Dominion Energy®

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

Before the State Corporation Commission of Virginia

230 kV Line #2090 Extension and Tributary Switching Station

Application No. 342

Case No. PUR-2024-00181

Filed: October 1, 2024

Volume 2 of 3

COMMONWEALTH OF VIRGINIA

BEFORE THE

STATE CORPORATION COMMISSION

APPLICATION OF

VIRGINIA ELECTRIC AND POWER COMPANY

FOR APPROVAL AND CERTIFICATION
OF ELECTRIC TRANSMISSION FACILITIES

230 kV Line #2090 Extension and Tributary Switching Station

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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 230 kV Line #2090 Extension and Tributary Switching Station (the "Project" as explained further below) by DEQ and other relevant agencies.

1. Project Description

In order to provide requested transmission service to Rappahannock Electric Cooperative ("REC"), with the requested service being prompted by the growing data center development in the area; to maintain reliable service for overall load growth in the area; and to comply with mandatory North American Electric Corporation ("NERC") Reliability Standards, Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") proposes in Spotsylvania County, Virginia to:

- Construct a new 230 kilovolt ("kV") delivery point ("DP") switching station ("Tributary Station"), which will provide interconnection to REC to serve its customer, the SpotsyTech Campus, a planned mixed-use technology park which includes a data center; and

- Extend the Company's existing 230 kV Line #2090 (Fredericksburg — Ladysmith CT) by constructing a new double circuit overhead 230 kV line on new approximately 100-foot-wide right-of-way by cutting the Company's existing 230 kV Line #2090 (Fredericksburg — Ladysmith CT) at the proposed Structure #2090/91A[1] ("#2090 Tap") (the new double circuit overhead 230 kV line is referred as "230 kV Line #2090 extension"). The cut in will result in (i) new 230 kV Line #2404 from New Post to Tributary Station, and (ii) 230 kV Line #2090 from Ladysmith CT to Tributary Station.[2] From the cut-in location at the #2090 Tap, the 230 kV Line #2090 extension will extend for approximately 2.4 miles to the Tributary Station.

The Tributary Station and the 230 kV Line #2090 extension are collectively referred to as the "Project."

The Project is necessary to assure that Dominion Energy Virginia is able to provide the service requested by REC to serve the planned SpotsyTech Campus in Spotsylvania County, Virginia; to maintain reliable service for the overall growth in the load area; and to comply with mandatory NERC Reliability Standards. The combination of competitive colocation/cloud environment, fiber connectivity, strategic geographic location, low risk of business disruptions, affordable and reliable power, and the business climate in Virginia, has created the largest market for data center capacity in

[1] Structure #209091A is a proposed structure to be constructed between existing Structures #2090/91 and #2090/92 of Line #2090.

[2] Segments of Line #2090 (Fredericksburg – Ladysmith CT) will be renumbered several times as a result of other projects in the Fredericksburg – Ladysmith CT corridor. Line #2090 will be renumbered to 230 kV Line #2301 between Fredericksburg and Lee's Hill Substations, and to 230 kV Line #2335 between Lee's Hill and New Post Substations. After this Project is completed, 230 kV Line #2090 will again be renumbered to Line #2404 between New Post and Tributary Stations, with existing 230 kV Line #2090 extending between Tributary Station and Ladysmith CT only. See Appendix Attachments I.A.3, I.A.4, and I.A.5 for one-line diagrams of: (i) the existing transmission system in the Project load area, (ii) the Project load area after the New Post and Lee's Hill Substations are built, and (iii) the Project load area after the Project is energized.

the United States. The data center market continues to rapidly expand in Virginia, and the growing demand for data center space in Virginia has led the industry to locations within the central Virginia region. This Project is in this concentrated area of Spotsylvania County.

On November 21, 2023, the Company received a DP request from REC for a new 230 kV DP to serve the SpotsyTech Campus. The DP request ultimately projects a load of 295 megawatts ("MW") by 2032, with the initial load being 7 MW.

The Company's route selection for a new transmission line typically begins with identification of the project "origin" and "termination" points provided by the Company's Transmission Planning group. This is followed by the development of a study area for the project. The study area represents a circumscribed geographic area from which potential routes that may be suitable for a transmission line can be identified.

For this Project, the Company retained the services of Environmental Resources Management ("ERM") to help collect information within the study area, identify potential routes, perform a routing analysis comparing the route alternatives, and document the routing efforts in an environmental routing study.

The study area encompasses an approximately 9.5 square mile area containing the Project origin and termination points (the Company's existing Line #2090 and the proposed Tributary Station) in eastern Spotsylvania County and a small section of Caroline County, generally bounded by the following features:

- Patriot Highway and North Roxbury Mill Road to the west;
- The Po River to the south;
- Massaponax High School and Heartland Way to the north; and
- Existing Line #2090 to the east.

The Company identified an approximately 2.4-mile overhead proposed route from Structure #2090/91A to the proposed Tributary Station (the "Proposed Route").[3] The Company also identified two overhead alternative routes ("Alternative Route 3" and "Alternative Route 4").[4] The total length of the Alternative Route 3 is approximately 2.8 miles from the #2090 Tap to the Tributary Station. The total length of the Alternative Route 4 is approximately 3.0 miles from Structure #2090/82 of existing 230 kV Line #2090 to the Tributary Station.

The Company is proposing these three routes for Commission consideration and notice. Discussion of the Proposed Route and Alternative Routes, as well as other overhead

[3] The Proposed Route is referred to as "Route 2" in the Environmental Routing Study.

[4] Alternative Route 3 and Alternative Route 4 are referred to as "Route 3" and "Route 4," respectively, in the Environmental Routing Study.

routes that the Company studied but ultimately rejected ("Alternative Route 1" and "Alternative Route 5"), is provided in Section II of the Appendix and discussed in more detail in the Environmental Routing Study (or "Routing Study") included with the Application.

A description of the Proposed and Alternative Routes is as follows.

Proposed Route (Route 2)

The Proposed Route extends from the #2090 Tap to the proposed Tributary Station. The #2090 Tap is approximately 0.5 mile south of where the existing line crosses Guinea Station Road along the southern boundary of the study area. From there, the Proposed Route heads west/northwest for about 0.4 mile, passing through forested land before angling southwest through forest for about 0.7 mile, passing through a portion of the Fredericksburg/Washington DC South Kampgrounds of America Holiday campground ("KOA Campground") and crossing the Ni River. On the south side of the Ni River, the route turns west, crossing agricultural and forested land for about 1.2 miles and crossing Interstate 95. On the west side of Interstate 95, the route turns north for about 0.1 mile and enters the Tributary Station.

The Proposed Route is approximately 2.4 miles long. The right-of-way associated with this alignment (28.1 acres) and the proposed Tributary Station site (2.2 acres) would encompass a combined 30.3 acres.

Alternative Route 3

Alternative Route 3 extends from the #2090 Tap to the proposed Tributary Station. From here, Alternative Route 3 heads west/northwest for about 0.4 mile before turning north/northwest for about 0.3 mile. At this point the route turns west and crosses the KOA Campground. On the west edge of the campground, the route turns southwest/south for about 0.5 mile, paralleling an undeveloped, forested parcel boundary and crossing the Ni River. On the south side of the river, the route turns west, intersecting and following the same alignment as the Proposed Route for the remaining 1.3 miles to the Tributary Station.

Alternative Route 3 measures approximately 2.8 miles long. The right-of-way for this alternative (33.5 acres) and the proposed Tributary Station site (2.2 acres) would encompass a combined 35.7 acres.

Alternative Route 4

Alternative Route 4 extends from a cut-in at Structure #2090/82 along the Company's existing Line #2090 to the proposed Tributary Station. The cut-in is approximately 0.7 mile north of the intersection of the existing transmission line and Guinea Station Road along the southern boundary of the study area. From here, Alternative Route 4 heads southwest/south for about 1.1 mile, passing through forested land and crossing Guinea Station Road. Just west of the KOA Campground, the route intersects with and shares an alignment with the Proposed Route and Alternative Route 3, turning west/southwest

for about 0.5 mile and then west for about 1.2 mile, crossing Interstate 95 and turning north into the Tributary Station.

Alternative Route 4 measures approximately 3.0 miles long. The right-of-way for this alternative (35.4 acres) and the proposed Tributary Station site (2.2 acres) would encompass a combined 37.6 acres.

2. Environmental Analysis

The Company has conducted an environmental analysis on the proposed Project. Please see the following subsections of this DEQ Supplement for pertinent details about the proposed Project.

A. Air Quality

For the Project, the Company will control fugitive dust during construction in accordance with DEQ regulations. During construction, if the weather is dry for an extended period, there will be airborne particles from the use of vehicles and equipment within the right-of-way. However, minimal earth disturbance will take place and vehicle speed, which is often a factor in airborne particulate, will be kept to a minimum. Erosion and sedimentation control is addressed in Section 2.H of this Supplement. Equipment and vehicles that are powered by gasoline or diesel motors will be used during the construction of the line so there will be exhaust from those motors. Exhaust from those motors will result in minimal air pollution.

Tree clearing within the new rights-of-way will be required as part of this Project. The Company does not expect to burn cleared material, but, if necessary, the Company will coordinate with the responsible locality to obtain the appropriate permits and will comply with any conditions set forth by the locality or take actions 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. This discussion focuses on waterbodies that will be crossed by the proposed transmission lines.

On behalf of the Company, ERM identified and mapped waterbodies in the vicinity of the routes using publicly available geographic information system ("GIS") databases, U.S. Geological Survey ("USGS") National Hydrography Dataset Plus High Resolution ("NHD"), ESRI World Elevation Terrain 2-foot contours, the United States Fish and Wildlife Service ("USFWS") National Wetland Inventory ("NWI"), recent (2023) and historic digital aerial photography (National Agricultural Imagery Program, VGIN Most Recent Imagery, and Google Earth).

All route alternatives utilize an overhead configuration that would span waterbodies; no transmission structures are planned to be installed within waterbodies. The Proposed

and Alternative Routes cross perennial and intermittent waterbodies, including the Ni River and associated tributaries.

The distance between transmission line structures proposed by Dominion Energy Virginia will be adequate to span the waterbodies identified along the Proposed and Alternative Routes. Tree clearing would be required within forested riparian areas at waterbody crossing locations. The removal of forested riparian areas adjacent to waterbodies will reduce riparian buffer functions such as stream bank stabilization and erosion control, nutrient and sediment filtration, floodwater storage and peak flow reduction, and water temperature changes due to loss of shading at these locations. Impacts to surface waters and riparian habitat will be limited by minimizing rights-of-way at crossings to the extent possible, leaving roots and stumps in place, and implementing erosion control best management practices during construction.

According to U.S. Army Corps of Engineers ("Corps") documentation, no waters considered navigable under Section 10 of the Rivers and Harbors Act are crossed by the Proposed or Alternative Routes for the Project. Waterbodies in the vicinity of the Project routes, inclusive of the proposed Tributary Station footprint, are shown on Attachment 2 of the Wetland and Waterbody Desktop Summary for the Project, which is included in Attachment 2.D.1.

Proposed Route (Route 2)

The Proposed Route crosses 12 NHD-mapped waterbodies: seven perennial streams (including a crossing of the Ni River) and five intermittent streams. See Table D-2 for waterbody acreage crossed identified in the Wetland and Waterbody Desktop Summary.

Alternative Route 3

Alternative Route 3 crosses 11 NHD-mapped waterbodies: five perennial streams (including a crossing of the Ni River) and six intermittent streams. See Table D-2 for waterbody acreage crossed identified in the Wetland and Waterbody Desktop Summary.

Alternative Route 4

Alternative Route 4 crosses 11 NHD-mapped waterbodies: five perennial streams (including a crossing of the Ni River) and six intermittent streams. See Table D-2 for waterbody acreage crossed identified in the Wetland and Waterbody Desktop Summary.

During construction, proper drainage of waterbodies will be maintained using culverts and/or other crossing devices, as needed, according to the Company's standard policies. Where clearing of trees and/or woody shrubs is required, clearing within 100 feet of a stream will be conducted by hand. Vegetation will be cut at or slightly above ground level, and stumps will not be grubbed. To protect waterways from soil erosion and sedimentation during construction, the Company will use sediment barriers along waterways and steep slopes. If a section of line cannot be accessed from existing roads, the Company may need to install a culvert or temporary bridge to cross small streams.

In such cases, temporary fill material may be required that would be placed on erosion control fabric and removed when work is completed, returning the surface to original contours.

If necessary, a Joint Permit Application ("JPA") will be submitted for review by the VMRC, DEQ, and the Corps to authorize jurisdictional crossings and for any impacts to jurisdictional features.

C. Discharge of Cooling Waters

No discharge of cooling waters is associated with the Project.

D. Tidal and Non-tidal Wetlands

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

On behalf of the Company, ERM identified wetlands along the Project routes, inclusive of the proposed Tributary Station site, using GIS and remote sensing data sources to conduct an offsite desktop wetlands delineation. A copy of ERM's Wetland and Waterbody Desktop Summary for Project is included in Attachment 2.D.1. Sources for this desktop summary include the USFWS NWI, the USGS NHD, the Natural Resources Conservation Service Web Soil Survey, ESRI World Elevation Terrain 2-foot contours, National Agricultural Imagery Program Digital Ortho-Rectified Natural Color and Infrared Images dating from 2024, recent (2023) and historic digital aerial photography (National Agricultural Imagery Program, VGIN Most Recent Imagery, and Google Earth).

ERM did not field delineate wetlands along the Project routes. A field wetland delineation will be completed for the approved route alignment selected by the Commission upon the Company receiving a final order on the Project.

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

1. Infrared and natural color aerial photography was used in conjunction with USGS topographic maps, soils maps, and other data sources to identify potential wetland areas. Boundaries were assigned to the areas that appeared to exhibit wetland signatures based on this review (referred to here as "Interpreted Wetlands"), and a cover type was determined based on aerial photo interpretation.

2. To further determine the probability of a wetland occurring within a given location, polygon shapefiles for Interpreted Wetlands were digitally layered with NWI and NHD mapping and hydric soils information from the Natural Resources Conservation Service ("NRCS") soil survey database.

3. ERM assigned a probability of wetland occurrence based on the number of overlapping data layers (*i.e.*, indicators of potential wetland presence) in any given area (Table D-1).

Table D-1
230 kV Line #2090 Extension and Tributary Switching Station
Wetland Probability Criteria

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

Using the above criteria, wetland and waterbody occurrence probabilities ranging from very low to high were identified for each route, with acres of affected wetland calculated by probability class and cover type. The probability of wetland and waterbody occurrence increases as multiple indicators overlap toward the "high" end of the probability spectrum as shown in Table D-1. The medium to high probability categories were selected as the most reliable representation of in-situ conditions due to overlapping data sets. Results for these wetland probability classes are presented below.[5]

As explained further below and in Attachment 2.D.1, the majority of wetlands crossed by the Project infrastructure are forested and are generally concentrated in the floodplain of the Ni River in the southern portion of the study area. For ease of reference, wetlands and waterbodies of medium or higher probability crossed by the Proposed and Alternative Routes are summarized in Table D-2.

Table D-2
230 kV Line #2090 Extension and Tributary Switching Station
Desktop-Delineated Wetlands and Waterbodies Crossed by the Proposed and Alternative Routes [a,b]

Aquatic Resource Classification	Proposed Route (Route 2)	Alternative Route 3	Alternative Route 4
Palustrine Forested (PFO)	7.3	7.9	7.4
Palustrine Scrub-shrub (PSS)	6.4	6.1	6.1
Palustrine Emergent (PEM)	NA	NA	NA

[5] Note that the sum of the wetland type addends presented for the Proposed and Alternative Routes may not equal the totals due to rounding.

Palustrine Unconsolidated Bottom (PUB)	NA	NA	NA
Riverine	0.4	0.3	0.3
Total	**14.1**	**14.4**	**13.8**

a Inclusive of the 2.2-acre Tributary Station.
b The sum of the addends may not equal the totals due to rounding.

Proposed Route (Route 2)

Based on the wetland desktop delineation methodology described above, the Proposed Route right-of-way encompasses approximately 14.1 acres of wetlands, including 7.3 acres of palustrine forested ("PFO"), 6.4 acre of palustrine scrub-shrub ("PSS"), and 0.4 acre of riverine type wetlands.

Alternative Route 3

Based on the wetland desktop delineation methodology described above, the Alternative Route 3 right-of-way encompasses approximately 14.4 acres of wetlands, including 7.9 acres of PFO, 6.1 acre of PSS, and 0.3 acre of riverine wetlands.

Alternative Route 4

Based on the wetland desktop delineation methodology described above, the Alternative Route 3 right-of-way encompasses approximately 13.8 acres of wetlands, including 7.4 acres of PFO, 6.1 acre of PSS, and 0.3 acre of riverine wetlands.

All wetlands will require protective matting to be installed to support construction vehicles, equipment, and materials during construction. While most wetlands are anticipated to be spanned, with impacts limited to temporary construction impacts, permanent impacts would include any necessary structure placement within wetlands and clearing and conversion of PFO/PSS-type wetlands to PSS or Palustrine emergent wetland types after construction is complete. This conversion would reduce riparian buffer benefits such as stream bank stabilization and erosion control, nutrient and sediment filtration, floodwater storage and peak flow reduction, and water temperature changes due to loss of shading. Construction impacts from the transmission lines on PEM and riverine wetlands would be temporary and would be restored to pre-construction conditions when construction is complete. Within PFO and PSS wetlands, vegetation will be allowed to return to maintained right-of-way heights, consistent with open meadow and/or shrub-scrub habitat, after construction is completed, which would provide some filtration and stabilization to protect waterbodies from runoff.

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. The Company has sited structures to avoid wetlands and streams to the extent practicable. Temporary impacts will be restored to pre-existing conditions, and permanent impacts will be compensated for in accordance with all applicable state regulations and laws. The Project is expected to require a Virginia Water Protection general permit and a Nationwide Permit 57. A JPA will be submitted for further evaluation and final permit need determination by DEQ, VMRC, and the Corps.

E. Floodplains

As depicted on the Federal Emergency Management Agency's ("FEMA") online Flood Insurance Rate Maps # 51177C0225D (effective date 5/8/2023) and #51033C0065D (effective date 5/22/2023), and 51177C0250D (effective date 5/9/2023), the Project study area contains flood zone hazard area Zone A, the 100-year floodzone, around the Ni River and its tributaries. The Company will coordinate with the local floodplain coordinators as required.

F. Solid and Hazardous Waste

ERM identified environmentally regulated sites that use and/or store hazardous materials or waste-producing facilities operating under regulatory permits in the study area using publicly available GIS databases obtained from the U.S. Environmental Protection Agency ("EPA") and the DEQ. These databases provide information about facilities, sites, or places subject to environmental regulation or of environmental interest. These include sites that use and/or store hazardous materials; waste producing facilities operating under permits from the EPA or other regulatory authorities; 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; 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 Project. These sites are not discussed further.

A summary of the information from the EPA and DEQ databases within a 0.5-mile buffer of the centerlines of the Proposed and Alternative Routes is provided in Table F-1 below. The locations of the sites are depicted in Attachment 2.F.1.

TABLE F-1 230 kV Line #2090 Extension and Tributary Switching Station[a] Environmental Regulated Facilities and Hazardous Waste/Petroleum Release Sites within 0.5 Mile			
Site Type	Proposed Route (Route 2)	Alternative Route 3	Alternative Route 4
Waste	1	1	1
Toxics	0	0	0
Land	1	1	1
Air	2	2	2
Water	3	3	3
Solid Waste Facilities	0	0	0
Petroleum Facilities	1	1	0
Petroleum Releases	0	0	1
Total [b]	**8**	**8**	**8**

[a] The Tributary Switching Station is included in the route analysis.

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

Notes

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

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

TABLE F-2
230 kV Line #2090 Extension and Tributary Switching Station[a]
Environmental Regulated Facilities and Hazardous Waste/Petroleum Release Sites within 1,000 Feet

Site Type	Proposed Route (Route 2)	Alternative Route 3	Alternative Route 4
Waste	1	0	0
Toxics	0	0	0
Land	0	0	0
Air	0	0	0
Water	0	1	0
Solid Waste Facilities	0	0	0
Petroleum Facilities	0	0	0
Petroleum Releases	0	0	0
Total [b]	**1**	**1**	**0**

[a] The Tributary Switching Station is included in the route analysis.

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

Notes

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

EPA Regulated Sites

Based on the most recent available data in the EPA's "Cleanups in My Community" database, no Brownfield or Superfund sites are located within 0.5 mile of the Proposed or Alternative Routes. One RCRA site is located within 1,000 feet of the Proposed Route and one EPA-regulated NPDES site is located within 1,000 feet of Route 3; however, neither site is located within 200 feet of the Project. As such, no further review of EPA regulated sites was conducted.

DEQ Regulated Sites

ERM reviewed DEQ Petroleum Release, VRP, and PREP databases to identify sites within 1,000 feet of the routes. No Petroleum Release, VRP, or PREP sites were identified within 1,000 feet of the routes. As such, no further review of DEQ regulated sites was conducted.

Summary

Although no EPA or DEQ regulated sites were identified within 200 feet of the Project routes, proper procedures will be followed to safely identify, manage, and dispose of

any suspected hazardous and contaminated media that may be encountered during Project activities in accordance with applicable federal, state, and local regulations.

Although the Project is constructing overhead lines, minor subsurface work is required during installation. 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 associated regulatory agency will be coordinated with and the soils disposed of in accordance with applicable regulations.

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

G. Natural Heritage, Threatened and Endangered Species

On behalf of the Company, ERM conducted online database searches for threatened and endangered species in the vicinity of the Project, including the Virginia Department of Conservation and Recreation ("DCR") Natural Heritage Data Explorer ("NHDE"). The NHDE includes three components: Conservation Sites, Stream Conservation Units ("SCUs"), and General Location Areas for Natural Heritage Resources. ERM also obtained query results from the Virginia Department of Wildlife Resources ("DWR") Fish and Wildlife Information Service ("VaFWIS"), and the USFWS Information for Planning and Consultation ("IPaC") System to identify federally- and state-listed species that may occur within the study area.[6] Digital data were obtained from the DCR-NHDE to identify locations within the study area that potentially support protected species. Results of these queries are provided in Attachment 2.G.1.

The review accounted for regulatory changes and requirements associated with the Northern long-eared bat ("NLEB") and the USFWS up-listing of this species from federally threatened to federally endangered, per the existing interim guidance from the USFWS for the NLEB which was planned to be in effect until March 31, 2024. The USFWS previously indicated that it planned to issue final NLEB guidance to replace the interim guidance by April 1, 2024; however, the interim guidance has been extended by USFWS.

The review also accounted for regulatory changes and requirements associated with Tricolored bat ("TCB") and the proposed USFWS listing of this species as federally endangered. The Company is also monitoring potential regulatory changes associated with the potential listing of the TCB. On September 14, 2022, the TCB was proposed to be listed as Endangered, with an originally estimated announcement of a final

[6] The VaFWIS database results include the study area and a two mile buffer surrounding the study area.

decision within 12 months. USFWS extended its Final Rule issuance target from September 2023 to September 2024. Regulatory guidance on the TCB will be available upon listing.

To obtain the most current eagle nest data, ERM 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.

Based on queries of the above referenced sources, six federal and/or state-listed or proposed threatened and endangered species have the potential to occur within the study area (Table G-1). For additional information, see Section 3.2.5 of the Environmental Routing Study.

TABLE G-1
230 kV Line #2090 Extension and Tributary Switching Station
Potential Federal-and State-Listed Species in the Project Area

Species	Status	Database	Habitat	Results
Northern long-eared bat (*Myotis septentrionalis*)	FE, ST	USFWS IPaC, DWR-NLEB Winter Habitat and Roost Tree Map	Generally associated with old-growth or late successional interior forests. Partially dead or decaying trees are used for breeding, summer day roosting, and foraging. Hibernation occurs primarily in caves, mines, and tunnels.	Species not confirmed as present. Summer foraging habitat present, but no known hibernacula or maternity roost trees are documented within the Project area. The Project would require clearing of forested areas; however, given the lack of confirmed species presence, impacts are not anticipated.
Tricolored bat (*Perimyotis subflavus)*	FPE, SE	USFWS IPaC, DWR Tri-colored Bat Winter Habitat and Roost Tree Map	Typically roost in trees near forest edges during summer. Hibernate deep in caves or mines in areas with warm, stable temperatures during winter.	Species not confirmed as present, and no hibernaculum identified within a 0.5-mile-radius of the Project. No impacts are anticipated.
Indiana bat *(Myotis sodalist)*	FE, SE	IPaC VDWR—Winter Habitat and Roost Tree Map	Hibernates in medium to large sized caves or abandoned mines that remain stable in temperature (below 50 degrees Fahrenheit). Roosts in forested areas in the summer, generally under dead or dying trees. Maternity roosts occur in forest areas, bottomland and floodplain habitats, riparian zones, wooded wetlands, and upland communities.	Species not confirmed as present. Summer foraging habitat present, but no known hibernacula or maternity roost trees are documented within the Project area. The Project would require clearing of forested areas; however, given the lack of confirmed species presence, impacts are not anticipated.

TABLE G-1
230 kV Line #2090 Extension and Tributary Switching Station
Potential Federal-and State-Listed Species in the Project Area

Species	Status	Database	Habitat	Results
Dwarf wedgemussel (*Alasmidonta heterodon*)	FE, SE	USFWS IPaC, VaFWIS	Large rivers and small streams, often burrowed into clay banks among the root systems of trees; deep quick running water on cobble, fine gravel, or on firm silt or sandy bottoms.	Species confirmed within a 2.0-mile radius of the study area within the Po River. Due to the distance from the river (approximately 1.0 mile south of the route alternatives), no impacts are anticipated.
Yellow lance *(Elliptio lanceolata)*	FT, ST	IPaC, VaFWIS	Main channels of drainages and streams as small as 3 feet across with clean, coarse, medium sized sand or gravel substrate.	Species confirmed within a 2.0-mile radius of the study area within the Po and the Matta Rivers. Due to the distance from these rivers (1.0 mile and 3.4 miles south of the route alternatives, respectively), no impacts are anticipated.
Atlantic Sturgeon *(Acipenser oxyrinnchus)*	FE, SE	VaFWIS	Found in clean waters with moderate flow rates, high dissolved oxygen content, and coarse to medium sandy bottoms.	Species confirmed within a 2.0-mile radius of the study area within the Matta River. Due to the distance from the river, (approximately 3.4 mile south of the route alternatives) no impacts are anticipated.
Small whorled pogonia *(Isotria medeoloides)*	FT, ST	USFWS IPaC, DCR	Variety of woodland habitats. Prefers mid-aged woodland habitats on north/northeast facing slopes within small draws.	DCR identified the potential for this species to occur within the study area with potential habitat likely present. DCR recommends conducting Small whorled pogonia surveys between June 1st and July 20th. If identified, the Company will work with the appropriate regulatory agencies to minimize any impacts on the species.

Federal/State Status:
FE Federally listed as endangered
SE State listed as endangered
FT Federally listed as threatened
ST State listed as threatened
FPE Federally proposed as endangered
FPT Federally proposed as threatened

Database queries identified six federally listed species and one species with a federally proposed listing under the Endangered Species Act ("ESA"), each of which are also state-listed species, that could potentially occur in the study area: Northern long-eared bat (*Myotis septentrionalis*), Tri-colored bat (*Perimyotis subflavus*), Indiana bat (*Myotis sodalist*), Dwarf wedgemussel (*Alasmidonta heterodon*), Yellow lance (*Elliptio lanceolata*), Atlantic sturgeon (*Acipenser oxyrinnchus*), and Small whorled pogonia

(*Isotria medeoloides*). The TCB has been proposed for federal listing but the listing has not yet been finalized.

All six of these species were identified by the DWR, the DCR Division of Natural Heritage ("DNH"), and/or USFWS databases as having potential occurrence within the Project study area, and the VaFWIS database identified the Dwarf wedgemussel, the Yellow lance, and the Atlantic sturgeon as species that have confirmed occurrences within a two-mile buffer around the study area. On behalf of the Company, ERM submitted the Project to DCR-DNH for review. DCR-DNH conducted an official review dated May 31, 2024 (see Attachment 2.G.1). According to DCR-DNH's official review, a DCR biologist identified the potential for Small whorled pogonia to occur in the Project area if suitable habitat exists on site. Based on the DCR-DNH predicted suitable habitat model, ERM quantified the following approximate acreage in Table G-2 of predicted suitable habitat where the Small whorled pogonia might exist along each route.

TABLE G-2
230 kV Line #2090 Extension and Tributary Switching Station
Predicted Suitable Habitat for the Small Whorled Pogonia

Proposed Route (Route 2) (acres)	Alternative Route 3 (acres)	Alternative Route 4 (acres)
0.0	0.8	1.5

Due to the slope aspect and mostly forested nature of the land crossed by these footprints, there is potential for Small whorled pogonia habitat to occur within the study area; however, DCR-DNH did not identify predicted suitable habitat within the Proposed Route. Alternative Route 3 crosses three small (between 0.4 and 2.3 acres), isolated areas of potential habitat for the Small whorled pogonia at approximate MPs 0.8, 0.9, and 2.1. Alternative Route 4 crosses through the edge of a larger area of potential habitat for the Small whorled pogonia between MPs 0.0 and 0.3. While this is larger impact, the impact is mitigated by being located at the edge of the habitat rather than bisecting through the center. The required removal of trees would eliminate this potential habitat within the right-of-way of the selected route.

Due to the potential for the study area to support populations of Small whorled pogonia, DCR-DNH recommends an inventory for this species within the study area. With the survey results, DCR-DNH indicates that it can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources. DCR-DNH recommends conducting these surveys between June and July 20. Dominion Energy Virginia will survey the selected route for potential Small whorled pogonia habitat and based on the results, coordinate with regulatory and resource agencies to determine potential impacts to the species.

Ecological cores (cores) are areas of 100-acres or more of contiguous natural land cover associated with areas of high ecological value. They are ranked from C1 (Outstanding) to C5 (General). As part of its official review, DCR-DNH also found that the Proposed

and Alternative Routes intersect ecological cores of ranks C4 (moderate integrity) and C5 (general integrity).

During the Project routing process, ERM attempted to avoid higher-ranking ecological cores to the extent practicable, while also taking into consideration other routing constraints. When avoidance was not possible, ERM attempted to minimize the crossing length of higher-ranking cores, collocate with existing linear corridors, cross previously cleared or disturbed areas, and minimize fragmentation by following ecological core boundaries to the extent practicable. Where cores are crossed, the habitat is not fully lost as the transmission lines are maintained as open meadow/shrub habitat that is consistent with successional habitat.

The DCR-DNH review identified ecological cores within the study area, ranking from C1 (outstanding ecological integrity) to C3 (high ecological integrity) generally associated with the Ni and Po Rivers and their tributaries. Alternative Route 4 crosses one approximately 90-acre C5-ranked habitat fragment (Core ID 47909), which is not evaluated further because it is less than 100 interior acres of continuous natural cover and therefore classified as a habitat fragment by DCR rather than an ecological core and no formal analysis is required. Ecological cores crossed by the Proposed and Alternative Routes are summarized in the Table G-3 below.

Table G-3
230 kV Line #2090 Extension and Tributary Switching Station
Ecological Cores Crossed by the Proposed and Alternative Routes

Core Rank	Core ID	Total Core Acres	Acres Crossed	Miles Crossed
Proposed Route (Route 2)				
C1 (Outstanding)	48062	3,434	25.0	2.0
C3 (High)	47899	681	1.2	>0.1
Alternative Route 3				
C1 (Outstanding)	48062	3,434	30.1	2.5
C3 (High)	47899	681	1.2	>0.1
Alternative Route 4				
C1 (Outstanding)	48062	3,434	26.7	2.2
C3 (High)	47899	681	1.2	>0.1

The Proposed and Alternative Routes all cross the same approximately 3,434-acre ecological core, ranked C1 (Core ID 48062), and the Tributary Station is located on the perimeter of an approximately 681-acre rank C2 (High) ecological core (Core ID 47899).

Based on a review of recent aerial imagery (2023) and a site visit by the Company to parcels adjacent to the cut-in location for the Proposed Route and Alternative Route 3 on July 25, 2024, a portion of the Core ID 48062 has been clear cut where it abuts Line #2090. All the route alternatives would bisect C1-ranked Core ID 48062. For all route alternative crossings, the remaining two core segments would still each be greater than 100 interior acres and would therefore still be considered ecological cores per the DCR. Impacts on the area of Core ID 48062 crossed by the route alternatives would be limited to structure placement and conversion of forest cover to open, vegetated space within the maintained right-of-way.

The 1.2-acre portion of Ecological Core ID 47899 within the Tributary Station footprint would be cleared and graded by the parcel developer prior to Project construction, eliminating any habitat associated with the area. The Company will work with the appropriate jurisdictional agencies to minimize any impacts on ecological cores and protected species during implementation of the Project. Additional analysis on ecological core impacts can be found in the Environmental Routing Study.

Based on the CCB Virginia Eagle Nest Locator mapping portal, the Proposed Route and Alternative Routes do not intersect any primary or secondary buffers of currently documented bald eagle nests as identified in The Bald Eagle Protection Guidelines for Virginia (2012). According to the CCB database, the closest nest (Nest ID ST1301) is approximately 6.0 miles northeast of the Project area and was last documented as occupied in 2016. None of the route alternatives are within the 660-foot management buffer for the nest. The Company will work with the appropriate jurisdictional agencies to minimize impacts on this species.

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

For impacts on wildlife habitat (forested, agricultural, open space, and open water/waterbodies), see Section K.

No other natural heritage resources (habitat of rare, threatened, or endangered species, unique or exemplary natural communities, or significant geological formations) were identified within the study area by the DCR. Additionally, DCR-DNH concluded that the Project does not cross any State Natural Area Preserves under DCR's jurisdiction. See Attachment 2.G.1.

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 Project changes and/or six months have passed before this information is utilized.[7]

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

ERM conducted a Stage I Pre-Application Analysis ("Stage I Analysis") of potential impacts on cultural resources for the Proposed and Alternative Routes in accordance with the Virginia Department of Historic Resource's ("VDHR") *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008). A copy of the Stage I Analysis, which was provided to VDHR on September 30, 2024, is included as Attachment 2.I.1. For each route alternative, the analysis identified and considered previously recorded resources within the following study tiers as specified in the Guidelines:

- National Historic Landmark ("NHL") properties located within a 1.5-mile radius of each route centerline.
- National Register of Historic Places ("NRHP")-listed properties, NHLs, battlefields, and historic landscapes within a 1.0-mile radius of each route centerline.
- NRHP-eligible and -listed properties, NHLs, battlefields, and historic landscapes within a 0.5-mile radius of each route centerline.
- Qualifying architectural resources and archaeological sites located within the right-of-way for each alternative route.

Information on cultural resources within each of the above study tiers was obtained from the Virginia Cultural Resource Information System.

[7] The Company updated this commitment consistent with discussions held between Company and DCR-DNH representatives on August 23, 2022.

In addition to the V-CRIS, ERM collected information from Spotsylvania Historical Association (2024), Spotsylvania County (2024), and the African American Heritage Trail (2024) to find locally significant resources within a 1.0-mile radius of each route alternative's centerline. One locally significant resource was identified within the relevant study tiers for the various route options during the data collection effort. ERM also included architectural resources within a 1.0-mile radius of each centerline that were identified in a May 21, 2024, letter from Michele M. and Edward P. Schiesser to Dominion about sensitive resources in the area. These resources were included in the locally significant category.

ERM additionally collected information on battlefields surveyed and assessed by the National Park Service's American Battlefield Protection Program ("ABPP") (NPS 2023). No additional ABPP study areas, core areas, or potential NRHP boundaries for battlefields were identified within the relevant study tiers for the various route alternatives through this source.

Along with a records review carried out for the four tiers as defined by VDHR, ERM also conducted field assessments of the considered aboveground resources for the Proposed and Alternative Routes in accordance with the VDHR Guidelines. Digital photographs of each resource and views to the proposed transmission line were taken. All photographs were taken from the public right-of-way or where access to the property was granted. Photo simulations were prepared to assess potential viewshed impacts from construction of the proposed transmission line for each considered resource and relevant route. For previously recorded archaeological sites under consideration, aerial photographs were examined to assess the current land condition and the spatial relationship between the sites and any existing or planned transmission lines.

A summary of the considered resources identified in the vicinity of the Proposed and Alternative Routes, inclusive of the proposed Tributary Station, and recommendations concerning Project effects are provided in the following discussion. The information presented here derives from existing records and does not purport to encompass the entire suite of historic and archaeological resources that may ultimately be affected by the undertaking.

Resources located within the right-of-way of the Proposed and Alternative Routes may be subject to both direct impacts from placement of the transmission line structures across the property as well as indirect visual impacts from changes to the viewshed introduced by the new transmission infrastructure. Resources in the 0.0 to 0.5-mile study tier would not be directly impacted but would likely be visually impacted unless topography or vegetation obscures the view from the resource to the transmission line. At a distance over 0.5-mile, it becomes less likely that a resource would be within line-of-sight of the new transmission facilities. Beyond 1.0-mile, it becomes even less likely that a given resource would be within line-of-sight of the Project. A complete architectural survey is necessary to determine which resources would be visually impacted and to survey for additional unrecorded resources. This survey would be completed after the Commission approves the Project.

The nature of the impacts on cultural resources from construction and operation of the Project, while estimated in the study with the assistance of photo simulations, will depend on the final Project design in which the exact placement and height of transmission line structures are confirmed. As part of the forthcoming architectural survey, Project impacts on these and any newly identified resources would be assessed. The study area for the survey would be defined based on the height of the transmission line structures, topography, tree cover, and other factors impacting line-of-sight from resources to the route.

Proposed Route (Route 2)

Five aboveground historic resources were identified within the VDHR study tiers for the Proposed Route (Table I-1). Construction and operation of the new facilities along this route would have no impact on four resources (016-0094, 088-0100, 088-0143, and 088-0297) and a minimal impact on one resource (088-0256).

Spring Grove (016-0094) is a mid-nineteenth century Federal-style dwelling with associated outbuildings and is located approximately 0.4 mile to the southeast of the Proposed Route at MP 0.0. Nyland (088-0100) is a mid-nineteenth century Greek Revival dwelling and outbuilding that lies approximately 0.46 mile to the northeast of the Proposed Route at MP 0.0. La Vista (088-0143) is a Federal/Greek Revival dwelling built in 1838 and includes three outbuildings. It is located approximately 0.8 mile to the north of the Proposed Route at MP 1.3 while Coates House (088-0297), a late-nineteenth century Queen Anne dwelling with classical influences, lies approximately 0.7 mile to the northwest of the Proposed Route at MP 2.3 and about 0.7 mile to the northwest of the proposed Tributary Station. All four resources would not have any visibility towards the Proposed Route due to intervening vegetation and distance. Thus, the route would have no impact on 016-0094, 088-0100, 088-0143, and 088-0297.

Westwood (088-0256) includes a circa 1818 Federal dwelling and six outbuildings. It is located approximately 0.4 mile to the north of the Proposed Route at MP 0.4. The route uses a greenfield alignment until it connects to Dominion's existing Line #2090. The area between the resource and the route is densely wooded. The construction of the new transmission line is likely to be visible from this resource. Transmission line structures could be visible above the treeline from the dwelling to the north, towards Guinea Station Road. The top of one structure could be visible from the dwelling, while the tops of two to three structures could be visible from the front yard, and a very small portion near the road could have visibility to four to eight structures. However, the structures would only be visible slightly above the treeline, in the distance, and small from within the parcel boundary. The outbuildings (to the south of the dwelling) would have no visibility to the route and no other views would be altered by the route. While the change is minor, the construction would add a modern element to the southern viewshed where there currently is dense vegetation and forest. Thus, ERM recommends that the Proposed Route would have a minimal impact on 088-0256.

TABLE I-1 230 kV Line #2090 Extension and Tributary Switching Station Resources in VDHR Tiers for the Proposed Route (Route 2)				
Buffer (miles)	Considered Resources	VDHR #	Description	Impact
1.0-1.5	National Historic Landmarks	NA	NA	NA
0.5-1.0	National Register—Listed	088-0143	La Vista	None
	Battlefields/Historic Landscapes	NA	NA	NA
	Locally Significant	088-0297	Coates House	None
0.0- 0.5	National Register—Eligible	088-0100	Nyland	None
	Locally Significant	016-0094	Spring Grove	None
		088-0256	Westwood	Minimal
0.0 (within right-of-way)	National Historic Landmarks, National Register Properties (Listed and Eligible)	NA	NA	NA

NA = not applicable; VDHR = Virginia Department of Historic Resources

The Stage I Analysis also considered the potential effects to archaeological resources. However, no archaeological resources were identified within the Proposed Route right-of-way.

Alternative Route 3

Five aboveground historic resources were identified within the VDHR study tiers for Alternative Route 3 (Table I-1). Construction and operation of the new facilities along this route would have no impact on four resources (016-0094, 088-0100, 088-0143, and 088-0297) and a moderate impact on one resource (088-0256).

Spring Grove (016-0094) is a mid-nineteenth century Federal-style dwelling with associated outbuildings and is located approximately 0.4 mile to the southeast of Alternative Route 3 at MP 0.0. Nyland (088-0100) is a mid-nineteenth century Greek Revival dwelling and outbuilding that lies approximately 0.5 mile to the northeast of Alternative Route 3 at MP 0.0. La Vista (088-0143) is a Federal/Greek Revival dwelling built in 1838 and includes three outbuildings. It is located approximately 0.52 mile to the north of Alternative Route 3 at MP 1.0 while Coates House (088-0297), a late-nineteenth century Queen Anne dwelling with classical influences, lies approximately 0.7 mile to the northwest of Alternative Route 3 at MP 2.7 and about 0.7 mile to the northwest of the proposed Tributary Station. All four resources would not have any visibility towards Alternative Route 3 due to intervening vegetation and distance. Thus, the route would have no impact on 016-0094, 088-0100, 088-0143, and 088-0297.

Westwood (088-0256) includes a circa 1818 Federal dwelling and six outbuildings. It is located approximately 0.2 mile to the north of Alternative Route 3 at MP 0.7. The route uses a greenfield alignment until it connects to Dominion's existing Line #2090. The area between the resource and the route consists of dense forest and vegetation. According to the analysis, some structures could be visible from the northern half of the parcel. Transmission line structures could be visible above the treeline from the dwelling to the north, towards the road. The top of one structure could be visible from the dwelling, while the tops of two to eight structures could be visible from the northern edge, near the road. Although the tops of these structures would only be visible when looking to the south from the dwelling and front yard, there could be visibility of the structures through the trees from the southern edge of the parcel during leaf-off season. This would add more prominent modern infrastructure to the southern viewshed than it would for the Proposed Route. Thus, ERM recommends that Alternative Route 3 would have a Moderate Impact on 088-0256.

TABLE I-1
230 kV Line #2090 Extension and Tributary Switching Station
Resources in VDHR Tiers for Alternative Route 3

Buffer (miles)	Considered Resources	VDHR #	Description	Impact
1.0-1.5	National Historic Landmarks	NA	NA	NA
0.5-1.0	National Register—Listed	088-0143	La Vista	None
	Battlefields/Historic Landscapes	NA	NA	NA
	Locally Significant	088-0297	Coates House	None
0.0- 0.5	National Register—Eligible	088-0100	Nyland	None
	Locally Significant	016-0094	Spring Grove	None
		088-0256	Westwood	Moderate
0.0 (within right-of-way)	National Historic Landmarks, National Register Properties (Listed and Eligible)	NA	NA	NA

NA = not applicable; VDHR = Virginia Department of Historic Resources

The Stage I Analysis also considered the potential effects to archaeological resources. However, no archaeological resources were identified within the Alternative Route 3 right-of-way.

Alternative Route 4

Three aboveground historic resources were identified within the VDHR study tiers for Alternative Route 4 (Table I-3). Construction and operation of the new facilities along this route would have no impact on two resources (088-0143 and 088-0297) and a minimal impact on one resource (088-0256).

La Vista (088-0143) is a Federal/Greek Revival dwelling built in 1838 and includes three outbuildings. It is located approximately 0.5 mile to the northwest of Alternative Route 4 at MP 0.9 while Coates House (088-0297), a late-nineteenth century Queen Anne dwelling with classical influences, lies approximately 0.7 mile to the northwest of Alternative Route 4 at MP 2.9 and about 0.7 mile to the northwest of the proposed Tributary Station. Both resources would not have any visibility towards Alternative Route 4 due to intervening vegetation and distance. Thus, the route would have no impact on 088-0143 and 088-0297.

Westwood (088-0256) includes a circa 1818 Federal dwelling and six outbuildings. It is located approximately 0.4 mile to the southeast of Alternative Route 4 at MP 0.9. The route uses a greenfield alignment until it connects to Dominion's existing Line #2090. The area between the resource and the route consists of dense forest and vegetation. The construction of the new transmission line might be visible from portions of the eastern half of the parcel. However, only the top of one structure could be visible above the treeline from these locations when looking to the west. The vast majority of the resource would experience no viewshed change, including all of the structures associated with the resource. In addition, the view of the route would be in the distance, and small from within the parcel boundary. While the change is minor, the construction would add a modern element to the western viewshed where there currently is dense vegetation and forest. Thus, ERM recommends that Alternative Route 4 would have a minimal impact on 088-0256.

TABLE I-1
230 kV Line #2090 Extension and Tributary Switching Station
Resources in VDHR Tiers for Alternative Route 4

Buffer (miles)	Considered Resources	VDHR #	Description	Impact
1.0-1.5	National Historic Landmarks	NA	NA	NA
0.5-1.0	National Register—Listed	088-0143	La Vista	None
	Battlefields/Historic Landscapes	NA	NA	NA
	Locally Significant	088-0297	Coates House	None
0.0- 0.5	National Register—Eligible	NA	NA	NA
	Locally Significant	088-0256	Westwood	Minimal
0.0 (within right-of-way)	National Historic Landmarks, National Register Properties (Listed and Eligible)	NA	NA	NA

NA = not applicable; VDHR = Virginia Department of Historic Resources

The Stage I Analysis also considered the potential effects to archaeological resources. However, no archaeological sites were identified within the right-of-way for Alternative Route 4.

J. Chesapeake Bay Preservation Areas

Spotsylvania County is a locality subject to the Chesapeake Bay Preservation Act, 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. As such, RPAs are located around perennial waterbodies and associated wetland areas along the routes, including the Ni River.

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 minimum extent possible while safely and effectively constructing and maintaining this infrastructure.

K. Wildlife Resources

Forested, open water, agricultural, and open space land use areas and wetlands within the study area may provide wildlife habitat. Forested areas within the Alternative Route rights-of-way would be cleared of trees and converted to maintained vegetation, which would eliminate forest habitat and cover but may provide edge habitat or open space for some species. Waterbody habitat crossed by the Proposed and Alternative Routes would be spanned by the transmission line, with impacts to aquatic species limited to any temporary construction impacts associated with vegetation clearing adjacent to the waterbody and the elimination of riparian buffer benefits (erosion control, water filtration, habitat, and temperature control through shading). Impacts to agricultural and open space would be limited to structure placement if required and vegetation maintenance; the function of the land use would otherwise remain the same.

Proposed Route (Route 2)

The majority of the Proposed Route crosses forested (23.6 acres) land, with smaller amounts of agricultural (6.4 acres), and open space (0.1 acre). The Proposed Route would cross 14.1 acres of wetlands and 12 waterbodies, including seven perennial waterbodies.

Alternative Route 3

The majority of Alternative Route 3 crosses forested (29.3 acres) land, with smaller amounts of agricultural (6.2 acres), and open space (0.1 acre). Alternative Route 3 would cross 14.4 acres of wetlands and 11 waterbodies, including five perennial waterbodies.

Alternative Route 4

The majority of Alternative Route 4 crosses forested (31.0 acres) land, with smaller amounts of agricultural (6.2 acres), and open space (0.1 acre). Alternative Route 4 would cross 13.8 acres of wetlands and 11 waterbodies, including five perennial waterbodies.

L. Recreation, Agricultural, and Forest Resources

The Project is expected to have minimal incremental impacts on recreational, agricultural, and forest resources. Opportunities for collocation with other rights-of-way were limited within the study area due to lack of existing transmission infrastructure and few roads. Where the route or variation crosses agricultural lands, impacts would be limited to structure placement and agricultural activities could resume post construction. Where forested areas are crossed, trees would be removed and vegetation kept to maintained heights within the right-of-way.

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. According to the Virginia Department of Forestry ("VDOF") and the Spotsylvania County GIS Web LoGIStics map, there are no Agricultural and Forestal Districts crossed by the Project.

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

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 Managed Conservation Lands Database and the Protected Areas Database of the United States ("PAD-US"), there are no easements within 0.5 mile of the Proposed and Alternative Routes.

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 field-inspect the rights-of-way and designate any danger trees present. Qualified contractors working in accordance with the Company's Electric Transmission specifications will perform all danger tree cutting.

None of the route alternatives run parallel to or cross any Virginia Byways, Scenic Rivers, or Resource Protection Areas. Recreational, agricultural, and forest resources identified within 0.3 mile of the Proposed and Alternative Routes are discussed below. An assessment of impacts on these resources is provided in the Environmental Routing Study.

Proposed Route (Route 2)

The Proposed Route crosses approximately 23.6 acres of forested land (77.9% of the route) and 6.4 acres of agricultural land (21.1% of the route). NRCS soils data indicates approximately 4.1 acres of the Proposed Route right-of-way are classified as prime farmland and 0.8 acre are classified as farmland of statewide importance.

The right-of-way crosses approximately 0.2 mile (1.9 acre) of the southern end of the Fredericksburg/Washington DC South KOA Holiday campground (KOA campground) located south of Guinea Station Road.

Alternative Route 3

Alternative Route 3 crosses approximately 29.3 acres of forested land (82.1% of the route) and 6.2 acres of agricultural land (17.4% of the route). NRCS soils data indicates approximately 5.2 acres of Alternative Route 3 right-of-way are classified as prime farmland and 1.1 acres are classified as farmland of statewide importance.

The right-of-way crosses approximately 0.3 mile (3.5 acre) of the middle portion of the KOA Holiday KOA campground.

Alternative Route 4

Alternative Route 4 crosses approximately 31.0 acres of forested land (82.4% of the route) and 6.2 acres of agricultural land. NRCS soils data indicates approximately 1.9 acres of Alternative Route 4 right-of-way are classified as prime farmland and 8.2 acres are classified as farmland of statewide importance.

Alternative Route 4 crosses Guinea Station Road, which is a designated Scenic Byway and Civil War Trail (Lee vs. Grant Driving Route) and overlaps with the U.S. Bike Route 1 trail and the proposed Spotsylvania County Trailway improvement, mapped along Guinea Station Road through part of the Project Study area.

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 DCR-DNH representatives, the Company reviewed its Integrated Vegetation Management Plan ("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 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.[8]

N. Geology and Mineral Resources

The study area is located within the transitional zone of the Piedmont and Coastal Plain geologic provinces. The Piedmont geologic province is characterized by strongly weathered bedrock due to the humid climate, thick soils overlying saprolite (weathered bedrock), and rolling topography that becomes more rugged to the west near the Blue Ridge mountains. The Coastal Plain province, located between the Piedmont province and the Atlantic Ocean, is defined by a terraced landscape consisting of unconsolidated sediment material deposited from fluctuating sea levels and the repetitive growth and retreat of large continental glaciers (William and Mary Department of Geology 2023). Based on review of the Geologic Map of Virginia, each of the route alternatives encounter sections of unconsolidated, undifferentiated sediments deposited between the

[8] *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)*.

Cretaceous period (66 million years ago) and Quaternary period (2.6 million years ago to present).

ERM reviewed publicly available Virginia Department of Energy datasets (2023), USGS topographic quadrangles, and recent (2023) digital aerial photographs to identify mineral resources in the study area. Based on this review, no active mineral resources were identified within 0.25 mile of the route alternatives. The closest active mineral resource is located approximately 1.3-mile northwest of the Tributary Station. There are three inactive mineral resource sites within 0.25 mile of the route alternatives, the closest site being a sand and gravel prospect located approximately 0.1 mile south of Route 3. Because the closest active mineral resource site is located approximately 1.3-mile from the Project, it is not anticipated that construction and operation of the Project's transmission infrastructure will impact site operations (Virginia Energy 2023).

O. Transportation Infrastructure

Road and Railroad Crossings

The road network in the study area includes a variety of road types ranging from interstates (such as Interstate 95) to principal arterials (Patriot Highway/US Rt. 1), to local roads (such as Guinea Station Road, Flippo Drive, Church Pond Road, North Roxbury Mill Road, and South Woods Drive). Patriot Highway and Interstate 95 run approximately parallel along the western side of the study area. Each route alternative would require crossing Interstate 95. VDOT maintains the Interstate 95 right-of-way within the study area. No existing or planned railroads are found within the study area.

Due to the limited number of major roadways and the start and end points of the Project, none of the routes collocate with existing roads.

ERM reviewed the Spotsylvania County Transportation & Thoroughfare Plan and VDOT Northern Virginia District project website for upcoming projects within the study area to determine potential impacts of the Project on future road projects. There are no projects within the vicinity of the Proposed or Alternative Routes or Tributary Station that would be impacted by the construction of the Project.

<u>Proposed Route (Route 2)</u>

The Proposed Route crosses only one road (Interstate 95). The angle of crossing at Interstate 95 is perpendicular at approximate MP 2.2.

<u>Alternative Route 3</u>

Alternative Route 3 crosses only one road (Interstate 95). The angle of crossing at Interstate 95 is perpendicular at approximate MP 2.6.

Alternative Route 4

Alternative Route 4 crosses three roads (Guinea Station Rd, Beechwood Dr, and Interstate 95). The angle of crossing at Guinea Station Rd is acute at approximate MP 0.4. Beechwood Dr is also crossed at an acute angle at approximately MP 0.3. The angle of crossing at Interstate 95 is perpendicular at approximate MP 2.8.

Temporary closures of roads and or traffic lanes would be required during construction of the Proposed or Alternative Routes. No long-term impacts to roads are anticipated as a result of the Project. The Company will comply with VDOT and Spotyslvania County 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.

The Company communicated with VDOT on June 10, 2024, regarding the proposed Project, and VDOT provided feedback via email on July 9, 2024. VDOT indicated it takes no exception to the proposed crossings and provided a list of projects in the area. A copy of the VDOT email is included as Attachment 2.O.1.

Airports

The Federal Aviation Administration ("FAA") is responsible for overseeing air transportation in the United States. The FAA manages air traffic in the United States and evaluates physical objects that may affect the safety of aeronautical operations through an obstruction evaluation. The prime objective of the FAA in conducting an obstruction evaluation is to ensure the safety of air navigation and the efficient utilization of navigable airspace by aircraft.

The Company reviewed the Federal Aviation Administration's ("FAA") 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 nautical miles of the Project routes.

Airport/Heliport Name	Approximate Distance and Direction from Nearest Project Facility (nautical miles)	Use
Robbie Campbell Memorial Airfield Airport	1.2 nm southwest of the Proposed Route, Alternative Route 3, Alternative Route 4, and the Tributary Switching Station	Private
Spotsylvania Regional Medical Center Heliport	2.9 nm north of Alternative Route 4	Private
Woodford Airpark Airport	4.4 nm south of the Proposed Route, Alternative Route 3, and Alternative Route 4	Private

Airport/Heliport Name	Approximate Distance and Direction from Nearest Project Facility (nautical miles)	Use
Shannon Airport	5.5 nm north of Alternative Route 4's cut-in to nearest existing runway Primary Surface	Public
Mary Washington Hospital Heliport	8.3 nm north of Alternative Route 4's cut-in	Private
Mary Walker LZ Airport	8.6 nm southeast of the Proposed Route, and Alternative Route 3's cut-in	Private

The regulations that govern objects that may affect navigable airspace are codified in the Code of Federal Regulations, Title 14, Part 77. These regulations indicate that restrictions to structure heights only apply to public use airports and do not apply to privately owned airports. Of the 6 airports and heliports identified within 10 nautical miles of all the route alternatives, one airport is public-use (Shannon Airport), and one is a military-use airport (Mary Walker LZ Airport). None of the private facilities listed in are anticipated to have a conflict with the proposed route alternative locations.

ERM reviewed the height limitations associated with FAA defined imaginary surveys for all runways associated with Shannon and Mary Walker LZ Airports to determine whether any of the towers planned to be installed for the Project would penetrate any of the relevant flight surfaces for any runways.

The Shannon Airport is located approximately 5.5 nautical miles north of the Alternative Route 4 cut-in location, and the Mary Walker LZ Airport located approximately 8.6 nautical miles southeast of the Proposed route and Alternative route 3 cut-in location. Based on a review of these airports' runways and approach procedures, neither facility is in close enough proximity to any of the route alternatives to create overlap between a transmission structure and an FAA defined Civil/military Airport Imaginary Surfaces. In addition, none of the proposed structures associated with any of the route alternatives would exceed 200 feet above ground surface, and crane usage during construction will at no point create a temporary structure height exceeding 200 feet above ground surface. As such, no FAA notification thresholds are anticipated to be triggered, and unless specifically requested by the FAA, no notification to the FAA is anticipated to be required. If the FAA were to ask for additional information regarding the proposed Project, Dominion could be required to utilize FAA Form 7460-1, Notice of Proposed Construction or Alteration, pursuant to 14 CFR Part 77 for FAA notification. Any submittal would occur after a route is selected by the SCC during the permitting phase of the Project.

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 tower locations that meet the review criteria.

P. Drinking Water Wells

As a general matter, water wells within 1,000 feet of the Project may be outside of the transmission line corridor and may be located on private property. The Company does not have the ability or right to field-mark wells located 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

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

DATE
1 October 2024

SUBJECT
230 KV LINE #2090 EXTENSION AND TRIBUTARY SWITCHING STATION PROJECT

REFERENCE
0723442

Dear Ms. Rayfield:

Environmental Resources Management (ERM), on behalf of Virginia Electric and Power Company (Dominion Energy Virginia, Dominion, or the Company), conducted a desktop wetland and waterbody review of publicly available information for the proposed new 230 kilovolt (kV) line and Tributary Switching Station facilities in Spotsylvania County, Virginia. The Tributary Station and the 230 kV Line #2090 extension are collectively referred to as the Project. This review was completed using desktop resources and methodology. A field delineation is required to verify the accuracy and extent of aquatic resource boundaries. Project route alternatives are shown in Attachment 1, with wetland boundaries identified in this desktop review shown in Attachment 2.

Dominion Energy Virginia is filing an application with the State Corporation Commission (SCC) to:

The purpose and need for the Project is to provide transmission service to Rappahanock Electric Company (REC; the Customer), with the request being prompted by the growing data center development in the area; to maintain reliable service for the overall load growth in the area; and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards. To meet the Project purpose and need, Dominion proposes to:

Construct a new 230 kV delivery point switching station (Tributary Station), which will provide interconnection to REC to serve its customer, the SpotsyTech Campus, a planned mixed-use technology park development which includes a data center; and

Extend the Company's existing 230 kV Fredericksburg – Ladysmith CT Line #2090 by constructing a new double circuit overhead 230 kV line on new approximately 100-foot-wide right-of-way by cutting the Company's existing 230 kV Fredericksburg –

Ladysmith CT Line #2090. The cut in will result in (i) new 230 kV Line #2404, and (ii) 230 kV Line #2090 from Ladysmith CT to the proposed Tributary Station.[1]

The Project is necessary to assure that Dominion Energy Virginia is able to provide the service requested by REC in Spotsylvania County; maintain reliable service for the overall load growth in the area; and comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards.

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

This assessment did not include field investigations required for wetland delineations, as defined in the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and 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 wetland.

PROJECT STUDY AREA AND POTENTIAL ROUTES

A study area was developed encompassing the Project origin and termination points for the planned facilities (i.e., the proposed Project) as well as an area broad enough for the identification of reasonable route alternatives meeting the Project objectives. Additionally, and to the extent practicable, the limits of the study area were defined by reference to easily distinguishable landmarks, such as roads or other recognizable features.

Based on the above, ERM and Dominion defined the boundaries of the study area for the Project as follows:

- Patriot Highway and North Roxbury Mill Road to the west;
- The Po River to the south;

[1] Segments of Line #2090 (Fredericksburg – Ladysmith CT) will be renumbered several times as a result of other projects in the Fredericksburg – Ladysmith CT corridor. Line #2090 will be renumbered to 230 kV Line #2301 between Fredericksburg and Lee's Hill Substations, and to 230 kV Line #2335 between Lee's Hill and New Post Substations. After this Project is completed, 230 kV Line #2090 will again be renumbered to Line #2404 between New Post and Tributary Stations, with existing 230 kV Line #2090 extending between Tributary Station and Ladysmith CT only. See Appendix Attachments I.A.3, I.A.4, and I.A.5 for one-line diagrams of: (i) the existing transmission system in the Project load area, (ii) the Project load area after the New Post and Lee's Hill Substations are built, and (iii) the Project load area after the Project is energized.

- Massaponax High School and Heartland Way to the north; and
- Existing Line #2090 to the east.

The study area identified for the Project encompasses approximately 9.5 square miles within Spotsylvania County. The Project origin is the Company's existing 230 kV Fredericksburg-Ladysmith CT Line (Line #2090), terminating at the proposed Tributary Station located on the west side of Interstate 95 (I-95). There are no incorporated cities within the study area. Land use and land cover consists of a mix of industrial and commercial development, open land, and forested areas along Ni River and associated tributaries. The largest forested/undeveloped areas are associated with riparian areas along Ni River waterways. Commercial developments, including three recent or future data center campuses, are within the study area. The study area is shown in Attachment 1.

Dominion identified four potential cut-in locations along the Company's existing Line #2090, and five potential route alternatives associated with these cut-ins. Of these, three potential cut-in locations and their associated routes (Routes 2, 3, and 4) were retained for further analysis, while the others were eliminated. Descriptions of these routes are provided in the subsections below.

ROUTE ALTERNATIVES

ROUTE 2

Route 2 extends from a tap along the Company's existing Line #2090 to the proposed Tributary Station. The tap is approximately 0.5 mile south of where the existing transmission line crosses Guinea Station Road along the southern boundary of the study area. From there, Route 2 heads west/northwest for about 0.4 mile, passing through forested land before angling southwest through forest for about 0.7 mile, passing through a portion of the KOA campground and crossing the Ni River. On the south side of the Ni River, the route turns west, crossing agricultural and forested land for about 1.2 miles and crossing I-95. On the west side of I-95 the route turns north for about 0.1 mile and enters the Tributary Station.

Route 2 measures approximately 2.4 miles long. The right-of-way for this alternative (28.1 acres) and the proposed Tributary Station site (2.2 acres) would encompass a combined 30.3 acres.

ROUTE 3

Route 3 extends from the same point as Route 2 (a tap along the Company's existing Line #2090 about 0.5 mile south of Guinea Station Road) to the proposed Tributary Station. From here, Route 3 heads west/northwest for about 0.4 mile before turning north/northwest for about 0.3 mile. At this point the route turns west and crosses the KOA campground. On the west edge of the campground, the route turns southwest/south for about 0.5 mile,

paralleling an undeveloped, forested parcel boundary and crossing the Ni River. On the south side of the river, the route turns west, intersecting and following the same alignment as Route 2 for the remaining 1.3 miles to the Tributary Station.

Route 3 measures approximately 2.8 miles long. The right-of-way for this alternative (33.5 acres) and the proposed Tributary Station site (2.2 acres) would encompass a combined 35.7 acres.

ROUTE 4

Route 4 extends from a tap along the Company's existing Line #2090 approximately 0.7 mile north of the intersection of the existing transmission line and Guinea Station Road along the southern boundary of the study area. From here, Route 4 heads southwest/south for about 1.1 mile, passing through forested land and crossing Guinea Station Road. Just west of the KOA campground, the route intersects with and shares an alignment with Routes 2 and 3, turning west/southwest for about 0.5 mile and then west for about 1.2 mile, crossing I-95 and turning north into the Tributary Station.

Route 4 measures approximately 3.0 miles long. The right-of-way for this alternative (35.4 acres) and the proposed Tributary Station site (2.2 acres) would encompass a combined 37.6 acres.

DESKTOP EVALUATION METHODOLOGY

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

- National Agricultural Imagery Program (NAIP) aerial imagery flown December 2023, (NAIP 2023)
- USA NAIP Imagery: Color Infrared NAIP Infrared Images, Virginia, 1-meter pixel resolution (NAIP 2024)
- USA NAIP Imagery: Natural Color Images (2010-2022), Virginia, 1-meter pixel or better resolution (NAIP 2024a)
- Google Earth Aerial Imagery (Google LLC 2024)
- ESRI World Elevation Terrain 2-foot contours (ESRI et al. 2024)
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) mapping (USFWS 2023)
- U.S. Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) Soil Survey Geographic (SSURGO) database (USDA-NRCS 2023)
- The National Hydrography Dataset Plus High Resolution (NHD) (USGS 2024)

NATURAL COLOR AND INFRARED AERIAL PHOTOGRAPHY

Recent (2023) natural color aerial photography was used to provide a visual overview of the Project area and to assist in evaluating current conditions. Infrared aerial photography was used to identify the potential presence of wetlands based on signatures associated with the levels of reflectance. For example, areas that are inundated with water appear very dark (almost black) due to the low level of reflectance in the infrared spectrum. The presence of these dark colors can be used as a potential indicator of hydric or inundated soils that are likely associated with wetlands.

TOPOGRAPHIC MAPS

Recent ESRI world topographic maps show the topography of the area as well as other important landscape features such as forest cover, development, buildings, agricultural areas, streams, lakes, and wetlands (USGS 2024; ESRI et al., 2024).

USFWS NATIONAL WETLAND INVENTORY MAPPING

NWI maps provide the boundaries and classifications of potential wetland areas as mapped by the USFWS (USFWS 2023). NWI data is based primarily on aerial photo interpretations with limited ground-truthing and may represent incorrect boundaries or wetland cover types. NWI data can be unreliable in some areas, especially in forested landscapes, where aerial photography is used as the major data source. The classifications of the majority of the NWI polygons in the study area appear to be accurate based on a review of the cover types observed in the aerial photography. However, in areas where there was an obvious discrepancy between the NWI classification and the aerial photography, ERM modified the classification to more accurately reflect current conditions. In order to acknowledge ERM's adjustment of NWI classifications where appropriate, all the wetland types referenced in this assessment are referred to as "assigned wetland cover types" regardless of whether the cover type was modified from the NWI classification.

USDA-NRCS SOILS DATA

Soils in the study area were identified and assessed using the SSURGO database, which is a digital version of the original county soil surveys (USDA-NRCS 2023). The attribute data within the SSURGO database provides the proportionate extent of the component soils and their properties (e.g., hydric rating) for each soil map unit. The soils in the study area were grouped into three categories based on the hydric rating of the component soils within each map unit: hydric, partially hydric, and non-hydric. Hydric soils were defined as those where the major component soils, and minor components in some cases, are designated as hydric. Hydric components in these map units account for more than 80 percent of the map unit. Partially hydric soils include map units that only contain minor component soils that are designated as hydric. The partially hydric map units in the Project area contain 10 percent or less hydric soils. The remaining map units do not contain any component soils that are designated as

hydric. Areas mapped as hydric or partially hydric have a higher probability of containing wetlands than areas with no hydric soils.

USGS NATIONAL HYDROGRAPHY DATASET

The National Hydrography Dataset (NHD) dataset contains features such as lakes, ponds, streams, rivers, and canals (USGS 2024). The waterbodies mapped by the NHD appeared generally consistent with those visible on the USGS maps and aerial photography.

PROBABILITY ANALYSIS

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

- Infrared and natural color aerial photography was used in conjunction with topographic maps and soils maps to identify potential wetland areas. Boundaries were assigned to the areas that appeared to exhibit wetland signatures based on this review and a cover type was determined based on aerial photo interpretation. For the purpose of the study, these areas are referred to as Interpreted Wetlands.
- To further determine the probability of a wetland occurring within a given location, the Interpreted Wetland polygon shape files were digitally layered with the NWI mapping and soils information from the SSURGO database.
- The probability of a wetland occurring was assigned based on the number of overlapping data layers (i.e., indicators of potential wetland presence) that occurred in a particular area.

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

TABLE 1: CRITERIA USED TO RANK THE PROBABILITY OF WETLAND OCCURRENCE

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

WETLAND AND WATERBODY CROSSINGS

The desktop analysis provides a probability of wetlands and waterbody occurrence within each route, with wetlands and waterbodies classified based on the Cowardin classification system described below:

- Palustrine Emergent (PEM) wetlands – characterized by erect, rooted, herbaceous hydrophytes (i.e., aquatic plants) and woody species less than 3 feet in height, excluding mosses and lichens;
- Palustrine Scrub-Shrub (PSS) wetlands – characterized by woody vegetation, excluding woody vines, approximately 3 to 20 feet in height;
- Palustrine Forested (PFO) wetlands – characterized by woody vegetation, excluding woody vines, approximately 20 feet or more in height and 3 in. or larger diameter at breast height (DBH);
- Palustrine Unconsolidated Bottom (PUB) open waters – characterized by bottom substrate particles smaller than stones (less than 10 inches) covering greater than 25 percent of the area, with plants covering less than 30 percent of the area; and
- Riverine streams – channels containing periodically or continuously moving water (USFWS 2013).

As stated above, field delineations were not performed and would be required to verify the accuracy and extent of aquatic resource boundaries. A range of wetland occurrence probabilities are reported by this study from very low to high. The probability of wetland occurrence increases as multiple indicators begin to overlap towards the "high" end of the spectrum. The medium, medium-high, and high probability categories are the most

reliable representation of in-situ conditions, due to overlapping data sets, and these categories are reported in the summary below as a percentage of the total acreage of each route. Attachment 2 depicts the interpreted wetlands displayed on color base map images.

RESULTS

Results of the probability analysis are presented in Table 2 below. Summaries are provided in the sections following the table. No wetlands or waterbodies were identified within the 2.2-acre Tributary Switching Station footprint.

TABLE 2: SUMMARY OF THE PROBABILITIES OF WETLAND AND WATERBODY OCCURRENCE ALONG THE ROUTE ALTERNATIVES [a,b]

Probability	Total Within Right-of-way (acres)[c]	Wetland and Waterbody type (acres)				
		PEM (Emergent)	PFO (Forested)	PSS (Scrub Shrub)	PUB (Freshwater pond)	Riverine (Stream)
Route 2						
High	1.4	NA	1.3	NA	NA	0.1
Medium/High	8.9	NA	4.5	4.2	NA	0.2
Medium	3.8	NA	1.5	2.2	NA	0.1
Medium/Low	NA	NA	NA	NA	NA	NA
Low	NA	NA	NA	NA	NA	NA
Very Low	NA	NA	NA	NA	NA	NA
Route 3						
High	1.8	NA	1.7	NA	NA	0.0
Medium/High	8.1	NA	3.9	4.0	NA	0.2
Medium	4.5	NA	2.3	2.1	NA	0.1

Probability	Total Within Right-of-way (acres)[c]	Wetland and Waterbody type (acres)				
		PEM (Emergent)	PFO (Forested)	PSS (Scrub Shrub)	PUB (Freshwater pond)	Riverine (Stream)
Medium/Low	NA	NA	NA	NA	NA	NA
Low	NA	NA	NA	NA	NA	NA
Very Low	NA	NA	NA	NA	NA	NA
Route 4						
High	1.8	NA	1.7	NA	NA	0.0
Medium/High	8.2	NA	4.0	4.0	NA	0.2
Medium	3.8	NA	1.6	2.1	NA	0.1
Medium/Low	NA	NA	NA	NA	NA	NA
Low	NA	NA	NA	NA	NA	NA
Very Low	NA	NA	NA	NA	NA	NA

NA: Not applicable due to absence of wetland or waterbody type within the alternative route

a Numbers in this table have been rounded for presentation purposes; as a result, the totals may not reflect the sum of the addends.

b Acreages include the proposed 2.2-acre Tributary Switching Station.

c Total acres may not total the sum of wetland and waterbody types because some of the lower probability rankings do not overlap with NWI or interpreted wetlands, and therefore do not have a wetland/waterbody type associated with them.

WETLAND CROSSINGS

Within the study area, most wetlands are forested and are generally concentrated around the Ni River that runs from the northwest portion of the study area to the southeast of the study area. In particular there is a large, contiguous forested wetland area mapped by the NWI between the existing line #2090 and I-95. Riverine (stream) and PUB (open water features) are described in the Waterbody Crossings section below.

ROUTE 2

The length of the corridor for Tributary Route 2 is approximately 2.4 miles and encompasses a total of approximately 30.3 acres (including the 2.2-acre Tributary Switching Station footprint). Based on the methodology discussed above, the right-of-way footprint will encompass approximately 46.5 percent (14.1 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Based on ERM's desktop wetland and waterbody analysis, the Route 2 right-of-way would cross approximately 14.1 acres of wetlands and waterbodies, including 7.3 acres of PFO, 6.4 acres of PSS, 0.4 acres of RVR wetlands.

ROUTE 3

The length of the corridor for Tributary Route 3 is approximately 2.8 miles and encompasses a total of approximately 35.7 acres (including the 2.2-acre Tributary Switching Station footprint). Based on the methodology discussed above, the right-of-way footprint will encompass approximately 40.3 percent (14.4 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Based on ERM's desktop wetland and waterbody analysis, the Route 3 right-of-way would cross approximately 14.4 acres of wetlands and waterbodies, including 7.9 acres of PFO, 6.1 acres of PSS, 0.3 acre of RVR wetlands.

ROUTE 4

The length of the corridor for Tributary Route 4 is approximately 3.0 miles and encompasses a total of approximately 37.6 acres (including the 2.2-acre Tributary Switching Station footprint). Based on the methodology discussed above, the right-of-way footprint will encompass approximately 36.8 percent (13.8 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Based on ERM's desktop wetland and waterbody analysis, the Route 4 right-of-way would cross approximately 13.8 acres of wetlands and waterbodies, including 7.4 acres of PFO, 6.1 acres of PSS, 0.3 acre of RVR wetlands.

WATERBODY CROSSINGS

ERM identified and mapped waterbodies in the study area using similar publicly available GIS databases as those used to identify and map wetlands. Waterbody counts crossed by the route alternatives are summarized in Table 3 below. Waterbodies crossed by the Tributary Routes include the Ni River and Po River, unnamed, intermittent tributaries to these waterbodies, and open waterbody features. No waterbodies were identified within the Tributary Switching Substation footprint. Based on field observations by qualified Dominion staff, the high number of streams present within the project area is attributable to prior land use. The geomorphology (e.g., lack of meanders, intervals across the floodplain) indicates

anthropogenic origins, likely resulting from efforts to drain the wetlands through which the streams currently flow.

TABLE 3: WATERBODIES CROSSED BY THE ROUTE ALTERNATIVES

Waterbodies Crossed	Unit	Route 2	Route 3	Route 4
NHD-Mapped Perennial Streams/Rivers [a]	Number	7	5	5
NHD-Mapped Intermittent Streams/Rivers [a]	Number	5	6	6
Total	**Number**	**12**	**11**	**11**

a Source: USGS NHD (NHD 2023)

ROUTE 2

Route 2 would have a total of twelve waterbody crossings that are NHD-mapped, including 7 perennial waterbodies (Ni River, 6 unnamed, perennial tributaries to Ni River), and 5 unnamed, intermittent streams. As described above, based on ERM's desktop wetland and waterbody analysis, the right-of-way for Route 2 would encompass approximately 0.4 acre of riverine streams.

ROUTE 3

Route 3 would have a total of eleven waterbody crossings that are NHD-mapped, including 5 perennial waterbodies (Ni River, 4 unnamed, perennial tributaries to Ni River), and 6 unnamed, intermittent streams. As described above, based on ERM's desktop wetland and waterbody analysis, the right-of-way for Route 3 would encompass approximately 0.3 acre of riverine streams.

ROUTE 4

Route 4 would have a total of eleven waterbody crossings that are NHD-mapped, including 5 perennial waterbodies (Ni River, 4 unnamed, perennial tributaries to Ni River), and 6 unnamed, intermittent streams. As described above, based on ERM's desktop wetland and waterbody analysis, the right-of-way for Route 4 would encompass approximately 0.3 acre of riverine streams.

PROJECT IMPACTS

Avoiding or minimizing new impacts on wetlands and streams was among the criteria used in developing routes for the Project. To minimize impacts on wetland areas, the transmission

line has been designed to span or avoid wetlands and waterbodies where possible, keeping transmission structures outside of aquatic resources to the extent practicable.

The majority of potential direct impacts on wetlands due to Project construction would be temporary in nature. Mats would be used for construction equipment to travel over wetlands, as appropriate. Due to the absence of an existing right-of-way, some new access roads may be necessary along the route. If a section of line cannot be accessed from existing roads, Dominion Energy Virginia may need to install a culvert, ford, or temporary bridge along the right-of-way to cross small streams. In such cases, some temporary fill material in wetlands adjacent to such crossings may be required. This fill would be placed on erosion control fabric and removed when work is completed, returning ground elevations to original contours. When siting transmission lines, perpendicular crossings of wetland systems are prioritized to minimize direct impacts to these sensitive areas and reduce overall impacts to the watershed.

Direct impacts would be limited to placement of structures within wetlands, if unavoidable, and the permanent conversion of PSS/PFO wetlands within the proposed right-of-way to PSS or PEM type wetlands.

There would be no change in contours of wetlands and waterbodies, or redirection of the flow of water, and the amount of spoil from foundations and structure placement would be minimal. Excess soil in wetlands generated through foundation construction would be mitigated through Best Management Practices (erosion and sediment controls) and would be removed from the wetland.

Required tree removal adjacent to waterbodies would reduce riparian buffer functions such as stream bank stabilization and erosion control, nutrient and sediment filtration, floodwater storage and peak flow reduction, habitat diversity, and water temperature modification from shading. Where the removal of trees or shrubby vegetation occurs within wetlands, Dominion Energy Virginia would use the least intrusive method reasonably possible to clear the corridor. Within the stream buffers (100 feet), and as needed to minimize impacts to wetlands, trees and vegetation will be hand felled and stumps left in place to reduce the potential for erosion. Shrubs and trees with a diameter at breast height of less than three inches will be left in place unless it impedes temporary access where they would be clipped, leaving roots in place which will be able to naturally regenerate. Vegetation within the right-of-way would be allowed to return to maintained grasses and shrubs after construction, which would provide some filtration stabilization to help protect waterbodies from pollutants.

SUMMARY

This Wetland and Waterbody Summary report was prepared in accordance with the Memorandum of Agreement between the DEQ and the SCC for the purpose of initiating a Wetlands Impact Consultation. Please note that a formal onsite wetland delineation was not conducted as part of this review.

DATE
1 October 2024

REFERENCE
0723442

In addition, there is a Project website where the SCC application will be available after filing, as well as maps and discussions about the Project. It can be accessed by going to: https://www.dominionenergy.com/tributary.

If you have any questions regarding this wetland assessment, please contact me at 860-817-2972 or by email at jake.bartha@erm.com.

Sincerely,

Jake Bartha
Environmental Resources Management

cc: Lucas Dupont, Dominion Energy Virginia
Blair Parks, Dominion Energy Virginia

Enclosures: Attachments 1 and 2

REFERENCES

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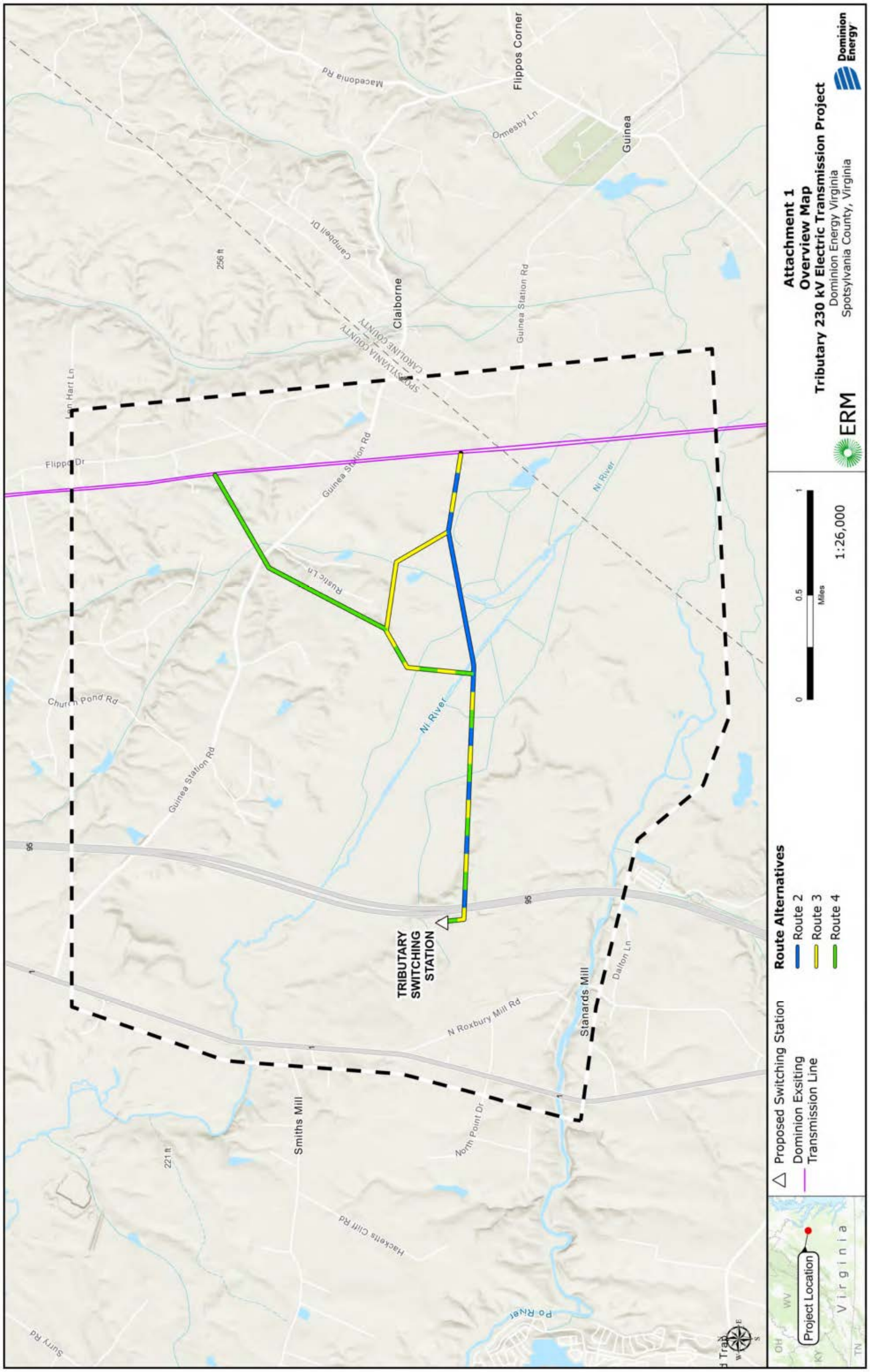
ATTACHMENT 1


Attachment 1
Overview Map
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia
ERM
Dominion Energy
1:26,000
0
0.5
1
Miles
Route Alternatives
Route 2
Route 3
Route 4
Proposed Switching Station
Dominion Exsiting Transmission Line
Project Location
Virginia
TRIBUTARY SWITCHING STATION
Flippos Corner
Guinea
Claiborne
Stanards Mill
Smiths Mill
Macedonia Rd
Ormesby Ln
Campbell Dr
Guinea Station Rd
Rustic Ln
Church Pond Rd
Flippo Dr
Ni River
N Roxbury Mill Rd
North Point Dr
Dalton Ln
Hacketts Cliff Rd
Po River
Surry Rd
SPOTSYLVANIA COUNTY
CAROLINE COUNTY
256 ft
221 ft
95

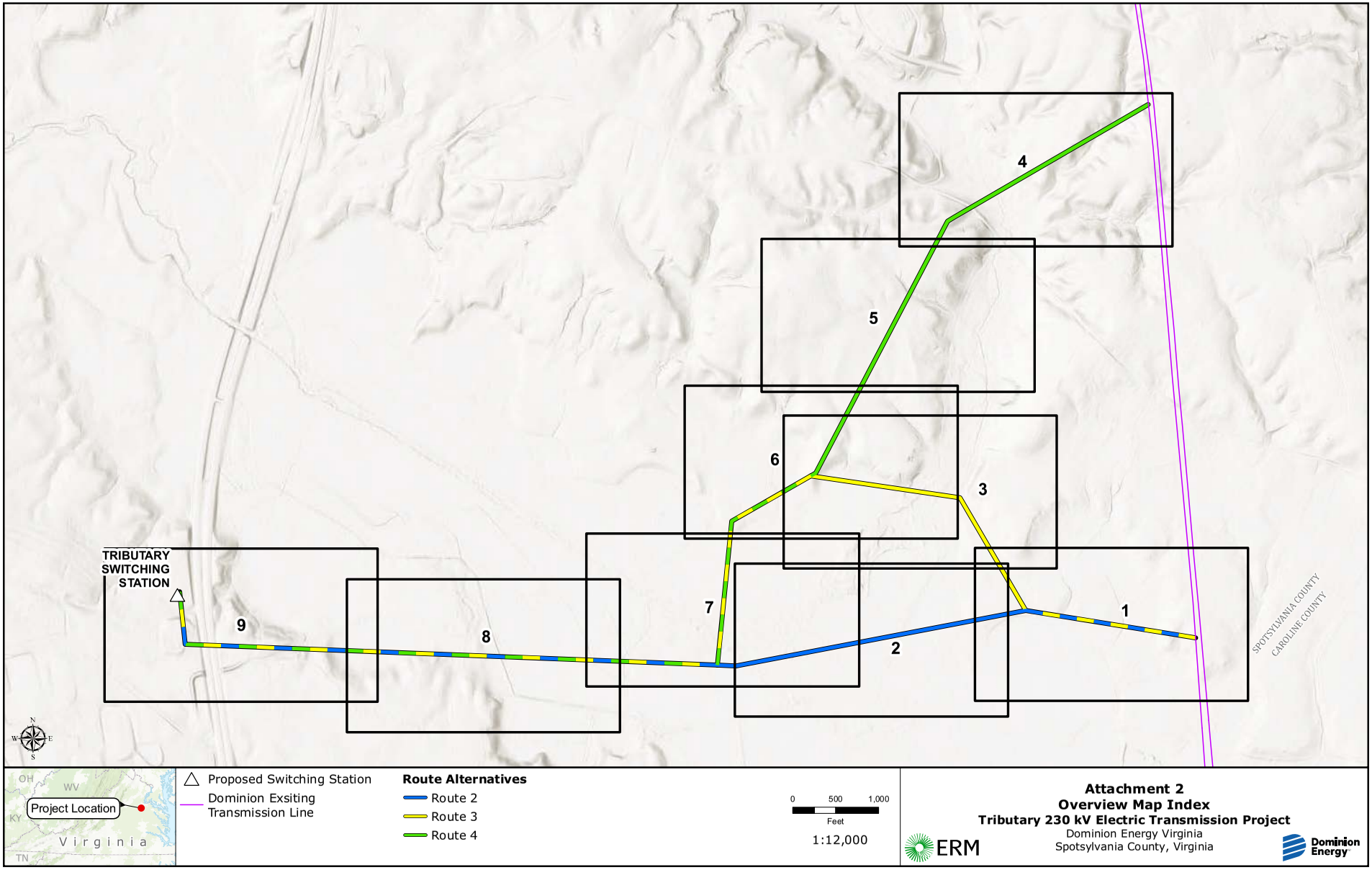
222 South 9th Street
Suite 2900
Minneapolis, Minnesota 55402

T +0 804 253 1090
F +0 804 253 1091

erm.com

ATTACHMENT 2

The wetlands and waterbodies depicted on this map are an estimate of possible wetland and waterbody extent based on desktop data review only, and are subject to change in extent and location based on actual field delineation of wetlands and waterbodies



Attachment 2
Overview Map Index
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia

ERM

Dominion Energy

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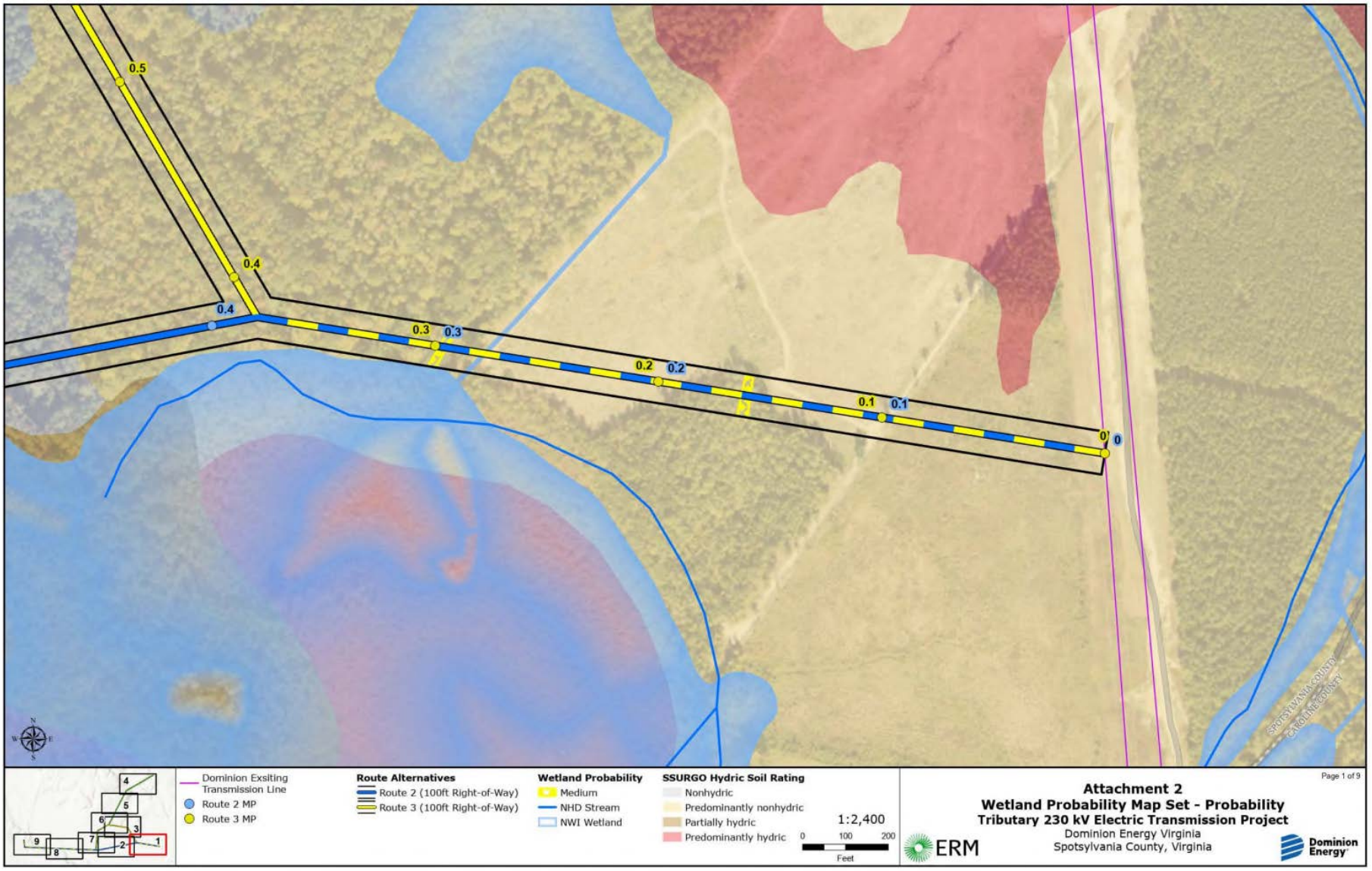
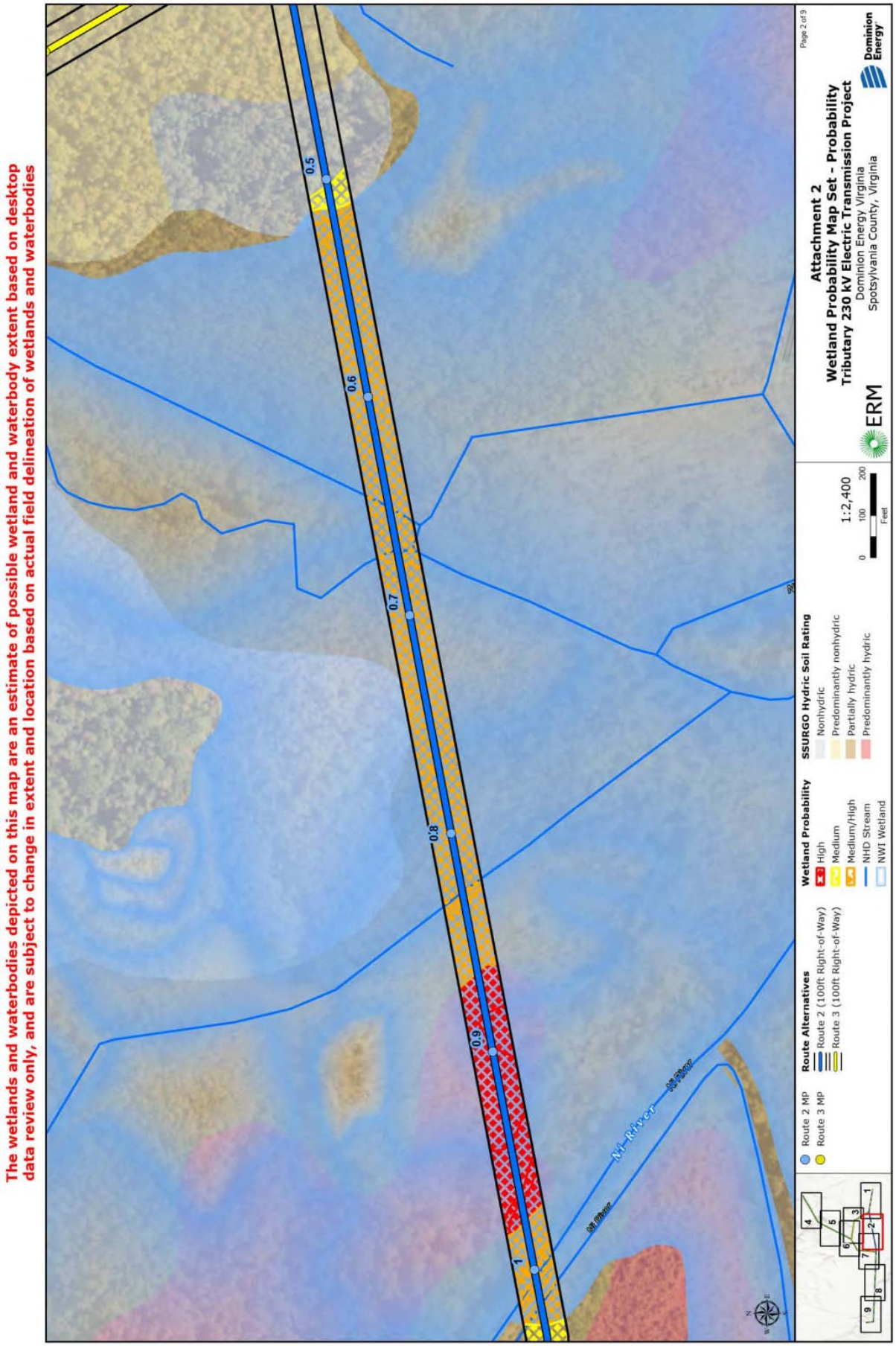
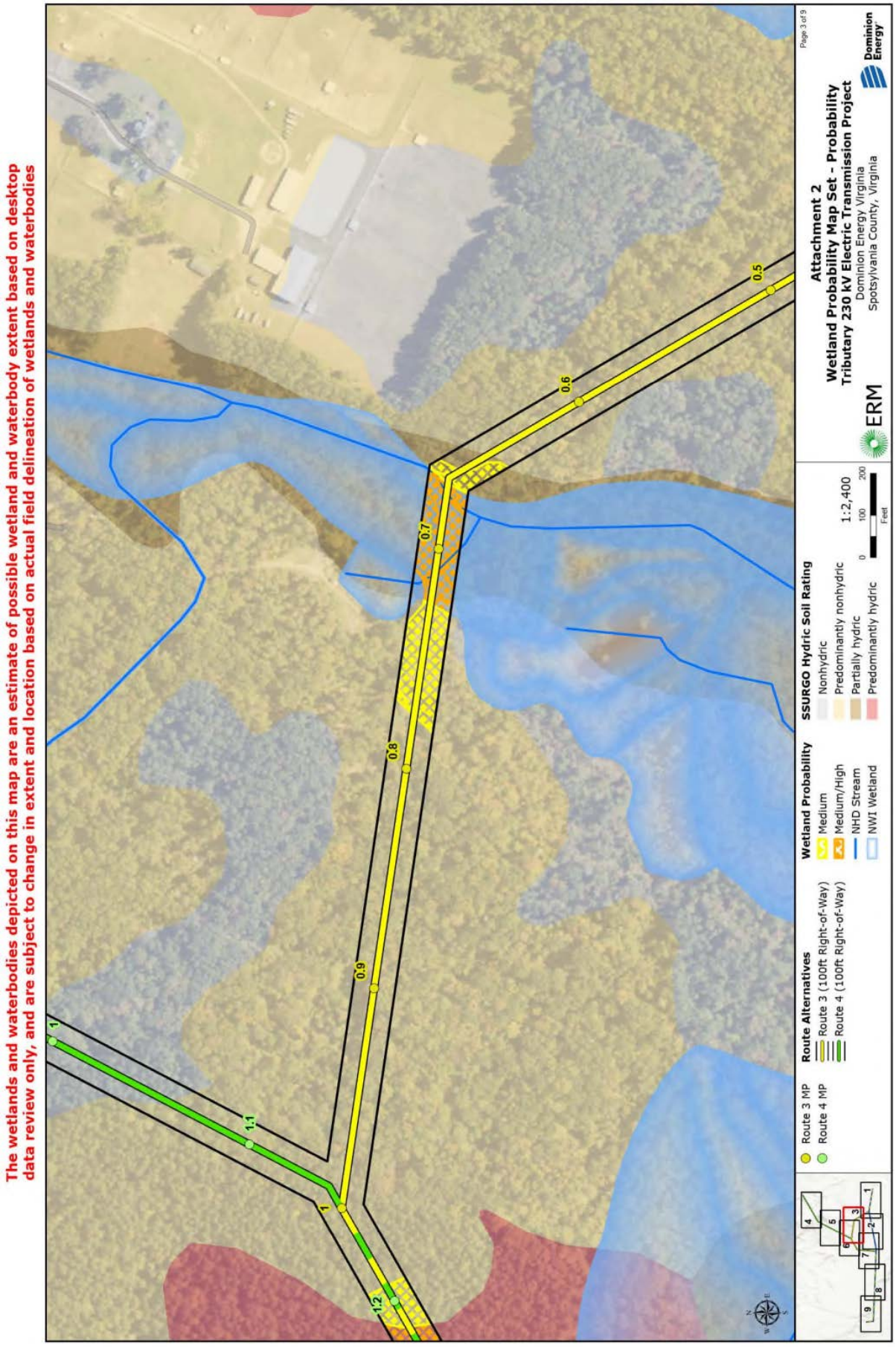
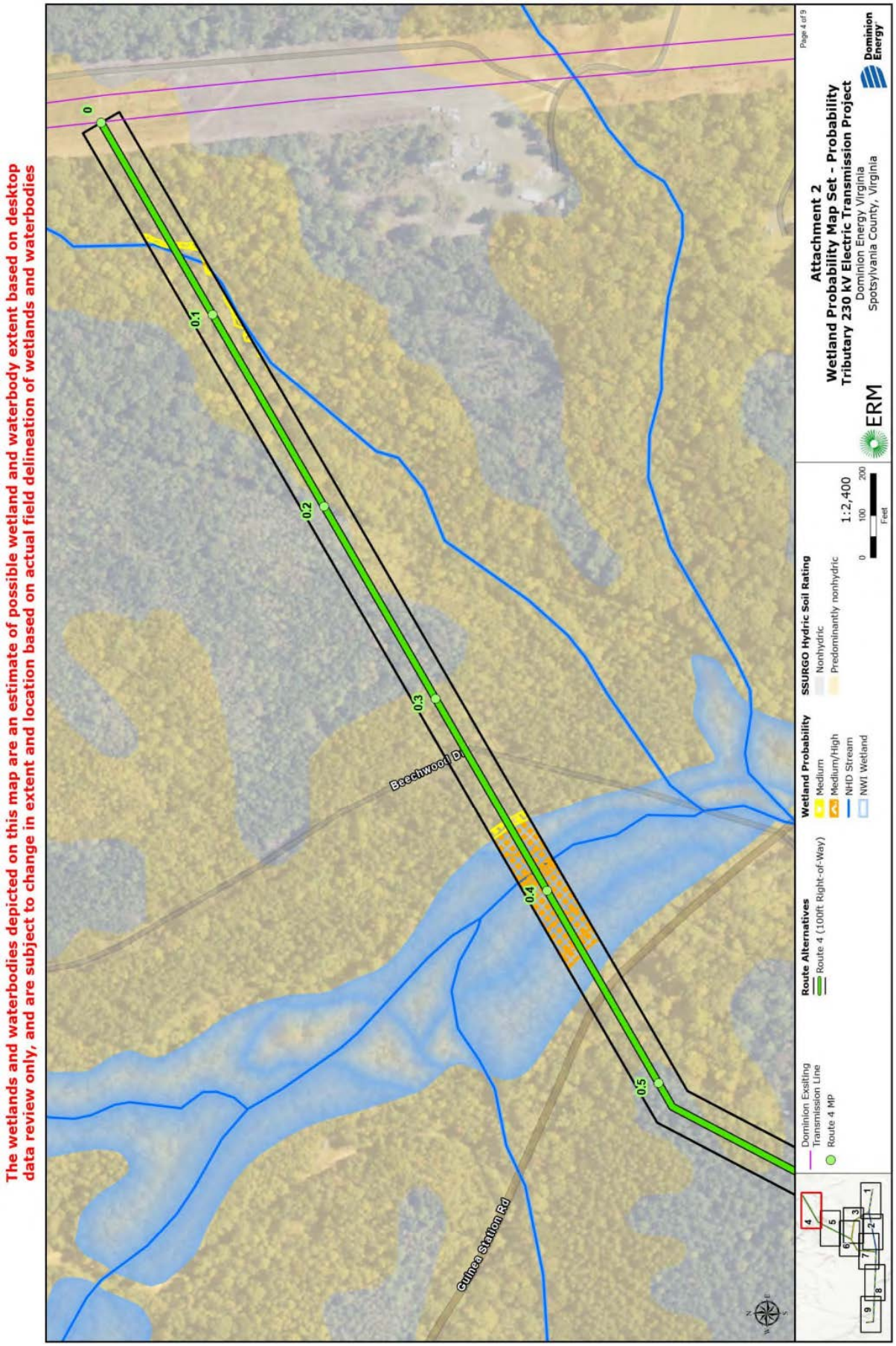


Page 1 of 9

Attachment 2
Wetland Probability Map Set - Probability
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia


The wetlands and waterbodies depicted on this map are an estimate of possible wetland and waterbody extent based on desktop data review only, and are subject to change in extent and location based on actual field delineation of wetlands and waterbodies
0.5
0.6
0.7
0.8
0.9
1
Mattaponi River
Route 2 MP
Route 3 MP
Route Alternatives
Route 2 (100ft Right-of-Way)
Route 3 (100ft Right-of-Way)
Wetland Probability
High
Medium
Medium/High
NHD Stream
NWI Wetland
SSURGO Hydric Soil Rating
Nonhydric
Predominantly nonhydric
Partially hydric
Predominantly hydric
1:2,400
0
100
200
Feet
Page 2 of 9
Attachment 2
Wetland Probability Map Set - Probability
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia
ERM
Dominion Energy


The wetlands and waterbodies depicted on this map are an estimate of possible wetland and waterbody extent based on desktop data review only, and are subject to change in extent and location based on actual field delineation of wetlands and waterbodies
Route 3 MP
Route 4 MP
Route Alternatives
Route 3 (100ft Right-of-Way)
Route 4 (100ft Right-of-Way)
Wetland Probability
Medium
Medium/High
NHD Stream
NWI Wetland
SSURGO Hydric Soil Rating
Nonhydric
Predominantly nonhydric
Partially hydric
Predominantly hydric
1:2,400
0
100
200
Feet
Page 3 of 9
Attachment 2
Wetland Probability Map Set - Probability
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia
ERM
Dominion Energy
1
1.1
1
1.2
0.9
0.8
0.7
0.6
0.5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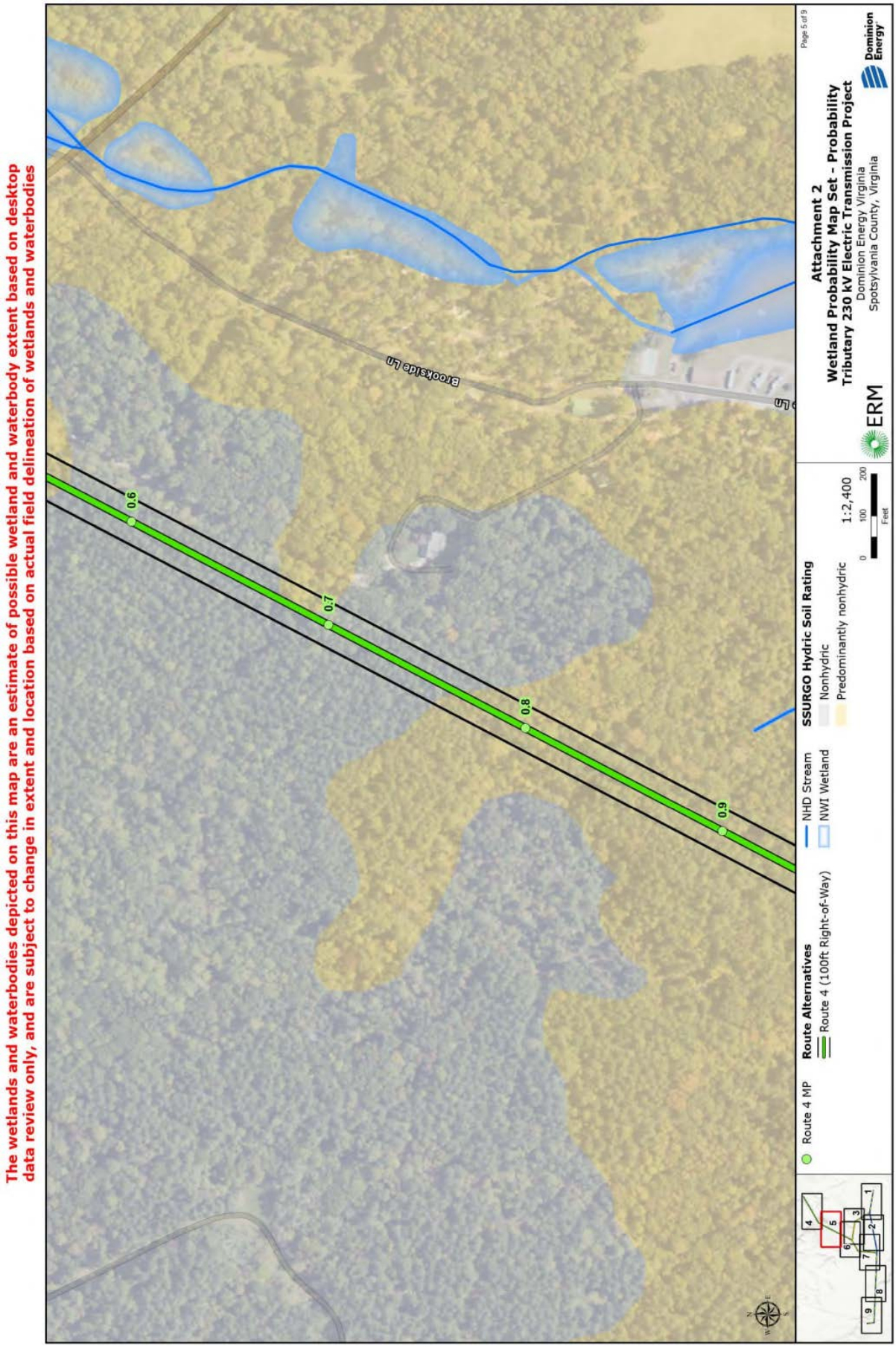
0
0.1
0.2
0.3
0.4
0.5
Beechwood Dr
Guinea Station Rd
Dominion Existing Transmission Line
Route 4 MP
Route Alternatives
Route 4 (100ft Right-of-Way)
Wetland Probability
Medium
Medium/High
NHD Stream
NWI Wetland
SSURGO Hydric Soil Rating
Nonhydric
Predominantly nonhydric
1:2,400
0
100
200
Feet
Page 4 of 9
Attachment 2
Wetland Probability Map Set - Probability
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia
ERM
Dominion Energy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Brookside Ln
0.6
0.7
0.8
0.9
Route 4 MP
Route Alternatives
Route 4 (100ft Right-of-Way)
NHD Stream
NWI Wetland
SSURGO Hydric Soil Rating
Nonhydric
Predominantly nonhydric
1:2,400
0
100
200
Feet
Page 5 of 9
Attachment 2
Wetland Probability Map Set - Probability
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia
ERM
Dominion Energy

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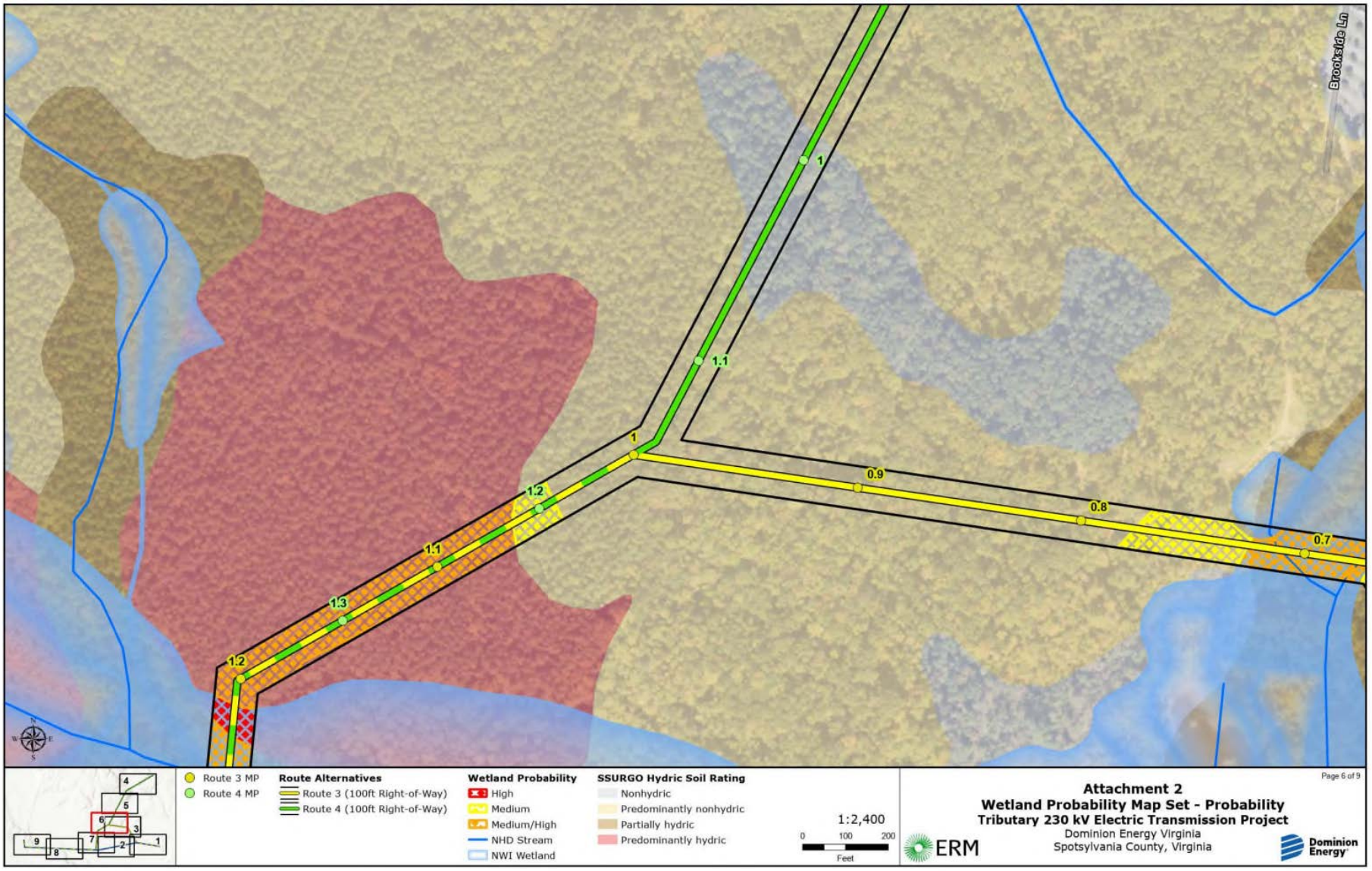

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Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia

ERM

Dominion Energy

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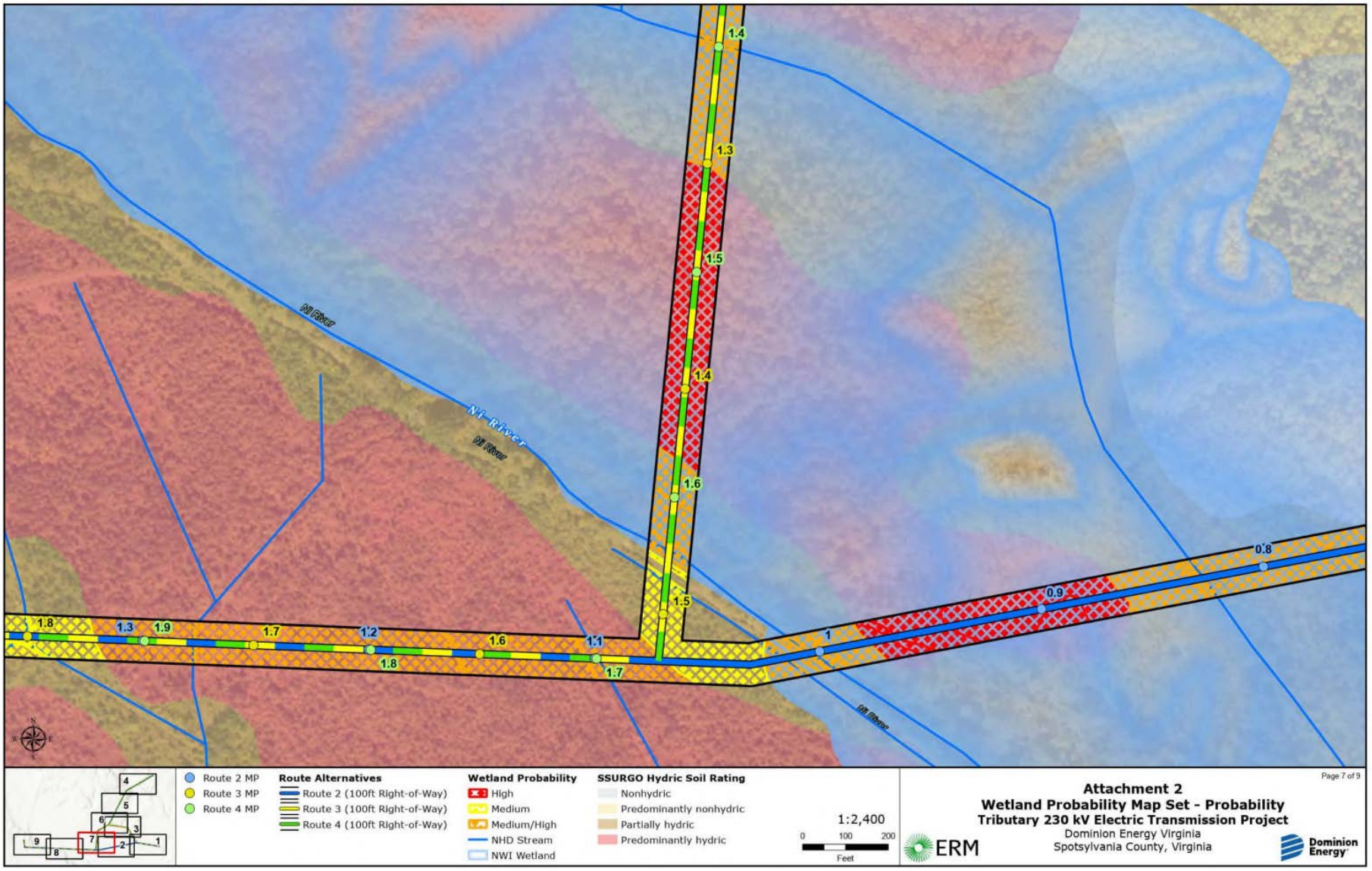

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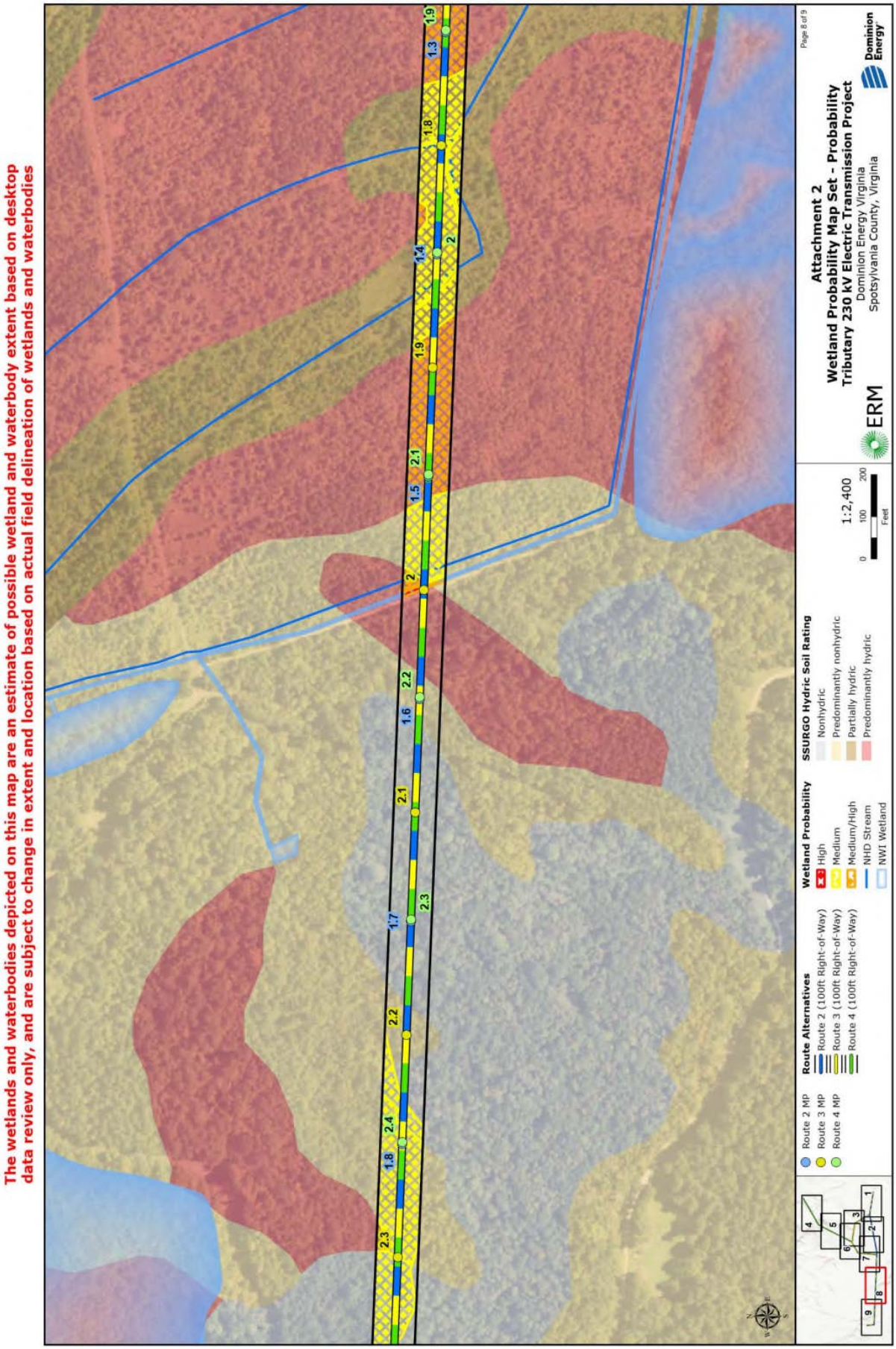
Attachment 2
Wetland Probability Map Set - Probability
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia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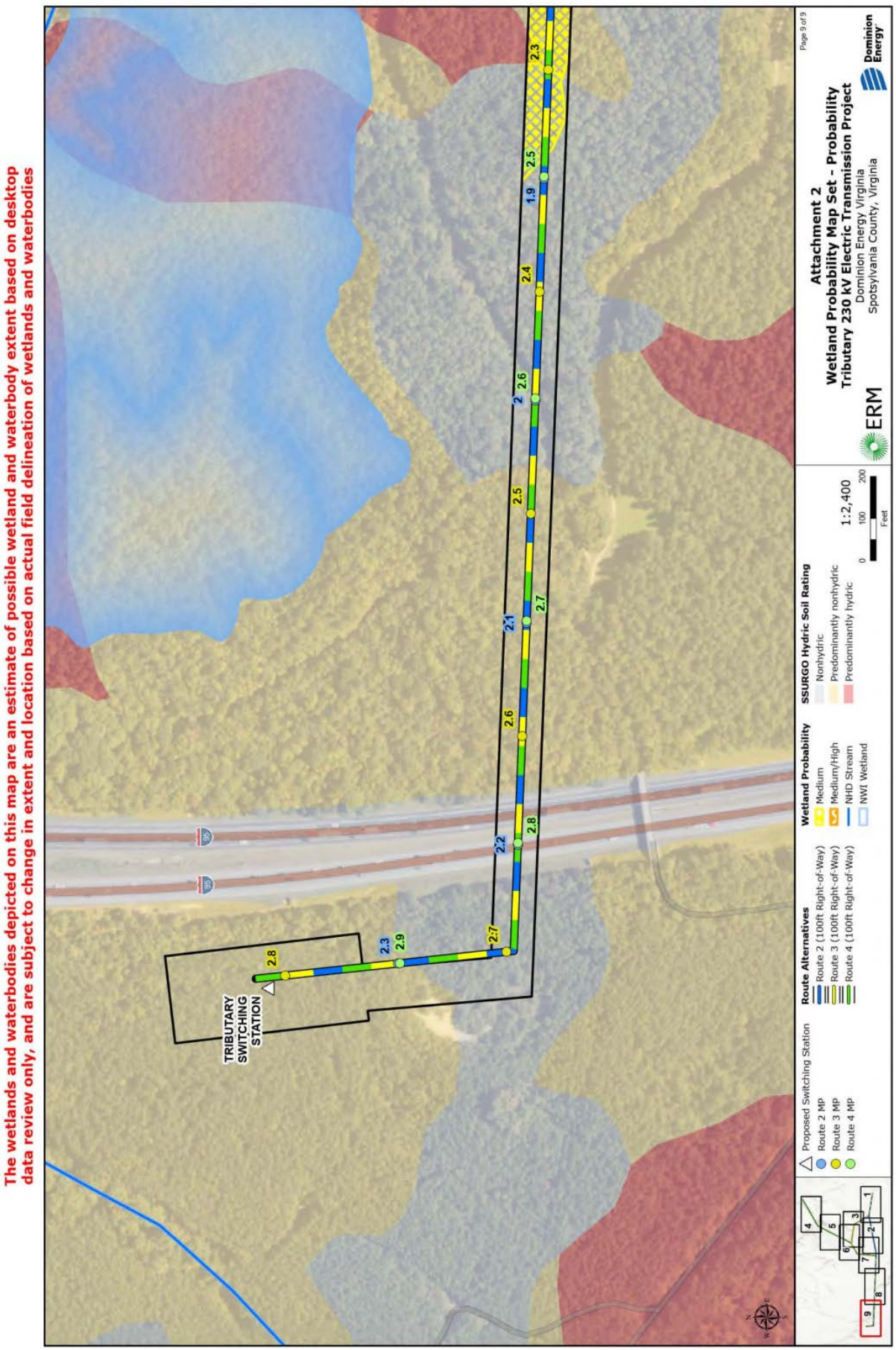
Route 2 MP
Route 3 MP
Route 4 MP
Route Alternatives
Route 2 (100ft Right-of-Way)
Route 3 (100ft Right-of-Way)
Route 4 (100ft Right-of-Way)
Wetland Probability
High
Medium
Medium/High
NHD Stream
NWI Wetland
SSURGO Hydric Soil Rating
Nonhydric
Predominantly nonhydric
Partially hydric
Predominantly hydric
1:2,400
0
100
200
Feet
Page 8 of 9
Attachment 2
Wetland Probability Map Set - Probability
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia
ERM
Dominion Energy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TRIBUTARY SWITCHING STATION
Proposed Switching Station
Route 2 MP
Route 3 MP
Route 4 MP
Route Alternatives
Route 2 (100ft Right-of-Way)
Route 3 (100ft Right-of-Way)
Route 4 (100ft Right-of-Way)
Wetland Probability
Medium
Medium/High
NHD Stream
NWI Wetland
SSURGO Hydric Soil Rating
Nonhydric
Predominantly nonhydric
Predominantly hydric
1:2,400
0
100
200
Feet
Page 9 of 9
Attachment 2
Wetland Probability Map Set - Probability
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia
ERM
Dominion Energy

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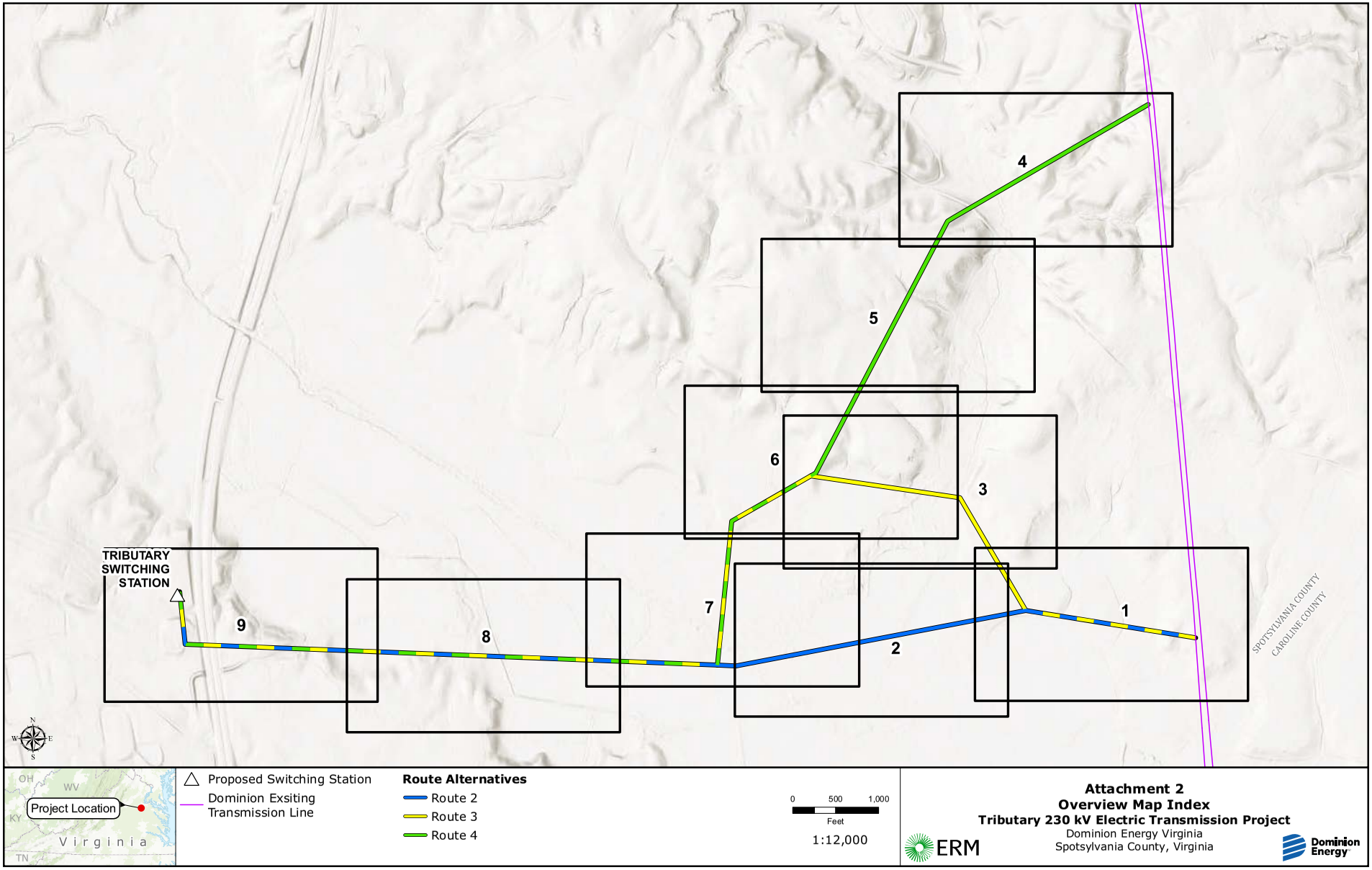


△ Proposed Switching Station

Dominion Exsiting Transmission Line

Route Alternatives

Route 2

Route 3

Route 4

0 500 1,000

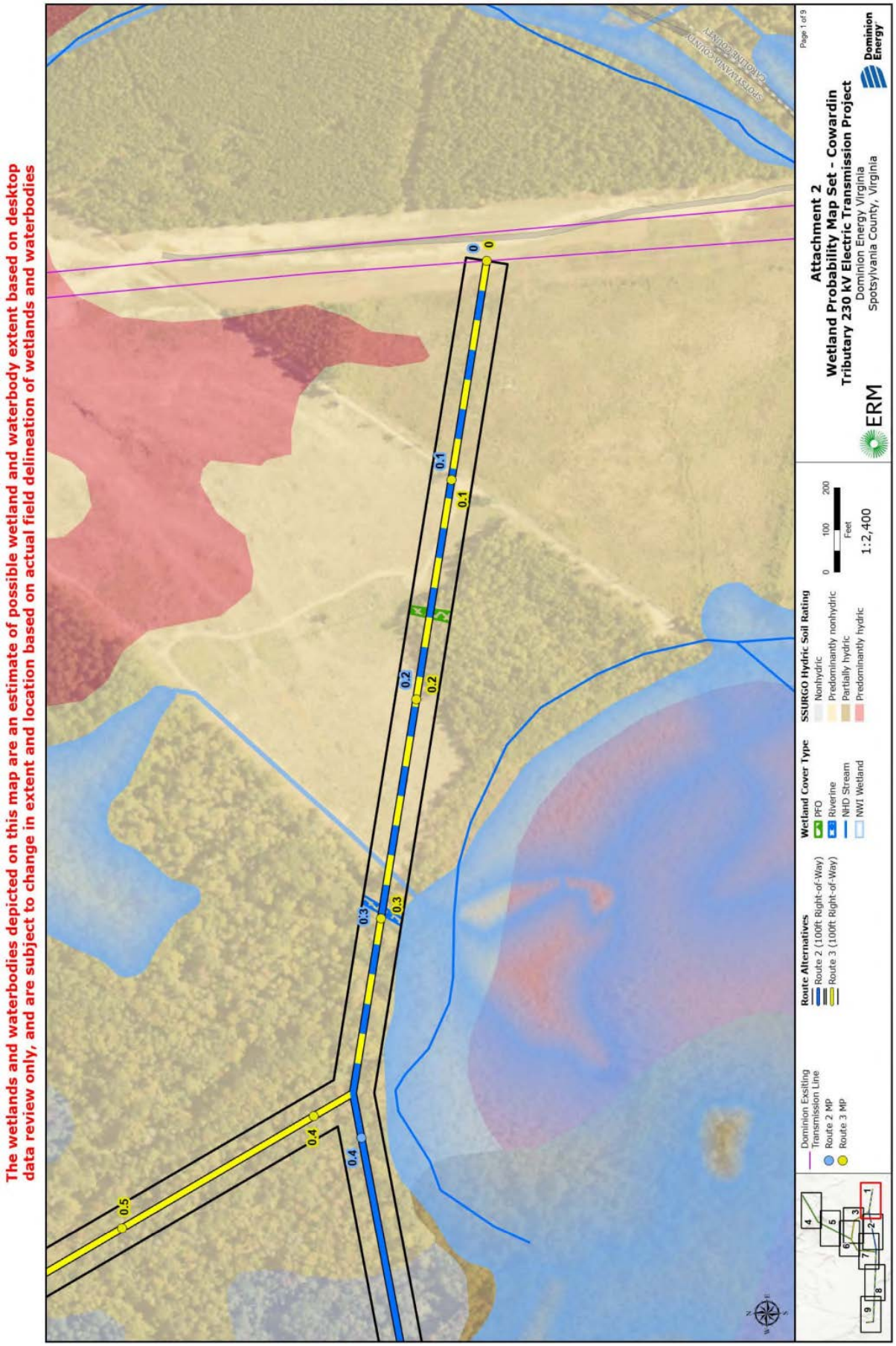
Feet

1:12,000

Attachment 2
Overview Map Index
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia

ERM

Dominion Energy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Attachment 2
Wetland Probability Map Set - Cowardin
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia
ERM
Dominion Energy
Page 1 of 9
Dominion Existing Transmission Line
Route 2 MP
Route 3 MP
Route Alternatives
Route 2 (100ft Right-of-Way)
Route 3 (100ft Right-of-Way)
Wetland Cover Type
PFO
Riverine
NHD Stream
NWI Wetland
SSURGO Hydric Soil Rating
Nonhydric
Predominantly nonhydric
Partially hydric
Predominantly hydric
0
100
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Feet
1:2,400
0.5
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0.2
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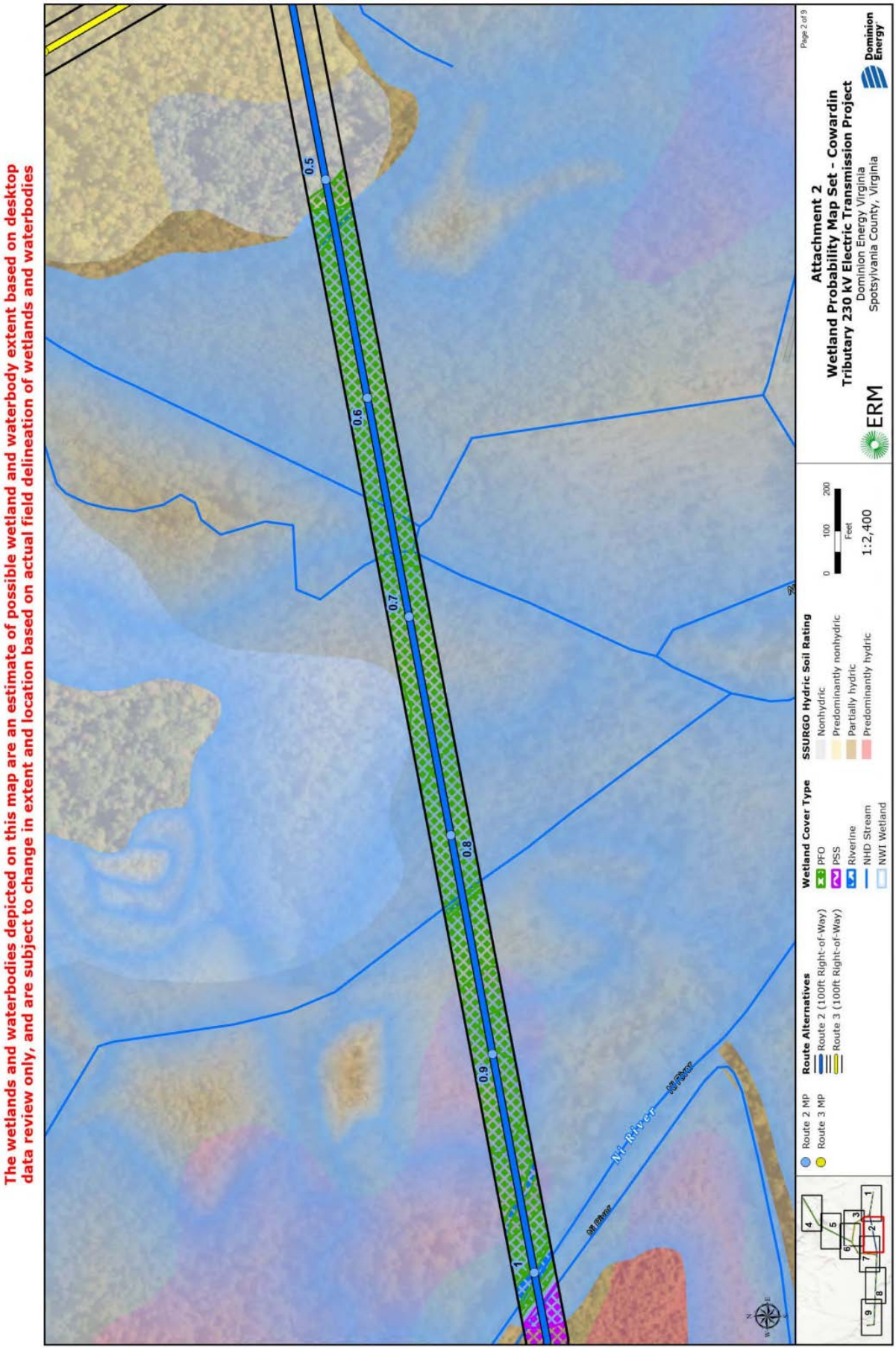
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Route Alternatives
Route 2 (100ft Right-of-Way)
Route 3 (100ft Right-of-Way)
Route 2 MP
Route 3 MP
Wetland Cover Type
PFO
PSS
Riverine
NHD Stream
NWI Wetland
SSURGO Hydric Soil Rating
Nonhydric
Predominantly nonhydric
Partially hydric
Predominantly hydric
0
100
200
Feet
1:2,400
Page 2 of 9
Attachment 2
Wetland Probability Map Set - Cowardin
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia
ERM
Dominion Energy
0.5
0.6
0.7
0.8
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1
N
W
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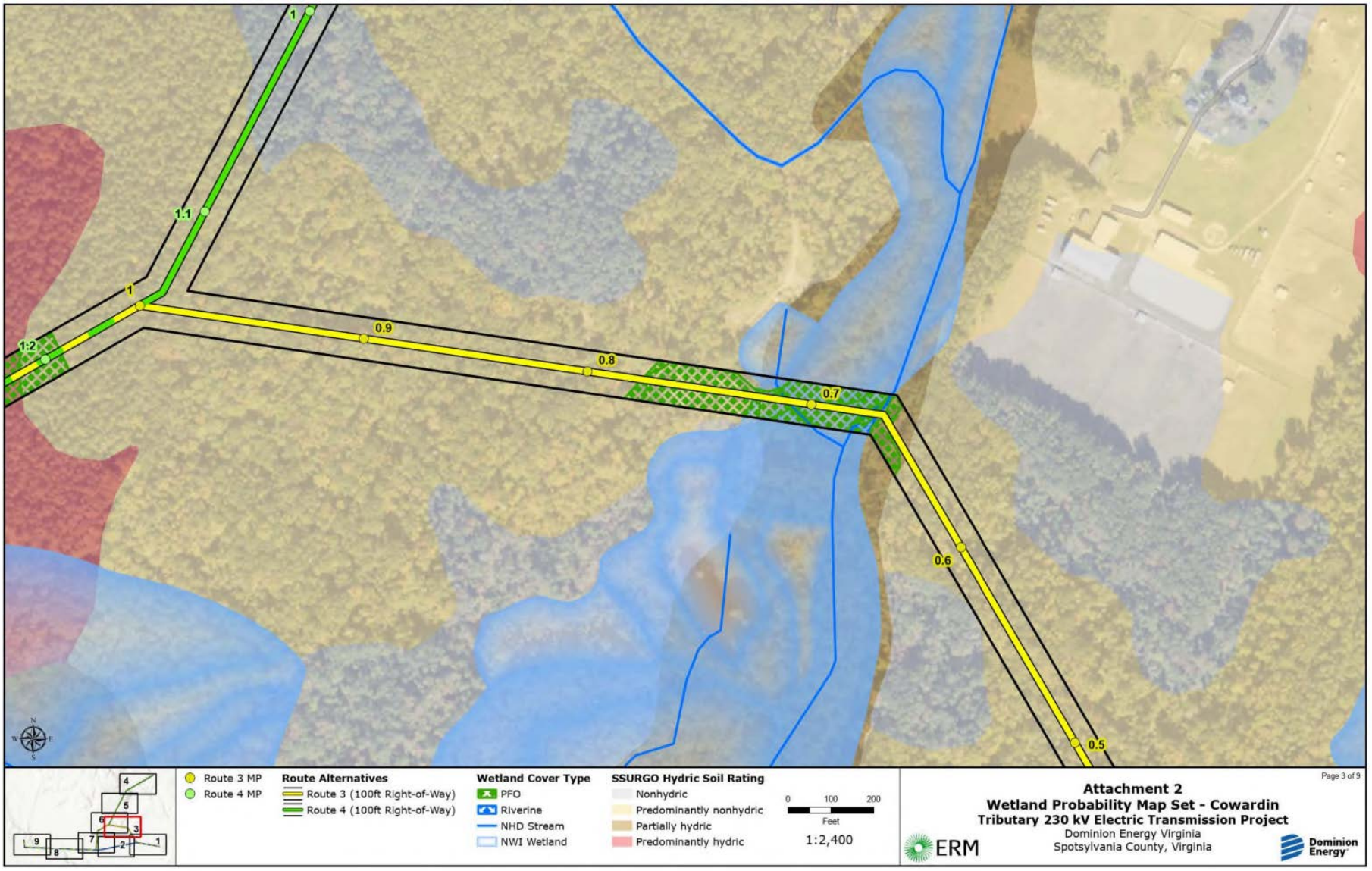
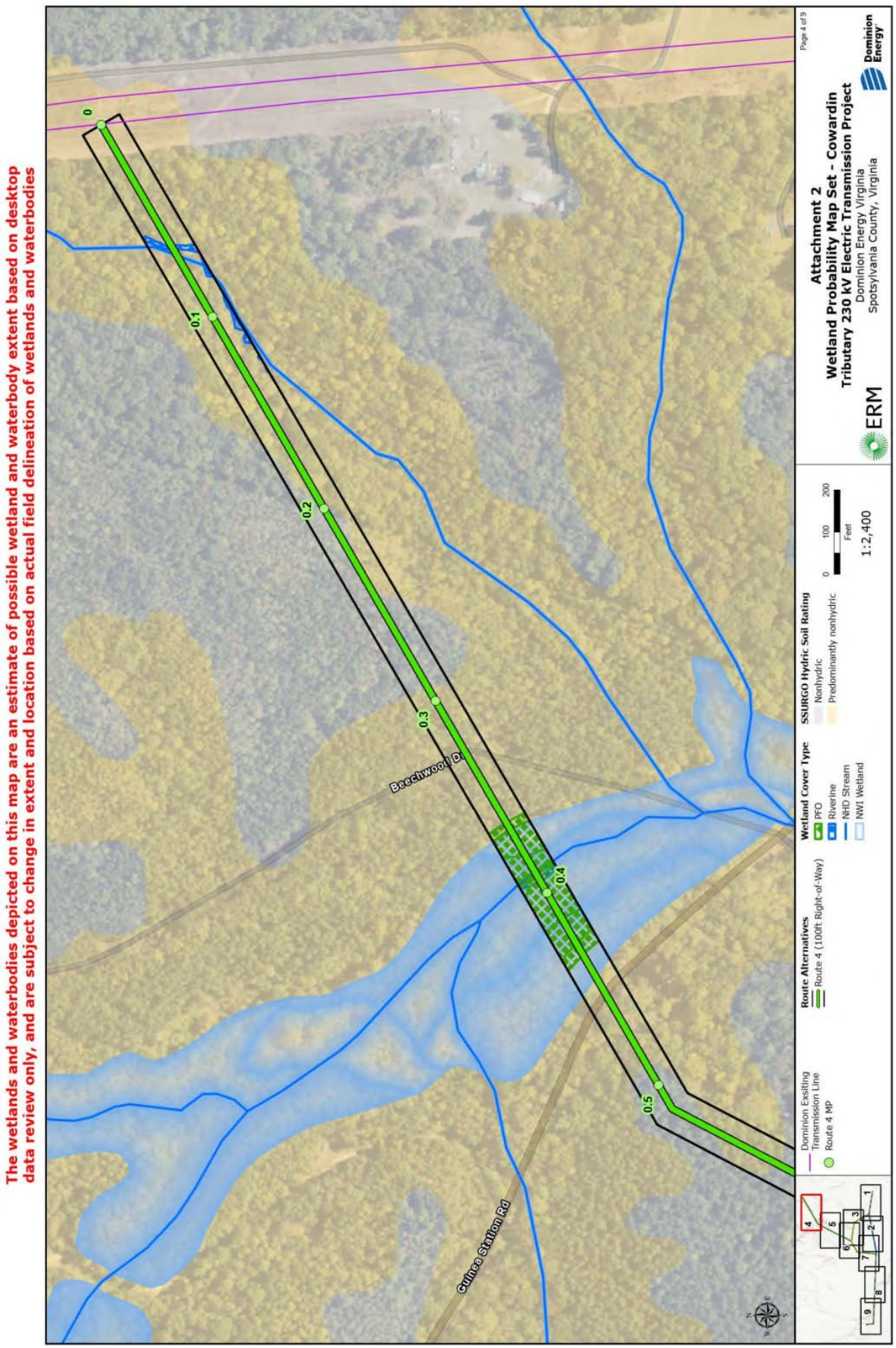
The wetlands and waterbodies depicted on this map are an estimate of possible wetland and waterbody extent based on desktop data review only, and are subject to change in extent and location based on actual field delineation of wetlands and waterbodies



Page 3 of 9

Attachment 2
Wetland Probability Map Set - Cowardin
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia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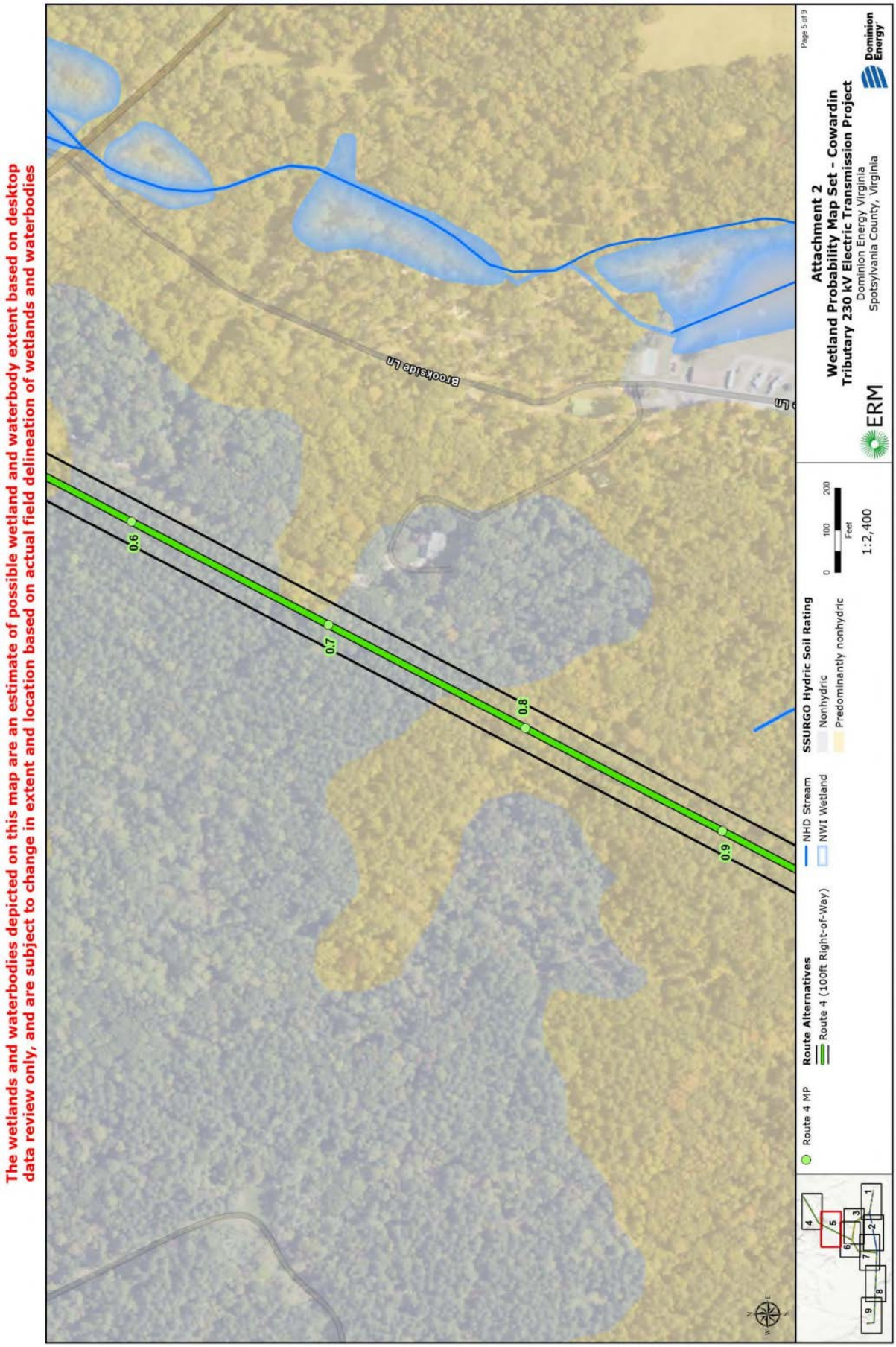
Attachment 2
Wetland Probability Map Set - Cowardin
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia
ERM
Dominion Energy
Page 4 of 9
Dominion Existing Transmission Line
Route 4 MP
Route Alternatives
Route 4 (100ft Right-of-Way)
Wetland Cover Type
PFO
Riverine
NHD Stream
NWI Wetland
SSURGO Hydric Soil Rating
Nonhydric
Predominantly nonhydric
0
100
200
Feet
1:2,400
0
0.1
0.2
0.3
0.4
0.5
Beechwood Dr
Guinea Station Rd


The wetlands and waterbodies depicted on this map are an estimate of possible wetland and waterbody extent based on desktop data review only, and are subject to change in extent and location based on actual field delineation of wetlands and waterbodies
Brookside Ln
0.6
0.7
0.8
0.9
Route 4 MP
Route Alternatives
Route 4 (100ft Right-of-Way)
NHD Stream
NWI Wetland
SSURGO Hydric Soil Rating
Nonhydric
Predominantly nonhydric
0
100
200
Feet
1:2,400
Page 5 of 9
Attachment 2
Wetland Probability Map Set - Cowardin
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia
ERM
Dominion Energy

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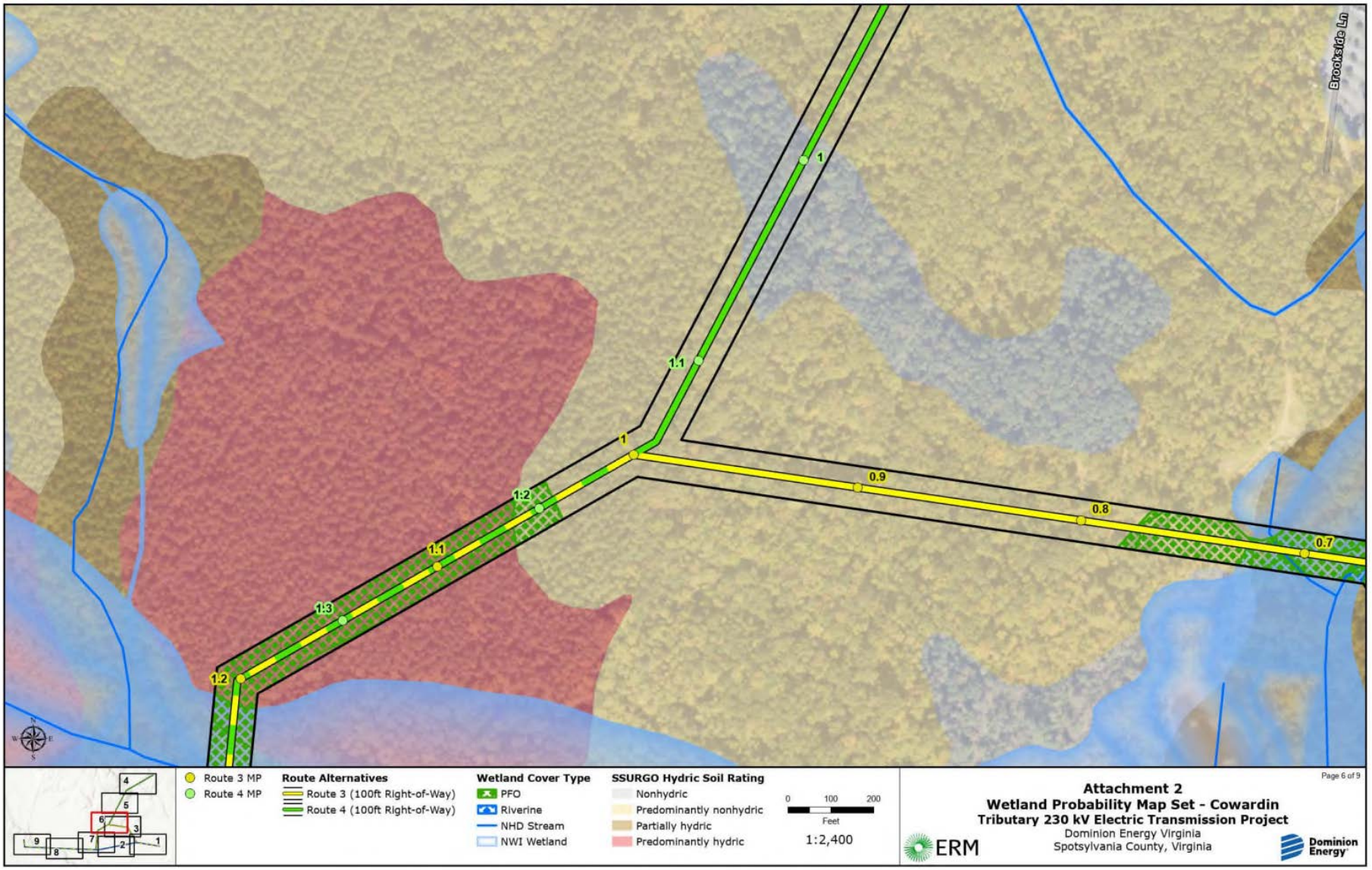

Attachment 2
Wetland Probability Map Set - Cowardin
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia

ERM

Dominion Energy

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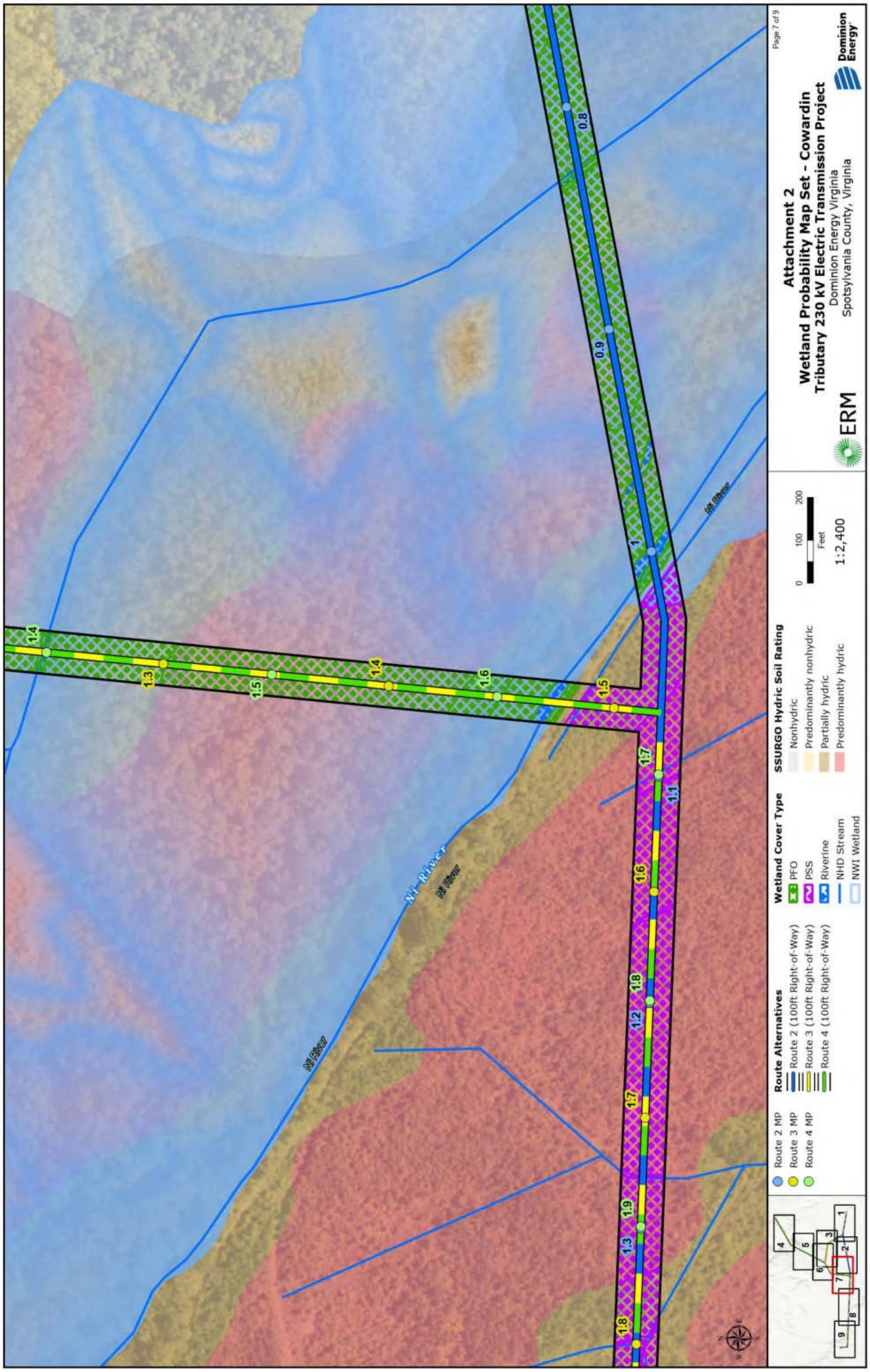
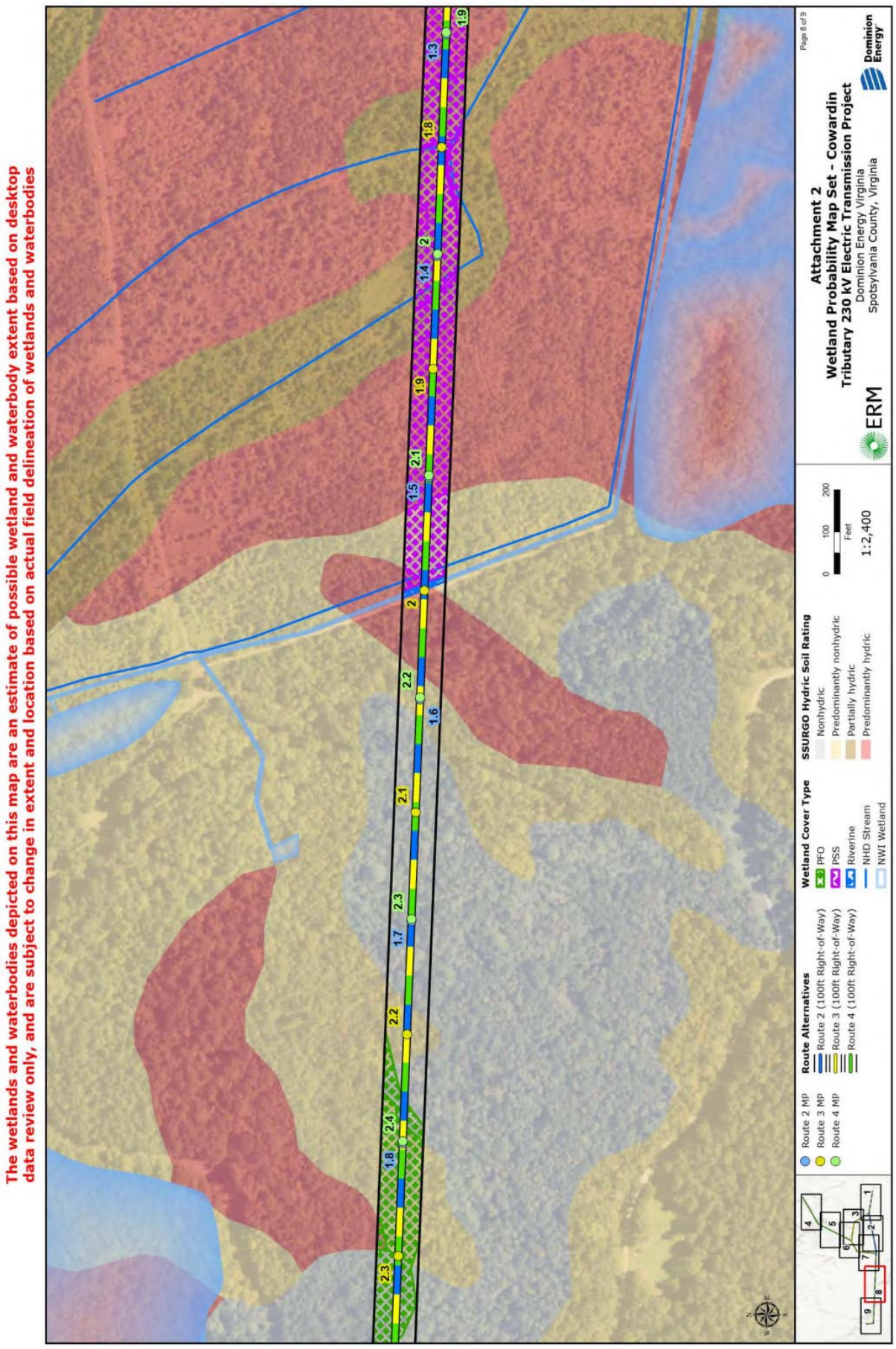
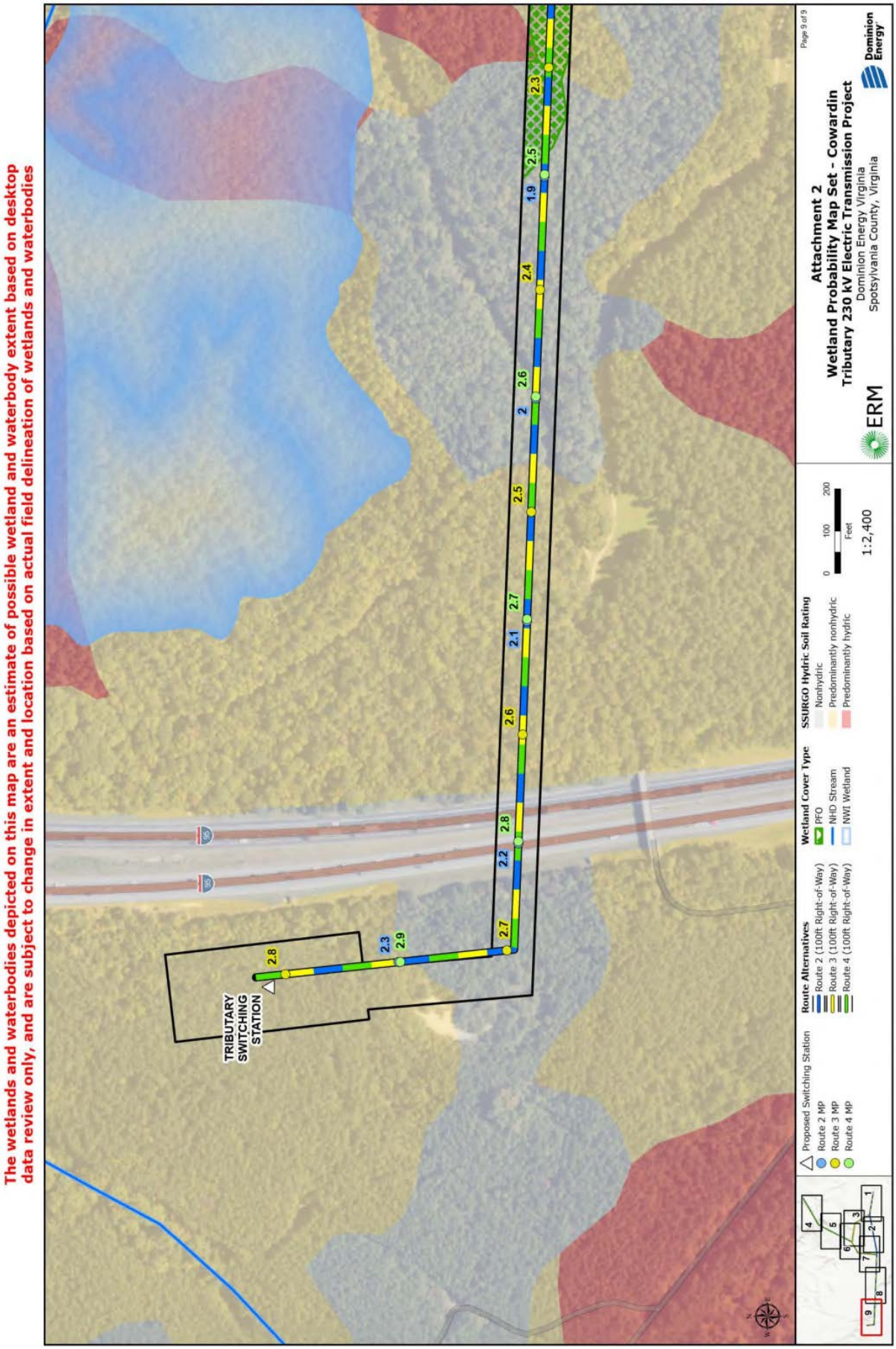
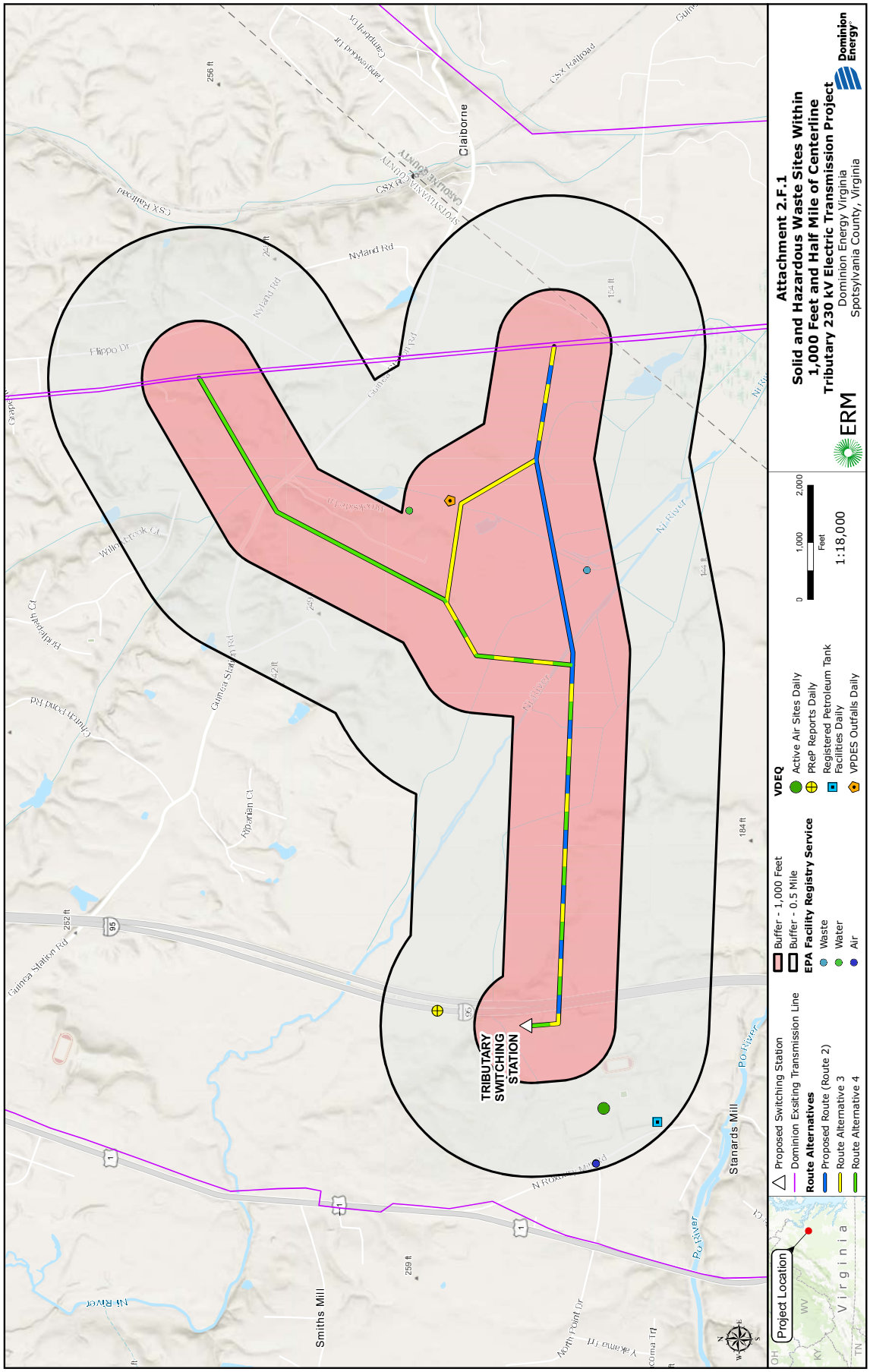



The wetlands and waterbodies depicted on this map are an estimate of possible wetland and waterbody extent based on desktop data review only, and are subject to change in extent and location based on actual field delineation of wetlands and waterbodies
Route 2 MP
Route 3 MP
Route 4 MP
Route Alternatives
Route 2 (100ft Right-of-Way)
Route 3 (100ft Right-of-Way)
Route 4 (100ft Right-of-Way)
Wetland Cover Type
PFO
PSS
Riverine
NHD Stream
NWI Wetland
SSURGO Hydric Soil Rating
Nonhydric
Predominantly nonhydric
Partially hydric
Predominantly hydric
0 100 200
Feet
1:2,400
Page 8 of 9
Attachment 2
Wetland Probability Map Set - Cowardin
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia
ERM
Dominion Energy


The wetlands and waterbodies depicted on this map are an estimate of possible wetland and waterbody extent based on desktop data review only, and are subject to change in extent and location based on actual field delineation of wetlands and waterbodies
TRIBUTARY SWITCHING STATION
2.8
2.3
2.9
2.7
2.2
2.8
2.6
2.1
2.7
2.5
2
2.6
2.4
1.9
2.5
2.3
Proposed Switching Station
Route 2 MP
Route 3 MP
Route 4 MP
Route Alternatives
Route 2 (100ft Right-of-Way)
Route 3 (100ft Right-of-Way)
Route 4 (100ft Right-of-Way)
Wetland Cover Type
PFO
NHD Stream
NWI Wetland
SSURGO Hydric Soil Rating
Nonhydric
Predominantly nonhydric
Predominantly hydric
0
100
200
Feet
1:2,400
Page 9 of 9
Attachment 2
Wetland Probability Map Set - Cowardin
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia
ERM
Dominion Energy


TRIBUTARY SWITCHING STATION
Claiborne
Stanards Mill
Smiths Mill
Guinea Station Rd
Nyland Rd
CSX Railroad
Proposed Switching Station
Dominion Exsiting Transmission Line
Route Alternatives
Proposed Route (Route 2)
Route Alternative 3
Route Alternative 4
Buffer - 1,000 Feet
Buffer - 0.5 Mile
EPA Facility Registry Service
Waste
Water
Air
VDEQ
Active Air Sites Daily
PReP Reports Daily
Registered Petroleum Tank Facilities Daily
VPDES Outfalls Daily
0
1,000
2,000
Feet
1:18,000
Project Location
Attachment 2.F.1
Solid and Hazardous Waste Sites Within 1,000 Feet and Half Mile of Centerline
Tributary 230 kV Electric Transmission Project
Dominion Energy Virginia
Spotsylvania County, Virginia
ERM
Dominion Energy

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

May 31, 2024

Kathlynn Lewis
Environmental Resources Management, Inc.
919 E. Main Street, Suite 1701
Richmond, VA 23219

Re: Tributary Routing Study

Dear Ms. Lewis:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to a DCR biologist and predicted suitable habitat modeling, there is potential for Small whorled pogonia (*Isotria medeoloides*, G2/S2/LT/LE) to occur in the project area if suitable habitat exists on site. Small whorled pogonia is a perennial orchid that grows in a variety of woodland habitats in Virginia, but tends to favor mid-aged woodland habitats on gently north or northeast facing slopes often within small draws. It is quite natural for plants of this species to remain dormant in the soil for long periods of time. Direct destruction, as well as habitat loss and alteration, are principal reasons for the species' decline (Ware, 1991). The Virginia Field Office of the U.S. Fish and Wildlife Service (USFWS) recommends that field surveys for this species be conducted in areas of Virginia south of Caroline County from May 25 through July 15 and in areas of Virginia from Caroline County and north from June 1 through July 20 (K. Mayne, pers. com. 1999). Please note that this species is currently classified as threatened by the USFWS and as endangered by the Virginia Department of Agriculture and Consumer Services (VDACS).

Due to the potential for this site to support populations of Small whorled pogonia, 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. For a list of USFWS-approved surveyors in Virginia visit https://www.fws.gov/media/collection-approved-surveyor-lists-project-review-process-virginia.

In addition, the proposed project may impact Ecological Cores **(C1, C3, C4, C5)** as identified in the Virginia Natural Landscape Assessment (https://www.dcr.virginia.gov/natural-heritage/vaconvisvnla). Mapped cores in the project area can be viewed via the Virginia Natural Heritage Data Explorer, available here: http://vanhde.org/content/map.

Ecological Cores are areas of at least 100 acres of continuous interior, natural cover that provide habitat for a wide range of species, from interior-dependent forest species to habitat generalists, as well as species that utilize marsh, dune, and beach habitats. Interior core areas begin 100 meters inside core edges and continue to the deepest parts of cores. Cores also provide the natural, economic, and quality of life benefits of open space, recreation, thermal moderation, water quality (including drinking water recharge and protection, and erosion prevention), and air quality (including sequestration of carbon, absorption of gaseous pollutants, and production of oxygen). Cores are ranked from C1 to C5 (C5 being the least significant) using nine prioritization criteria, including the habitats of natural heritage resources they contain.

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

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

The proposed project may impact one or more cores with very high (C2) to outstanding (C1) ecological integrity. Further investigation of these impacts is recommended and DCR-DNH can conduct a formal impact analysis upon request. This analysis would estimate impacts to cores and habitat fragments, providing an estimate of the total acreage of direct and indirect impacts of the project. For more information about the analysis and service charges, please contact Joe Weber, DCR Chief of Biodiversity Information and Conservation Tools at Joseph.Weber@dcr.virginia.gov.

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.

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.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

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

A fee of $500.00 has been assessed for the service of providing this information. Please find attached an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, DCR Finance, 600 East Main Street, 24th Floor, Richmond, VA 23219. Payment is due within thirty days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

The U.S. Fish and Wildlife Service (USFWS) utilizes an online project review process (https://www.fws.gov/office/virginia-ecological-services/virginia-field-office-online-review-process) to facilitate compliance with the Endangered Species Act (16 U.S.C. 1531-1544, 87 Stat. 884) (ESA), as amended. The process enables users to 1) follow step-by-step guidance; 2) access information that will allow them to identify threatened and endangered species, designated critical habitat, and other Federal trust resources that may be affected by their project; and 3) accurately reach determinations regarding the potential effects of their project on these resources as required under the ESA. If you have questions regarding the online review process, please contact Rachel Case at rachel_case@fws.gov.

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 Atlantic sturgeon and the Dwarf wedgemussel, is within the submitted project boundary including a 100-foot buffer. Therefore, DCR recommends coordination with the USFWS, NOAA Fisheries and Virginia's regulatory authority for the management and protection of these species, the VDWR, 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

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

38,09,40.0 -77,29,23.5
is **the Search Point**

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

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

Search Point is at map center

Base Map Choices
Topography

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

Map Overlay Legend

T & E Waters
Federal
State

Predicted Habitat WAP Tier I & II
Aquatic
Terrestrial

Trout Waters
Class I - IV
Class V - VI

Anadromous Fish Reach
Confirmed
Potential

Impediment

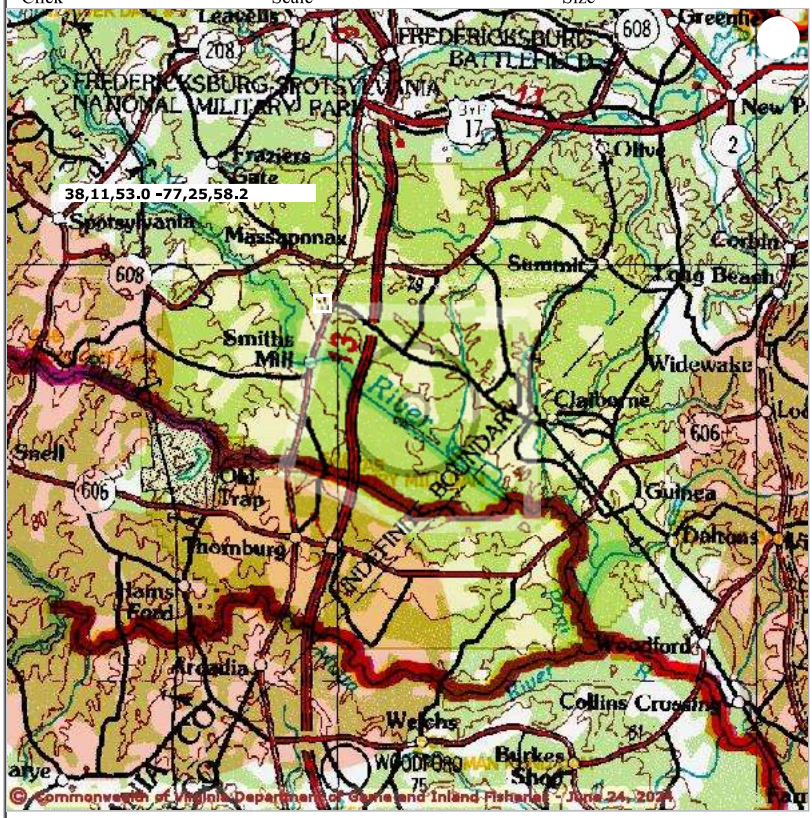
Position Rings 1 mile and 1/4 mile at the Search Point

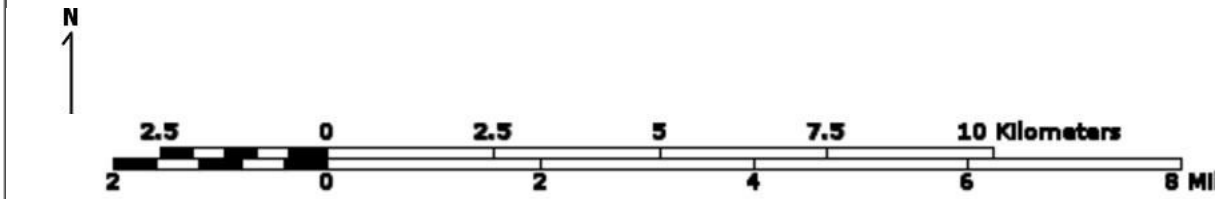
2 mile radius Search Area

Bald Eagle Concentration Areas and Roosts

Refresh Browser Page

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





Point of Search 38,09,40.0 -77,29,23.5
Map Location 38,09,39.8 -77,29,28.2

Select **Coordinate System:**
(•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:250,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 272147 and top 4236220. Pixel size is 20. . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 19200 meters east to west by 19200 meters north to south for a total of 368.6 square kilometers. The map display represents 63002 feet east to west by 63002 feet north to south for a total of 142.3 square miles.

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

map assembled 2024-06-24 10:33:22 (qa/qc March 21, 2016 12:20 - tn=2195552.0 dist=3218 I)
$poi=38.1611300 -77.4898799

VaFWIS Search Report Compiled on 6/24/2024, 10:31:21 AM

Help

Known or likely to occur within a **2 mile buffer around polygon; center 38.1611300 -77.4898799** in **033 Caroline County, 177 Spotsylvania County, VA**

View Map of Site Location

493 Known or Likely Species ordered by Status Concern for Conservation (displaying first 25) (25 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	IIa	Lance, yellow	Elliptio lanceolata	Yes	BOVA,TEWaters,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
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
100079	FC	IIIa	Butterfly, monarch	Danaus plexippus		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA,HU6
010077		Ia	Shiner, bridle	Notropis bifrenatus	Yes	BOVA,Habitat,SppObs,HU6
100248		Ia	Fritillary, regal	Speyeria idalia idalia		BOVA,HU6
040052		IIa	Duck, American black	Anas rubripes		BOVA,HU6
040029		IIa	Heron, little blue	Egretta caerulea caerulea		BOVA
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040181		IIa	Tern, common	Sterna hirundo		BOVA,HU6

040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140		IIa	Woodcock, American	Scolopax minor		BOVA,HU6
060071		IIa	Lampmussel, yellow	Lampsilis cariosa		BOVA,HU6
040203		IIb	Cuckoo, black-billed	Coccyzus erythropthalmus		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA
060175		IIb	Slabshell, Roanoke	Elliptio roanokensis		BOVA

To view **All 493 species** View 493

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

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

View Map of All Query Results from All Observation Tables

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams (3 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**	
P122	Po river	Potential	0			Yes
P123	Poni river	Potential	0			Yes
P98	Matta river	Potential	0			Yes

Impediments to Fish Passage (2 records)

View Map of All Fish Impediments

ID	Name	River	View Map
657	LAKE POCHAHONTAS	TR-PO RIVER	Yes
676	ROXBURY MILL DAM	PO RIVER	Yes

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters (48 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 (0134981)	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
Po River (0111858)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Po River (0115787)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Po River (0115878)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Po River (0120003)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
		060029	FTST	IIa	Lance, yellow	Elliptio lanceolata	
Po River (0120303)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
		060029	FTST	IIa	Lance, yellow	Elliptio lanceolata	
Po River (0121297)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Po River (0121311)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Po River (0122017)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
		060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	
Po River (0123716)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Po River (0127085)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
		060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	
Po River (0127726)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes

Po River (0130397)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
		060029	FTST	IIa	Lance, yellow	Elliptio lanceolata	
Po River (0131501)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
		060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	
Po River (0134510)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
Po River (0134980)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes
		060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	
Po River (0135183)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
		060029	FTST	IIa	Lance, yellow	Elliptio lanceolata	
Po River (0138799)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
		060029	FTST	IIa	Lance, yellow	Elliptio lanceolata	
Po River (0142093)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
		060029	FTST	IIa	Lance, yellow	Elliptio lanceolata	
Po River (0142297)	FESE	060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	Yes
		060029	FTST	IIa	Lance, yellow	Elliptio lanceolata	
Poni River (0121106)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes

To view **All 48 Threatened and Endangered Waters records** View 48

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Species Observations (76 records - displaying first 20)

View Map of All Query Results
Species Observations

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
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
15885	SppObs	Jul 1 1969	VIMS	10		I	Yes
333454	SppObs	Jan 1 1969	VIMS-VA. INST. MAR. SCI.	14		I	Yes
15861	SppObs	Nov 11 1966	WOOLCOTT, LOOS, ET AL	17		I	Yes
333132	SppObs	Jan 1 1966	WSW-WOOLCOTT	21		I	Yes
624852	SppObs	May 17 2015	Brian ; Munford	2		III	Yes
621862	SppObs	Oct 15 2013	Wayne; Starnes	18		III	Yes
426195	SppObs	Jul 7 2005	VCU - INSTAR	4		III	Yes
426200	SppObs	Jul 7 2005	VCU - INSTAR	10		III	Yes
11568	SppObs	Jun 13 1989	ANGERMEIER ET AL	9		III	Yes
426235	SppObs	Jun 13 1989	VCU - INSTAR	9		III	Yes
10186	SppObs	Apr 18 1971	Gilbert and Seaman	17		III	Yes
333779	SppObs	Jan 1 1971	CRG-GILBERT	17		III	Yes
15860	SppObs	Oct 29 1969	WOOLCOTT	23		III	Yes
332526	SppObs	Jan 1 1958	WSW-WOOLCOTT	30		III	Yes
331188	SppObs	Jan 1 1934	CLH-HUBBS	17		III	Yes
29802	SppObs	Jan 1 1900	Mitchell, J. C.	1		III	Yes

Displayed 20 Species Observations

Selected 76 Observations View all 76 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 (4 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**	
51143	Guinea, CW	30		III	Yes
51146	Guinea, SE	67		III	Yes
50144	Spotsylvania, CE	27		III	Yes
50146	Spotsylvania, SE	56		IV	Yes

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

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
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
YO47	Mattaponi River-Campbell Creek	64	FTSE	I

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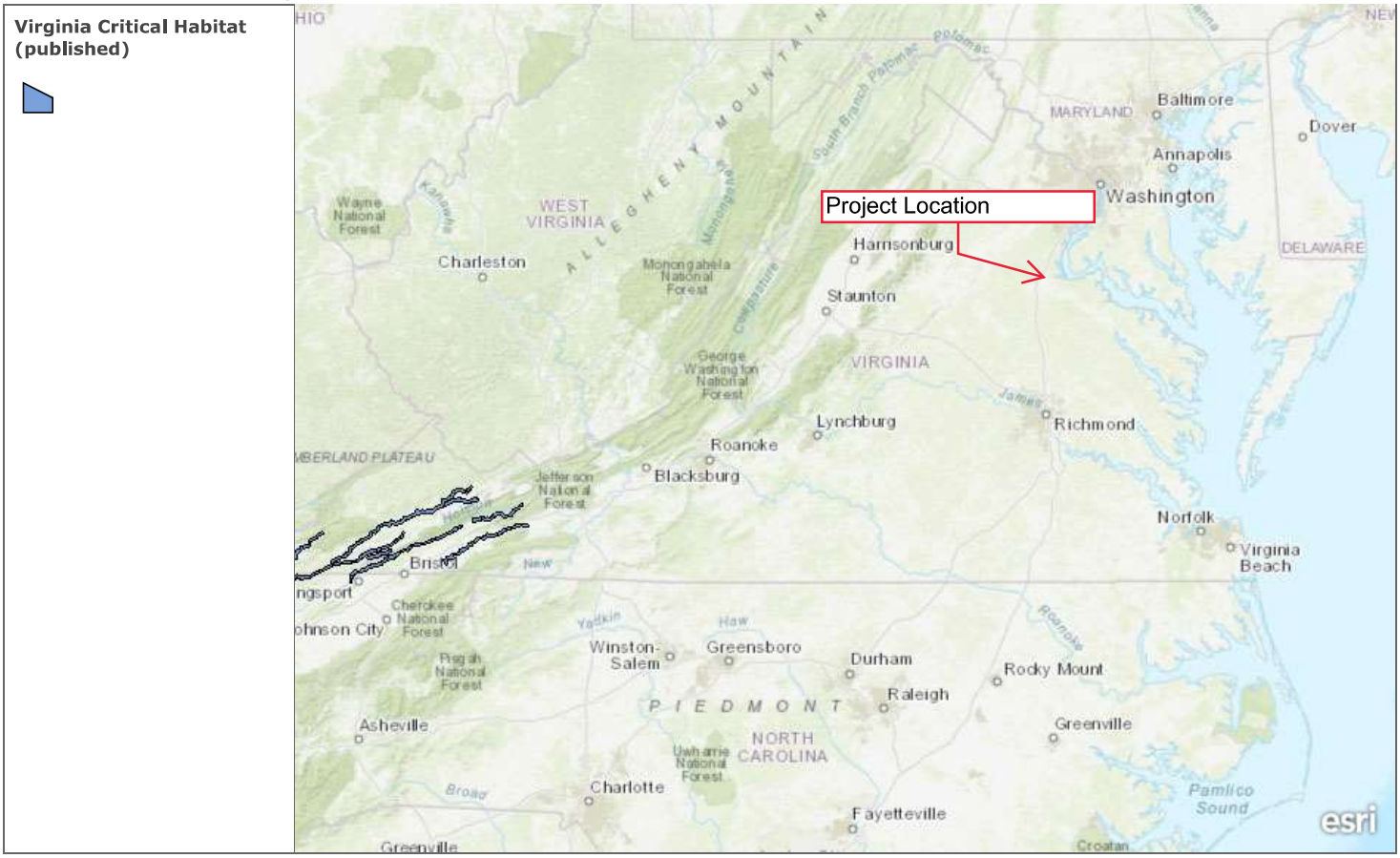
Critical Habitat in Virginia



Designated and proposed critical habitat in Virginia

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:
Project Code: 2024-0134822
Project Name: Tributary

08/23/2024 21:45:10 UTC

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.*).

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 IPaC 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 Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

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 Consultation 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

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: 2024-0134822
Project Name: Tributary
Project Type: Transmission Line - New Constr - Above Ground
Project Description: The purpose of the project is to provide electrical service requested by a data center customer in Spotsylvania County

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.160779250000004,-77.4911840003966,14z

Counties: Caroline and Spotsylvania counties, Virginia

ENDANGERED SPECIES ACT SPECIES

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Indiana Bat *Myotis sodalis* 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 *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* 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 *Alasmidonta heterodon* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/784	Endangered
Yellow Lance *Elliptio lanceolata* 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 *Danaus plexippus* 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 *Isotria medeoloides* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened

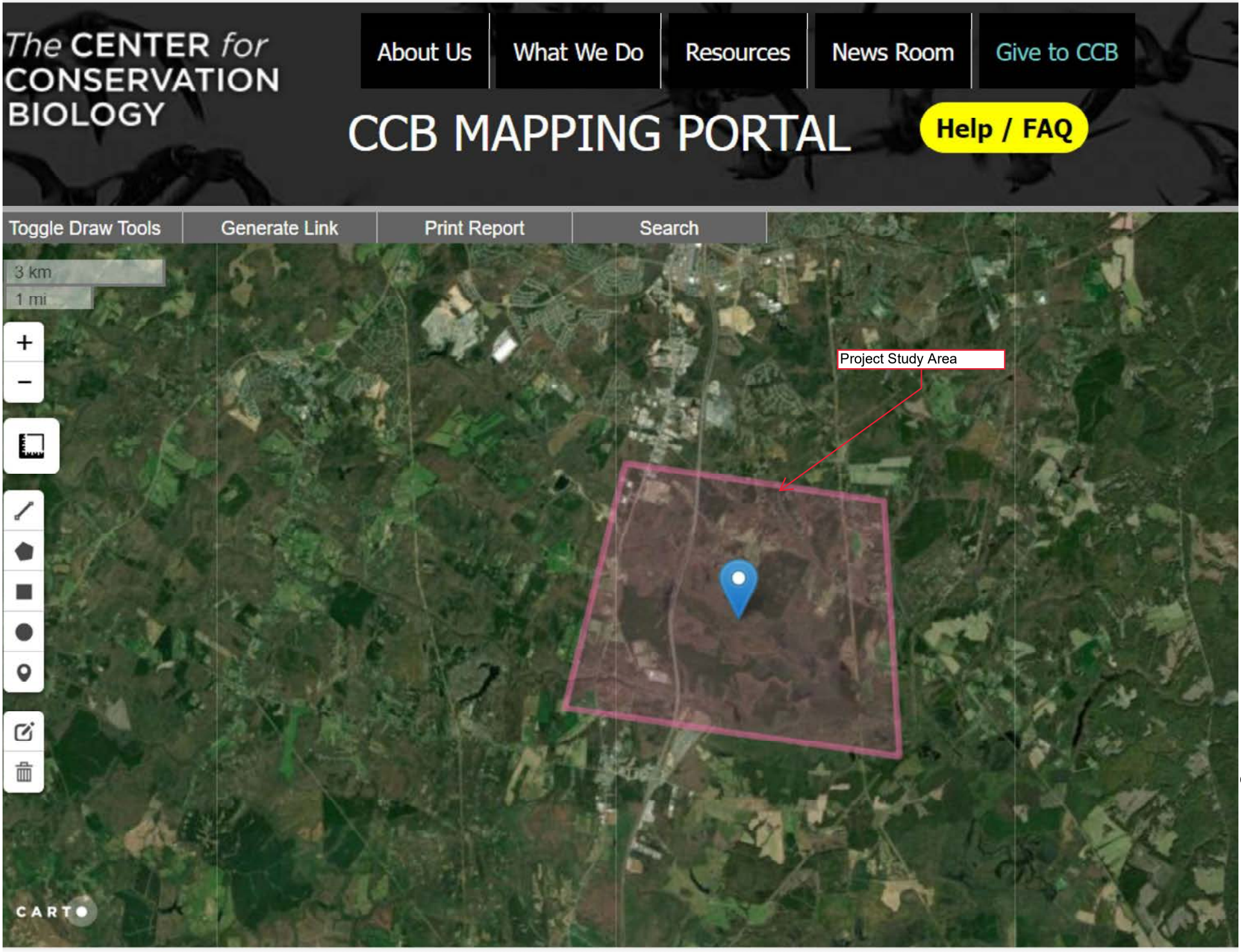
CRITICAL HABITATS

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

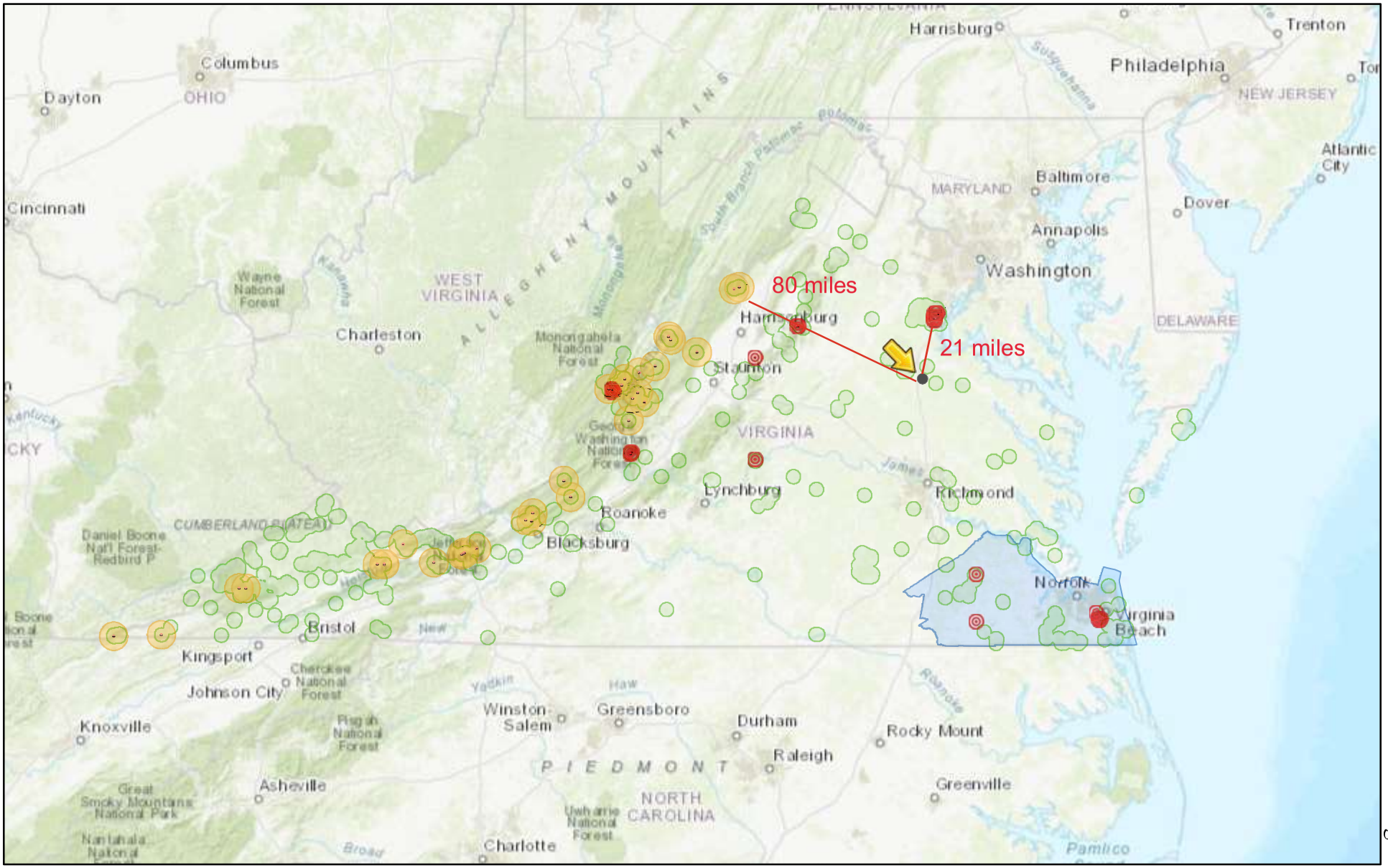
YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Madison Adams
Address: 222 South 9th Street, Suite 2900
City: Minneapolis
State: MN
Zip: 55402
Email madisonkadams16@gmail.com
Phone: 2188397343


The CENTER for CONSERVATION BIOLOGY
About Us
What We Do
Resources
News Room
Give to CCB
CCB MAPPING PORTAL
Help / FAQ
Toggle Draw Tools
Generate Link
Print Report
Search
3 km
1 mi
Project Study Area
CARTO

NLEB Locations and Roost Trees



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0 30 60 120 mi

0 50 100 200 km

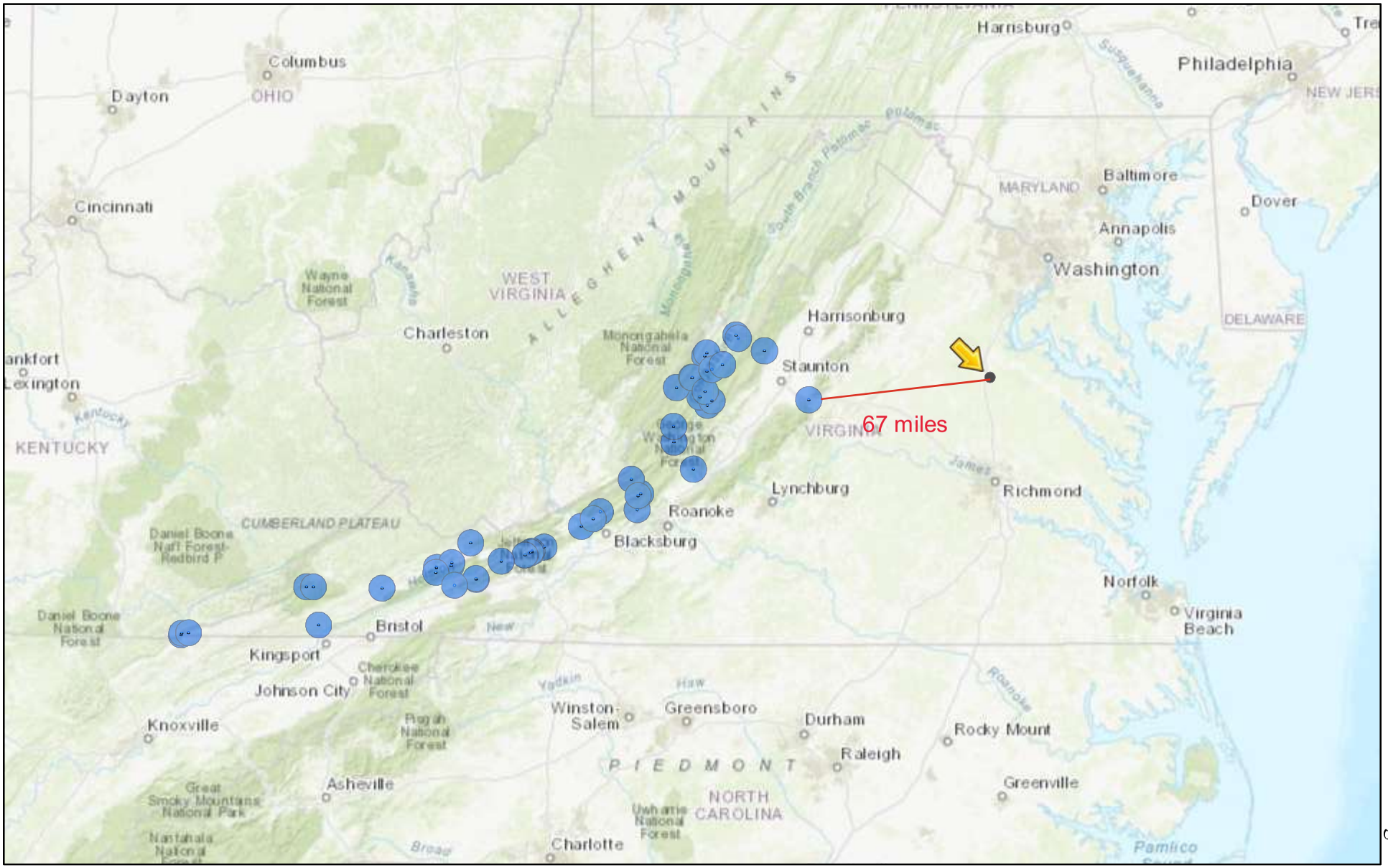
Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS

- NLEB Known Occupied Maternity Roost (Summer Habitat)
- NLEB Roost Tree 150-Foot Buffer
- NLEB Hibernaculum Half Mile Buffer
- NLEB Hibernaculum 5.5 Mile Buffer
- NLEB Capture 3 Mile Buffer
- NLEB Year-Round Presence

VA Dept. Game & Inland Fisheries

Virginia Geographic Information Network (VGIN), and the Census and Localities and Towns submitting data to the project | Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS |

ArcGIS Web Map



6/24/2024, 10:01:16 AM

Tri-colored and Little Brown Hibernaculum Half Mile Buffer

Tri-colored and Little Brown Hibernaculum 5.5 Mile Buffer

1:4,622,324

0 30 60 120 mi

0 50 100 200 km

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

Dept. Game and Inland Fisheries

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

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,

Kyle Kennedy, Manager
Office of Stormwater Management

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

230 kV Line #2090 Extension and Tributary Switching Station Project

Pre-Application Analysis

PREPARED FOR

Dominion Energy Virginia

DATE
30 September 2024

REFERENCE
0723442

DOCUMENT DETAILS

The details entered below are automatically shown on the cover and the main page footer. PLEASE NOTE: This table must NOT be removed from this document.	
DOCUMENT TITLE	230 kV Line #2090 Extension and Tributary Switching Station Project
DOCUMENT SUBTITLE	Pre-Application Analysis
PROJECT NUMBER	0723442
Date	30 September 2024
Version	01
Author	Mary Beth Derrick, Jeffrey Holland, Eric Johnson, MacKenzie Carroll, and Larissa A. Thomas, Ph.D.
Client name	Dominion Energy Virginia

DOCUMENT HISTORY

				ERM APPROVAL TO ISSUE		
VERSION	REVISION	AUTHOR	REVIEWED BY	NAME	DATE	COMMENTS
Version	001	Mary Beth Derrick			09.03.2024	
				Larissa Thomas	09.05.2024	
				Mariah Weitzenkamp	09.26.2024	

SIGNATURE PAGE

230 kV Line #2090 Extension and Tributary Switching Station Project

Pre-Application Analysis

0723442

Mary Beth Derrick
Senior Architectural Historian

Jeffrey Holland
Senior Historian

MacKenzie Carroll
Architectural Historian

Eric Johnson
Data Analytics and Visualization Specialist

ERM
3300 Breckenridge Boulevard
Suite 300
Duluth, GA 30096

CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS AND ABBREVIATIONS

Acronyms	Description
3D	Three dimensional
CMOA	Complementary Metal Oxide Semiconductor
ERM	Environmental Resources Management
ESRI	Environmental Systems Research Institute
GNSS	Global Navigation Satellite System
ISO	International Organization for Standardization
JPEG	Joint Photographic Experts Group format
KOA	Kampgrounds of America
KOP	Key Observation Point
kV	Kilovolt
NHL	National Historic Landmark
NPS	National Park Service
NRHP	National Register of Historic Places
PBR	Physically Based Rendering
PDF	Portable Document Format
Project	Tributary 230 kV Electric Transmission Project
RAW	an unprocessed image
REC	Rappahannock Electric Company
ROW	Right-Of-Way
SCC	State Corporation Commission
SLR	Single-Lens Reflex
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
VCRIS	Virginia Cultural Resource Information System
VDHR	Virginia Department of Historic Resources
VLR	Virginia Landmarks Register

EXECUTIVE SUMMARY

This report presents the findings of the pre-application analysis for Virginia Electric and Power Company's (Dominion Energy Virginia, Dominion, or the Company) proposed new 230 kilovolt (kV) line extension and Tributary Switching Station (Tributary Station) in Spotsylvania County, Virginia. The Tributary Station and the 230 kV Line #2090 extension are collectively referred to as the Project. The purpose and need for the Project is to provide transmission service to Rappahanock Electric Company (REC; the Customer), with the request being prompted by the growing data center development in the area; to maintain reliable service for the overall load growth in the area; and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards. To meet the Project purpose and need, Dominion proposes to:

- Construct a new 230 kV delivery point switching station (Tributary Station), which will provide interconnection to REC to serve its customer, the SpotsyTech Campus, a planned mixed-use technology park development which includes a data center; and
- Extend the Company's existing 230 kV Fredericksburg – Ladysmith CT Line #2090 by constructing a new double circuit overhead 230 kV line on new approximately 100-foot-wide right-of-way by cutting the Company's existing 230 kV Fredericksburg – Ladysmith CT Line #2090. The cut in will result in (i) new 230 kV Line #2404, and (ii) 230 kV Line #2090 from Ladysmith CT to the proposed Tributary Station.

ERM identified three overhead alternative routes (Route 2, Route 3, and Route 4), as discussed in the Environmental Routing Study that will be attached to the Virginia State Corporation Commission (SCC) application for the Project.

This pre-application analysis assesses and compares potential impacts on previously recorded historic and archaeological resources in relation to each alternative route. Impacts from the proposed Tributary Station are also considered, although they would be the same for all of the alternative routes. Environmental Resources Management, Inc. (ERM) conducted the analysis on behalf of Dominion Energy Virginia to assist in the development of a feasible Project design that minimizes impacts to historic resources. The pre-application analysis is a required study for transmission line projects regulated by the SCC. The study was completed in accordance with the Virginia Department of Historic Resources' (VDHR's) *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) (Guidelines).

No previously recorded archaeological sites are within the right-of-way for any of the three alternative routes.

Five previously recorded historic architectural resources meeting criteria specified in the Guidelines fall within study tiers defined by the VDHR for identifying aboveground historic sites along and near transmission line routes. The likely impacts on individual historic resources associated with each alternative route are presented in the table below.

Route 4 passes near the smallest number of considered historic resources (three), while Routes 2 and 3 each pass near five. ERM recommends that Route 2 would have no impact on four resources

and a minimal impact on one; that Route 3 would have no impact on four resources and a moderate impact on one; and that Route 4 would have no impact on two resources and a minimal impact on one. Route 4 appears to present the least impact on cultural resources, with the smallest number of considered historic resources near this alternative and only a minimal impact in one case. Route 3 appears to present the greatest impact on cultural resources, with a moderate impact on one of the resources.

TABLE 1 EXECUTIVE SUMMARY OF PROJECT IMPACTS TO CONSIDERED ABOVEGROUND HISTORIC RESOURCES IN THE STUDY AREA OF THE ALTERNATIVE ROUTES

Considered Resource	Alternative Routes		
	Route 2	**Route 3**	**Route 4**
016-0094	None	None	-
088-0100	None	None	-
088-0143	None	None	None
088-0256	Minimal	Moderate	Minimal
088-0297	None	None	None

VCRIS 2024

1 INTRODUCTION AND BACKGROUND

This report presents the results of an environmental constraint identification and routing study prepared by Environmental Resources Management, Inc. (ERM) on behalf of Virginia Electric and Power Company (Dominion Energy Virginia, Dominion, or the Company) for Dominion's proposed new 230 kilovolt (kV) line extension and Tributary Switching Station (Tributary Station) in Spotsylvania County, Virginia. The Tributary Station and the 230 kV Line #2090 extension are collectively referred to as the Project.

1.1 PROJECT DESCRIPTION

The purpose and need for the Project is to provide transmission service to Rappahanock Electric Company (REC; the Customer), with the request being prompted by the growing data center development in the area; to maintain reliable service for the overall load growth in the area; and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards. To meet the Project purpose and need, Dominion proposes to:

- Construct a new 230 kV delivery point switching station (Tributary Station), which will provide interconnection to REC to serve its customer, the SpotsyTech Campus, a planned mixed-use technology park development which includes a data center; and
- Extend the Company's existing 230 kV Fredericksburg – Ladysmith CT Line #2090 by constructing a new double circuit overhead 230 kV line on new approximately 100-foot-wide right-of-way by cutting the Company's existing 230 kV Fredericksburg – Ladysmith CT Line #2090. The cut in will result in (i) new 230 kV Line #2404, and (ii) 230 kV Line #2090 from Ladysmith CT to the proposed Tributary Station.[1]

Figure 1.1-1 depicts an overview of the Project. All figures referred to in this document are provided in Appendix A, Figures.

In developing route alternatives for the new transmission line and Tributary Station, ERM and the Company considered the facilities required to construct and operate the Project, the length of new rights-of-way that would be required for each alternative, the amount of existing development in the area, the potential for environmental impacts and impacts on communities, and cost.[2] As discussed in detail in Section 3.4, ERM identified three viable route alternatives for the Project.

1.2 STRUCTURE TYPES AND RIGHT-OF-WAY WIDTHS

The proposed Tributary line would be constructed entirely in new right-of-way measuring approximately 100-feet-wide. Dominion Energy Virginia would use multiple structure

[1] Segments of Line #2090 (Fredericksburg – Ladysmith CT) will be renumbered several times as a result of other projects in the Fredericksburg – Ladysmith CT corridor. Line #2090 will be renumbered to 230 kV Line #2301 between Fredericksburg and Lee's Hill Substations, and to 230 kV Line #2335 between Lee's Hill and New Post Substations. After this Project is completed, 230 kV Line #2090 will again be renumbered to Line #2404 between New Post and Tributary Stations, with existing 230 kV Line #2090 extending between Tributary Station and Ladysmith CT only. See SCC Appendix Attachments I.A.3, I.A.4, and I.A.5 for one-line diagrams of: (i) the existing transmission system in the Project load area, (ii) the Project load area after the New Post and Lee's Hill Substations are built, and (iii) the Project load area after the Project is energized.

[2] Cost is addressed elsewhere in Dominion's application to the State Corporation Commission (SCC) of Virginia for the Project.

1.1 OVERVIEW

Three alternative routes (Routes 2, 3, and 4) are under consideration for the new overhead transmission lines. A map depicting each alternative route and the proposed Tributary Station is provided as Figure 1.

1.1.1 ROUTE 2

Route 2 extends from a tap along the Company's existing Line #2090 to the proposed Tributary Station. The tap is approximately 0.5 mile south of where the existing transmission line crosses Guinea Station Road along the southern boundary of the study area. From there, Route 2 heads west-northwest for about 0.4 mile, passing through forested land before angling southwest through forest for about 0.7 mile, passing through a portion of the Kampgrounds of America (KOA) campground and crossing the Ni River. On the south side of the Ni River, the route turns west, crossing agricultural and forested land for about 1.2 miles and crossing Interstate 95 (I-95). On the west side of I-95, the route turns north for about 0.1 mile and enters the Tributary Station.

Route 2 measures approximately 2.4 miles long. The right-of-way for this alternative (28.1 acres) and the proposed Tributary Station site (2.2 acres) would encompass a combined 30.3 acres.

1.1.2 ROUTE 3

Route 3 extends from the same point as Route 2 (a tap along the Company's existing Line #2090 about 0.5 mile south of Guinea Station Road) to the proposed Tributary Station. From here, Route 3 heads west-northwest for about 0.4 mile before turning north-northwest for about 0.3 mile. At this point, the route turns west and crosses the KOA campground. On the west edge of the campground, the route turns south-southwest for about 0.5 mile, paralleling an undeveloped, forested parcel boundary and crossing the Ni River. On the south side of the river, the route turns west, following the same alignment as Route 2 for the remaining 1.3 miles to the Tributary Station.

Route 3 measures approximately 2.8 miles long. The right-of-way for this alternative (33.5 acres) and the proposed Tributary Station site (2.2 acres) would encompass a combined 35.7 acres.

1.1.3 ROUTE 4

Route 4 extends from a tap along the Company's existing Line #2090 approximately 0.7 mile north of the intersection of the existing transmission line and Guinea Station Road along the southern boundary of the study area. From here, Route 4 heads south-southwest for about 1.1 mile, passing through forested land and crossing Guinea Station Road. Just west of the KOA campground, the route would use the same alignment as Routes 2 and 3, turning west-southwest for about 0.5 mile and then west for about 1.2 mile, crossing I-95 and turning north into the Tributary Station.

Route 4 measures approximately 3.0 miles long. The right-of-way for this alternative (35.4 acres) and the proposed Tributary Station site (2.2 acres) would encompass a combined 37.6 acres.

1.2 MANAGEMENT RECOMMENDATIONS

No archaeological sites were identified within or adjacent to the alternative routes' rights-of-way.

Five previously recorded historic architectural resources meeting criteria specified in the Guidelines fall within study tiers defined by the VDHR for identifying aboveground historic sites along and near transmission line routes. Route 4 passes near the smallest number of considered historic resources (three), while Routes 2 and 3 each pass near five.

ERM recommends that Route 2 would have no impact on four resources and a minimal impact on one, that Route 3 would have no impact on four resources and a moderate impact on one resource, and that Route 4 would have no impact on two resources, and a minimal impact on one resource.

Based on the above findings, ERM recommends that Route 4 would have the smallest impact on cultural resources, with only three considered historic resources near the route and only a minimal impact in one case. Routes 2 and 3 both have the same five considered historic resources near their routes with the same impact recommendations except for one resource: 088-0256. Route 3 would have a moderate impact on 088-0256, while Route 2 would have a minimal impact on the resource. Thus, Route 4 appears to present the best possible route for the Project with respect to known cultural resource impacts. Route 2 would be the second-best possible route in terms of cultural resource impacts because while it has the same considered historic resources as Route 3, its impacts do not exceed minimal. More information about each resource and the nature of potential impacts associated with the various alternative routes are found in the sections that follow.

FIGURE 1 OVERVIEW OF ALTERNATIVE TRANSMISSION LINE ROUTES

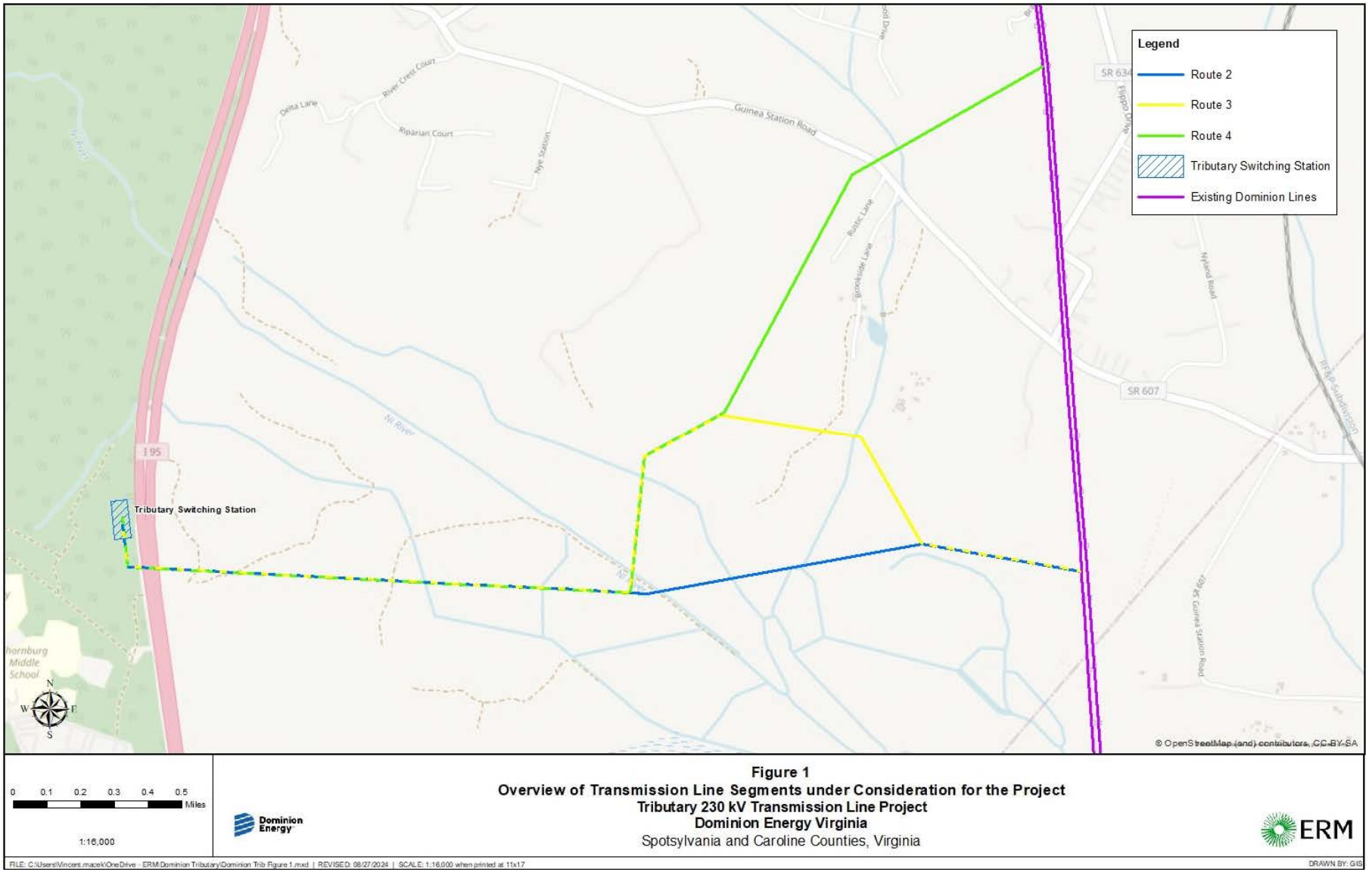


Figure 1
Overview of Transmission Line Segments under Consideration for the Project
Tributary 230 kV Transmission Line Project
Dominion Energy Virginia
Spotsylvania and Caroline Counties, Virginia

2. RECORDS REVIEW

2.1 DATA COLLECTION APPROACH

ERM conducted an analysis of potential cultural resource impacts for the alternative routes under consideration in accordance with the Guidelines. For each route, this analysis identified and considered the following previously recorded resources:

- National Historic Landmarks (NHLs) within a 1.5-mile radius of each centerline;
- NRHP-listed properties, NHLs, battlefields, and historic landscapes within a 1.0-mile radius of each centerline;
- NRHP-eligible and NRHP-listed properties, NHLs, battlefields, and historic landscapes within a 0.5-mile radius of each centerline; and
- All of the above qualifying resources as well as archaeological sites within the right-of-way for each alternative route.

Information on the considered resources in each study tier was collected from the Virginia Cultural Resource Information System (VCRIS).

In addition to VCRIS, ERM collected information from the Spotsylvania Historical Association (2024), Visit Spotsylvania County (2024), and the African American Heritage Trail (2024) to identify locally significant resources within a 1.0-mile radius of the centerline for each route. ERM also included architectural resources within a 1.0-mile radius of each centerline that were mentioned in a May 21, 2024 letter to Dominion from Michele M. and Edward P. Schiesser about sensitive resources in their area. These resources were included in the locally significant category.

Along with the records review carried out for the four tiers as defined by VDHR, ERM also conducted field assessments of the considered aboveground resources for each alternative route in accordance with the Guidelines. Digital photographs were taken of each historic resource in addition to views from each resource towards the alternative routes. Photo simulations and vegetated visual analyses were then prepared to assess potential viewshed impacts from construction of the transmission line alternatives for each considered resource.

2.2 ARCHAEOLOGICAL RESOURCES

Crossings of archaeological sites were considered a constraint in this study due to the potential for an electric transmission line to impact archaeological deposits in these areas (for example, due to transmission structure placement, tree clearing, or heavy equipment traffic within a site). However, no known archaeological sites were identified within the right-of-way for any of the alternative transmission line routes.

2.3 HISTORIC RESOURCES

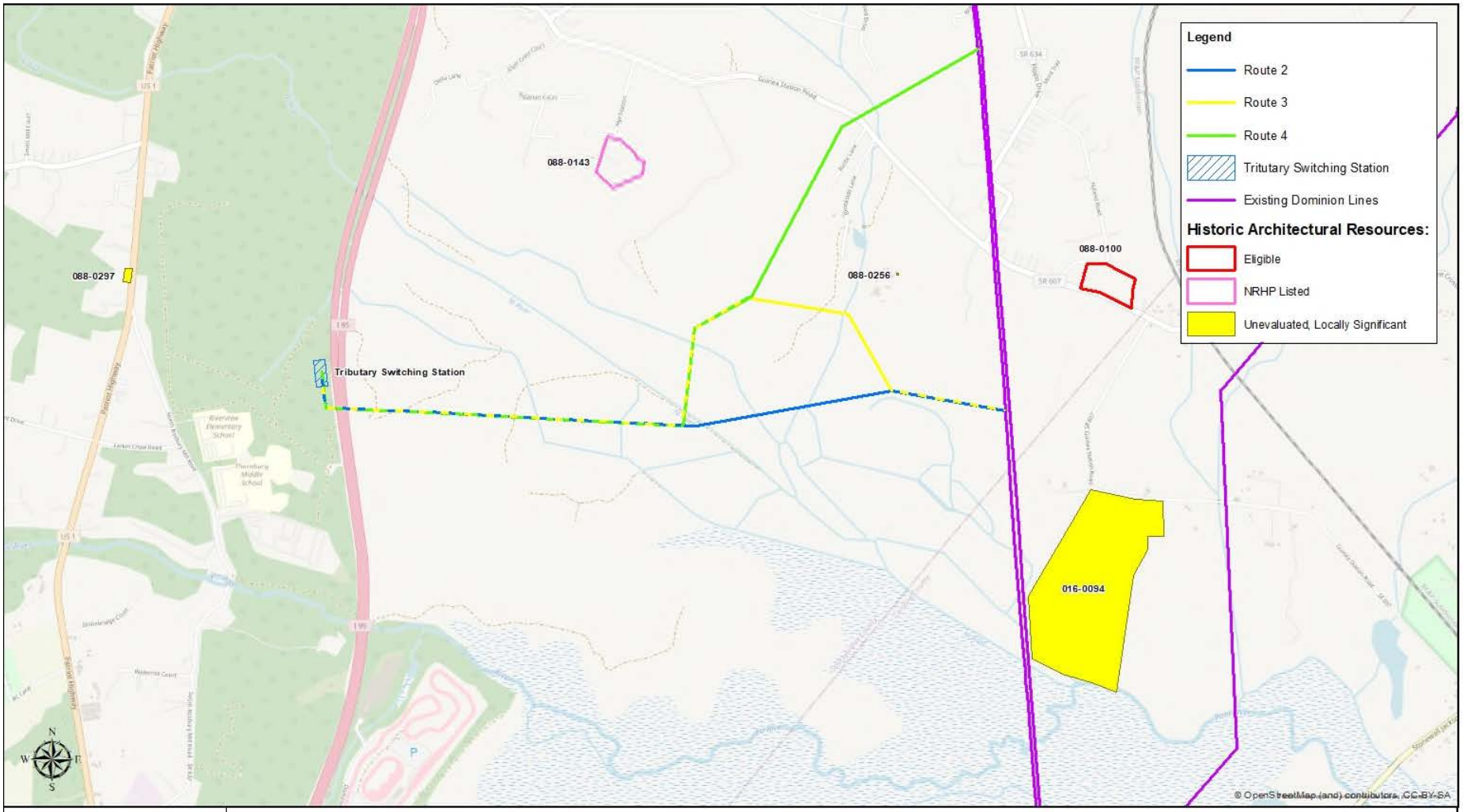
The following discussion summarizes the known resources in the vicinity of each Project alternative according to VDHR's tiered study area model. The locations of the considered historic resources and the alternative routes are shown in Figure 2. Individual maps for each alternative route are located in Attachment 1.

Resources located within the right-of-way of a route may be subject to both direct impacts from placement of the line across the property as well as visual impacts from a change to the viewshed due to the introduction of new transmission line structures and conductors. Resources in the 0.5-mile tier would not be directly impacted, but would likely be visually impacted, unless topography, vegetation, or the built environment obscures the view to the transmission lines. At a distance of over 0.5 mile, it becomes less likely that a resource would be within line-of-sight of the proposed transmission lines. Beyond 1.0 mile, it becomes even less likely that a given resource would be within line-of-sight of a transmission line. In the case of the current Project, no qualifying NHL resources are located within 1.5 mile of the alternative routes, so no impacts were assessed at this distance.

Because portions of some routes share common alignments, some of the same resources occur in the same tier for more than one route, regardless of the route selected for the Project. The nature of the actual impacts to resources, while estimated in this study with the assistance of photo simulations, would depend on the final Project design in which the exact placement and height of transmission structures are determined. The purpose of the simulations and associated assessments in this report are to provide data on likely impacts and to compare those impacts to support the selection of a preferred route.

Once a route is selected for the Project, that route will be subject to a full historic architectural survey. Additional (as of yet, unrecorded) historic properties may be identified in the survey area at that time, and actual Project impacts will be assessed. The survey area will be defined based on the height of the proposed transmission line structures, topography, tree cover, and other factors impacting the line-of-sight from historic resources to the selected route.

FIGURE 2 LOCATIONS OF CONSIDERED HISTORIC RESOURCES ALONG AND NEAR ALTERNATIVE ROUTES



2.3.1 ROUTE 2

The considered resources that lie within the VDHR tiers for Route 2 are presented in Table 2 and depicted in the map provided as Attachment 1, Sheet 1. ERM identified five aboveground historic resources within the VDHR tiers for Route 2. The considered resources were subjected to field reconnaissance and a preliminary assessment of impact, discussed in the next chapter.

TABLE 2 HISTORIC RESOURCES IN VDHR TIERS FOR ROUTE 2

Buffer (miles)	Resource Category	Resource Number	Description
0.5 to 1.0	National Register Properties (Listed)	088-0143	La Vista
	Locally Significant	088-0297[a]	Coates House
0.0 to 0.5	National Register – Eligible	088-0100	Nyland
	Locally Significant	016-0094	Spring Grove
		088-0256	Westwood

Source: VDHR 2024

[a] Resource is within the designated tiers for the proposed Tributary Station.

2.3.2 ROUTE 3

The considered resources that lie within the VDHR tiers for Route 3 are presented in Table 3 and depicted in the map provided as Attachment 1, Sheet 2. ERM identified five aboveground historic resources within the VDHR tiers for Route 3. The considered resources were subjected to field reconnaissance and a preliminary assessment of impact, discussed in the next chapter.

TABLE 3 HISTORIC RESOURCES IN VDHR TIERS FOR ROUTE 3

Buffer (miles)	Resource Category	Resource Number	Description
0.5 to 1.0	National Register Properties (Listed)	088-0143	La Vista
	Locally Significant	088-0297[a]	Coates House
0.0 to 0.5	National Register – Eligible	088-0100	Nyland
	Locally Significant	016-0094	Spring Grove
		088-0256	Westwood

Source: VDHR 2024

[a] Resource is within the designated tiers for the proposed Tributary Station.

2.3.3 ROUTE 4

The considered resources that lie within the VDHR tiers for Route 4 are presented in Table 4 and depicted in the map provided as Attachment 1, Sheet 3. ERM identified three aboveground historic resources within the VDHR tiers for Route 4. The considered resources were subjected to field reconnaissance and a preliminary assessment of impact, discussed in the next chapter.

TABLE 4 HISTORIC RESOURCES IN VDHR TIERS FOR ROUTE 4

Buffer (miles)	Resource Category	Resource Number	Description
0.5 to 1.0	National Register Properties (Listed)	088-0143	La Vista
	Locally Significant	088-0297[a]	Coates House
0.0 to 0.5	Locally Significant	088-0256	Westwood

Source: VDHR 2024

[a] Resource is within the designated tiers for the proposed Tributary Station.

2.4 PREVIOUS SURVEYS

There have been no previous cultural resource surveys covering the alternative routes or Tributary Station. However, three prior surveys have been conducted within 1.0 mile of the alternative routes. Information on these previous surveys—including VDHR survey number, report title, report authors, and report date—is provided in Table 5. The extent of the previous survey coverage is depicted in Attachment 2.

TABLE 5 CULTURAL RESOURCE SURVEYS WITHIN 1.0 MILE OF THE PROPOSED PROJECT

VDHR Survey #	Title	Author(s)	Date
CE-147	Phase I Archaeological Survey TRILEAF Corporation Site# 604207 (Claiborne), Woodford, Caroline County, Virginia	Rachael E. Fowler and Kenneth J, Basalik	2013
SP-154	Phase I Archaeological Identification Survey of the Massaponax Self Support Telecommunications Tower Site, Spotsylvania County, Virginia	Lyle Torp	1999
SP-206	A Phase I Archaeological Survey of Portions of the Proposed Dominion Raceway Tract, Spotsylvania County, Virginia	Clifton A. Huston and Richard G. Francisco	2013

3. STAGE 1 PRE-APPLICATION ANALYSIS FINDINGS

3.1 METHODS OF ANALYSIS

Fieldwork for the pre-application analysis was conducted by Haley Hoffman and Emma Jennings under the direction of Secretary of the Interior Qualified architectural historian, Mary Beth Derrick on May 21, 2024 and July 24, 2424. The fieldwork involved photographing five resources requiring visual assessment according to the Guidelines and examining potential line-of-sight views from each resource toward the alternative routes. For resources where property owner approval was granted for historic resource documentation, photographs were taken toward the alternative route(s) from the property at the most prominent view of the landscape. When permission to access such locations was not available, photographs were taken from the public right-of-way (typically a road) nearest to the resource facing toward the applicable route(s).

Panoramic photographs were taken from each resource, with an effort to capture the direction with the clearest, most unobstructed view toward the applicable route or routes. The precise location of the photograph was captured with a mobile tablet device connected to a sub-meter accurate Global Navigation Satellite System (GNSS) receiver, the Trimble R1. The locations where photographs were taken were noted as Key Observation Points (KOPs). Site visits to the KOPs were prioritized based on their location relative to the resource, so that viewpoints east of the resource were visited in the morning and viewpoints west of the resource were visited in the afternoon. This helped ensure, where possible, that the sun was behind the photographer at the time the viewpoint photography was captured. Additionally, minor adjustments to position were made to obtain as clear a view to the site center as possible, avoiding trees, landscaping, or built obstructions. Tablets recorded the center bearing, angle of view, altitude, and camera lens height. Upon receipt of the viewpoint location information, the viewpoints were plotted onto open-source mapping from the Environmental Systems Research Institute (ESRI) using the Universal Transverse Mercator (UTM) 18N coordinate system.

The process of taking panoramas included setting up the tripod and camera. The camera was placed on the panoramic head in a landscape orientation where its lens height was confirmed and set at 1.5 meters (note: a portrait camera orientation was sometimes used in situations where the viewpoint is very close to a development so that the top of the development is not cut off by the image boundaries). The tripod head and camera combination were then leveled. With the camera’s viewfinder centered on the perceived site center, exposure and focus settings were taken. These were then fixed manually on the camera so that they could not be inadvertently altered. The head was rotated 90 degrees to the left where the first frame of the 360-degree sequence was then taken. Each subsequent frame was taken using a 50 percent overlap of the previous frame until the full 360-degree sequence was captured. The camera was then removed from the tripod and a viewpoint location photograph was captured showing the tripod in its position.

The following camera and tripod configuration was used:

- Camera body: Nikon D800 professional specification digital SLR (full frame CMOS sensor)

- Camera lens: Nikkor AF 50mm f1.8 prime
- Tripod: Manfrotto 055MF4 with Manfrotto 438 ball leveler
- Panoramic head: Manfrotto 303SPH
- The following camera settings were used for all photography:
- Camera mode: Manual Priority
- ISO: 100
- Aperture: f13
- Image format: RAW

After the photos were complete, they were uploaded to a server to begin the simulation/visualization process. The single-frame photographs were opened in Adobe Photoshop CC 2022 where they were checked, and any camera sensor dust spots were removed before being saved as high-resolution JPEG images. If required, discrete color and tonal adjustments were made to each frame before they were saved. The single-frame photographs were stitched together in PTGui Pro version 12.11 professional photographic stitching software using cylindrical projection settings. The camera locations were plotted in Global Mapper version 23.1. Digital models of the transmission line structures were provided by Dominion Energy Virginia, then edited for visualization and textured in Autodesk 3DS Max 2021. The position of each structure was provided by Dominion Energy Virginia for Routes 2 and 3. For Route 4, typical spacing was provided by Dominion, and iToo RailClone for Autodesk 3DS Max 2021 was used to project structure locations. The transmission structures along each route were rendered in Vray version 5.2 from each KOP camera location. 3D imagery was produced at the field of view using camera matching. Renderings for each route and each transmission line structure combination were then exported for use as an overlay.

Detailed, correctly dimensioned 3D computer models of the transmission structures along each route were generated using Autodesk 3DS Max 2021 and iToo RailClone. The virtual 3D model of the structures was created using real-world measurements and elevation drawings provided by the Company. These were textured using Vray PBR materials to simulate the weathering steel texture of the proposed structures. The detailed, textured models were rendered to a digital image using a simulated physical camera and a sun and sky simulation lighting model in the computer software consistent with conditions within the original viewpoint photography.

Photomontages were produced by overlaying the rendered image on the photograph, using known control points and the wireline imagery showing the tower columns at the correct height and distance. Final adjustments were then made to the brightness and contrast of the rendered images to match them to the photograph. Final photomontages were prepared from each viewpoint for each route. These were then opened in Adobe Photoshop CC 2022 where minor changes were made such as placing relevant tree/building/hedge screening or telegraph wires over the proposed development renders where necessary. The final images were then cropped to the proportions required for the visual simulation figures, and the visualization figures were prepared in Adobe InDesign CC2022 and exported in a PDF format.

Additional viewshed renderings were conducted to assess the visibility from some of the resources to the alternative routes. In order to complete this, Digital Surface Model viewshed analyses were prepared using a Digital Elevation Model derived from National Elevation Dataset 1/3 arc second Elevation Dataset. Focal points were placed along the centerline at locations preliminarily assigned by engineering. Structure heights ranged from 105 feet (32.0 meters) to 125 feet (38.1 meters) above the ground, as noted in the structures' attributes. Vegetation data was derived by combining the Virginia Landcover data with the tree heights (in meters) from the USDA LANDFIRE dataset. The resulting visual analyses are presented in Attachment 6.

3.2 STRUCTURE TYPES AND RIGHT-OF-WAY WIDTHS

The proposed Tributary line would be constructed entirely in new right-of-way measuring 100-feet-wide. Dominion Energy Virginia would use multiple structure configurations for the Project (Attachment 3). The new structures would be weathering steel monopoles with heights ranging from 90 to 170 feet and an average height of approximately 121 feet based on preliminary conceptual design, excluding foundation reveal, and subject to change based on final engineering. Two circuits would be supported on each structure. Structures would be installed at approximately 500 to 700-foot intervals along the right-of-way for the Project. ERM will provide a revised assessment of Project impacts, if necessary, based on the final design.

3.3 ASSESSMENT OF POTENTIAL IMPACTS

The assessment of potential Project impacts on individual resources made use of the visual assessment findings and categorized the severity level of impacts according to the following scale devised by VDHR:

- **None (No Impact)** – Project is not visible from the resource.
- **Minimal** – Viewsheds have existing transmission lines, there would be only a minor change in height, and/or other views are partially obscured by topography or vegetation.
- **Moderate** – Viewsheds have more expansive views of the transmission line, more dramatic changes in height are proposed, and/or the overall visibility of the Project would be greater.
- **Severe** – Existing viewshed contains no transmission line, the view to the Project would be relatively unobstructed, the new transmission line would introduce a significant change to the setting of historic properties, and/or a dramatic change in the height of an existing transmission line would take place in close proximity to historic properties.

3.4 HISTORIC RESOURCE DESCRIPTIONS

3.4.1 016-0094, SPRING GROVE

016-0094 is located at 8218 Guinea Station Road in Fredericksburg. The resource is set back from the road on a manicured landscape with scattered trees. The resource is accessible via a gravel driveway that loops around the dwelling before extending southeast through the outbuildings.

016-0094, Spring Grove includes a two-story, Federal style dwelling constructed in circa 1853 and eight outbuildings (Attachment 4, Figure 1). It was most recently surveyed by Robert Taylor on behalf of Dutton + Associates, LLC in March of 2024 (Taylor 2024). The dwelling rests on a raised English bond brick basement, features weatherboard siding, and has a side-gabled roof clad in standing seam metal. The dwelling includes a one-story addition clad in the same materials as the original two-bay block. The roof is pierced by a pair of interior brick chimneys with one each on the front and rear slope. The windows on the dwelling consist of individually set six-over-six, double-hung, wood sash windows. The primary entrance is off-center on the front façade, protected by a single-story hipped-roof portico. The portico is supported by square Doric columns resting on a brick floor. ERM revisited Spring Grove later in 2024 and did not note any significant differences. The entrance is accessible via a run of brick steps. The entrance is a paneled door flanked by sidelights and a transom light. The windows are all flanked by shutters.

In addition to the dwelling, a circa 1860 smokehouse noted as having a brick foundation, a pyramid roof, and a batten door at the center was included as part of the resource. A circa 1930 wood frame chicken coop clad in sheet metal is located east of the dwelling. To the rear of the dwelling is a circa 1940 two-car garage with a gabled roof. To the southwest is a circa 1980 prefabricated carport. Previous surveyors also noted a circa 1860 kitchen located east of the dwelling. Finally, the resource includes a circa 2000 stable clad in sheet metal and topped with a gabled roof. The kitchen was described as being built with 5-course American bond brick walls topped with a gable roof. It features an exterior end brick chimney. During ERM's survey, the kitchen and stable were visible from the public right-of-way, and no changes were noted.

016-0094 has not been formally determined eligible for listing on the NRHP. However, Spring Grove retains distinction as an intact example of the Federal style as applied to a side-passage form within rural Virginia. A letter from Michele M. and Edward P. Schiesser described this resource as architecturally significant in the community. Thus, ERM is including 016-0094 in this report as a locally significant resource. Resource 016-0094 lies within the half-mile study tier for Routes 2 and 3.

3.4.2 088-0100, NYLAND

088-0100 is located 3701 Guinea Station Road, accessible via a gravel driveway that travels up a hill to loop around the dwelling. The resource is heavily screened by trees.

088-0100, Nyland, includes a circa 1843 Greek Revival two-and-a-half-story symmetrical dwelling and an outbuilding (Attachment 4, Figure 2). It was last surveyed in June of 2015 by Dara Friedberg on behalf of Dutton + Associates, LLC (Friedberg 2015a). The dwelling rests on a brick foundation laid in a five-course American bond pattern. The dwelling is clad in beaded weatherboard and features a side-gabled roof with asphalt shingles. There are paired exterior brick chimneys on both ends of the dwelling. The fenestration throughout the dwelling consists of six-over-six, double-hung wood sash windows. The windows on the first floor are surrounded by five-light sidelights. The front façade has a single-story, one-bay wooden front porch with a flat roof supported by square columns. The porch provides protection to the single-leaf door with a transom and three-light sidelights. ERM revisited the resource on July 26, 2024, but could not

adequately see the dwelling from the nearest public right-of-way. What was discernable from the public right-of-way were two of the exterior end brick corbelled chimneys and their chimney caps.

Noted in a 1995 survey is a gable-roofed shed clad in weatherboard and wood shingles behind the dwelling. No other details were provided. ERM could not see a shed from the right-of-way during the 2024 survey.

Nyland was determined eligible for listing on the NRHP by the VDHR in December of 1996 under Criterion C. 088-0100 lies within the half-mile study tier for Routes 2 and 3.

3.4.3 088-0143, LA VISTA

088-0143 is located at 4420 Guinea Station Road. The dwelling is set far back from Guinea Station Road, but it accessible via a gravel driveway. The property consists of agricultural fields and forest, enclosed by a fence.

088-0143, La Vista, includes a two-story dwelling and three outbuildings (Attachment 4, Figure 3). The dwelling was built during two different periods that transition from the Federal style to Greek Revival. The main part of the dwelling was built in circa 1838, with a one-story wing added to the rear in circa 1932. The resource was last surveyed for a National Register nomination in 1997 by Helen Ross (Ross 1997). A non-historic two-story addition with a hipped roof clad in metal was added to the rear of the dwelling in circa 1990. The dwelling rests on a foundation of brick laid in five-course American bond. The dwelling features weatherboard siding and a hipped roof clad in metal. Bracketing the dwelling are exterior end brick chimneys. The front elevation is three bays wide with a central entrance. The two-story porch has an enclosed gable that features a wide band of trim along the edge of the pediment. A band of frieze trim divided into two parts separates the columns from the pedimented gable. Protected by the porch is a four-panel front door surrounded by a band of thirteen vertically-oriented rectangular lights in the transom and six-light side light panels with a dado panel below. The lights surrounding the door are encased in a decorative enframement of wood with a modern design. Acorn and oak leaf corner block moldings are arranged around the front door. The double-hung wood sash windows on the front elevation align vertically and horizontally. ERM revisited the resource in July of 2024, but could not photograph the dwelling fully from the nearest public right-of-way. What was visible was the standing seam metal clad roof and the wood sash double-hung windows bracketed by shutters.

A garage, smokehouse, and henhouse were noted in the 1997 nomination form (Ross 1997). The smokehouse, located west of the dwelling, was described as having a hipped roof and weatherboard siding. Its door and wood sash windows were located on the front and side elevations. The survey noted a brick interior chimney at the back of the smokehouse. The two-story garage was located west of the smokehouse and described as having a hipped roof. The henhouse was located to the east of the dwelling. No other details were provided for the garage or henhouse. ERM could not see these three outbuildings from the right-of-way during their 2024 visit.

In April of 1996, 088-0143 was determined eligible for listing on the NRHP at the local level for significance in the area of architecture and military history. Later in June of 1996, the State Review Board determined that La Vista met the criteria for listing on the Virginia Landmarks

Register (VLR) and NRHP. La Vista was formally added the NRHP in December of 1997 under reference number 97001508. 088-0143 lies within the 1-mile study tier for Routes 2, 3, and 4.

3.4.4 088-0256, WESTWOOD

088-0256 is located at 3918 Guinea Station Road in Fredericksburg, Virginia. The resource is set back from the road and is accessible via a gravel drive that cuts through to the back end of the property. The parcel consists of a manicured lawn and cultivated fields bounded by a wire and wood post fence. The dwelling is surrounded by mature trees. Likewise, the parcel is delineated by a forest to the northwest, southwest, and southeast.

088-0256, Westwood, includes a circa 1818, two-and-a-half story T-shaped Federal style dwelling and six outbuildings (Attachment 4, Figure 4). It was last surveyed in June of 2015 by Dara Friedberg on behalf of Dutton + Associates, LLC (Friedberg 2015b). The dwelling features a cross-gabled roof clad in asphalt shingles and weatherboard siding. It rests on a brick foundation. The dwelling includes an exterior end brick chimney at either end. The primary entrance is centrally located on the north elevation. The front door, accessed via a small brick stoop, includes a sidelight, pilasters, and a pediment. The fenestration throughout the dwelling is made up of six-over-six, double-hung wood sash windows flanked by shutters. There is an additional octagonal window centered in the front gable end. ERM revisited Westwood in July of 2024. The dwelling has not undergone any significant changes since it was surveyed in 2015.

088-0256 includes a stable, two sheds, and three barns. In the 1996 survey, the non-historic stable and sheds were described as having concrete block foundations, weatherboard siding, and gabled roofs. The barns were further described as being clad in metal siding with gabled roofs. During the July 2024 survey, one of the gabled sheds were noted to the northwest of the dwelling. The remaining outbuildings are located southwest of the dwelling.

Although 088-0256 has not formally been determined eligible for listing on the NRHP, the previous surveyors in 1996 and 2015 recommended the resource potentially eligible under Criteria C and D for its architectural distinction and use as a headquarters during the Civil War. A letter from Michele M. and Edward P. Schiesser described this resource as architecturally significant in the community. Thus, ERM has included it in this report as a locally significant resource. 088-0256 is located within the half-mile study tier for Routes 2, 3, and 4.

3.4.5 088-0297, COATES HOUSE

088-0297 is located at 7420 Jefferson Davis Highway in Fredericksburg, Virginia. The resource is situated roughly 20 feet from the road and is fully surrounded by trees.

088-0297, Coates House, is a two-story, circa 1896 Queen Anne style dwelling with classical influences (Attachment 4, Figure 5). The resource was last surveyed in July of 1996 by SFJ: Traceries (SFJ: Traceries 1996). The dwelling has a side-gabled wing situated perpendicular to the two small front-gable wings at opposite ends of the dwelling. The roof is clad in asphalt shingles and the dwelling features vinyl siding. It rests on a concrete pier foundation that has been infilled. The single-story front porch has been screened in. The two-over-two, double-hung wood sash windows on the front façade are arranged symmetrically. The dwelling is also adorned with a

diamond shaped window. The dwelling features cornice returns on the east, north, and south elevations. ERM revisited Coates House in July of 2024. The gable-and-wing dwelling includes an interior end brick chimney and a central chimney that pierces the roof behind the projected gable. The porch is accessible via a concrete step. Finally, the dwelling has a shed roof lean-to attached to the rear façade.

In addition to the Queen Anne style dwelling, the resource includes a metal carport and a shed constructed of concrete block and a metal clad roof. A third building on the property just south of the dwelling was built as a store; it a single-story side-gabled building.

088-0297 is not currently listed on the NRHP, nor has it been formally determined as eligible for listing on the NRHP. However, the Coates House was owned by an African American farmer who was one of the first African American teachers in the county. Due to its ties to local history, ERM is opting to include 088-0297 in this analysis as a locally significant resource. 088-0297 is located within the 1-mile tier for Routes 2, 3, and 4.

3.5 HISTORIC RESOURCE FINDINGS FOR ROUTE 2

3.5.1 016-0094, SPRING GROVE

Spring Grove is located approximately 0.37 mile to the southeast of Route 2, where the route uses a greenfield alignment until it connects to Dominion's existing Line #2090 (Attachment 5, Figure 1). The area between the route and the resource is heavily wooded and contains an agricultural field and associated dwelling.

One simulation was prepared from KOP 002-CR, which is located along Guinea Station Road, approximately 0.49 mile to the southeast of the route. This location was chosen because of safety concerns related to the point closest to the route from the resource. At this location, as illustrated in the simulation from KOP 002-CR, the new transmission structures would not be visible due to distance and intervening vegetation (Attachment 5, Figure 2).

As access to the resource boundary's point closest to the route was not available, ERM conducted additional modeling using the vegetated viewshed analysis. This analyzes vantage points across the resource and in the surrounding area looking towards Route 2. The model depicts where there is potential for any transmission structures to be visible and quantifies the number of structures likely to be visible. According to the analysis, the top of one structure, located above the tree line, could be visible from the northeastern edge of the resource boundary (Attachment 6, Figure 1). Although the northwestern corner shows no line of sight to Route 2 based on the viewshed analysis, the location where the KOP was taken shows visibility. It is important to note that the vegetated model is a low-resolution analysis that is best used as a predictive model and not a ground-truth survey of line-of-sight. While the KOP is located where the vegetated analysis shows visibility, the simulations themselves use ground truth vegetated conditions in an area. Thus, survey observations of vegetation suggest that this vegetated analysis is not precise enough at this location. As the simulation does not show visibility, ERM recommends that the route would have **No Impact** on 016-0094.

3.5.2 088-0100, NYLAND

Nyland is located approximately 0.46 mile to the northeast of Route 2, where the route uses a greenfield alignment until it connects to Dominion Energy Virginia's existing Line #2090 (Attachment 5, Figure 3). The area between the route and the resource consists of dense forest and vegetation. One simulation was prepared for the resource, from KOP 009-CR along Guinea Station Road/Route 607 (Attachment 5, Figure 4). As shown in the simulation, there would be no view to the route due to distance and intervening vegetation. Therefore, there would be **No Impact** on this resource from Route 2.

3.5.3 088-0143, LA VISTA

La Vista is located approximately 0.76 mile to the north of Route 2, where the route uses a greenfield alignment (Attachment 5, Figure 5). The area between the route and the resource consists of forest and the Ni River.

One simulation was prepared for the resource, from KOP 004-CR along Guinea Station Road. This location is located approximately 1.16 miles to the north of the route, and was chosen because it was the closest to Route 2 and the resource from the public right-of-way. As shown in the simulation, Route 2 would not be visible from this point due to distance and intervening vegetation (Attachment 5, Figure 6).

As access to the resource was not granted, ERM conducted additional modeling using the vegetated viewshed analysis. This analyzes vantage points across the resource and in the surrounding area looking towards Route 2. The model depicts where there is potential for any transmission structures to be visible and quantifies the number of structures likely to be visible. According to the analysis, no structures associated with Route 2 would be visible from 088-0143 (Attachment 6, Figure 2). Thus, ERM recommends there would be **No Impact** on this resource from Route 2

3.5.4 088-0256, WESTWOOD

Westwood is located approximately 0.36 mile to the north of Route 2, where the route uses a greenfield alignment until it connects to Dominion's existing Line #2090 (Attachment 5, Figure 7). The area between the resource and the route is densely wooded.

One simulation was prepared from KOP 003-CR, which is located along Guinea Station Road, approximately 0.62 mile to the north of Route 2. This point was chosen because it was the closest to Route 2 and the resource from the public right-of-way. As shown in the simulation, there would be no view from the KOP to the route due to distance and intervening vegetation (Attachment 5, Figure 8).

However, as access to the resource was not granted, ERM conducted additional modeling using the vegetated viewshed analysis. This analyzes vantage points across the resource and in the surrounding area looking towards Route 2. The model depicts where there is potential for any transmission structures to be visible and quantifies the number of structures likely to be visible. According to the analysis, some structures could be visible from the northern half of the parcel (Attachment 6, Figure 2). Although the resource boundary only includes the dwelling itself, the

resource actually encompasses the entire parcel (Spotsylvania County 2024). The analysis shows that structures could be visible above the tree line from the dwelling to the north, towards the road. The top of one structure could be visible from the dwelling, while the tops of two to three structures could be visible from the front yard, and a very small portion near the road could have a view of four to eight structures. However, the structures would only be visible slightly above the tree line, in the distance, and small from within the parcel boundary. The outbuildings (to the south of the dwelling) would have no view of the route and no other views would be altered by the route. While the change is minor, the construction would add a modern element to the southern viewshed where there currently is dense vegetation and forest. Thus, ERM recommends that Route 2 would have a **Minimal Impact** on 088-0256.

3.5.5 088-0297, COATES HOUSE

The Coates House is located approximately 0.70 mile to the northwest of Route 2, where the route uses a greenfield alignment, and approximately 0.65 mile to the northwest of the proposed Tributary Station (Attachment 5, Figure 9). The area between the route and the resource consists of dense forest and vegetation. One simulation was prepared for the resource, from KOP 008-CR along Patriot Highway/Highway 1 (Attachment 5, Figure 10). As shown in the simulation, there would be no view to the route due to distance and intervening vegetation. Therefore, there would be **No Impact** on this resource from Route 2.

3.6 HISTORIC RESOURCE FINDINGS FOR ROUTE 3

3.6.1 016-0094, SPRING GROVE

Spring Grove is located approximately 0.37 mile to the southeast of Route 3, where the route uses a greenfield alignment until it connects to Dominion's existing Line #2090 (Attachment 5, Figure 11). The area between the route and the resource is heavily wooded and contains an agricultural field and associated dwelling.

One simulation was prepared from KOP 002-CR, which is located along Guinea Station Road, approximately 0.49 mile to the southeast of the route. This location was chosen because of safety concerns related to the point closest to the route from the resource. At this location, as illustrated in the simulation from KOP 002-CR, the new transmission structures would not be visible due to distance and intervening vegetation (Attachment 5, Figure 12).

As access to the resource boundary's point closest to the route was not available, ERM conducted additional modeling using the vegetated viewshed analysis. This analyzes vantage points across the resource and in the surrounding area looking towards Route 3. The model depicts where there is potential for any transmission structures to be visible and quantifies the number of structures likely to be visible. According to the analysis, the top of one structure, located above the tree line, could be visible from the northeastern edge of the resource boundary (Attachment 6, Figure 3).

Although the northwestern corner shows no line of sight to Route 3 based on the viewshed analysis, the location where the KOP was taken shows visibility. It is important to note that the vegetated model is a low-resolution analysis that is best used as a predictive model and not a ground-truth survey of line-of-sight. While the KOP is located where the vegetated analysis shows

visibility, the simulations themselves use ground truth vegetated conditions in an area. Thus, survey observations of vegetation suggest that this vegetated analysis is not precise enough at this location. As the simulation does not show visibility, ERM recommends that the route would have **No Impact** on 016-0094.

3.6.2 088-0100, NYLAND

Nyland is located approximately 0.46 mile to the northeast of Route 3, where the route uses a greenfield alignment until it connects to Dominion Energy Virginia's existing Line #2090 (Attachment 5, Figure 13). The area between the route and the resource consists of dense forest and vegetation. One simulation was prepared for the resource, from KOP 009-CR, along Guinea Station Road/Route 607 (Attachment 5, Figure 14). As shown in the simulation, there would be no view to the route due to distance and intervening vegetation. Therefore, there would be **No Impact** on this resource from Route 3.

3.6.3 088-0143, LA VISTA

La Vista is located approximately 0.52 mile to the northwest of Route 3, where the route uses a greenfield alignment (Attachment 5, Figure 15). The area between the route and the resource consists of forest.

One simulation was prepared for the resource, from KOP 004-CR along Guinea Station Road. This location is located approximately 0.79 miles to the north-northwest of the route, and was chosen because it was the closest to Route 3 and the resource from the public right-of-way. As shown in the simulation, Route 3 would not be visible from this point due to distance and intervening vegetation (Attachment 5, Figure 16).

As access to the resource was not granted, ERM conducted additional modeling using the vegetated viewshed analysis. This analyzes vantage points across the resource and in the surrounding area looking towards Route 3. The model depicts where there is potential for any transmission structures to be visible and quantifies the number of structures likely to be visible. According to the analysis, no structures associated with Route 3 would be visible from 088-0143 (Attachment 6, Figure 4). Thus, ERM recommends there would be **No Impact** on this resource from Route 3

3.6.4 088-0256, WESTWOOD

Westwood is located approximately 0.19 mile to the northeast of Route 3, where the route uses a greenfield alignment (Attachment 5, Figure 17). The area between the route and the resource consists of dense forest and vegetation.

One simulation was prepared from KOP 003-CR along Guinea Station Road. This point is located approximately 0.46 mile to the north-northeast of the route, and was chosen because it was the closest to Route 3 and the resource from the public-right-of-way. As shown in the simulation, there would be a slight shift in the tree line to the west of the dwelling due to right-of-way clearing (Attachment 5, Figure 18). However, this is minor, and no transmission line structures would be visible from this location (Attachment 5, Figure 19).

However, as access to the resource was not granted, ERM conducted additional modeling using the vegetated viewshed analysis. This analyzes vantage points across the resource and in the surrounding area looking towards Route 3. The model depicts where there is potential for any transmission structures to be visible and quantifies the number of structures likely to be visible. According to the analysis, some structures would be visible from the northern half of the parcel (Attachment 6, Figure 4). Although the resource boundary only includes the dwelling itself, the resource actually encompasses the entire parcel (Spotsylvania County 2024). The analysis shows that structures could be visible above the tree line from the dwelling to the north, towards the road. The top of one structure could be visible from the dwelling, while the tops of two to eight structures could be visible from the northern edge, near the road. Although the tops of the structures would only be visible when looking to the south from the dwelling and front yard, there could be a view of the structures through the trees from the southern edge of the parcel during leaf-off season. This would add more prominent modern infrastructure to the southern viewshed than would be the case with Route 2. Thus, ERM recommends that Route 3 would have a **Moderate Impact** on 088-0256.

3.6.5 088-0297, COATES HOUSE

The Coates House is located approximately 0.70 mile to the northwest of Route 3, where the route uses a greenfield alignment, and approximately 0.65 mile to the northwest of the proposed Tributary Station (Attachment 5, Figure 20). The area between the route and the resource consists of dense forest and vegetation. One simulation was prepared for the resource, from KOP 008-CR along Patriot Highway/Highway 1 (Attachment 5, Figure 21). As shown in the simulation, there would be no view to the route due to distance and intervening vegetation. Therefore, there would be **No Impact** on this resource from Route 3.

3.7 HISTORIC RESOURCE FINDINGS FOR ROUTE 4

3.7.1 088-0143, LA VISTA

La Vista is located approximately 0.50 mile to the northwest of Route 4, where the route uses a greenfield alignment (Attachment 5, Figure 22). The area between the route and the resource consists of forest.

One simulation was prepared for the resource, from KOP 004-CR along Guinea Station Road. This location is located approximately 0.61 mile to the west of the route, and was chosen because it was the closest to Route 4 and the resource from the public right-of-way. As shown in the simulation, Route 4 would not be visible from this point due to distance and intervening vegetation (Attachment 5, Figure 23).

As access to the resource was not granted, ERM conducted additional modeling using the vegetated viewshed analysis (Attachment 6, Figure 5). This analyzes vantage points across the resource and in the surrounding area looking towards Route 4. The model depicts where there is potential for any transmission structures to be visible and quantifies the number of structures likely to be visible. According to the analysis, no structures associated with Route 4 would be

visible from 088-0143. Thus, ERM recommends there would be **No Impact** on this resource from Route 4.

3.7.2 088-0256, WESTWOOD

Westwood is located approximately 0.38 mile to the southeast of Route 4, where the route uses a greenfield alignment (Attachment 5, Figure 24). The area between the route and the resource consists of dense forest and vegetation.

One simulation was prepared from KOP 003-CR, which is located along Guinea Station Road, approximately 0.36 mile to the southeast of Route 4. This point was chosen because it was the closest to the route and the resource from the public right-of-way. As shown in the simulation, there would be no view to the route due to distance and intervening vegetation (Attachment 5, Figure 25).

However, as access to the resource was not granted, ERM conducted additional modeling using the vegetated viewshed analysis. This analyzes vantage points across the resource and in the surrounding area looking towards Route 4. The model depicts where there is potential for any transmission structures to be visible and quantifies the number of structures likely to be visible. According to the analysis, only one structure could be visible from portions of the eastern half of the resource (Attachment 6, Figure 5). Although the resource boundary only includes the dwelling itself, the resource actually encompasses the entire parcel (Spotsylvania County 2024). Only the top of one structure could be visible above the tree line from these locations when looking to the west, but the vast majority of the resource would experience no viewshed change, including all of the buildings associated with the resource. In addition, the view of the route would be in the distance, and small in scale from within the parcel boundary. While the change is minor, the construction would add a modern element to the western viewshed where there currently is dense vegetation and forest. Thus, ERM recommends that there would be a **Minimal Impact** to this resource from Route 4.

3.7.3 088-0297, COATES HOUSE

The Coates House is located approximately 0.70 mile to the northwest of Route 4, where the route uses a greenfield alignment, and approximately 0.65 mile to the northwest of the proposed Tributary Station (Attachment 5, Figure 26). The area between the route and the resource consists of dense forest and vegetation. One simulation was prepared for the resource, from KOP 008-CR along Patriot Highway/Highway 1 (Attachment 5, Figure 27). As shown in the simulation, there would be no view to the route due to distance and intervening vegetation. Therefore, there would be **No Impact** on this resource from Route 4.

3.8 ARCHAEOLOGY FINDINGS

No known archaeological sites are located in the right-of-way of the transmission line alternative routes.

4. CONCLUSION AND RECOMMENDATIONS

The pre-application analysis gathered information on archaeological and historic architectural resources that qualify for consideration according to the VDHR Guidelines for transmission line projects.

No known archaeological sites were identified in or adjacent to the right-of-way of the transmission line routes reviewed in this study.

Five aboveground historic resources fall within the VDHR study tiers for the alternative routes under consideration. A comparison of the number of resources impacted and the degree of impact of route is presented in Table 6. The specific resources affected by each route are covered in the subsections that follow.

TABLE 6 COMPARISON OF PROJECT IMPACTS ON HISTORIC RESOURCES IN THE STUDY AREAS OF THE ALTERNATIVE ROUTES

Alternative Route	Number of Considered Resources in Each Impact Category				
	None	Minimal	Moderate	Severe	Total
Route 2	4	1	0	0	5
Route 3	4	0	1	0	5
Route 4	2	1	0	0	3

Final assessments of Project impacts will be dependent on the completion of identification-phase archaeological and historic structure surveys along the route selected by the SCC and review of survey results by VDHR and other consulting parties. For any resources where the agencies concur in a finding of moderate or severe impact, the Company will propose treatments to avoid, minimize, or mitigate those impacts. Treatment options for archaeological sites could include selective structure placement to avoid direct impacts on sites, minor route adjustments to avoid crossing sites, or archaeological data recovery. Treatment options for aboveground historic resources could include detailed site documentation, historic research, and historic preservation studies; preparation of digital media or museum-type exhibits on sites for public interpretation; installation of historic markers or signs; installation of vegetative screening; or contributions to historical preservation organizations or specific preservation projects. Additional mitigation measures could be identified through consultation with VDHR and other consulting parties.

4.1 ROUTE 2

Five previously recorded historic architectural resources meet the criteria specified in the Guidelines and fall within the VDHR study tiers for Route 2 (Table 7). The route would have no impact on four resources (016-0094, 088-0100, 088-0143, and 088-0297), and a minimal impact on one resource (088-0256).

TABLE 7 IMPACTS TO HISTORIC RESOURCES IN THE VDHR STUDY TIERS FOR ROUTE 2

Buffer (miles)	Resource Category	Resource Number	Description	Impact
1.0 to 1.5	National Historic Landmarks	-	-	-
0.5 to 1.0	National Register Properties (Listed)	088-0143	La Vista	None
	National Register – Eligible (Battlefields/Historic Landscapes)	-	-	-
	Locally Significant	088-0297	Coates House[a]	None
0.0 to 0.5	National Register – Eligible	088-0100	Nyland	None
	Locally Significant	016-0094	Spring Grove	None
		088-0256	Westwood	Minimal
0.0 (within ROW)	National Historic Landmarks, National Register Properties (Listed and Eligible)	-	-	-

Source: VDHR 2024

[a] Resource is within the designated tiers for the proposed Tributary Station.

4.2 ROUTE 3

Five previously recorded historic architectural resources meet the criteria specified in the Guidelines and fall within the VDHR study tiers for Route 3 (Table 8). The route would have no impact on four resources (016-0094, 088-0100, 088-0143, and 088-0297) and a moderate impact on one resource (088-0256).

TABLE 8 IMPACTS TO HISTORIC RESOURCES IN THE VDHR STUDY TIERS FOR ROUTE 2

Buffer (miles)	Resource Category	Resource Number	Description	Impact
1.0 to 1.5	National Historic Landmarks	-	-	-
0.5 to 1.0	National Register Properties (Listed)	088-0143	La Vista	None
	National Register – Eligible (Battlefields/Historic Landscapes)	-	-	-
	Locally Significant	088-0297	Coates House[a]	None
0.0 to 0.5	National Register – Eligible	088-0100	Nyland	None
	Locally Significant	016-0094	Spring Grove	None
		088-0256	Westwood	Moderate
0.0 (within ROW)	National Historic Landmarks, National Register Properties (Listed and Eligible)	-	-	-

Source: VDHR 2024

[a] Resource is within the designated tiers for the proposed Tributary Station.

4.3 ROUTE 4

Three previously recorded historic architectural resources meet the criteria specified in the Guidelines and fall within the VDHR study tiers for Route 4 (Table 9). The route would have no impact on two resources (088-0143 and 088-0297) and a minimal impact on one resource (088-0256).

TABLE 9 IMPACTS TO HISTORIC RESOURCES IN THE VDHR STUDY TIERS FOR ROUTE 4

Buffer (miles)	Resource Category	Resource Number	Description	Impact
1.0 to 1.5	National Historic Landmarks	-	-	-
0.5 to 1.0	National Register Properties (Listed)	088-0143	La Vista	None
	National Register – Eligible (Battlefields/Historic Landscapes)	-	-	-
	Locally Significant	088-0297	Coates House[a]	None
0.0 to 0.5	National Register – Eligible	-	-	-
	Locally Significant	088-0256	Westwood	Minimal
0.0 (within ROW)	National Historic Landmarks, National Register Properties (Listed and Eligible)	-	-	-

Source: VDHR 2024

[a] Resource is within the designated tiers for the proposed Tributary Station.

4.4 FUTURE RECOMMENDATIONS

The next stage of assessing impacts on cultural resources will be to conduct an identification-phase field survey to identify and assess resources along the route selected by the SCC for the Project. Survey of the approved alternative route will be conducted in accordance with the following guidelines:

- Guidelines for Assessing Impacts of Proposed Electrical Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia (VDHR 2008);
- Guidelines for Conducting Historic Resources Survey in Virginia (VDHR 2017);
- National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation (National Park Service [NPS] 1995).

The survey teams will be led by individuals meeting the Secretary of the Interior's professional qualifications standards for archaeology and architectural history, respectively. Teams will traverse the length of the Project corridor, revisiting previously recorded historic architectural resources and documenting additional as-of-yet unrecorded cultural resources in the survey area defined in the Guidelines for the Project design. The archaeological survey will adhere to VDHR survey standards (VDHR 2017) and will entail systematic coverage of the approved route. All material culture, including artifacts and features, that could be 50 years old or older will be recorded. Sites will be delineated within the proposed right-of-way and investigations will include subsurface testing sufficient to inform recommendations of potential eligibility for the NRHP under Criterion D. Each site will be fully documented with appropriate mapping, digital photography, and artifact collection/analysis. Site forms will be prepared for V-CRIS submittal along with full descriptions in

the technical report. The historic architectural survey will likewise adhere to VDHR standards. While the NPS Bulletin 15 (NPS 1995) defines a historic property as a resource that is 50 years or older, for the purposes of this Project, survey will include those 45 years or older to accommodate the length of time needed to complete the permitting phase for the Project. Furthermore, the survey will also record those resources that may have reached significance prior to the 50 (45) year age in accordance with NPS guidance if they are integral parts of districts or have merit to be considered eligible for the NRHP on their own. Digital photographs will be taken to record resources' overall appearance and details. Sketch maps will be drawn depicting the relationship of dwellings to outbuildings and associated landscape features. Additional information on the structures' appearance and integrity will be recorded to assist in making recommendations of NRHP eligibility. Historic maps, aerial photographs, and tax assessor data will be consulted to assist in dating the resources. Resources identified in the field effort will be reported to the VDHR, VCRIS numbers will be obtained, and shapefiles and database information will be provided. Sufficient information will be collected to make recommendations for each identified historic resource regarding eligibility for listing on the NRHP and to assess Project impacts.

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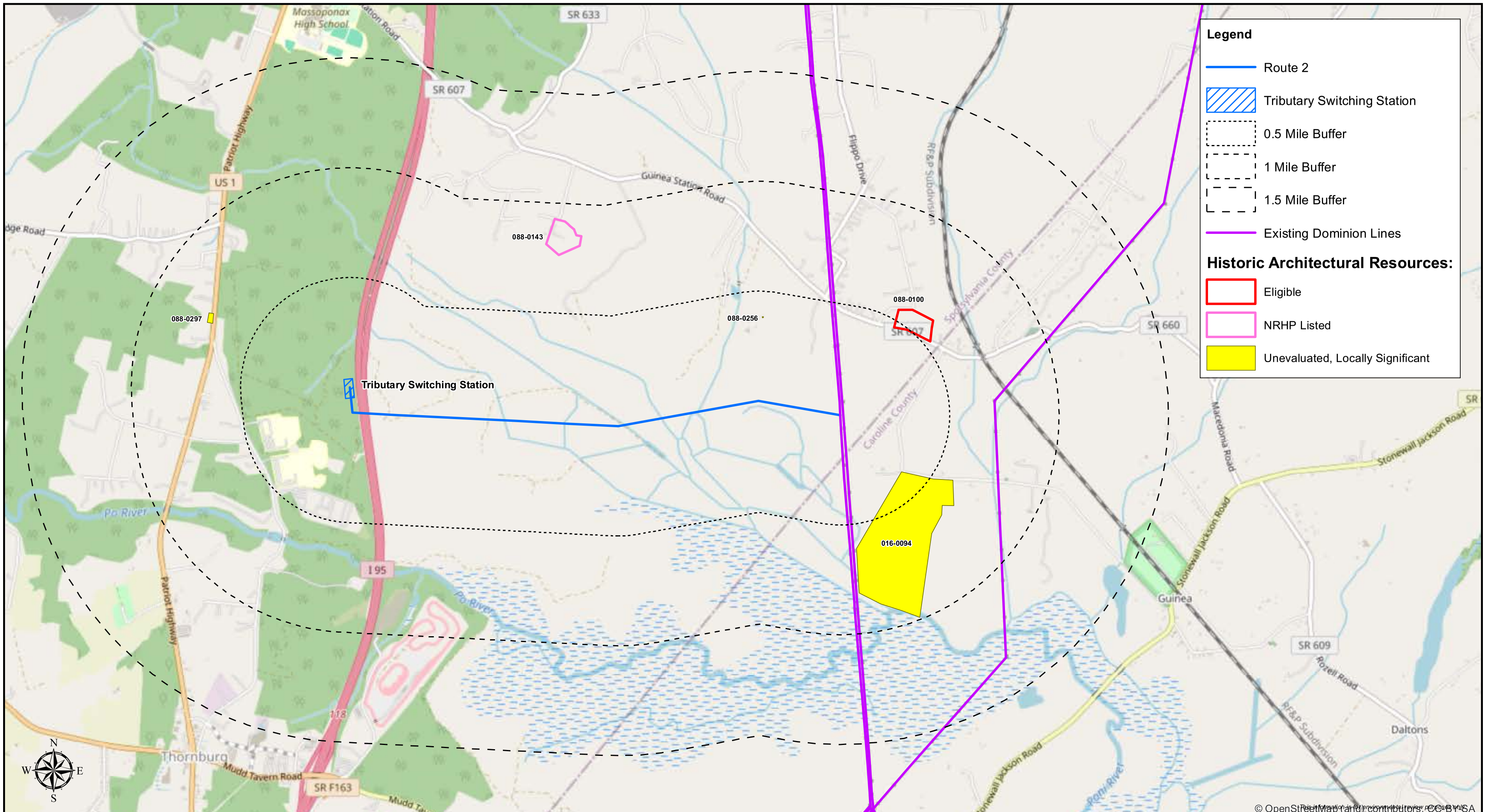
ATTACHMENT 1 LOCATIONS OF CONSIDERED HISTORIC RESOURCES ASSOCIATED WITH PROPOSED PROJECT ALTERNATIVES



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Dominion Energy

Attachment 1, Sheet 1
Locations of Considered Historic Resources Associated with Project Alternatives - Tributary Route 2
Tributary 230 kV Transmission Line Project
Dominion Energy Virginia
Spotsylvania and Caroline Counties, Virginia

ERM

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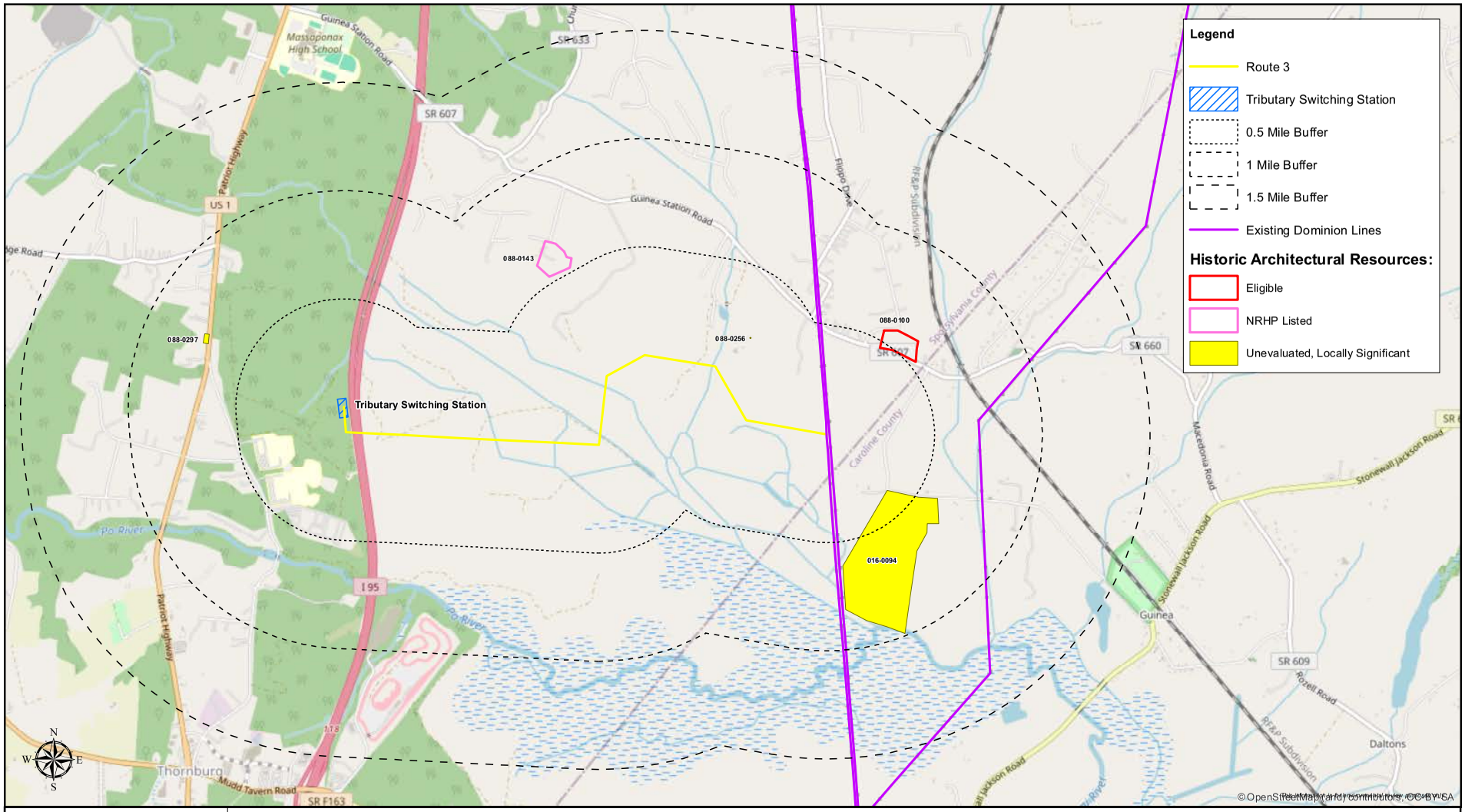

Attachment 1, Sheet 2
Locations of Considered Historic Resources Associated with Project Alternatives - Tributary Route 3
Tributary 230 kV Transmission Line Project
Dominion Energy Virginia
Spotsylvania and Caroline Counties, Virginia

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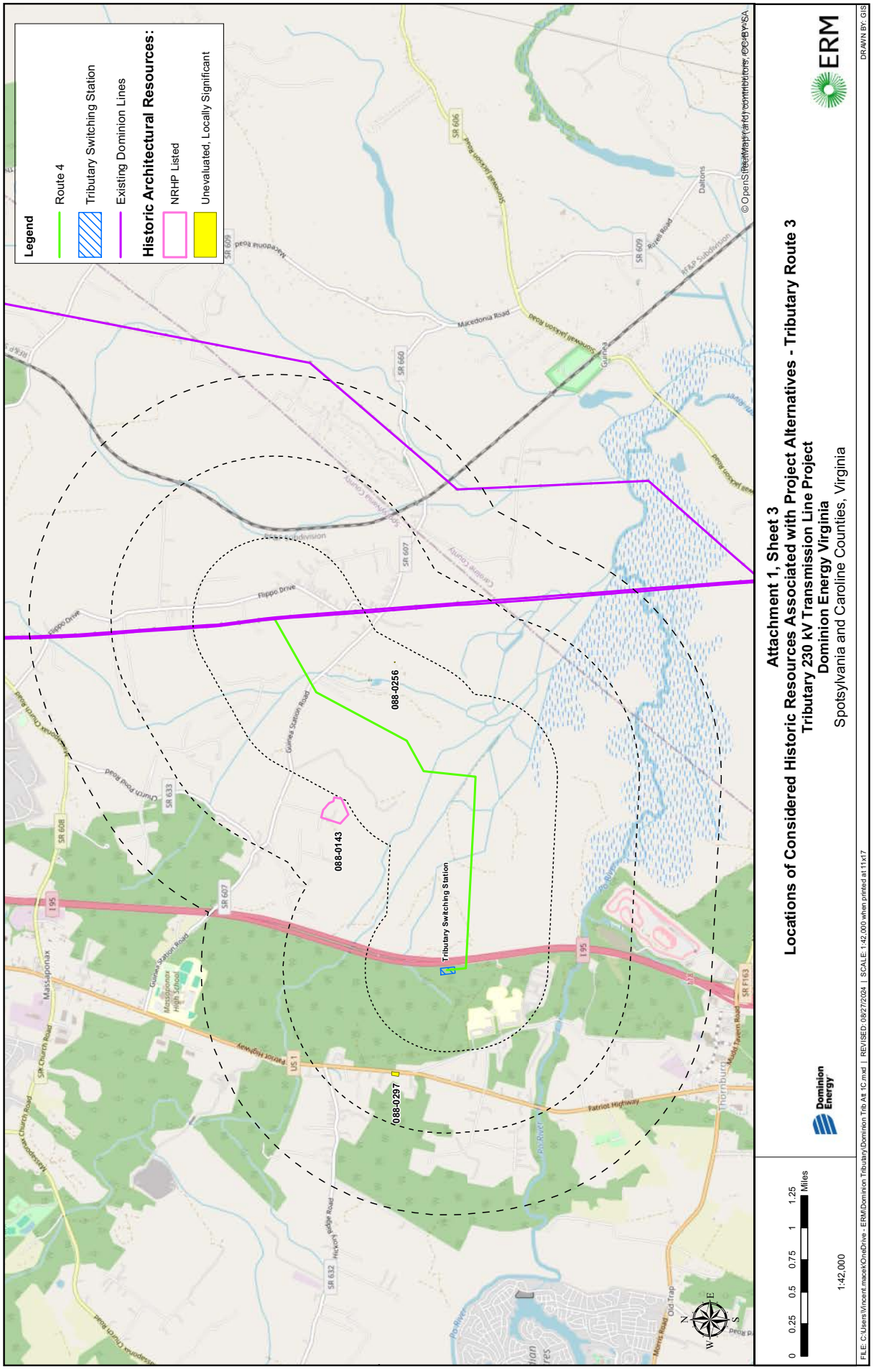
Legend
Route 4
Tributary Switching Station
Existing Dominion Lines
Historic Architectural Resources:
NRHP Listed
Unevaluated, Locally Significant
088-0256
088-0143
088-0297
Tributary Switching Station
Attachment 1, Sheet 3
Locations of Considered Historic Resources Associated with Project Alternatives - Tributary Route 3
Tributary 230 kV Transmission Line Project
Dominion Energy Virginia
Spotsylvania and Caroline Counties, Virginia
Dominion Energy
ERM
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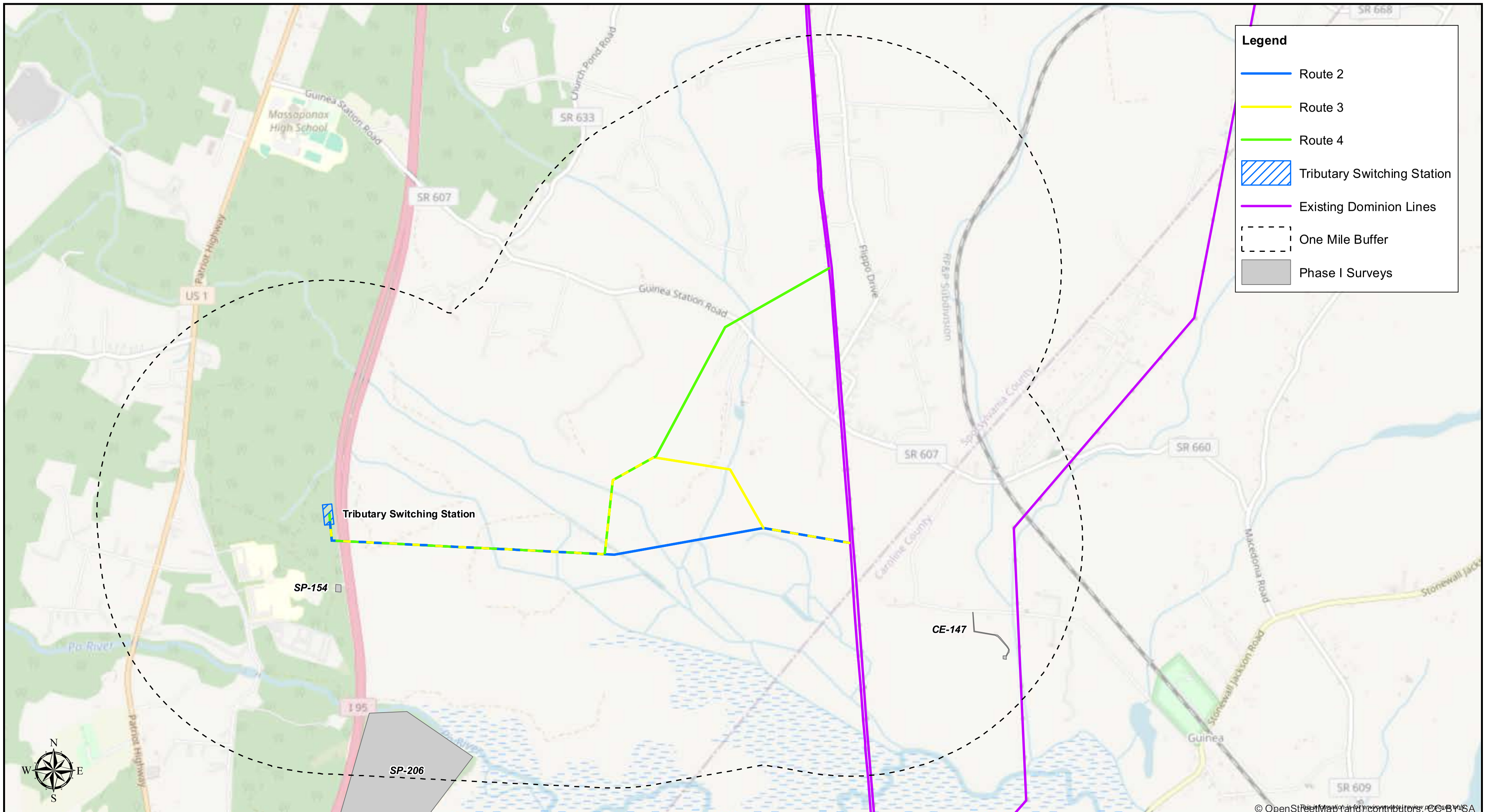
ATTACHMENT 2 CULTURAL RESOURCES SURVEY COVERING PORTIONS OF ALTERNATIVE ROUTES



Dominion Energy

Atatchment 2
Cultural Resources Surveys within 1 Mile of Alternative Routes
Tributary 230 kV Transmission Line Project
Dominion Energy Virginia
Spotsylvania and Caroline Counties, Virginia

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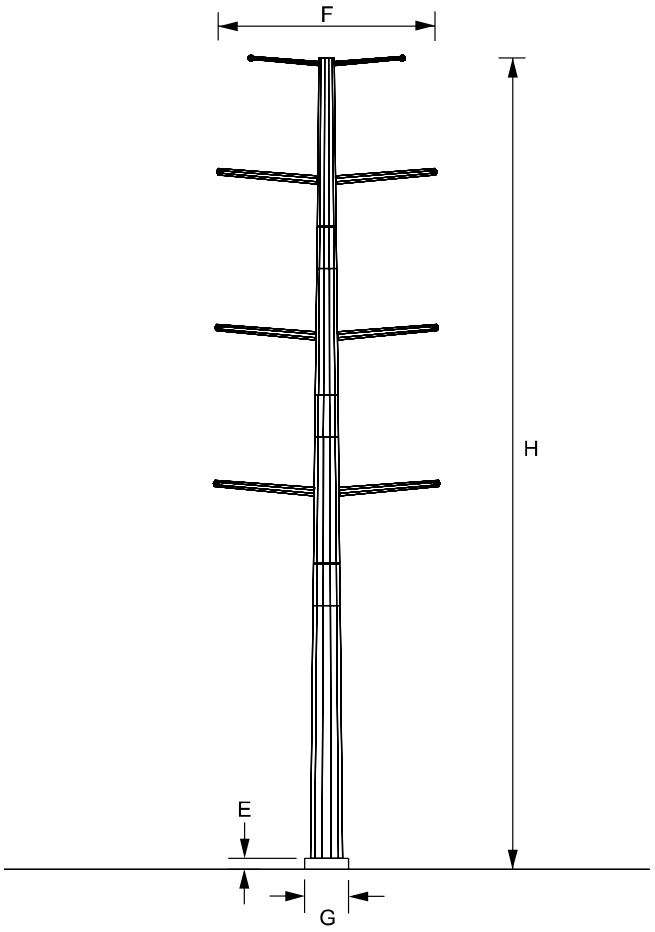
ATTACHMENT 3 TYPICAL DESIGN AND LAYOUT



TYPICAL DC ENGINEERED MONOPOLE DOUBLE DEADEND STRUCTURE

A. STRUCTURE MAPPING	N/A
B. RATIONALE FOR STRUCTURE TYPE:	MINIMIZES RIGHT OF WAY ACQUISITION
C. LENGTH OF R/W (STRUCTURE QTY):	2.3 MILES (3 STRUCTURES) - SEE NOTE 1
D. STRUCTURE MATERIAL:	WEATHERING STEEL
RATIONALE FOR STRUCTURE MATERIAL:	MATCH CURRENT STANDARDS8 AND EXISTING STRUCTURES IN THE AREA
E. FOUNDATION MATERIAL: AVERAGE FOUNDATION REVEAL:	CONCRETE SEE NOTE 2
F. AVERAGE WIDTH AT CROSSARM:	26'
G. AVERAGE WIDTH AT BASE:	SEE NOTE 3
H. MINIMUM STRUCTURE HEIGHT (SEE NOTE 4): MAXIMUM STRUCTURE HEIGHT (SEE NOTE 4): AVERAGE STRUCTURE HEIGHT (SEE NOTE 4):	110' 110' 110'
I. AVERAGE SPAN LENGTH (RANGE):	676' - SEE NOTE 5
J. MINIMUM CONDUCTOR-TO-GROUND:	25.5' (AT MAXIMUM OPERATING TEMPERATURE)

NOTES:
1. ROW LENGTH & STRUCTURE QUANTITY ARE EXCLUSIVE OF COMPANY-OWNED SUBSTATION PROPERTIES
2. MINIMUM FOUNDATION REVEAL SHALL BE 1.5'
3. FOUNDATION DIAMETER SHALL BE BASED ON GEOTECHNICAL FINDINGS DURING FINAL ENGINEERING
4 THE SPAN LENGTHS ASSOCIATED WITH THIS STRUCUTRE TYPE ARE THE AHEAD SPANS

THE INFORMATION CONTAINED ON THIS DRAWING IS CONSIDERED PRELIMINARY IN NATURE AND IS SUBJECT TO CHANGE BASED ON FINAL DESIGN

Dominion Energy
Dominion Energy
5000 Dominion Blvd.
Glen Allen, VA 23060

LINES 2404, 2090

TYPICAL DC ENGINEERED MONOPOLE DOUBLE DEADEND STRUCTURE

ATTACHMENT NO.

II.B.3.a

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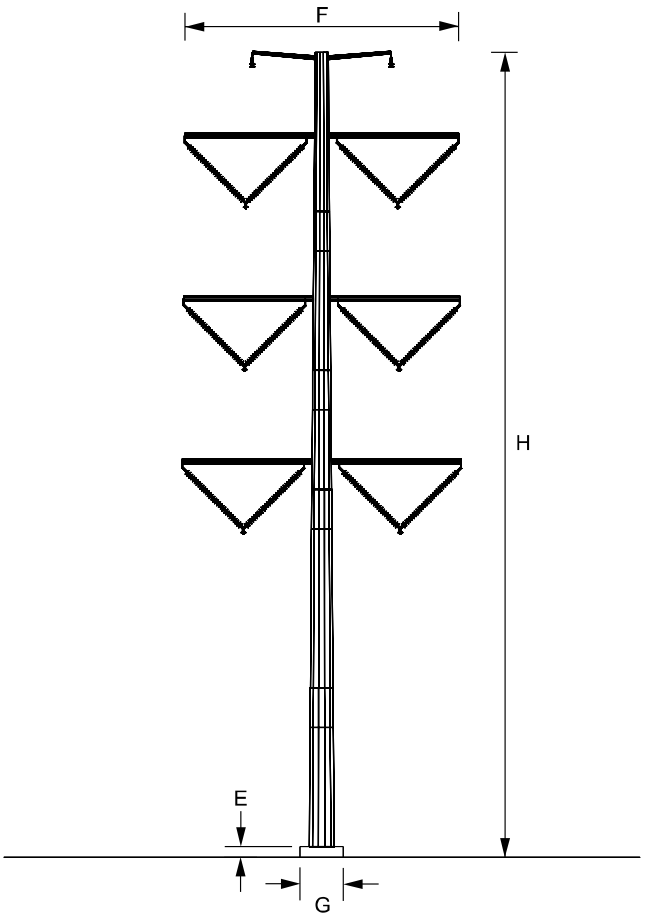


TYPICAL DC ENGINEERED MONOPOLE SUSPENSION STRUCTURE (V-STRING)

A. STRUCTURE MAPPING	N/A
B. RATIONALE FOR STRUCTURE TYPE:	MINIMIZES RIGHT OF WAY ACQUISITION; V-STRING INCREASES CLEARANCES AND OPTMIZES EXISTING ROW USAGE
C. LENGTH OF R/W (STRUCTURE QTY):	2.3 MILES (15 STRUCTURES) - SEE NOTE 1
D. STRUCTURE MATERIAL:	WEATHERING STEEL
RATIONALE FOR STRUCTURE MATERIAL:	MATCH CURRENT STANDARDS8 AND EXISTING STRUCTURES IN THE AREA
E. FOUNDATION MATERIAL: AVERAGE FOUNDATION REVEAL:	CONCRETE SEE NOTE 2
F. AVERAGE WIDTH AT CROSSARM:	34.5'
G. AVERAGE WIDTH AT BASE:	SEE NOTE 3
H. MINIMUM STRUCTURE HEIGHT (SEE NOTE 4): MAXIMUM STRUCTURE HEIGHT (SEE NOTE 4): AVERAGE STRUCTURE HEIGHT (SEE NOTE 4):	110' 110' 110'
I. AVERAGE SPAN LENGTH (RANGE):	620' - SEE NOTE 5
J. MINIMUM CONDUCTOR-TO-GROUND:	25.5' (AT MAXIMUM OPERATING TEMPERATURE)

NOTES:
1. ROW LENGTH & STRUCTURE QUANTITY ARE EXCLUSIVE OF COMPANY-OWNED SUBSTATION PROPERTIES
2. MINIMUM FOUNDATION REVEAL SHALL BE 1.5'
3. FOUNDATION DIAMETER SHALL BE BASED ON GEOTECHNICAL FINDINGS DURING FINAL ENGINEERING
4. THE SPAN LENGTHS ASSOCIATED WITH THIS STRUCUTRE TYPE ARE THE AHEAD SPANS

THE INFORMATION CONTAINED ON THIS DRAWING IS CONSIDERED PRELIMINARY IN NATURE AND IS SUBJECT TO CHANGE BASED ON FINAL DESIGN

Dominion Energy
Dominion Energy
5000 Dominion Blvd.
Glen Allen, VA 23060

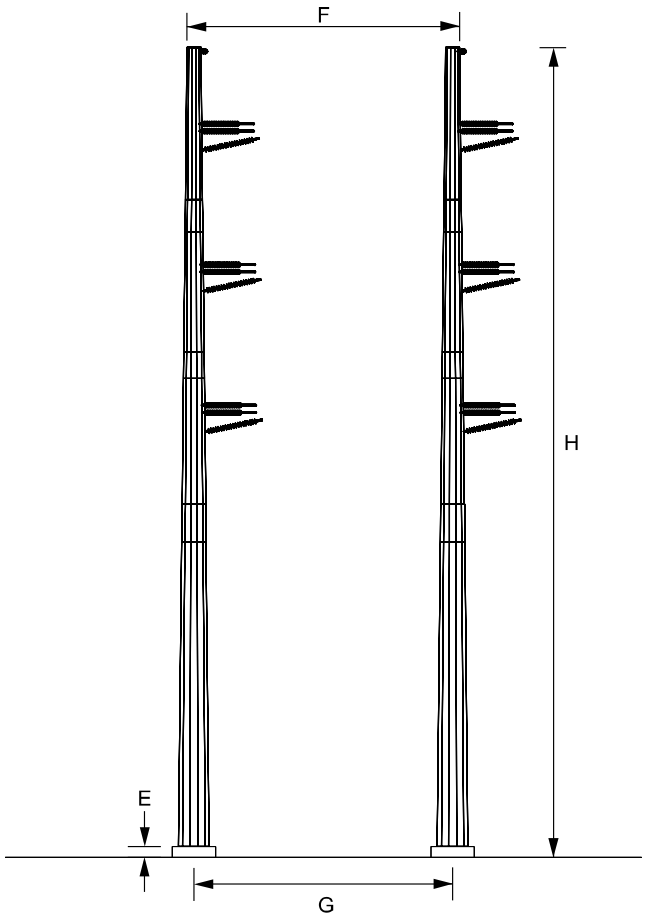
LINES 2404, 2090

TYPICAL DC ENGINEERED MONOPOLE SUSPENSION STRUCTURE (V-STRING)

ATTACHMENT NO.

II.B.3.b

DRAWN BY: SDH



TYPICAL DC ENGINEERED 2-POLE DOUBLE DEADEND STRUCTURE

A. STRUCTURE MAPPING	N/A
B. RATIONALE FOR STRUCTURE TYPE:	MINIMIZES RIGHT OF WAY ACQUISITION; 2-POLES USED FOR HEAVY ANGLES TO OPTIMIZE POLE/FOUNDATION SIZE AND COST
C. LENGTH OF R/W (STRUCTURE QTY):	2.45 MILES (5) - SEE NOTE 1
D. STRUCTURE MATERIAL:	WEATHERING STEEL
RATIONALE FOR STRUCTURE MATERIAL:	MATCH CURRENT STANDARDS8 AND EXISTING STRUCTURES IN THE AREA
E. FOUNDATION MATERIAL: AVERAGE FOUNDATION REVEAL:	CONCRETE SEE NOTE 2
F. AVERAGE WIDTH AT CROSSARM:	36'
G. AVERAGE WIDTH AT BASE:	SEE NOTE 3
H. MINIMUM STRUCTURE HEIGHT (SEE NOTE 4): MAXIMUM STRUCTURE HEIGHT (SEE NOTE 4): AVERAGE STRUCTURE HEIGHT (SEE NOTE 4):	105' 105' 105'
I. AVERAGE SPAN LENGTH (RANGE):	615' - SEE NOTE 5
J. MINIMUM CONDUCTOR-TO-GROUND:	25.5' (AT MAXIMUM OPERATING TEMPERATURE)

NOTES:
1. ROW LENGTH & STRUCTURE QUANTITY ARE EXCLUSIVE OF COMPANY-OWNED SUBSTATION PROPERTIES
2. MINIMUM FOUNDATION REVEAL SHALL BE 1.5'
3. FOUNDATION DIAMETER SHALL BE BASED ON GEOTECHNICAL FINDINGS DURING FINAL ENGINEERING
4. THE SPAN LENGTHS ASSOCIATED WITH THIS STRUCUTRE TYPE ARE THE AHEAD SPANS

THE INFORMATION CONTAINED ON THIS DRAWING IS CONSIDERED PRELIMINARY IN NATURE AND IS SUBJECT TO CHANGE BASED ON FINAL DESIGN

Dominion Energy
Dominion Energy
5000 Dominion Blvd.
Glen Allen, VA 23060

LINES 2404, 2090

TYPICAL DC ENGINEERED 2-POLE DOUBLE DEADEND STRUCTURE

ATTACHMENT NO.

II.B.3.c

DRAWN BY: SDH

ATTACHMENT 4 HISTORIC RESOURCE PHOTOS

HISTORIC RESOURCE PHOTOS
Tributary Transmission Line Project,
Spotsylvania and Caroline Counties, Virginia

ATTACHMENT 4

Figure 1. 016-0094, Spring Grove dwelling, north elevation, view to the south along Guinea Station Road.

Figure 2. 088-0100, Nyland, no access, view to the north along Guinea Station Road.

Figure 3. 088-0143, La Vista, no access, view to the south along Guinea Station Road.

Figure 4. 088-0256, Westwood, dwelling, northeast elevation, view to the southwest along Guinea Station Road.

Figure 5. 088-0297, Coates House, dwelling, east and south elevations, view to the northwest along Patriot Highway.

ATTACHMENT 5 PHOTO SIMULATIONS

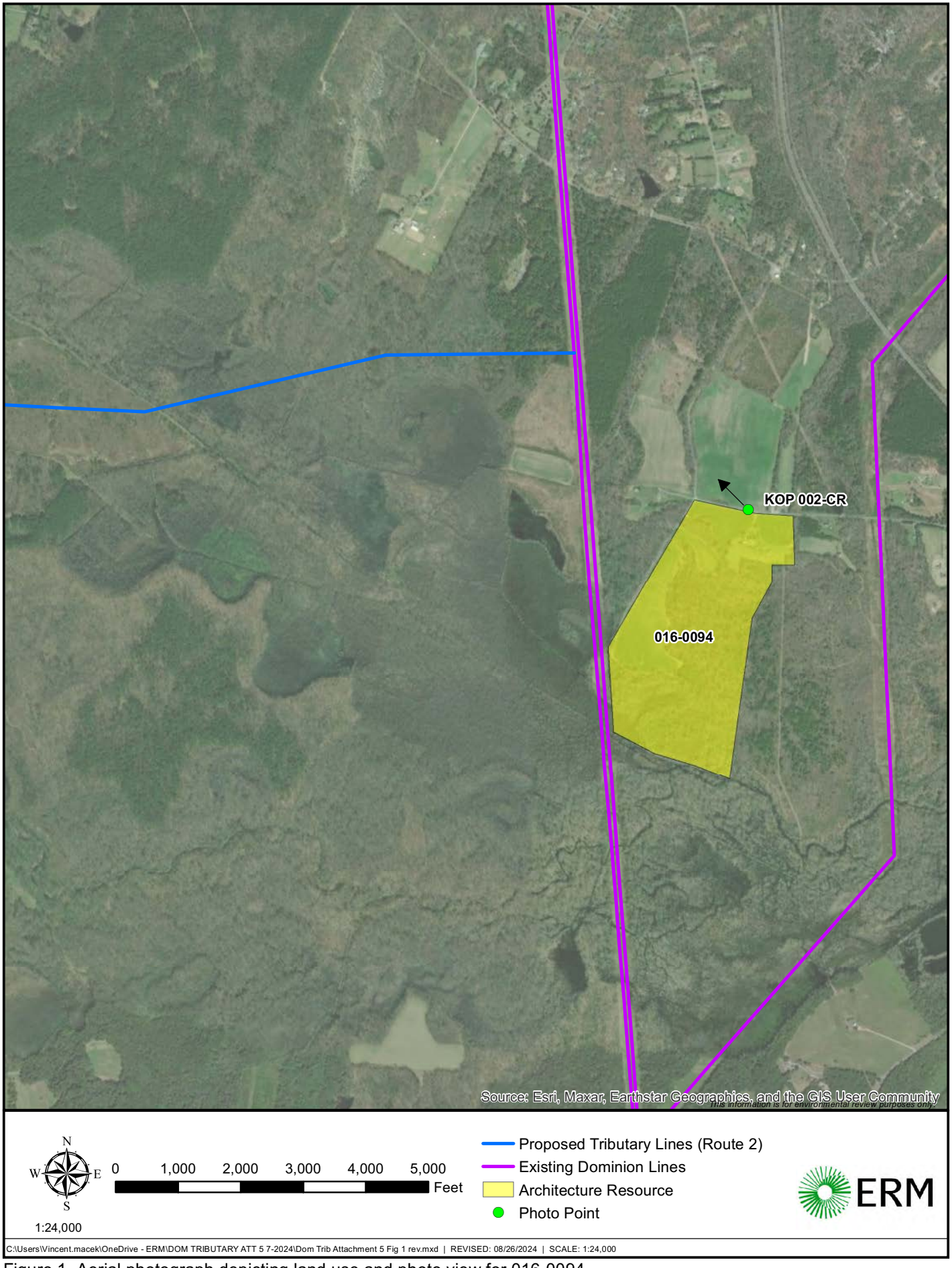


Figure 1. Aerial photograph depicting land use and photo view for 016-0094.

Existing View

Proposed view showing hidden transmission line structures

Dominion Energy

ERM

Viewpoint Location UTM Zone 18N:	284477E 4225548N
View Direction:	321 degrees
Viewpoint Elevation:	140 feet
Distance to Development:	1396 feet
Horizontal Field of View:	95 degrees

Date of Photography:	24th July 2024 16:19
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	64 inches

VIEWPOINT CONTEXT

Figure 2
Viewpoint KOP 002-CR
Guinea Station Rd NW of Flippo Dr
016-0094

Pre-Application Analysis
Tributary

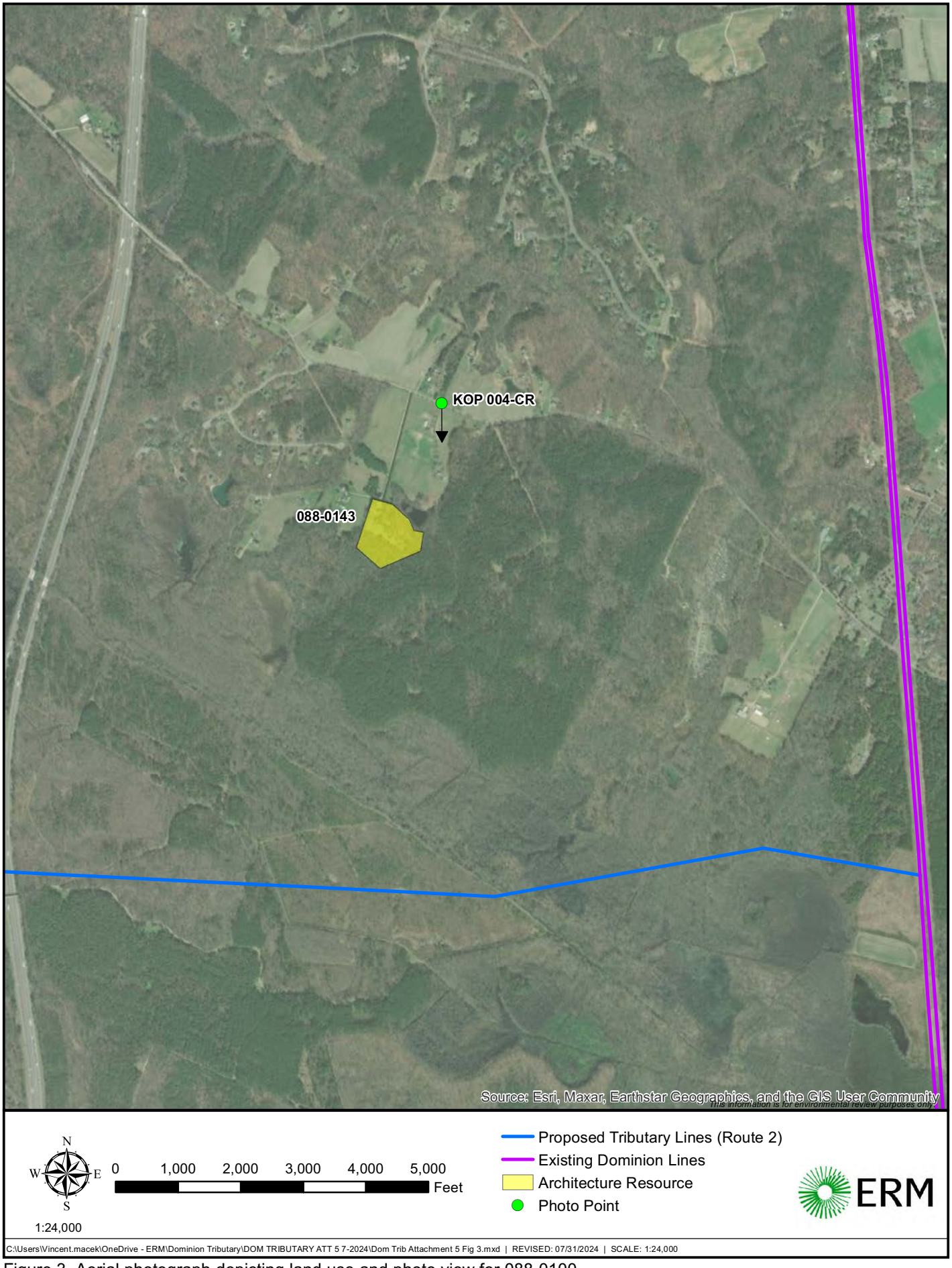


Figure 3. Aerial photograph depicting land use and photo view for 088-0100.

Existing View

Proposed view showing hidden transmission line structures

Dominion Energy

ERM

Viewpoint Location UTM Zone 18N:	284295E 4226634N
View Direction:	235 degrees
Viewpoint Elevation:	196 feet
Distance to Development:	2519 feet
Horizontal Field of View:	95 degrees

Date of Photography:	21st May 2024 14:07
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	64 inches

VIEWPOINT CONTEXT

Figure 4
Viewpoint KOP 009-CR
Guinea Station Rd E of Nyland Rd
088-0100

Pre-Application Analysis
Tributary

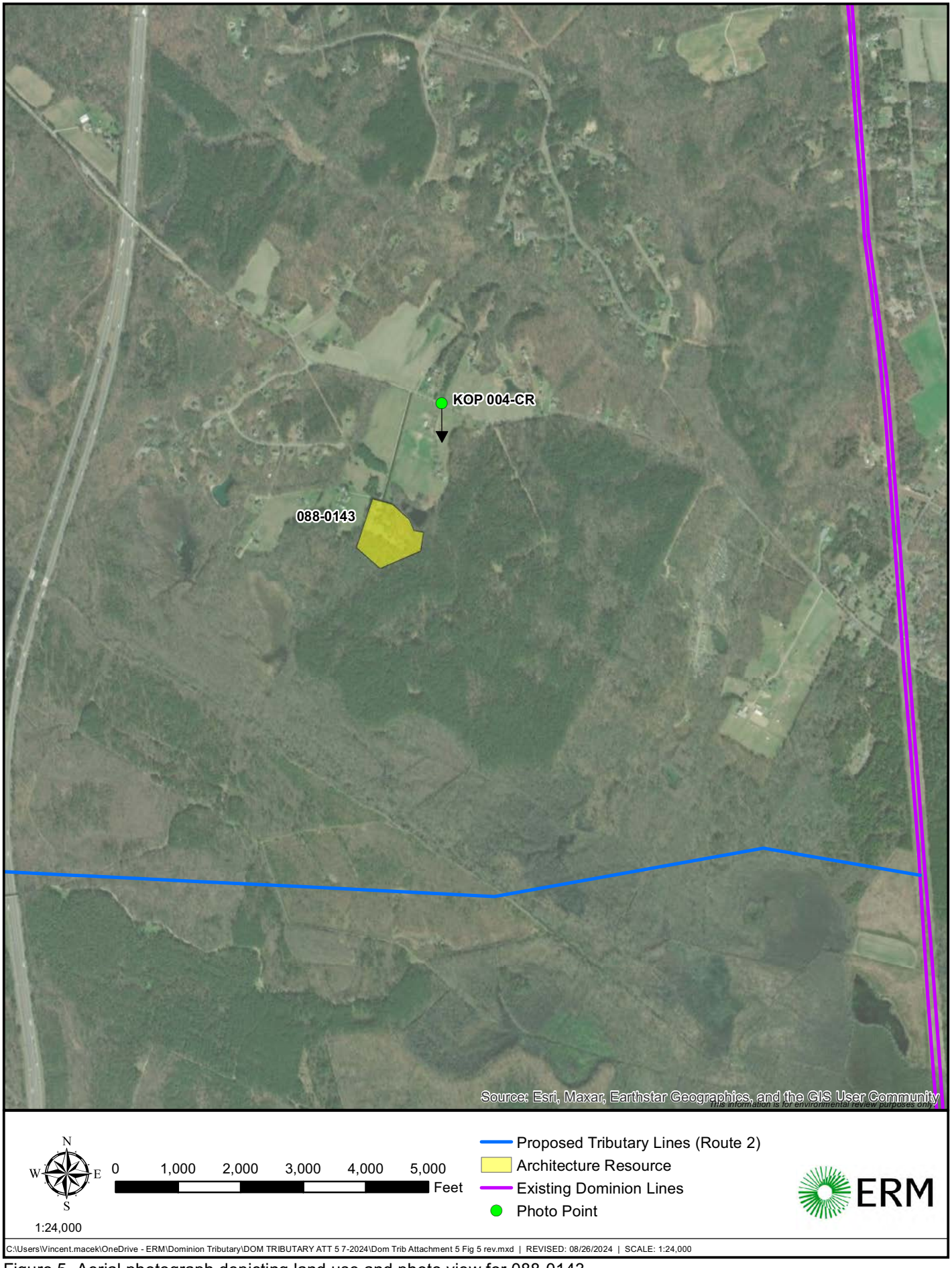


Figure 5. Aerial photograph depicting land use and photo view for 088-0143.

Existing View

Proposed view showing hidden transmission line structures

Dominion Energy

ERM

Viewpoint Location UTM Zone 18N:	282043E 4227872N
View Direction:	190 degrees
Viewpoint Elevation:	268 feet
Distance to Development:	6016 feet
Horizontal Field of View:	95 degrees

Date of Photography:	21st May 2024 13:18
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	64 inches

VIEWPOINT CONTEXT

Figure 6
Viewpoint KOP 004-CR
Guinea Station Rd SE of Station Nye
088-0143

Pre-Application Analysis
Tributary

Figure 7. Aerial photograph depicting land use and photo view for 088-0256.

Existing View

Proposed view showing hidden transmission line structures

Dominion Energy

ERM

Viewpoint Location UTM Zone 18N:	283504E 4227125N
View Direction:	204 degrees
Viewpoint Elevation:	229 feet
Distance to Development:	3273 feet
Horizontal Field of View:	95 degrees

Date of Photography:	21st May 2024 13:41
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	65 inches

VIEWPOINT CONTEXT

Figure 8
Viewpoint KOP 003-CR
Guinea Station Rd at Graves Rd
088-0256

Pre-Application Analysis
Tributary

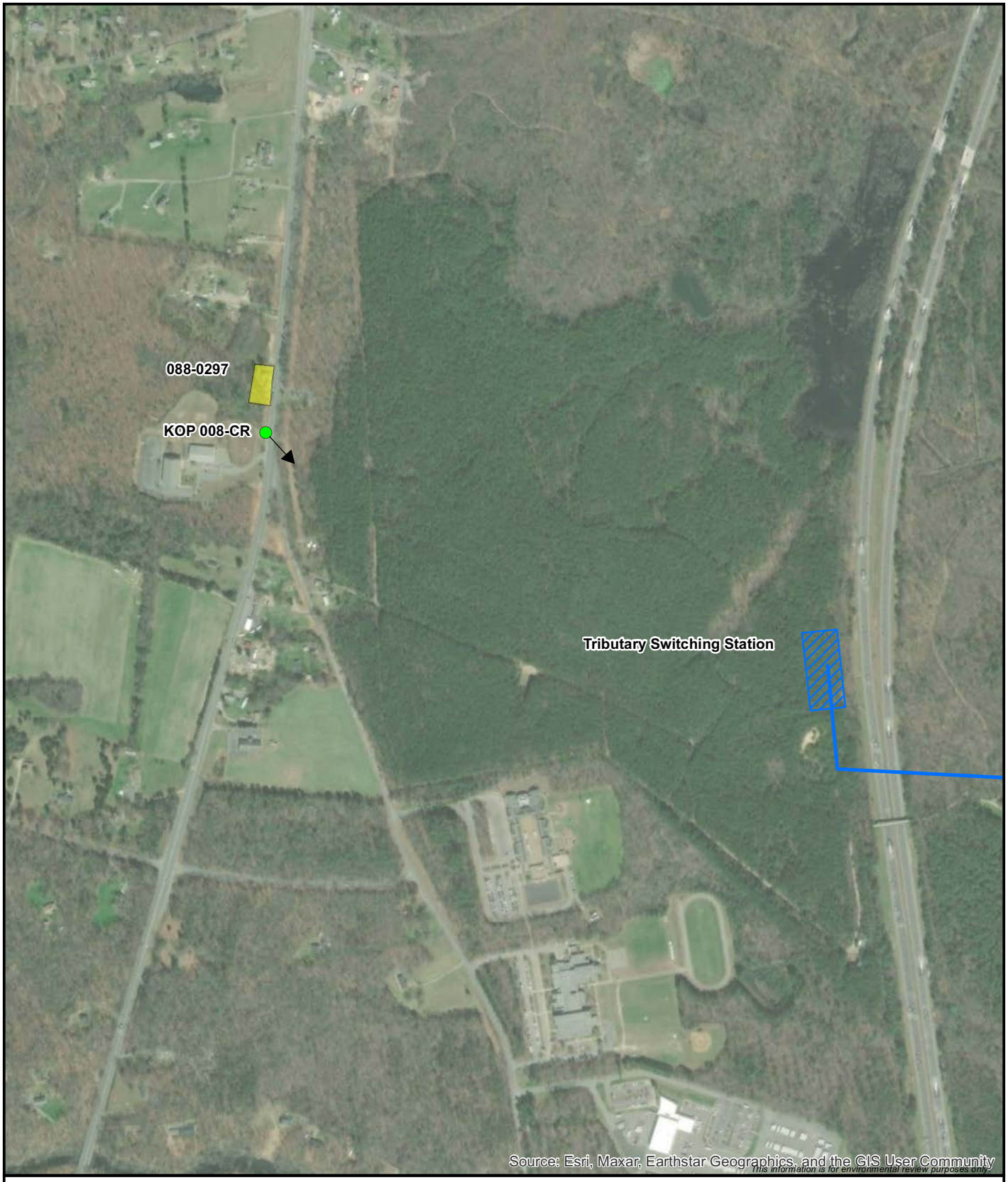


Figure 9. Aerial photograph depicting land use and photo view for 088-0297.

Existing View

Proposed view showing hidden transmission line structures

Dominion Energy

ERM

Viewpoint Location UTM Zone 18N:	279222E 4226768N
View Direction:	116 degrees
Viewpoint Elevation:	267 feet
Distance to Development:	5406 feet
Horizontal Field of View:	95 degrees

Date of Photography:	21st May 2024 14:31
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	64 inches

VIEWPOINT CONTEXT

Figure 10
Viewpoint KOP 008-CR
Patriot Hwy N of Hickory Ridge Rd
088-0297

Pre-Application Analysis
Tributary

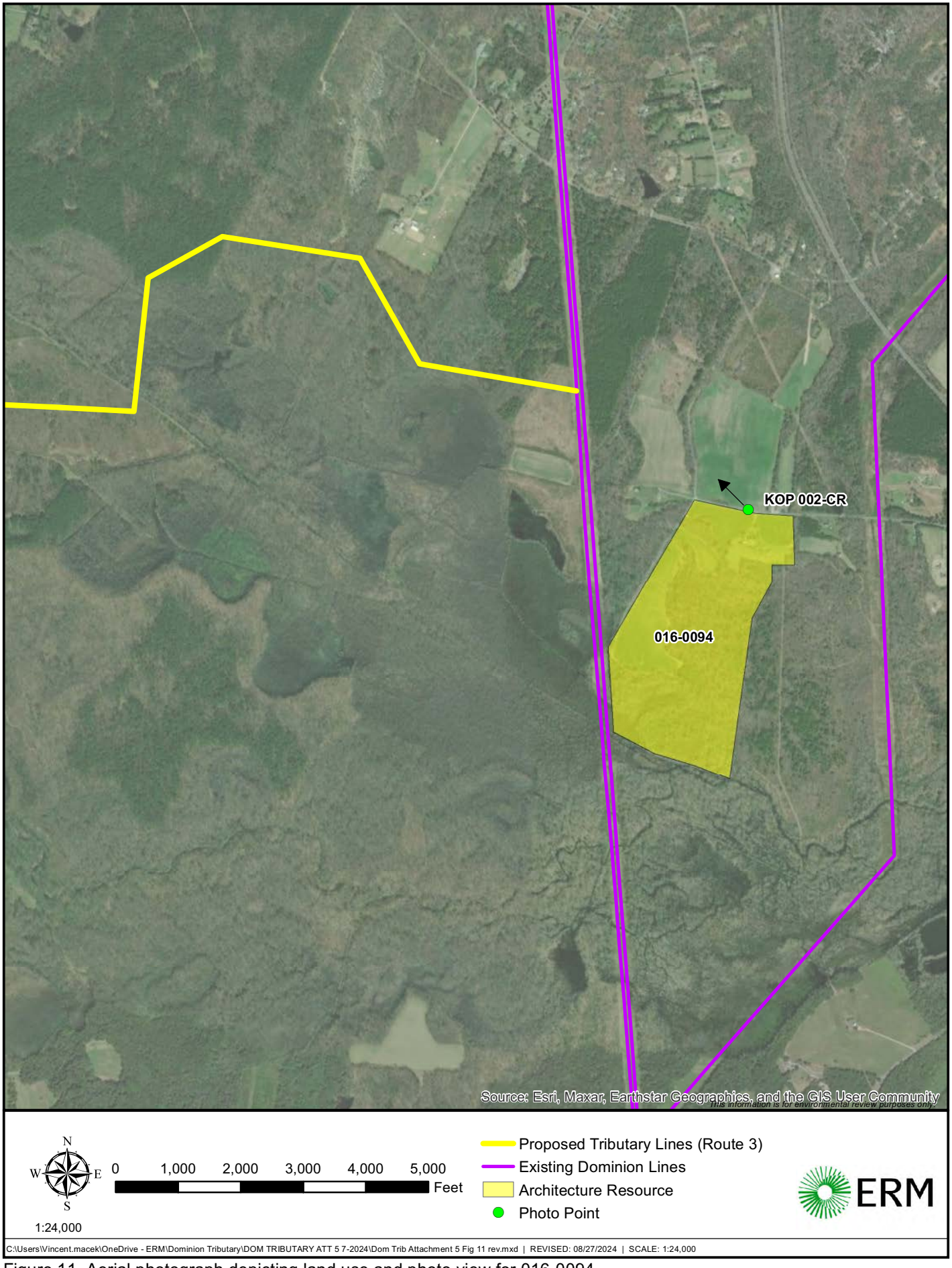


Figure 11. Aerial photograph depicting land use and photo view for 016-0094.

Existing View

Proposed view showing hidden transmission line structures

Dominion Energy

ERM

Viewpoint Location UTM Zone 18N:	284477E 4225548N
View Direction:	321 degrees
Viewpoint Elevation:	140 feet
Distance to Development:	1396 feet
Horizontal Field of View:	95 degrees

Date of Photography:	24th July 2024 16:19
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	64 inches

Figure 12
Viewpoint KOP 002-CR
Guinea Station Rd NW of Flippo Dr
016-0094

Pre-Application Analysis
Tributary

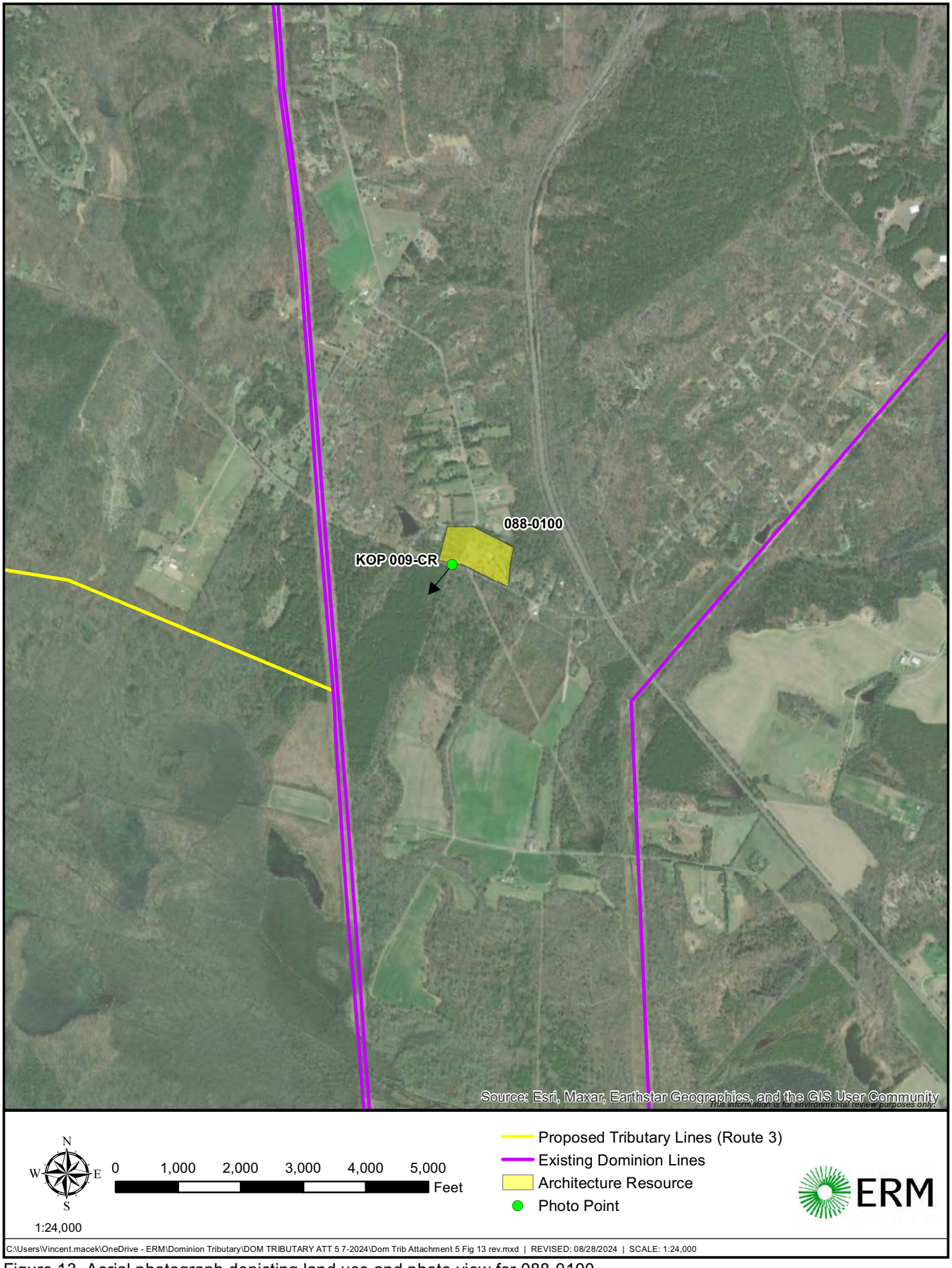


Figure 13. Aerial photograph depicting land use and photo view for 088-0100.

Existing View

Proposed view showing hidden transmission line structures

Dominion Energy

ERM

Viewpoint Location UTM Zone 18N:	284295E 4226634N
View Direction:	235 degrees
Viewpoint Elevation:	196 feet
Distance to Development:	2519 feet
Horizontal Field of View:	95 degrees

Date of Photography:	21st May 2024 14:07
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	64 inches

VIEWPOINT CONTEXT

Figure 14
Viewpoint KOP 009-CR
Guinea Station Rd E of Nyland Rd
088-0100

Pre-Application Analysis
Tributary

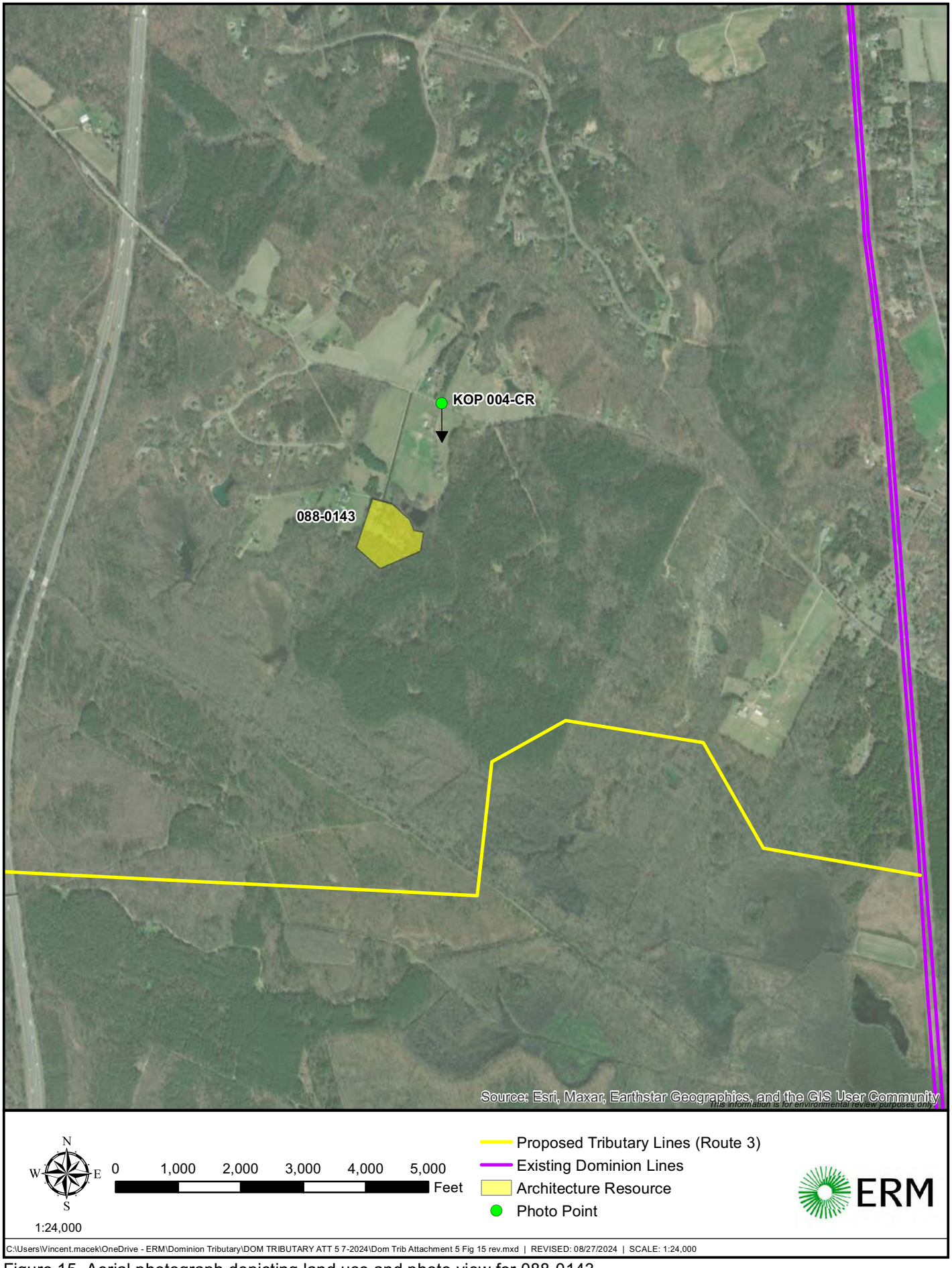


Figure 15. Aerial photograph depicting land use and photo view for 088-0143.

Existing View

Proposed view showing hidden transmission line structures

Dominion Energy

ERM

Viewpoint Location UTM Zone 18N:	282043E 4227872N
View Direction:	190 degrees
Viewpoint Elevation:	268 feet
Distance to Development:	4135 feet
Horizontal Field of View:	95 degrees

Date of Photography:	21st May 2024 13:18
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	64 inches

VIEWPOINT CONTEXT

Figure 16
Viewpoint KOP 004-CR
Guinea Station Rd SE of Station Nye
088-0143

Pre-Application Analysis
Tributary

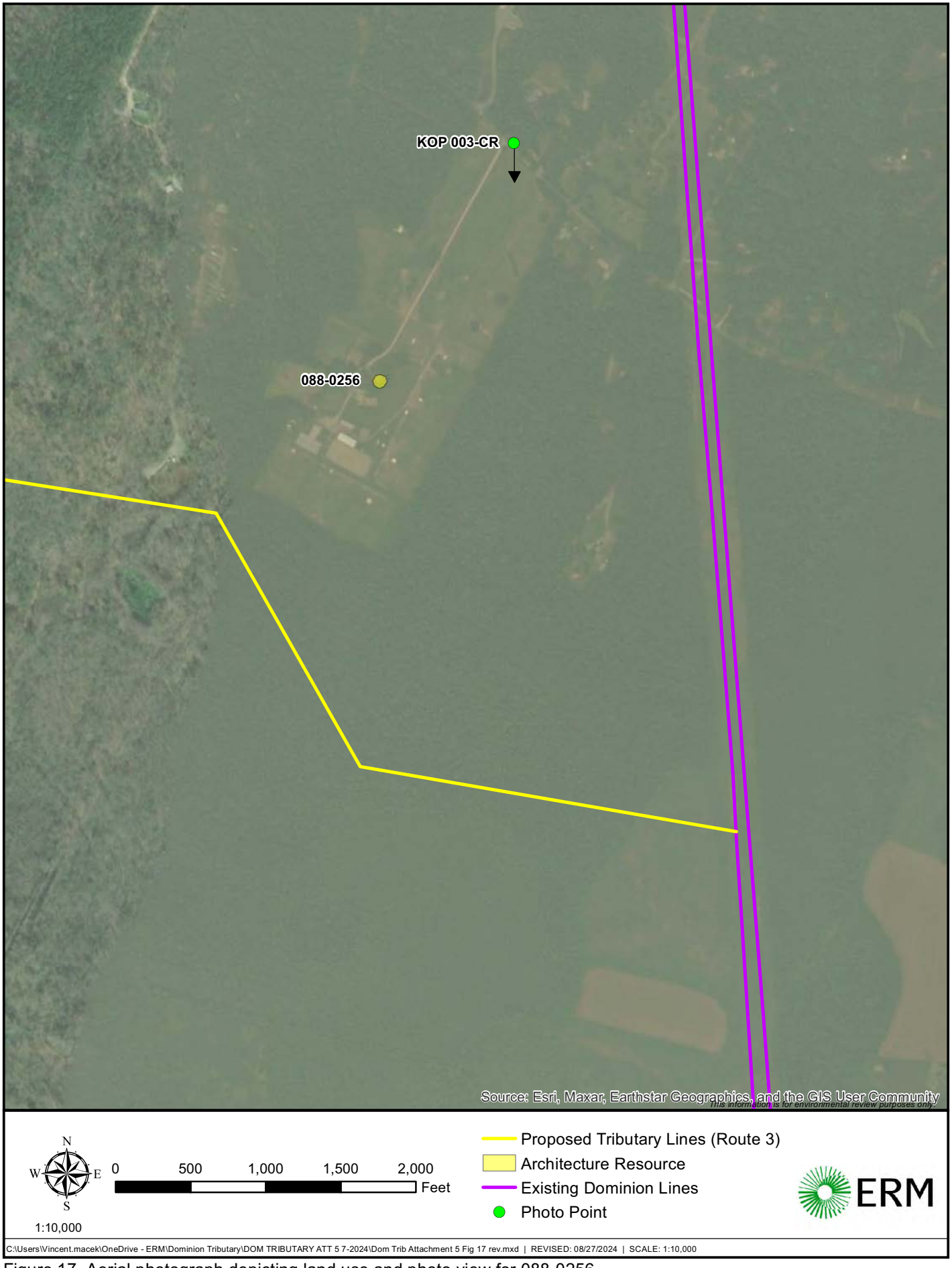


Figure 17. Aerial photograph depicting land use and photo view for 088-0256.

Existing View

Proposed view showing transmission line structures

Dominion Energy

ERM

Viewpoint Location UTM Zone 18N:	283504E 4227125N
View Direction:	204 degrees
Viewpoint Elevation:	229 feet
Distance to Development:	2391 feet
Horizontal Field of View:	95 degrees

Date of Photography:	21st May 2024 13:41
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	65 inches

VIEWPOINT CONTEXT

Figure 18
Viewpoint KOP 003-CR
Guinea Station Rd at Graves Rd
088-0256

Pre-Application Analysis
Tributary

Existing View

Proposed view showing hidden transmission line structures

Dominion Energy

ERM

Viewpoint Location UTM Zone 18N:	283504E 4227125N
View Direction:	204 degrees
Viewpoint Elevation:	229 feet
Distance to Development:	2391 feet
Horizontal Field of View:	95 degrees

Date of Photography:	21st May 2024 13:41
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	65 inches

VIEWPOINT CONTEXT

Figure 19
Viewpoint KOP 003-CR
Guinea Station Rd at Graves Rd
088-0256

Pre-Application Analysis
Tributary

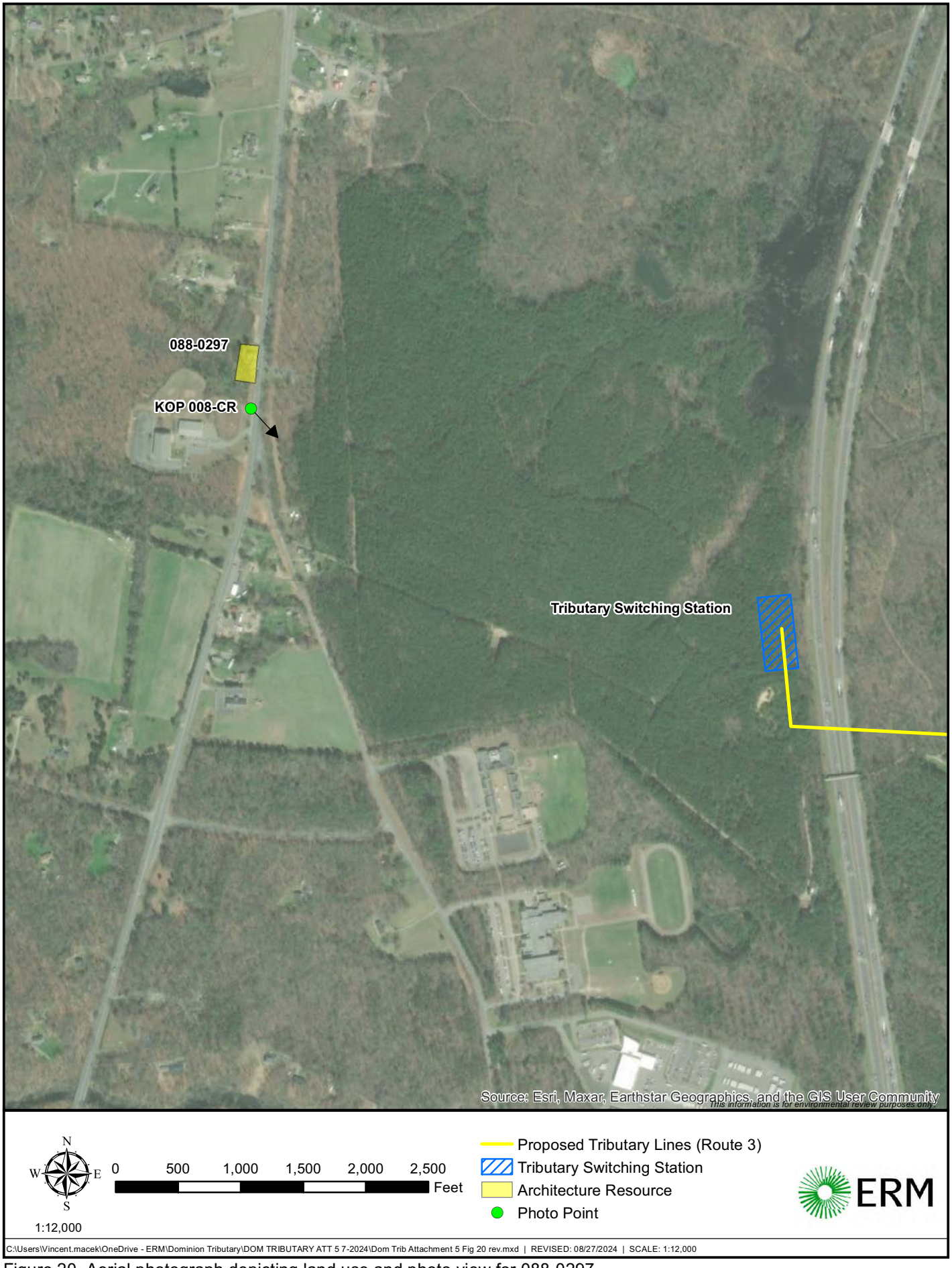


Figure 20. Aerial photograph depicting land use and photo view for 088-0297.

Existing View

Proposed view showing hidden transmission line structures

Dominion Energy

ERM

Viewpoint Location UTM Zone 18N:	279222E 4226768N
View Direction:	116 degrees
Viewpoint Elevation:	267 feet
Distance to Development:	5406 feet
Horizontal Field of View:	95 degrees

Date of Photography:	21st May 2024 14:31
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	64 inches

VIEWPOINT CONTEXT

Figure 21
Viewpoint KOP 008-CR
Patriot Hwy N of Hickory Ridge Rd
088-0297

Pre-Application Analysis
Tributary

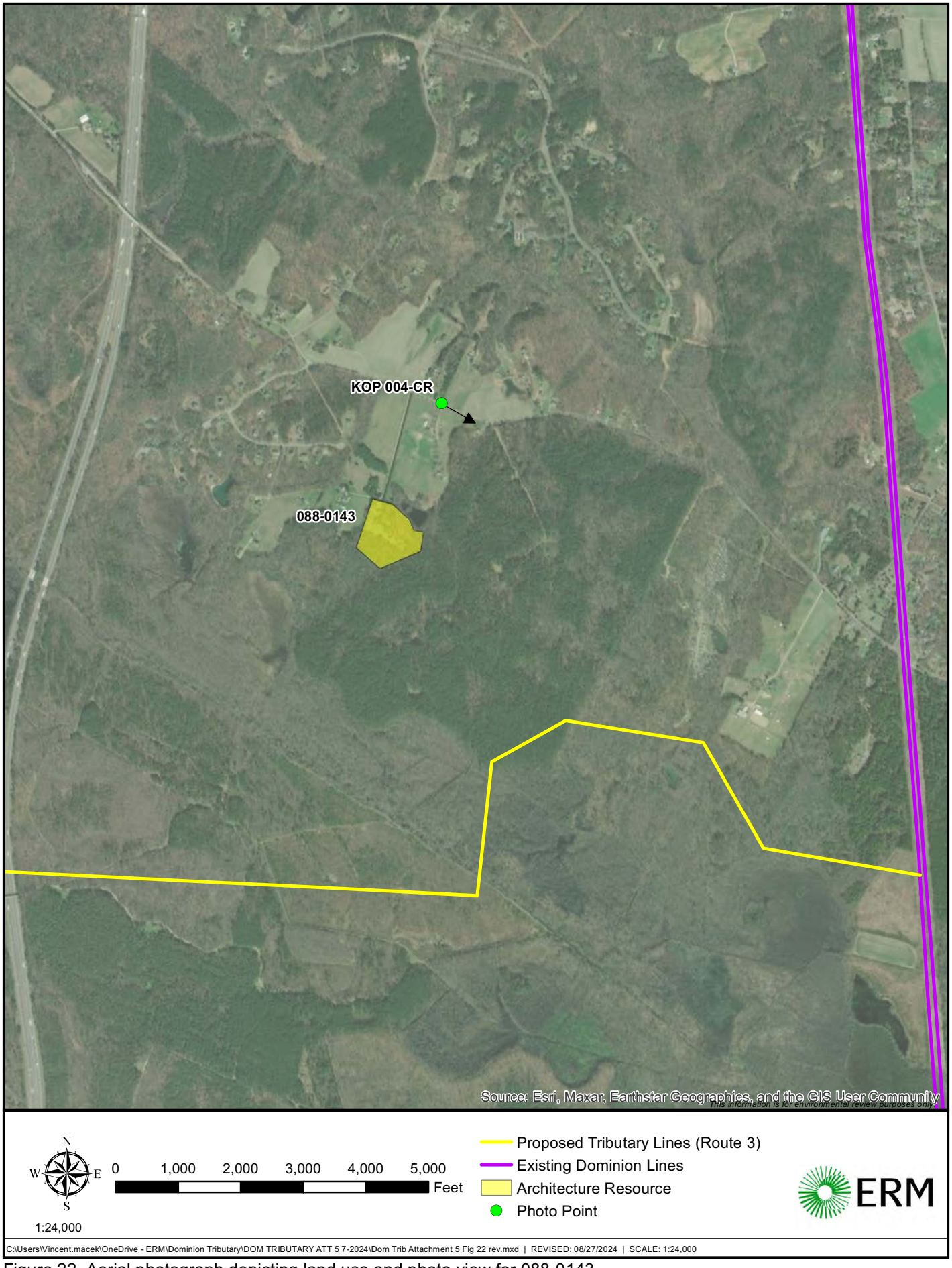


Figure 22. Aerial photograph depicting land use and photo view for 088-0143.

Existing View

Proposed view showing hidden transmission line structures

Dominion Energy

ERM

Viewpoint Location UTM Zone 18N:	282043E 4227872N
View Direction:	190 degrees
Viewpoint Elevation:	268 feet
Distance to Development:	3173 feet
Horizontal Field of View:	95 degrees

Date of Photography:	21st May 2024 13:18
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	64 inches

VIEWPOINT CONTEXT

Figure 23
Viewpoint KOP 004-CR East
Guinea Station Rd SE of Station Nye
088-0143

Pre-Application Analysis
Tributary

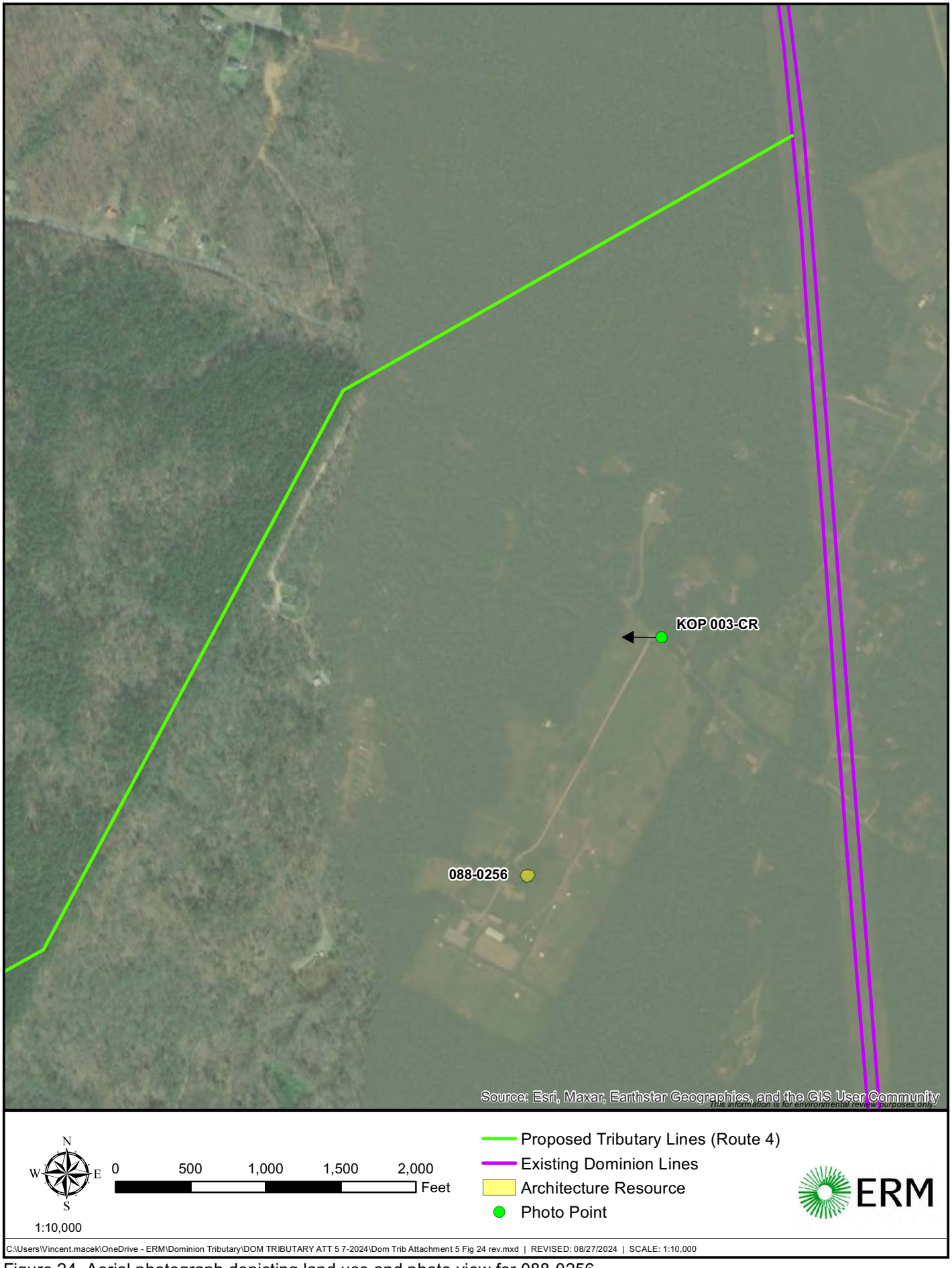


Figure 24. Aerial photograph depicting land use and photo view for 088-0256.

Existing View

Proposed view showing hidden transmission line structures

Dominion Energy

ERM

Viewpoint Location UTM Zone 18N:	283504E 4227125N
View Direction:	273 degrees
Viewpoint Elevation:	229 feet
Distance to Development:	1887 feet
Horizontal Field of View:	95 degrees

Date of Photography:	21st May 2024 13:41
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	65 inches

VIEWPOINT CONTEXT

Figure 25
Viewpoint KOP 003-CR West
Guinea Station Rd at Graves Rd
088-0256

Pre-Application Analysis
Tributary

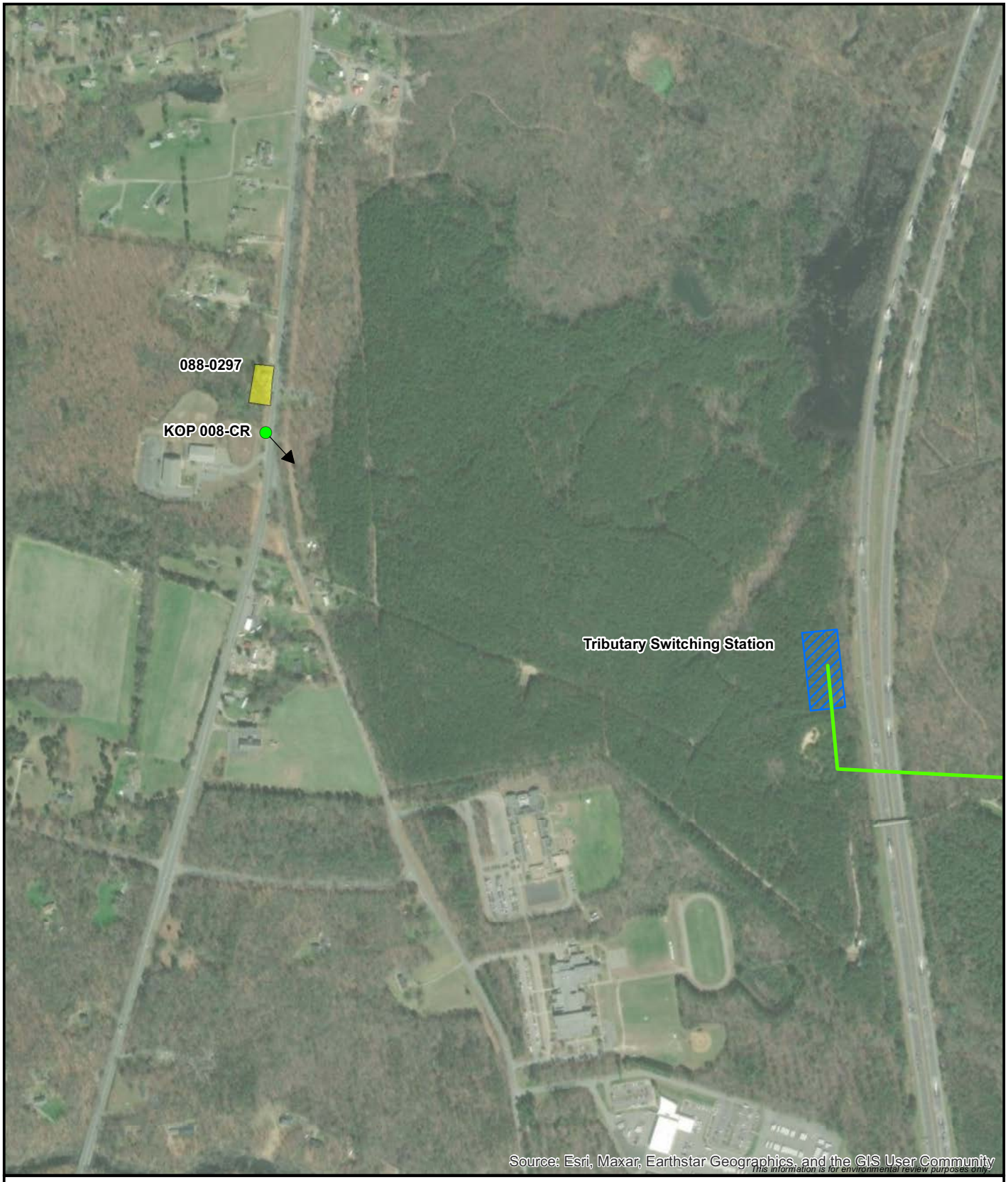


Figure 26. Aerial photograph depicting land use and photo view for 088-0297.

Existing View

Proposed view showing hidden transmission line structures

Dominion Energy

ERM

Viewpoint Location UTM Zone 18N:	279222E 4226768N
View Direction:	116 degrees
Viewpoint Elevation:	267 feet
Distance to Development:	5406 feet
Horizontal Field of View:	95 degrees

Date of Photography:	21st May 2024 14:31
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	64 inches

VIEWPOINT CONTEXT

Figure 27
Viewpoint KOP 008-CR
Patriot Hwy N of Hickory Ridge Rd
088-0297

Pre-Application Analysis
Tributary

ATTACHMENT 6 VEGETATED VISUAL ANALYSIS

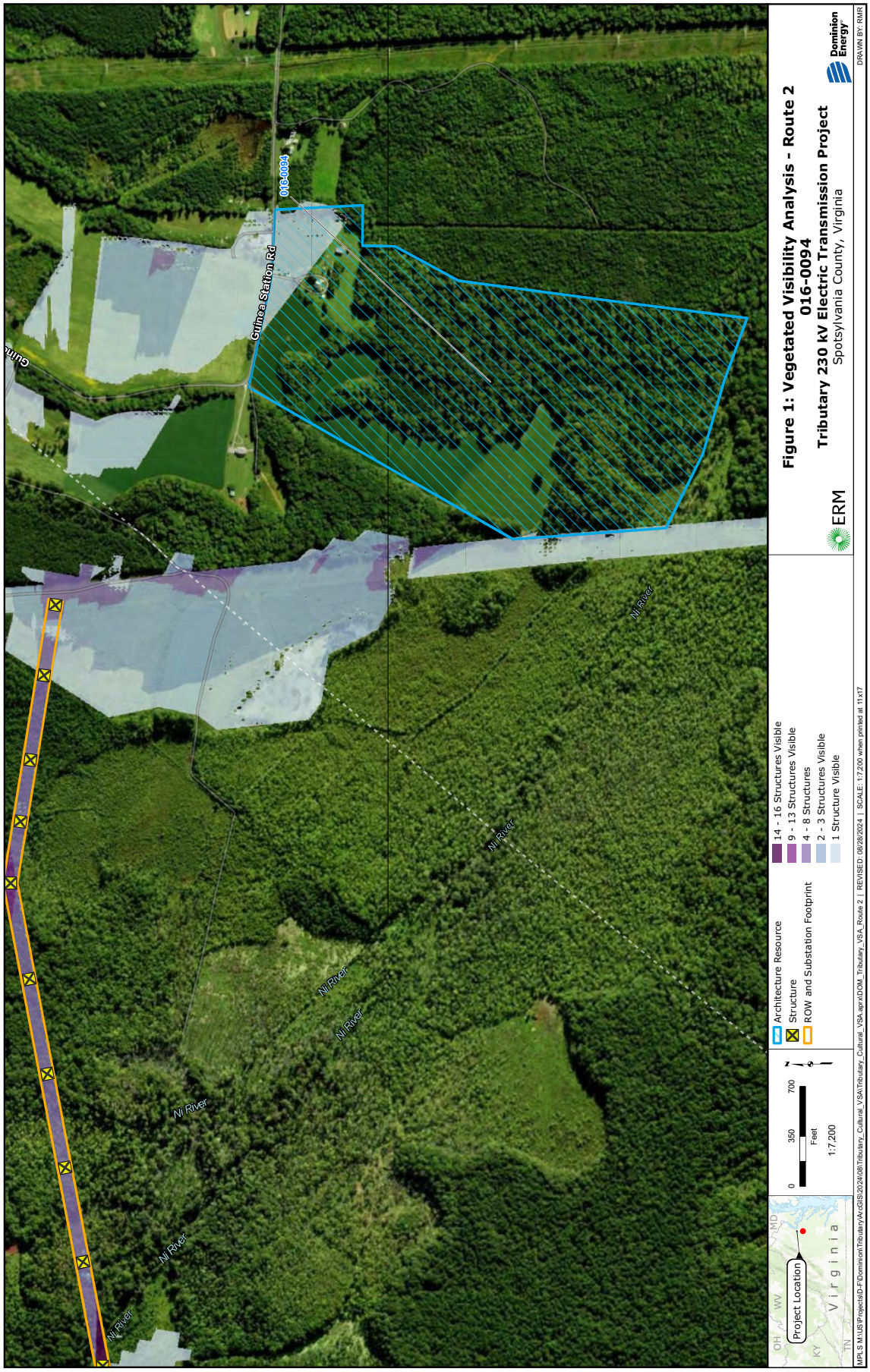
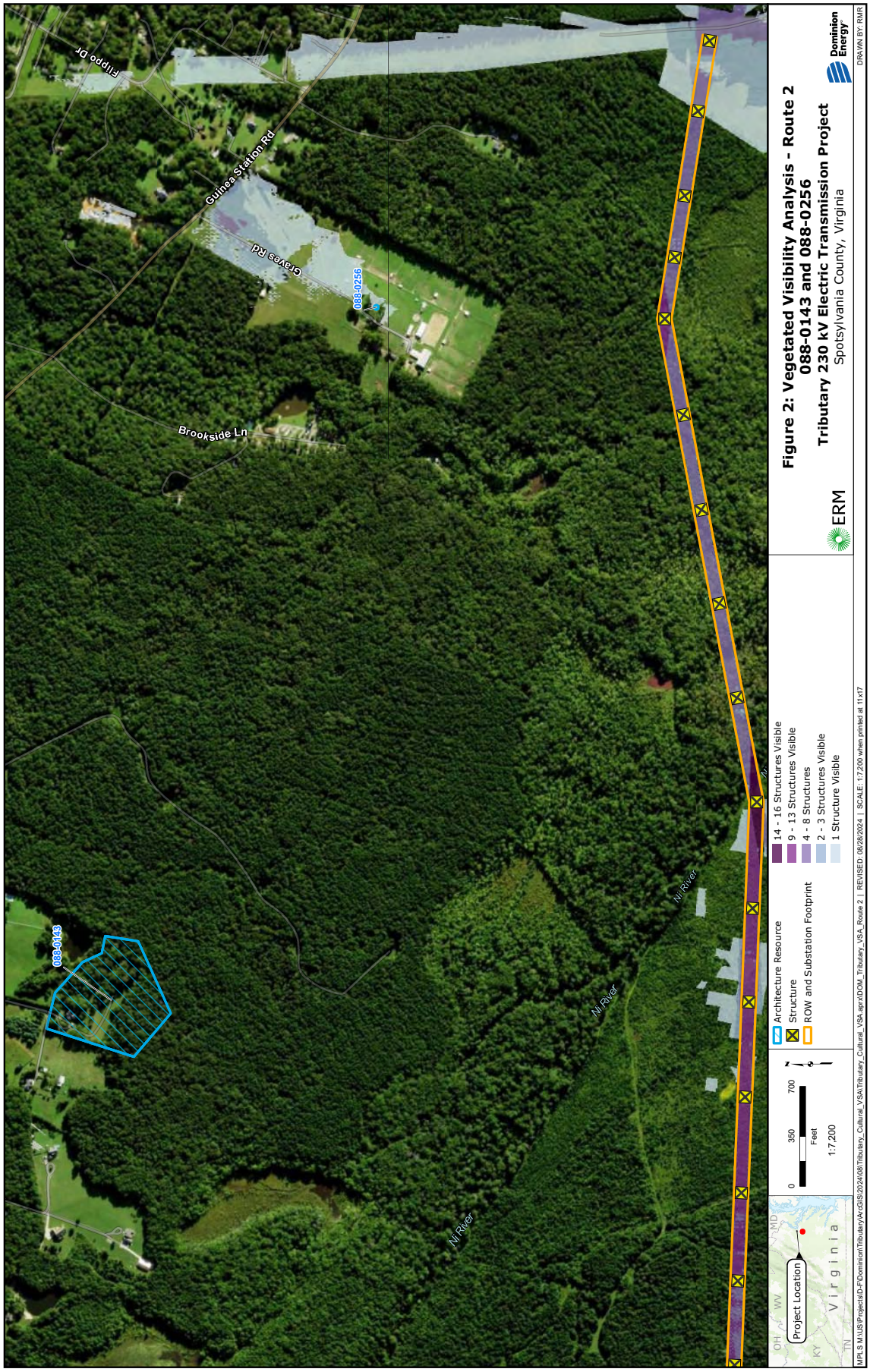
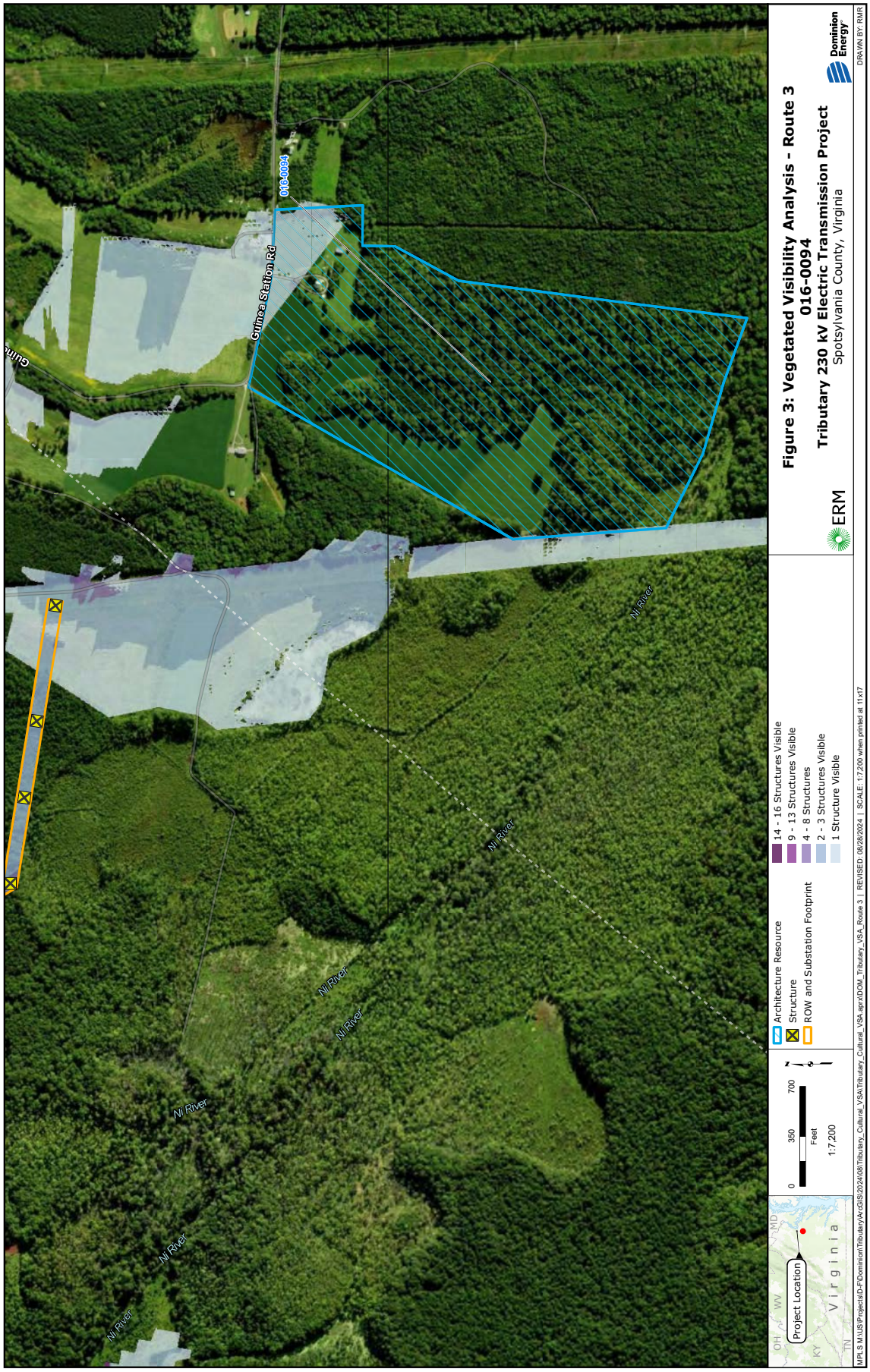


Figure 1: Vegetated Visibility Analysis - Route 2
016-0094
Tributary 230 kV Electric Transmission Project
Spotsylvania County, Virginia
ERM
Dominion Energy
Guinea Station Rd
016-0094
N River
Architecture Resource
Structure
ROW and Substation Footprint
14 - 16 Structures Visible
9 - 13 Structures Visible
4 - 8 Structures
2 - 3 Structures Visible
1 Structure Visible
0
350
700
Feet
1:7,200
Project Location
Virginia
MD
WV
OH
KY
TN
DRAWN BY: RMR


Flippo Dr
Guinea Station Rd
Graves Rd
088-0256
Brookside Ln
088-0143
N Fork Rappahannock River
N Fork Rappahannock River
N Fork Rappahannock River
14 - 16 Structures Visible
9 - 13 Structures Visible
4 - 8 Structures
2 - 3 Structures Visible
1 Structure Visible
Architecture Resource
Structure
ROW and Substation Footprint
0
350
700
Feet
1:7,200
Project Location
OH
WV
MD
KY
TN
Virginia
Figure 2: Vegetated Visibility Analysis - Route 2
088-0143 and 088-0256
Tributary 230 kV Electric Transmission Project
Spotsylvania County, Virginia
ERM
Dominion Energy
MPLS M:\GIS\Projects\D-F\Dominion\Tributary\ArcGIS\2024\08\Tributary_Cultural_VSA\Tributary_Cultural_VSA.aprx\DOM_Tributary_VSA_Route 2 | REVISED: 08/29/2024 | SCALE: 1:7,200 when printed at 11x17
DRAWN BY: RMR


Guinea Station Rd
016-0094
N River
Figure 3: Vegetated Visibility Analysis - Route 3
016-0094
Tributary 230 kV Electric Transmission Project
Spotsylvania County, Virginia
ERM
Dominion Energy
Architecture Resource
Structure
ROW and Substation Footprint
14 - 16 Structures Visible
9 - 13 Structures Visible
4 - 8 Structures
2 - 3 Structures Visible
1 Structure Visible
0
350
700
Feet
1:7,200
Project Location
Virginia
MD
WV
OH
KY
TN
MPLS M:\GIS\Projects\D-F\Dominion\Tributary\ArcGIS\2024\06\Tributary_Cultural_VSA\Tributary_Cultural_VSA.aprx\DOM_Tributary_VSA_Route 3 | REVISED: 09/29/2024 | SCALE: 1:7,200 when printed at 11x17
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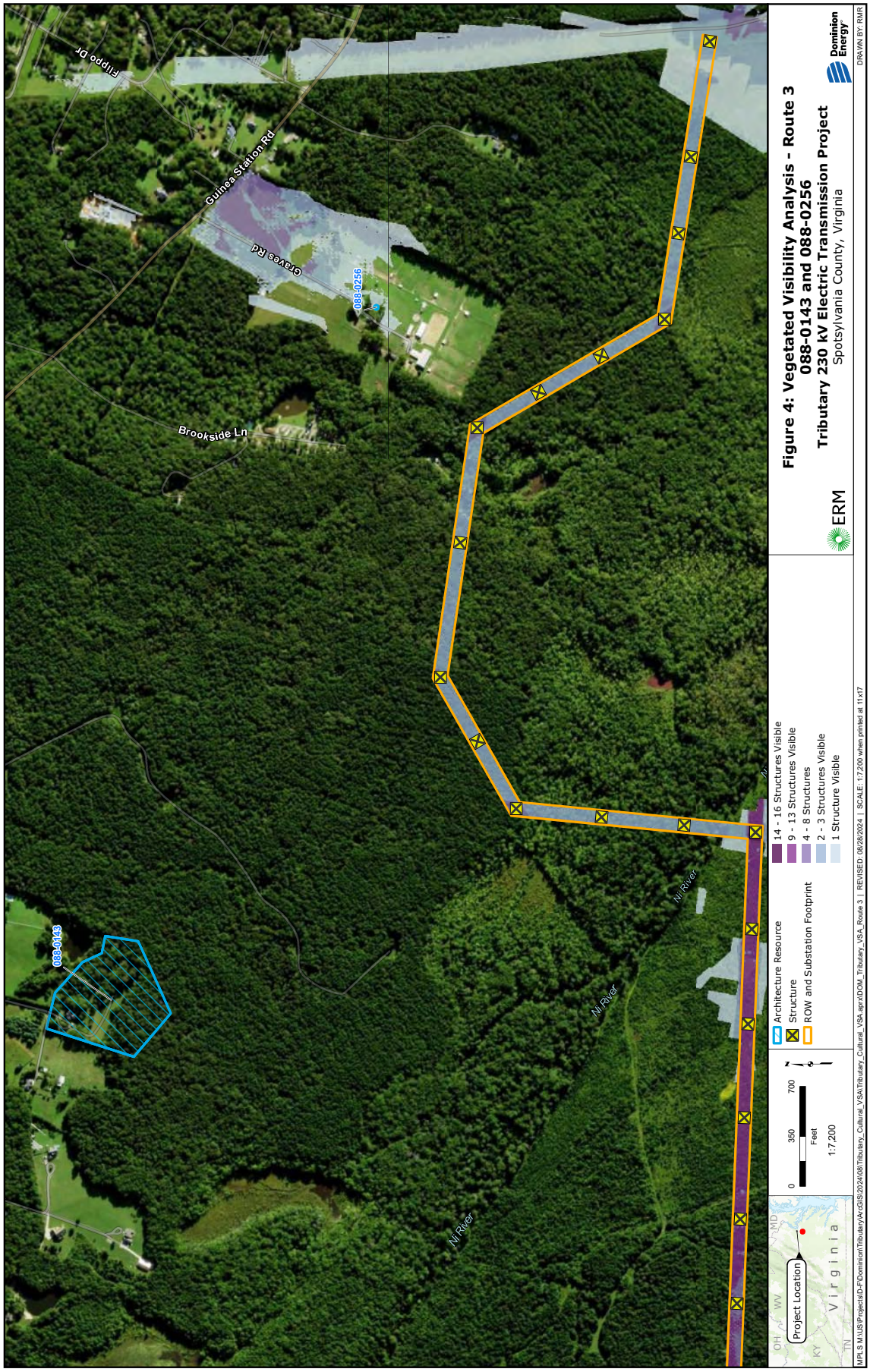
Flippo Dr
Guinea Station Rd
Graves Rd
088-0256
Brookside Ln
088-0143
N Fork Rivanna River
N Fork Rivanna River
N Fork Rivanna River
14 - 16 Structures Visible
9 - 13 Structures Visible
4 - 8 Structures
2 - 3 Structures Visible
1 Structure Visible
Architecture Resource
Structure
ROW and Substation Footprint
0
350
700
Feet
1:7,200
Project Location
OH
WV
MD
KY
TN
Virginia
Figure 4: Vegetated Visibility Analysis - Route 3
088-0143 and 088-0256
Tributary 230 kV Electric Transmission Project
Spotsylvania County, Virginia
ERM
Dominion Energy
MPLS M:\JS\Projects\D-F\Dominion\Tributary\ArcGIS\2024\08\Tributary_Cultural_VSA\Tributary_Cultural_VSA.aprx\DOM_Tributary_VSA_Route 3 | REVISED: 08/29/2024 | SCALE: 1:7,200 when printed at 11x17
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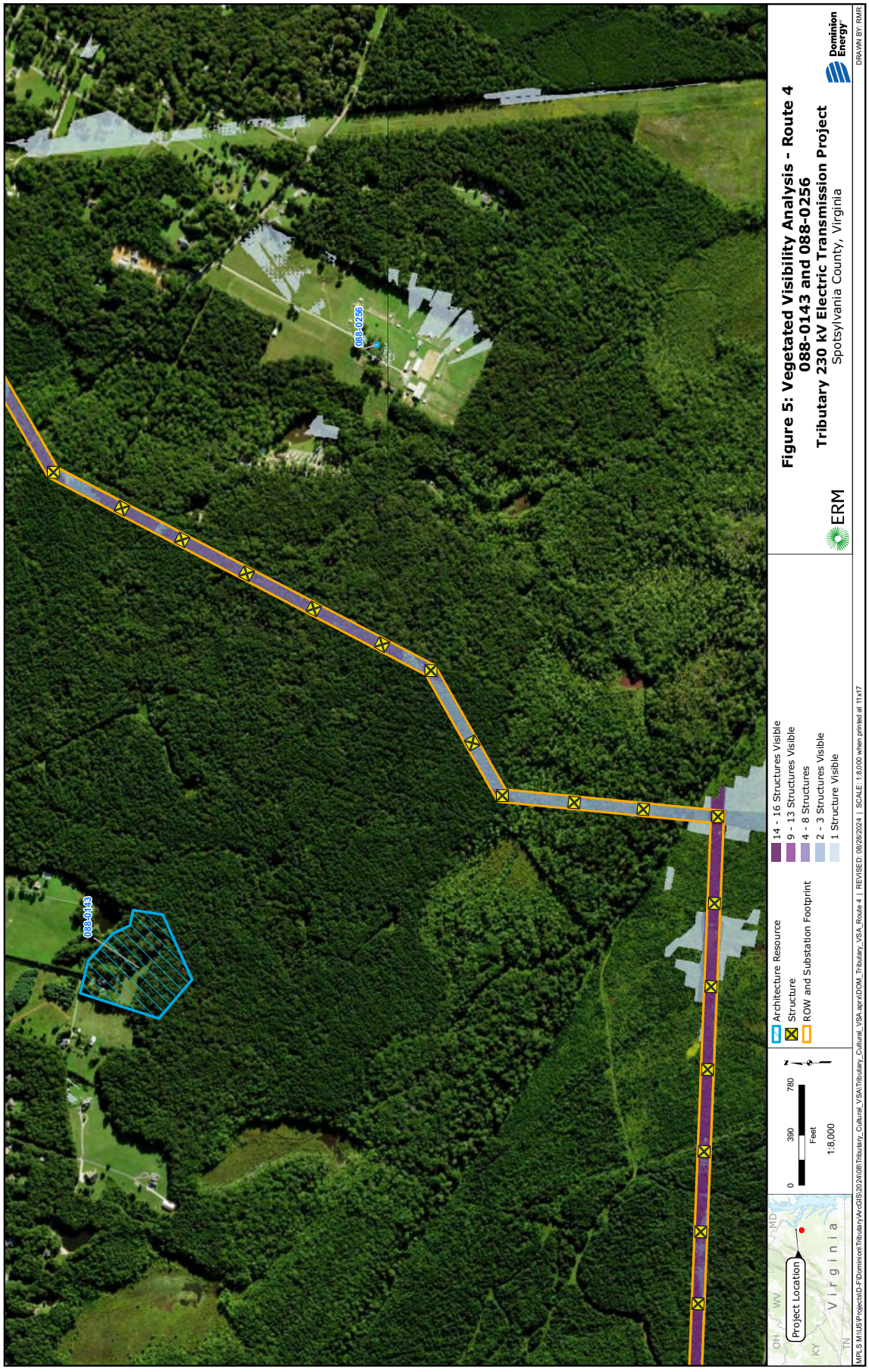
088-0143
088-0256
Architecture Resource
Structure
ROW and Substation Footprint
14 - 16 Structures Visible
9 - 13 Structures Visible
4 - 8 Structures
2 - 3 Structures Visible
1 Structure Visible
0
390
780
Feet
1:8,000
Project Location
Virginia
Figure 5: Vegetated Visibility Analysis - Route 4
088-0143 and 088-0256
Tributary 230 kV Electric Transmission Project
Spotsylvania County, Virginia
ERM
Dominion Energy
DRAWN BY: RMR
MPLS M:\JS\Projects\D-F\Dominion\Tributary\ArcGIS\2024\08\Tributary_Cultural_VSA\Tributary_Cultural_VSA.aprx\DOM_Tributary_VSA_Route 4 | REVISED: 09/29/2024 | SCALE: 1:8,000 when printed at 11x17

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Malaysia
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Mozambique
The Netherlands
New Zealand
Peru
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Singapore
South Africa
South Korea
Spain
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Taiwan
Tanzania
Thailand
UAE
UK
US
Vietnam

ERM's Duluth
3300 Breckenridge Boulevard
Suite 300
Duluth, GA 30096

www.erm.com

From: Rice, James (VDOT)
To: Blair Parks (Services - 6)
Cc: Oster, Carolyn (VDOT); Flippen, Roswell (VDOT)
Subject: [EXTERNAL] VDOT Request for Comments - Dominion Energy Transmission Line I-95 Crossing
Date: Tuesday, July 9, 2024 8:27:05 AM
Attachments: Outlook-abrvcvsm.png
Spotsylvania County Projects.png

Hi Blair,
VDOT has reviewed the proposed routes and offer the following high-level comments.

- Currently, VDOT takes no exception to the proposed I-95 crossings as shown. Design details will be required for review and approval prior to permit issuance, when the time comes.
- VDOT is aware of the following projects and recommends coordination with Spotsylvania County, Planning and Zoning. See attached

  - Spotsy Tech Campus R22-0011 - Rezoning approved, early clearing and grading approved.
  - Gateway Commerce Center - R23-0002 - Rezoning under review. Industrial Warehouse
  - Roxbury Commons R23-0012 - Residential rezoning under review. Proposes 60 SFD
  - Thornburg Industrial Park R22-0013 - Rezoning approved - Industrial Warehouse

If you have additional questions, please let me know.
Thanks
Jim

Jim Rice, PE
Land Development Engineer
Fredericksburg Residency
Virginia Department of Transportation
540-907-2068
James.Rice@VDOT.Virginia.gov

From: Rice, James (VDOT)
To: Blair Parks (Services - 6)
Subject: [EXTERNAL] Re: Request for Comments - Dominion Energy Transmission Line I-95 Crossing
Date: Tuesday, July 2, 2024 2:41:39 PM
Attachments: image001.png
Outlook-toa10pbp.png

Hi Blair-I am reviewing our internal comments and will have a response next week, July 9-11.
Thanks
Jim

Jim Rice, PE
Land Development Engineer
Fredericksburg Residency
Virginia Department of Transportation
540-907-2068
James.Rice@VDOT.Virginia.gov

From: blair.parks@dominionenergy.com <blair.parks@dominionenergy.com>
Sent: Monday, July 1, 2024 10:25 AM
To: Rice, James (VDOT) <James.Rice@vdot.virginia.gov>
Subject: RE: Request for Comments - Dominion Energy Transmission Line I-95 Crossing

Hi Jim,

I wanted to follow up and see if you and your team had any comments on the proposed I-95 crossings.

Thank you,
Blair Parks

From: Blair Parks (Services - 6)
Sent: Monday, June 10, 2024 10:29 AM
To: Flippen, Roswell (VDOT <roswell.flippen@vdot.virginia.gov>; Oster, Carolyn (VDOT <Carolyn.Oster@vdot.virginia.gov>; Lupo, Shane (VDOT <Shane.Lupo@vdot.virginia.gov>; Rice, James (VDOT <James.Rice@vdot.virginia.gov>; Lett, Tasha (VDOT <Tasha.Lett@vdot.virginia.gov>
Cc: Lucas A DuPont (Services - 6) <lucas.a.dupont@dominionenergy.com>; Mariah Weitzenkamp <mariah.weitzenkamp@erm.com>; Matt Teichert <matt.teichert@erm.com>; Ann Gordon Mickel (DEV Trans Distribution - 1) <Ann.Gordon.Mickel@dominionenergy.com>

Subject: Request for Comments - Dominion Energy Transmission Line I-95 Crossing

Good morning,

Dominion Energy is proposing to develop the Tributary 230 kV Electric Transmission Line Project (Project) for a new data center customer in Spotsylvania County. The Project involves extending two new 230 kV circuits west from an existing corridor, crossing Interstate 95, and interconnecting with a new substation. The Project is in the routing process, and the first open house is scheduled for Thursday, June 13th from 5:30pm to 7:30pm at Massaponax High School. We intend to submit an application to the State Corporation Commission for the Project in September 2024.

We have five potential route options being evaluated, which are all shown in the attached KMZ and map. Could you please review the proposed Interstate 95 crossings and let us know if you have any concerns?

Please feel free to contact me with any questions. We are happy to set up a call with you to discuss the project in more detail if you would like.

Thanks,

Blair Parks
Siting and Permitting Specialist
Electric Transmission

5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
804-658-7316

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

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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