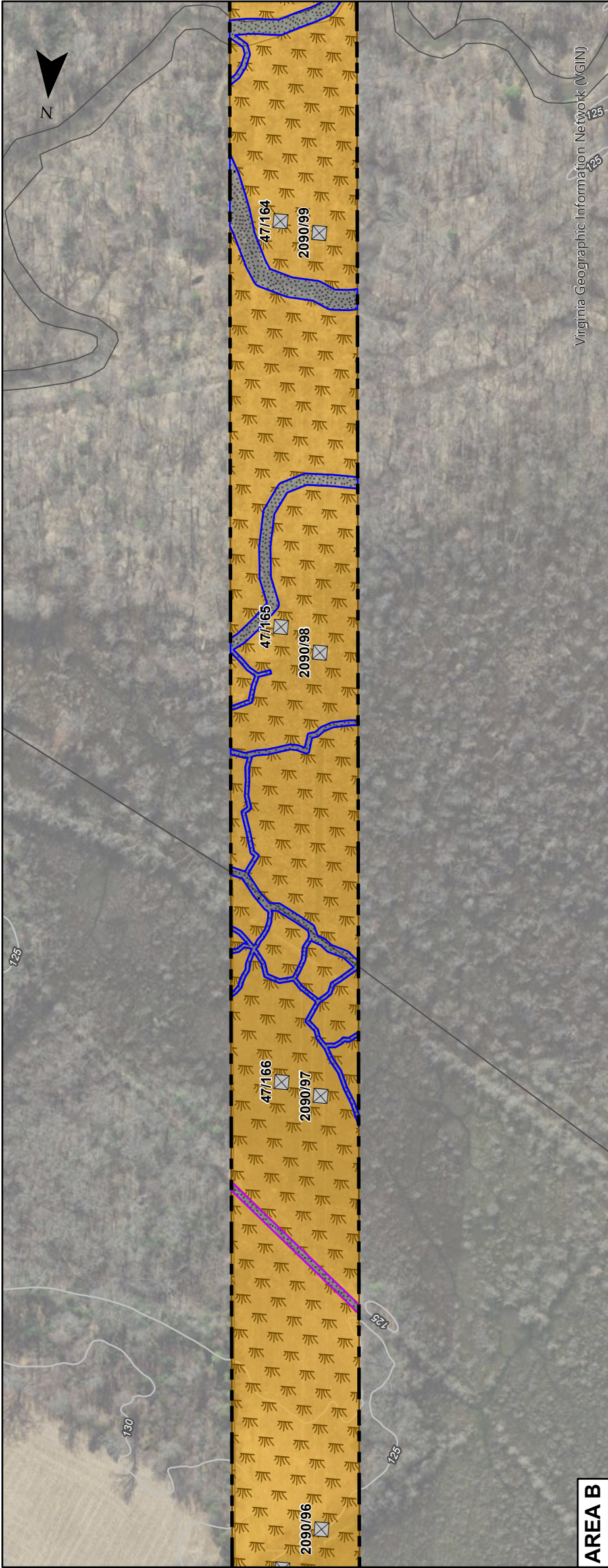
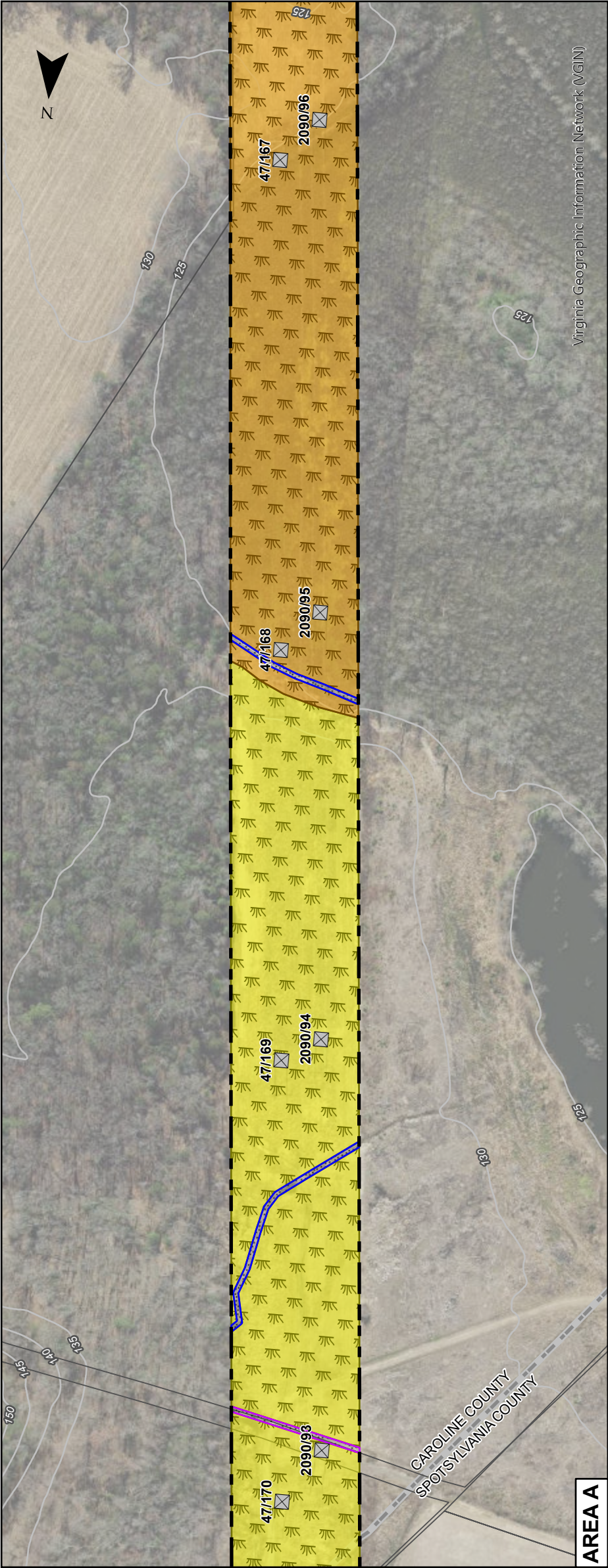


SITE DATA

- Project Area
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- Approximate PEM/PSS Low Probability Wetland Limits
- Approximate PEM/PSS Medium Probability Wetland Limits
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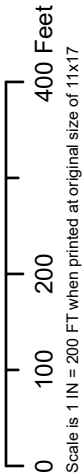


DESKTOP WETLAND REVIEW MAP

Lines #256 and #2090 Partial Rebuild
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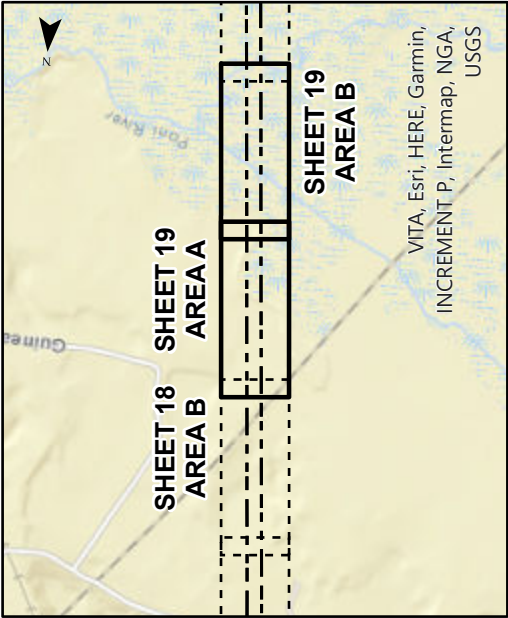
Caroline and Spotsylvania Counties, Virginia

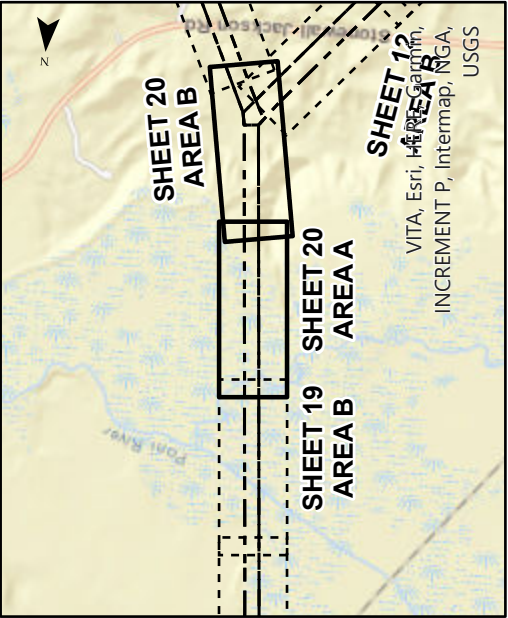
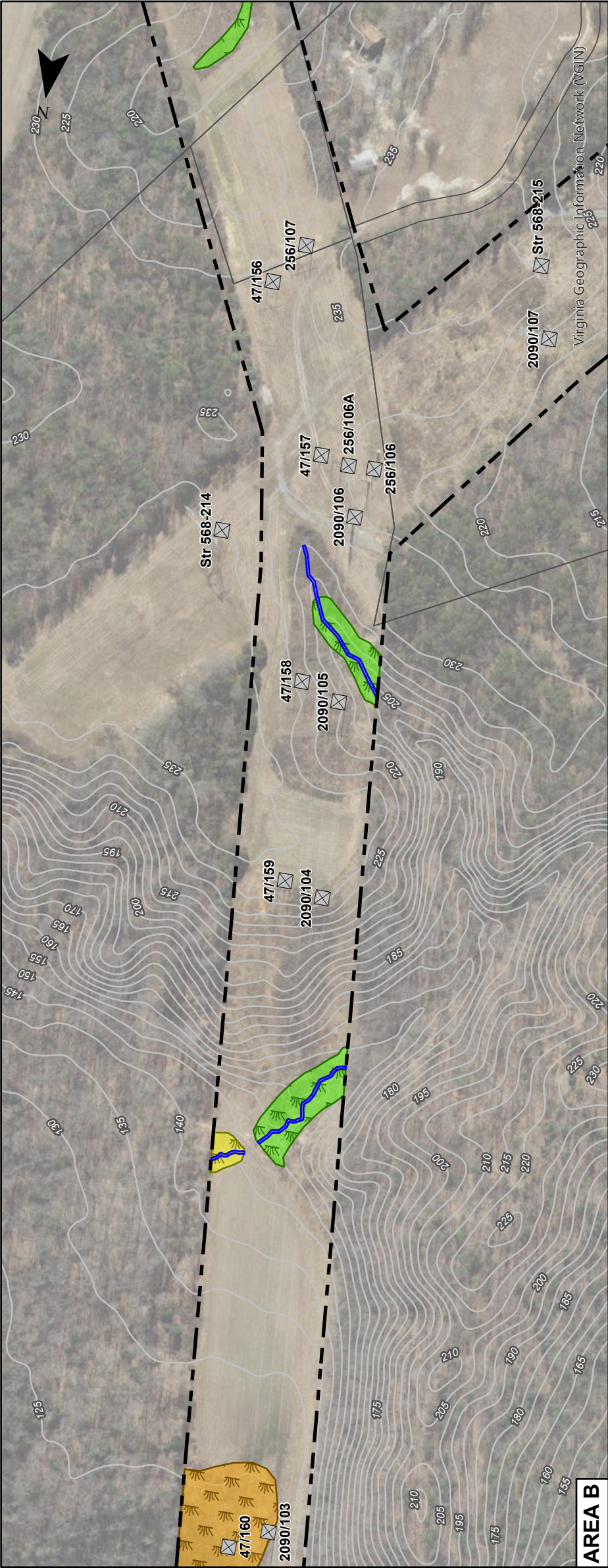
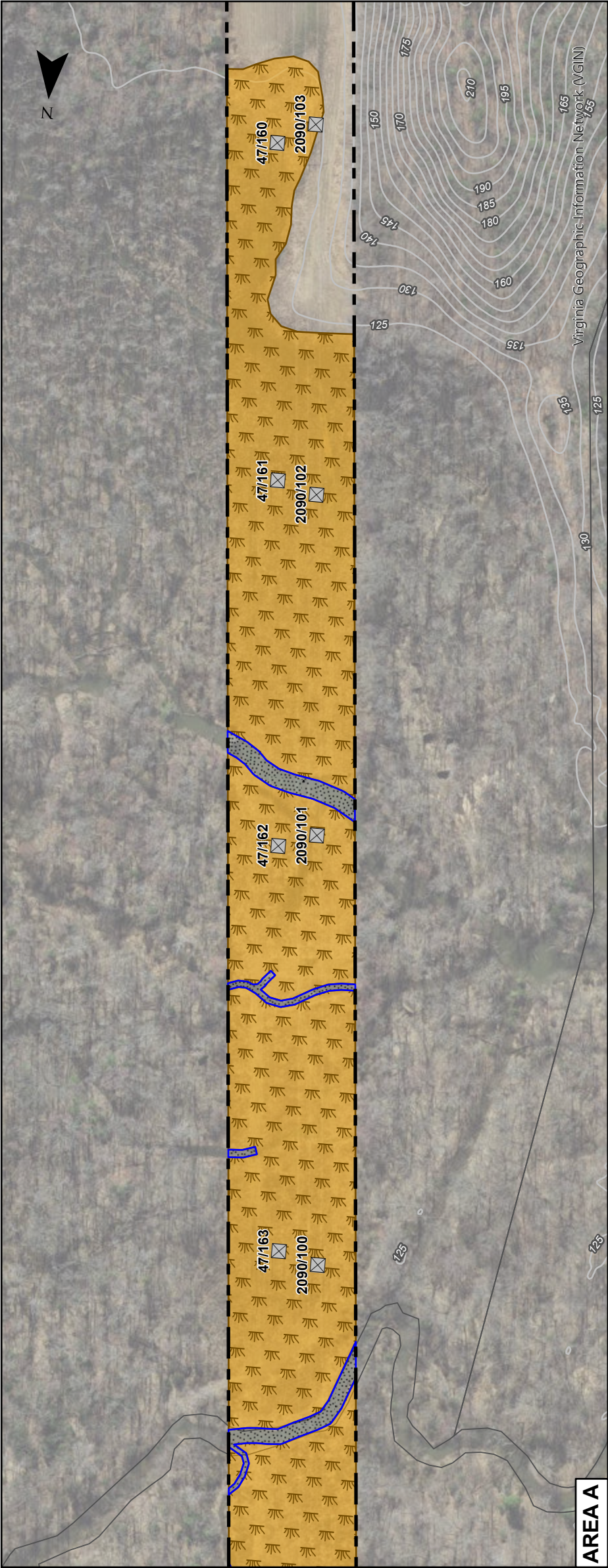
Client:	
Dominion Energy Virginia	
C2 Env Project:	Prepared By:
0354	ELW
Date:	
08/15/24	



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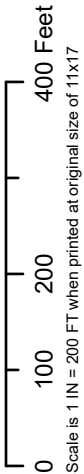




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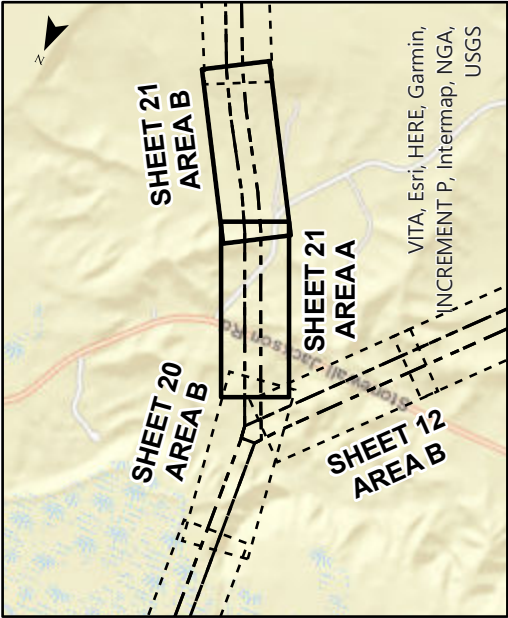
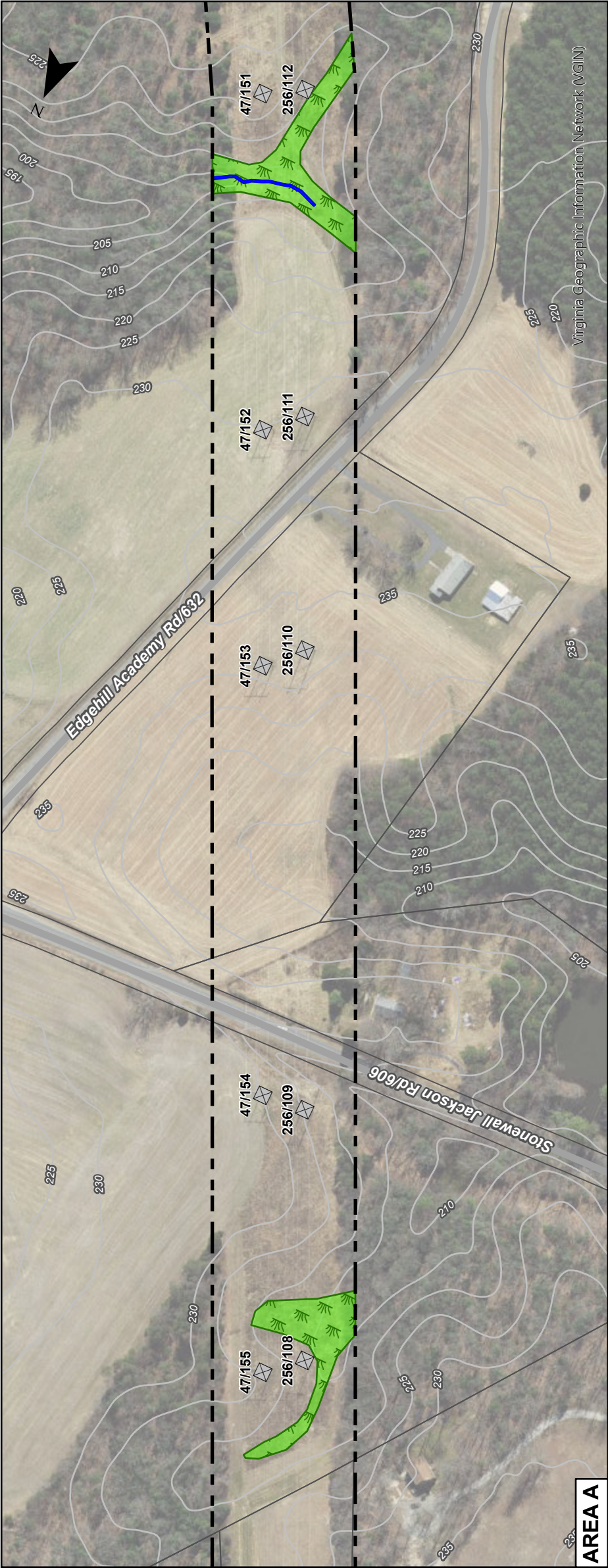
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and New 230 kV Lines #2372 and #2378
Caroline and Spotsylvania Counties, Virginia

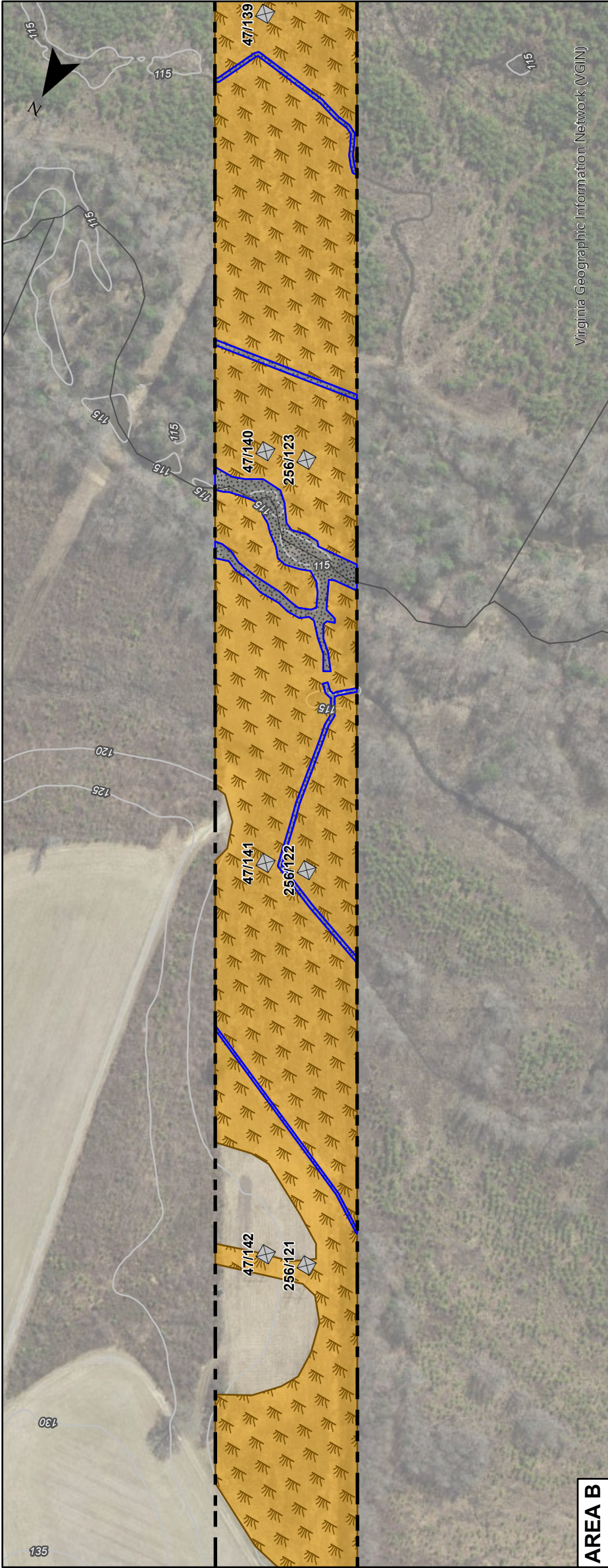
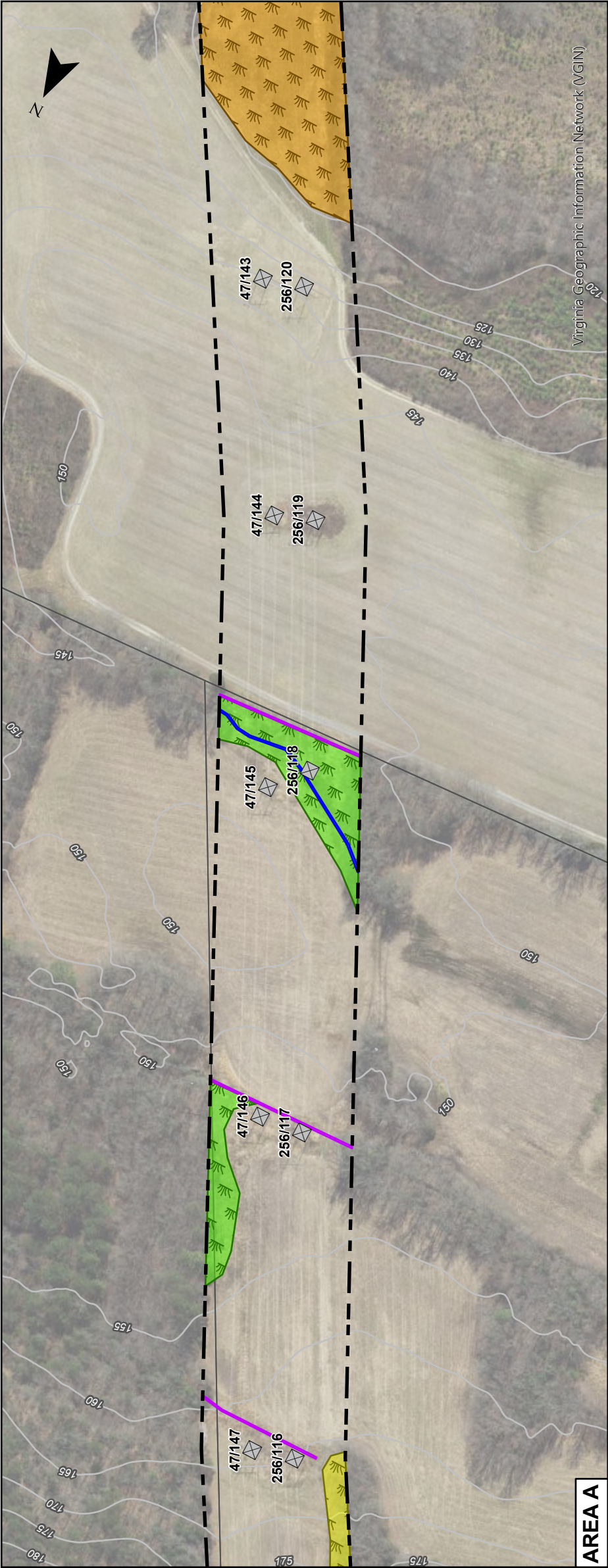
Client:	
Dominion Energy Virginia	
C2 Env Project:	Prepared By:
0354	ELW
Date:	
08/15/24	



SITE DATA

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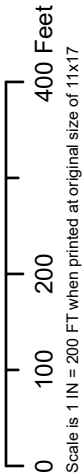


DESKTOP WETLAND REVIEW MAP

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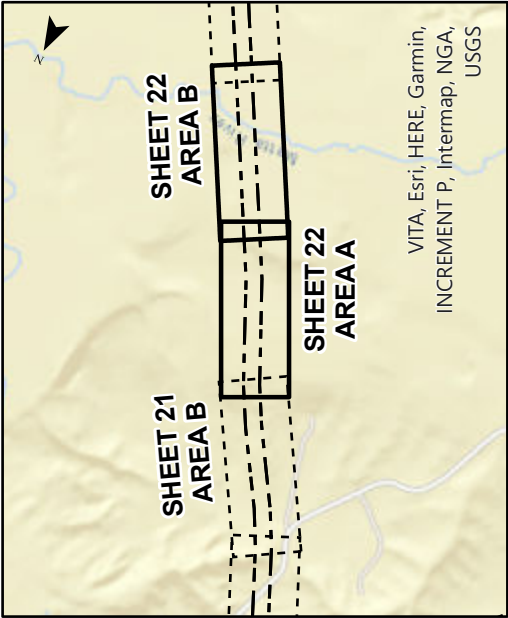
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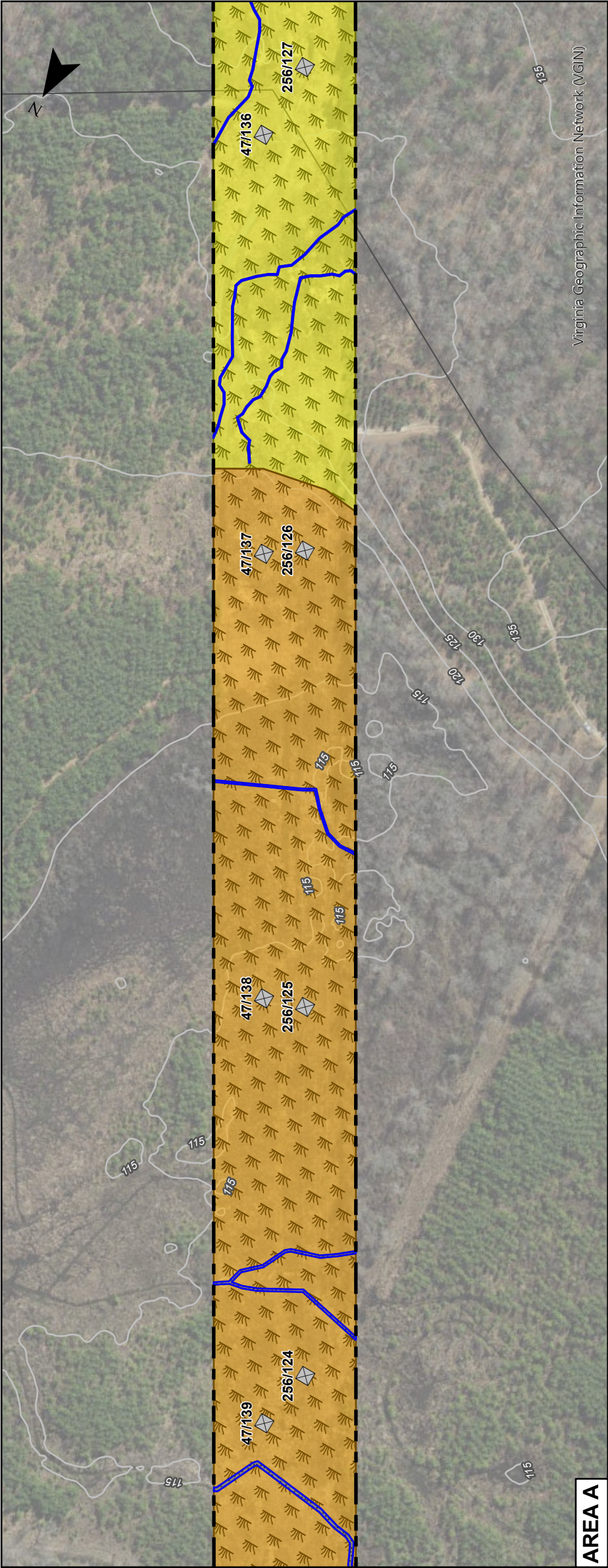
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Dominion Energy Virginia	
C2 Env Project:	Prepared By:
0354	ELW
Date:	
08/15/24	



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DESKTOP WETLAND REVIEW MAP

Lines #256 and #2090 Partial Rebuild
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Caroline and Spotsylvania Counties, Virginia

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Dominion Energy Virginia

C2 Env Project:

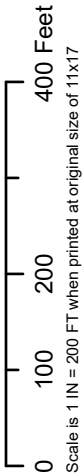
0354

Prepared By:

ELW

Date:

08/15/24



SITE DATA

Project Area

Existing Structure

Approximate Stream Channel Limits

Approximate PEM/PSS High Probability Wetland Limits

Approximate PEM/PSS Low Probability Wetland Limits

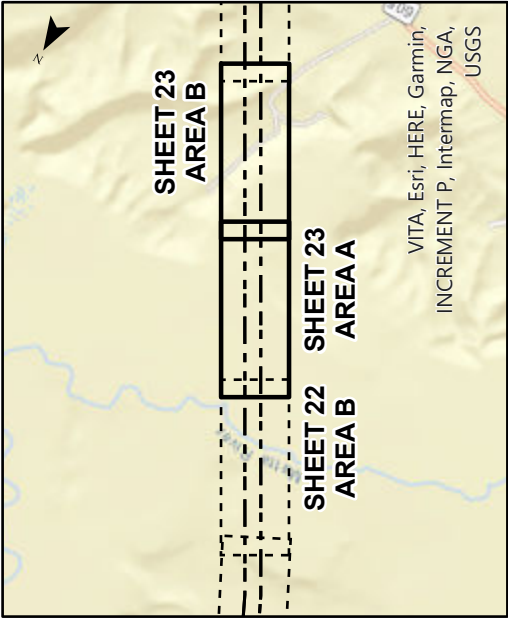
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Approximate Jurisdictional Ditch Limits

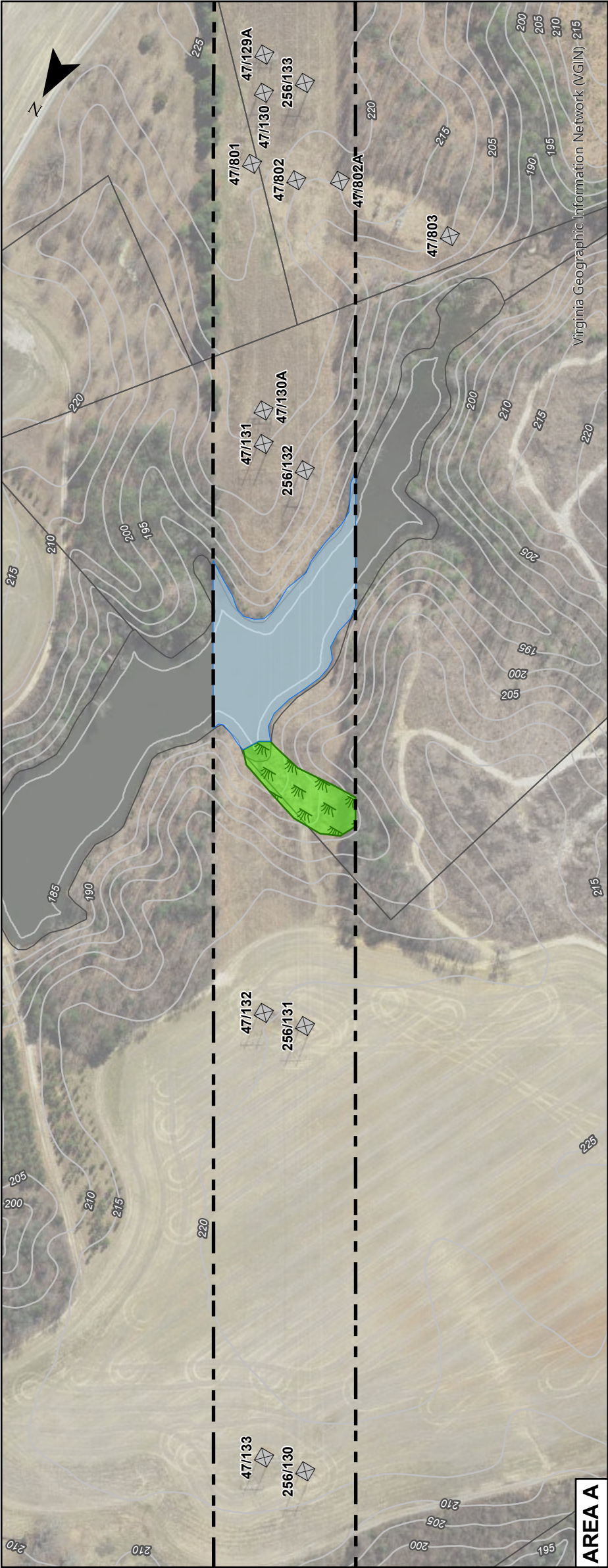
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Existing 5 FT Contour

Parcel Boundary



SHEET 23 OF 29

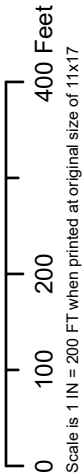


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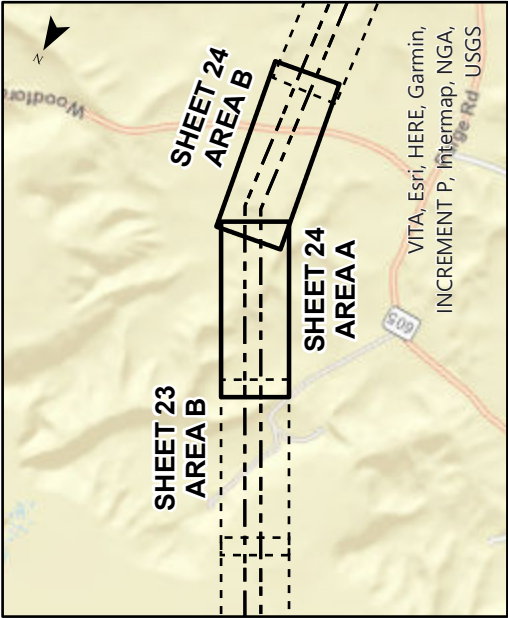
Caroline and Spotsylvania Counties, Virginia

Client:	
Dominion Energy Virginia	
C2 Env Project:	Prepared By:
0354	ELW
Date:	
08/15/24	



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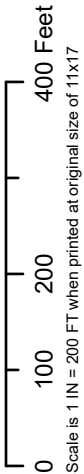
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DESKTOP WETLAND REVIEW MAP

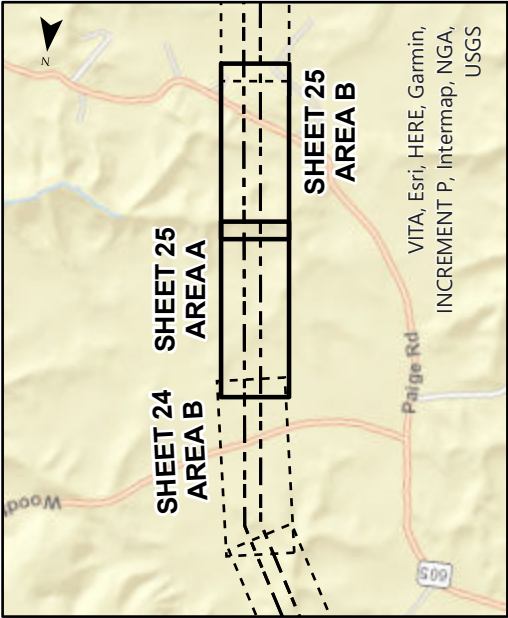
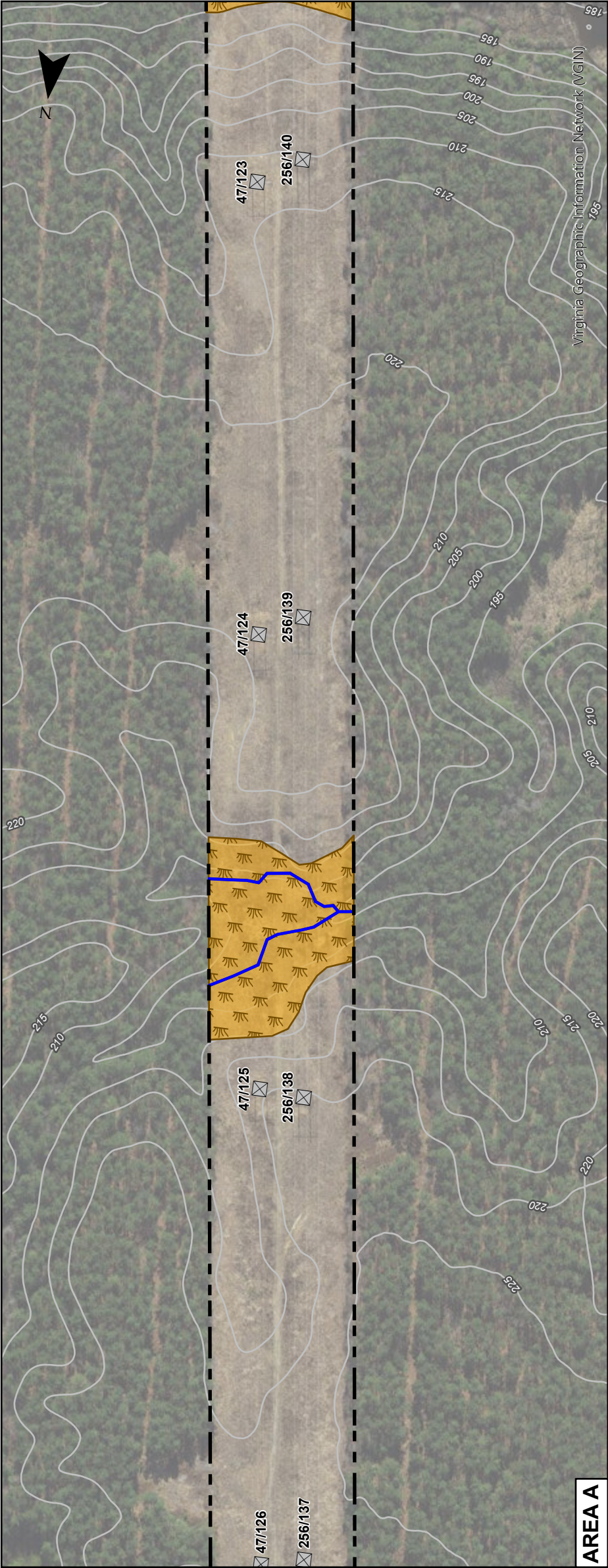
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and New 230 kV Lines #2372 and #2378
Caroline and Spotsylvania Counties, Virginia

Client:	
Dominion Energy Virginia	
C2 Env Project:	Prepared By:
0354	ELW
Date:	
08/15/24	



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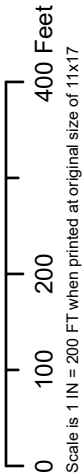


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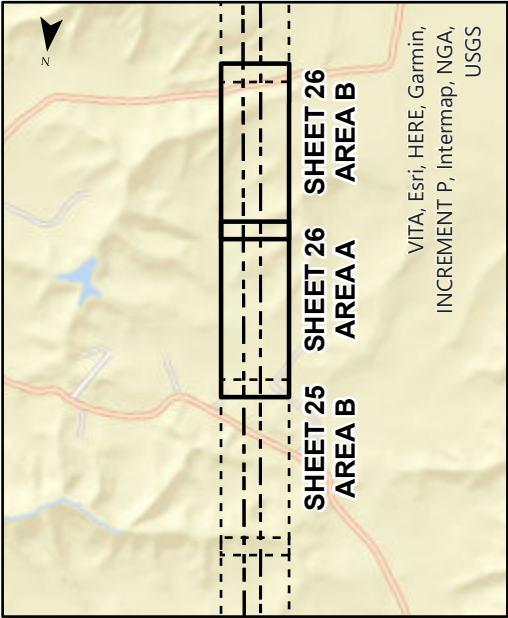
Caroline and Spotsylvania Counties, Virginia

Client:		Dominion Energy Virginia	
C2 Env Project:	Prepared By:	Date:	
0354	ELW	08/15/24	



SITE DATA

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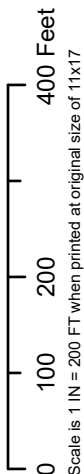
Lines #256 and #2090 Partial Rebuild
and New 230 kV Lines #2372 and #2378

Caroline and Spotsylvania Counties, Virginia

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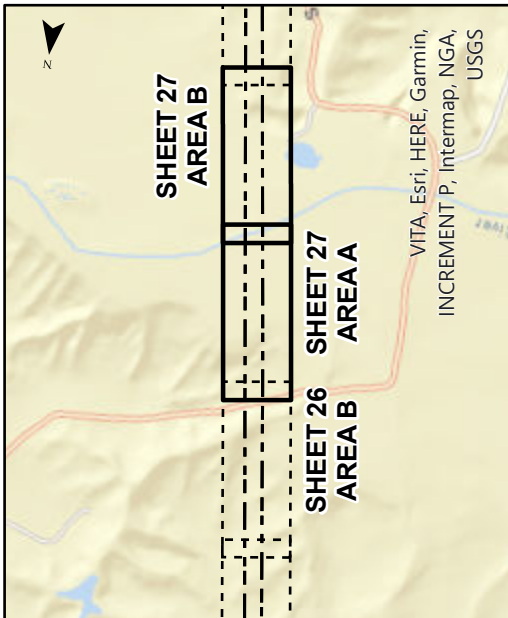
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C2 Env Project:	Prepared By:	Date:
0354	ELW	08/15/24

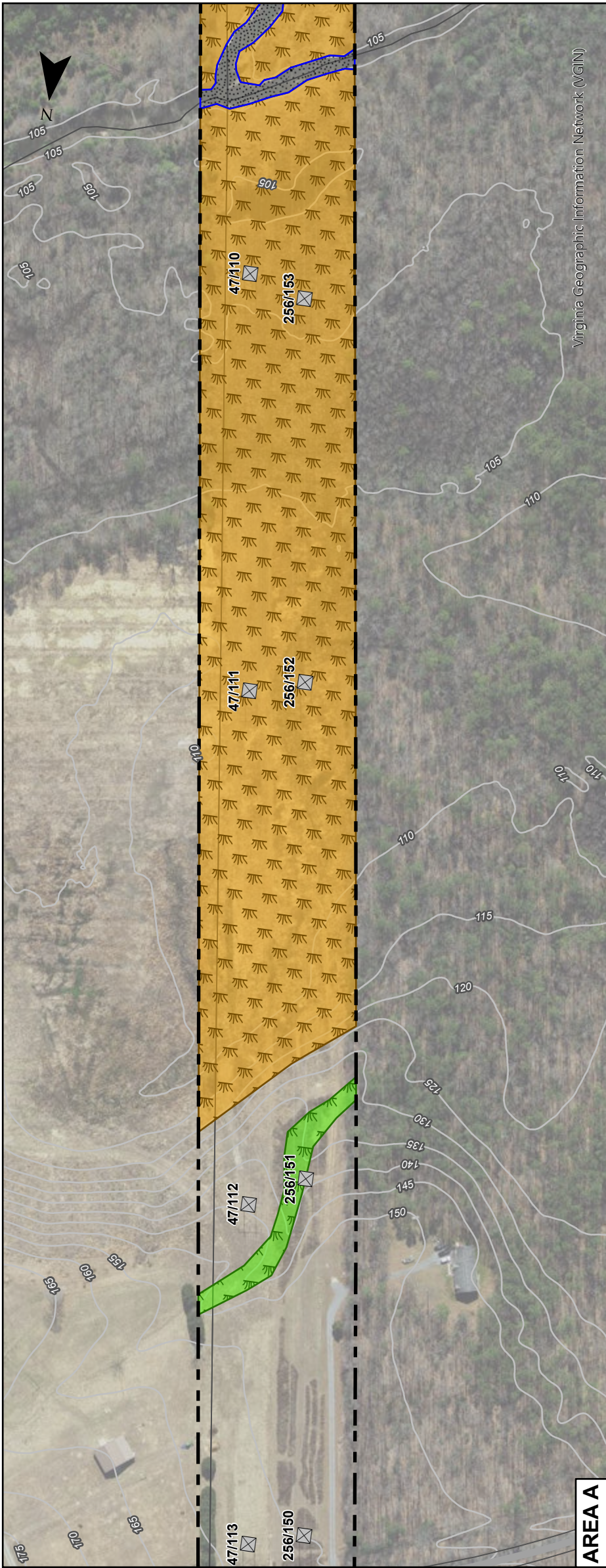


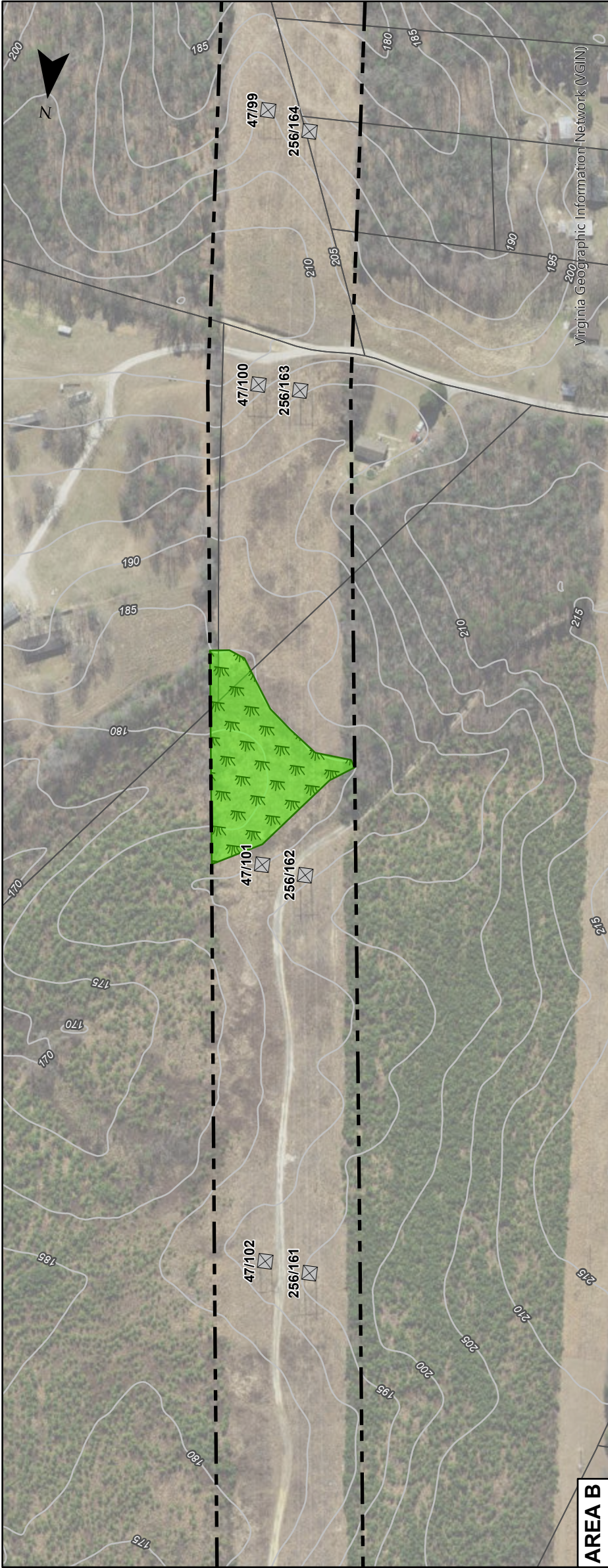
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 Approximate Jurisdictional Ditch Limits
 Approximate Open Water Limits
 Existing 5 FT Contour
 Parcel Boundary

 ENVIRONMENTAL

SHEET 27 OF 29



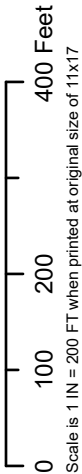


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Lines #256 and #2090 Partial Rebuild
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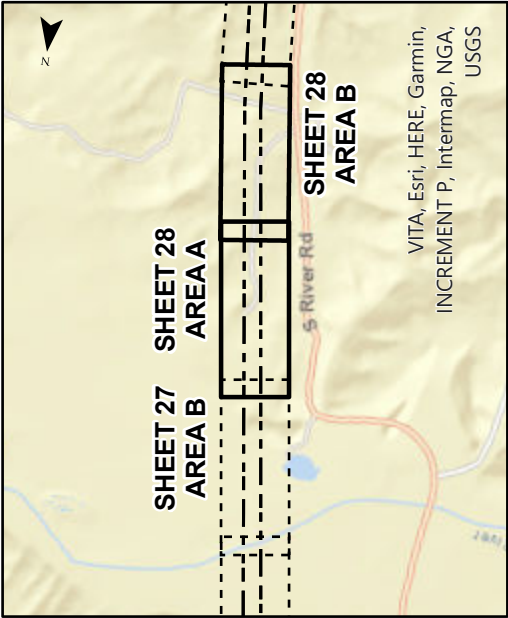
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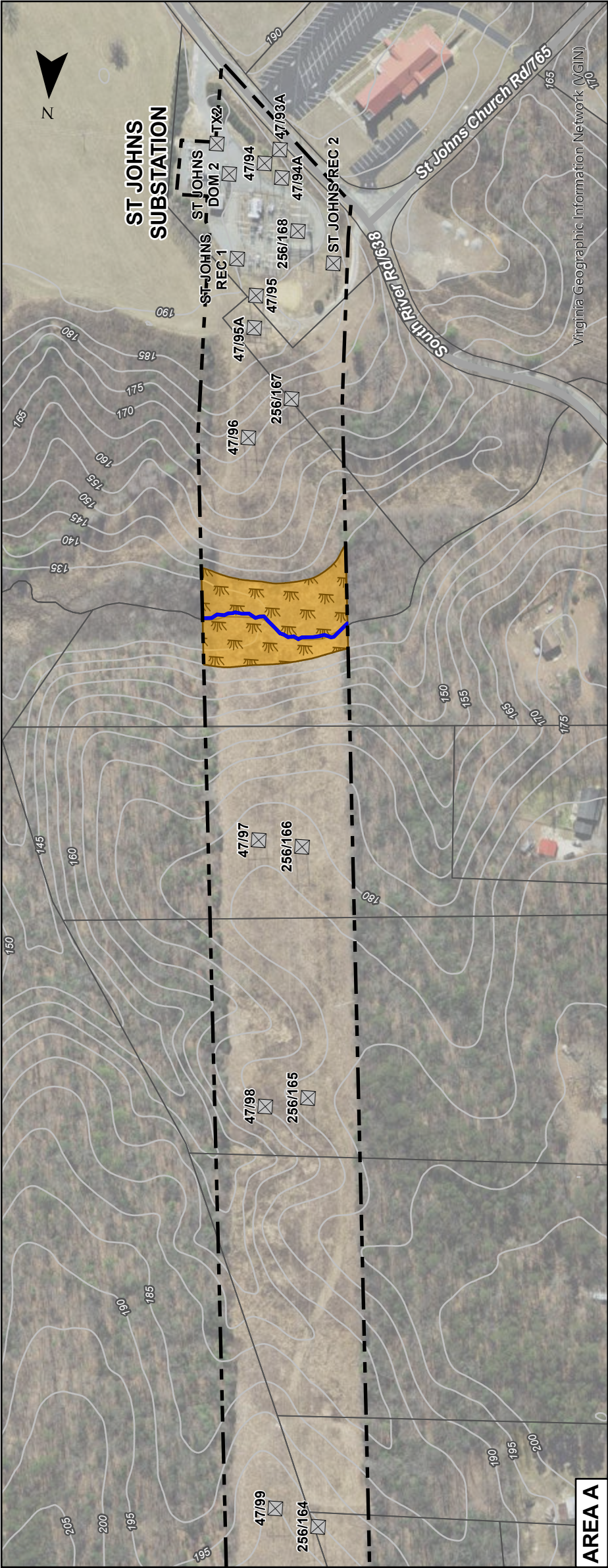
Client:	
Dominion Energy Virginia	
C2 Env Project:	
0354	Prepared By: ELW
Date:	
08/15/24	



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DESKTOP WETLAND REVIEW MAP

Lines #256 and #2090 Partial Rebuild and New 230 kV Lines #2372 and #2378

Caroline and Spotsylvania Counties, Virginia

Client:

Domionia Energy Virginia

C2 Env Project:

Prepared By:

0354

ELW

Date:

08/15/24

0100200400

Feet

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

SITE DATA

Project Area

Existing Structure

Approximate Stream Channel Limits

Approximate PEM/PSS High Probability Wetland Limits

Approximate PEM/PSS Low Probability Wetland Limits

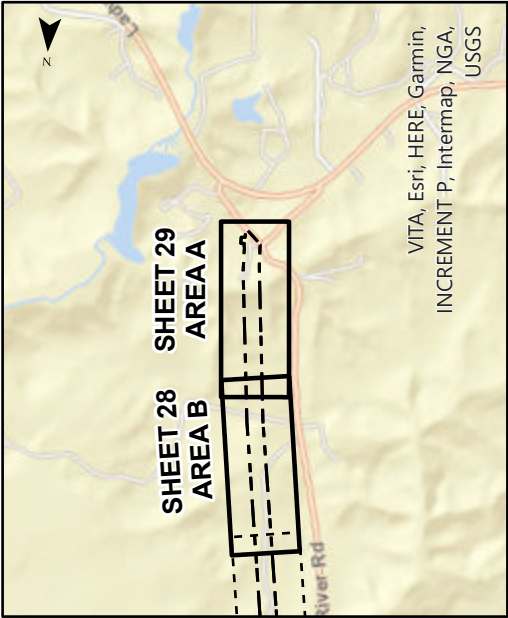
Approximate PEM/PSS Medium Probability Wetland Limits

Approximate Jurisdictional Ditch Limits

Approximate Open Water Limits

Existing 5 FT Contour

Parcel Boundary



ATTACHMENT 2.G.1.

Natural Heritage, Threatened and Endangered Species Database Search Results



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



In Reply Refer To:

06/14/2024 18:02:36 UTC

Project Code: 2024-0104280

Project Name: Ladysmith Projects - Rebuild of Lines #256 and #2090 and New 230 kV Line

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 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 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:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.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/program/migratory-bird-permit/what-we-do>.

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/library/collections/threats-birds>.

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/partner/council-conservation-migratory-birds>.

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
- Bald & Golden Eagles
- 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: 2024-0104280

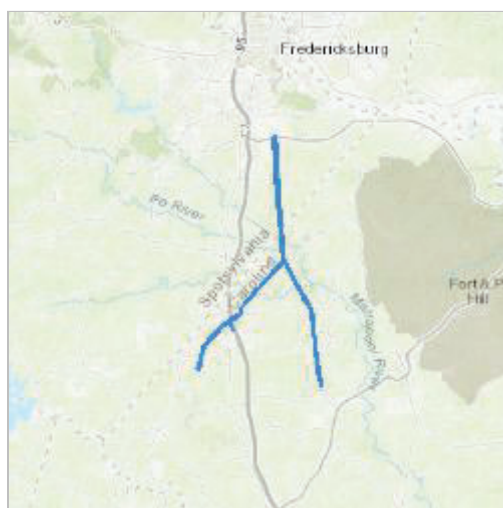
Project Name: Ladysmith Projects - Rebuild of Lines #256 and #2090 and New 230 kV Line

Project Type: Transmission Line - Maintenance/Modification - Above Ground

Project Description: Rebuild, reconductoring, and adding additional circuit along portions of about 21 miles of existing transmission line right-of-way. No new right-of-way is required.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.127926200000005,-77.4670102147633,14z>



Counties: Caroline and Spotsylvania counties, Virginia

ENDANGERED SPECIES ACT SPECIES

There is a total of 9 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 Fisheries¹, 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
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

CLAMS

NAME	STATUS
Dwarf Wedgemussel <i>Alasmidonta heterodon</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/784	Endangered
Green Floater <i>Lasmigona subviridis</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7541	Proposed Threatened
Yellow Lance <i>Elliptio lanceolata</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4511	Threatened

INSECTS

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

FLOWERING PLANTS

NAME	STATUS
Small Whorled Pogonia <i>Isotria medeoloides</i> Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened
Swamp Pink <i>Helonias bullata</i> Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4333	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

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.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

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

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#)

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

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> 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 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 "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

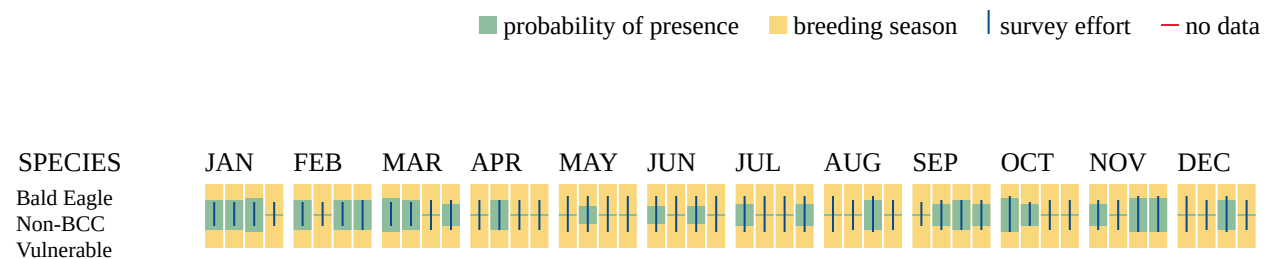
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

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)

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

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> 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 Aug 31
Blue-winged Warbler <i>Vermivora cyanoptera</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9509	Breeds May 1 to Jun 30
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454	Breeds May 20 to Jul 31
Canada Warbler <i>Cardellina canadensis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9643	Breeds May 20 to Aug 10
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25

NAME	BREEDING SEASON
Chuck-will's-widow <i>Antrostomus carolinensis</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9604	Breeds May 10 to Jul 10
Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10678	Breeds May 1 to Aug 20
Grasshopper Sparrow <i>Ammodramus savannarum perpallidus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20
Kentucky Warbler <i>Geothlypis formosa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9443	Breeds Apr 20 to Aug 20
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Pectoral Sandpiper <i>Calidris melanotos</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere
Prairie Warbler <i>Setophaga discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513	Breeds May 1 to Jul 31
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere

NAME	BREEDING SEASON
Scarlet Tanager <i>Piranga olivacea</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11967	Breeds May 10 to Aug 10
Semipalmated Sandpiper <i>Calidris pusilla</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9603	Breeds elsewhere
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	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 "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

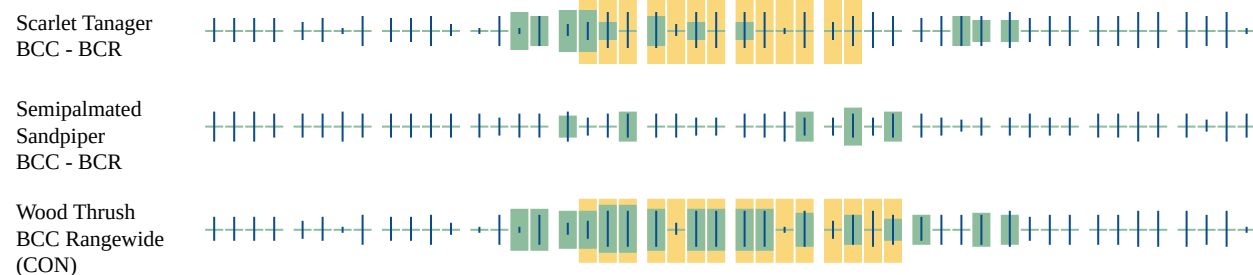
■ probability of presence ■ breeding season | survey effort — no data

SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

Project code: 2024-0104280

06/14/2024 18:02:36 UTC





Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- 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>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

VaFWIS Search Report Compiled on 6/14/2024, 2:43:35 PM[Help](#)

Known or likely to occur within a **2 mile buffer around line beginning 38.2245000 -77.4733599**
in **033 Caroline County, 177 Spotsylvania County, VA**

[View Map of
Site Location](#)

502 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)
040228	FESE	Ia	Woodpecker, red-cockaded	Picoides borealis		BOVA
050023	FESE	Ia	Bat, Indiana	Myotis sodalis		BOVA
050022	FEST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA,HU6
060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes	BOVA,TEWaters,Habitat,HU6
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes	TEWaters
060029	FTST	Ila	Lance, yellow	Elliptio lanceolata	Yes	BOVA,TEWaters,SppObs,HU6
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA,HU6
050027	FPSE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA,HU6
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040385	ST	Ia	Sparrow, Bachman's	Peucaea aestivalis		BOVA,HU6
060081	FPST	Ila	Floater, green	Lasmigona subviridis		HU6
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
100079	FC	IIIa	Butterfly, monarch	Danaus plexippus		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata	Yes	BOVA,SppObs,HU6
010077		Ia	Shiner, bridle	Notropis bifrenatus	Yes	BOVA,Habitat,SppObs,HU6
100248		Ia	Fritillary, regal	Speyeria idalia idalia		BOVA,HU6
040213		Ic	Owl, northern saw-whet	Aegolius acadicus		HU6
040052		Ila	Duck, American black	Anas rubripes		BOVA,HU6

040029		Ila	Heron, little blue	Egretta caerulea caerulea		BOVA
040036		Ila	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040181		Ila	Tern, common	Sterna hirundo		BOVA,HU6
040320		Ila	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140		Ila	Woodcock, American	Scolopax minor		BOVA,HU6
060071		Ila	Lampmussel, yellow	Lampsilis cariosa		BOVA,HU6
040203		Ilb	Cuckoo, black-billed	Coccyzus erythrophthalmus		BOVA
040105		Ilb	Rail, king	Rallus elegans		BOVA,HU6
060175		Ilb	Slabshell, Roanoke	Elliptio roanokensis		BOVA

To view **All 502 species** [View 502](#)

*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 Wildlife 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 (4 records)

[View Map of All Anadromous Fish Use Streams](#)

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE*	Highest Tier**	
C182	Mattaponi river	Confirmed	6		IV	Yes
P122	Po river	Potential	0			Yes
P123	Poni river	Potential	0			Yes
P98	Matta river	Potential	0			Yes

Impediments to Fish Passage (6 records)

[View Map of All Fish Impediments](#)

ID	Name	River	View Map
----	------	-------	----------

561	COLEMAN POND DAM	WHITE RUN	Yes
564	LAKE DEVOLIA DAM	TR-SOUTH RIVER	Yes
548	LAKE LANDOR DAM	TR-SOUTH RIVER	Yes
559	OLD GRAYS DAM	MAYS RUN	Yes
549	TEMPLES MILL DAM	SOUTH RIVER	Yes
563	TERRELL BROTHERS DAM	TR-MATTA RIVER	Yes

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters (65 Reaches - displaying first 20)

[View Map of All Threatened and Endangered Waters](#)

Stream Name	T&E Waters Species						View Map
	Highest TE [*]	BOVA Code, Status [*] , Tier ^{**} , Common & Scientific Name					
Matta River (0111673)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0121546)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0121807)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0122417)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0125492)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0126501)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0127096)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0128417)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0129533)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0129955)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0131247)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0134542)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes

Matta River (0134981)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0136377)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0138097)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0138682)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0138811)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0139729)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Matta River (0140977)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Mattaponi River (0115611)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Mattaponi River (0119544)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Mattaponi River (0120358)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
Mattaponi River (0120430)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes

To view **All 65 Threatened and Endangered Waters records** [View 65](#)

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Species Observations (189 records - displaying first 20 ,
16 Observations with Threatened or
Endangered species)

[View Map of All Query Results
Species Observations](#)

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
314562	SppObs	Nov 24 1993	PHILIP H. STEVENSON	6	FTST	II	Yes
6298	SppObs	Nov 24 1993	Phillip Stevenson	5	FTST	II	Yes
646627	SppObs	May 18 2018	Jill Newman	1	CC	III	Yes
646620	SppObs	May 11 2018	Alison Ochs; Rebecca Nishida	1	CC	III	Yes
646622	SppObs	May 11 2018	Alison Ochs; Rebecca Nishida	1	CC	III	Yes
646618	SppObs	May 10 2018	Alison Ochs; Rebecca Nishida	1	CC	III	Yes
646617	SppObs	May 9 2018	Alison Ochs; Rebecca Nishida	1	CC	III	Yes
646607	SppObs	Apr 26 2018	Jill Newman; Rebecca Nishida	1	CC	III	Yes
646603	SppObs	Apr 25 2018	Alison Ochs; Rebecca Nishida	1	CC	III	Yes
646593	SppObs	Apr 14 2018	Tom Akre; Jill Newman; Alison Ochs	1	CC	III	Yes
646590	SppObs	Apr 13 2018	Rebecca Nishida; Monica Banghart	1	CC	III	Yes
646591	SppObs	Apr 13 2018	Rebecca Nishida; Monica Banghart	1	CC	III	Yes
646592	SppObs	Apr 13 2018	Rebecca Nishida; Monica Banghart	1	CC	III	Yes
646584	SppObs	Apr 12 2018	Jill Newman; Alison Ochs; Rebecca Nishida; Monica Ban	1	CC	III	Yes
646586	SppObs	Apr 12 2018	Alison Ochs; Rebecca Nishida; Monica Banghart; Jill N	1	CC	III	Yes
646585	SppObs	Apr 12 2018	Rebecca Nishida; Monica Banghart	1	CC	III	Yes
10183	SppObs	Oct 10 1983	W. and L. Starnes	13		I	Yes
337767	SppObs	Jan 1 1983	WCS-B-STARNES	13		I	Yes
15882	SppObs	Oct 23 1970	MILLSAPS ET AL.	14		I	Yes
333572	SppObs	Jan 1 1970	HSM-MILLSAPS	14		I	Yes

Displayed 20 Species Observations

Selected 189 Observations [View all 189 Species Observations](#)

Habitat Predicted for Aquatic WAP Tier I & II Species (6 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					
Matta River (20801051)	FESE	010077		Ia	Shiner, bridle	Notropis bifrenatus	Yes
		060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	
Matta River (20801051)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Mattaponi River (20801051)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Ni River (20801051)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Po River (20801051)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
tributary (20801051)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
tributary (20801051)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (10 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 ^{**}	
51155	Fredericksburg, SW	32		III	Yes
51143	Guinea, CW	30		III	Yes
51142	Guinea, NE	72		III	Yes
51146	Guinea, SE	67		III	Yes
50136	Ladysmith, SE	60		III	Yes
50135	Ladysmith, SW	8		III	Yes
50144	Spotsylvania, CE	27		III	Yes
50146	Spotsylvania, SE	56		IV	Yes
51134	Woodford, CE	43		III	Yes

51136	Woodford, SE	48		III	Yes
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Public Holdings: (1 names)

Name	Agency	Level
Fredericksburg & Spotsylvania National Military Park	National Park Service	Federal

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

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
033	Caroline	374	FESE	I
177	Spotsylvania	379	FESE	I

USGS 7.5' Quadrangles:

Ladysmith
 Spotsylvania
 Woodford
 Guinea
 Fredericksburg

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
RA46	Rappahannock River-Hazel Run	63	FPST	I
RA47	Massaponax Creek	53	SS	I
YO38	Ni River	54	FESE	I
YO41	Po River-Lake Pocahontas	54	FESE	I
YO42	Poni River	62	FESE	I
YO45	Matta River	58	FESE	I
YO46	South River	56	FTST	I
YO47	Mattaponi River-Campbell Creek	64	FTSE	I
YO48	Polecat Creek	53	FTST	II

Compiled on 6/14/2024, 2:43:35 PM I2141718.0 report=all searchType= L dist= 3218 poi= 38.2245000 -77.4733599 siteDD= 38.2245000 -77.4733698;38.1297900 -77.4646298;38.0900600 -77.4365798;38.0309700 -77.4276398;38.0900600 -77.4365798;38.1297900 -77.4646298;38.0922400 -77.5059998;38.0877800 -77.5262598;38.0799500 -77.5240998;38.0633200 -77.5432798;38.0474400 -77.5474298;

PixelSize=64; Anadromous=0.040742; BBA=0.069336; BECAR=0.031035; Bats=0.027926; Buffer=0.662968; County=0.085443; HU6=0.119079; Impediments=0.030388; Init=0.703604; PublicLands=0.049876; Quad=0.072285; SppObs=0.541973; TEWaters=0.047026; TierReaches=0.065918; TierTerrestrial=0.099089; Total=2.320281; Tracking_BOVA=0.217661; Trout=0.038235; huva=0.076441

**VAFWIS - Department
of Wildlife Resources**

38.12872 -77.48323

is the Search Point

 Search Point

- ☒ Change to "clicked" map point
- ☐ Fixed at 38.12872 -77.48323

Show Position Rings

- ☐ Yes ☒ No

4 miles and 1 mile at the Search Point

Show Search Area

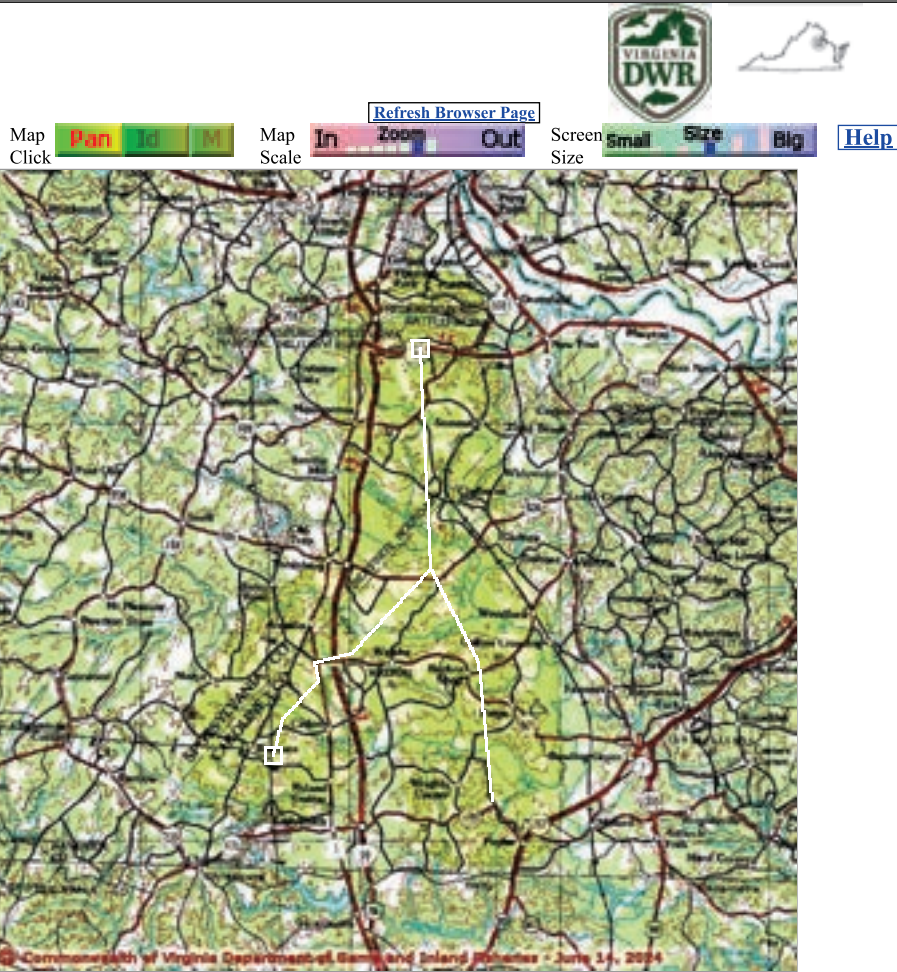
- ☒ Yes ☐ No

2 Search distance miles buffer

Search Point is at map center

Base Map [Choices](#)Topography **Map Overlay** [Choices](#)

Current List: Search

Map Overlay LegendN
↑

5 0 5 10 15 20 Kilometers

2.5 0 2.5 5 7.5 10 Miles

Point of Search 38.12872 -77.48323

Map Location 38.12872 -77.48323

Select **Coordinate System:** ☐ Degrees, Minutes, Seconds Latitude - Longitude☒ Decimal Degrees Latitude - Longitude☐ Meters UTM NAD83 East North Zone☐ Meters UTM NAD27 East North ZoneBase Map source: USGS 1:250,000 topographic maps (see Microsoft.terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 263146 and top 4242210. Pixel size is 46. .
Coordinates displayed are decimal Degrees North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixels. The map display represents 38400 meters east to west by 38400 meters north to south for a total of 1474.5 square kilometers. The map display represents 126005 feet east to west by 126005 feet north to south for a total of 569.5 square miles.

Topographic maps and Black and white aerial photography for year 1990+- are from the United States Department of the Interior, United States Geological Survey. Color aerial photography acquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
Shaded topographic maps are from TOPO! ©2006 National Geographic
<http://www.national.geographic.com/topo>
All other map products are from the Commonwealth of Virginia Department of Wildlife Resources.

map assembled 2024-06-14 14:41:27 (qa/qc March 21, 2016 12:20 - tn=2141718 dist=3218 I)
\$poi=38.2245000 -77.4733700

**Anadromous Fish Use
Streams**38,13,28.2 -77,28,24.1
is the Search Point**Show Position Rings**☒ Yes ☐ No4 miles and 1 mile at the Search
Point**Show Search Area**☒ Yes ☐ No2 Search distance miles
buffer☐ Display Search Point is not
at center at map center**Base Map** [Choices](#)

Topography

Map Overlay [Choices](#)Current List: Position, Search,
Anadromous**Map Overlay Legend****Anadromous Fish Reach**

Confirmed

Potential

 Impediment Position Rings
4 miles and 1
mile at the
Search Point 2 mile radius
Search Area

Point of Search 38,13,28.2 -77,28,24.1

Map Location 38,07,43.4 -77,28,59.6

Select **Coordinate System:** ☒ Degrees, Minutes, Seconds Latitude - Longitude☐ Decimal Degrees Latitude - Longitude☐ Meters UTM NAD83 East North Zone☐ Meters UTM NAD27 East North ZoneBase Map source: USGS 1:250,000 topographic maps (see [Microsoft terraservertopography](https://www.microsoft.com/terraservertopography) for details)

Map projection is UTM Zone 18 NAD 1983 with left 263146 and top 4242210. Pixel size is 46. .
Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed
as 600 columns by 600 rows for a total of 360000 pixels. The map display represents 38400 meters
east to west by 38400 meters north to south for a total of 1474.5 square kilometers. The map
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All other map products are from the Commonwealth of Virginia Department of Wildlife Resources.

map assembled 2024-06-14 14:44:54 (qa/qc March 21, 2016 12:20 - tn=2141718.0 dist=3218
I)
\$poi=38.2245000 -77.4733599



CCB Mapping Portal



Layers: VA Eagle Nest Locator, VA Eagle Nest Buffers

Map Center [longitude, latitude]: [-77.49687194824219, 38.17532196134243]

Map Link:

https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&layer=VA+Eagle+Nest+Buffers&zoom=11&lat=38.17532196134243&lng=-77.49687194824219&legend=legend_tab_7c321b7e-e523-11e4-aaa0-0e0c41326911&base=World+Imagery+%28ESRI%29

Report Generated On: 06/26/2024

The Center for Conservation Biology (CCB) provides certain data online as a free service to the public and the regulatory sector. CCB encourages the use of its data sets in wildlife conservation and management applications. These data are protected by intellectual property laws. All users are reminded to view the [Data Use Agreement](#) to ensure compliance with our data use policies. For additional data access questions, view our [Data Distribution Policy](#), or contact our Data Manager, Marie Pitts, at mlpitts@wm.edu or 757-221-7503.

Report generated by [The Center for Conservation Biology Mapping Portal](#).

To learn more about CCB visit ccbbirds.org or contact us at info@ccbbirds.org



CCB Mapping Portal



Layers: OspreyWatch Nests

Map Center [longitude, latitude]: [-77.49687194824219, 38.17532196134243]

Map Link:

https://ccbbirds.org/maps/#layer=OspreyWatch+Nests&zoom=11&lat=38.17532196134243&lng=-77.49687194824219&legend=legend_tab_41b097d8-e52c-11e4-b6e6-0e853d047bba&base=World+Imagery+%28ESRI%29

Report Generated On: 06/26/2024

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Report generated by [The Center for Conservation Biology Mapping Portal](#).

To learn more about CCB visit ccbbirds.org or contact us at info@ccbbirds.org

Natural Heritage Resources

Your Criteria

Taxonomic Group: Select All

Global Conservation Status Rank: Select All

State Conservation Status Rank: Select All

Federal Legal Status: Select All

State Legal Status: Select All

Watershed (8 digit HUC): 02080104 - Lower Rappahannock River,02080105 - Mattaponi River

Subwatershed (12 digit HUC): RA47 - Massaponax Creek,YO38 - N1 River,YO41 - (Lower) Po River-Lake Pocahontas,YO42 - Poni River,YO45 - Matta River,YO46 - South River-Mays Run,YO47 - Mattaponi River-Campbell Creek

Virginia Coastal Zone: Yes

Search Run: 6/14/2024 15:56:53 PM

Result Summary

Total Species returned: 16

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Lower Rappahannock								
Massaponax Creek								
VASCULAR PLANTS								
Small Whorled Pogonia	Isotria medeoloides	Isotria medeoloides	G2G3	S2	LT	LE	70	Y
Mattaponi River-Campbell Creek								
VASCULAR PLANTS								
Swamp-pink Helonias	Helonias bullata	Helonias bullata	G3	S2S3	LT	LE	35	Y

Mattaponi

(Lower) Po River-Lake Pocahontas

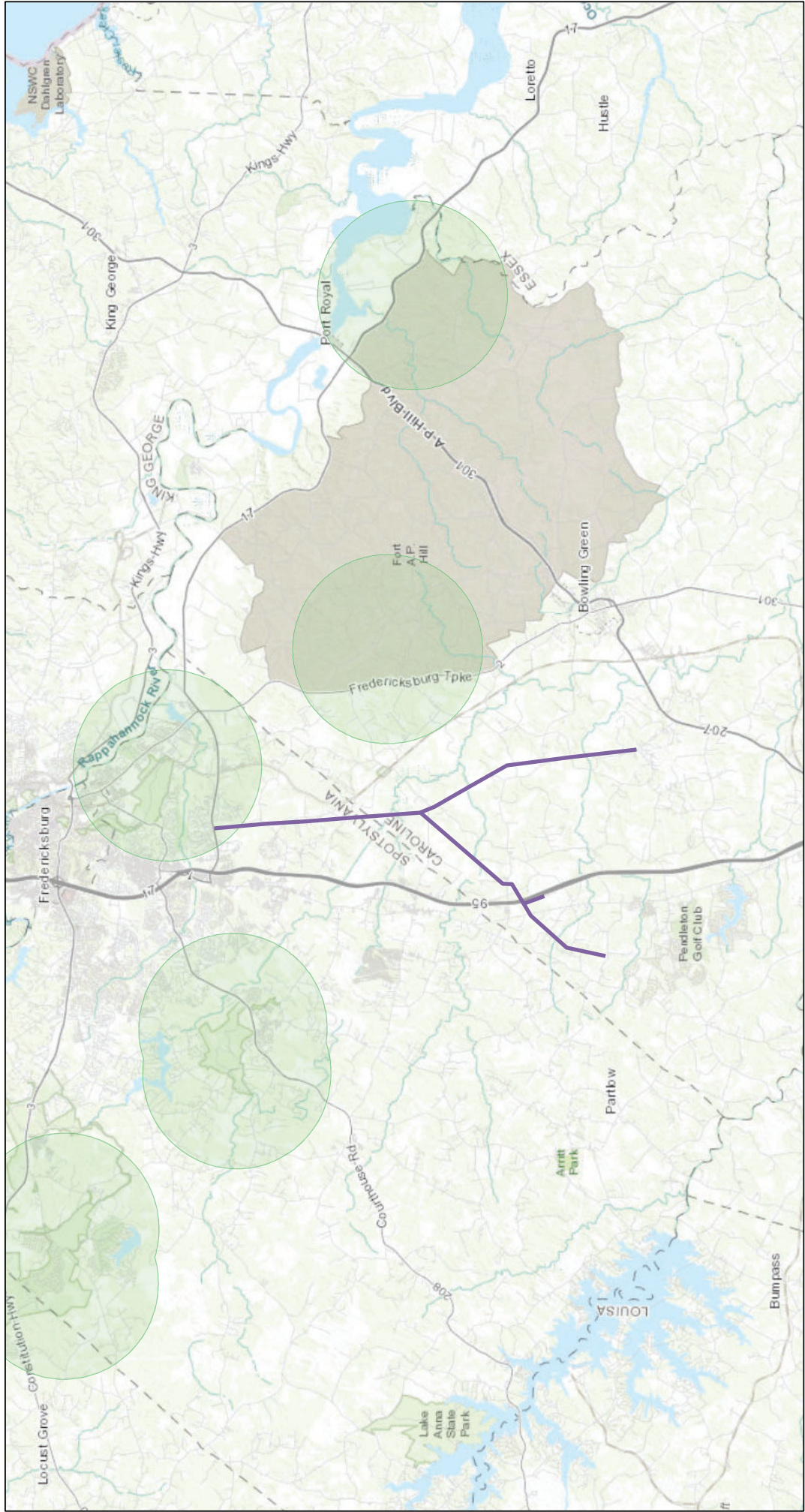
Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
BIVALVIA (MUSSELS)								
Dwarf Wedgemussel	Alasmidonta heterodon	Alasmidonta heterodon	G1G2	S1	LE	LE	15	Y
Yellow Lance	Elliptio lanceolata	Elliptio lanceolata	G2	S2	LT	LT	46	Y
Matta River								
BIVALVIA (MUSSELS)								
Yellow Lance	Elliptio lanceolata	Elliptio lanceolata	G2	S2	LT	LT	46	Y
Mattaponi River-Campbell Creek								
HETEROPTERA (TRUE BUGS)								
Virginia Piedmont	Sigara depressa	Sigara depressa	G1G2	S1S2	SOC	LE	4	Y
Water Boatman								
VASCULAR PLANTS								
Swamp-pink	Helonias bullata	Helonias bullata	G3	S2S3	LT	LE	35	Y
Small Whorled	Isotria medeoloides	Isotria medeoloides	G2G3	S2	LT	LE	70	Y
Pogonia								
New Jersey Rush	Juncus caesariensis	Juncus caesariensis	G2G3	S2	SOC	LT	13	Y
Ni River								
BIVALVIA (MUSSELS)								
Dwarf Wedgemussel	Alasmidonta heterodon	Alasmidonta heterodon	G1G2	S1	LE	LE	15	Y
VASCULAR PLANTS								
Small Whorled	Isotria medeoloides	Isotria medeoloides	G2G3	S2	LT	LE	70	Y
Pogonia								
Poni River								
VASCULAR PLANTS								
Swamp-pink	Helonias bullata	Helonias bullata	G3	S2S3	LT	LE	35	Y
New Jersey Rush	Juncus caesariensis	Juncus caesariensis	G2G3	S2	SOC	LT	13	Y
South River-Mays Run								
VASCULAR PLANTS								
Small Whorled	Isotria medeoloides	Isotria medeoloides	G2G3	S2	LT	LE	70	Y
Pogonia								
New Jersey Rush	Juncus caesariensis	Juncus caesariensis	G2G3	S2	SOC	LT	13	Y
Epling's Hedge-nettle	Stachys eplingii	Stachys eplingii	G1G2	S1	SOC	None	4	Y

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an [information request](#).

To Contribute information on locations of natural heritage resources, please fill out and submit a [rare species sighting form](#).

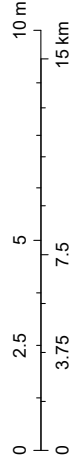
NLEB Locations and Roost Trees



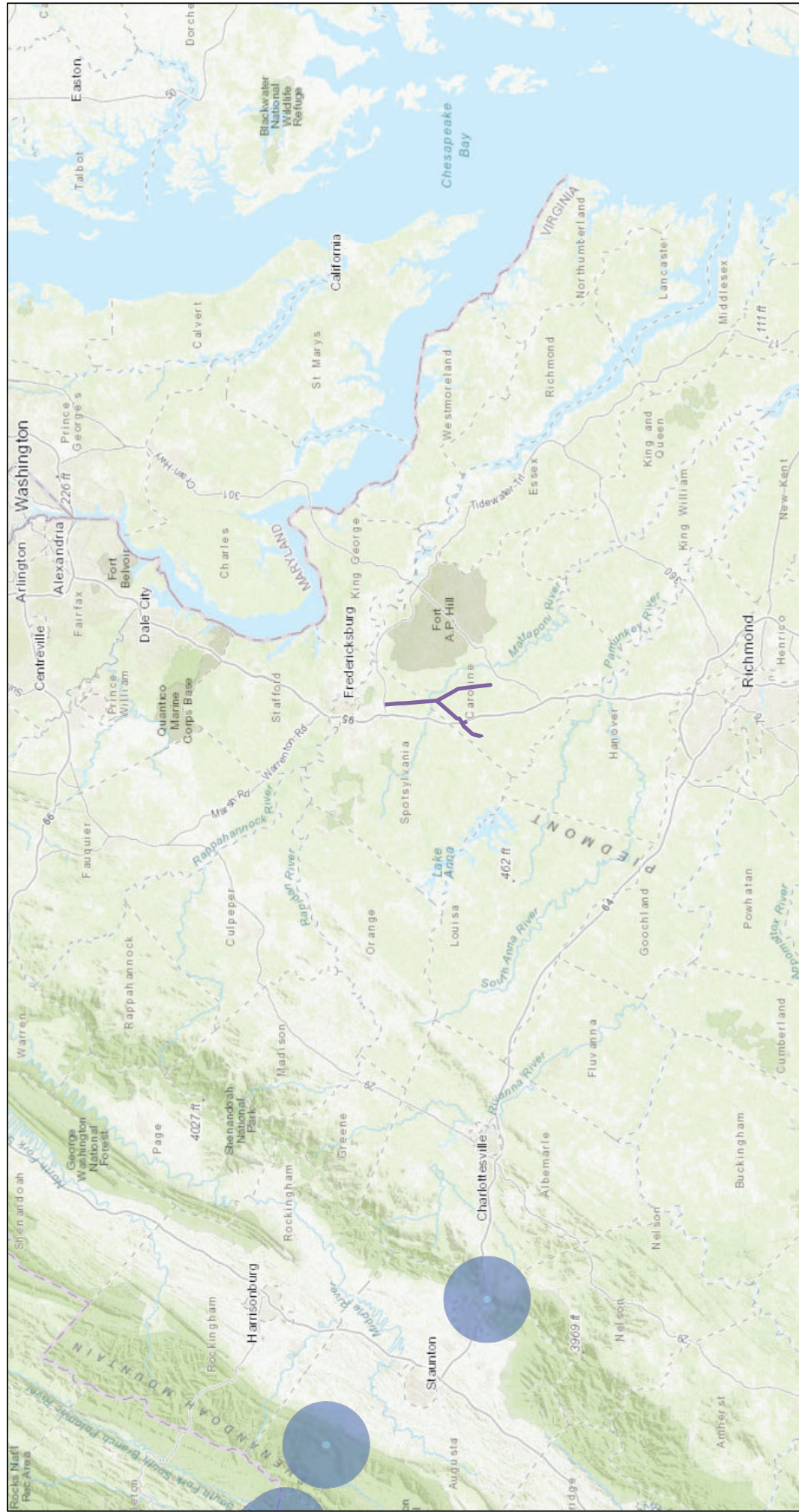
6/14/2024, 3:30:40 PM

NLEB Capture 3 Mile Buffer

1:244,600



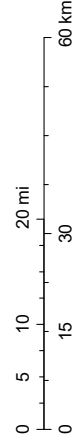
MYLU PESU Habitat Map



6/14/2024, 3:37:11 PM

1:978,399

- Tri-colored and Little Brown Hibernaculum Half Mile Buffer
- Tri-colored and Little Brown Hibernaculum 5.5 Mile Buffer



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

Dept. Game and Inland Fisheries
Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS

Travis A. Voyles
Secretary of Natural and Historic Resources

Frank N. Stovall
Deputy Director
for Operations

Matthew S. Wells
Director

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

Andrew W. Smith
Chief Deputy Director

Laura Ellis
Deputy Director for
Administration and Finance



COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

August 7, 2024

Alexxa Bostic
C2 Environmental, Inc.
11846 Rock Landing Drive, Suite A
Newport News, VA 23606

Re: Partial Rebuild of Lines 256 & 2090-2335 and New 230kV Line 2372-2378

Dear Ms. Bostic:

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.

Woodford Quadrangle

According to a DCR biologist, there is a potential for New Jersey rush (*Juncus caesariensis*, G2G3/S2/SOC/LT) to occur in the project area if suitable habitat exists on site. New Jersey rush is a sedge-like herb with a rough surface and narrow leaves that inhabits acidic hardwood swamps, seeps, swales or pond margins. These sites usually contain a persistent seepage of groundwater or perennially reliable flow (Ware, 1991). It has also been documented in seepages within such disturbed areas as powerline rights-of-way. New Jersey rush is restricted to isolated occurrences in the coastal plain of Virginia (TNC et. al., 1999). Threats to this plant include disruptions in its hydrological regime, such as draining or filling wetlands and flooding by beavers, invasions by competitors resulting from clear-cutting of the overstory (Ware, 1991) and succession of its habitat to woody vegetation (Nature Serve 2011). Surveys for New Jersey rush should be conducted during the fruiting period of this plant from August – October.

Please note that this species is listed as threatened by the Virginia Department of Agriculture and Consumer Services (VDACS).

Due to the potential for this site to support populations of New Jersey rush, DCR recommends an inventory for the resource 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.

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. Survey results should be coordinated with DCR-DNH and USFWS. Upon review of the results, if it is determined the species is present, and there is a likelihood of a negative impact on the species, DCR-DNH will recommend coordination with VDACS to ensure compliance with Virginia's Endangered Plant and Insect Species Act.

In addition, according to DCR's predicted suitable habitat modeling and review by a DCR biologist, there is a potential for Yellow Lance (*Elliptio lanceolata*, G2/S2/LT/LT) to occur in the project area if suitable habitat exists on site. Yellow lance occurs in mid-sized rivers and second and third order streams. To survive, it needs a silt-free, stable streambed and well-oxygenated water that is free of pollutants. This species has been the subject of taxonomic debate in recent years (NatureServe, 2009). Currently in Virginia, the Yellow lance is recognized from populations in the Chowan, James, York, and Rappahannock drainages. Its range also extends into Neuse-Tar river system in North Carolina. In recent years, significant population declines have been noted across its range (NatureServe, 2009). Please note that this species is currently classified as threatened by the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Wildlife Resources (VDWR). Considered good indicators of the health of aquatic ecosystems, freshwater mussels are dependent on good water quality, good physical habitat conditions, and an environment that will support populations of host fish species (Williams et al., 1993). Because mussels are sedentary organisms, they are sensitive to water quality degradation related to increased sedimentation and pollution. They are also sensitive to habitat destruction through dam construction, channelization, and dredging, and the invasion of exotic mollusk species. The Yellow lance may be particularly sensitive to chemical pollutants and exposure to fine sediments from erosion (NatureServe, 2009).

To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations. If instream work becomes necessary, DCR recommends re-coordination with this office.

Guinea Quadrangle

According to the information currently in Biotics, natural heritage resources have not been documented within the submitted project boundary including a 100-foot buffer. Please note, a predictive model identifying potential habitat for Small whorled pogonia (*Isotria medeoloides*, G2/S2/LT/LE) intersects the project boundary. However, based on DCR biologist's review of the proposed project a survey is not recommended for the resource.

Ladysmith Quadrangle

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. In addition, the project boundary does not intersect any of the predictive models identifying potential habitat for natural heritage resources.

All Quads

DCR recommends the development and implementation of an invasive species plan to be included as part of the maintenance practices for the right-of-way (ROW). The invasive species plan should include an invasive species inventory for the project area based on the current DCR Invasive Species List (<https://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2023.pdf>) and methods for treating the invasives. DCR also recommends the ROW restoration and maintenance practices planned include appropriate revegetation using native species in a mix of grasses and forbs to the extent that it is consistent with erosion and sediment control requirements, robust monitoring, and an adaptive management plan to provide

guidance if initial revegetation efforts are unsuccessful or if invasive species outbreaks occur.

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 \$605.00 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 at <https://services.dwr.virginia.gov/fwis/> or contact Hannah Schul at Hannah.Schul@dwr.virginia.gov. According to the information currently in our files, the Po River, which has been designated by the VDWR as a "Threatened and Endangered Species Water" for the Dwarf wedgemussel and the Atlantic sturgeon, and the Matta River, which has been designated as a "Threatened and Endangered Species Water" for the Atlantic sturgeon, are within the submitted project boundary including a 100-foot buffer. Therefore, DCR recommends coordination with the U.S. Fish and Wildlife Service (USFWS) and the VDWR for the Dwarf wedgemussel and with NOAA Fisheries and the VDWR for the Atlantic sturgeon to ensure compliance with protected species legislation.

Should you have any questions or concerns, please contact me at 804-225-2429. Thank you for the opportunity to comment on this project.

Sincerely,



Tyler Meader
Natural Heritage Locality Liaison

Cc: Brian Hopper, NOAA Fisheries-Protected Species Division
Hannah Schul, VDWR

Literature Cited

NatureServe. 2011. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: July 25, 2011).

NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: April 5, 2010).

Ware, D.M.E. 1991. New Jersey rush. In Virginia's Endangered Species: Proceedings of a Symposium. K. Terwilliger ed. The McDonald and Woodward Publishing Company, Blacksburg, Virginia.

Williams, J.D., M.L. Warren, Jr., K.S. Cummings, J.L. Harris, and R.J. Neves. 1993. Conservation status of freshwater mussels of the United States and Canada. Fisheries 18: 6-9.



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219

P.O. Box 1105, Richmond, Virginia 23218

(800) 592-5482

www.deq.virginia.gov

Travis A. Voyles
Secretary of Natural and Historic Resources

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

February 27, 2024

Dominion Energy
120 Tredegar Street
Richmond, VA 23219
Attn: Elizabeth L. Hester

Transmitted Via Email: (Elizabeth.l.hester@dominionenergy.com)

Re: Dominion Energy (Electric Transmission) - AS&S - Program Renewal – 2024/2025

Dear Ms. Hester:

The Virginia Department of Environmental Quality (DEQ) hereby approves the Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management for Construction and Maintenance of Linear Electric Transmission Facilities for Dominion Energy's document dated "February 2024". This coverage is effective from February 27, 2024, to February 26, 2025.

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:

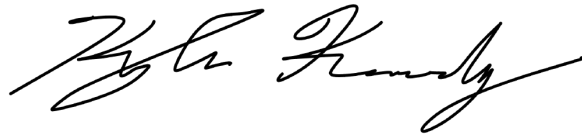
1. Variance, exception, and deviation requests must be submitted to DEQ separately from this Annual Standards and Specifications' submission. DEQ may require project-specific plans associated with such requests to be submitted for review and approval.
2. The following information must be submitted to 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
 - a. Project name or project number;
 - b. Project location (including nearest intersection, latitude and longitude, access point);
 - c. On-site project manager name and contact info;

- d. Responsible Land Disturber (RLD) name and contact info;
 - e. Project description;
 - f. Acreage of disturbance for project;
 - g. Project start and finish date; and
 - h. Any variances/exceptions/deviations associated with this project.
3. Project tracking of all regulated land disturbing activities (LDA) must be submitted to DEQ once per 6-month period. 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 plans must be reviewed by DEQ-certified Plan Reviewers. Dominion Energy, as the AS&S holder, retains the authority to approve plans and must do so in writing. Should an AS&S holder contract out to a third-party to fulfill the plan review function, the third-party Plan Reviewer may recommend approval of the plan, but final approval must come from the AS&S holder.

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

Please contact Abigail Snider at 804-486-0365 or Abigail.Snider@deq.virginia.gov if you have any questions about this letter.

Respectfully,

A handwritten signature in black ink, appearing to read "Kyle Kennedy", with a stylized, flowing script.

Kyle Kennedy, Manager
Office of Stormwater Management

Cc: Larry Gavan, DEQ-CO
Antony Angueira, DEQ-CO

REDACTED

REPORT >

Pre-Application Analysis of Cultural Resources for the Ladysmith-St. John's-Lee's Hill 230 kV Electric Transmission Projects

LOCATION > Caroline and Spotsylvania Counties, Virginia

DATE > JULY 2024

PREPARED FOR >

Dominion Energy



PREPARED BY >

Dutton + Associates, LLC

PROJECT REVIEW # >

Dutton + Associates

CULTURAL RESOURCE SURVEY, PLANNING, AND MANAGEMENT

**Pre-Application Analysis of Cultural Resources
for the Ladysmith-St. John's-Lee's Hill
230 kV Electric Transmission Projects**

Caroline and Spotsylvania Counties, Virginia

PREPARED FOR:

DOMINION ENERGY
5000 DOMINION BOULEVARD, 3RD FLOOR SW
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.

July 2024

ABSTRACT

ABSTRACT

In July 2024, Dutton + Associates, LLC (D+A) completed a Pre-Application Analysis (analysis) of cultural resources for the Ladysmith-St. John's-Lee's Hill 230 kV Electric Transmission Projects in Caroline and Spotsylvania counties, Virginia. The analysis was performed for Virginia Electric and Power Company (Dominion Energy Virginia, Dominion, or the Company) in support of a State Corporation Commission (SCC) application for the Project. 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 Ladysmith-St. John's-Lee's Hill 230 kV Electric Transmission project proposes solutions to meet the region's power needs while minimizing impacts to the surrounding area. The project addresses three main right-of-way corridors, totaling approximately 21 miles of electric transmission line upgrades between the Ladysmith and St. Johns Substations in Caroline County, and the future Lee's Hill Substation in Spotsylvania County. The scope of work primarily consists of rebuilding existing infrastructure with new steel structures that will allow for higher capacity conductor. One portion of the project will involve building new structures in existing ROW. No new permanent ROW is anticipated for this project.

CORRIDOR 1: Ladysmith Substation – Junction (8 miles)

- *Corridor 1A: Ladysmith Substation-Ladysmith CT (3 miles): This section will not replace or install any new structures. Instead, we will replace the existing conductor, or wires carrying electricity, with new higher capacity conductor. This process is known as reconductoring. The voltage will remain 230 kV.*
- *Corridor 1B: Ladysmith CT - Junction (5 miles): The existing 230 kV lattice structures will be reconducted. New single-circuit 230 monopole structures will be installed using existing right of way. The proposed structures will range from 110 feet to 140 feet in height. The existing structures they will parallel in the shared ROW range from 110 feet to 145 feet in height resulting in no increase in the height of structures within this portion of ROW.*

CORRIDOR 2: St. Johns Substation – Junction (7 miles)

The existing 230 kV line, which mostly consists of wooden H-Frame structures will be rebuilt with new double-circuit monopole structures. The existing wood structures currently range from 55 feet to 88 feet in height and the replacement monopole structures will range from 85 feet to 135 feet in height accounting for an increase in height of individual structures ranging from 27 to 54 feet.

CORRIDOR 3: Junction – Future Lee’s Hill Substation (6 miles)

The existing 230 kV line, which mostly consists of wooden H-Frame structures will be replaced with new double-circuit monopole structures. The existing wood structures currently range from 60 feet to 80 feet in height and the replacement monopole structures will range from 95 feet to 120 feet in height accounting for an increase in height of individual structures ranging from 25 to 60 feet.

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 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 one-hundred-forty-four (144) previously recorded architectural resources are located within 1.5 mile of at least one of the project corridors. Of these, there are no (0) NHLs located within 1.5 mile of the proposed project or closer, one (1) NRHP-listed property located within 1.0 mile or closer of the project, and three (3) properties that have been determined eligible or potentially eligible for listing in the NRHP by the VDHR within 0.5 mile or closer of the project. One (1) of the NRHP-listed resources and one (1) of the NRHP-eligible resources are directly crossed by a project corridor.

Assessment of impacts found that the project extends through a mostly rural portion of Caroline and Spotsylvania counties with some suburban encroachment, and therefore the historic setting of most of the historic properties remains generally intact. Due to the proximity of the existing transmission line to these properties, which is located within a ROW shared by several other transmission lines not included in this project, three of the four considered properties already have settings and viewsheds which include existing transmission line infrastructure. Two of the properties are directly crossed by the project ROW and therefore have existing structures that are visible on the property. Viewshed assessment and photo simulation reveal that the topography and vegetation patterns in the area generally inhibits widespread visibility of long lengths of transmission line from any of the properties and will continue to do so despite the increase in structure height. Some increased visibility of structures that are visible is expected as they will rise high above intervening treelines, however, the project is not anticipated to result in widespread or expansive views of any additional transmission structures from any of the considered historic

ABSTRACT

properties. As such, the change would not introduce any substantially different feature into the setting or viewshed from any of the properties. **Therefore, it is D+A's recommendation that there will be no more than a minimal impact to any historic property within the study tiers for the Ladysmith-Summit-St Johns Rebuild Projects.**

Potential impacts summary for architectural resources.

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project	Recommended Impact
016-0003	Braynefield, 12602 Woodford Road	NRHP-Eligible	~0.22 Mile from Corridor 2	Minimal Impact
016-0016	Edge Hill, 10241 Edgehill Academy Road	NRHP-Listed	Directly Crossed by Corridor 2	Minimal Impact
016-0028	Woodpecker Farm, 11321 Paige Road	NRHP-Eligible	Directly Crossed by Corridor 2	Minimal Impact
088-0100	Nyland, 3701 Guinea Station Road	NRHP-Eligible	~0.39 Mile from Corridor 3	No Impact

With regards to archaeology, portions of the project area have been subject to previous phase I survey, including all of Corridor 1, and discrete portions of the other corridors. As a result of these surveys, four (4) previously recorded sites are located directly within or crossed by the project ROW. One of the sites has been determined potentially eligible for listing in the NRHP, and the other three have not been formally evaluated. While no survey or formal investigation of these archaeological sites was conducted as part of this effort, review of aerial photography reveals there has been little change in the setting of any of the sites since they were last recorded. **It is therefore D+A's recommendation that that any portion of the project area that has not been subject to accepted cultural resource survey be investigated, and any previously recorded and newly identified sites should be evaluated and assessed for 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/ Recommendation
44CE0225	Camp, temporary (No temporal context noted)	Not Evaluated	Corridor 1B	TBD/ Re-identify and assess
44CE0227	Camp, temporary (Paleo-Indian (15000 - 8501 B.C.E), Early Archaic Period (8500 - 6501 B.C.E), Middle Archaic Period (6500 - 3001 B.C.E), Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606))	Not Evaluated	Corridor 2	TBD/ Re-identify and assess
44CE0829	Camp, temporary (Early Woodland (1200 B.C.E - 299 C.E))	VDHR: Potentially Eligible	Corridor 2	TBD/ Re-identify and assess
44CE1046	Artifact scatter, Lithic scatter (Pre-Contact, Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991))	Not Evaluated	Corridor 1B	TBD/ Re-identify and assess

ABSTRACT

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TABLE OF CONTENTS

TABLE OF CONTENTS

1. INTRODUCTION.....	1-1
2. PROJECT DESCRIPTION	2-1
3. RESEARCH DESIGN	3-1
Archival Research.....	3-1
Field Reconnaissance.....	3-1
Assessment of Potential Impacts	3-2
Report Preparation	3-2
4. ARCHIVES SEARCH	4-1
Previously Surveyed Areas.....	4-1
Architectural Resources	4-3
Archaeological Sites	4-6
NPS American Battlefield Protection Program (ABPP).....	4-13
5. RESULTS OF FIELD RECONNAISSANCE.....	5-1
6. ARCHAEOLOGICAL ASSESSMENT	6-1
7. SUMMARY OF POTENTIAL IMPACTS	7-1
8. REFERENCES.....	8-1
 APPENDIX A: RESUMES	 A-1

LIST OF FIGURES

Figure 1-1: General location of the projects.	1-2
Figure 2-1: Project overview map. Source: Dominion Energy.....	2-1
Figure 2-2: Proposed ROW Cross Section within Corridor 1B. Source: Dominion Energy.....	2-2
Figure 2-3: Representative existing and proposed structures within Corridor 2. Source: Dominion Energy	2-2
Figure 2-4: Representative existing and proposed structures within Corridor 3. Source: Dominion Energy	2-3
Figure 4-1: Previously conducted surveys in relation to the project corridors. Source: VCRIS.....	4-2
Figure 4-2: All previously identified architectural resources within 1.5-miles of the project corridors. Source: VCRIS	4-4
Figure 4-3: Considered architectural resources within their respective tiers around the project corridors. Source: VCRIS	4-5
Figure 4-4: Previously recorded archaeological resources located within 1- mile of the project corridors. Source: VCRIS	4-9
Figure 4-5: Detail of previously recorded archaeological resources in relation to Project Corridor 1. Source: VCRIS.....	4-10
Figure 4-6: Detail of previously recorded archaeological resources in relation to Project Corridor 2. Source: VCRIS.....	4-11
Figure 4-7: Detail of previously recorded archaeological resources in relation to Project Corridor 3. Source: VCRIS.....	4-12

TABLE OF CONTENTS

Figure 4-8: Civil War Battlefields in relation to the project area and one-mile buffer. Source: ABPP.....	4-13
Figure 5-1: Considered architectural resources within their respective tiers around the project corridors. Source: VCRIS	5-2
Figure 5-2: Braynefield in relation to the project with locations and direction of representative photographs shown in yellow and photo simulation shown in green.	5-6
Figure 5-3: View 1- View of the Braynefield setting from Woodford Road, facing northwest..	5-7
Figure 5-4: View 2- View of the Braynefield House from Woodford Road, facing north.....	5-7
Figure 5-5: View 3- View from Braynefield driveway along Woodford Road towards the project alignment, facing west. (Screened by intervening vegetation and topography within the property).....	5-8
Figure 5-6: View 4- View from edge of Braynefield property along Woodford Road towards the project alignment, facing west. (Screened by intervening vegetation along the road)	5-8
Figure 5-7: View 5- View from edge of Braynefield property along Woodford Road towards the project alignment, facing northwest. (Screened by intervening vegetation along the road)	5-9
Figure 5-8: View 6- View from Woodford Road 0.15 mile west of Braynefield property towards the project alignment, facing northwest. (One existing structure to be replaced is visible across field).....	5-9
Figure 5-9: Simulation location 1 for Braynefield – Existing view from Woodford Road in front of homesite (No existing structures visible). Source: Dominion.....	5-11
Figure 5-10: Simulation location 1 for Braynefield – Proposed view from Woodford Road in front of homesite (No expected visibility of any structures – structure locations depicted in yellow). Source: Dominion.....	5-12
Figure 5-11: Edge Hill in relation to the project with locations and direction of representative photographs shown in yellow and photo simulation shown in green.	5-17
Figure 5-12: Photo location 1- View of Edge Hill setting from Edge Hill Academy Road, facing south.....	5-18
Figure 5-13: Photo location 2- View from road in front of Edge Hill property towards the project, facing northeast. (No visibility of existing structures)	5-18
Figure 5-14: Photo location 3- View from road in front of Edge Hill property towards the project, facing east. (No visibility of existing structures).....	5-19
Figure 5-15: Photo location 4- View from west edge of homesite towards the project, facing east. (No visibility of existing structures) (Photo Source: VDHR)	5-19
Figure 5-16: Photo location 5- View from east edge of homesite across pond towards the project, facing east. (Portion of conductor (line) visible in tree gap, but no structures are visible) (Photo Source: VDHR).....	5-20
Figure 5-17: Photo location 6- View from south edge of homesite towards the project, facing southeast. (Portion of conductor (line) visible in tree gap, but no structures are visible) (Photo Source: VDHR).....	5-20
Figure 5-18: Simulation location 1 for Edge Hill – Existing view south from Edgehill Academy Road in front of property (No existing structures visible). Source: Dominion	5-21
Figure 5-19: Simulation location 1 for Edge Hill – Proposed view south from Edgehill Academy Road in front of property (No expected visibility of any structures – structure locations depicted in yellow). Source: Dominion	5-22

TABLE OF CONTENTS

Figure 5-20: Simulation location 2 for Edge Hill – Existing view north from Edgehill Academy Road in front of property (No existing structures visible). Source: Dominion	5-23
Figure 5-21: Simulation location 2 for Edge Hill – Proposed view north from Edgehill Academy Road in front of property (No expected visibility of any structures – structure locations depicted in yellow). Source: Dominion	5-24
Figure 5-22: Woodpecker Farm in relation to the project with locations and direction of representative photographs shown in yellow and photo simulation shown in green.....	5-28
Figure 5-23: View 1- View from driveway to Woodpecker Farm from Paige Road, towards the project, facing north. (One existing structure visible above treeline).....	5-29
Figure 5-24: View 2- View from driveway to Woodpecker Farm from Paige Road, towards the project, facing northeast. (No existing structures visible and no expected visibility)...	5-29
Figure 5-25: View 3- View from driveway to Woodpecker Farm from Paige Road, towards the project, facing east. (Short length of existing conductor (line) visible through gap in trees but no existing structures visible and no expected visibility).	5-30
Figure 5-26: View 4- View from Woodpecker Farm, towards the project, facing north. (One existing structure visible to the side of the house).	5-30
Figure 5-27: Simulation location 1 for Woodpecker Farm – Existing view north from Paige Road in front of property (One existing structure visible). Source: Dominion.....	5-31
Figure 5-28: Simulation location 1 for Woodpecker Farm – Proposed view north from Paige Road in front of property (Two proposed structures visible above treeline). Source: Dominion	5-32
Figure 5-29: Simulation location 2 for Woodpecker Farm – Existing view north from homesite (Two existing structures visible in foreground). Source: Dominion	5-33
Figure 5-30: Simulation location 2 for Woodpecker Farm – Proposed view north from homesite (Two proposed structures visible). Source: Dominion	5-34
Figure 5-31: Nyland in relation to the project with locations and direction of representative photographs shown in yellow and photo simulation shown in green.	5-38
Figure 5-32: View 1- View of the Nyland setting from Guinea Station Road, facing northwest... ..	5-39
Figure 5-33: View 2- View from Guinea Station Road in front of Nyland looking towards the project, facing northwest. (No existing structure visible and no expected visibility)....	5-39
Figure 5-34: View 3- View from Guinea Station Road in front of Nyland looking towards the project, facing northwest. (No existing structure visible and no expected visibility)....	5-40
Figure 5-35: View 4- View from Guinea Station Road in front of Nyland looking towards the project, facing west. (No existing structure visible and no expected visibility).....	5-40
Figure 5-36: Simulation location 1 for Nyland – Existing view from Guinea Station Road in front of home (No existing structures visible). Source: Dominion	5-41
Figure 5-37: Simulation location 1 for Nyland – Proposed view from Guinea Station Road in front of home (No expected visibility of any structures – structure locations depicted in yellow). Source: Dominion	5-42
Figure 6-1: Site 44CE0225 in relation to the project. Source: VCRIS.....	6-2
Figure 6-2: Site 44CE0227 in relation to the project. Source: VCRIS.....	6-4
Figure 6-3: Site 44CE0829 in relation to the project. Source: VCRIS.....	6-6
Figure 6-4: Site 44CE1046 in relation to the project. Source: VCRIS.....	6-8

TABLE OF CONTENTS

LIST OF TABLES

Table 4-1: Previously conducted cultural resource surveys that include portions of the project ROW. Source: VDHR.....	4-1
Table 4-2: Considered Architectural Resources within their respective tiered buffer zones for the project.	4-3
Table 4-3: Previously recorded archaeological resources within one mile of the project area. Bold listings denote sites listed in- or eligible for the NRHP. Orange highlight denotes site is located within or crossed by the project ROW.	4-6
Table 4-4: Previously recorded archaeological resources crossed by the ROW associated with the project corridors. Bold font denotes site is considered eligible or potentially eligible for listing in the NRHP.....	4-6
Table 5-1: Considered architectural resources and distance to project.....	5-1
Table 5-2: Existing and proposed heights of structures within one-half mile of Braynefield.....	5-4
Table 5-3: Existing and proposed heights of structures within one-half mile of Edge Hill. Structures located on the property are highlighted orange.	5-15
Table 5-4: Existing and proposed heights of structures within one-half mile of Woodpecker Farm. Structures located on the property are highlighted orange.....	5-27
Table 5-5: Existing and proposed heights of structures within one-half mile of Nyland.....	5-36
Table 6-1: Previously recorded archaeological resources within the ROW associated with a project corridor. Bold font denotes site is considered eligible or potentially eligible for listing in the NRHP.....	6-1
Table 7-1: Potential impacts summary for architectural resources.....	7-2
Table 7-2: Summary of potential impacts summary for archaeological resources.....	7-2

1. INTRODUCTION

In July 2024, Dutton + Associates, LLC (D+A) completed a Pre-Application Analysis (analysis) of cultural resources for the Ladysmith-St. John's-Lee's Hill 230 kV Electric Transmission Projects in Caroline and Spotsylvania counties, Virginia (Figure 1-1). The project entails improvements within three corridors of existing Dominion transmission row-of-way (ROW). The analysis was performed for Virginia Electric and Power Company (Dominion Energy Virginia, Dominion, or the Company) in support of a State Corporation Commission (SCC) application for the Project. 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 based upon project data and engineering available at the time of the study. 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, properties listed on the National Register of Historic Places (NRHP), battlefields, and historic landscapes located within a 1-mile buffer around the project, properties previously determined eligible for listing in the NRHP located within a 0.5-mile buffer area around the project, 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.

INTRODUCTION

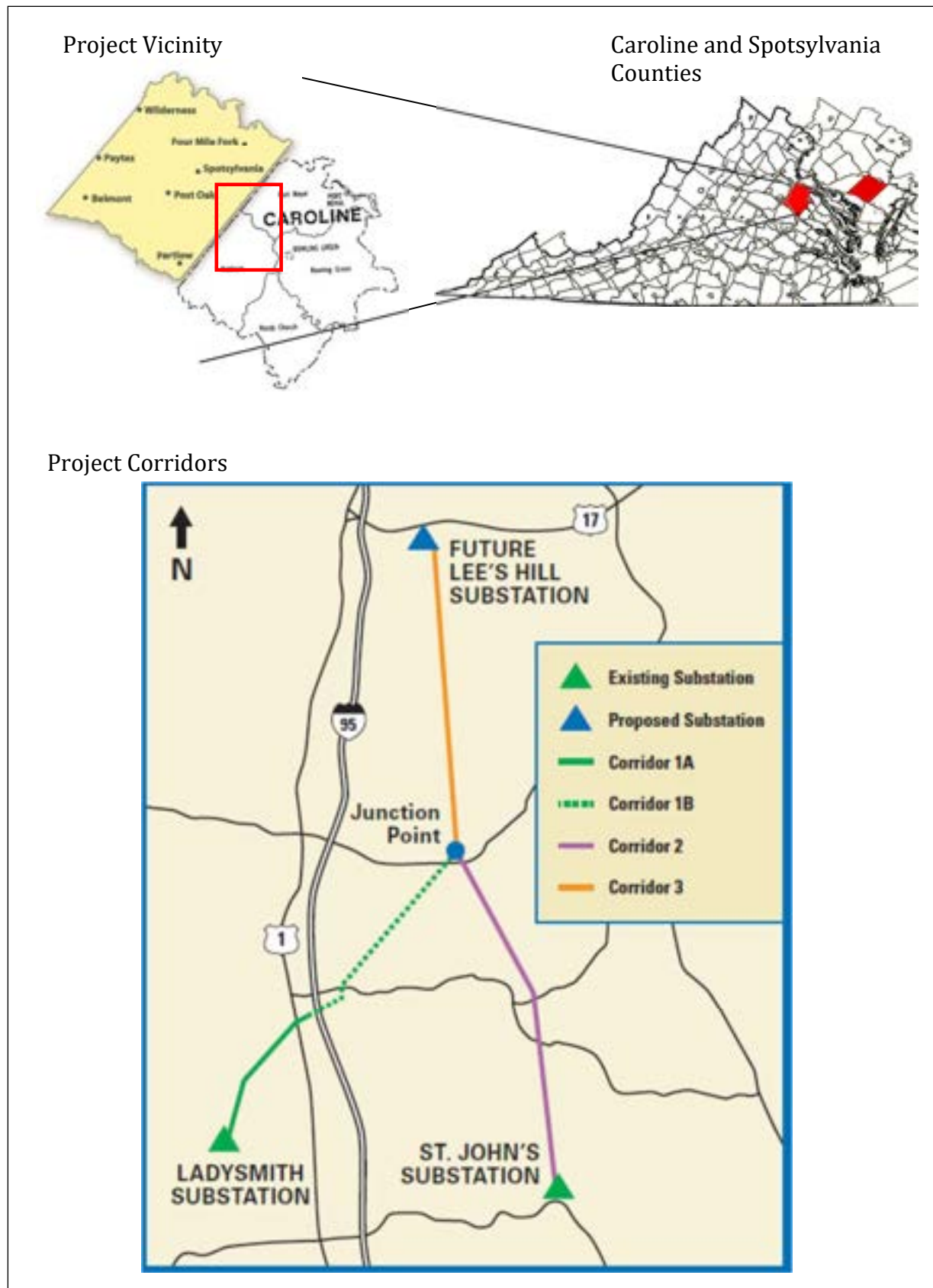


Figure 1-1: General location of the projects.

PROJECT DESCRIPTION

2. PROJECT DESCRIPTION

The Ladysmith-St. John's-Lee's Hill 230 kV Electric Transmission projects proposes solutions to meet the region's power needs while minimizing impacts to the surrounding area. The project addresses three main right-of-way corridors, totaling approximately 21 miles of electric transmission line upgrades between the Ladysmith and St. Johns Substations in Caroline County, and the future Lee's Hill Substation in Spotsylvania County (Figure 2-1).

The scope of work primarily consists of rebuilding existing infrastructure with new steel structures that will allow for higher capacity conductor. One portion of the project will involve building new structures in existing ROW. No new permanent ROW is anticipated for this project.

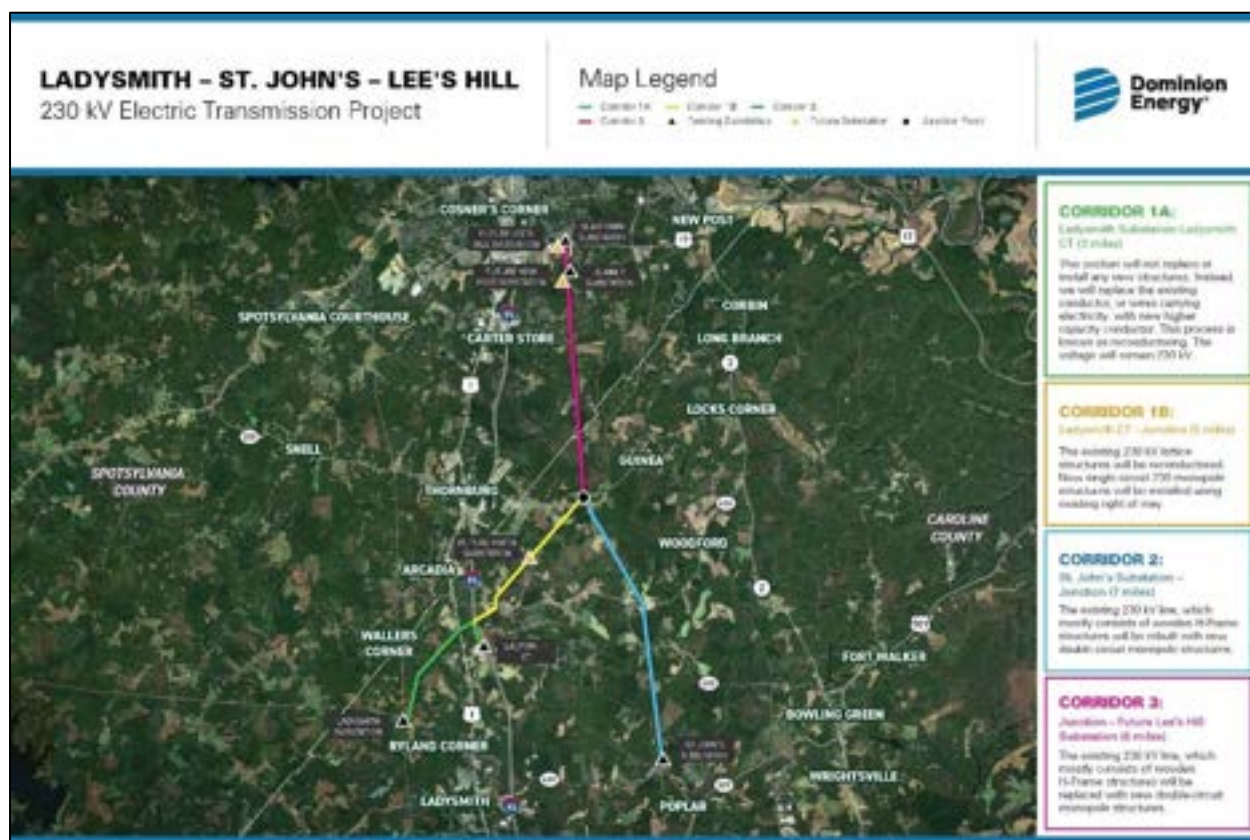


Figure 2-1: Project overview map. Source: Dominion Energy

CORRIDOR 1: Ladysmith Substation – Junction (8 miles)

- Corridor 1A: Ladysmith Substation-Ladysmith CT (3 miles): This section will not replace or install any new structures. Instead, the project will replace the existing conductor, or wires carrying electricity, with new higher capacity conductor. This process is known as reconductoring. The voltage will remain 230 kV.
- Corridor 1B: Ladysmith CT - Junction (5 miles): The existing 230 kV lattice structures will be reconducted. New single-circuit 230 monopole structures will be installed using existing right of way. The proposed structures will range from 110 feet to 140 feet in height.

PROJECT DESCRIPTION

The existing structures they will parallel in the shared ROW range from 110 feet to 145 feet in height resulting in no increase in the height of structures within this portion of ROW (Figure 2-2).

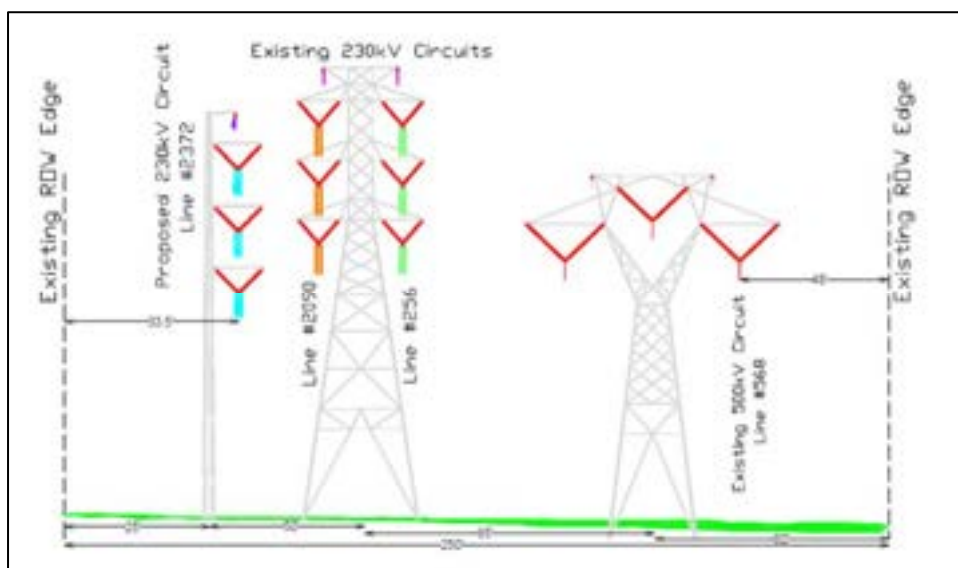


Figure 2-2: Proposed ROW Cross Section within Corridor 1B. Source: Dominion Energy

CORRIDOR 2: St. Johns Substation – Junction (7 miles)

The existing 230 kV line, which mostly consists of wooden H-Frame structures will be rebuilt with new double-circuit monopole structures (Figure 2-3). The existing wood structures currently range from 55 feet to 88 feet in height and the replacement monopole structures will range from 85 feet to 135 feet in height accounting for an increase in height of individual structures ranging from 27 to 54 feet.

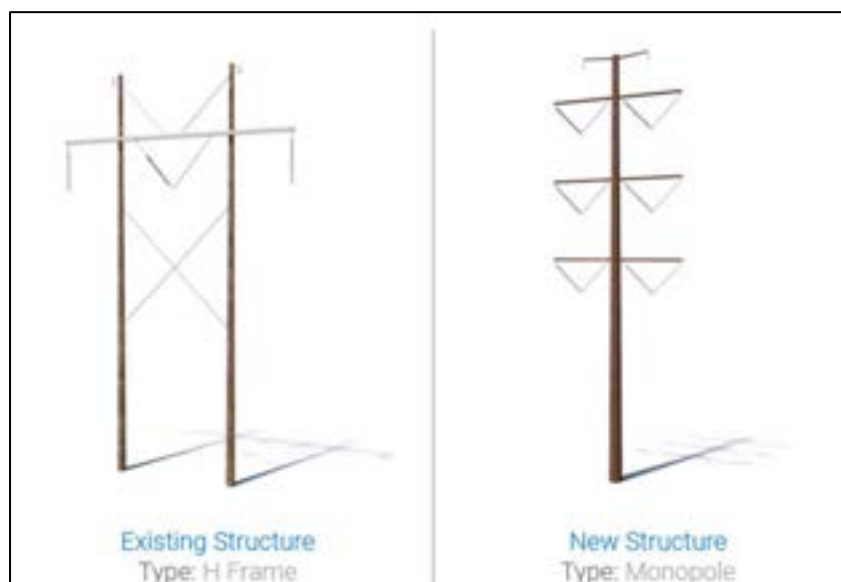


Figure 2-3: Representative existing and proposed structures within Corridor 2. Source: Dominion Energy

PROJECT DESCRIPTION

CORRIDOR 3: Junction – Future Lee’s Hill Substation (6 miles)

The existing 230 kV line, which mostly consists of wooden H-Frame structures will be replaced with new double-circuit monopole structures (Figure 2-4). The existing wood structures currently range from 60 feet to 80 feet in height and the replacement monopole structures will range from 95 feet to 120 feet in height accounting for an increase in height of individual structures ranging from 25 to 60 feet.

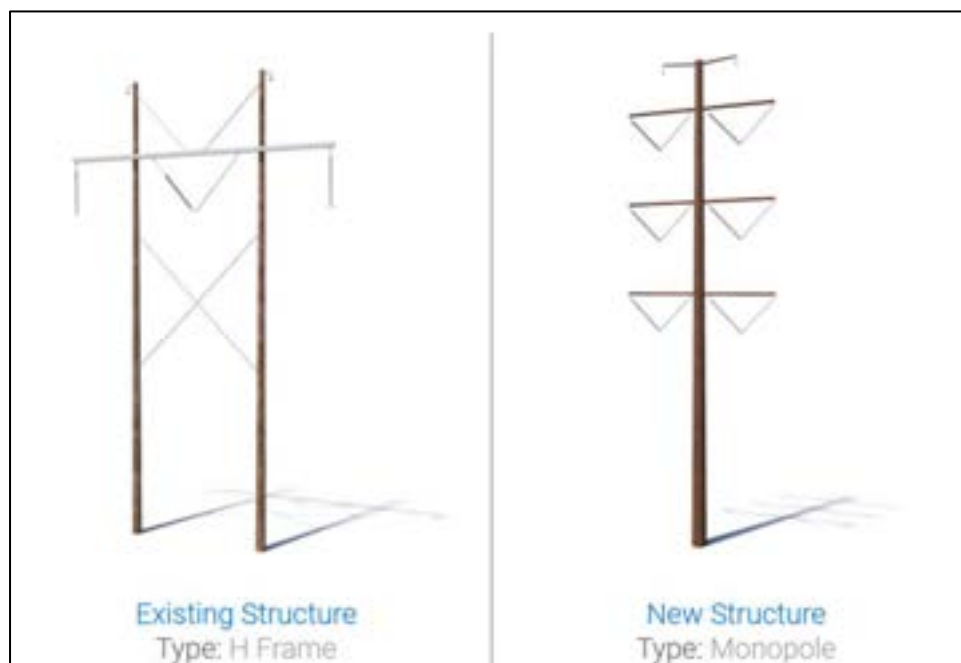


Figure 2-4: Representative existing and proposed structures within Corridor 3.
Source: Dominion Energy

PROJECT DESCRIPTION

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3. RESEARCH DESIGN

The intent of this effort was to identify all known historic properties within the vicinity of the proposed project study 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 2024, 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.
- Spotsylvania County Historic Preservation Commission
- Caroline Historical Society

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 study area, all historic properties listed in the NRHP, battlefields, and historic landscapes located within 1-mile of the project study area, all historic properties previously determined eligible for listing in the NRHP located within 0.5-mile of the project study area, as well as all archaeological sites located directly within the project area.

FIELD RECONNAISSANCE

Field reconnaissance included visual inspection of historic properties within the study tiers, although no inspection of archaeological sites or subsurface testing was performed at this time. 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.

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 representative 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.

Archaeological assessment was limited to desktop review of project improvements in relation to previously delineated site boundaries, however, existing conditions of sites remain unknown at this level of investigation.

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.

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 study buffers around the project area. 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 three project corridors for the Ladysmith-St Johns Rebuild are all connected and within close proximity of one another, a single project study area that encompasses all project components was used for this analysis, however, the distance to the separate projects corridors are noted when relevant.

PREVIOUSLY SURVEYED AREAS

VDHR and VCRIS records indicate that there have been sixteen (16) prior Phase I cultural resource surveys within 1-mile of the project area, two (2) of which overlap with or include portions of the ROW along at least one of the project corridors (Table 4-1). These surveys are at a minimum archaeological in nature, although some include architectural resources as well. One of the two surveys that included portions of the project ROW was conducted for a private development project while the other was conducted in support of the rebuild of the other transmission line within the shared ROW. As a result of these prior surveys, all of Corridor 1B and a short length of Corridor 3 has been subject to survey although most of the ROW for the other project corridors remains unsurveyed. The two previously conducted cultural resource surveys that included portions of the project ROW are listed in Table 4-1 and illustrated in Figure 4-1.

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

VDHR Survey #	Title	Author	Date	Project Review #	Project Corridor
CE-088	Phase I Cultural Resources Survey Along the Proposed Ladysmith CT-Line No. 256 Double Circuit 230 kV Transmission Corridor, Caroline County, Virginia	GP	2009	2008-0128	Corridor 1B
SP-324	Phase I Archaeological Survey for the Proposed New Post-Walton Project Site, Spotsylvania County, Virginia	RCGA	2023	2023-0103	Corridor 3



ARCHITECTURAL RESOURCES

Review of the VDHR VCRIS inventory records revealed a total of one-hundred-forty-four (144) previously recorded architectural resources are located within 1.5 mile of at least one of the project corridors. Of these, there are no (0) NHLs located within 1.5 mile of the proposed project or closer, one (1) NRHP-listed property located within 1.0 mile or closer of the project, and three (3) properties that have been determined eligible or potentially eligible for listing in the NRHP by the VDHR within 0.5 mile or closer of the project. One (1) of the NRHP-listed resources and one (1) of the NRHP-eligible resources are directly crossed by a project corridor.

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

Table 4-2: Considered Architectural Resources within their respective tiered buffer zones for the project.

Buffer (miles)	Considered Resources	VDHR #	Description	Project Corridor
1.5	National Historic Landmarks	None	None	N/A
1.0	National Historic Landmarks	None	None	N/A
	National Register-Listed	None	None	N/A
	Battlefields	None	None	N/A
	Historic Landscapes	None	None	N/A
0.5	National Historic Landmarks	None	None	N/A
	National Register-Listed	None	None	N/A
	Battlefields	None	None	N/A
	Historic Landscapes	None	None	N/A
	National Register-Eligible	016-0003	Braynefield, 12602 Woodford Road	Corridor 2
		088-0100	Nyland, 3701 Guinea Station Road	Corridor 3
0.0 (ROW)	National Historic Landmarks	None	None	N/A
	National Register - Listed	016-0006	Edge Hill	Corridor 2
	Battlefields	None	None	N/A
	Historic Landscapes	None	None	N/A
	National Register-Eligible	016-0028	Woodpecker Farm, 11321 Paige Road	Corridor 2

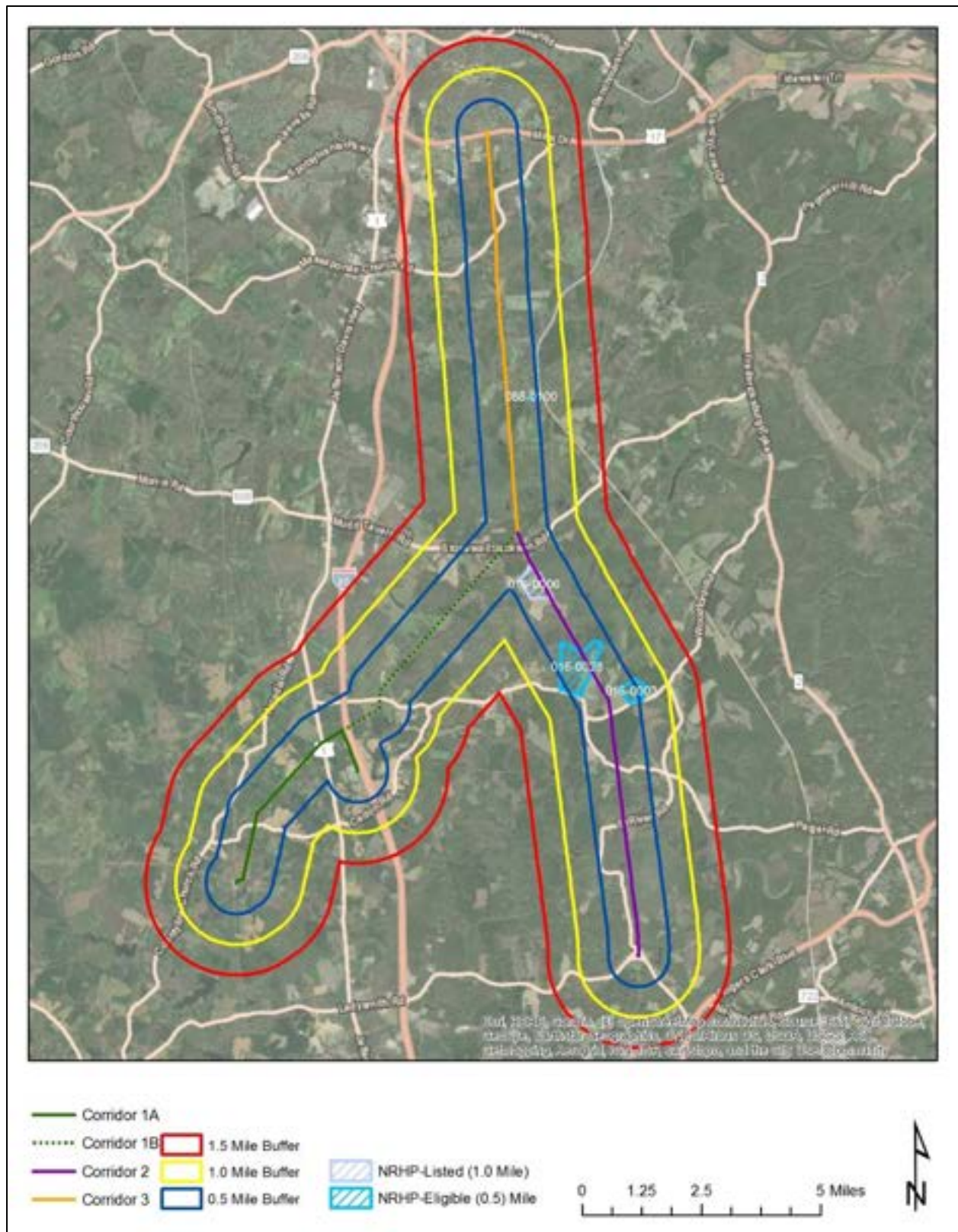


Figure 4-2: All previously identified architectural resources within 1.5-miles of the project corridors. Source: VCRIS

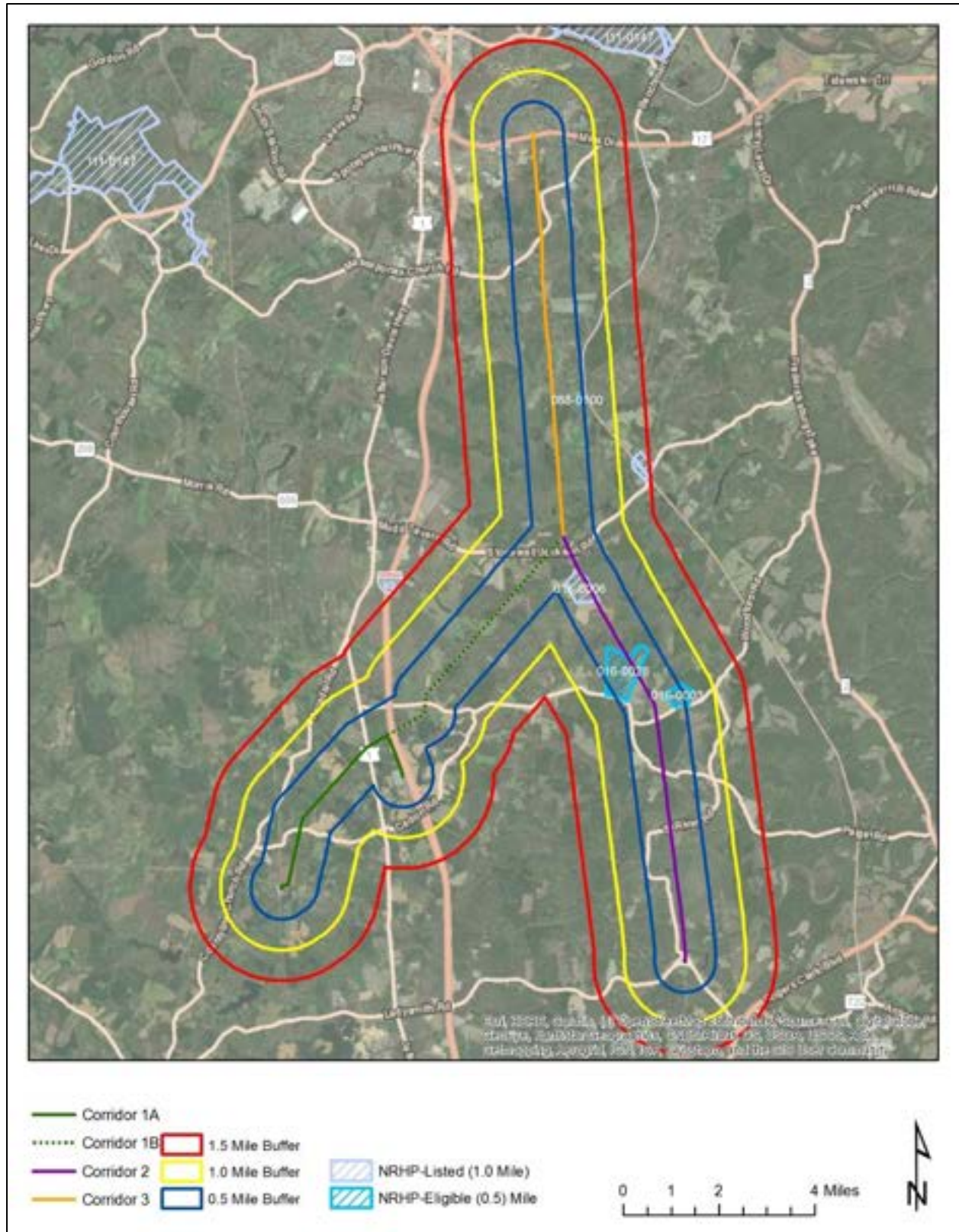


Figure 4-3: Considered architectural resources within their respective tiers around the project corridors.
Source: VCRIS

ARCHAEOLOGICAL SITES

Review of the VDHR VCRIS records reveals there are fifty-eight (58) previously recorded archaeological sites within one mile of at least one of the project corridors. These include prehistoric lithic scatters and camps, as well as historic domestic sites, farmsteads, canals and associated features, a railroad bed, cemeteries, and trash scatters. Of these, four (4) have been determined eligible or potentially eligible for listing in the NRHP, seven (7) have been determined not eligible for listing, and the remaining sites have not been formally evaluated. Four (4) of the sites are located within or crossed by the project ROW, one of which that has been determined potentially eligible for listing in the NRHP by the VDHR.

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

VDHR #	Type	Temporal Association	NRHP Status
44CE0036	Dwelling, single, Mill	19th Century: 4th quarter (1875 - 1899)	Not Evaluated
44CE0225	Camp, temporary	<Null>	Not Evaluated
44CE0226	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CE0227	Camp, temporary	Paleo-Indian (15000 - 8501 B.C.E), Early Archaic Period (8500 - 6501 B.C.E), Middle Archaic Period (6500 - 3001 B.C.E), Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606)	Not Evaluated
44CE0228	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CE0229	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CE0255	Dwelling, single	19th Century (1800 - 1899)	Not Evaluated
44CE0256	Dwelling, single	Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)	Not Evaluated
44CE0259	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CE0522	Dwelling, single	19th Century (1800 - 1899)	Not Evaluated
44CE0523	Trash scatter	18th Century (1700 - 1799), 19th Century (1800 - 1899), 20th Century (1900 - 1999)	Not Evaluated
44CE0725	Farmstead, Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), 19th Century (1800 - 1899)	Not Evaluated
44CE0754	Dwelling, single	Reconstruction and Growth (1866 - 1916)	Not Evaluated
44CE0829	Camp, temporary	Early Woodland (1200 B.C.E - 299 C.E)	DHR Staff: Potentially Eligible
44CE1003	Artifact scatter	Contact Period (1607 - 1750), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829)	DHR Staff: Not Eligible
44CE1005	Artifact scatter	Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)	DHR Staff: Potentially Eligible
44CE1012	Artifact scatter	World War I to World War II (1917 - 1945)	DHR Staff: Not Eligible

ARCHIVES SEARCH

VDHR #	Type	Temporal Association	NRHP Status
44CE1026	Artifact scatter	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	DHR Staff: Not Eligible
44CE1045	Artifact scatter	Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)	Not Evaluated
44CE1046	Artifact scatter, Lithic scatter	Pre-Contact, Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated
44CE1047	Outbuilding	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated
44CE1048	Artifact scatter	Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)	Not Evaluated
44CE1049	Artifact scatter	Pre-Contact	Not Evaluated
44CE1050	Artifact scatter	Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)	Not Evaluated
44CE1051	Artifact scatter	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Not Evaluated
44CE1052	Lithic scatter	Pre-Contact	Not Evaluated
44CE1053	Lithic scatter	Pre-Contact	Not Evaluated
44CE1054	Camp, temporary	Late Woodland (1000 - 1606)	Not Evaluated
44CE1056	Artifact scatter	Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)	Not Evaluated
44SP0192	Dwelling, single	18th Century (1700 - 1799)	Not Evaluated
44SP0193	Trash scatter	20th Century: 1st half (1900 - 1949)	Not Evaluated
44SP0194	Trash scatter	20th Century: 2nd quarter (1925 - 1949)	Not Evaluated
44SP0195	Dwelling, single	Historic/Unknown	Not Evaluated
44SP0196	Military camp	19th Century: 3rd quarter (1850 - 1874)	Not Evaluated
44SP0197	<Null>	Historic/Unknown	Not Evaluated
44SP0198	Dwelling, single	20th Century: 2nd/3rd quarter (1925 - 1974)	Not Evaluated
44SP0202	Well	Historic/Unknown	Not Evaluated
44SP0291	Cemetery	Indeterminate	Not Evaluated
44SP0292	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44SP0293	Camp, temporary, Dwelling, single	Late Archaic (3000 - 1201 B.C.), 20th Century: 1st half (1900 - 1949)	Not Evaluated
44SP0294	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44SP0295	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44SP0296	Camp, temporary, Dwelling, single	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), 20th Century: 1st half (1900 - 1949)	Not Evaluated
44SP0297	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44SP0298	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44SP0582	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible

ARCHIVES SEARCH

VDHR #	Type	Temporal Association	NRHP Status
44SP0583	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44SP0877	Artifact scatter	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	DHR Staff: Not Eligible
44SP0878	Artifact scatter, Farmstead	Pre-Contact, 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 Staff: Potentially Eligible
44SP0879	Lithic scatter	Pre-Contact	DHR Staff: Not Eligible
44SP0880	Lithic scatter	Pre-Contact	DHR Staff: Not Eligible
44SP0881	Lithic scatter	Pre-Contact	Not Evaluated
44SP0882	Lithic scatter	Pre-Contact	Not Evaluated
44SP0885	Farmstead	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Not Evaluated
44SP0886	Lithic scatter	Middle Archaic Period (6500 - 3001 B.C.E)	Not Evaluated
44SP0887	Artifact scatter	Pre-Contact	Not Evaluated
44SP0888	Artifact scatter	World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated
44SP0889	Artifact scatter	Pre-Contact	Not Evaluated

Table 4-4: Previously recorded archaeological resources crossed by the ROW associated with the project corridors. Bold font denotes site is considered eligible or potentially eligible for listing in the NRHP.

VDHR #	Description	NRHP Status	Project Corridor
44CE0225	Camp, temporary (No temporal context noted)	Not Evaluated	Sensitive archaeological data redacted
44CE0227	Camp, temporary (Paleo-Indian (15000 - 8501 B.C.E), Early Archaic Period (8500 - 6501 B.C.E), Middle Archaic Period (6500 - 3001 B.C.E), Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606))	Not Evaluated	
44CE0829	Camp, temporary (Early Woodland (1200 B.C.E - 299 C.E))	VDHR: Potentially Eligible	
44CE1046	Artifact scatter, Lithic scatter (Pre-Contact, Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991))	Not Evaluated	



Figure 4-4: Previously recorded archaeological resources located within 1- mile of the project corridors.
Source: VCRIS



Figure 4-5: Detail of previously recorded archaeological resources in relation to Project Corridor 1. Source: VCRIS

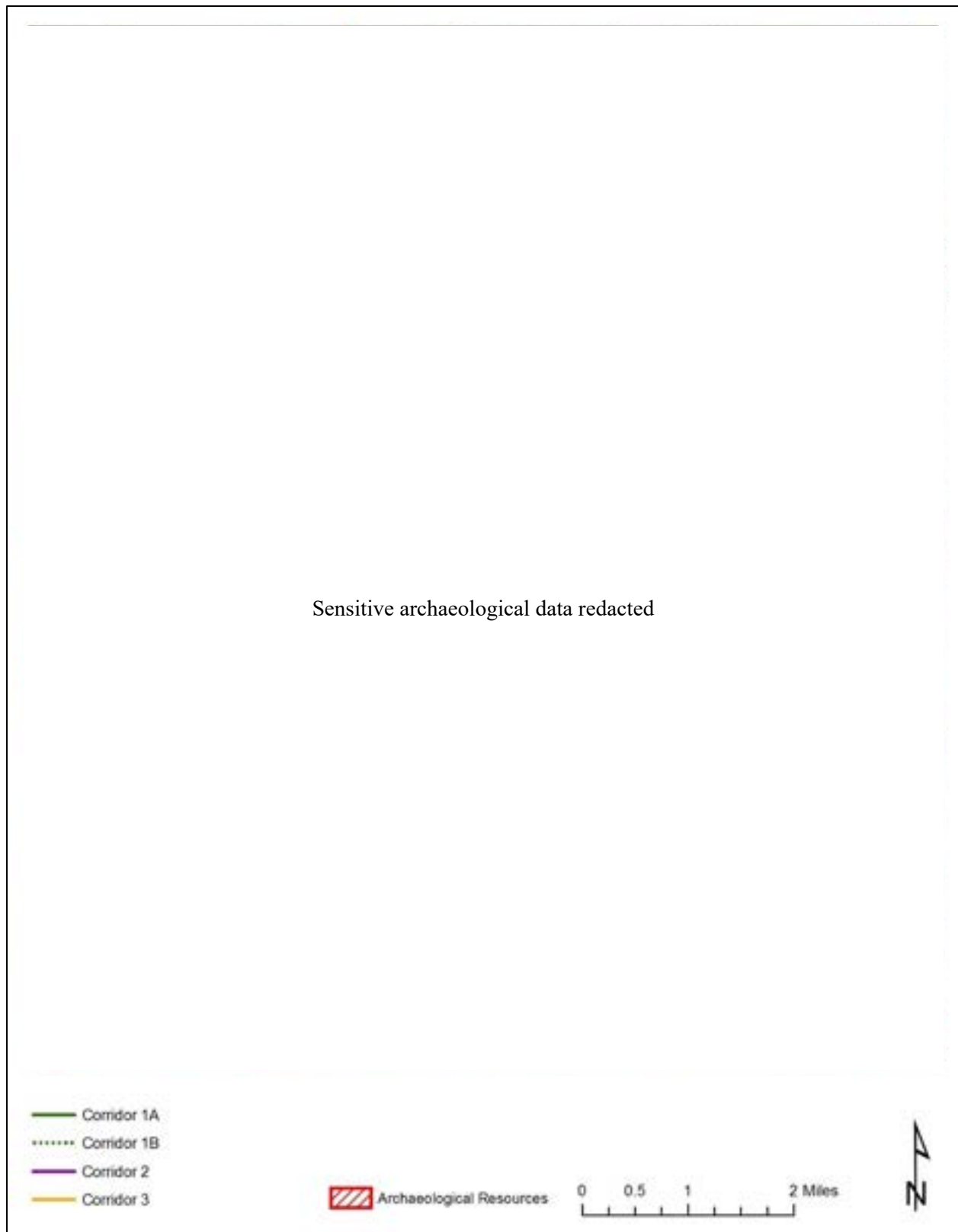


Figure 4-6: Detail of previously recorded archaeological resources in relation to Project Corridor 2. Source: VCRIS



Figure 4-7: Detail of previously recorded archaeological resources in relation to Project Corridor 3. Source: VCRIS

NPS AMERICAN BATTLEFIELD PROTECTION PROGRAM (ABPP)

A review of the National Park Service (NPS) ABPP records reveals that no portions of any delineated battlefield are located within one mile of the project (Figure 4-8).

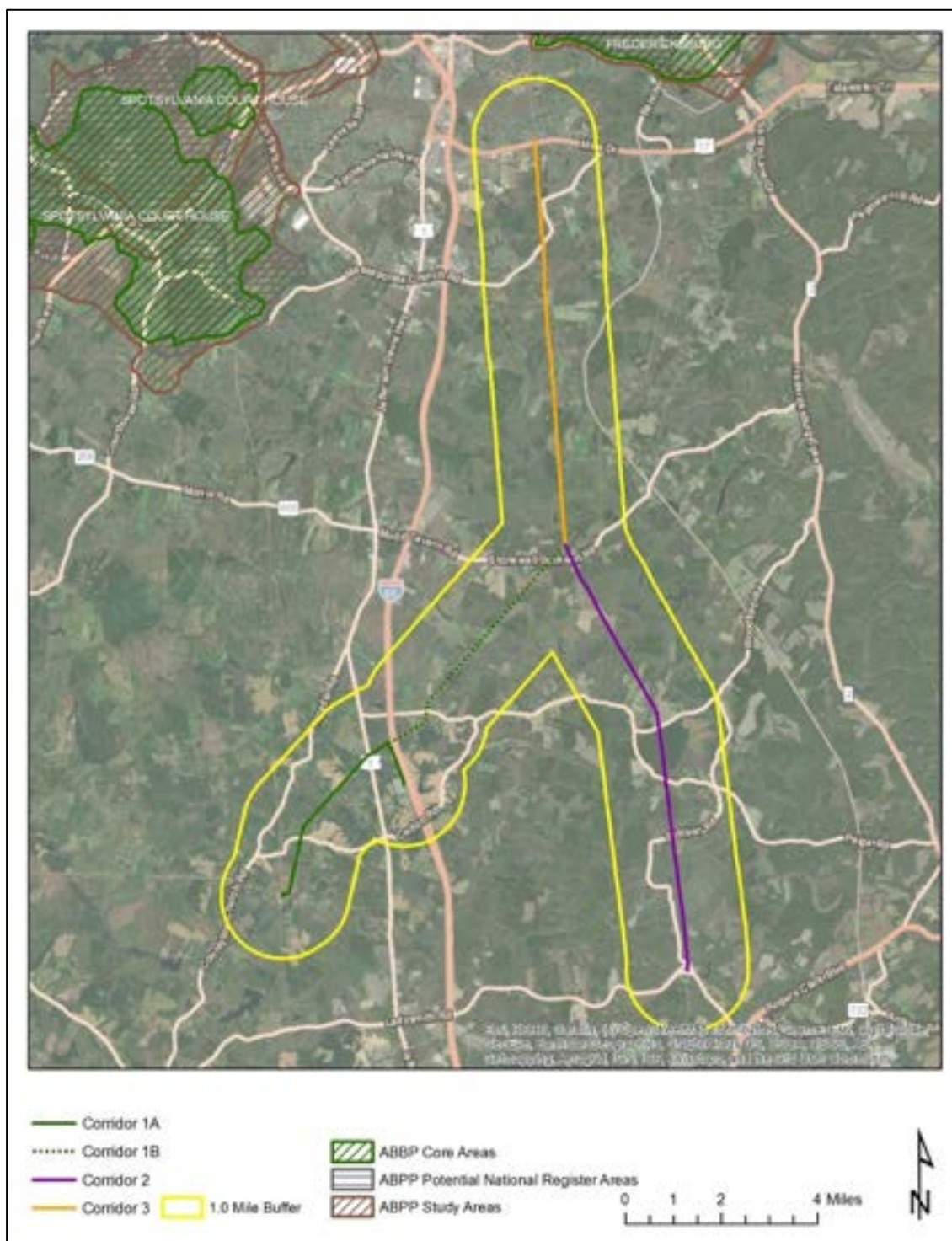


Figure 4-8: Civil War Battlefields in relation to the project area and one-mile buffer. Source: ABPP

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RESULTS OF FIELD RECONNAISSANCE

5. RESULTS OF FIELD RECONNAISSANCE

In accordance with the VDHR guidelines for assessing impacts of proposed electric transmission lines on historic resources, considered architectural properties identified within the VDHR-defined study tiers around the project corridors were field verified for existing conditions and photo documented (Table 5-1 and Figure 5-1).

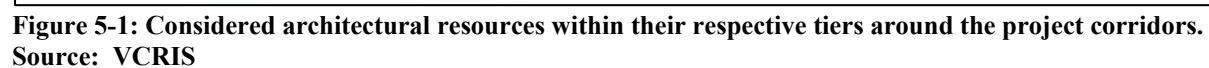
Table 5-1: Considered architectural resources and distance to project.

VDHR #	Resource Name/ Address	NRHP-Status	Proximity to the project
016-0003	Braynefield, 12602 Woodford Road	NRHP-Eligible	~0.22 Mile from Corridor 2
016-0016	Edge Hill, 10241 Edgehill Academy Road	NRHP-Listed	Directly Crossed by Corridor 2
016-0028	Woodpecker Farm, 11321 Paige Road	NRHP-Eligible	Directly Crossed by Corridor 2
088-0100	Nyland, 3701 Guinea Station Road	NRHP-Eligible	~0.39 Mile from Corridor 3

Inspection and analysis of the setting around the resource and views towards the project alignments were also conducted to assess potential project impacts. 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 by the definitions below.

- **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.

The results of the field reconnaissance and assessment are summarized in the following pages.



VDHR# 016-0003**Braynefield, 12602 Woodford Road**

Braynefield is a Federal style home that was originally constructed in the eighteenth century and expanded in 1830. The estate was named after Dorothea Brayne, a niece of the wife of Governor Spotswood and widow of Colonel William McWilliams, who would become the wife of Captain George Buckner (Wingfield 2005:366). Through this marriage Buckner became owner of “one of the finest estates in that part of Virginia” (Crozier et al. 150). The plantation stayed in the Buckner family until c.1837 when it was purchased by George W. Burke (Farmer 1937). Due to its historical associations with prominent Virginian families during the eighteenth and nineteenth centuries, Braynefield has been determined ***potentially eligible*** for listing in the NRHP by the VDHR.

As a ***potentially NRHP-eligible*** resource located within one-half mile of the project, an assessment of potential impacts was conducted. The Braynefield property is located approximately 0.22 mile from the alignment of Project Corridor 2 at the nearest point. Therefore, because no portion of the project ROW or other associated components are located within the limits of the Braynefield property the project will not directly impact the resource and this assessment focused on indirect, visual impacts.

To assess potential indirect project impacts, a site visit was made to the property to inspect the setting and viewshed of the resource with emphasis on views towards the project and associated improvements. Because the resource is located on private property, photographs were taken from public ROW along Woodford Road to the front towards the project to document current conditions, lines of sight, and the extent of visibility of existing infrastructure. Photo simulation was also conducted from representative vantage points to model the visibility of proposed replacement structures in relation to existing structures.

RESULTS OF FIELD RECONNAISSANCE

Inspection of existing conditions confirmed that the house is located on the north side of Woodford Road and is set back about one thousand feet from the road up a long, tree-lined, gravel driveway. The house and outbuildings are set atop a small knoll on a densely landscaped yard. Large trees, assorted hedges, and other vegetation surround the home, largely screening it from view from the road. No outbuildings were visible from the public right-of-way but are visible on modern aeriels. These buildings are generally located north of the house, as is a swimming pool. A cemetery is also on the property, though not observed. The property is bordered by thick woods to the north and east, and a large agricultural field and pond to the west. The existing transmission line to be rebuilt as part of this project extends in a generally north-south alignment through the landscape to the west of the property. It extends through a wooded area before emerging into the large field west of the property.

Inspection from the road in front of the Braynefield house revealed no visibility of the existing transmission line to be rebuilt as part of this project due to the intervening topography and vegetation. The rolling terrain of the property, coupled with landscape and wooded areas inhibit any views beyond the property limits from this location. Inspection from the road at the western edge of the property nearest to the project revealed interrupted views of the agricultural field in which the project extends through a treeline bordering the road, however, the vegetation and terrain inhibit any visibility of the existing transmission line or structures. Inspection from the road further to the west of the property permitted distant visibility of the transmission line and one structure to be replaced as part of this project. Although inspection was not performed from within the private property or the immediate vicinity of the house, it is anticipated that views in the direction of the project would similarly be screened by vegetation around the homesite, as well as throughout the intervening landscape. Aerial photography reveals that only a small gap in the wooded area behind the house may permit views across the open agricultural field, however, that portion of the project alignment is bordered by wooded area that likely screens views of the existing transmission line.

The existing transmission line structures located within what is considered the viewshed of the property (one-half mile) currently range from 65 to 80 feet tall, and will be replaced with structures that will range from 105 to 116 feet tall, resulting in an increase of 32 to 45 feet for individual structures (Table 5-2). The existing wood H-frame structures will all be replaced on a one-to-one basis with a single monopole in generally the same locations.

Table 5-2: Existing and proposed heights of structures within one-half mile of Braynefield.

Existing Structure Number	Existing Pole Height	Proposed Pole Height	Height Difference
256/130	77	115	38
256/131	73	115	42
256/132	80	130	50
256/133	78	110	32
256/134	65	105	40
256/135	70	110	40
256/136	70	110	40
256/137	70	115	45
256/138	78	116	38

RESULTS OF FIELD RECONNAISSANCE

Despite this increase in height, it is anticipated that there will remain no visibility of the project transmission line from any public vantage bordering the Braynefield property nor from the immediate vicinity of the Braynefield house. This was confirmed with photo simulation from Woodford Road in front of the house that illustrates all replacement structures will remain behind intervening vegetation and terrain and be screened from view. It is expected that there could be some limited visibility of the project from northwestern edge of the resource boundary within an open field downhill from the home, however, it is likely there is already some existing visibility of the transmission line from this area.

As such, the project will not introduce any change in setting or viewshed of or from publicly-accessible vantage points along the front of the Braynefield property, nor will it introduce a substantial change in setting or viewshed from interior, undeveloped portions of the property. Therefore, it is D+A's recommendation that based upon available data, the Ladysmith-Summit-St. Johns Rebuild Project will result in no more than a ***minimal impact*** to Braynefield per VDHR's impact characterization scale.

Figure 5-2 illustrates the location of the Braynefield property in relation to the project and study buffers, with the location and direction of representative photographs and photo simulations. Representative photographs and photo simulations are provided in Figure 5-3 through Figure 5-10.

RESULTS OF FIELD RECONNAISSANCE

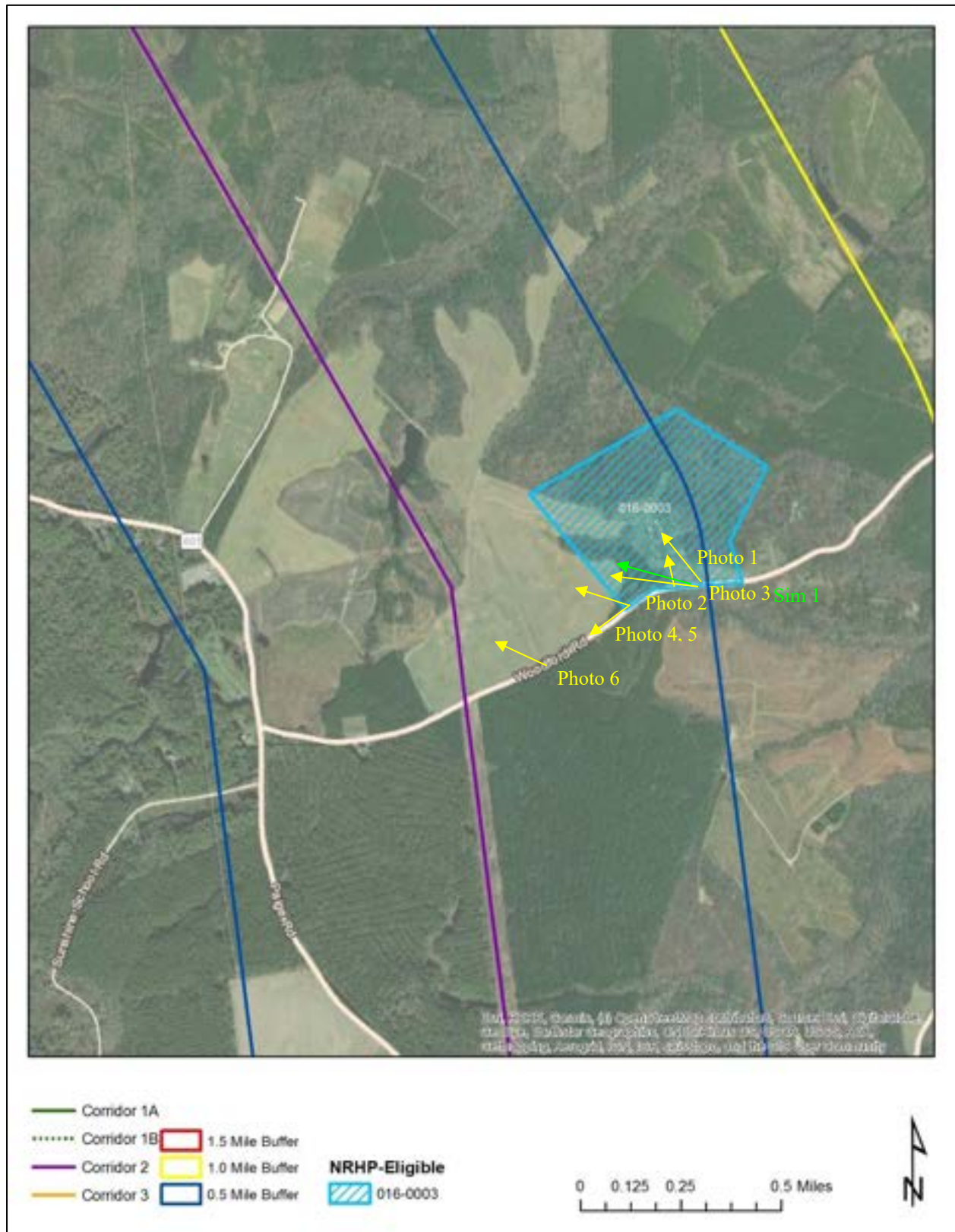


Figure 5-2: Braynefield in relation to the project with locations and direction of representative photographs shown in yellow and photo simulation shown in green.

RESULTS OF FIELD RECONNAISSANCE



Figure 5-3: View 1- View of the Braynefield setting from Woodford Road, facing northwest.



Figure 5-4: View 2- View of the Braynefield House from Woodford Road, facing north.

RESULTS OF FIELD RECONNAISSANCE



Figure 5-5: View 3- View from Braynefield driveway along Woodford Road towards the project alignment, facing west. (Screened by intervening vegetation and topography within the property)



Figure 5-6: View 4- View from edge of Braynefield property along Woodford Road towards the project alignment, facing west. (Screened by intervening vegetation along the road)

RESULTS OF FIELD RECONNAISSANCE



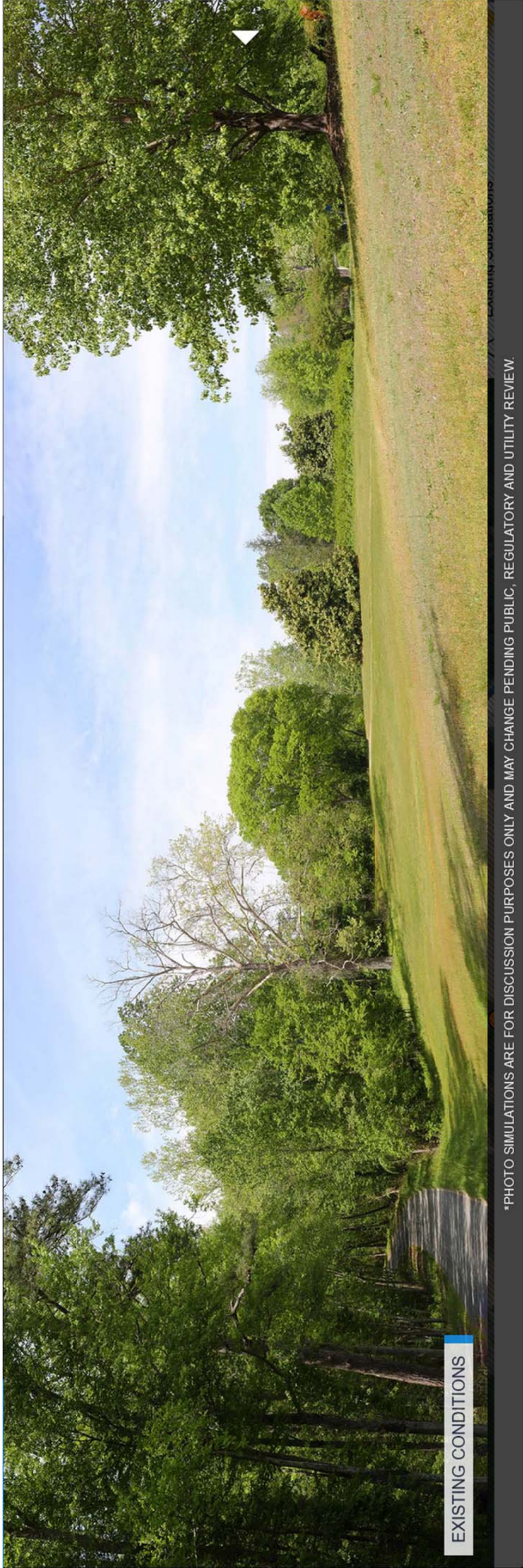
Figure 5-7: View 5- View from edge of Braynefield property along Woodford Road towards the project alignment, facing northwest. (Screened by intervening vegetation along the road)



Figure 5-8: View 6- View from Woodford Road 0.15 mile west of Braynefield property towards the project alignment, facing northwest. (One existing structure to be replaced is visible across field)

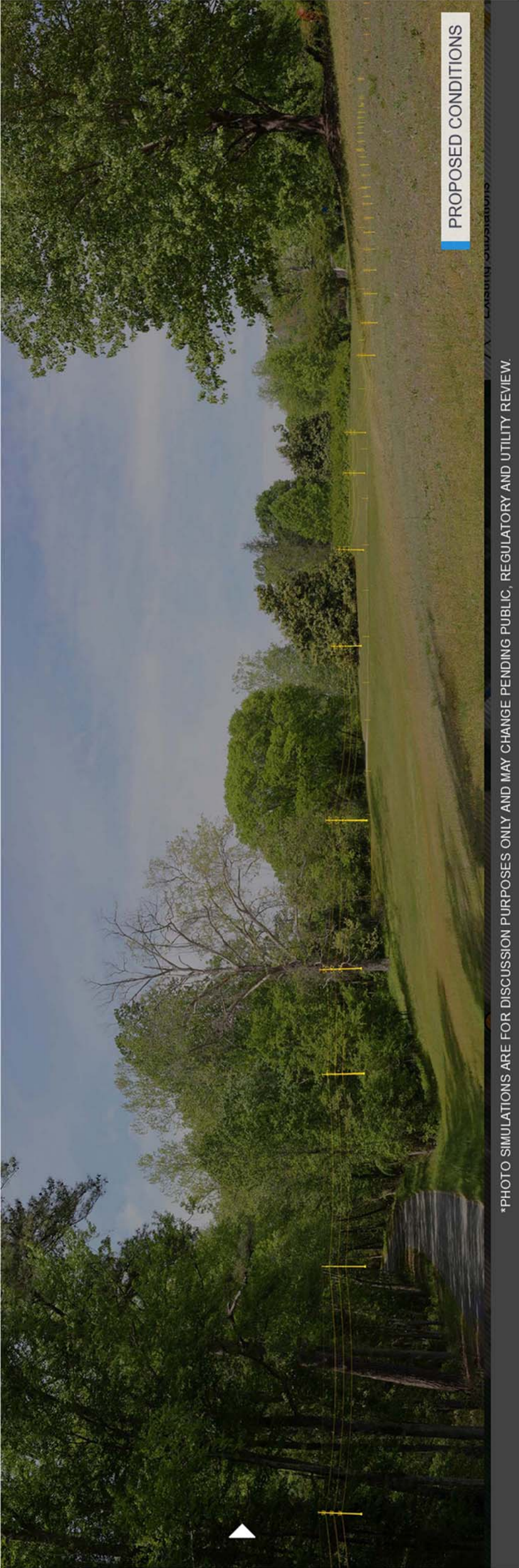
RESULTS OF FIELD RECONNAISSANCE

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*PHOTO SIMULATIONS ARE FOR DISCUSSION PURPOSES ONLY AND MAY CHANGE PENDING PUBLIC, REGULATORY AND UTILITY REVIEW.

Figure 5-9: Simulation location 1 for Braynefield – Existing view from Woodford Road in front of homesite (No existing structures visible). Source: Dominion



*PHOTO SIMULATIONS ARE FOR DISCUSSION PURPOSES ONLY AND MAY CHANGE PENDING PUBLIC, REGULATORY AND UTILITY REVIEW.

Figure 5-10: Simulation location 1 for Braynefield – Proposed view from Woodford Road in front of homesite (No expected visibility of any structures – structure locations depicted in yellow). Source: Dominion

VDHR #016-0006**Edge Hill, 10241 Edgehill Academy Road**

Photo Source: VDHR

Scenically located on the edge of a bluff overlooking the bottomlands of the Matta River, Edge Hill contains two historic buildings: a Federal plantation dwelling and an antebellum academy building. The house, a fine representative of the region's rural Federal architecture, was built in two sections. The earliest dates from 1820-21 and was built for Rice Schooler who had the house enlarged circa 1840 by adding the western half, giving it a formal, symmetrical five-bay facade. The house is notable especially for the highly individualized Federal woodwork in the oldest section which contains provincially interpreted Adam-style motifs. The whole structure is in an excellent state of preservation making it a good document of regional building techniques of both the 1820s and 1840s. The academy building was erected in 1857 by Rice Schooler's son, Samuel Schooler, a noted scholar, writer, and military officer of the era. Known as the Edge Hill Academy, the private boys' school was founded by Schooler to meet the growing demand of Virginians wanting training for higher education. Although the academy closed in the late 1860s, the building, now preserved as a barn, survives as an important and rare example of rural private school architecture of the antebellum period. Due to the historical and architectural significance of the property, Edge Hill was **listed in the NRHP** in 1973 and has also been placed under a **Historic Preservation Easement** held by the VDHR.

As an **NRHP-listed Easement Property** resource located within one mile of the project alignment, an assessment of potential impacts was conducted. Corridor 2 of the project extends along the eastern side of the Edge Hill property, with the existing ROW generally coinciding with the resource boundary. As such, this assessment of impacts considered both direct and indirect impacts to the resource.

With regards to direct impacts, a roughly 0.5-mile length of existing transmission line ROW in which the alignment of Project Corridor 2 is located extends through the limits of the Edge Hill property. Along this length are five (5) existing transmission structures to be replaced as part of

RESULTS OF FIELD RECONNAISSANCE

this project. Also within the shared ROW is a second, parallel transmission line that will not be rebuilt or otherwise improved as part of this project. The ROW extends in a generally north-south alignment through the landscape to the east side of and downhill from the home. The ROW is cleared and is generally bordered by wooded areas and treelines although it crosses a small agricultural field at the southern edge of the property. There are no buildings, structures, or landscape features within or immediately adjacent to the ROW and the main house is over 650 feet away. There is a known archaeology site associated with the property (44CE0523), however, it is in closer proximity to the building complex and also over 650 feet away. As such, the project is not anticipated to directly impact any known contributing features or aspects of the property.

With regards to indirect, visual impacts, a site visit was made to the property to inspect the setting and viewshed of the resource with emphasis on views towards the project and associated improvements. Because the resource is located on private property, photographs were taken from public ROW along Edgehill Academy Road to the front towards the project to document current conditions, lines of sight, and the extent of visibility of existing infrastructure. Previous photographic documentation of the house and building complex on file at VDHR was also reviewed to note views of the existing transmission line. Photo simulation was conducted from representative publicly-accessible vantage points to model the visibility of proposed replacement structures in relation to existing structures.

Inspection of existing conditions confirmed that the house is located on a large property on the south side of Edgehill Academy Road and is set back over 1,600 feet from the road down a long, tree-lined, gravel driveway. The house and primary building complex are set atop a slight knoll on a lushly landscaped and manicured yard. Large trees, assorted hedges, and other vegetation surround the home, largely screening it from view from the road. No outbuildings were visible from the public right-of-way but several are visible in proximity to the home on modern aerials. Beyond the homesite, the landscape of the property is characterized by a patchwork of open field and woodland with treelines generally breaking up the open areas into smaller fields. The existing transmission line to be rebuilt as part of this project extends in a generally north-south alignment through the landscape to the east of the house. It is generally bordered by treelines to both sides, with the exception of a small clearing where it is suspended above a manmade pond downhill from the homesite, and through an agricultural field to the south of the homesite.

Inspection from the road in front of the Edge Hill property revealed no visibility of the existing transmission line to be rebuilt as part of this project due to the intervening vegetation. Despite the close proximity to the transmission line at the end of the Edge Hill driveway, the thickness of the wooded area and angle of view inhibit any visibility of existing transmission line or structures. The rolling terrain of the property, coupled with landscape and wooded areas similarly inhibit any views of the existing transmission line looking in the direction of the home from the driveway or further to the west. Although inspection was not performed from within the private property or the immediate vicinity of the house, previous photograph documentation reveals that narrow vantages of the existing transmission line are possible through gaps in the vegetation from discrete vantages, however, there are no wide or uninterrupted views of the transmission line. Where it is visible, only the conductor (line) can be seen, while all existing structures are screened behind vegetation. It is anticipated that views from throughout the yard and primary building complex would be similar with only limited visibility of the existing transmission line. Aerial photography reveals

RESULTS OF FIELD RECONNAISSANCE

that there is the potential for increased visibility of the transmission line from vantages further south in the property where the ROW extends through open agricultural field.

The existing transmission line structures located on the property to be replaced as part of this project currently range from 55 to 80 feet tall, and will be replaced with structures that will range from 85 to 110 feet tall, resulting in an increase of 18 to 55 feet for individual structures. The structures to be replaced within what is considered the viewshed of the property (one-half mile) currently range from 55 to 82 feet tall, and will be replaced with structures that will range from 85 to 120 feet tall, resulting in an increase of 18 to 55 feet for individual structures (Table 5-3). The existing wood H-frame structures will all be replaced on a one-to-one basis with a single monopole in generally the same locations. The existing structures on the parallel transmission line within the shared ROW that are not being replaced as part of this project range from 61 feet to 65 feet in height.

Table 5-3: Existing and proposed heights of structures within one-half mile of Edge Hill. Structures located on the property are highlighted orange.

Existing Structure Number	Existing Pole Height	Proposed Pole Height	Height Difference
256/108	70	120	50
256/109	82	115	33
256/110	78	105	27
256/111	77	100	23
256/112	70	110	40
256/113	67	105	38
256/114	80	110	30
256/115	67	85	18
256/116	55	110	55
256/117	65	105	40
256/118	70	105	35
256/119	55	85	30
256/120	70	110	40
256/121	70	110	40
256/122	70	110	40

Despite this increase in height, it is anticipated that there will remain no visibility of any replacement structures from public vantage along Edgehill Academy Road due to the intervening vegetation that will continue to screen views of the project in all directions. This was confirmed with photo simulation that illustrates the replacement structures will remain behind and beneath the wooded landscape. It is also anticipated that the increase in height may result in the increased visibility of the transmission line and structures from vantages throughout the interior of the property, including from the home and primary building complex. While the lush and widespread vegetation scattered around and throughout the property will likely continue to prevent wide and/or unobstructed visibility of multiple transmission structures or long lengths of conductor, the upper portion of several structures on the property may rise above the treeline or be visible through breaks in the vegetation from discrete vantage points.

RESULTS OF FIELD RECONNAISSANCE

As such, the project does not have the potential to introduce a change in setting or viewshed of or from and publicly-accessible vantage points in the vicinity of the Edge Hill property, however, it is believed to have the potential to introduce a change in setting and viewshed from the private interior portions of the property, although it is anticipated that any such change would be limited and not be substantially different than the existing setting that already includes an existing transmission line ROW with two parallel transmission lines, portions of which are already visible. Therefore, it is D+A's recommendation that based on available data, the Ladysmith-Summit-St. Johns Rebuild Project may result in as much as a ***minimal impact*** to Edge Hill per VDHR's impact characterization scale.

Figure 5-11 illustrates the location of the Edge Hill property in relation to the project and study buffers, with the location and direction of representative photographs and photo simulations. Representative photographs and photo simulations are provided in Figure 5-12 through Figure 5-21.

RESULTS OF FIELD RECONNAISSANCE

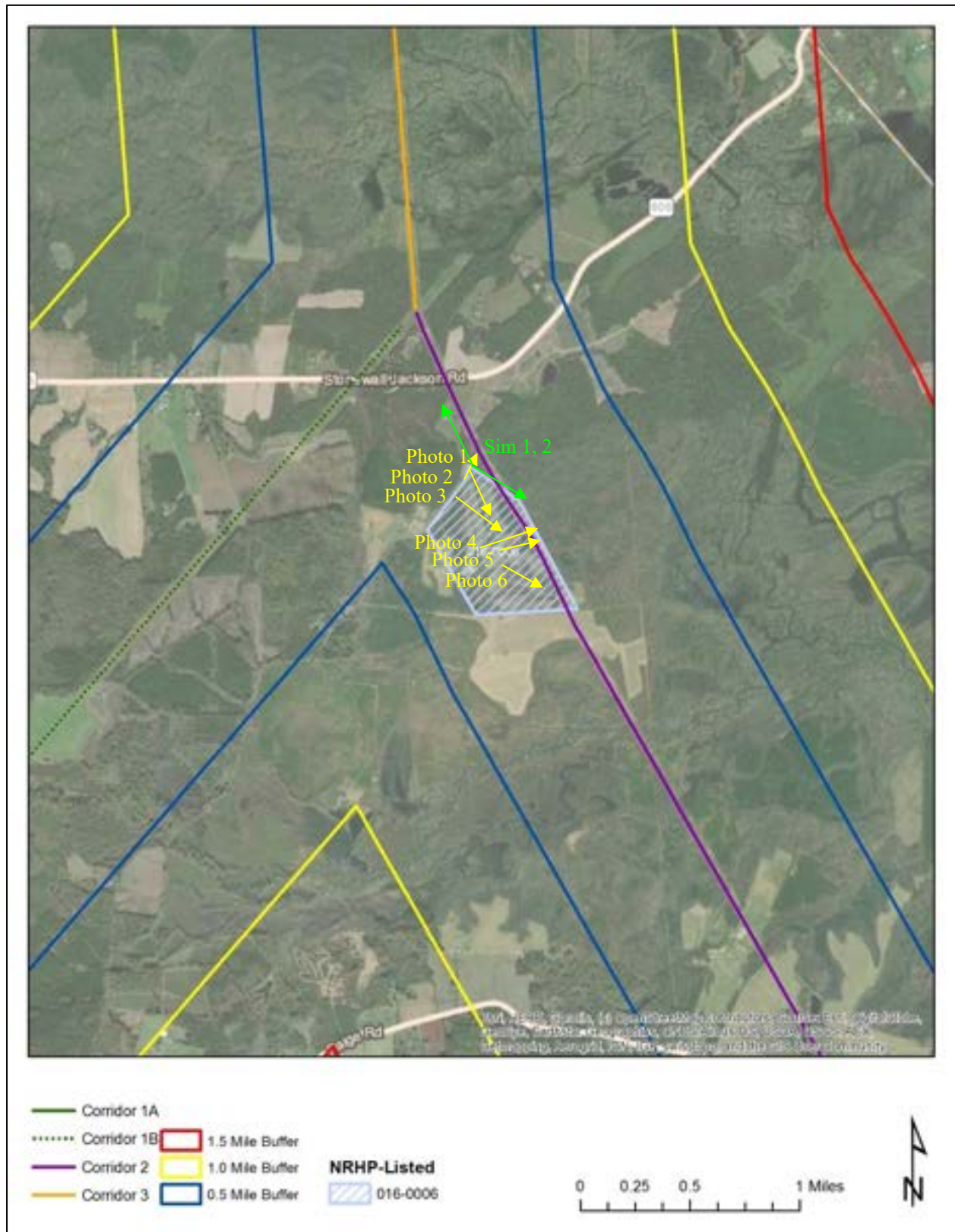


Figure 5-11: Edge Hill in relation to the project with locations and direction of representative photographs shown in yellow and photo simulation shown in green.

RESULTS OF FIELD RECONNAISSANCE



Figure 5-12: Photo location 1- View of Edge Hill setting from Edge Hill Academy Road, facing south.



Figure 5-13: Photo location 2- View from road in front of Edge Hill property towards the project, facing northeast. (No visibility of existing structures)

RESULTS OF FIELD RECONNAISSANCE

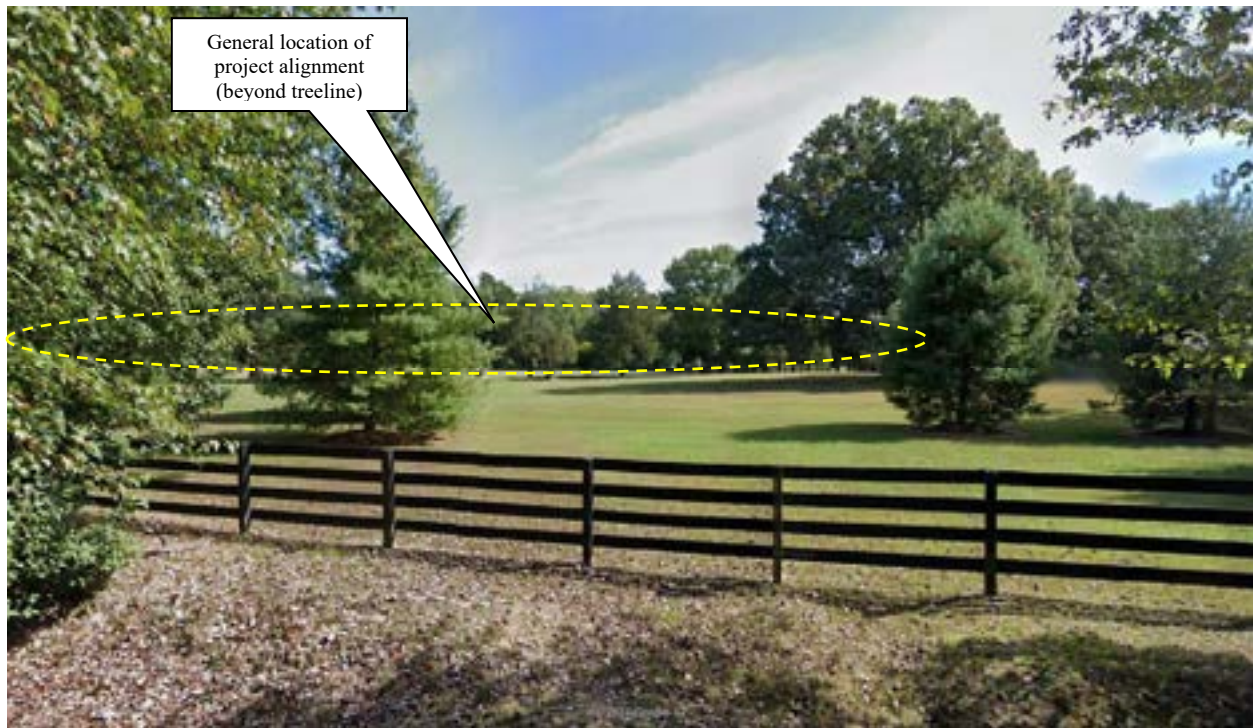


Figure 5-14: Photo location 3- View from road in front of Edge Hill property towards the project, facing east. (No visibility of existing structures)



Figure 5-15: Photo location 4- View from west edge of homesite towards the project, facing east. (No visibility of existing structures) (Photo Source: VDHR)

RESULTS OF FIELD RECONNAISSANCE



Figure 5-16: Photo location 5- View from east edge of homesite across pond towards the project, facing east. (Portion of conductor (line) visible in tree gap, but no structures are visible) (Photo Source: VDHR)

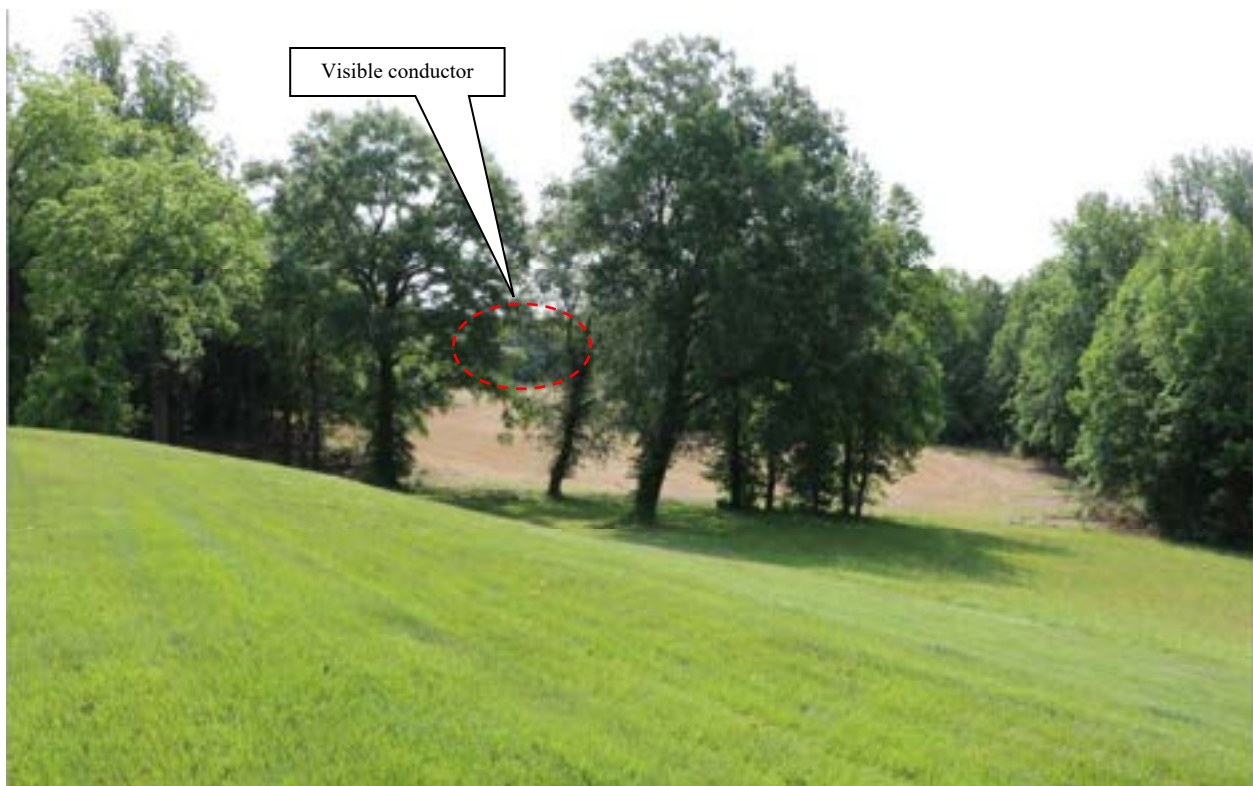
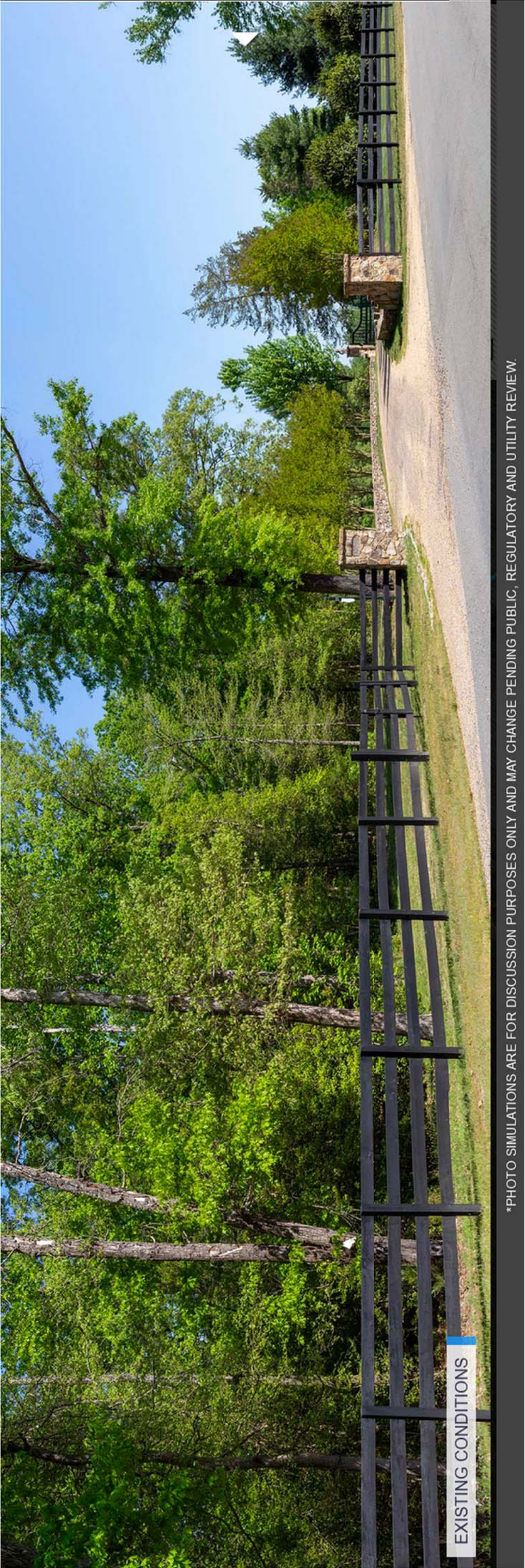


Figure 5-17: Photo location 6- View from south edge of homesite towards the project, facing southeast. (Portion of conductor (line) visible in tree gap, but no structures are visible) (Photo Source: VDHR)



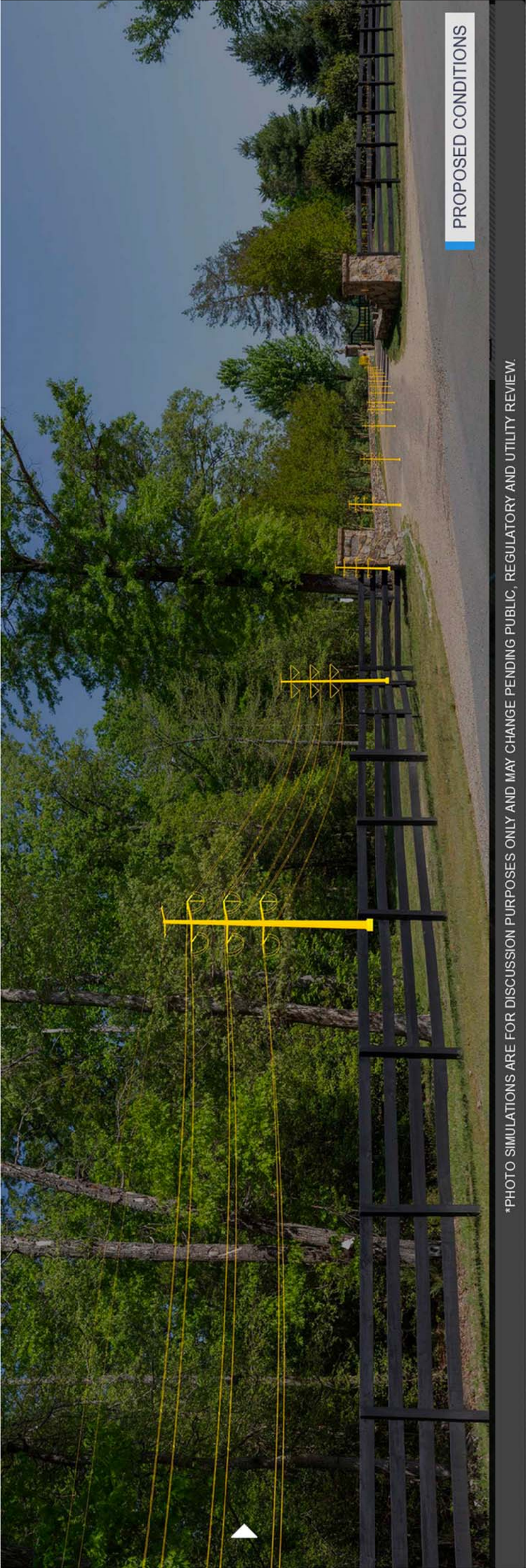


Figure 5-19: Simulation location 1 for Edge Hill – Proposed view south from Edgehill Academy Road in front of property (No expected visibility of any structures – structure locations depicted in yellow). Source: Dominion

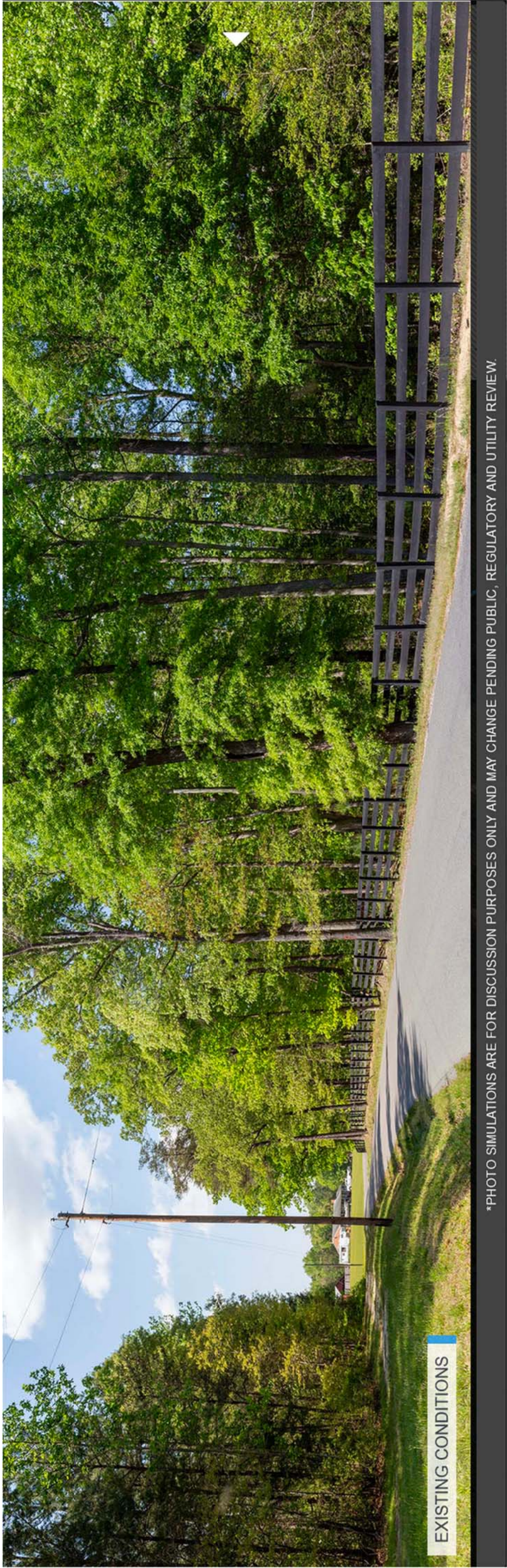


Figure 5-20: Simulation location 2 for Edge Hill – Existing view north from Edgehill Academy Road in front of property (No existing structures visible). Source: Dominion

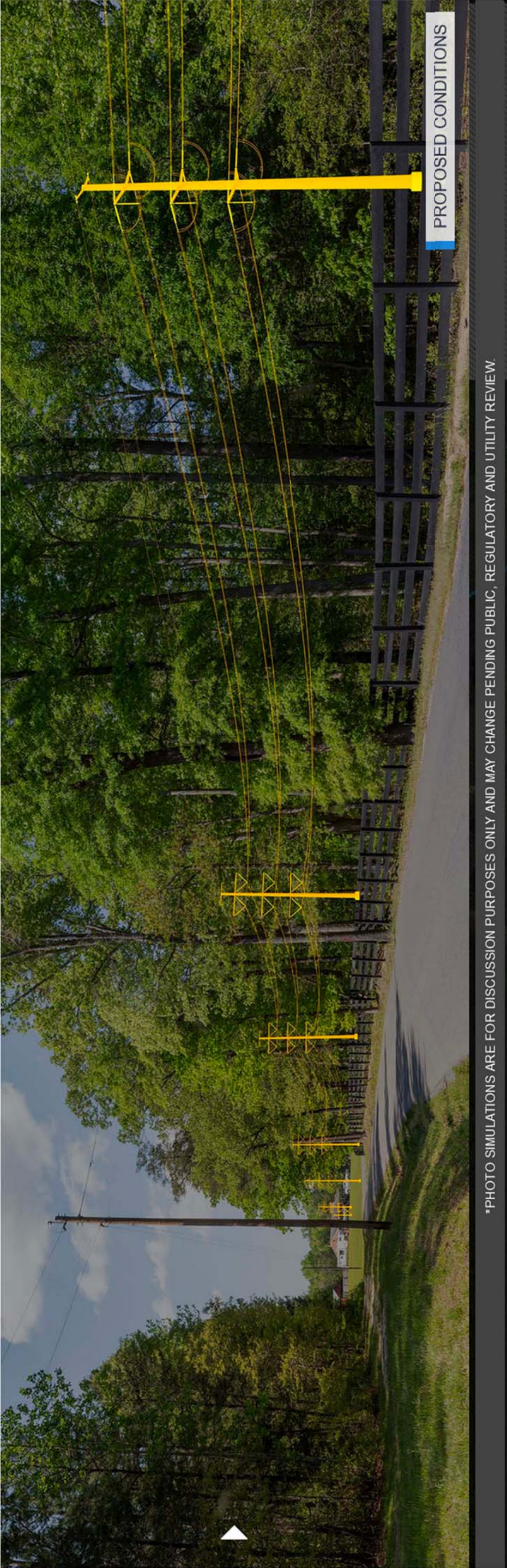


Figure 5-21: Simulation location 2 for Edge Hill – Proposed view north from Edgehill Academy Road in front of property (No expected visibility of any structures – structure locations depicted in yellow). Source: Dominion

VDHR# 016-0028**Woodpecker Farm, 11321 Paige Road**

Woodpecker consists of a dwelling built in three parts, with the earliest phase constructed circa 1750. The evolution of the house from its late 18th century frame sections to its early 19th century brick addition represents an interesting and unusual series of additions. The house, which contributes to the domestic theme developed for the county, was built by Samuel Hawes, a justice on the Caroline Court. Due to its historical associations and architectural significance, it has been determined ***potentially eligible*** for listing in the NRHP by the VDHR.

As a ***potentially NRHP-eligible*** resource located within one-half mile of the project alignment, an assessment of potential impacts was conducted. Corridor 2 of the project extends through the northeastern portion of the property. As such, this assessment of impacts considered both direct and indirect impacts to the resource.

With regards to direct impacts, a roughly 0.35-mile length of existing transmission line ROW in which the alignment of Project Corridor 2 is located extends through the Woodpecker Farm property. Along this length are three (3) existing transmission structures to be replaced as part of this project. Also within the shared ROW is a second, parallel transmission line that will not be rebuilt or otherwise improved as part of this project. The ROW extends in a generally northwest-southeast alignment through the landscape to the north side of the home. The ROW is cleared and generally bordered to both sides by woodland to the rear of the house and extends through open field and pasture to the side and front. There are no buildings, structures, or historic landscape features within or immediately adjacent to the ROW, although the line is suspended above a nonhistoric horseback riding rink northeast of the house. The main house itself is roughly 350 feet away from the ROW at the nearest point. There is a previously recorded archaeological site (44CE1005) located on the adjacent property to the east that may have historical associations to the Woodpecker Farm, however, it is located over 85 feet from the edge of the ROW. As such,

RESULTS OF FIELD RECONNAISSANCE

the project is not anticipated to directly impact any known contributing features or aspects of the resource.

With regards to indirect, visual impacts, a site visit was made to the property to inspect the setting and viewshed of the resource with emphasis on views towards the project and associated improvements. Because the resource is located on private property, photographs were taken from public ROW along Paige Road to the front towards the project to document current conditions, lines of sight, and the extent of visibility of existing infrastructure. Previous photographic documentation of the house and building complex on file at VDHR was also reviewed to note views of the existing transmission line. Photo simulation was conducted from representative publicly accessible vantage points to model the visibility of proposed replacement structures in relation to existing structures.

Inspection of existing conditions confirmed that the farm is located on the north side of Paige Road. The house is set back about half a mile from the road and is not visible from the public right-of-way. A long, gravel driveway leads to the house and other outbuildings from the road. Open fields are located between the buildings and the road, with thick woods bordering the fields to the north, east, and west. The front field is enclosed with a wood fence. This assessment found that the Woodpecker Farm main house and most associated improvements are set on a small landscaped domestic yard. A variety of ornamental hedges and trees are scattered throughout the yard, although it appears to be mostly open. Set to the south of the house, between it and the road, are a series of fenced horse pastures. Bordering the eastern edge of the property is a treeline that ranges from 65- to 185-feet thick. A narrow break is cut through this treeline near the northern edge of the project area where the existing transmission line ROW extends.

Inspection from the road in front of the Woodpecker Farm revealed that one existing transmission structure to be replaced as part of this project is visible above the treeline in proximity to the house. Due to the existing treelines and vegetation, no other transmission structures are visible from the front of the property, however, a short length of the conductor (line) is visible down the road to the east as it is suspended across the break in vegetation through which the road extends. Review of photography from the driveway within the property, including in close proximity to the home reveals that the same existing structure visible from the road is more visible from this closer vantage. Review of aerial photography reveals that at least one other existing structure and possibly two are also likely visible from the home and immediate vicinity of the building complex.

The existing transmission line structures located on the property to be replaced as part of this project currently range from 60 to 80 feet tall, and will be replaced with structures that will range from 105 to 135 feet tall, resulting in an increase of 33 to 55 feet for individual structures. The structures to be replaced within what is considered the viewshed of the property (one-half mile) currently range from 60 to 80 feet tall, and will be replaced with structures that will range from 105 to 135 feet tall, resulting in an increase of 30 to 55 feet for individual structures (Table 5-4). The existing wood H-frame structures will all be replaced on a one-to-one basis with a single monopole in generally the same locations. The existing structures on the parallel transmission line within the shared ROW that are not being replaced as part of this project range from 61 feet to 65 feet in height.

RESULTS OF FIELD RECONNAISSANCE

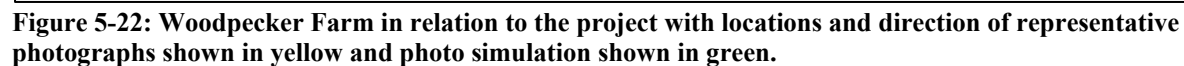
Table 5-4: Existing and proposed heights of structures within one-half mile of Woodpecker Farm. Structures located on the property are highlighted orange.

Existing Structure Number	Existing Pole Height	Proposed Pole Height	Height Difference
256/122	70	110	40
256/123	72	110	38
256/124	80	110	30
256/125	77	110	33
256/126	80	125	45
256/127	80	135	55
256/128	60	115	55
256/129	72	105	33
256/130	77	115	38
256/131	73	115	42
256/132	80	130	50
256/133	78	110	32

With this increase in height, it is anticipated that visibility of the transmission line from Paige Road to the front of the property may increase from one to two structures, although these structures will rise higher above the treeline in the distance. The intervening vegetation and angle of view is expected to continue to screen visibility of any additional structures from this publicly accessible vantage point. It is also anticipated that there is the potential for increased visibility of structures from within the property, including from the vicinity of the house. While as many as three existing structures are currently visible from the home, it is anticipated that these structures will rise higher above the treeline and therefore be visible from additional vantage points. It is not expected that any additional structures that are not currently visible will become visible. This was confirmed with photo simulation that illustrates the increased visibility of structures already visible with no additional structures becoming visible.

As such, the project has the potential to introduce a change in setting and viewshed of and from the Woodpecker Farm property, however, it is believed that the change would occur within a viewshed that has existing transmission lines, and while there may be a substantial change in tower height for some structures, the views will be partially obstructed and screened by intervening topography and vegetation. No additional structures off the property, or expansive views of the transmission line are anticipated. Therefore, it is D+A's recommendation that based on available data, the Ladysmith-Summit-St. Johns Rebuild Project will result in a **minimal impact** to Woodpecker Farm per VDHR's impact characterization scale.

Figure 5-22 illustrates the location of the Woodpecker Farm property in relation to the project and study buffers, with the location and direction of representative photographs and photo simulations. Representative photographs and photo simulations are provided in Figure 5-23 through Figure 5-30.



RESULTS OF FIELD RECONNAISSANCE



Figure 5-23: View 1- View from driveway to Woodpecker Farm from Paige Road, towards the project, facing north. (One existing structure visible above treeline).

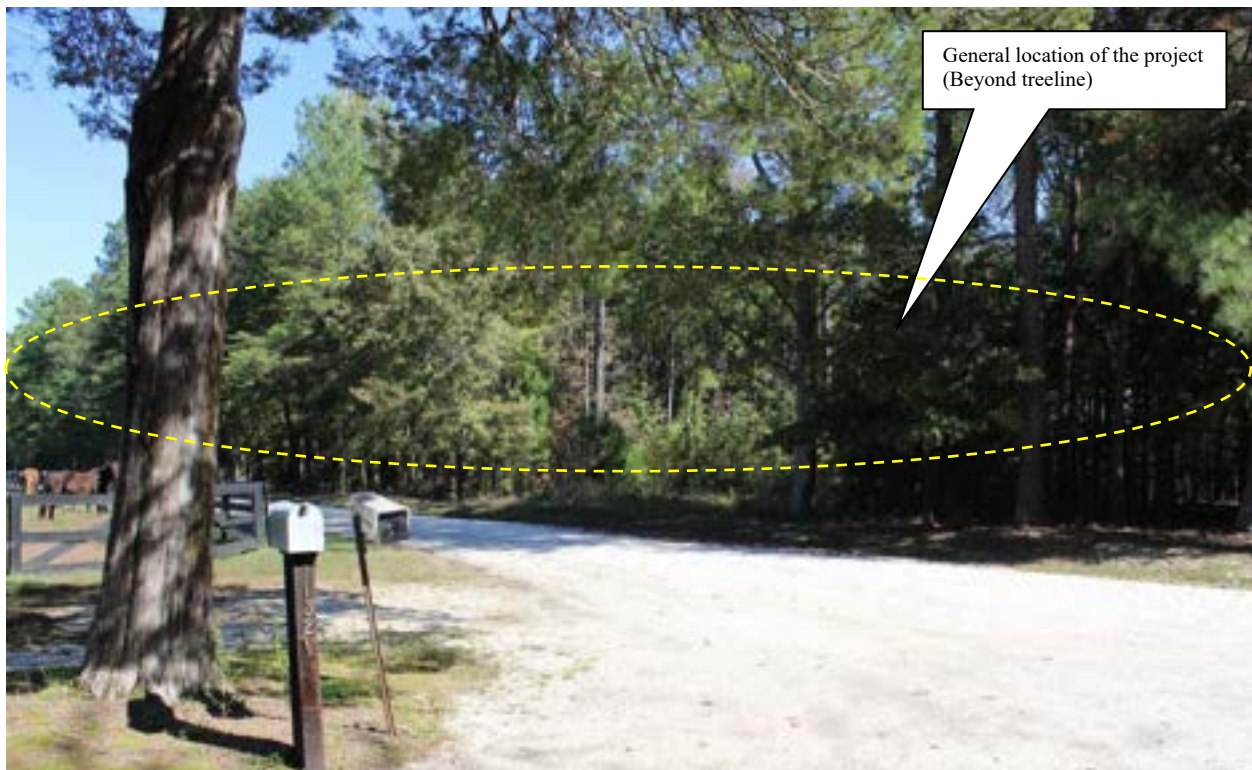


Figure 5-24: View 2- View from driveway to Woodpecker Farm from Paige Road, towards the project, facing northeast. (No existing structures visible and no expected visibility).

RESULTS OF FIELD RECONNAISSANCE



Figure 5-25: View 3- View from driveway to Woodpecker Farm from Paige Road, towards the project, facing east. (Short length of existing conductor (line) visible through gap in trees but no existing structures visible and no expected visibility).

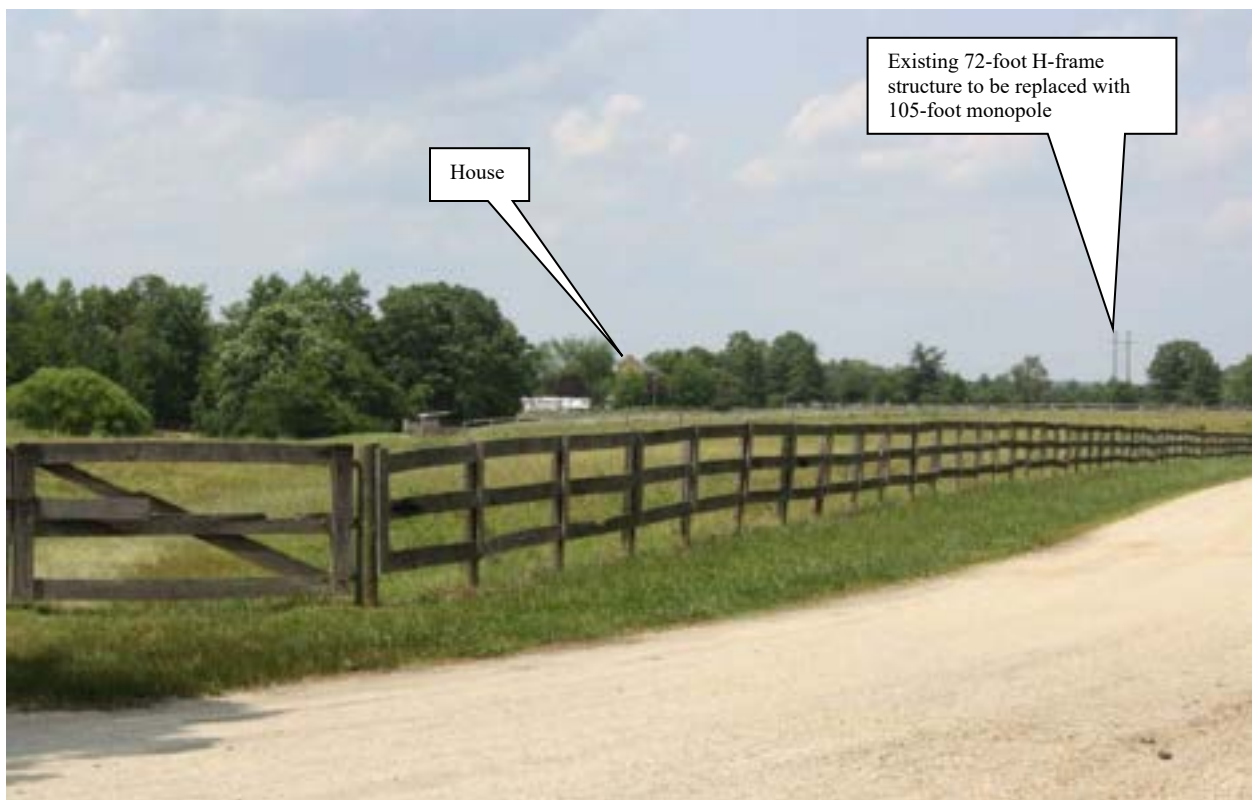


Figure 5-26: View 4- View from Woodpecker Farm, towards the project, facing north. (One existing structure visible to the side of the house).



*PHOTO SIMULATIONS ARE FOR DISCUSSION PURPOSES ONLY AND MAY CHANGE PENDING PUBLIC, REGULATORY AND UTILITY REVIEW.

Figure 5-27: Simulation location 1 for Woodpecker Farm – Existing view north from Paige Road in front of property (One existing structure visible). Source: Dominion

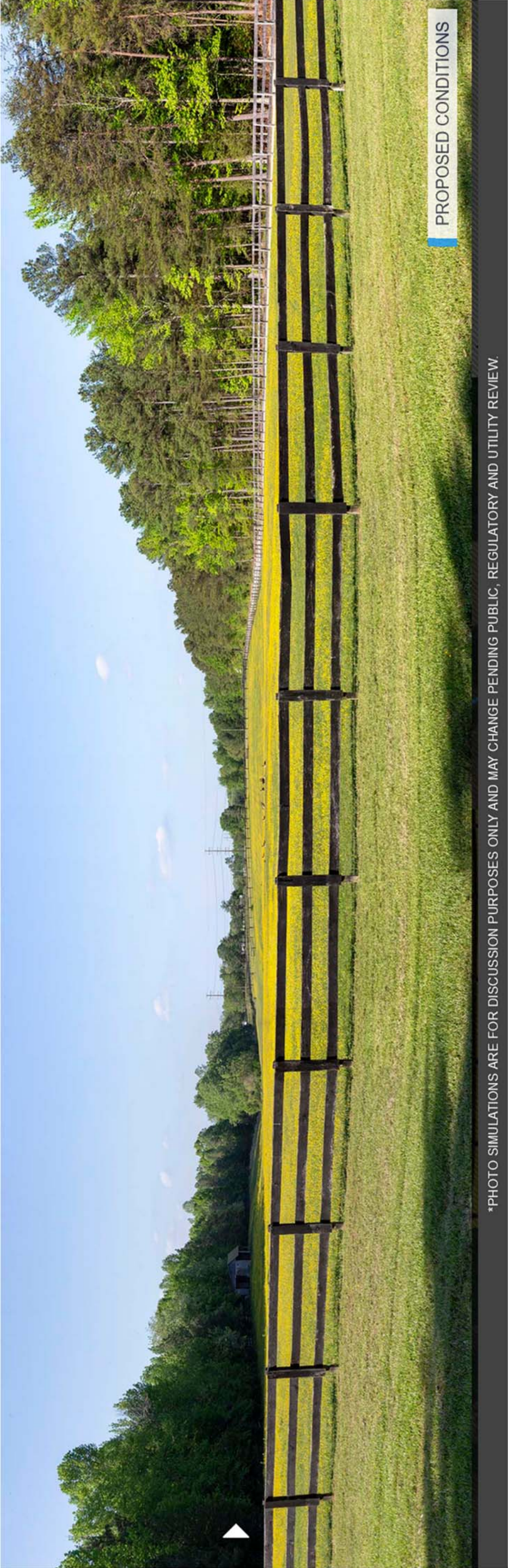


Figure 5-28: Simulation location 1 for Woodpecker Farm – Proposed view north from Paige Road in front of property (Two proposed structures visible above treeline). Source: Dominion

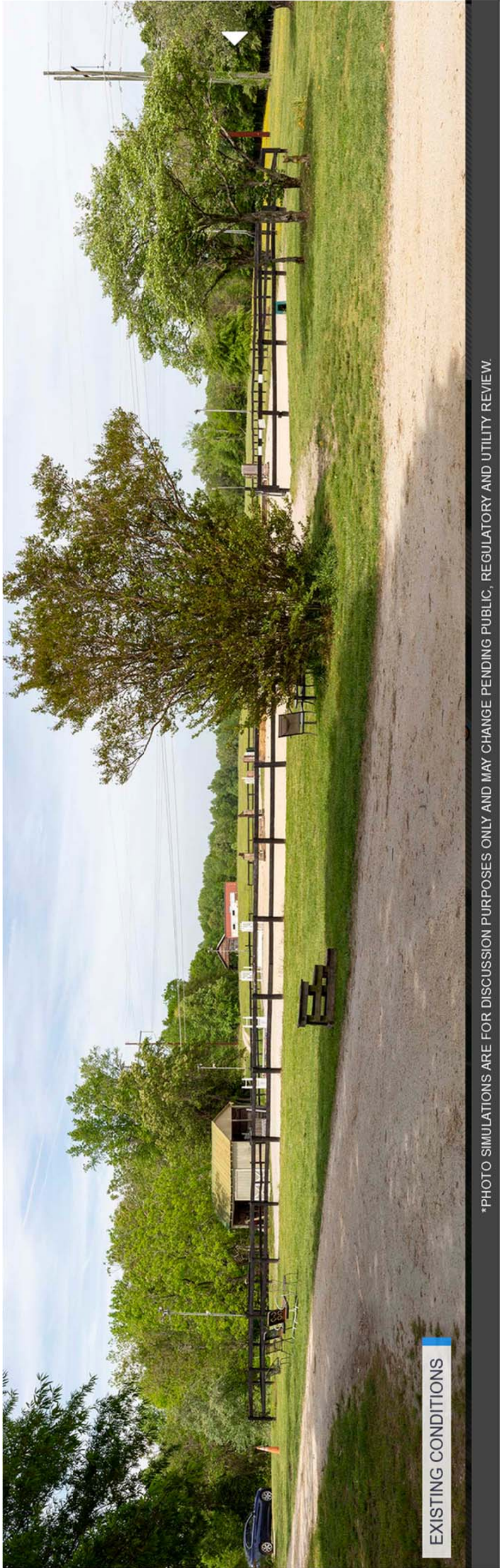
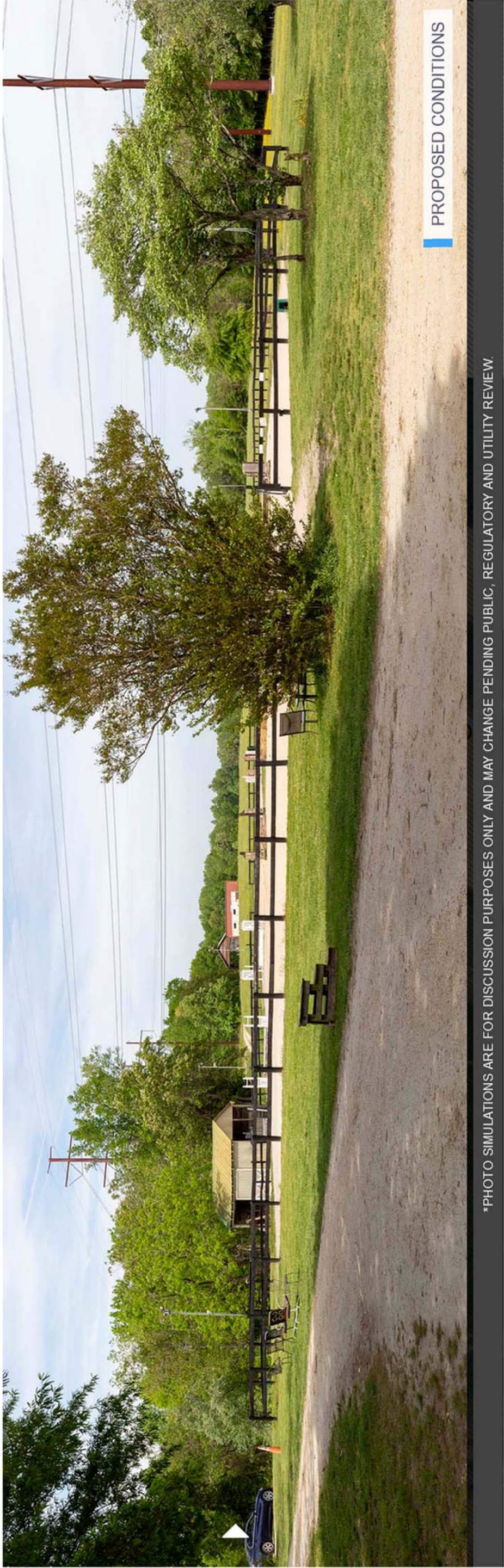


Figure 5-29: Simulation location 2 for Woodpecker Farm – Existing view north from homesite (Two existing structures visible in foreground). Source: Dominion



VDHR# 088-0100**Nyland, 3701 Guinea Station Road**

Nyland was built by Dr. Joseph Campbell Chandler in 1843 or 1851 (conflicting sources attribute two different dates of construction for the property). The land was a gift from Samuel Alsop, grandfather to Dr. Chandler's wife. Alsop was a master builder, land developer and farmer at the nearby plantation house Fairview. According to a chain of title for the property researched by the Virginia Historic Landmarks Commission, Samuel Alsop purchased the property in 1851 from a bank. Chandler likely improved the property at this time with the construction of Nyland and various outbuildings. Dr. Chandler owned the property from 1851 until 1869. He is distinguished by serving as a physician during the Civil War. It is unclear how long after the Civil War he lived, as his brother appears on a deed from 1869 to Chandler's son, Dr. J.A. Chandler, in 1869. William Chandler lived at Westwood, a plantation nearby on Guinea Station Road. J.A. Chandler is known for acting as the president of William and Mary College of Virginia. Although the house was abandoned for twenty-seven years, from 1946 to 1973, it was later restored and has been determined **eligible** for listing in the NRHP by the VDHR for its architectural significance.

As an **NRHP-eligible** resource located within one-half mile of the project, an assessment of potential impacts was conducted. The Nyland property is located approximately 0.39 mile from the alignment of Project Corridor 3 at the nearest point. Therefore, because no portion of the project ROW or other associated components are located within the limits of the Nyland property the project will not directly impact the resource and this assessment focused on indirect, visual impacts.

To assess potential indirect project impacts, a site visit was made to the property to inspect the setting and viewshed of the resource with emphasis on views towards the project and associated improvements. Because the resource is located on private property, photographs were taken from public ROW along Guinea Station Road to the front towards the project to document current

RESULTS OF FIELD RECONNAISSANCE

conditions, lines of sight, and the extent of visibility of existing infrastructure. Photo simulation was also conducted from representative vantage points to model the visibility of proposed replacement structures in relation to existing structures.

Inspection of existing conditions confirmed that the house is located on the north side of Guinea Station Road and is set back about 350 feet from the road atop a knoll approached by a private gravel driveway. The homesite and surrounding property are mostly cleared with scattered shade trees, shrubs, and other vegetation. A small shed is set in the yard behind the house. The property is bordered by wide wooded areas to both sides and a narrower treeline to the rear with a modern home on the opposing property. The existing transmission line to be rebuilt as part of this project extends in a generally north-south alignment through the landscape to the west of the property. It extends through a mostly wooded area with moderately dense suburban development in the ear.

Inspection from the road in front of the Nyland house revealed no visibility of the existing transmission line to be rebuilt as part of this project due to the intervening topography and vegetation. The rolling terrain of the property, coupled with landscape and wooded areas inhibit any views beyond the property limits from this location. Although inspection was not performed from within the private property or the immediate vicinity of the house, it is anticipated that views in the direction of the project would similarly be screened by vegetation around the homesite, as well as throughout the intervening landscape.

The existing transmission line structures located within what is considered the viewshed of the property (one-half mile) currently range from 70 to 78 feet tall, and will be replaced with structures that will range from 105 to 110 feet tall, resulting in an increase of 35 to 45 feet for individual structures (Table 5-5). The existing wood H-frame structures will all be replaced on a one-to-one basis with a single monopole in generally the same locations.

Table 5-5: Existing and proposed heights of structures within one-half mile of Nyland.

Existing Structure Number	Existing Pole Height	Proposed Pole Height	Height Difference
2090/86	70	110	40
2090/87	70	105	35
2090/88	70	110	40
2090/89	70	115	45
2090/90	73	110	37
2090/91	78	115	37

Despite this increase in height, it is anticipated that there will remain no visibility of the project transmission line from any public vantage bordering the Nyland property nor from the immediate vicinity of the Nyland house. This was confirmed with photo simulation from Guinea Station Road in front of the house that illustrates all replacement structures will remain behind intervening vegetation and terrain and be screened from view.

RESULTS OF FIELD RECONNAISSANCE

As such, the project will not introduce any change in setting or viewshed of or from publicly accessible vantage points along the front of the Nyland property, nor from within the interior of the property itself. Therefore, it is D+A's recommendation that based upon available data, the Ladysmith-Summit-St. Johns Rebuild Project will result in ***no impact*** to Nyland per VDHR's impact characterization scale.

Figure 5-31 illustrates the location of the Nyland property in relation to the project and study buffers, with the location and direction of representative photographs and photo simulations. Representative photographs and photo simulations are provided in Figure 5-32 through Figure 5-37.

RESULTS OF FIELD RECONNAISSANCE



Figure 5-31: Nyland in relation to the project with locations and direction of representative photographs shown in yellow and photo simulation shown in green.

RESULTS OF FIELD RECONNAISSANCE



Figure 5-32: View 1- View of the Nyland setting from Guinea Station Road, facing northwest.



Figure 5-33: View 2- View from Guinea Station Road in front of Nyland looking towards the project, facing northwest. (No existing structure visible and no expected visibility)

RESULTS OF FIELD RECONNAISSANCE



Figure 5-34: View 3- View from Guinea Station Road in front of Nyland looking towards the project, facing northwest. (No existing structure visible and no expected visibility)



Figure 5-35: View 4- View from Guinea Station Road in front of Nyland looking towards the project, facing west. (No existing structure visible and no expected visibility)

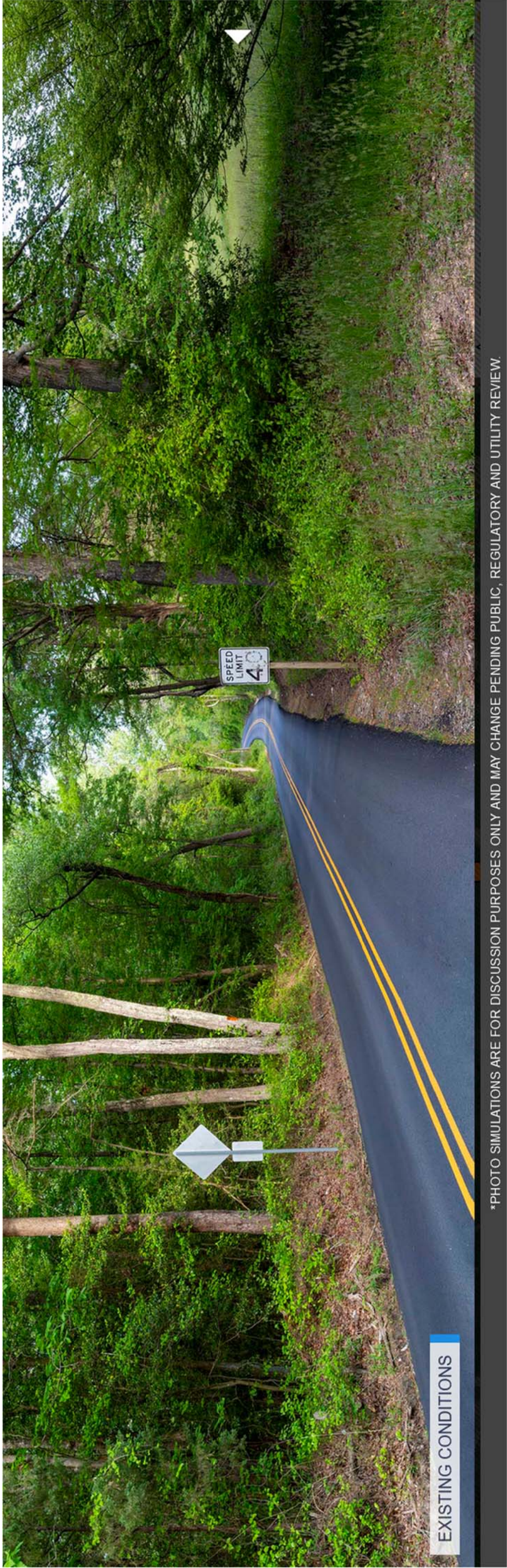
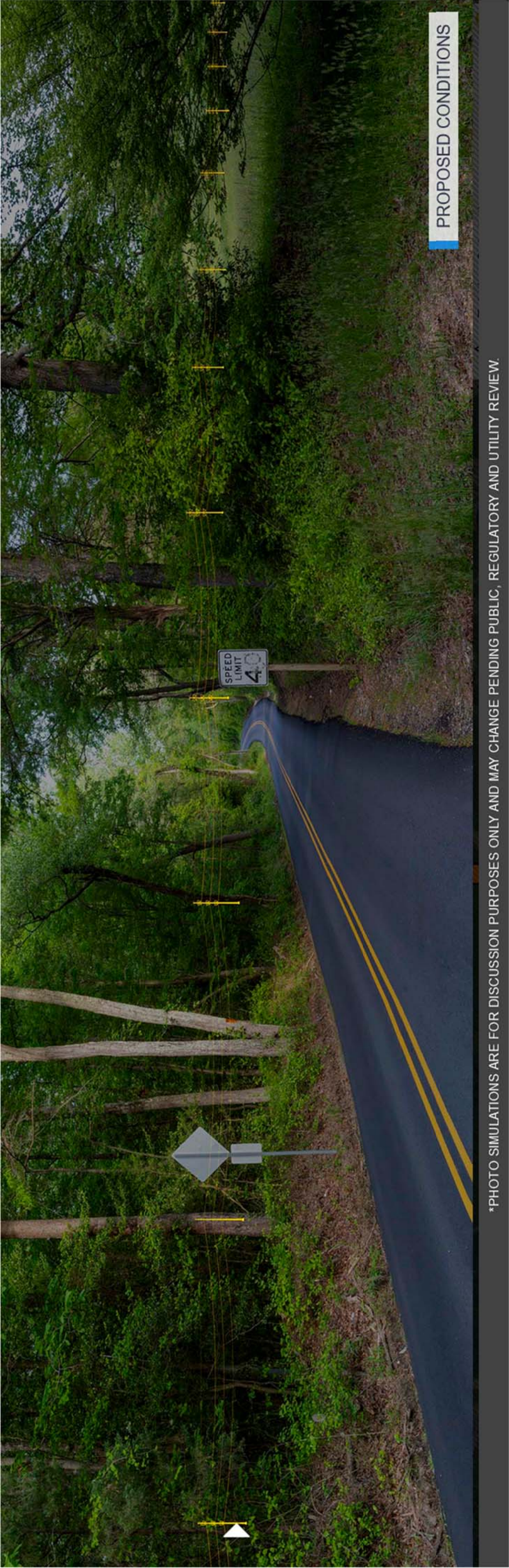


Figure 5-36: Simulation location 1 for Nyland – Existing view from Guinea Station Road in front of home (No existing structures visible). Source: Dominion



*PHOTO SIMULATIONS ARE FOR DISCUSSION PURPOSES ONLY AND MAY CHANGE PENDING PUBLIC, REGULATORY AND UTILITY REVIEW.

Figure 5-37: Simulation location 1 for Nyland – Proposed view from Guinea Station Road in front of home (No expected visibility of any structures – structure locations depicted in yellow). Source: Dominion

ARCHAEOLOGICAL ASSESSMENT

6. ARCHAEOLOGICAL ASSESSMENT

A review of the VDHR VCRIS records reveals there are four (4) previously recorded archaeological sites located within or crossed by the ROW associated with at least one of the project corridors. Formal archaeological fieldwork and investigations were not conducted as part of this effort so the existing conditions of the sites are unknown. Project engineering is also still preliminary so the final project alignment, structure locations, and extent of grading and limits of disturbance are uncertain, however, a preliminary assessment of potential impacts was conducted based upon previous site data and preliminary project information available at time of this analysis.

Of the four previously recorded sites within the project ROW, one (1) was determined potentially eligible for listing in the NRHP by the VDHR and other three have not been formally evaluated (Table 6-1).

Table 6-1: Previously recorded archaeological resources within the ROW associated with a project corridor. Bold font denotes site is considered eligible or potentially eligible for listing in the NRHP.

VDHR #	Site Type	Temporal Association	NRHP Status	Proximity to Project
44CE0225	Camp, temporary	No Data	Not Evaluated	Sensitive archaeological data redacted
44CE0227	Camp, temporary	(Paleo-Indian (15000 - 8501 B.C.E), Early Archaic Period (8500 - 6501 B.C.E), Middle Archaic Period (6500 - 3001 B.C.E), Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606))	Not Evaluated	
44CE0829	Camp, temporary	Early Woodland (1200 B.C.E - 299 C.E)	VDHR: Potentially Eligible	
44CE1046	Artifact scatter, Lithic scatter	Pre-Contact, Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated	

Site 44CE0225

This site was initially recorded in 1986 as part of a cultural resource survey related to the shared transmission line ROW in which the project is located. At that time, the site was noted as a surface scatter of lithics and likely destroyed. No recommendation of NRHP-eligibility was provided and the site was not formally evaluated by the VDHR.

Sensitive archaeological data redacted Based upon recent aerial photography, the site is completely within an open field or pasture.

ARCHAEOLOGICAL ASSESSMENT

Based upon the boundaries of the site as mapped in VCRIS, which were not reinvestigated or confirmed as part of this effort, the site borders the eastern edge of project ROW, near two existing structures. It is on the opposite side of the shared ROW from the transmission line and structure to be replaced as part of this project (Figure 6-1). Based upon recent aerial photography, it appears that little has changed since the site was initially recorded and noted as likely destroyed. ***However, as the site was not evaluated and the extent of survey is unclear, it is D+A's recommendation that the portion of the ROW in which project improvements is to take place be subject to archaeological survey to determine the extent and condition of the site within the project area.***



Figure 6-1: Site 44CE0225 in relation to the project. Source: VCRIS.

Site 44CE0227

This site was initially recorded in 1986 as part of a cultural resource survey related to the shared transmission line ROW in which the project is located. At that time, the site was noted as a surface scatter of lithics and likely destroyed. The site was reinvestigated in 2015 at which time it could not be reidentified. The site was recommended not eligible for listing in the NRHP but was not formally evaluated by the VDHR.

Sensitive archaeological data redacted and spans an existing transmission line ROW. On the west side of the ROW a home has been built within the site limits and within the portion in the ROW is a gravel maintenance road.

Based upon the boundaries of the site as mapped in VCRIS, which were not reinvestigated or confirmed as part of this effort, the site is spanned by the project ROW, and is roughly 150 feet from the nearest transmission structures (Figure 6-2). Based upon recent aerial photography, it appears that the portion of the site within the project ROW has been subject to further disturbance. ***However, because the site has not been formally evaluated and spans the project ROW in the vicinity of several structures to be replaced, it is D+A's recommendation that the limits of the site within the project ROW be subject to further investigation as project details become finalized.***

ARCHAEOLOGICAL ASSESSMENT



Figure 6-2: Site 44CE0227 in relation to the project. Source: VCRIS.

Site 44CE0829

This site was initially recorded in 2015 as part of a cultural resource survey related to the shared transmission line ROW in which the project is located. At that time, the site was identified based upon subsurface testing that resulted in the collection of a variety of prehistoric lithics, pottery, and fire-cracked rock. It was interpreted as a small, seasonal early-Woodland period procurement camp, situated next to the South River for the resources it offered. The site was recommended for further study and determined potentially eligible for listing in the NRHP by the VDHR.

Sensitive archaeological data redacted

Based upon the boundaries of the site as mapped in VCRIS, which were not reinvestigated or confirmed as part of this effort, the site is located within the project ROW, near two existing structures, including one on a line not being rebuilt as part of this project just to the south, and one to be replaced as part of this project immediately to the west (Figure 6-3). Based upon recent aerial photography, it appears that little has changed since the site was initially recorded. ***As a result, it is D+A's recommendation that the limits of the site within the project ROW be subject to further investigation as project details become finalized.***

ARCHAEOLOGICAL ASSESSMENT



Figure 6-3: Site 44CE0829 in relation to the project. Source: VCRIS.

Site 44CE1046

This site was initially recorded in 2023 as part of a county-wide archaeological survey. At that time, the site was identified based upon subsurface testing that resulted in the collection of a variety of prehistoric and historic materials and was interpreted as a late 19th to 20th-century domestic refuse scatter, likely associated with a no longer extant structure; and a Pre-Contact lithic scatter. The site was recommended not eligible for listing in the NRHP but was not formally evaluated by the VDHR.

Sensitive archaeological data redacted

Based upon the boundaries of the site as mapped in VCRIS, which were not reinvestigated or confirmed as part of this effort, the site is located along the western edge of project ROW, near two existing structures. A portion of the site extends into the portion of the shared ROW in which the project will occur and is roughly is less than 100 feet away from a structure to be replaced as part of this project (Figure 6-4). Based upon recent aerial photography, it appears that little has changed since the site was initially recorded. ***As the site was not evaluated, it is D+A's recommendation that the portion of the ROW in which project improvements is to take place be subject to archaeological survey to determine the extent and condition of the site within the project area.***

ARCHAEOLOGICAL ASSESSMENT



Figure 6-4: Site 44CE1046 in relation to the project. Source: VCRIS.

7. SUMMARY OF POTENTIAL IMPACTS

As part of this pre-application analysis of cultural resources for the Ladysmith-Summit-St John Rebuild Project, potential impacts to previously recorded historic properties that qualify for consideration under VDHR-defined buffered tiers were assessed in accordance with the VDHR guidance. 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 and associated projects, 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, one (1) NRHP-listed property located within 1.0 mile or closer of the project (which is also a Historic Preservation Easement Property), and three (3) properties that have been determined eligible or potentially eligible for listing in the NRHP by the VDHR within 0.5 mile or closer of the project. The one (1) NRHP-listed resource and one (1) of the NRHP-eligible resources are directly crossed by the project alignment.

Assessment of impacts found that the project extends through a mostly rural portion of Caroline and Spotsylvania counties with some suburban encroachment, and therefore the historic setting of most the historic properties remains generally intact. Due to the proximity of the existing transmission line to these properties, which is located within a ROW shared by several other transmission lines not included in this project, three of the four considered properties already have settings and viewsheds which include existing transmission line infrastructure. Two of the properties are directly crossed by the project ROW and therefore have existing structures that are visible on the property. Viewshed assessment and photo simulation found that the topography and vegetation patterns in the area generally inhibits widespread visibility of long lengths of transmission line from any of the properties and will continue to do so despite the increase in structure height. Some increased visibility of structures that are visible is expected as they will rise high above intervening treelines, however, the project is not anticipated to result

SUMMARY OF POTENTIAL IMPACTS

in widespread or expansive views of any additional transmission structures from any of the considered historic properties. As such, the change would not introduce any substantially different feature into the setting or viewshed from any of the properties. **Therefore, it is D+A's recommendation that there will be no more than a minimal impact to any historic property within the study tiers for the Ladysmith-Summit-St Johns Rebuild Projects (Table 7-1).**

Table 7-1: Potential impacts summary for architectural resources.

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project	Recommended Impact
016-0003	Braynefield, 12602 Woodford Road	NRHP-Eligible	~0.22 Mile from Corridor 2	Minimal Impact
016-0016	Edge Hill, 10241 Edgehill Academy Road	NRHP-Listed	Directly Crossed by Corridor 2	Minimal Impact
016-0028	Woodpecker Farm, 11321 Paige Road	NRHP-Eligible	Directly Crossed by Corridor 2	Minimal Impact
088-0100	Nyland, 3701 Guinea Station Road	NRHP-Eligible	~0.39 Mile from Corridor 3	No Impact

With regards to archaeology, portions of the project area have been subject to previous phase I survey, including all of Corridor 1, and discrete portions of the other corridors. As a result of these surveys, four (4) previously recorded sites are located directly within or crossed by the project ROW. One of the sites has been determined potentially eligible for listing in the NRHP, and the other three have not been formally evaluated. While no survey or formal investigation of these archaeological sites was conducted as part of this effort, review of aerial photography reveals there has been little change in the setting of any of the sites since they were last recorded. **It is therefore D+A's recommendation that that any portion of the project area that has not been subject to accepted cultural resource survey be investigated, and any previously recorded and newly identified sites should be evaluated and assessed for project impacts as additional project construction details become available (Table 7-2).**

Table 7-2: Summary of potential impacts summary for archaeological resources.

VDHR #	Description	NRHP Status	Proximity to Project	Impacts/ Recommendation
44CE0225	Camp, temporary (No temporal context noted)	Not Evaluated	Sensitive archaeological data redacted	
44CE0227	Camp, temporary (Paleo-Indian (15000 - 8501 B.C.E), Early Archaic Period (8500 - 6501 B.C.E), Middle Archaic Period (6500 - 3001 B.C.E), Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606))	Not Evaluated		
44CE0829	Camp, temporary (Early Woodland (1200 B.C.E - 299 C.E))	VDHR: Potentially Eligible		
44CE1046	Artifact scatter, Lithic scatter (Pre-Contact, Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991))	Not Evaluated		

8. 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

2024 Virginia Cultural Resource Information System (VCRIS) database and GIS server.

REFERENCES

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APPENDIX A: RESUMES

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ROBERT J. TAYLOR, JR
Principal Investigator
Senior Architectural Historian



Dutton + Associates
CULTURAL RESOURCE SURVEY, PLANNING, AND MANAGEMENT



Education

Master of Arts, 2009
Historic Preservation
Savannah College of Art and Design
Savannah, Georgia

Bachelor of Arts, 2005
Historic Preservation
University of Mary Washington
Fredericksburg, Virginia

Awards

Eagle Scout, 2001

Mr. Taylor holds a B.A. in Historic Preservation from University of Mary Washington and a M.A. in Historic Preservation from Savannah College of Art and Design. He has over 15 years of Cultural Resource Management Experience and has taken part in projects in Virginia and throughout the East Coast.

His experience in Cultural Resource Management includes working on both Architectural and Archaeological projects while participating in all phases of compliance from project initiation and development to completion. His work includes conducting field surveys, researching and documenting historic resources, writing survey reports, preparing NRHP evaluations and applications for individual resources and historic districts, compiling HABS/HAER documentation packages, and assisting with cultural resource consultation and compliance. He has a thorough understanding of the laws and regulations that govern cultural resources and has assisted with a number of Cultural Resource Management Plans, Programmatic Agreements, and Memorandum of Agreements.

As Principal Investigator and Senior Architectural Historian for Dutton + Associates, Mr. Taylor manages and conducts all aspects of historic and architectural resource projects and studies.

1115 CROWDER DRIVE, MIDLOTHIAN, VIRGINIA 23113 • TEL 804.897.1960

APPENDIX A



Dutton + Associates
ARCHITECTURAL, HISTORICAL, PLANNING, AND ENVIRONMENTAL

ROBERT J. TAYLOR, JR.
Principal Investigator
Senior Architectural Historian

Professional Experience

Dutton + Associates, LLC, Principal Investigator, Richmond, Virginia, March 2009- present.
Manages cultural resource projects, oversees architectural history team, conducts field survey and investigations, assembles architectural resource documentation, authors cultural resource survey reports, prepares NRHP nominations, prepares HABS/HAER documentation, provides regulatory and compliance consultation.

Thomas Jefferson Monticello Foundation, Field Archaeologist, Charlottesville, Virginia, Winter 2008- 2009. Conducted archaeological testing, assisted with site research, performed lab work.

Janus Research, Inc., Architectural Historian, Tampa, Florida, August 2005- May 2008.
Conducted field surveys, Prepared NRHP and HABS/HAER documentation packages, authored Cultural Resource Assessment Survey Reports

Example Projects and Publications

Cultural Resource Management Plans

Regional Integrated Cultural Resource Management Plan for Naval Installations in Hampton Roads, Virginia
Programmatic Agreement amongst NASA, the VASHPD, and ACHP for the Management of Facilities, Infrastructure, and Sites at the NASA Langley Research Center, Hampton, Virginia

Cultural Resource Survey and Compliance Reports

Phase I Cultural Resource Survey of the Southern Virginia Solar Center, Pittsylvania County, Virginia
Phase I Cultural Resource of the Gordonville-Remington 500 kV Transmission Line Rebuild Project, Orange, Fauquier, and Culpeper County, Virginia
NRHP Evaluations of Two One Room School Houses and a Farmstead in Perryburg Township, Ohio
Intensive-Level Architectural Survey of the Vice Admiral James H. Doyle Jr. Combat System Engineering Development Site (CSDES), Moorestown, New Jersey
Review and Evaluation of the Adaptive Rehabilitation of Quarters D&E and G&H at the Norfolk Naval Shipyard, Portsmouth, Virginia
Cultural Resource Assessment Survey (CRAS) of the I-95 Advance Acquisition #2 in Miami-Dade County, Florida
CRAS of the I-4/Crosstown Connector Interchange Design in Hillsborough County, Florida

NRHP Nominations

Hermitage Road Historic District, Richmond, Virginia
Old Wythe Historic District, Hampton, Virginia
NASA LaRC Historic District, Hampton, Virginia
Sebeell Rural Historic District, Southampton County, Virginia
Palmetto Beach Historic District, Tampa, Florida
Rommere Historic District, Orlando, Florida

Historic American Buildings Survey (HABS) Packages

NASA Low Turbulence Pressure Tunnel, LaRC, Hampton, VA, HABS # VA-118-11
NASA Aircraft Landing Dynamics Facility, LaRC, Hampton, VA, HABS # unsigned
1st Street Bridge update package, Los Angeles, CA HAER # CA-175
Faith Temple Missionary Baptist Church, Tampa, FL, HABS # FL-542
Building 64, McHille Net and Fuel Depot, Naval Station Newport, RI, RIBHA # PORT0004

Technical and Research Papers

"New Use for an Old Gas Station: Rehabilitation Plan and Feasibility Assessment for the Fry's Spring Service Station in Charlottesville, Virginia"
"Historic Structure Report for the Edward Valentine House (Redland Club Building) in Charlottesville, Virginia"
"Historic Linear Resources: Challenges and the Practical Applicability of NRHP Criteria"
"A Country Doctor for Forty Years: A Historic Structure Report for the Dr. J.L. Wilson House in Haywood County, North Carolina"

1115 CROWDER DRIVE, MIDLOTHIAN, VIRGINIA 23113 TEL:804.897.1960

From: Warren, Arlene <arlene.warren@vdh.virginia.gov>
Sent: Tuesday, June 22, 2021 7:53 AM
To: Rachel.M.Studebaker@dominionenergy.com
Subject: [EXTERNAL] Re: FW: SCC Case No. PUR-2021-00010/DEQ21-013S

This is an EXTERNAL email that was NOT sent from Dominion Energy. Are you expecting this message? Are you expecting a link or attachment? DO NOT click links or open attachments until you verify them

The proposal from Dominion is reasonable and we consider it acceptable.

Best Regards,

Arlene Fields Warren

GIS Program Support Technician

Office of Drinking Water

Virginia Department of Health

109 Governor Street

Richmond, VA 23219

(804) 864-7781

On Thu, Jun 17, 2021 at 4:33 PM Rachel.M.Studebaker@dominionenergy.com
<Rachel.M.Studebaker@dominionenergy.com> wrote:

Hello Ms. Warren,

I am reaching out in regard to the DEQ Report for SCC Case No. PUR-2021-00010/DEQ21-013S (230 kV lines #2113 and #2154 Transmission Line Rebuilds and Related Projects). As part of the VDH ODW review, it was recommended that all wells within a 1,000-foot radius of the project site be field marked and protected from accidental damage. It is our custom construction process to not conduct any work outside of the existing right-of-way (ROW), with the exception of entry using existing access roads, and use DEQ approved erosion and sediment controls. These well are located outside of the project area ROW on private land and Dominion Energy does not have permission to enter private property to field mark the wells.

Therefore, we are proposing to plot and call out the wells on the Erosion and Sediment control plans as a way of flagging them for the construction team for protection from accidental damage. Is this a sufficient approach to comply with the ODW recommendation?

Thank you,

Rachel Studebaker

Environmental Specialist II

Dominion Energy Services

120 Tredegar Street, Richmond, VA 23219

Office: (804) 273-4086

Cell: (804) 217-1847

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