



**Dominion
Energy®**

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

**Before the State Corporation
Commission of Virginia**

**230 kV West Creek Loop and
Substation**

Application No. 356

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ENVIRONMENTAL

ENVIRONMENTAL ROUTING STUDY
230 kV West Creek Loop and Substation
Goochland County, Virginia

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Acronyms and Abbreviations

Name	Description
ACS	American Community Survey
BG	Block Group
BOS	Board of Supervisors
C2	C2 Environmental, Inc.
CBG	census block group
CCB	Center for Conservation Biology
CFR	Code of Federal Regulations
Company	Virginia Electric and Power Company
CPCN	Certificate of Public Convenience and Necessity
CT	Census Tract
CWA	Clean Water Act
D+A	Dutton + Associates, LLC
Dominion	Virginia Electric and Power Company
Dominion Energy Virginia	Virginia Electric and Power Company
EJ	environmental justice
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FCV	Forest Conservation Value
GIS	geographic information system
HDD	horizontal directional drilling
HUC	Hydrologic Unit Code
I-64	Interstate 64
IPaC	Information for Planning and Consultation
IVMP	Integrated Vegetation Management Plan
KOP	key observation point
kV	kilovolt
NA	not applicable
NHD	National Hydrography Dataset
NHDE	Natural Heritage Data Explorer
NHL	National Historic Landmark
NHP	Natural Heritage Program
NRHP	National Register of Historic Places
PEM	Palustrine Emergent
PFO	palustrine forested
POD	Plan of Development
Project	230 kV West Creek Loop and Substation
PSS	palustrine shrub scrub
RPUD	Residential Planned Unit Development
SCC	State Corporation Commission
SCU	stream conservation unit
TCB	tricolored bat
TERPS	terminal instrument procedures
TOD	Technology Overlay District
TZ	Technology Zone
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
Va. Code	Code of Virginia
VaFWIS	Virginia Fish and Wildlife Information Service

Name	Description
VCRIS	Virginia Cultural Resources Information System
VDCR	Virginia Department of Conservation and Recreation
VEJA	Virginia Environmental Justice Act
VDEQ	Virginia Department of Environmental Quality
VDHR	Virginia Department of Historic Resources
VDHR Guidelines	<i>Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia</i>
VDOT	Virginia Department of Transportation
VDWR	Virginia Department of Wildlife Resources
VLR	Virginia Landmarks Register
VOF	Virginia Outdoors Foundation
VSR	visually sensitive resource
WOTUS	Waters of the United States

1.0 OVERVIEW

This document presents the results of the environmental constraints identification and routing study prepared by C2 Environmental Inc. (C2), on behalf of Virginia Electric and Power Company (Dominion Energy Virginia, Dominion, or the Company), for the proposed 230 kV West Creek Loop and Substation project (Project).

1.1 PROJECT DESCRIPTION AND PURPOSE AND NEED

The Project is needed to provide the requested electrical service to a new customer within an area included as part of Goochland County's Technology Overlay District (TOD); to maintain reliable service for the overall load growth in the Project area; and to comply with mandatory North American Electric Reliability Corporation standards. To meet the purpose and need of the Project, the Company proposes to construct and operate a new double circuit 230 kilovolt (kV) transmission line to serve a new substation on customer property in Goochland County, Virginia and to reliably serve identified projected load growth in the area.

As part of the routing process, the Company considered the facilities needed to construct and operate the new transmission line, the length and width of new rights-of-way that will be required, the amount of existing and planned development in the Project area, the potential for environmental impacts and permitting implications, and the relative cost of each route.

Three potential electrical solutions were identified in the early planning process for the Project. After reviewing options for the new build transmission line, Dominion Energy Virginia decided to further investigate one electrical option for the Project, which is located entirely within Goochland County. The two additional electrical solutions are discussed in Section 2.6. The route alternatives identified for the selected electrical option involve cutting of existing Line # 2009 (Midlothian - Short Pump) on the north side of Interstate 64 (I-64) and extending a new double circuit 230 kV transmission line south to the proposed West Creek Substation (located on customer property). The Company identified five routes for review as part of the Project, four of which are carried through the analysis of the routing study, and one which was eliminated from further consideration (see Section 2.5).

1.2 STRUCTURE TYPES AND RIGHT-OF-WAY WIDTHS

Dominion Energy Virginia would use several structure configurations for the Project (see proposed structure types in Appendix A). The new structures would be primarily double circuit monopole structures (with some two pole structures needed at harder angles) constructed of weathering steel, with an approximate height ranging from 95 to 130 feet along the length of the right-of-way. The typical required rights-of-way-width for all overhead routes would be 100 feet.

Because the proposed Project is located within a recently approved TOD allowing data center development by right in some areas, it is anticipated that additional customers will soon be requesting load in the Project vicinity. While not needed for the Project, as part of this routing study Dominion reviewed if identified route alternatives would have space available to expand the 100-foot right-of-way in the future to 160 feet to accommodate

additional circuits. At the time of this study, all identified route alternatives have space available to accommodate the additional 60 feet of right-of-way.

1.3 CONSTRUCTION, OPERATION, AND MAINTENANCE PROCESS

Construction of the new overhead transmission line is expected to involve the following steps:

- Survey of the route alignment, including land, geotechnical, wetland and waterbody, and cultural resource surveys;
- Real estate right-of-way acquisition;
- Identification of and construction/modification of temporary construction access roads or construction entrances;
- Placement of matting where needed along the right-of-way;
- Forestry clearing;
- Tower foundation installation;
- Assembly and erection of new transmission line structures;
- Stringing and tensioning of conductors; and
- Final clean-up and land restoration.

All appropriate materials for the Project's double circuit 230 kV structures would be delivered and assembled at each structure location in the proposed rights-of-way. Prior to construction, detailed foundation design would be completed. Depending on field based soil conditions, the foundation design may include poured concrete that requires excavation, or steel piles or caissons that might be vibrated, drilled, or driven into place. Structures would be installed with a temporary crane and anchored to the foundation during final assembly. Any remaining excess soil from foundation construction would be evenly distributed at each structure location. The soil would then be revegetated and stabilized. Excess soil in wetland areas would be removed and evenly distributed on an upland site within the proposed Project right-of-way. Construction equipment typically used includes hole diggers or drilling equipment, cranes, wire stringing rigs, tensioners, backhoes, and trucks.

All conductors and shield wires would be strung under tension. This system involves stringing a "lead line" between structures for the conductors and ground wires. The rope pulls a steel cable that is connected to the conductors and shield wires, which are pulled through neoprene stringing blocks to protect the conductor and shield wire from damage. Stringing the conductors and shield wires under tension protects the wires from possible damage should they be allowed to touch the ground, fences, or other objects.

Maintaining the transmission line right-of-way is critical for the safe and reliable operation of the transmission line. Dominion employs an Integrated Vegetation Management Plan (IVMP) approach in accordance with the 2018 American National Standard for Tree Care Operations for Tree Support Systems manual (ANSI A300) for the maintenance of the right-of-way, including wetlands, once cleared. Specifically, Dominion utilizes selective manual removal of incompatible brush and woody-stem tree species, as well as selective herbicide applications

on a cyclical basis, typically every three to four years to control growth within the right-of-way. This allows the right-of-way to naturally regenerate while preventing the overgrowth of species that could interfere with the safe operation of the power line. This maintenance practice results in the right-of-way being permanently maintained at an emergent or scrub-shrub level. Danger trees, which include but are not limited to, incompatible tree species outside of the right-of-way and of sufficient height and clearance to endanger the electrical facilities, within a 10-foot tolerance, in falling or being felled, are cut as needed using the methods described above. Dominion follows standard practices of no grubbing or stump removal during danger tree removal activities.

Additionally, based on a discussion between Company and Virginia Department of Conservation and Recreation (VDCR) - Division of Natural Heritage representatives, the Company reviewed its IVMP for application to both woody and herbaceous species based on the species list available on the VDCR website. The Company continues to coordinate with VDCR - Division of Natural Heritage to further explain how the Company's operations and maintenance forestry program addresses invasive species. Most recently, on January 21, 2025, the Company met with VDCR to continue ongoing coordination. At that time, the Company committed to providing VDCR with the most recent working draft of the IVMP addendum and a list of the recommended shrub species for planting within the Company's electric transmission right-of-way for review. The Company's recommended planting list is for customers to reference when planting shrub species within its transmission rights-of-way on private property. Those documents were shared with VDCR on February 7, 2025. The Company received an email from the VDCR on February 10, 2025, noting that the agency will provide the Company feedback on documentation provided. The Company and VDCR have continued coordination since this email exchange. Although a formal response from the VDCR has not been received, the Company and VDCR staff have continued to discuss the documents.

The Company also updated its recommended shrub species planting list to include: (i) the addition of a QR code providing a direct link to the VDCR's invasive species list, (ii) the addition of a link to the VDCR's website for invasive species information, (iii) the incorporation of additional native species, and (iv) removal of all invasive species.

The Company met with VDCR staff on August 13, 2025, to continue to discuss ways to improve how the Company is addressing VDCR's recommendations throughout the Certificate of Public Convenience and Necessity (CPCN) process, with the goal to incorporate language adjustments in future applications and rebuttal testimonies, as applicable, and potentially address the agency's concerns and further collaborate outside of the Commission process. Recently, the Company has not only engaged with the VDCR, but also the Virginia Department of Wildlife Resources (VDWR) and Virginia Department of Environmental Quality (VDEQ) - Office of Environmental Impact Review on September 15, 2025, to expand collaboration and advance the discussion on how to best coordinate throughout the process.

1.4 ROUTING STUDY OBJECTIVES

C2's scope of work for this routing study included the following:

- Identifying and describing the study area for the Project based on Dominion Energy Virginia's service and transmission needs;
- Defining and mapping routing constraints and opportunities within the identified study area;
- Participating in public outreach efforts (i.e., agency and stakeholder meetings, public open houses) to gather information regarding any additional constraints to be included in the routing process;
- Distinguishing potential buildable route alternatives that meet the Project's need, as well as the siting criteria identified in the Code of Virginia (Va. Code) and included in the Virginia State Corporation Commission's (SCC) minimum filing guidelines for transmission projects;
- Providing a comparative analysis of the potential impacts associated with each identified route alternative; and
- Providing a recommendation for a proposed and alternative route(s).

2.0 ROUTING PROCESS

The study area for the proposed Project was identified to encompass areas surrounding Dominion's existing Line 2009 and the proposed West Creek Substation. The majority of the study area contains undeveloped forested and open land, with concentrated areas of low to high density residential and commercial development. State Route 288 bisects the study area. The study area also includes I-64, Broad Street (250), Tuckahoe Creek Parkway, West Creek Parkway, and many smaller two-lane roads. Tuckahoe Creek follows the eastern boundary of the study area and then turns northwest across the study area. Broad Branch also crosses the study area, on the south side of the Route 288 and Tuckahoe Creek Parkway interchange.

After the study area was identified, C2 then defined and mapped features within the study area including land use and zoning, planned developments, environmental resources, and previously identified cultural resources. C2 utilized the following data sources when defining and mapping features within the study area:

- Recent (2025) aerial imagery and historic aerial imagery;
- Virginia Department of Historic Resources (VDHR) Virginia Cultural Resources Information System (VCRIS);
- VDCR conservation lands database;
- National Conservation Easement database;
- Various Goochland County department websites and public geographic information system (GIS) databases;
- Virginia Department of Transportation (VDOT) Projects and Studies database; and

- Historic topographic maps of the project area.

Routing constraints were defined and include environmental features, existing and planned developments, and recreational areas. Existing electric transmission lines, roadways, and other utilities were identified as routing opportunities where it was possible to collocate with existing linear features. In some instances, crossings of existing utilities present as a routing constraint due to engineering or constructability related concerns. C2 then compared the routing opportunities with the routing constraints to identify conceptual routes.

Next, C2 refined the conceptual routes, utilizing routing opportunities and factoring in potential impacts on environmental resources. Where practicable, C2 identified routes that maximized routing opportunities and avoided or minimized impacts on constraints. C2 completed an assessment using GIS to quantify potential impacts associated with various routing constraints. Crossings of constraint features were calculated to facilitate comparisons of route alternatives. Other factors, such as construction access and potential permitting implications, were assessed based on C2's experience in permitting electric transmission projects.

Following the collection, mapping, and assessment of constraint data within the study area, Dominion Energy Virginia and C2 identified preliminary overhead routes and then completed a comparative analysis of the routes. As a next step, Dominion Energy Virginia engaged the public, including County elected officials as well as regulatory, planning, and land management agencies, to receive comments on the identified routes. Some of these comments resulted in route adjustments and, in certain cases, helped to inform the Company's decision to reject a particular route. During this time the Company also reviewed the viability of underground routes for the Project (as described in Section 2.7). Based on the comparative analysis of the advantages and disadvantages of each preliminary route, Dominion Energy Virginia and C2 then identified a proposed route and route alternatives.

2.1 STUDY AREA

As the initial step in distinguishing potential transmission line route alternatives, C2 (as directed by Dominion Energy Virginia) identified a geographic study area for the Project based on Dominion Energy Virginia's transmission and service needs for the Project. The study area was identified to encompass the fixed and/or variable starting and ending points for the proposed facilities, and an area large enough to allow for the distinguishing of reasonable route alternatives meeting the Project's need. To the extent possible, the boundaries of the study area were defined using easily distinguished features such as existing transmission lines or roadways.

The Project study area is located on the eastern edge of Goochland County and consists of primarily undeveloped forested and open land with scattered areas of low to high density residential and commercial development (see Figure 2.1-1 in Appendix B). The study area's southern boundary extends approximately 3.9 miles along the north side of Patterson Avenue/River Road West. The western edge of the study area extends north for approximately 5.1 miles following the eastern side of Hockett Road and then crosses Broad Street (250) and heads east for 0.2 mile before turning north and following Ashland Road for approximately 1.2 miles. The northern edge of the study area extends east for approximately

1.6 miles paralleling Dominion's exiting Line 2009 right-of-way. Lastly, the eastern edge of the study area extends approximately 6.9 miles south, generally following the Tuckahoe Creek and the border between Goochland and Henrico counties.

2.2 INVENTORY OF CONSTRAINTS AND OPPORTUNITIES

A variety of routing constraints (including environmental features) occur within the Project study area. The list below provides a summary of the major constraints and opportunities that affected transmission line routing in the study area. These factors, along with additional constraints, are described in more detail within Section 3.0 of this report.

- Existing and planned developments
- VDOT rights-of-way
- Existing utilities
- Wetlands, waterbodies, and floodplains
- Forested land
- Conservation areas
- Recreational areas

2.3 ROUTE IDENTIFICATION

After defining the Project study area, C2 developed multiple route alternatives that would meet the Project's needs. C2 focused on identifying routes that followed existing linear corridors (e.g., transportation and utilities rights-of-way), while minimizing impacts on environmental resources and existing developments, where practicable. A cut-in location along Dominion's existing Line 2009 was selected as a starting point for all route alternatives (see Figure 2.3-1 Appendix B). The cut-in location was selected as it allows for a perpendicular crossing of I-64 while avoiding crossings of on and off ramps. The cut-in location was also selected to avoid the portion of a Line 2009 right-of-way located on the edge of a landfill. The existing Line 2009 right-of-way is just south of the sloped and earthen covered waste landfill. In order to cut-into the existing line, a level workspace would be required north of the existing right-of-way. Landfills are engineered to safely contain and manage solid waste and prevent contamination. Cutting into the slope of the landfill to create a level workspace for transmission line construction would impact the integrity of the landfill, and as such this area was avoided.

2.3.1 ROUTE ALTERNATIVES

Through field investigations, desktop study, agency consultation, and public/stakeholder outreach, C2 identified four viable route alternatives for the Project, described below. Figures 2.4-1 and 2.4-2 in Appendix B show Project route alternatives on aerial and topographic maps, respectively. One route alternative (Route 1) was eliminated from further consideration as described in Section 2.5.

Route 2

Route 2 is approximately 5.9 miles in length. Starting at the cut-in location along the Company's existing Line 2009, the route heads south for about 0.3 mile and crosses I-64. Turning southeast, the route is then collocated with I-64 for approximately 0.2 mile before heading south for approximately 1.0 mile, crossing Three Chopt Road and Broad Street (250). The route then turns southeast for an additional 0.4 mile, crossing Tuckahoe Creek in two locations and Readers Branch, before paralleling with the west side of Route 288 for approximately 1.6 miles. Continuing generally south, the route then traverses the outside of the Route 288 / Tuckahoe Creek Parkway interchange for about 0.7 mile, crossing Tuckahoe Creek Parkway and Capital One Drive. The route then continues south, paralleling the west side of Route 288 for another 1.1 miles, crossing Broad Branch, and Broad Branch Drive. Continuing in a generally southerly direction for the remaining 0.6 mile, the route crosses West Creek Parkway and Route 288 before terminating at the substation site.

Route 3

Route 3 is approximately 6.5 miles in length. Starting at the cut-in location along the Company's existing Line 2009, the route heads south for about 0.3 mile and crosses I-64. Turning southeast, the route is then collocated with I-64 for approximately 0.6 mile before turning south and paralleling the I-64 and Route 288 interchange for another 0.5 mile. The route then crosses Three Chopt Road and turns slightly southwest for about 0.2 mile. Continuing south for about 0.5 mile, the route then crosses Broad Street (250) and the Broad Street / Route 288 Interchange. Turning east, the route then crosses Route 288 (0.1 mile) and then heads south paralleling the east side of Route 288 for about 1.5 miles, crossing Tuckahoe Creek. Continuing generally south, the route traverses the outside of the Route 288 / Tuckahoe Creek Parkway interchange and Tuckahoe Creek Parkway for about 0.9 mile. The route then crosses Tuckahoe Creek Parkway and heads west for approximately 0.4 mile before crossing Route 288 (0.1 mile) for a second time. Turning south, the route then parallels the west side of Route 288 for about 0.8 mile, crossing Broad Branch and Broad Branch Drive. Continuing in a generally southerly direction for the remaining 0.6 mile, the route crosses West Creek Parkway and Route 288 before terminating at the substation site.

Route 4

Route 4 is approximately 6.5 miles in length. Starting at the cut-in location along the Company's existing Line 2009, the route heads south for about 0.3 mile and crosses I-64. Turning southeast, the route is then collocated with I-64 for approximately 0.6 mile before turning south and paralleling the I-64 and Route 288 interchange for another 0.5 mile. The route then crosses Three Chopt Road and turns slightly southwest for about 0.2 mile. Continuing south for about 0.5 mile, the route then crosses Broad Street (250) and the Broad Street / Route 288 Interchange. Turning east, the route then crosses Route 288 (0.1 mile) and then heads south paralleling the east side of Route 288 for about 0.3 mile, crossing Tuckahoe Creek. The route then turns southeast, paralleling, but offset from Tuckahoe Creek for about 2.1 miles. Turning west, the route travels 0.4 mile before crossing Route 288 (0.1 mile) for a second time. Turning south, the route then parallels the west side of Route 288 for about 0.8 mile, crossing Broad Branch and Broad Branch Drive. Continuing in a generally southerly direction for the remaining 0.6 mile, the route crosses West Creek Parkway and Route 288 before terminating at the substation site.

Route 5

Route 5 is approximately 6.0 miles in length. Starting at the cut-in location along the Company's existing Line 2009, the route heads south for about 0.3 mile and crosses I-64. Turning southeast, the route is then collocated with I-64 for approximately 0.6 mile before turning south and paralleling the I-64 and Route 288 interchange for another 0.5 mile. The route then crosses Three Chopt Road and turns slightly southwest for about 0.2 mile. Continuing south, the route then crosses Broad Street (250) and the Broad Street / Route 288 Interchange and parallels the west side of Route 288 for approximately 2.2 miles. This segment of the route crosses Tuckahoe Creek and Readers Branch. The route then crosses a ramp to Route 288 (0.1 mile) and crosses through the Route 288 / Tuckahoe Creek Parkway interchange for about 0.4 mile. Continuing generally south, the route then continues to parallel the west side of Route 288 for another 1.1 miles crossing Broad Branch and Broad Branch Drive. Continuing in a generally southerly direction for the remaining 0.6 mile, the route crosses West Creek Parkway and Route 288 before terminating at the substation site.

2.4 WEST CREEK SUBSTATION

All route alternatives require the construction of the proposed West Creek Substation on customer property. Dominion will obtain property rights for and construct the proposed 230 kV West Creek Substation east of Route 288 and south of West Creek Parkway on an approximately 5.1-acre portion of the Eli Lilly site. Dominion has been in coordination with Eli Lilly on the substation location within the development site and the substation will be shown on plans to be submitted by the developer to the County. It is Dominion's understanding that this site plan will be filed in February 2026. Because the substation location is set and will be included on developer site plans, no alternative substation locations have been identified.

2.5 ROUTES ELIMINATED FROM FURTHER CONSIDERATION

Dominion Energy Virginia reviewed an additional overhead alternative for the Project that it eliminated from further consideration for the reasons described in this section. This eliminated overhead route is discussed below and depicted on Figure 2.5-1 in Appendix B.

Route 1

Route 1 is approximately 7.0 miles in length. Starting at the cut-in location along Dominion's existing Line 2009, the route heads south for about 0.3 mile and crosses I-64. Turning southeast, the route is then collocated with I-64 for approximately 0.6 mile before turning south and paralleling the I-64 and Route 288 interchange for another 0.5 mile. The route then crosses Three Chopt Road and turns slightly southwest for about 0.2 mile. Continuing south, the route then crossing Broad Street (250) and the Broad Street / Route 288 Interchange and parallels the west side of Route 288 for approximately 1.4 miles. This segment of the route crosses Tuckahoe Creek and Readers Branch. Turning southwest, the route continues for approximately 0.9 mile before crossing Tuckahoe Creek Parkway. Continuing southwest, the route travels between the Mosaic residential community and the Capital One campus for about 0.6 miles, crossing Broad Branch and Mosaic Creek Boulevard. The route then continues south for another 0.9 mile, paralleling parcel boundaries and traversing behind the Mosaic residential community. Turning southeast, the route continues to generally parallel

parcel boundaries for an additional 1.0 mile, including a crossing of Country Club Lane. The route then continues southeast for the remaining approximately 0.6 mile of the route, crossing West Creek Parkway and Route 288 before terminating at the substation site.

In addition to being the longest route (approximately 0.5 mile longer than Routes 3 and 4), Route 1 has a number of significant constraints that factored into removing Route 1 from further consideration:

- **Crossing of TOD West:** Dominion drafted Route 1 prior to the finalization and approval of Goochland County's TOD. During the final revisions to the TOD, the County established TOD West, a portion of the TOD that would not allow data centers by right in an approximately 900-acre area near Mosaic at West Creek and Richmond Country Club. As this area is less likely to attract future high energy users, crossing TOD West is less of a routing opportunity than other portions of the TOD. Route 1 would have crossed approximately 1.3 miles of TOD West compared with 0.2 mile for all other route alternatives.
- **Close Proximity to Residential Areas:** Route 1 traveled behind and through the Mosaic at West Creek residential community, bringing the route closer to residences than other route alternatives. Route 1 has 3 residences within 100 feet of the centerline, 44 within 250 feet of the centerline, and 120 within 500 feet of the centerline. Comparatively, the next highest alternative has no houses within 100 feet, 2 houses within 250 feet, and 5 houses within 500 feet of the centerline.
- **Natural Gas Pipeline Crossings:** Route 1 would require three crossings of natural gas pipelines, all of which are owned and operated by Columbia Gas Transmission LLC. All other route alternatives only require one crossing of a natural gas pipeline. While these crossings are not prohibited, coordination with the utility on right-of-way acquisition, transmission line structure foundation offsets, and other requirements can add to the permitting timeline for a project.
- **Common Open Space Easements:** Route 1 would have crossed approximately 300 feet of common open space easements associated with the Mosaic at West Creek residential community. The Goochland County zoning ordinance indicates that common open space cannot include rights-of-way, parking areas, driveways, and required buffer areas. While issuance of a CPCN through the SCC process overrides local zoning regulations, the crossing of these areas may put the developer out of compliance with their approved proffers and make right-of-way acquisition more challenging for parcels associated with the easement.
- **Other Conservation Easements:** Route 1 would have crossed approximately 300 feet of a conservation easement on CarMax property. This easement was put in place by the property owner in 2003 to preserve a stream corridor and stream buffer on the property and to assure that aquatic impacts pursuant to U.S. Army Corps of Engineers (USACE) and Virginia Department of Environmental Quality (VDEQ) permits are minimal. Covenants and restrictions in the easement language indicate that destruction or alternation of the easement is prohibited, and that covenants cannot be altered within the express written approval and consent of the property owner, the USACE, and VDEQ. As all other route alternatives either avoid crossing CarMax property, or avoid crossing the conservation easement area on the property, this

crossing was considered a significant constraint that would add time to the permitting and real estate acquisition for the Project.

For the reasons outlined above, and that multiple other viable alternatives with fewer impacts to residential areas and conservation easements were identified for the Project, the Company decided to not carry Route 1 forward for additional study and, as a result, was eliminated from further consideration for the Project.

2.6 ELECTRICAL SOLUTIONS ELIMINATED FROM FURTHER CONSIDERATION

During the initial stages of route development, Dominion Energy and C2 reviewed additional electrical solutions for the project. The electrical solutions were presented by Dominion's electrical planning department as equally viable electrically as the proposed solution. These electrical solutions were eliminated from further consideration for the reasons presented in the sections below.

2.6.1 WESTERN SOLUTION (CUTTING LINE 2009 NEAR NORTH POLE SUBSTATION)

The Company reviewed potential routing options from Line 2009 near the North Pole Substation. Dominion's existing Line 2009 continues west from the proposed cut-in location under the proposed electrical solution for approximately 6.3 miles before joining the corridor of the existing 500 kV Line 576. Line 2009 then continues south for another approximately 6.0 miles before crossing the James River. The North Pole Substation is located about 1.4 miles north of the James River crossing. A large number of routing constraints exist between this portion of Line 2009 and the proposed West Creek Substation as shown on Figure 2.6-1 in Appendix B.

Residential development starts to get dense in areas east of Dover Road and north of Route 6 (River Road West) with multiple denser subdivisions including the Meadows at Manakin, Auburn Chase, Cedar Run Estates, Dovershire at Manakin Woods, The Park at Manakin Woods, Manakin Farms, and Edgehill to name a few. More rural residential development also exists on the south side of River Road West.

Deep Run Hunt Rural Historic District (VDHR #037-5182) is a large (approximately 16 square mile) proposed historic district on the north side of River Road West. The proposed district covers the majority of the residential development described above. Other aboveground historic resources in this area include two National Register of Historic Places (NRHP) and Virginia Landmarks Register (VLR) listed sites.

- Brookview Farms/Dover Slave Quarter (VDHR #037-5012) is one of Virginia's few surviving groupings of slave quarters and is located on the north side of Route 6 and west of Dover Road. In addition to this being a listed resource, a VDHR conservation easement and a Virginia Outdoors Foundation (VOF) conservation easement overlaps with this site.
- Ben Dover Farm (VDHR #037-0078) is one of three Italian Villas built in the Sabot area around 1850 and is located on the south side of Route 6 on the east side of Sabot. In addition to being a listed resource, a VOF conservation easement overlaps a portion of the site.

Two scenic resource routing constraints were also identified. The Virginia Scenic Rivers Program helps to protect rivers and streams that possess “outstanding scenic, recreational, historic, and natural characteristics of statewide significance for future generations” (VDCR, 2025a). The segment of the James River from Maidens Road (Route 522) east to Watkins Landing Road has been identified as a potential scenic river. The State Scenic Highway and Virginia Byway Act of 1966 defined a Virginia Byway as “a road designated by the Commonwealth Transportation Board having relatively high aesthetic or cultural value, leading to or within areas of historical, natural, or recreational significance” (VDOT, 2025). Route 6 (River Road West) from the Town of Scottsville in Fluvanna County to Route 650 in Goochland County was designated as a Virginia Byway in 1987.

The VOF was created under the Virginia Open-Space Land-Act, which allows public bodies to create open-space easements as a means of protecting and preserving open-spaces (or significant natural, cultural, and recreational resources) on public and private lands. Easements put into place by private landowners allow for the property to stay in private ownership but with safeguards imposed to restrict land uses on the easement. In addition to the two VOF conservation easements described above that overlap with historic resources, two additional VOF easements exist in this corridor. The first is located immediately east of Brookview Farms, and the second is located on the north side of the James River in River Oaks.

In order to avoid crossing large extents of residential development and VOF easements a route along this corridor would need to start close to the James River and then head east along Route 6. Given the amount of development along Route 6, a route would need to cross and be directly collocated with this byway. Due to the visual impacts that would occur along this byway and proposed scenic river, that any routes would be at least 2 miles longer than route alternatives identified for the proposed electrical solution, and that multiple viable alternatives were identified for the proposed solution, the Company decided to not carry the Western Solution forward for additional study and the development of route alternatives for the Project.

2.6.2 EASTERN SOLUTION (CUTTING LINE 222)

The Company reviewed potential routing options from their existing Line 222, which runs north south approximately 4.0 miles east of the eastern boundary of the study area, through a heavily developed portion of Henrico County and continues south towards the James River. A large number of routing constraints exist between Line 222 and the proposed West Creek Substation as shown on Figure 2.6-2 in Appendix B.

The Line 222 right-of-way is bounded on either side by dense residential development between I-64 and Route 6. Given the extent and density of residential development along this transmission line right-of-way the only potential viable cut-in location for this electrical solution would be on the southern end of this corridor. A large conservation easement operated by The Nature Conservancy is located south of Route 6, north the CSX railroad, and west of the existing Line 222 right-of-way. This pushes the potential cut-in location to a small area south of the CSX railroad and north of the James River.

The area south of the CSX railroad and north of the James River is almost entirely wetlands and consists of a combination of palustrine forested (PFO) and palustrine shrub scrub (PSS)

wetlands. Due to the extent of existing development on the north side of the CSX railroad (residential and two golf course/country clubs), a route for this electrical solution would need to cross approximately three miles of wetlands in this area alone. Given the extent of wetland conversion (forested and scrub shrub to emergent wetlands) it is expected that an individual permit would be required from the USACE under Section 404 of the Clean Water Act (CWA) for impacts to Waters of the United States (WOTUS). The additional time needed to design and successfully permit the project through these wetlands would risk the Project in-service date of July 2028.

In addition to The Nature Conservancy conservation easement that is adjacent to the existing Line 222 right-of-way, three additional conservation easements exist in the area that present as routing constraints.

- **VDHR Conservation Easement:** A conservation easement overlaps with the NRHP and VLR listed Woodside architectural resource (VDHR #043-0012) located on the west side of South Gaskins Road north of St. Julians Lane. The main house on the Woodside property is a well-preserved example of a Greek Revival style rural villa and was built in 1858.
- **VOF Conservation Easement:** A large easement located west of the Country Club of Virginia Tuckahoe and encompasses all of the Tuckahoe Point Farm property and continues south into Henrico County to the James River.
- **VDHR Conservation Easement:** A large easement is located west and adjacent to the VOF conservation easement listed above. This easement overlaps partially with the NRHP and VLR listed Tuckahoe Plantation (VDHR #037-0033) located south of Route 6 on either side of River Road. This historic resource is the childhood home of Thomas Jefferson. The property consists of over 550-acres (about 340 of which are under the VDHR protective easement) and includes a residential historic manor, historic outbuildings, gardens, cemeteries, farm buildings and structures, and open space land used for crop production and pastureland.

In addition to the two NRHP and VLR listed resources discussed above, a third listed resource occurs in the area which does not overlap with a conservation easement. Bella Foundry/Clark Foundry Ruins (VDHR #020-0006) is located on the north side of the James River east of South Gaskins Road. The defense/magazine resource was constructed in 1816 and three workshops remain onsite.

The Country Club of Virginia is located on the north side of Route 6. This private country club includes two 18-hole golf courses (Tuckahoe and James River) and presents as a routing constraint as it is bounded on the west side by a VOF conservation easement and on the east side by residential development. In order for a route to head north to the substation site, it would need to either cross dense residential development, the country club, or the VOF conservation easement. Due to these routing constraints, and that an individual permit would be required for the conversion of a minimum of three miles of PFO/PSS wetlands to PFO wetlands, the Eastern Solution was not deemed viable for additional study and the development of route alternatives for the Project.

2.7 UNDERGROUND ROUTES

The Company evaluated utilizing underground construction for the Project. Dominion's underground engineering reviewed the pathways for the overhead alignments identified early in the routing process and reviewed space requirements for transition stations. A discussion of the engineering and routing constraints, many of which present challenges when compared with overhead routes, is presented below.

- Open-cut trench construction, the preferred method for underground construction, would be used for the majority of the length of all underground routes. Based on preliminary engineering, the Company estimates that open-cut trench construction would require between 60 and 80-foot-wide permanent right-of-way for the five cables per phase design. An additional estimated 20 feet of temporary right-of-way would be required during construction for equipment operation, construction access, and material staging.
- Trenchless installations would be needed to cross all major roadways including I-64, Broad Street (250), the Broad Street and Route 288 interchange, Route 288, Tuckahoe Creek Parkway, Broad Branch Drive, and West Creek Parkway. Trenchless crossings would also be required for some perennial waterbody crossings including Tuckahoe Creek, Readers Branch, and Broad Branch. Trenchless installation methods consist of the jack and bore method for shorter crossings (typically less than 400 feet) and horizontal directional drilling (HDD) method for longer crossings. The right-of-way needed for a jack and bore crossing is approximately 145 feet and for an HDD crossing the right-of-way expands to 260 feet. These trenchless crossings require additional workspaces at the entry and exit pits. For a jack and bore method these workspaces are approximately 40 feet by 120 feet, and for HDD crossings they are approximately 200 feet by 200 feet.
- Underground construction would have more significant impacts on wetlands, and it would require the placement of permanent fill (cables, splicing vaults, and fill including thermal concrete) within wetlands. The fill will be impervious, thereby potentially impeding the movement of groundwater within the right-of-way. With overhead construction, permanent fill is limited to any structure foundations that are needed within wetlands. The amount of fill within wetlands needed for underground construction would trigger the need for an individual permit from the USACE under Section 404 of the CWA for impacts to WOTUS. The additional time needed to design and successfully permit the project through these wetlands would risk the required Project in-service date of July 2028.
- An underground route would require crossings of a Columbia Gas Transmission LLC natural gas pipeline, which cannot be avoided by the Project due to the pipeline's east/west orientation across the study area. Based on the Company's past experience working with pipeline operators, it is expected that an airbridge installation would be required. The Company would also need to complete additional corrosion studies and review cathodic protection needs to determine any additional engineering design requirements for the pipeline crossings.
- Additional coordination and engineering review would be required for an underground solution to determine if the crossings of VDOT interchanges (Broad Street/Route 288 and Route 288/Tuckahoe Creek Parkway) are constructable.

Coordination with VDOT would be required and engineering/permitting requirements could impact the Company's ability to meet the Project in-service date.

- An underground solution would require transitioning to overhead conductors at the proposed West Creek Substation and the Company's existing Line 2009. Transition stations (requiring approximately 5-acres of land each) would be required at each location, thereby increasing the overall footprint and environmental impact of the project.¹
- Given Goochland County's recent approval of the TOD, it is expected that additional growth will be occurring in this area. An underground solution would restrict future tie-in and interconnection opportunities as compared with an overhead route. In order to connect to the underground route a transition station would be required in each interconnection location which would impact the amount of developable land on parcels where the connection would be required.
- An underground solution would increase the construction cost and timeline for the Project. The construction cost for an underground solution was estimated to be about nine times more than overhead construction and would require an estimated additional 2-3 years for completion, thereby making any underground solution not meet the in-service date for the project of July 2028.

For the reasons listed above, conceptual underground and hybrid routes were rejected from further consideration for the Project.

¹ At the Project open house held on December 4, 2025, the Company received comments asking why a small portion of the route (closer to residences) could not be made underground. Company representatives explained that in each location where the route would transition from overhead to underground (and vice versa) a transition station would be required, thereby likely increasing visual impacts and the overall impacts associated with the Project.

3.0 INVENTORY OF EXISTING RESOURCES

This section describes existing physical, social, and environmental resources and conditions in the study area. The information presented in this section is drawn from a combination of field observations and publicly accessible resources such as federal, state, and local agency websites and documents, and GIS mapping and data; published documents, such as county or municipal land use plans; and communication with agency and county staff, stakeholders, and elected officials. Table 3-1 identifies the categories of various features considered for routing in the study area.

Table 3-1: Features Considered for Routing

Feature Type	Description
Existing Corridors	
Existing electric facilities	• Transmission and distribution lines
Other utilities	• Pipelines (gas and oil), sewer and water, fiber
Transportation infrastructure	• Roads, railroads, and related corridors
Land Ownership	• Federal, state, and locally owned land • Private land
Land Uses	
Existing land use and land cover	• Land cover types (e.g., developed, forested, open land) • Residences, churches, schools, cemeteries • Existing subdivisions
Recreational areas	• Federal, state, county, or municipal owned and/or managed parks • Golf courses • Recreational trails
Land use planning and zoning	• Existing zoning districts • Proposed County overlay districts • County Comprehensive Plan
Planned developments	• Planned or proposed residential, commercial, and industrial developments
Conservation lands and easements	• Virginia Outdoor Foundation, VDCR, and other conservation lands • Goochland County conservation easements • Wetland mitigation banks
Transportation	• Existing roads and railroads • Planned road projects • Public and private airport facilities

Feature Type	Description
Natural Resources	
Surface waters	• Wetlands • Waterbodies
Areas of ecological significance	• Ecological cores • Resource protection areas • Wildlife management areas
Protected species	• Threatened and endangered species • Bald eagles • Natural heritage resources
Vegetation	• Forested land • Vegetation characteristics
Visual Resources	• Viewsheds to and from visually sensitive resources • Scenic byways • Scenic rivers
Cultural Resources	• VDHR easements • Previously recorded archaeological sites • Previously recorded architectural sites and historic districts • NRHP-listed and NRHP-eligible resources • Battlefields
Geologic (Mineral) Resources	• Mines and quarries
Environmental Justice	• Communities of color • Low-income communities

3.1 LAND USE

3.1.1 LAND OWNERSHIP AND PUBLIC LANDS

The Company reviewed information on land ownership in the Project study area using publicly available GIS databases and digital parcel data obtained from Goochland County. Ownership data indicates that the majority of land within the study area is privately owned. Land uses on these private parcels include, but are not limited to, undeveloped forested land and open space, residential, commercial, office buildings, industrial, and recreation areas.

Public lands in the study area include parcels owned by Goochland County and the Commonwealth of Virginia. The Commonwealth of Virginia owned parcels are associated with the boundaries of State Route 288, Tuckahoe Creek Parkway, and Hockett Road. The parcels owned by Goochland County consist of the eastern Goochland County pump station, a utility booster station, a commercial building and classroom trailer, one parcel being rezoned for a fire rescue station, and other unoccupied parcels. Land uses on these public parcels include, but are not limited to, undeveloped forested land and open space, commercial, office buildings, and industrial. Figure 3.1-1 in Appendix B depicts land ownership within the study area.

3.1.2 EXISTING LAND USE AND LAND COVER

Land use and land cover within the Project study area were categorized using both state-wide (Virginia Geographic Information Network Virginia Land Cover) datasets and aerial photo interpretation to identify the current uses within the study area. Figure 3.1-2 in Appendix B depicts the land use and land cover within the study area. Land uses and land cover within the study area include the following five main categories²:

- **Forested lands** – Areas where land cover consists of woody vegetation including various types of foliage, such as deciduous, evergreen, and mixed species.
- **Open lands** – Areas consisting primarily of grasses, including vegetation planted in developed areas as well as natural herbaceous vegetation, park lands, and open-space recreation areas.
- **Developed lands** – Areas characterized by medium to high density buildings including residential subdivisions, industrial areas, and commercial developments as well as impervious surfaces (e.g., parking lots and roads).
- **Agricultural lands** – Areas used for commercial farming or grazing.
- **Open water** – Open water features including ponds, rivers, and streams.

Existing land use/land cover in the study area consists primarily of undeveloped forested land, low to high density single-family residential development, commercial development, impervious roadway surfaces, and scattered areas of open land. The study area also includes open water associated with Tuckahoe Creek, Big Swamp, Broad Branch, Tuckahoe Creek, Readers Branch, and other unnamed tributaries.

3.1.3 LAND USE PLANNING AND ZONING

Land Use Planning

Section 15.2-2223 of the Va. Code requires local planning commissions to adopt a comprehensive plan that provides guidance for the physical development of the territory within its jurisdiction. The plan considers existing and future land uses, anticipates development trends, and makes recommendations for guiding long-term development decisions of a city or county. To implement objectives of the comprehensive plan, local governments use zoning. A zoning ordinance creates land use categories that separate incompatible uses and establishes development standards to guide orderly and efficient land use. Virginia requires that a comprehensive plan be reviewed at least once every 5 years to adjust to actual or projected changes in land use conditions or needs.

² For the purposes of quantifying land uses and land cover, wetlands have been classified as either open space (emergent and scrub shrub wetlands), forested land (forested wetlands), or open water (riverine, lacustrine, etc. wetlands) depending on the wetland type. Additional information on wetlands in the study area are discussed in Section 3.3.2.

Goochland County Comprehensive Plan

The Goochland County 2035 Comprehensive Plan was adopted in August 2015 and provides a blueprint for the future by establishing a framework for growth and development over 20 years. The plan provides the County guidance in the formation and implementation of various tools that guide growth and development decisions. Tools discussed in this comprehensive plan include zoning ordinance, subdivision ordinance, erosion and sediment control ordinance, utilities ordinance and master plan, parks and recreation master plan, schools strategic plan, economic development strategic plan, and several others. Amongst these, the comprehensive plan prioritizes rewriting the zoning ordinance to make it more business/user friendly, identify ways to allow varied housing types and expand housing options in the county, review and update landscaping requirements, consider funding to install public amenities within the county villages, and utilize all of the implementation tools and plans to further land use planning (Goochland County, 2015).

Goochland County Technology Overlay District

Goochland County has recently approved a TOD and is in the process of implementing it to the 2035 Comprehensive Plan. The county, in partnership with the Economic Development Authority, completed a detailed analysis of the county's existing zoning and designated growth areas and identified key areas that are well-suited for the inclusion in a TOD Technology Zone (TZ). The key areas were chosen because they have access to the infrastructure needed and offer large contiguous parcels of land that could support significant economic development projects. The TOD is a zoning tool that adds additional guidelines to the existing county zoning, allowing the existing zoning to remain. It will become part of the zoning ordinance and will regulate uses and development standards (Goochland County, 2025a). Figure 3.1-3 in Appendix B shows the TOD boundary in relation to the study area.

Areas within the TOD will allow two additional types of use, by-right and accessory to by-right use. By-right uses mean that the use can be located in the TOD without any additional public hearings. The use will need to obtain County site plan approval, building permits, and adhere to all applicable federal, state, and local regulations. By-right uses approved for the TOD include: data centers, advanced manufacturing facilities, public utilities, technology centers (colleges, research facilities, and training centers), and utility generating stations. The TOD is broken into two separate areas, TOD West and the main TOD. TOD West encompasses areas on the west side of Route 288 and south of the Mosaic residential community. Within this portion of the TOD, data centers will not be allowed by right and will need to go through the standard conditional use permit process.

Accessory to a by-right use means that additional uses are approved assuming they are located to support one of the by-right uses listed above. Like by-right uses, these will also need to obtain site plan approval, building permits, and adhere to all applicable federal, state, and local regulations. Accessory to a by-right uses include but are not limited to: security buildings, offices, structured parking, central heating and cooling facilities and water treatment facilities (Goochland County, 2025b).

Development standards including open space requirements, landscape and vegetative buffers, and setbacks have also been developed as part of the TOD and vary by existing land use and zoning. For any data centers proposed on parcels within the TOD that are adjacent to residentially zoned or agriculturally zoned property outside of the TOD, the following building height and setbacks must be adhered to: 60 foot building height requires 300 foot setback, 60-80 foot building height requires a 500 foot setback, and any buildings taller than 80 feet require a 600 foot setback (Goochland County, 2025c).

Goochland County Technology Zone

Goochland County has recently approved a TZ which is an ordinance amending Goochland County Code Chapter 8 (Licenses and Business Regulations) adding Article IIA (TZs), Sections 8-100 through 8-106, to establish the TZ. The TZ is a complementary designation to the TOD and is designed to offer targeted incentives that encourage private investment and job creation within the designated boundaries. The TZ serves as the fiscal and economic catalyst while a TOD provides the regulatory framework (Goochland County, 2025b). The boundary of the TZ is the same as that of the TOD.

Design Overlay Districts

Goochland County has designated design overlay districts along major road corridors including River Road West, River Road, Broad Street (250), and Ashland Road, as well as in certain villages within the County. Within the study area, the River Road overlay district follows the southern boundary of the study area, and the Broad Street overlay district encompasses parcels on either side of Broad Street (250), extending north to I-64 on the western side of the study area, and south along Tuckahoe Creek on the eastern side of the study area. The overlay districts were created to conserve elements of the County's scenic beauty and preserve and protect corridors and areas. The County requires a Certificate of Approval permit for exterior building improvements and new construction within these districts (Goochland County, 2025d). Figure 3.1-3 in Appendix B shows the River Road and Broad Street design overlay districts in relation to the study area.

Parks, Recreation, & Facilities Master Plan (Amended 2020-2023)

The Goochland County Parks and Recreation Master Plan is designed to help identify and meet the facility and programming needs of current and future residents in the county. Goochland County amended the master plan in 2016-2020 and again in 2020-2023. The plan is intended to provide clear direction to county staff, the recreation advisory commission, and elected officials in their efforts to provide and enhance current and future leisure and recreation services. As part of the plan, it was noted that the eastern side of Goochland County does not have a community park and this was identified as a future need. A County-owned parcel on the west side of Hockett Road (just outside of the study area) was identified as a potential location for a future park. The master plan also references the East End Trails system which is discussed further in Section 3.1.9 (Goochland County, 2023).

Zoning

Local governments implement zoning to officially classify land use areas, specify appropriate and compatible activities within those areas, set standards for organized and efficient land use and development, and fulfill the goals outlined in their comprehensive plans. The local Board of Supervisors (BOS) and governing authorities can amend zoning ordinances based on requests from community members and businesses seeking changes to zoning classifications or the addition of new uses.

The zoning districts within the study area are outlined below, as they play a crucial role in understanding the existing and future land uses in the area. Figure 3.1-4 in Appendix B illustrates the zoning districts within the study area. Goochland County adopted a zoning ordinance to establish the county's zoning districts and regulations as authorized by state law and is adopted in accordance with the enabling authority in Va. Code §§ 15.2-2200 and 15.2-2280. The zoning regulations and districts established in this code are consistent with the comprehensive plan, and have been created to promote, in accordance with present and future needs, the health, safety, order, convenience, prosperity, and general welfare of the residents of Goochland County, Virginia.

Goochland County features several zoning districts; each designed to serve specific purposes and promote organized development. The area of West Creek was rezoned in the 1980s and has standards specified in proffers and restrictive covenants that include architectural requirements and landscaping needs. The TOD described above supplements the existing zoning within the study area. Zoning districts within the study area include Agricultural Limited (A2), Industrial Limited (M1), Industrial General (M2), Residential Planned Unit Development (RPUD), Residential Neighborhood (RN), Residential Office (RO), Residential General (R3), Interchange Commercial (B3), and Business Neighborhood (BN). A summary of the zoning districts (Goochland County, 2025e) within the study area are provided below:

Agricultural Limited (A2): The purpose of this district is to create a transitional rural zone that bridges general agricultural areas (A-1) and more developed regions in the eastern part of the county. This district permits a mix of agricultural and forestry activities alongside rural residential developments, with a minimum lot size of 2 acres, as well as agricultural-oriented businesses. It aims to safeguard agricultural and forestry lands, helping to preserve the county's natural resources. The A-2 districts are typically located to the east of Routes 522 and 607 and to the west of the Tuckahoe Creek Service District and are identified as rural enhancement areas in the comprehensive plan.

Industrial Limited (M1): The purpose of this district is to accommodate specific industries that can coexist with residential areas, ensuring that they do not negatively impact the desirability of nearby homes. This district permits low-impact industrial activities with restrictions on outside storage, aiming to enhance the appeal of adjacent residential properties while providing industries access to a local workforce. It typically aligns with regions identified in the comprehensive plan as suitable for industrial use, prime economic development, and flexible opportunities.

Industrial General (M2): This district is designed to accommodate heavy commercial and industrial activities that may generate certain nuisances and are not well-suited for residential, institutional, or neighborhood commercial service settings. It promotes the development and ongoing use of land for heavy commercial and industrial purposes. This district typically aligns with areas identified in the comprehensive plan for industrial use, prime economic development, and flexible zoning options.

Residential Planned Unit Development (RPUD): This district is designated for major villages that are equipped with public water and sewer services. It offers the potential for a diverse range of housing options, including single-family homes and small-scale multi-family residences, with a maximum density of 2.5 units per acre. To promote innovative site designs, there is no minimum lot size requirement, allowing for denser clusters of lots in interconnected nodes, each separated by substantial open space. Limited commercial activities and senior living facilities are also allowed within this district. This area aligns with the comprehensive plan's designation for residential development in major villages.

Residential Neighborhood (RN): This district is intended for residential developments within villages identified in the comprehensive plan where public water and sewer services are accessible. The regulations aim to promote efficient development patterns that optimize land use in a village environment. Permitted uses are restricted to single-family homes and amenities that cater specifically to residents of the district. The minimum lot size is set at 15,000 square feet, allowing for a density of 2.9 units per acre. This district aligns with areas marked on the comprehensive plan as village locations designated for residential purposes.

Residential Office (RO): This district is designed to accommodate suburban residential areas and professional office spaces that serve as a buffer between residential and commercial zones, particularly where commercial activities could negatively impact established neighborhoods. It aims to create a harmonious blend of residential options alongside specific businesses, such as personal and professional services, that can operate efficiently without generating heavy traffic. The regulations and restrictions within this district are focused on protecting, preserving, and enhancing residential properties while allowing for consultative, personal, executive, and administrative services. A strong emphasis is placed on complementary uses that promote easy pedestrian movement and encourage the shared use of parking facilities, as well as coordinated vehicle access. This district aligns with areas identified in the comprehensive plan as transitional zones from residential to commercial use.

Residential General (R3): This district is designed to accommodate a diverse range of residential options, including single-family homes, duplexes, triplexes, and quad units. For single-family lots utilizing individual water and sewage systems, the minimum lot size is 1.5 acres; however, if connected to public utilities, this can be reduced to 20,000 square feet, allowing for a density of 2.2 units per acre. Densities increase for duplexes and triplexes at 3.4 units per acre, and quad units can reach up to 4.4 units per acre. Multi-family developments are recommended only for areas located within villages that have access to public utilities. Additionally, the district permits public, semi-public, institutional, and related uses. This district generally aligns with areas designated for residential purposes in the comprehensive plan.

Business General (B1): This district is designated for general business activities, including retail, retail services, office spaces, and office/warehouse operations that require direct and frequent public access. Manufacturing, compounding, processing, or treatment of products is not allowed, except when it is incidental and essential to a permitted use, provided the products are typically sold at retail on-site. Areas within this district are usually classified on the comprehensive plan as commercial, flexible, office, or prime economic development zones.

Interchange Commercial (B3): This district is designed to facilitate general commercial activities. Within the study area land zoned as B3 is limited to a few parcels near the interchanges of I-64 and State Route 288. The district aims to address both local and regional commercial needs with a high intensity of use and allows for greater building heights. Typical uses in this district include hotels, motels, restaurants, and conference centers, along with those permitted in the B-1 district. The district intentionally prohibits manufacturing, compounding, processing, or treatment of products, as well as any operations that may be objectionable due to odor, dust, smoke, noise, vibration, or other nuisances.

Business Neighborhood (BN): This district is designed to accommodate a limited selection of commercial uses that fulfill the daily convenience shopping and service needs of residents within a neighborhood or small community. The manufacture, compounding, processing, or treatment of products is strictly prohibited. Furthermore, this district is intended to exclude any uses, operations, or products that may be objectionable due to odor, dust, smoke, noise, vibration, or other disturbances. Specifically, activities related to the sale, repair, service, maintenance, or storage of motor vehicles and associated accessories are not allowed in this district. This area can also act as a transitional zone between residential neighborhoods and more intensive commercial districts. It is typically classified on the comprehensive plan as commercial or flexible.

3.1.4 RESIDENTIAL AREAS AND RESIDENCES

Residential areas within the study area consist primarily of low to high density single family residential developments. Goochland County has subdivisions designated on their public GIS mapper which include both residential and commercial subdivisions. Residential subdivisions within the study area are shown in Figure 3.1-5 in Appendix B and listed in Table 3-2 below.

Table 3-2: Residential Subdivisions in the Study Area

Name	Description
2000 West Creek	Located on the west side of Broad Branch Drive, north of West Creek Parkway in the southeastern portion of the study area, 2000 West Creek is a luxury apartment complex. The subdivision consists of 300 apartment units with amenities including a clubhouse, attached garages, rooftop patio, co-working space, fitness center, and a dog park (2000 West Creek, 2025).
Avery Point	Avery Point is located in the northeast portion of the study area, on the east side of Wilkes Ridge Parkway south of Broad Street (250). The subdivision is a 55+ community consisting of 1 and 2 bedroom apartments. Amenities include an on-site medical center, swimming pool, fitness center, library, and transportation services (Avery Point, 2025).
Bellview Gardens	Bellview Gardens is located in the northwest portion of the study area, on the east side of Willis Road just north of Broad Street (250). The subdivision consists of approximately 40 detached single-family homes.

Name	Description
The Blufftons	Located on the west side of West Creek Parkway, just north of the Huguenot Hills subdivision in the southeastern portion of the study area, the Blufftons subdivision consists of 29 buildable lots for detached single-family homes. Five lots have been sold, two have move-in ready homes available, and the remaining 22 lots are for sale for construction of custom homes (40 Eagle, 2025a).
Creekmore Park	Located north of Route 6 and west of Route 288 near the southern border of the study area, the Creekmore Park community consists of approximately detached 36 single-family residences.
Creekmore Place	Located adjacent to Creekmore Park on the west side of Route 288, Creekmore Place is a townhome community with 15 existing town homes and developable land for 3 future townhomes.
Cobblestone Circle Condominiums	Located north of Route 6 and adjacent to the Richmond Country Club, the Cobblestone Circle Condominiums subdivision consists of four single-family condos. This subdivision is located near the southwestern corner of the study area.
Few Acres	Located west of Hockett Road and south of Tuckahoe Creek Parkway along the western border of the study area, the Few Acres subdivision consists of five detached single-family homes.
Hickory Haven	Located on the east side of Hockett Road and south of Broad Street (250) along the western border of the study area. Hickory Haven consists of 40 detached single-family homes. The subdivision is located just north of the Readers Branch subdivision.
Huguenot Hills	Huguenot Hills is a three-phase subdivision located north of Route 6 and east of Patterson Golf Park along the southern border of the study area. The subdivision is still in development with 23 detached single-family homes having been constructed. Based on plotted parcels within the subdivision, there is room for approximately 85 additional residences.
Monacan Hills	Located north of Route 6 and west of Route 288, the Monacan Hills subdivision consists of eight detached single-family residences. This subdivision is located adjacent to the Richmond Country Club in the southwestern portion of the study area.
Mosaic at West Creek	Located south of Tuckahoe Creek Parkway and on either side of Mosaic Creek Boulevard within the western central portion of the study area, Mosaic at West Creek is a 55+ community. The subdivision includes a combination of single-family homes and town homes. Construction of portions of the development is ongoing (anticipated to be completed in 2026) with a total number of approximately 400 homes within the subdivision upon completion. The development also includes recreational facilities including a pool, hot tubs, pickleball, bocce ball, walking trails, and parks/open spaces (HH Hunt, 2025).
Readers Branch	Readers Branch is located on the east side of Hockett Road south of Broad Street (250) along the western border of the study area. This subdivision consists of approximately 390 detached single-family homes and 15 townhomes. Amenities include a clubhouse, pickleball courts, and 35 acres of environmental areas with walking trails, bird watching stations and nature overlooks (40 Eagle, 2025b).
The Retreat at the Notch	Located on the east side of Wilkes Ridge Parkway south of Broad Street (250), the Retreat at the Notch (MAA West Creek) is a ten-building apartment complex consisting of approximately 335 units. Amenities include a pool, dog park, fitness center, communal outdoor spaces, and a walking trail (MAA West Creek, 2025).
Samary Forest	Located on either side of Whippoorwill Road, just south of Broad Street (250), Samary Forest consists of 14 detached single-family homes. The subdivision is located in the northwest portion of the study area.

3.1.5 COMMERCIAL/INDUSTRIAL AREAS AND BUILDINGS

Commercial and industrial areas are present throughout the study area including office buildings and retail/mixed use areas. The West Creek Business Park spans much of the eastern portion of the study area and the Retail at the Notch and Page Commerce retail centers are located in the northeastern portion of the study area. As mentioned in the section above, Goochland County has subdivisions designated on their public GIS mapper which include commercial subdivisions. Commercial subdivisions within the study area are shown in Figure 3.1.5 in Appendix B and described below.

West Creek Business Park

West Creek Business Park spans the study area east of Route 288 from Broad Street (250) to Patterson Avenue. The 3,500-acre business park is zoned for mixed-use office, retail and light industrial. Businesses within the West Creek Business Park include Capital One, Virginia Farm Bureau, CarMax, Hospital Corporation of America and the Federal Reserve Bank of Richmond. West Creek Business Park has more than 1,700 acres of available land for development and is included as part of the TOD (West Creek, 2025).

Retail at the Notch

Retail at the Notch is a retail center located along the northern border of the West Creek Business Park, south of Broad Street (250) and east of Route 288. Facilities currently include the Residence Inn by Marriot Short Pump, with two additional parcels available for development.

Page Commerce Center

Page Commerce Center is a retail center located on the north side of Broad Street (250) just west of Route 288. Commercial businesses at Page Commerce Center include Audi Richmond, Chick-fil-A, and the Partner Veterinary Emergency and Specialty Center animal hospital.

3.1.6 CEMETERIES, SCHOOLS, AND PLACES OF WORSHIP

C2 identified cemeteries, schools, and places of worship within the study area through publicly available data sources including U.S. Geological Survey (USGS) topographic quadrangles, recent (2025) digital aerial photography, Goochland County parcel data and cemeteries layer, and information from VCRIS (VDHR, 2025). Ten cemeteries, two places of worship, and no schools were identified. Additional information on these resources is presented in Table 3-3 and the location of these resources within the study area are depicted on Figure 3.1-6 in Appendix B.

Table 3-3: Cemeteries, Schools, and Places of Worship Within the Study Area

Name	Description
Cemeteries	
Unnamed Cemetery	Small private cemetery located on the south side of Three Chopt Road, east of Ashland Road.
Cemetery Peyton Robinson Estate	Small private cemetery located on the north side of Three Chopt Road, west of Route 288.
Unnamed Cemetery	Small private cemetery located north of I-64 near the northern boundary of the study area.
Unnamed Cemetery	Small private cemetery located at the western end of Beech Hall Circle within the Readers Branch subdivision, along the western boundary of the study area.
Unnamed Cemetery	Small private cemetery located at the end of Few Acres Lane, west of Hockett Road along the western boundary of the study area.
Unnamed Cemetery	Small private cemetery located along the northern boundary of the West Creek Business Park, east of Route 288.
Unnamed Cemetery	Small private cemetery located along the northern boundary of the West Creek Business Park, east of Route 288.
Unnamed Cemetery	Small private cemetery located along the western boundary of the study area, east of Hockett Road and south of Art Road,
Cemetery Edna Snead Banton	Small private cemetery located along the western boundary of the study area, east of Hockett Road and south of Art Road,
Unnamed Cemetery	Small private cemetery located within the Huguenot Hills subdivision, south of Oak Hill Park Drive and east of Rochelle Road.
Places of Worship	
Mount Victory Baptist Church	Located along Broad Street (250), west of Route 288. Mount Victory Baptist Church began holding weekly services and religious studies in 2016.
Church of the Vietnamese Martyrs	Located along Patterson Avenue, between Route 288 and West Creek Parkway. The church has been conducting weekly worship at the current location since 1999. A convent located behind church houses church officials.

3.1.7 PLANNED AND FUTURE DEVELOPMENT

C2 obtained information on planned and future developments through publicly available data on county websites, and consultations with county and city planning officials and other stakeholders. Planned developments were considered to be any development where the required zoning for the development to move forward is in place, and developer has filed a pre-application review or Plan of Development (POD) with the County regarding the development plans which detail a proposed building layout for the development and the site plan is either in review or has been approved by the County. Future developments were considered to be more conceptual developments where the developer has yet to file a site plan including building layouts with the County, but has conceptual site layouts either filed with the County or that they were able to share with Dominion. Future developments also include developments with a POD that was previously filed with the County, however it has expired and additional applications would need to be submitted for the development to move forward.

To build in Goochland County, a developer must first confirm that the project complies with zoning and the Comprehensive Plan, obtaining any necessary rezoning or conditional use approvals. After a pre-application meeting with Community Development, the developer submits a POD or site plan for technical review by multiple county departments, including zoning, engineering, and utilities. If the project disturbs more than 10,000 square feet of land, erosion and stormwater permits are required, and subdivision approval may be needed if lots or roads are created. Once all plans are approved, the developer applies for building and trade permits, pays fees, and provides contractor credentials. During construction, the county conducts required building and environmental inspections, and all infrastructure improvements must be completed or bonded. When the work and inspections are finalized, the County issues a Certificate of Occupancy, allowing use of the site, and any posted bonds are released after final acceptance of improvements.

Four planned developments, in various stages of application to the County, were identified within the study area as well as seven future developments. The classification of a development as planned versus future is based on information available on the Goochland County's public EnerGov site as of January 9, 2026. These planned and future developments are described below, and locations are depicted on Figure 3.1-7 in Appendix B. Unless otherwise noted, all information on planned developments was obtained using Goochland County's public EnerGov site. During conversations with the County, the Company was made aware of highly conceptualized potential data center development within the TOD. As this potential development is still in a feasibility level of analysis with no developer on board and no set location of development, this information was used at a high level during routing but not considered a constraint for the Project and are not discussed in this report.

Amazon Distribution Warehouse - Project Apple - Planned Development

Amazon owns an approximately 40 acre forested parcel on the west side of Route 288 and the east side of West Creek Parkway and submitted a pre-application review in November 2024 (PRE-2024-00046) and a POD in July 2025 (POD-2025-00008) for the construction of a distribution warehouse with a covered canopy, vehicle service building, and associated site and utility improvements. The initial POD review and VDOT submittal reviews were not passed. Updated POD files were submitted to the County in October and November 2025 and a second POD review began in November 2025. The second round of submittal reviews were not passed. Additional applications associated with this development include a commercial accessory structure application, stormwater management permit, and land disturbance permit, none of which have been received as of the end of December 2025. As a POD and detailed site plan have been filed with the County, this development was classified as a planned development.

Asgard Property - Future Development

Asgard Broad Street Properties I LLC own multiple parcels on the north side of Broad Street (250) west of Route 288. These parcels include a combination of existing developed properties (Mount Victory Baptist Church and The Floor Trader of Richmond) and undeveloped forested land. Based on conversations with the developer, the Company was made aware of the history of the development and that the developers have been coordinating with the County for approximately 4 years on these properties. In February 2024 a Pre-Application Review (PRE-2024-00006) was filed which included three Conceptual Plan

options for the properties. These Conceptual Plans did not include building layouts, rather they provided a high-level overview of potential land uses including single-family detached, multi-family, village retail, commercial, in-line retail, medical office, parks, and landscape buffers. As of August 2024, the Pre-Application Review is listed as having an expired permit hold. Previous Pre-Application Reviews, including PRE-2023-00027 and PRE-2023-00028, were also submitted for these properties and have since been withdrawn. In June 2025 Asgard Broad Street Properties I LLC submitted a Zoning Verification Letter Request to the County and the request was responded to in June 2025. The response provided a list of permitted uses by right and uses by conditional use permit for each parcel. Rezoning requests for this development and new permit applications will need to be filed with the County before this future development can progress through the County's POD process. As the rezoning needed for this development is not in place as of January 1, 2026 and a detailed site plan depicting building layouts has not been filed with the County, this development was classified as a future development.

Eli Lilly and Company - Future Development

On September 16, 2025, the Office of Governor Glenn Youngkin announced Eli Lilly and Company's \$5 billion investment in Virginia as they are moving forward with plans for construction of a manufacturing facility in Goochland County. The proposed location is the current home of the Richmond Strikers West Creek Complex on the south side of West Creek Parkway and the east side of 288. This facility will focus on producing advanced pharmaceuticals, including cancer treatments and other therapies.

Eli Lilly is the customer that submitted the load request driving the proposed transmission line project. As such, the Company has been in coordination with the customer while they work on their site plan as the customer's substation location was needed for routing purposes. Dominion is aware that Eli Lilly had a pre-application meeting with the County on January 7, 2026 and plans to file their POD on February 15, 2026. As such, this development was classified as a future development.

Emerson Companies - Townhomes - Future Development

A pre-application review (PRE-2024-00029) was submitted by Susan Smith in July 2024, requesting to rezone approximately 16 acres from A-2 to RPUD to support the construction of age-restricted townhomes. The development would be located on the southeast side of Hockett Road and the west of Mosaic Creek Boulevard. A conceptual site plan was included in the pre-application review which depicted 43 lots for townhomes, roadways, and a stormwater BMP. The pre-application was only valid for six months and was closed in January 2025. A new pre-application review under PRE-2025-00042 was submitted by Emerson Companies on November 4, 2025, and included an updated conceptual site plan for rezoning and to add 42 townhome lots to the Mosaic homeowner's association. The new pre-application review period is valid through May 2026. As the rezoning needed for this development has not been approved as of January 1, 2026, this development was classified as a future development.

Graham Real Estate, LLC - Self Storage Facility - Future Development

In August of 2025 Graham Real Estate LLC filed a rezoning proffer Amendment (RZ-2025-0005) to rezoning case RZ-1998-00005A which would allow for a self-storage/mini warehouse facility. A Conditional Use Permit Application (CU-2025-00004) was also filed in August of 2025. The application included a Concept Plan outlining an approximate 94,250 square foot three story mini-storage building, a 12,400 square foot one story mini-storage building, two approximately 2,100 square feet one store mini-storage buildings, and associated parking and access. The requested property is located at 12330 Patterson Avenue and consists of approximately 35 acres of undeveloped open and forested land. The Pre-Application Review was still ongoing as of December 2025. While a preliminary site plan with building layouts was filed with the County, as the rezoning proffer Amendment has not been approved as of January 1, 2026, this development was classified as a future development.

Mosaic at West Creek Section 9 - Planned Development

Mosaic at West Creek is an existing 55+ residential community located on the western side of the study area, east of Hockett Road, south of Tuckahoe Creek Parkway, and west of Route 288. During the Project open house held on December 4, 2025, Dominion representatives were made aware of a planned expansion of the development on a parcel southeast of Mosaic Creek Boulevard and south of Broad Branch Drive. In reviewing documents uploaded to the EnerGov site, a rezoning case (RZ-2024-0009) was approved in January 2025 and the POD for this expansion was submitted on June 10, 2025 and approved on November 26, 2025. A final subplat for this expansion was submitted on December 9, 2025. The expansion will create three parcels along Mosaic Creek Boulevard ranging in size from 0.25 to 0.4 acres. Land directly behind the parcels will be dedicated as open space. As the zoning needed for this development is in place and a POD and final subplat have been submitted, this development was classified as a planned development.

Second Serve - Legacy Tennis Center - Planned Development

Second Serve Foundation owns three parcels on the north side of West Creek Parkway within the West Creek Business Park encompassing a total of approximately 40 acres of undeveloped forested land. During a May 2022 public Goochland County Planning Commission meeting, the Planning Commission approved a Conceptual Master Plan for a tennis facility on site. Subsequently, a POD was submitted and it was determined that layout provided in the POD had change significantly enough that County approval of a revised Conceptual Master Plan would be required. During a September 2023 Goochland County Planning Commission meeting, the Commission was requested to consider the approval of a revised Conceptual Master Plan which showed a reduction in the number of proposed outdoor courts and other outdoor facilities, fewer parking spaces, and a smaller building footprint which includes a smaller number of indoor courts. The revised Conceptual Master Plan (CMP-2023-00001) was approved during the September 7, 2023 public meeting. In reviewing Goochland County EnerGov website, a revised POD was submitted in 2024, however it has not passed County POD review and no documents have been uploaded since June 2024. As rezoning is in place and a detailed site plan has been filed with the County, this development was classified as a planned development.

Sheltering Arms Master Plan - Future Development

Sheltering Arms Institute Hospital is an inpatient rehabilitation facility located on Wilkes Ridge Drive in the northeastern portion of the study area. Dominion became aware of Sheltering Arms plans for future development in conversations with the owners of the West Creek Business Park. In November 2025, Dominion met with the president of the Sheltering Arms Foundation who was able to share information regarding their plans for future development on a parcel adjacent to, and southwest of, their existing development.

The core value of Sheltering Arm's Master Plan is the hospital's commitment to patients' recoveries and maintaining access to green space during the recovery process. The plan includes the following components for future development:

- Adding a fourth floor to the existing facility;
- Additional housing and hospitality for patients and family members;
- Medical fitness and wellness, outpatient services, and aquatic facilities; and
- Green space including walking trails.

As no site plans have been filed with the County as of January 1, 2026, this development was classified as a future development.

Tuckahoe Creek Court - Future Development

Dominion became aware of a future development in the works by Summit Real Estate Group on the south side of Tuckahoe Creek Court. Summit Real Estate Group is in the process of purchasing three parcels on the south side of Tuckahoe Creek Court. Dominion was sent a preliminary conceptual design of the development which included two large warehouse style buildings, one smaller building, parking lots, interior roads, and stormwater basins. As the developer is still in the process of purchasing the land for this development and no site plans have been filed with the County as of January 1, 2026, this development was classified as a future development.

West Creek Commerce Center - Planned Development

Summit Real Estate Group submitted a POD in February 2025 (POD-2025-00001) for the development of a warehouse on an approximately 23 acre forested parcel on the west side of Route 288 and the east side of West Creek Parkway. The application was deemed complete and passed POD review in November 2025. VDOT submittal review was passed in September 2025. Additional applications associated with this development include a commercial building new construction permit, electrical commercial new construction, temporary construction trailer permit, fire alarm permit, stormwater management permit, and land disturbance permit, none of which have been received as of January 1, 2026. As the POD (which included a detailed site plan with building layouts) was approved, this development was classified as a planned development.

West Creek Industrial - Future Development

Manakin Companies, LLC own a parcel on the east side of Route 288 and north of Tuckahoe Creek Court. The developer provided Dominion with a copy of their conceptual site plan which is anticipated to be filed with the County by February 2026. The conceptual site plan depicts three large warehouse style buildings, parking lots, interior roads, and stormwater retention ponds. Based on conversations with representatives from Manakin Companies, LLC, they are also looking at the potential for data center development on this parcel. As no site plans have been filed with the County as of January 1, 2026, this development was classified as a future development.

3.1.8 CONSERVATION EASEMENTS AND OTHER CONSERVATION LANDS

C2 obtained information on existing conservation easements and conservation lands through the Protected Areas Database of the United States, the National Conservation Easement Database, VDCR's Managed Conservation Lands Database, and Goochland County (USGS, 2025; National Conservation Easement Database, 2025; VDCR, 2025b; Goochland County, 2025f). Four conservation easements are located within the study area as shown on Figure 3.1-8 in Appendix B. Of these three are Goochland County open space or conservation easements, and one is a Ducks Unlimited conservation easement.

Dominion understands that lands are placed under easement throughout the year, and that additional easements may be identified within the study area as the Project moves forward through the SCC and into permitting. Dominion will continue to review public easement layers and consult with the appropriate land management agencies and/or groups regarding any new easements that may be established in the Project area.

Ducks Unlimited Conservation Easement

Ducks Unlimited and its affiliated Wetlands America Trust hold over 400,000 acres of permanently protected land across 550 conservation easements nationwide. The conservation easement managed by Ducks Unlimited was established in 2005 and extends from Route 288 (between Tuckahoe Creek Parkway and Broad Branch Drive) east to Tuckahoe Creek and Big Swamp, encompassing approximately 100 acres. A portion of the conservation easement is within Tuckahoe Creek Park.

Goochland County Easements

CarMax Conservation Easement: CarMax is an existing commercial development in the center of the study area, west of Route 288 and north of Tuckahoe Creek Parkway. This easement was put in place by the property owner in 2003 to preserve a stream corridor and stream buffer on the property and to ensure that aquatic impacts pursuant to the USACE and VDEQ permits are minimal. Covenants and restrictions in the easement language indicate that destruction or alternation of the easement is prohibited and that covenants cannot be altered within the express written approval and consent of the property owner, the USACE, and VDEQ.

Mosaic Open Space Easements: Mosaic at West Creek residential community has designated portions of the land associated with the community as common open space easements. These areas wrap around the developed residential parcels and provide landscape buffers and include some of the recreation areas discussed in Section 3.1.9. The Goochland County zoning ordinance indicates that common open space cannot include rights-of-way, parking areas, driveways, and required buffer areas. While issuance of a CPCN through the SCC process overrides local zoning regulations, the crossing of these areas may put the developer out of compliance with their approved proffers and make rights-of-way acquisition more challenging for parcels associated with the easement.

Readers Branch Open Space Easements: The Readers Branch residential community as designated portions of the land associated with the community as common open space easements. These areas wrap around the developed residential parcels and provide landscape buffers and include some of the trails discussed in Section 3.1.9. The Goochland County zoning ordinance indicates that common open space cannot include rights-of-way, parking areas, driveways, and required buffer areas. While issuance of a CPCN through the SCC process overrides local zoning regulations, the crossing of these areas may put the developer out of compliance with their approved proffers and make right-of-way acquisition more challenging for parcels associated with the easement.

3.1.9 RECREATION AREAS

C2 reviewed digital data sets and maps, USGS topographic quadrangles, recent (2025) digital aerial photography, and County websites. Ten existing recreation areas and one planned recreation area were identified within or immediately adjacent to the study area as shown on Figure 3.1-9 in Appendix B. Descriptions of identified recreation areas are provided in the sections below.

Bogeys Sports Park

Bogeys Sports Park is a comprehensive sports facility just outside of Richmond that offers a variety of recreational activities. The park features an 18-hole miniature golf course, batting cages, a driving range, and a patio area for events and parties (Bogeys Sports Park, 2025). The park is located on Ashland Road north of Broad Street (250) towards the northwest corner of the Project study area.

Capital One Campus Private Recreation Areas

Capital One has a significant presence in Central Virginia, particularly at its West Creek Campus, which serves as a key hub for more than 5,000 employees. The West Creek Capital One Campus contains over two million square feet of office space and is located south of Tuckahoe Creek Parkway, west of Route 288 and north of Broad Branch (Goochland County, 2025g). The campus has abundant wildlife habitats along the Tuckahoe Creek, as well as two large lakes. The campus also contains a soccer field, baseball field, tennis court, and pickleball courts. These recreation areas are located on the south side of Tuckahoe Creek Parkway, east and north of Capital One Drive.

CarMax Private Park and Public Trails and Public Trails

The CarMax Home Office, located at 12800 Tuckahoe Creek Parkway in Goochland County, Virginia, serves as the corporate headquarters for CarMax, Inc. The facility, situated in the West Creek Business Park, spans 243,000 square feet. Key features include a fitness center, a 1,000-car parking deck, a private park, and collaborative workspaces (Goochland County, 2025h). The park consists of a private baseball field, gazebo, and a trail system that is open to the public. It is located north of Tuckahoe Creek Parkway and west of Route 288 close to the western boundary of the Project study area.

Drive Shack and Puttery

Drive Shack and Puttery are located off Four Rings Drive, just east of Route 288 towards the northern edge of the Project study area. Drive Shack offers a variety of high-tech golf activities including interactive games and golf courses, full service all-weather bays, and seasonal social leagues. The facility has multiple bars and restaurants, a rooftop terrace and lounge, and meeting spaces for events. The Puttery at Drive Shack is an indoor and outdoor miniature golf venue and consists of two 9-hole courses with casual dining options (Drive Shack, 2025).

East End Trails (Proposed)

The East End Trails are a planned recreational trail system to connect areas along Tuckahoe Creek ultimately linking Broad Street (250) to Route 6 and creating the county's first dedicated recreational trail facility in the east end area. This initiative is part of broader efforts to expand Goochland's parks and trails network. The trail system would be located near the eastern border of the study area near Tuckahoe Creek Parkway and State Route 288 (Goochland County, 2025i).

The East End Trails are currently in the development phase, with proposed trail alignment being subject to change given the amount of anticipated future growth in the West Creek Business Park. When finished, the trail will provide walking, hiking, and biking opportunities as well as boating opportunities (Blueway Trail) aimed at encouraging outdoor recreation and connectivity between important local destinations. The project supports Goochland's goal of enhancing quality of life by increasing access to green spaces and promoting active lifestyles.

Mosaic at West Creek Recreational Facilities and Trails

Mosaic at West Creek is a 55+ active adult community located between State Route 288 and Kinloch Golf Club near the western border of the study area. It offers a mixture of new single-family homes and townhomes. The community spans over 200 acres. Key recreational amenities include a clubhouse with a pool, outdoor entertaining areas, bocce ball and pickleball courts, walking trails, nature parks, and a dog park (Mosaic at West Creek, 2025).

Patterson Golf Range

Patterson Golf Range is a miniature golf course and driving range located on the north side of Patterson Avenue in the southeast portion of the study area. The facility offers two 18-hole miniature golf courses, a driving range, and an outdoor party area (Patterson Golf Park, 2025).

Readers Branch Recreational Facilities and Trails

Readers Branch is a residential subdivision located south of Broad Street (250) and west of Hockett Road along the western edge of the study area. The subdivision includes a clubhouse, pickleball courts, pocket parks, walking trails, bird watching stations, trellis swings, ponds, and nature overlooks. The community contains several walking trails that connect housing developments and lead to other amenities, scenic overlooks, and bird watching stations (40 Eagle, 2025b).

Richmond Country Club

The Richmond Country Club is a private, member-owned club located in Goochland County, approximately one mile west of Route 288 on the north side of Patterson Avenue. The club offers a golf course spread across more than 6,000 acres of land. It also offers members access to six tennis courts, an aquatic facility, casual and fine dining, and a clubhouse (Richmond Country Club, 2025). The country club is located in the southwest portion of the study area.

Richmond Strikers West Creek Complex

The Richmond Strikers West Creek Complex is an outdoor soccer complex consisting of eight full length soccer fields located east of Route 288, off West Creek Parkway within the southeastern portion of the study area. The complex is approximately 38 acres in size and fields in the complex consist of grass with built in soccer goals. The property associated with this recreation area was sold to Eli Lilly and is being developed as described in Section 3.1.7. As this recreation area will not exist at the time of construction and operation of the Project, it is not discussed further within this study.

Tuckahoe Creek Park

While outside of the study area, Tuckahoe Creek Park borders the eastern edge of the study area. Henrico County owns 240 acres of floodplain along Tuckahoe Creek. This land is comprised of several non-contiguous parcels that stretch from just south of Broad Street (250) to just south of Patterson Avenue. Tuckahoe Creek Park is located on Lauderdale Drive in Henrico, VA and is approximately 240 acres in size, with recent donations contributing to its expansion. The park features a boardwalk system that provides the community access to the Tuckahoe Creek area. The boardwalk is designated for walking, nature watching and fishing only. The county is in the process of updating the Tuckahoe Creek Master Plan which proposes to extend the boardwalk and add overlook and kayaking/paddle boarding launch areas along the boardwalk (Henrico County, 2025).

3.1.10 TRANSPORTATION

The road network within the study area includes a variety of VDOT road classifications ranging from Interstates (Interstate-64) and Other Free Ways and Expressways (Route 288) to Principal Arterials (Broad Street [250] and Patterson Avenue) and Minor Arterials (Ashland Road) to Major Collectors (Hockett Road, Tuckahoe Creek Parkway, and West Creek Parkway) and Minor Collectors (Broad Branch Drive). All public roads in the study area are owned and operated by VDOT. Roads within the study area are depicted on Figure 3.1-1 in Appendix B.

No existing railroads were identified within the study area. The closest railroad section to the project is operated by CSX and located about 0.6 mile south of the southern boundary of the study area.

Dominion met with VDOT during the planning phase of the Project to discuss planned road projects and any concerns with potential crossings of Route 28 and I-64. VDOT representatives shared information on two planned road projects within the study area, the Route 250 & Route 288 Interchange Project and the Route 288 Southbound Auxiliary Lane Project.

Route 250 & Route 288 Interchange Project

The preliminary plans for improvements at the Route 250 (Broad Street) and Route 288 interchange in Goochland County, Virginia, focus on enhancing traffic flow, reducing congestion, and improving multimodal safety. Key components include widening the eastbound off-ramps from Route 288 to Broad Street (250), as well as broadening Broad Street (250) from Wilkes Ridge Parkway to Bon Secours Parkway to accommodate increased traffic volumes. These enhancements aim to reduce bottlenecks within this heavily traveled corridor. Additionally, the plans incorporate sidewalk improvements along westbound Broad Street (250) and signal modifications at crucial intersections, which will help synchronize traffic flow and enhance pedestrian safety (Goochland County, 2025j).

This project is part of Phase I of the Federal Highway Administration Build Package for the Short Pump Area Interchange Access Report, reflecting its importance as a regional priority. The total estimated cost for the project is approximately \$23 million, leveraging regional transportation authorities for funding. Overall, these improvements are essential for managing the rapid growth in the Short Pump area, aiming to enhance mobility and safety for residents, commuters, and commercial traffic in western Henrico and Goochland Counties (Henrico County, 2023).

Route 288 Southbound Auxiliary Lane Project

The plans for the Southbound Route 288 Auxiliary Lane project in Goochland County aim to improve traffic flow and enhance safety along one of the region's key transportation corridors. This project focuses on adding an auxiliary lanes on the southbound side of Route 288 between the Broad Street (250) interchange and the Route 6 interchange to facilitate smoother merging, lane changes, and overall traffic movement. The auxiliary lane will provide drivers with more options for entering and exiting the highway, which is expected to reduce congestion during peak travel times. Preliminary engineering is ongoing and based on preliminary designs the auxiliary lane will fit within the existing VDOT right-of-way.

Construction of the project is currently anticipated to occur between 2029 and 2030 (Goochland County, 2025k).

3.1.11 AIRPORT FACILITIES

New build transmission line structures have the potential to affect airspace in and around airports. As such, airports are an important consideration in routing and siting a new transmission line as to not impact airport surfaces. C2 reviewed the Federal Aviation Administration's (FAA) website to identify public use airports, airports operated by a federal agency of the U.S. Department of Defense, airports with at least one FAA-approved instrument approach procedure, and public use or military airports under construction (FAA, 2025). Based on this review, there are 15 airports, private airstrips or heliports located within 10 nautical miles of the study area (Figure 3.1-10 in Appendix B). Table 3-4 lists the airports, heliports or private airstrips in the vicinity of the study area, including name, airport identification number, distance and direction from the nearest route alternative to the nearest runway/heliport, type of use and maximum runway length.

Table 3-4: Airports and Heliports within 10 Nautical Miles of the Study Area

Name	FAA Identifier	Approximate Distance and Direction from the Study Area	Use	Maximum Runway Length (feet)
Sabot Airport	1VA0	2.6 West	Private	2,400
Innsbrook Technical Center Heliport	VG02	3.1 East	Private	NA
H D H Heliport	60VA	4.9 East	Private	NA
St Mary's Hospital Heliport	37VA	5.4 Southeast	Private	NA
Johnston Willis Heliport	VG41	5.5 Southeast	Private	NA
Chippenhams Hospital Heliport	6VA3	6.9 Southeast	Private	NA
Bon Secours St Francis Medical Center	VG68	7.9 South	Private	NA
Virginia DMV Headquarters Heliport	7VA7	8.1 Southeast	Private	NA
Mayers Airport	VG24	9.5 Northeast	Private	2,000
VCU Health System-I Lot	8VA0	9.8 Southeast	Private	NA
VCU Health System Main Hospital Heliport	VG45	9.8 Southeast	Private	NA
Holly Springs Airport	80VA	9.8 Northwest	Private	2,000
McGuire VA Medical Center Heliport	0VA6	9.9 Southeast	Private	NA
VCU Children's Medical Center Heliport	VG10	9.9 Southeast	Private	NA
Hanover County Municipal Airport	OFP	10.0 Northeast	Public	5,402

Federal Aviation Administration Regulations

The FAA is responsible for the safety of civil aviation and major roles of the FAA include: promoting safety through the regulation of civil aviation, developing and encouraging civil aeronautics, operating and developing air traffic control and navigation systems for civil and military aircraft, researching and developing the National Airspace System, carrying out programs to control aircraft noise, and regulating commercial space transportation and traffic in the United States (FAA, 2023).

Under the Code of Federal Regulations (CFR), Title 14, Part 77 (14 CFR Part 77), the FAA evaluates physical objects that may affect the safety of aeronautical operations through an obstruction evaluation/airport airspace analysis. The FAA's obstruction evaluation/airport airspace analysis website enables individuals and companies participating in construction or alteration projects that meet reporting requirements to notify the FAA of their intent and request an aeronautical study. The main objective of these studies is for the FAA to evaluate the proposed construction or alteration for compliance with laws and policies that promote safety in air navigation and the preservation of navigable airspace.

A summary of the rules outlined in 14 CFR Part 77 as they relate to the Project are provided below.

Civil Airport Imaginary Surfaces

14 CFR Part 77.19 establishes civil airport imaginary surfaces with relation to an airport and each runway within the airport. The size of the imaginary surface is dependent on the runway category, based on the existing or planned approach for that runway. Imaginary surfaces were established to prevent existing or proposed structures from extending from the ground surface into navigable airspace. The following are descriptions of the various civil imaginary surfaces from 14 CFR Part 77.19:

- **Horizontal surface:** A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The radius of each arc is 5,000 feet for all runways designated as utility or visual and 10,000 feet for all other runways.
- **Conical surface:** A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.
- **Primary surface:** A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; but when the runway has no specially prepared hard surface, the primary surface ends at each end of that runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width of the primary surface ranges between 250 feet for utility runways having only visual approaches to 1,000 feet for precision instrument runways and specific non-precision approach runways.
- **Approach surface:** A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end. The inner edge of the approach surface is the same width as the primary surface, and it expands uniformly to a width ranging from 1,250 feet for utility runways with only visual approaches to 50,000 feet for precision instrument runways at a slope of 40 to 1.
- **Transitional surface:** These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces. Transitional

surfaces for those portions of the precision approach surface which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline.

Instrument Flight Procedures

Terminal Instrument Procedures (TERPS) prescribe the criteria for the formulation, review, approval, and publishing for Instrument Flight Rule operations to and from both civil and military airports. TERPS have been established for a variety of instrument procedures including precision approach, non-precision approach, approach with vertical guidance, required navigation performance, and departure procedures. Considerations taken into account when developing these criteria include existing obstructions, lighting, aircraft use categories, and equipment use type (ground versus satellite). TERPS criteria specify the minimum measurement of obstacle clearance that is considered by the FAA to provide a satisfactory level of vertical protection from obstructions that are expected during typical aircraft operations. None of the route alternatives discussed in this report are expected to exceed the TERPS surfaces of the airports identified in Table 3-4.

Federal Aviation Administration Notice Requirements and Timing

Under 14 CFR Part 77.9, the FAA's Notice of Proposed Construction or Alteration Form (Form 7460-1) is required if a project meets any of the criteria listed below:

- Any construction or alteration is more than 200 feet above ground level at its site.
- Any construction or alteration exceeds an imaginary surface extending outward and upward at the following slope:
 - 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway for each airport with its longest runway more than 3,200 feet in actual length, excluding heliports;
 - 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport with its longest runway no more than 3,200 feet in actual length, excluding heliports; and
 - 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each heliport.
- Any construction or alteration on any of the following airports or heliports:
 - A public use airport listed in the Airport/Facility Directory;
 - A military airport under construction or an airport under construction that will be available for public use;
 - An airport operated by a federal agency or the Department of Defense; and
 - An airport or heliport with at least one FAA-approved instrument approach procedure.

The information that needs to be provided with Form 7460-1 includes the coordinates of the proposed structure, existing site elevation, structure height above ground level for each pole/structure, and anticipated construction schedule. Separate temporary structure filings are required for construction equipment such as cranes.

Based on conceptual engineering, the proposed transmission line structures would range in height from 95 to 130 feet tall, depending on route and structure locations. It is anticipated that cranes would be used to install the structures which are expected to operate at heights between 20 and 30 feet higher than the proposed structures.

State and Local Regulations

According Va. Code Section 5.1-25.1, it is "unlawful for any person to erect any structure, any part of which penetrates into or through any licensed airport's or United States government or military air facility's clear zone, approach zone, imaginary surface, obstruction clearance surface, obstruction clearance zone, or surface or zone as described in regulations of the Department of Aviation or the FAA, without securing a permit for its erection from the Board. This section shall not apply to any structure to be erected in a county, city or town which has an ordinance regulating the height of such structures to prevent the penetration of zones and surfaces provided for in Federal Aviation Regulation Part 77 and Rule 19 of the Department of Aviation".

Va. Code Sections 15.2-2280, 15.2-2282, 15.2-2293, and 15.2-2294 give local jurisdictions the power to classify and regulate zoning districts, make airspace subject to their zoning ordinance, and establish airport safety zoning in jurisdictions where a licensed airport or United States government or military air training facility is located. Goochland County has not established an airport overlay district or any other zoning regulations specific to airports within the County zoning ordinance.

3.2 ENVIRONMENTAL JUSTICE

C2 conducted a desktop environmental justice (EJ) assessment to identify potential EJ communities that might be impacted by the proposed route alternatives. This evaluation adhered to recommended practices set forth by the Council on Environmental Quality and the Federal Interagency Working Group on Environmental Justice, as well as definitions from the Virginia Environmental Justice Act (Va. Code Sections 2.2-234, 2.2-235) (VEJA). The primary goal of this EJ assessment was to determine whether the construction or operation of the project along any of the proposed route alternatives could lead to disproportionately high and adverse environmental impacts on communities of color, low-income communities, or linguistically isolated populations – collectively referred to as EJ communities. This approach also aligns with the Virginia Clean Economy Act of 2020 stipulations regarding the development or expansion of energy resources or facilities (Va. Code Section 56-585.1).

In identifying potential areas of concern, former federal guidelines recommend that the geographic area selected for the EJ assessment should be an appropriate unit of analysis that accurately represents the affected minority population without artificially diluting or inflating the population. As a result, the census block group (CBG) was utilized as the primary analytical unit for the EJ review of each route alternative, as it represents the smallest geographic area for which demographic data from the U.S. Census Bureau is available. All

CBGs intersected by the route alternatives and those within a 1-mile radius were included in the analysis area. Figure 3.2-1 in Appendix B illustrates the locations of identified EJ communities along each route alternative.

For this desktop review, the Commonwealth of Virginia is set by the VEJA as a required reference population; the county is an additional reference population considered. The census data from the U.S. Census Bureau's 2019-2023 American Community Survey (ACS) was used to gather demographic information for both the state and county levels. Demographic data for the Commonwealth were compared to individual CBGs to identify potential EJ communities. As an example, if the percentage of the population of color in a specific CBG exceeded the state average percentage, it was identified as a potential EJ community. Additionally, data for Goochland County was analyzed to evaluate regional demographic differences. Table 3-5 outlines the demographic characteristics analyzed, their definitions, and the sources of the data utilized.

Table 3-5: Environmental Justice Demographic Attributes

Demographic Attribute	Definition	Data Source
Population of Color	Group of individuals belonging to one or more of the following racial and ethnic categories: "Black, African American, Asian, Pacific Islander, Native American, other, non-white race, mixed race, Hispanic, Latino, or linguistically isolated".	U.S. Census Bureau ACS 5-Year Estimates
Minority Population	A minority population, referred to as a "community of color," when the percentage of the "population of color" in a specific analysis area exceeds that of the state's overall percentage. However, if a "community of color" is predominantly made up of a particular "population of color," the percentage for that specific group at the state level is utilized instead of the total percentage for the "population of color."	U.S. Census Bureau ACS 5-Year Estimates
Community of Color	The criteria established by the Commonwealth of Virginia for determining a "community of color" or population of color, as well as for defining an EJ population, are more inclusive and have a lower threshold compared to federal guidelines. As a result, Virginia's criteria were employed to identify CBGs that include populations of color.	U.S. Census Bureau ACS 5-Year Estimates
Low-Income Community	Any CBGs in which 30 percent of the population is composed of low-income residents. Low-income is defined as "having an annual household income equal to or less than greater of (i) an amount to 80 percent of the median income of the area in which the household is located, as reported by the Department of Housing and Urban Development, and (ii) 200 percent of the Federal Poverty Level".	U.S. Census Bureau ACS 5-Year Estimates

3.2.1 ENVIRONMENTAL JUSTICE DESKTOP RESULTS

The study area for this analysis of the Project includes the CBGs intersected by or within a 1-mile radius of any of the route alternatives. A desktop review of census boundaries identified 15 CBGs within 1-mile of the routing options, all situated in Goochland and Henrico Counties. Of these, three CBGs intersect with one or more of the Project's route alternatives, as illustrated in Figure 3.2-1 in Appendix B. Table 3-6 contains data for all CBGs and identifies

those that meet any part of the definition for an EJ community set by the VEJA, along with the reference populations used. Findings from the desktop analysis are discussed below.

Low-Income Communities

Census data indicates 23 percent of Virginia residents are low-income communities; Goochland County has a lower percentage of 10 percent. Within the CBGs located in the analysis area, the percentages of low-income populations range from 3 to 56 percent. Four of the CBGs evaluated exceed the 30 percent threshold for low-income communities established by the VEJA.

Communities of Color

Census data indicates 41 percent of Virginia residents are people of color. Black/African American individuals make up 18 percent, Hispanic individuals make up 11 percent, Asian individuals are at 7 percent, and those who identify as "two or more races" account for 4 percent of the total population. Native Americans, Native Hawaiians and Pacific Islanders, and individuals from "other" racial backgrounds each comprise less than one percent, although they may appear in higher concentrations in certain local areas. Additionally, 3 percent of the population in Virginia is considered linguistically isolated. Thirteen CBGs within the study area have been identified as meeting the VEJA definition for communities of color (see Table 3-6).

Table 3-6: Demographic and Socioeconomic Indicators in the 1-Mile Environmental Justice Analysis Area

State/County CBG	Population	Total Population of Color (%)	White, Non- Hispanic (%)	Black or African American (%)	American Indian and Alaska Native (%)	Asian (%)	Native Hawaiian or Other Pacific Islander (%)	Some Other Race Alone (%)	Two or More Races (%)	Hispanic or Latino (%)	Low-Income Population (%)	Linguistically Isolated Population (%)	Route Crossing CBG
VIRGINIA	8,657,499	41	60	18	<1	7	<1	<1	4	11	23	3	
Goochland County	25,613	23	77	14	<1	2	0	<1	3	4	10	<1	
Henrico County	334,434	50	50	29	<1	9	<1	<1	4	7	22	3	
510754001021 (CT 4001.02, BG 1)	1,275	9	91	5	0	0	0	0	1	3	10	0	All Route Alternatives
510754001022 (CT 4001.02, BG 2)	3,145	26	74	11	0	4	0	0	6	5	6	0	All Route Alternatives
510754001011 (CT 4001.01, BG 1)	2,762	18	82	5	0	9	0	0	0	4	3	2	All Route Alternatives
510754001012 (CT 4001.01, BG 2)	2,094	4	96	4	0	0	0	0	<1	0	5	0	N/A
510872001473 (CT 2001.47, BG 3)	3,519	34	66	6	0	25	0	1	<1	1	19	2	N/A
510872001401 (CT 2001.40, BG 1)	1,861	65	35	15	0	44	0	0	6	1	31	2	N/A
510872001402 (CT 2001.40, BG 2)	3,134	18	82	4	<1	5	0	0	<1	9	11	<1	N/A
510872001391 (CT 2001.39, BG 1)	2,634	25	75	3	0	14	0	0	6	3	4	1	N/A
510872001393 (CT 2001.39, BG 3)	819	38	62	24	0	0	0	8	4	3	23	2	N/A
510872001231 (CT 2001.23, BG 1)	792	30	70	8	0	2	4	0	13	3	6	2	N/A
510872001392 (CT 2001.39, BG 2)	780	42	58	27	0	8	0	0	6	0	5	0	N/A
510872001223 (CT 2001.22, BG 3)	1,154	18	82	1	<1	7	0	1	4	3	9	0	N/A
510872001233 (CT 2001.23, BG 3)	1,234	41	59	37	0	0	0	0	0	4	37	0	N/A
510872001232 (CT 2001.23, BG 2)	978	48	52	26	0	8	0	0	2	12	33	9	N/A
510872001243 (CT 2001.24, BG 3)	1,705	53	47	9	0	0	0	1	2	42	56	29	N/A

References: U.S. Census Bureau, 2023a, 2023b, 2023c, 2023d, 2023e

Notes: CT = Census Tract, BG = Block Group

Gray shaded cells include reference population.

Blue shaded cells indicate communities of color. This includes communities of color composed primarily of one of the groups defined as "population of color" or the BG has a greater percentage of a community of color than the state reference population.

Purple shaded cells indicate low-income communities.

3.3 NATURAL RESOURCES

C2 utilized various desktop data sources to comprehensively map wetlands and waterbodies along the right-of-way corridors for each route alternative. The data sources include USGS 7.5-minute topographic quadrangle maps, National Wetland Inventory maps sourced from the U.S. Fish and Wildlife Service (USFWS), soil information from the Natural Resources Conservation Service Web Soil Survey, Virginia Geographic Information Network aerial imagery dated 2024 and infrared imagery dated 2021, and environmental layers specific to Goochland County. C2 did not perform any onsite wetland delineation of wetlands or waterbodies within the study area.

In addition, C2 conducted a preliminary assessment of areas of ecological significance and protected species within the study area using the following resources:

- USFWS Information for Planning and Consultation (IPaC) online system (USFWS, 2025);
- VDCR Natural Heritage Data Explorer (NHDE) (VDCR, 2025c);
- VDCR Natural Heritage Program (NHP) (VDCR, 2025d);
- VDWR Fish and Wildlife Information Service (VaFWIS) (VDWR, 2025a); and
- Center for Conservation Biology (CCB) Eagle Nest Locator (CCB, 2025).
- Northern Long-Eared Bat, Tri-Colored Bat, and Little Brown Bat Consultation Tool (VDWR, 2025b)
- USFWS Bald Eagle Concentration Map (USFWS, 2019)

A more refined search specific to the route alternatives was then conducted to determine if any species observations have occurred in the area crossed by or adjacent to the Project.

3.3.1 WATERSHEDS

A watershed refers to a land area that collects and channels all the rainwater and streams to a singular outlet, which can be a reservoir's discharge point, the opening of a bay, or any section of a stream. These regions can vary significantly in size, from as small as a single footprint to extensive areas that gather water flowing into rivers leading to bays, ultimately flowing into the ocean. The term "watershed" is often used synonymously with drainage basin or catchment area. Watersheds include surface water features like lakes, rivers, reservoirs, and wetlands, as well as the groundwater that lies beneath them.

Each drainage area is classified as a Hydrologic Unit and assigned a Hydrologic Unit Code (HUC), which serves as its unique identifier. The HUCs are organized hierarchically, with HUC 2s representing drainage Regions, HUC 6s for Subregions, HUC 8s for Basins, HUC 10s for Subbasins, and HUC 12s for Watersheds and Subwatersheds throughout the United States. The boundaries of these units are established based on hydrologic and topographic factors that define the land area upstream from a specific point on a river.

The Project study area is within the Middle James-Willis watershed (HUC 02080205). This watershed spans roughly 448 square miles in southwestern Virginia and is characterized by a

humid subtropical climate, featuring hot summers and cool winters. This predominantly rural area relies heavily on agriculture and forestry as its primary land uses. Hydrologically, the watershed is largely influenced by the James River and its various tributaries. On average, the region experiences about 41 inches of precipitation each year, with snowpack typically occurring only during the winter months. Surface water quality in the James River is affected by several factors, including agricultural runoff, industrial effluents, and urban stormwater runoff. In recent years, the area has seen an increase in drought conditions, which have adversely affected the availability of surface water.

3.3.2 WETLANDS AND WATERBODIES

C2 identified and mapped wetlands and waterbodies within the rights-of-way of the route alternatives using publicly available GIS databases, National Agricultural Imagery Program Digital Ortho-Rectified Natural Color and Infrared Images, USGS topographic maps (1:24,000), U.S. Department of Agricultural-Natural Resources Conservation Service Soil Survey Geographic database for Goochland County, and digital aerial and infrared photography. Wetland and waterbody types locations are depicted in Appendix C.

Wetlands within the study area consist primarily of PFO and Palustrine Emergent (PEM) wetlands associated with tributaries of the named NHD-mapped waterbodies Tuckahoe Creek, Big Swamp, Broad Branch, Tuckahoe Creek, and Readers Branch. The majority of the wetlands potentially affected by the Project are located adjacent to, or contiguous with, rivers and streams and their tributaries that would be considered relatively permanent waters; therefore, a significant nexus to navigable waters is assumed. The wetlands identified are considered potentially aquatic resources that would be regulated by the USACE and VDEQ under Section 404 and Section 401 of the CWA, respectively. Waterbody crossings are regulated by the USACE and VDEQ under Sections 404 and 401 of the CWA and the Virginia Waters Protection permit program.

C2 did not conduct onsite wetland or waterbody delineations for the Project, however field delineations were completed by outside parties in association with unrelated projects along parts of Route 3 and Route 4. This field delineation was completed by Wetland Studies and Solutions Inc, in 2021 and was approved by the USACE in an Approved Jurisdictional Determination in 2022. The boundaries of these field delineation wetlands and waterbodies were used as a source in the Desktop Wetland Review (Appendix C); however, it is expected that the results of the delineation will no longer be valid at the time of permitting for this Project and wetland delineations of the route selected by the SCC

3.3.3 AREAS OF ECOLOGICAL SIGNIFICANCE

C2 reviewed publicly available ecological datasets for the study area and consulted with the VDCR's NHP to request a formal review of the study area to identify areas of ecological significance within the study area. This review included natural preservation areas, conservation sites, ecological cores, stream conservation units (SCUs) and general location areas for natural heritage resources. 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. The VDCR responded to Dominion's request for formal review of the study area in a letter dated October 23, 2025. Based on

VDCR's response, no State Natural Area Preserves are within the study area, and no state-listed plant or insect species have been documented in the study area.

Ecological Cores

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). Smaller areas of continuous interior cover (i.e., 10 to 99 acres), called habitat fragments, support ecological cores and provide similar functions and values. Digital data on cores are available through the public VDCR mapper, and a summary of the cores within the study area is provided in Table 3-7 below and depicted on Figure 3.3-1 in Appendix B.

Table 3-7: Ecological Cores Within the Study Area

Core ID	Core Rank	Total Core Area (acres)	Existing Conditions
56338	3	967	Located in the eastern portion of the study area between Route 288 and the Goochland/Henrico County line, this large core contains large tracts of mature forest interspersed with small, developed areas. The forest canopy remains mostly intact, but development associated with the Avery Point complex intersects the otherwise continuous woodland setting. Approximately 40 acres within this core show visible disturbance from mixed-use development, access roads, and parking lots.
56950	4	565	Positioned in the southeastern part of the study area along Tuckahoe Creek, this core features a combination of forested riparian corridors and partially developed land. Approximately 15 acres within this core have been disturbed by commercial buildings, paved parking lots, and road infrastructure along Tuckahoe Creek.
57218	5	62	Located in the southeastern section of the study area, this smaller core includes a mix of forest and open water near Oak Hill at West Creek. Surrounding residential and business development contributes to a fragmented landscape with limited interior forest habitat. Approximately 12 acres within this core have been disturbed by adjacent residential construction, landscaped retention ponds, and cleared open space near Oak Hill at West Creek.
57211	5	44	Situated along the southern boundary between West Creek Parkway and State Route 288, this forested core remains mostly intact. Less than 1 acre of this core has been disturbed from nearby highway shoulders, interchange embankments, and limited roadside clearing along State Route 288.
56975	4	221	Located in the south central portion of the study area west of Route 288, this core contains large tracts of mature forest and some open fields. Approximately 25 acres within this core have been disturbed by residential development, internal roadways, and paved parking areas adjacent to Mosaic Creek Boulevard.
56865	5	46	Positioned in the central portion of the study area, this small, forested core lies near Capitol One Drive and south of Tuckahoe Creek Parkway.
56658	5	65	Located centrally adjacent to the CarMax campus, this core contains forest with some internal access roads. About 0.5 acre within this core show visible disturbance from internal access roads associated with the CarMax office, and the core has been fragmented by this access road.

Core ID	Core Rank	Total Core Area (acres)	Existing Conditions
56257	4	574	Situated in the western portion of the study area, this large core includes continuous forest with clearing on its edges due to recent residential development. Approximately 80 acres within this core have been disturbed by residential and commercial development, and local access roads.
56637	5	41	Located in the western portion of the study area east of Hockett Road, this small but fully forested tract remains visually undisturbed and is located west of the CarMax office on the north side of Tuckahoe Creek Parkway.
56811	4	757	Occupying the southwestern portion of the study area north of River Road West, this large, forested core includes visible infrastructure such as residential development and roadways. Approximately 30 acres within the northern portion of this core have been disturbed by residential development areas, internal circulation roads, and landscape maintenance within Mosaic at West Creek.
56162	5	61	Located in the northeastern portion of the study area, south of I-64, this core consists primarily of uninterrupted woodland. Approximately 6 acres within this core are disturbed from residential development and roadways.
55972	5	77	Situated in the north-western portion of the study area near Three Chopt Road, this small core is fully forested with limited edge clearing present. Approximately 2 acres within this core are disturbed from small-scale land clearing and localized access near Three Chopt Road and I-64.
55996	5	54	Located in the northeastern portion of the study area north of I-64, this small core is located south of Dominion's existing Line 2009. The surrounding forest and presence of Tuckahoe Creek maintain ecological and visual continuity despite the utility right-of-way.

Stream Conservation Units

SCUs identify streams, including buffers and tributaries, that contain aquatic natural heritage resources. Similar to ecological cores, SCUs are given a biodiversity significance ranking based on the rarity, quality, and number of natural heritage resources they contain. Based on VDCR's project review, no SCUs were identified within the study area.

Conservation Sites

Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designated to include the element, and where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking (B-rank) based on the rarity, quality, and number of element occurrences they contain on a 1 to 5 scale with 1 being the most significant. Based on VDCR's project review, one conservation site, Tuckahoe Creek - West Park Conservation Site (B2), was identified within the study area. The conservation site is located on the northeast side of West Creek Parkway, north of Patterson Avenue. The Tuckahoe Creek - West Park Conservation Site has been given a ranking of B2, which

represents a site of very high significance. The natural heritage resource of concern associated with this conservation site is the Yadkin hedge-nettle (*Stachys matthewsii*).

General Location Areas for Natural Heritage Resources

These areas represent the approximate locations of documented natural heritage resource occurrences that have not been incorporated into conservation sites either because they are poor quality, their location was not precisely identified, or they have not been verified in over 20 years. These approximate locations, marked with a 100-foot buffer, indicate areas with relatively high potential for natural heritage resource occurrences to be documented. Depending on the apparent suitability of the habitat, VDCR may recommend biological surveys when reviewing projects that intersect these locations. Based on VDCR's project review, no natural heritage resources have been documented within the Hylas Quad. Natural heritage resources were identified within the Midlothian Quad, however VDCR notes that based on the scope of the project that they do not anticipate any adverse impacts on natural heritage resources.

3.3.4 PROTECTED SPECIES

Vegetation, fish, wildlife, and threatened and endangered species are governed at the federal level by the following:

- Endangered Species Act (ESA) - The ESA is administered by the USFWS and National Oceanic and Atmospheric Administration. It protects plant, fish, invertebrates, and wildlife species that are federally listed as endangered or threatened by prohibiting the "take" of these species and the interstate or international trade, including their parts and products, unless federally permitted.
- Migratory Bird Treaty Act - Protects migratory birds, and their nests, eggs, young, and parts from possession, sale, purchase, barter, transport, import, and export, and take (16 U.S.C. 703-712).
- Bald and Golden Eagle Protection Act - Administered by the USFWS, makes it unlawful to take, possess, transport, import, export, sell, purchase, or barter any bald or golden eagle, their parts, products, nests, or eggs.

Two separate acts have been adopted in Virginia to help protect endangered and threatened animals and plants in the state. Under the ESA, the USFWS signed a cooperative agreement recognizing the VDWR as the designated state agency with authority over federally listed animals and provides for cooperation regarding the protection and management of those species. The Virginia ESA authorizes the state to adopt the federal list of threatened and endangered species, to declare by regulation that species not listed by the federal government are endangered or threatened in Virginia, and to prohibit by regulation the taking, transportation, processing, sale, or offer for sale of those species.

The Virginia Endangered Plant and Insect Species Act (2VAC5-320-10) prohibits the taking or possession of endangered or threatened plant and insect species. The Virginia Department of Agriculture and Consumer Services is the regulatory authority for the conservation and preservation of state-listed plant and insect species. They cooperate with the VDWR, who has

legal authority for preservation of vertebrate and invertebrate state-listed species, and with the VDCR who produces an inventory of natural resources within Virginia.

C2 obtained query results from the VDCR's NHDE, which included the study area (described in Section 2.1) and a 100 foot buffer to identify locations that could potentially support protected species. The USFWS IPaC and VDWR VaFWIS queries were used to identify federally and state-listed species that may occur within the project area. Query results from USFWS IPaC include species that may occur within the study area (USFWS 2025). Query results from NHDE include species known to occur in the study area and a 100-foot buffer and communities known to historically or currently contain protected species (VDCR 2025d). Query results from VaFWIS include species known to occur or likely to occur within a 2 mile search radius surrounding the study area (VDWR 2025a).

Three federally proposed listed threatened or endangered species (two of which are state listed), as well as one state rare plant species, were identified with the potential to occur within and adjacent to the study area. A summary of the findings is provided in the sections below.

Federally and State-Listed Endangered and Threatened Species

To identify federally and state listed species threatened, endangered, and protected or sensitive species, critical habitat, and other areas or species of ecological significance and importance, queries were conducted using the following online tools:

- USFWS IPaC,
- VDCR NHDE, and
- VDWR VaFWIS.

A summary of species identified through the online review process is provided in Table 3-8. Copies of the results from the database queries above are included as Appendix D.

Table 3-8: Threatened and Endangered Species Database Search Results

Species Name	Scientific Name	Status	Habitat	Source
Tricolored bat	<i>Perimyotis subflavus</i>	FPE, SE	Typically roost in trees near forest edges during summer. Hibernate deep in caves or mines in areas with warm, stable temperatures during winter.	IPaC
Monarch butterfly	<i>Danaus plexippus</i>	FPT	Typically found in herbaceous and scrub-shrub areas particularly with the presence of milkweed.	IPaC
Green floater	<i>Lasmigona subviridis</i>	FPT, ST	Usually found in fast-flowing, clean water in substrates that contain relatively firm rubble, gravel and sand substrates swept free from siltation. Commonly buried in the substrate in shallow riffle and shoal areas.	VDCR, VaFWIS

F=federal, S=state, T=threatened, P=proposed, E=endangered

IPaC identified the federally proposed endangered and state endangered tricolored bat (TCB) (*Perimyotis subflavus*) and federally proposed threatened Monarch butterfly (*Danaus Plexippus*) as potentially occurring within the project vicinity. The project is located within the consultation range for TCB, however, based on the VDWR map application the project is not located within the year-round presence zone, and no hibernacula or maternity roost trees were identified within 5 miles of the project area or captures within or near the project area for TCB.

Utility rights-of-way may contain suitable habitat for the federally proposed threatened species, monarch butterfly (*Danaus plexippus*), however, the project is located outside of the designated critical habitat for this species. The transmission line right-of-way will continue to be maintained for operation of the existing electrical facilities prior to and after completion of the project and as such the project is not expected to have any long-term impacts on this species or suitable habitat, if present.

The federally proposed and state threatened green floater (*Lasmigona subviridis*) was identified by the VDCR as potentially occurring in the same watershed as the Project study area and VaFWIS results indicated confirmed known occurrences within 2 miles of the Project study area. This species is usually found in fast-flowing, clean water in substrates that contain relatively firm rubble, gravel, and sand substrates swept free from siltation. They are buried in the substrate in shallow riffles and shoal areas. The species is able to occupy very small creeks and streams, places where other mussels are not often found.

Bald Eagle Management

The bald eagle (*Haliaeetus leucocephalus*) is no longer listed as a federally protected species under the ESA. However, it remains classified as a state-threatened species in Virginia under the Virginia ESA. It is protected by Va. Code § 29.1-521 and VDWR regulations (4 VAC 15-30-10). In addition, the species is federally safeguarded under both the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Guidance for minimizing impacts to bald eagles is provided in "Management of Bald Eagle Nests, Concentration Areas, and Communal Roosts in Virginia: A Guide for Landowners", published by the former Virginia Department of Game and Inland Fisheries (now the VDWR). This document outlines management practices to avoid the "take" of bald eagles and specifies restrictions on construction and other activities within designated management zones. Any proposed activities that may affect bald eagles are reviewed and evaluated by VDWR on a case-by-case basis (Virginia Department of Game and Inland Fisheries et al., 2012).

C2 reviewed the CCB website (CCB, 2025) to obtain the most current eagle nest data. This website provides information about the Virginia bald eagle population, including the results of the CCB's annual eagle nest survey. According to the CCB database, there are no known eagle nests within the study area. The closest eagle nest is approximately 1.6 miles southwest from the southern border of the study area. Nest PO9801 was documented to be occupied in 2021.

Species of Concern and Other Documented Occurrences

In general, species of Concern are not given the same level of protection as federally and state-listed endangered and threatened species. NatureServe, an international network of NHPs, assigns a Global Rank based on rarity and conservation status. Species ranked "G1" (global rank 1 / critically imperiled) or "G2" (global rank 2/imperiled) are most at risk. The VDCR conducted an official review of the Project on October 23, 2025. As part of this review, the VDCR concluded that the Project as planned would not affect any documented state-listed plants or insects and does not cross any State Natural Area Preserves under VDCR's jurisdiction. One natural heritage resource was identified within the study area during the VDCR review, the Yadkin hedge-nettle (*Stachys matthewsii*, G1/S1/SOC/NL). Based on the VDCR review, it is not anticipated that the Yadkin hedge-nettle will be impacted by project activities, and as such is not discussed further in this study.

3.3.5 VEGETATION

Local Vegetation Characteristics

The study area is located within the Piedmont physiographic province, where native vegetation has been extensively modified by agriculture and silviculture activities following European settlement. Prior to European settlement, Native American land management practices included regular use of fire to manage understory growth and facilitate hunting. Historical accounts from early explorers suggest that portions of the Piedmont province were previously open, savanna-like woodlands and grasslands. Since settlement, the landscape has undergone cycles of clearing, cultivation and regeneration. Fallow farmlands undergo a regeneration process beginning with early successional trees such as Virginia Pine (*Pinus Virginicus*) and Tulip Poplar (*Liriodendron tulipifera*) which, over time, mature into late successional oak hickory forests (VDCR, 2021a).

Human development has fragmented the landscape, resulting in a mosaic of early and late successional forests, pastures, and agricultural fields. The study lies within a developing portion of Goochland County, along the Henrico County border, where remnant communities of forested vegetation and open fields are interspersed with developed land. C2 evaluated vegetation communities within the study area using recent publicly available aerial imagery and regional land cover datasets. Vegetation patterns along the route alternatives reflect a landscape characterized by extensive suburban development, planned growth near the Short Pump and West Creek areas, and large blocks of forest interspersed with transportation corridors and managed open spaces. As a result, vegetation within the study area occurs as a mix of mature forest, maintained open areas along existing roadways and utility corridors, and smaller patches of vegetation associated with commercial and residential development. As noted in Section 3.1.2, C2 classified land cover within the study area using a combination of public datasets and interpretation of aerial photography. Figure 3.1-2 depicts the land use/land cover, including forested areas, within the study area.

Forest Conservation Values

C2 reviewed Forest Conservation Value (FCV) data published by the VDCR to characterize the relative ecological value of forested lands along the proposed routes. The FCV model is a tool designed by the Virginia Department of Forestry to strategically identify the highest

priority forestland for conservation in Virginia (VDCR, 2021b). The intent is to maximize the efficiency of limited resources by focusing conservation efforts on the highest quality, most productive, and most vulnerable forestland statewide. The model identifies five conservation values: (5) Outstanding; (4) Very High; (3) High; (2) Moderate; and (1) Average. C2 reviewed the FCV model data to assess the value of forest resources within the study area, as shown on Figure 3.3-2 in Appendix B.

The study area encompasses approximately 5,317 acres of forested land with a designated FCV. Of these, approximately 1,763 acres are classified as (1) Average, 1,830 acres as (2) Moderate, 982 acres as (3) High, 654 acres as (4) Very High, and 88 acres as (5) Outstanding (VDCR 2021b). The (1) Average conservation valued forestland is generally distributed along the more developed and previously disturbed portions of the study area, where forest patches are fragmented by cleared parcels, existing roadways, and surrounding land uses. Moderate (2) conservation valued forestland is interspersed throughout the central portions of the study area and often represents transitional forest edges that connect larger, higher-quality cores with developed areas. High (3) conservation valued forestland within the study area are primarily located along interior forest tracts that exhibit mature canopy cover and limited disturbance. Very High (4) conservation valued forestlands are generally concentrated along riparian corridors associated with Tuckahoe Creek and its tributaries, as well as within less accessible interior sections in the southwest corner of the study area that retain high structural integrity. The highest conservation valued forestland, (5) Outstanding, are confined to the most ecologically intact portions of the study area near Tuckahoe Creek and in the southwestern corner of the study area, where contiguous forest blocks provide habitat connectivity and represent significant forest cores.

The majority of the forested landscape within the study area is composed of average to moderately ranked conservation valued areas that are generally fragmented by existing roads, cleared parcels, and development. Higher-ranked conservation valued areas (3-5) typically occur along riparian corridors and less disturbed areas that maintain greater canopy closure. These forested cores provide important habitat connectivity within the local watershed and reflect relatively intact natural communities compared to the surrounding developed landscape.

3.4 VISUAL CONDITIONS

C2 conducted a visual resource assessment to identify and classify the existing landscape and scenic conditions within the study area to help recognize the potential impacts that may occur from the installation of the Project. This assessment includes the following:

- Identifying visually sensitive resources (VSRs) through review of recent (2025) digital aerial photography;
- Site reconnaissance;
- Identifying and defining potential user groups;
- Reviewing visual simulations from key observation points (KOPs) along the route alternatives; and
- Evaluating each route alternative for potential visual impacts.

The study area encompasses a mix of forested tracts, suburban development, and transportation infrastructure located between Tuckahoe Creek to the east and Hockett Road to the west. The landscape is characterized primarily by contiguous areas of forest interspersed with cleared parcels supporting commercial and residential development. Major transportation corridors, including State Route 288 and I-64, traverse or border the area and influence its visual character through the presence of elevated roadways, interchanges, and associated right-of-way. Suburban commercial centers such as West Creek Business Park and adjacent residential neighborhoods create a developed western edge, while the eastern portion transitions to more rural land uses with larger forested parcels and low-density residential properties. Hydrologic features such as Tuckahoe Creek and its associated riparian buffers provide visual relief and ecological connectivity along the study area's northern and eastern boundaries. Overall, the study area exhibits a transitional landscape condition where natural forest cover and hydrologic systems remain present but are increasingly fragmented by transportation and developed suburban and commercial land uses.

3.4.1 VISUALLY SENSITIVE RESOURCES

For the purpose of this routing study, VSRs are defined as areas containing resources with unique scenic qualities or sensitive viewsheds, or other areas where the proposed transmission line and associated vegetation clearing could contrast with the surrounding existing landscape. Examples of potential VSRs include designated scenic resources (e.g., scenic byways, overlooks, and landscapes), residential subdivisions, recreation areas, historic landscapes or districts, conservation areas, documented natural features, cultural destinations, road corridors, and other areas where public may congregate. VSRs identified within the study area are listed in Table 3-9 along with a description of the VSR and user groups associated with each VSR. Figure 3.4-1 in Appendix B shows the location of these VSRs within the study area.

Within the study area, the primary user groups include commuters traveling along Route 288 and adjacent arterials (Route 6/Patterson Avenue, Broad Street (250), Hockett Road, Tuckahoe Creek Parkway, and Wilkes Ridge Parkway), employees and visitors associated with the West Creek and Capital One corporate campuses, recreational users at facilities such as Bogeys Sports Park, and residents of nearby residential neighborhoods. Commuters on Route 288 and the major arterials typically experience the landscape at higher travel speeds and within a highway setting already influenced by existing infrastructure; these users are generally considered to have a lower sensitivity to changes in visual character. Users of local roads within the West Creek development, including employees and visitors accessing office, commercial, and institutional destinations, travel at reduced speeds and may spend longer periods within the corridor. These observers are anticipated to have a moderate sensitivity to visual change. Recreational users at entertainment and sports facilities, as well as residents in nearby neighborhoods, are more likely to be stationary or moving slowly and to focus on their immediate surroundings. These groups are therefore characterized as having a moderate to moderately high sensitivity to changes in the visual environment. Overall, the study area supports a mix of user groups whose visual sensitivity ranges from low for regional commuters to moderately high for recreational users and residents.

Table 3-9: Visually Sensitive Resources and User Groups

VSR Number	VSR Name	VSR Description	User Group(s)
Scenic Resource			
1	River Road (Virginia Byway)	Route 6 (River Road) is located along the southern border of the study area and was designated a Virginia Byway in 1987. The two-lane rural scenic corridor is lined with mature trees, large estate homes, and open pastures. Provides views of the James River valley and adjacent woodlands.	Local residents and recreational users (e.g., bicyclists, pedestrians), and tourists
2	Tuckahoe Creek Park / Ducks Unlimited Easement	Natural riparian corridor along Tuckahoe Creek featuring wetlands, forest, and open fields protected for habitat and recreational uses. Located in the southeastern portion of the study area adjacent to Tuckahoe Creek.	Local residents and recreational users (e.g., hikers, bird watchers, kayakers), and tourists
Recreational Resource			
3	Richmond Country Club (Private)	Private golf and tennis club with maintained greens, wooded fairways, and landscaped grounds providing open recreational views. Located in the southern portion of the study area east of Route 288 near River Road.	Recreational users (e.g., golfers, tennis players, swimmers)
4	Hardywood Park Craft Brewery	Commercial brewery and event venue featuring outdoor seating areas, open lawn, and landscaped grounds with views of surrounding woodland. Located in the northeastern portion of the study area near West Creek Parkway and Broad Street (250).	Local residents and tourists
5	Bogeys Sports Park	Public recreation complex offering a driving range, mini-golf, and batting cages surrounded by open lawn and scattered trees. Located in the northeastern portion of the study area along Broad Street (250) near Route 288.	Local residents, recreational users (e.g., golfers and miniature gold players), and tourists
6	Capital One Private Recreation Area	Privately maintained open space within the Capital One campus including walking trails, ponds, and athletic fields. Located in the northeastern portion of the study area near Route 288 and West Creek Parkway.	Capital One workers
Community Resource			
7	Mosaic at West Creek	Mixed-use development with retail, dining, and landscaped community plazas integrated with adjacent office and residential areas. Located in the northern portion of the study area near the intersection of Broad Street (250) and Hockett Road.	Local residents
8	Bellview Gardens	Established residential neighborhood with mature vegetation, landscaped yards, and local access roads. Located in the northwestern portion of the study area near Broad Street (250).	Local residents
9	Readers Branch	Planned residential community featuring open space, walking trails, and preserved forested buffers. Located in the central portion of the study area west of Hockett Road and north of Tuckahoe Creek.	Local residents

VSR Number	VSR Name	VSR Description	User Group(s)
10	Avery Point Senior Living Community	Multi-building retirement campus with landscaped courtyards, pedestrian paths, and visual connection to adjacent wooded areas. Located in the central portion of the study area near West Creek Parkway and Route 288.	Local residents
11	Sheltering Arms	Rehabilitation hospital with open lawns, parking, and landscaped stormwater features visible from nearby roads. Located in the southeastern portion of the study area near Route 288 and Tuckahoe Creek.	Local residents
12	2000 West Creek	Office campus with modern architecture, open lawns, and adjacent wooded buffers near West Creek Parkway. Located in the eastern portion of the study area near Route 288 and West Creek Parkway.	Local residents
Road Corridors			
13	Interstate 64	Six-lane divided interstate highway with limited-access interchanges located in the northern portion of the study area running east-west north of Broad Street (250). The roadway is primarily at-grade west of Route 288 but transitions to elevated segments eastward near Short Pump. Wide medians, vegetative buffers, and embankments provide intermittent screening from adjacent residential and commercial areas.	Local residents, workers, commuters, and through-travelers
14	Route 288 (multiple)	Four-lane divided, limited-access highway constructed above grade in sections crossing Tuckahoe Creek and West Creek Parkway. The corridor includes bridges, sound barriers, and wide grassy medians with intermittent views of forested and developed land.	Local residents, workers, commuters, and through-travelers
15	Broad Street (250)	Four-lane at-grade arterial corridor located in the northern portion of the study area transitioning to a two-lane rural section west of Route 288. The road contains commercial frontage, traffic signals, and visible signage within the eastern portion, while western segments are lined with trees and open pasture.	Local residents, workers, and commuters

To illustrate the potential changes to existing visual conditions from the installation of the route alternatives, 16 KOPs were chosen to represent the existing visual character and VSRs present (Appendix E).

3.5 CULTURAL RESOURCES

In December 2025, Dutton + Associates, LLC (D+A) conducted an analysis of potential cultural resource impacts for the route alternatives under consideration in accordance with:

- The VDHR's Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia (VDHR, 2008) (herein referred to as "VDHR Guidelines"); and
- The Commonwealth of Virginia SCC Division of Public Utility Regulation Guidelines for Transmission Line Applications Filed Under Title 56 of the Va. Code (SCC, 2017).
- For each transmission line route alternative, D+A's analysis identified and considered previously recorded resources within the following study tiers as specified in the VDHR Guidelines:
 - National Historic Landmarks (NHLs) within a 1.5-mile radius of the center of each route;
 - NRHP-listed properties, NHLs, battlefields, and historic landscapes within a 1.0-mile radius of the center of each route;
 - NRHP-eligible and NRHP-listed properties, NHLs, battlefields, and historic landscapes within a 0.5-mile radius of the center of each route; and
 - All of the above qualifying resources as well as archaeological sites within the right-of-way for each route alternative.

Information on the previously recorded resources in each tier was collected from the VCRIS (VDHR, 2025). D+A also collected information on battlefields surveyed and assessed by the National Park Service's American Battlefield Protection Program (National Park Service, 2009). Mapping of those American Battlefield Protection Program boundaries in the form of ArcGIS shape files was reviewed as part of the analysis of potential cultural resource impacts. No battlefields were identified in the study tiers for the routes from this source.

Following the identification of resources through background research, D+A conducted field reconnaissance, which included a visual inspection of the previously recorded historic properties within the VDHR study tiers. Field methods included visiting and photographing each resource. Photography focused on each property's existing conditions, including setting and views toward the Project route alternatives. Photos were taken of the primary resource elevations, general setting, and existing viewsheds. All photographs were taken from the nearest public right-of-way to the property (typically a road) unless access to the parcel was granted by the landowner.

Following identification and field inspection of historic properties, D+A assessed each architectural resource for potential impacts from the Project. Assessment of impacts was conducted through a combination of field inspection, digital photography, review of topography and aerial photography, and photo simulation. Photo simulations were prepared to depict the new transmission infrastructure from vantage points within or near each resource. The photo simulations used digital photography, facing from the resources towards a Project route or routes, which was then loaded into a computer with location coordinates and ground-elevation data. The transmission line structures to be built as part of the Project

were computer modeled to represent their location, height, and configuration within the viewshed of a resource. The models were then overlaid onto the digital photography so that the existing (unaltered) view can be compared with the simulated view illustrating the proposed structures, as they would appear on the landscape.

Many cultural resources in the Project vicinity have not been assessed for NRHP eligibility and, therefore, are not included in the pre-application analysis, per VDHR Guidelines. Until these resources have been assessed and a determination of their eligibility has been made by VDHR, these resources should be considered as potentially eligible for listing in the NRHP. Likewise, there may be as-yet unreported historic and archaeological resources that may ultimately be affected by the proposed undertaking. Any such resources would be addressed during a cultural resources survey to be conducted following the SCC's approval of a Project route.

The Stage I Pre-Application Analysis of Cultural Resources, prepared by D+A, is provided in Appendix F which includes mapping of the resources discussed in the sections below.

3.5.1 ARCHAEOLOGICAL SITES

Crossings of archaeological sites were considered a constraint due to the potential for an electric transmission line to impact archaeological deposits in these areas (e.g., due to placement of transmission structures, tree clearing, and usage of heavy equipment during construction). A review of previously recorded archaeological sites indicates that there are 64 sites within one mile of the Project route alternatives, four of which intersect with a component of one or more route alternatives. A complete assessment of the integrity of these archaeological sites would require archaeological field surveys, which will be completed during the permitting phase of the Project.

Table 3-10: Previously Recorded Archaeological Sites in or Adjacent to Route Alternative Rights-of-Way

Site Number	Description	NRHP Status	Crossed By
44GO0266	Camp, No Temporal Data	Not Evaluated	Crossed by Route 4
44GO0273	No Data	Not Evaluated	Crossed by Route 4
44GO0370	Farmstead, Archaic (8500 - 1201 B.C.), 18th Century: 2nd half (1750 - 1799), 19th Century: 1st half (1800 - 1849)	Not Evaluated	Crossed by Route 4
44GO0342	Camp, temporary, lithic scatter	Not Evaluated	Crossed by Route 3

3.5.2 HISTORIC RESOURCES AND ARCHITECTURAL SITES

Reviews of VDHR VCRIS inventory records revealed a total of 76 previously recorded architectural resources located within 1.5 miles of the project route alternatives. Of these, only one known historic resource (037-5238), is located within the VDHR's tiered study model for the route alternatives and is not directly crossed by any of the route alternatives.

Table 3-11: Previously Recorded Historic Resources in the Study Tiers for the Route Alternatives

Route	VDHR Tier	Resource Name and VDHR #	NRHP Status
Route 2	1.0 - 1.5	None	N/A
	0.5 - 1.0	None	N/A
	0.0 - 0.5	Farm, 2105 Rockville Road (037-5238)	NRHP - Potentially Eligible
	0.0 (within the right-of-way)	None	N/A
Route 3	1.0 - 1.5	None	N/A
	0.5 - 1.0	None	N/A
	0.0 - 0.5	Farm, 2105 Rockville Road (037-5238)	NRHP - Potentially Eligible
	0.0 (within the right-of-way)	None	N/A
Route 4	1.0 - 1.5	None	N/A
	0.5 - 1.0	None	N/A
	0.0 - 0.5	Farm, 2105 Rockville Road (037-5238)	NRHP - Potentially Eligible
	0.0 (within the right-of-way)	None	N/A
Route 5	1.0 - 1.5	None	N/A
	0.5 - 1.0	None	N/A
	0.0 - 0.5	Farm, 2105 Rockville Road (037-5238)	NRHP - Potentially Eligible
	0.0 (within the right-of-way)	None	N/A

3.5.3 SUMMARY OF EXISTING SURVEY DATA PERFORMED UNDER SECTION 106 OR SECTION 110 OF THE NATIONAL HISTORIC PRESERVATION ACT

VDHR and VCRIS records indicate that there have been 18 prior Phase I cultural resource surveys within 1-mile of the project, including 10 that overlap with or included portions of the right-of-way for one or more of the project alternatives. These surveys were at a minimum archaeological in nature, although some also included architectural resources. The 10 surveys that include portions of right-of-way for one or more route alternative were conducted primarily for transportation and utility-related projects, as well as some private development projects. As a result of these prior surveys, portions of each of the four route alternatives have been subject to previous investigation, although none have been surveyed in entirety. The 10 previously conducted cultural resource surveys that include portions of the individual route rights-of-way are listed in Table 3-12.

Table 3-12: Previous Cultural Resource Surveys Covering Portions of the Route Alternatives

VDHR #	Title	Author	Date
GO-008	Phase I Cultural Resource Investigations of Proposed State Route 288 Project, Goochland County, Virginia	Louis Berger & Associates, INC.	1996
GO-010	Archaeological Survey of Interstate 64 - Route 288 Interchange, Goochland County, Virginia	Louis Berger & Associates, INC.	1998
GO-013	The Archaeological Identification Survey of Approximately 319 Acres for a Proposed Office Development, Goochland County, Virginia	Gray and Pape, Inc.	2000
GO-017	Archaeological Survey of the Proposed Tuckahoe Creek Service District Gravity Sewer and Archaeological Evaluation of Site 44GO357, Goochland County, Virginia	Louis Berger & Associates, INC.	2003
GO-019	Archaeological Survey, Three Phases of the Proposed Tuckahoe Creek Service District Gravity Sewer, Goochland County, Virginia	Louis Berger & Associates, INC.	2004
GO-027	An Archaeological Survey for Improvements to I-64, Henrico and Goochland Counties, Virginia	Cultural Resources, Inc.	2012
GO-029	Mosaic Property, Goochland, Virginia, Phase I Cultural Resources Investigation	Thunderbird Archaeology	2018
GO-032	Phase I Cultural Resources Survey of the West Creek Medical Center Shared Entrance Road Right-of-Way and Utility Right-of-Ways, Goochland County, Virginia	Circa-Cultural Resource Management, LLC	2011
GO-049	Phase 1B Archaeological Assessment of the Richmond Delivery Station Property, Goochland County, Virginia	Applied Archaeology and History Associates, Inc.	2024
HE-494	Management Summary for an Architectural Survey for the Short Pump Area Transportation Improvements Project-Preferred Alternative, Goochland and Henrico Counties, Virginia	CRAI	2024

3.6 GEOLOGIC CONSTRAINTS

The Project study area is located within the Piedmont physiographic province, which is the largest physiographic province within the state, extending across the central portion of the state. The region is generally flat with little topography and bedrock is buried deep under thick horizons of saprolite (weathered bedrock) and topsoil. Bedrock in the majority of the providence consists of sedimentary rocks with isolated basins of igneous and metamorphic bedrock (Virginia Department of Energy, 2025).

3.6.1 MINERAL RESOURCES

C2 reviewed publicly available Virginia Energy datasets (date), recent (2025) digital aerial photography, and USGS topographic quadrangles to located mineral resources within the study area. Based on this review, no active mining operations were identified within the study area. Three active quarries are located within 1-mile of the study area. The nearest active mining operation is the Anderson Creek Quarry, located about 0.2 miles northwest of the northern extent of the study area, near the intersection of I-64 and Ashland Road. Anderson Creek Quarry is owned and operated by Martin Marietta and produces aggregate.

The Luck Stone Rockville Plant is located on the east side of Ashland Road about 0.4 mile from the northern extent of the study area. The plant is owned and operated by Luck Stone and produces cement treated aggregate and granite. The Royal Stone Quarry is located on

the south side of Quarry Hill Road approximately 0.9 mile from the northern extent of the study area. The plant is owned and operated by Vulcan Materials Company and produces aggregate.

3.7 ROUTING OPPORTUNITIES

Existing corridors within the study area were identified for the purpose of assessing their potential use as routing or collocation opportunities. These corridors include existing transmission lines, other utility easements, and major road corridors.

3.7.1 ELECTRIC TRANSMISSION CORRIDORS

No existing Dominion transmission lines exist within the study area that could serve as a routing opportunity. Line 2009 runs along the northern border of the study area and continues east/west new I-64. No existing transmission lines extend south towards the West Creek Substation. Existing Dominion distribution line rights-of-way are common within the study area and include both overhead and underground lines. Rights-of-way for distribution lines are typically less than 30 feet and are unable to accommodate a transmission line without widening the existing easement. As such, distribution corridors were not considered a routing opportunity for the Project.

3.7.2 OTHER UTILITY EASEMENTS

There are multiple minor utility easements within the study area including Goochland County water and sewer lines. Two Columbia Gas Transmission LLC natural gas pipelines cross the study area as shown on Figure 3.7-1. One of the pipelines extends generally east/west across the study area, crossing Route 288, following the southwest boundary of the Route 288 and Tuckahoe Creek Parkway interchange, crossing the Capital One Campus and the northern portion of Mosaic at West Creek community before crossing Tuckahoe Creek Parkway and Hockett Road. The other pipeline corridor enters the study area along the southern border along Patterson Avenue. The pipeline then continues north, crossing primarily undeveloped forested land before bisecting the Mosaic at West Creek community and joining up with the first pipeline just south of Tuckahoe Creek Parkway. Neither of these pipeline corridors presented routing opportunities as they do not extend north to Dominion's existing Line 2009, or south to the proposed West Creek substation location.

3.7.3 ROAD CORRIDORS

As discussed in Section 3.1.10, major roadways within the study area include I-64, Route 288 and principal arterials, Broad Street (250) and Patterson Avenue. Other major roadways, such as minor arterials and major collectors, include Ashland Road, River Road, Hockett Road, Tuckahoe Creek Parkway, and West Creek Parkway. Road corridors are labeled on Figure 3.1-1.

4.0 RESOURCES AFFECTED

After conditions within the study area were analyzed, existing conditions along each of the route alternatives were identified, mapped, and reviewed. To further consider and evaluate the advantages and disadvantages of each route alternative, the routing constraints potentially affected by these route alternatives were quantified for comparison purposes. A quantified routing constraints features comparison table for the five routes considered is presented in Appendix G. Impacts associated with construction and operation of the approximately 5.1-acre substation are included when discussing existing conditions and resources affected for each route. The locations of all route alternatives are described in Section 2.3.1. A discussion and comparison of each route's advantages and disadvantages by the various routing constraints is presented in the sections below.

4.1 LAND USE

4.1.1 LAND OWNERSHIP AND LAND USE

As described in Sections 3.1.1 and 3.1.2, the majority of land within the study area is privately owned and consists primarily of undeveloped forested land, open land, low to high density single-family residential development, commercial development, and roadways. Quantified crossing lengths of land ownership and land use and land cover are presented in Appendix G. Figure 4.1-1 in Appendix B shows the existing land ownership and land use along the alignments of the route alternatives.

Route 2

Route 2 is approximately 5.9 miles in length and encompasses approximately 76.0 acres of land. Of this, the proposed West Creek Substation occupies about 5.1 acres. With the exception of crossings of VDOT rights-of-way, land within the footprint of Route 2 is all privately owned. Dominion coordinated with VDOT during the routing process to ensure that the alignment of Route 2 does not conflict with any known road projects. Land use within the footprint of Route 2 consists of about 61.8 acres of forested land, 8.6 acres of open land, 3.3 acres of agricultural land, 2.2 acres of developed land, and <0.1 acre of open water.

Route 3

Route 3 is approximately 6.5 miles in length and encompasses approximately 83.8 acres of land. Of this, the proposed West Creek Substation occupies about 5.1 acres. With the exception of crossings of VDOT rights-of-way, land within the footprint of Route 3 is all privately owned. Dominion coordinated with VDOT during the routing process to ensure that the alignment of Route 3 does not conflict with any known road projects. Land use within the footprint of Route 3 consists of about 68.3 acres of forested land, 10.8 acres of open land, 1.3 acres of agricultural land, 3.5 acres of developed land, and <0.1 acre of open water.

Route 4

Route 4 is approximately 6.5 miles in length and encompasses approximately 83.9 acres of land. Of this, the proposed West Creek Substation occupies about 5.1 acres. With the exception of crossings of VDOT rights-of-way, land within the footprint of Route 4 is all

privately owned. Dominion coordinated with VDOT during the routing process to ensure that the alignment of Route 4 does not conflict with any known road projects. Land use within the footprint of Route 4 consists of about 71.3 acres of forested land, 8.8 acres of open land, 1.3 acres of agricultural land, and 2.6 acres of developed land.

Route 5

Route 5 is approximately 6.0 miles in length and encompasses approximately 77.9 acres of land. Of this, the proposed West Creek Substation occupies about 5.1 acres. With the exception of crossings of VDOT rights-of-way, land within the footprint of Route 5 is all privately owned. Dominion coordinated with VDOT during the routing process to ensure that the alignment of Route 5 does not conflict with any known road projects. Land use within the footprint of Route 5 consists of about 62.6 acres of forested land, 11.2 acres of open land, 1.3 acres of agricultural land, and 2.9 acres of developed land.

4.1.2 LAND USE PLANNING AND ZONING

Transmission lines crossing lands zoned as industrial are typically less impactful to a region than those crossing lands zoned as residential. Appendix G and the sections below quantify the crossings of zoning districts to depict the relative compatibility of the route alternatives with planned land use (TOD) and current zoning. Dominion and C2 attempted to maximize a route alternative's crossing length on parcels within the recently approved TOD. As described in Section 3.1.3, the TOD approves certain users (including data centers) by right and development within the TOD is expected to increase. Figure 4.1-2 in Appendix B depicts the zoning, TOD, and other overlay districts along the route alternatives.

Route 2

Approximately 4.7 miles (80 percent) of Route 2 is located within the recently approved TOD, including about 0.2 mile in TOD West. Route 2 generally avoids less compatible zoning districts by crossing predominantly Industrial Limited (M1) zoned land. Of the 5.9 miles crossed by Route 2, 3.3 miles are zoned as M1, 1.8 miles are zoned as Agricultural Limited (A2), 0.1 mile are zoned as Residential Planned United Development (RPUD), and less than 0.1 mile are zoned as Business General (B1) and Residential General (R3). The remaining approximately 0.6 mile of Route 2 do not have a designated zoning classification and includes crossings of VDOT rights-of-way.

Route 3

Approximately 4.8 miles (74 percent) of Route 3 is located within the recently approved TOD, including about 0.2 mile in TOD West. Route 3 generally avoids less compatible zoning districts by crossing predominantly M1 zoned land. Of the 6.5 miles crossed by Route 3, 3.7 miles are zoned as M1, 1.7 miles are zoned as A2, 0.1 mile are zoned as RPUD, and 0.1 mile are zoned as R3. The remaining approximately 0.9 mile of Route 3 do not have a designated zoning classification and includes crossings of VDOT rights-of-way.

Route 4

Approximately 5.2 miles (79 percent) of Route 4 is located within the recently approved TOD, including about 0.2 mile in TOD West. Route 4 generally avoids less compatible zoning districts by crossing predominantly M1 zoned land. Of the 6.5 miles crossed by Route 4, 3.8 miles are zoned as M1, 1.7 miles are zoned as A2, 0.1 miles are zoned as RPUD, and 0.1 mile are zoned as R3. The remaining approximately 0.8 mile of Route 4 do not have a designated zoning classification and includes crossings of VDOT rights-of-way.

Route 5

Approximately 4.4 miles (73 percent) of Route 5 is located within the recently approved TOD, including about 0.2 mile in TOD West. Route 5 generally avoids less compatible zoning districts by crossing predominantly M1 zoned land. Of the 6.0 miles crossed by Route 5, 2.9 miles are zoned as M1, 1.7 miles are zoned as A2, 0.1 mile are zoned as RPUD, and 0.1 mile are zoned as R3. The remaining approximately 1.2 miles of Route 5 do not have a designated zoning classification and includes crossings of VDOT rights-of-way.

4.1.3 RESIDENTIAL AREAS AND RESIDENCES

C2 identified residences (single-family dwellings) within 60 feet of the right-of-way and within 100, 200, and 500 feet of the centerlines for each route alternative utilizing various public datasets, and recent (2025) digital aerial photography. No planned residential developments with plotted residential layouts were identified within these buffer distances. Appendix G lists the number of dwellings with the tiered distances from each route alternative, and the crossing lengths of existing subdivisions based on the Goochland County subdivision GIS layer. Figure 4.1-3 in Appendix B depicts the existing residential and commercial subdivisions crossed by the route alternatives. Additional information about the residential areas crossed by each route alternative is provided in the sections below. There are no residences located within the rights-of-way of the various route alternatives. During construction of the Project, potential temporary impacts may occur to residential areas including increased traffic and road or lane closures. The Project would not have any long term impacts on the occupancy of residential buildings.

Route 2

There are no dwellings within 60 feet of the right-of-way for Route 2 or within 100 feet of the centerline. There are two dwellings within 250 feet of the centerline, and five within 500 feet of the centerline. Route 2 generally avoids residential areas but does get closer to both Readers Branch and Bellview Gardens when compared with the other route alternatives. The route crosses approximately 0.1 mile of the Mosaic at West Creek Subdivision, however the crossing is in an area parallel to Route 288 and about 550 feet from the nearest residence. Route 2 also crosses two short (<0.1 mile) segments of the Readers Branch Subdivision. One of these crossings is in an area where the route parallels Route 288 and is about 600 feet from the nearest residence. The route then wraps around the Readers Branch Subdivision and crosses another short segment of the subdivision, maintaining more than 500 feet between the centerline of the route and residences. Lastly, Route 2 passes along the western side of Bellview Gardens Subdivision. While the route does not cross this subdivision boundary, the nearest residence is about 240 feet from the route.

Route 3

There are no dwellings within 60 feet of the right-of-way for Route 3 or within 100 feet of the centerline. There is one dwelling within 250 feet of the centerline (which is uninhabited and associated with an unevaluated aboveground historic resource), and one within 500 feet of the centerline. Route 3 generally avoids residential areas. The route crosses the same approximately 0.1 mile of the Mosaic at West Creek Subdivision as described above for Route 2. Route 3 also crosses one short (<0.1 mile) segment of the Readers Branch Subdivision. The crossing is in an area parallel to Route 288 and about 550 feet from the nearest residence. Lastly, Route 3 skirts around the eastern side of Bellview Gardens Subdivision and is further from the subdivision than Route 2. While the route does not cross this subdivision, the nearest residence is about 540 feet from the route.

Route 4

There are no dwellings within 60 feet of the right-of-way for Route 4 or within 100 feet, 250 feet, or 500 feet of the centerline. Route 4 generally avoids residential areas and shares an alignment with Route 3 in all locations near residential communities described above for Route 3.

Route 5

There are no dwellings within 60 feet of the right-of-way for Route 5 or within 100 feet, 250 feet, or 500 feet of the centerline. Route 5 generally avoids residential areas and shares an alignment with Route 3 in all locations near residential communities described above for Route 3.

4.1.4 COMMERCIAL, INDUSTRIAL, AND NON-RESIDENTIAL AREAS AND BUILDINGS

C2 identified commercial, industrial, and non-residential buildings within 500 feet of the centerline for each route alternative through review of public datasets and recent (2025) digital aerial photography (see Appendix G). No commercial or industrial buildings were identified within the rights-of-way of the various route alternatives. The number of commercial/industrial buildings within 500 feet of the route alternatives range from six (Routes 4 and 5) to seven (Routes 2 and 3) as listed in Appendix G. During construction of the Project, potential temporary impacts may occur to commercial and industrial areas including increased traffic and road or lane closures. The Project would not have any long term impacts on the operation or use of these buildings.

4.1.5 CEMETERIES, SCHOOLS, AND PLACES OF WORSHIP

Of the cemeteries, schools, and places of worship identified within the study area, three cemeteries and one church are located within 0.25 mile of the route alternatives (see Figure 4.1-1 in Appendix B). None of these resources are directly crossed by any of the route alternatives. Potential impacts on these resources include temporary impacts during construction of the project and potential changes in viewshed during operation of the project. Viewshed changes are less likely the further a route alternative is from an identified cemetery or place of worship. None of the identified resources are within 500 feet of a route alternative. The nearest resource is the Mount Victory Baptist Church which is located on the

north side of Broad Street (250). Route 2 is approximately 0.2 mile to the west of this church. Routes 3, 4, and 5 are all approximately 700 feet east of the church. A discussion of potential visual impacts to the Broad Street (250) area are discussed in Section 4.2.3.

4.1.6 PLANNED AND FUTURE DEVELOPMENT

Depending on the timing of construction, planned and future developments crossed by or within 0.25 mile of a route alternative could experience short-term construction impacts including increased traffic and noise, or visual impacts associated with the new transmission line structures. C2 and Dominion considered planned developments as routing constraints. Where feasible, future development were considered during routing, however they were not factored as a formal constraint. See Section 3.1.7 for definitions of planned and future developments. The following sections address the potential impacts by route to the planned and future developments that could be crossed by one of the route alternatives. Figure 4.1-3 in Appendix B depicts the planned and future subdivisions crossed by the route alternatives.

Route 2

Route 2 crosses two planned developments for a total of approximately 0.3 mile and one future development for approximately 0.1 mile. Route 2 crosses approximately 0.2 mile of the West Creek Commerce Center. Dominion met with representatives from Summit Real Estate Group in November 2025 to discuss the Project crossing this planned development. The Project would not conflict with any buildings; however, the right-of-way does overlap with County setback requirements, and no trees would be allowed within the right-of-way of the transmission line. Dominion made minor adjustments to the alignment of the route crossing this parcel to bring the centerline closer to the edge of the parcel boundary, reducing the amount of right-of-way impacts on the parcel. Dominion also met with Goochland County Zoning representatives in November 2025 to discuss this crossing. All route alternatives require the same crossing of this planned development, and the County indicated that they would be able to reach a solution with the developer on changes to their vegetation plans and landscape buffers. Dominion will continue to coordinate with the developer and the County on the plant species allowable within the transmission line right-of-way.

Route 2 also crosses approximately 0.1 mile of the Mosaic at West Creek Section 9 planned development. The route avoids any impacts on planned buildings and would be located within the Route 288 setback. Dominion attempted to hold a meeting with this developer prior to filing with the SCC, however as of the finalization of this report on January 16, 2026 a meeting has yet to take place. Dominion will coordinate with the developer regarding the crossing of this planned development.

Lastly, Route 2 crosses about 0.1 mile of the Eli Lilly and Company future development. Dominion has been in coordination with Eli Lilly regarding substation placement within the southern portion of the parcel. The route does not conflict with any portions of the development and Dominion will continue to coordinate with Eli Lilly as the Project progresses.

Route 3

Route 3 crosses two planned developments for a total of 0.3 mile and three future developments for a total of 0.7 mile. Route 3 crosses the same 0.2 mile of the West Creek Commerce Center and 0.1 mile of Mosaic at West Creek Section 9 planned developments, and the same 0.1 mile of the Eli Lilly future development as Route 2 described above.

Route 3 also crosses approximately 0.3 mile of the West Creek Industrial future development. The original alignment of Route 3 conflicted with two buildings identified on the developers conceptual site plan. While considered a future development, Dominion was able to modify the alignment of Route 3 to cross the frontage of this property, avoiding impacts on future building footprints and not conflicting with any existing use of the property. Dominion met with representatives from Manakin Companies in December 2025 to discuss the modified alignment across the property. The developer did not have any concerns with the modified alignment as it avoids impacts to building layouts. Dominion will continue to coordinate with the developer on this crossing if Route 3 is selected as the preferred route by the SCC.

Lastly, Route 3 crosses approximately 0.3 mile of the Asgard Property future development. As noted in Section 3.1.7, while a variety of documents have been filed with the County for this development, no official POD or site plan with building layouts has been filed. The developer has filed conceptual land use layouts, for which rezoning would need to occur in order for the development to be constructed. Additionally, there are existing leased properties within the footprint of the Asgard Properties development that would need to be demolished for the proposal to be constructed.

Dominion met with representatives of the Asgard Property in January 2026. During this meeting Dominion learned that the developers have been working on the project for five years (including coordination with the County) and have two potential pathways forward for the development. The preferred pathway would be for the entire development to move forward under the Mixed Planned Unit Development (MPUD) zoning district. The district is intended to provide a mixture of retail, retail service, office, civic, and residential uses within a single zoning district and allows for flexible application of development regulations. This district requires a rezoning to MPUD and the submittal of a conditional use permit. The County is currently working on a code rewrite for this zoning district which will require a BOS vote to pass. Based on conversations with the developer it was indicated that this process has been put on hold and the earliest it would start again would be February 2026 and was estimated to take 2-6 months for the ordinance to be finalized and would then go to vote. Once the ordinance is in place the developer would submit their rezoning request (which will require a BOS vote) and their POD. The second pathway would be for the developer to rezone the property under existing residential and business zoning districts (requiring a public meeting and a BOS vote) and then filing a POD for the development. After the January 2026 meeting, Company representatives were informed that the developer would be utilizing the second pathway and would be moving forward with the rezoning of the commercial properties along the frontage of Broad Street (250). The developer let the Company know that they were looking to schedule their pre-application meeting and community meetings as soon as possible. As of January 15, 2026, the County had not received a pre-application meeting request from the developer.

During the January 2026 meeting Dominion was provided with a preliminary conceptual site plan of the Asgard Property with building layouts. Based on this site plan, Route 3 conflicts with seven potential buildings (one commercial and six residential). Adjusting the route to avoid direct conflicts with potential future buildings would cause the route to conflict with existing commercial buildings. As Dominion has not received any formal documentation that these buildings will be demolished, the alignment through this future development has not been adjusted. Dominion will continue to coordinate with the developer on this crossing to minimize impacts on the future development if Routes 3, 4, or 5 are selected as the preferred route by the SCC and if the future develop moves forward through County permitting processes.

Route 4

Route 4 crosses two planned developments for a total of 0.3 mile and three future development for a total of 0.8 mile. Route 4 crosses the same 0.2 mile of the West Creek Commerce Center and 0.1 mile of Mosaic at West Creek Section 9 planned developments, and the same 0.1 mile of the Eli Lilly future development as Route 2 described above. Route 4 also crosses the same 0.3 mile of the Asgard Property future development as discussed above for Route 3.

Route 4 also crosses approximately 0.4 mile of the Tuckahoe Creek Court future development. As discussed in Section 3.1.7, future developments were considered to be more conceptual developments where the developer has yet to file a site plan, POD, or other permits with the County, but has conceptual site layouts that they were able to share with Dominion. Based on the conceptual site layout, Route 4 would conflict with two of the buildings on the site plan. If Route 4 were selected by the SCC as the preferred route, and if the future develop moves forward through County permitting processes, Dominion would continue to work with the West Creek Business Park and Summit Real Estate Group to attempt to reduce impacts on the future development where feasible.

Route 5

Route 5 crosses two planned developments for a total of 0.3 mile and two future developments for a total of 0.4 mile. Route 5 crosses the same 0.2 mile of the West Creek Commerce Center and 0.1 mile of Mosaic at West Creek Section 9 planned developments as Route 2 described above. Route 5 also crosses the same 0.1 mile of the Eli Lilly and 0.3 mile of the Asgard Property future developments as discussed above for Routes 2 and 3.

4.1.7 CONSERVATION EASEMENTS AND OTHER CONSERVATION LANDS

No conservation lands or identified conservation easements would be impacted by any of the route alternatives. Conservation easements in proximity to the route alternatives are depicted on Figure 4.1-4 in Appendix B.

During the open house held on December 4, 2025, Dominion received comments from landowners in the Mosaic at West Creek residential community asking why Routes 3 and 4 could not cross Route 288 further south (south of Broad Branch Drive). This would allow for the routes to be on the opposite side of Route 288 when traversing near the southern portion of the Mosaic at West Creek community. Dominion indicated that this route change would

both bring the routes closer to the 2000 West Creek residential complex and would require a crossing of the Ducks Unlimited Conservation Easement discussed in Section 3.1.8.

Dominion Energy reviewed the Deed of Gift Easement for this conservation easement which lists prohibited uses. Constructing or placing buildings, mobile homes, transmission or receiving towers, energy facilities, or other temporary or permanent structures on the property are all prohibited along with cutting, removing, or otherwise destroying trees, grasses, or other vegetation. To ensure that Dominion's rights aren't subject to a restriction that prohibits their use, the conservation easement holder would need to be amenable to vacating the portion of their easement subject to Dominion's right-of-way or Dominion would need to obtain the transmission easement by condemnation order (Virginia Code § 10.1-1010). Dominion confirmed with Ducks Unlimited that a transmission line would not be an allowable use across this easement. Dominion's preference is to avoid condemnation as reasonably necessary to do so.

4.1.8 RECREATION AREAS

Of the existing recreation areas identified within the study area, Capital One private recreational facilities, CarMax public trails, Readers Branch trails, Mosaic at West Creek trails, and Drive Shack and Puttery are located within 0.25 mile of the route alternatives (see Figure 4.1-4 in Appendix B). None of these existing resources are directly crossed by any of the route alternatives. The proposed East End Trail system is also within 0.25 mile of the route alternatives and would be crossed by at least one route alternative. Potential impacts on these resources include temporary impacts during construction of the project (increased traffic, road and/or lane closures) and potential changes in viewshed during operation of the project. The majority of recreation areas within 0.25 mile of route alternatives were identified as VSRs and potential viewshed impacts are discussed in Section 4.4.

Route 2

Route 2 is adjacent to the Capital One private recreational facilities, with the edge of the right-of-way being approximately 150 feet from the soccer field within the recreational area. Depending on access and workspace needs during construction, temporary closures of this recreation area may be required. No long-term impacts to the continued use of the recreation area are expected to occur.

Route 2 crosses the eastern portion of the CarMax property and is within 0.25 mile of the public trail system located on the property. Route 2 is also within 0.25 mile of a portion of the existing Readers Branch trail system and Mosaic at West Creek trail system, which weaves through and wraps around portions of these residential subdivisions. The proposed Goochland County East End Trails are also within 0.25 mile of Route 2; however, they would be located on the opposite side of Route 288. Depending on access and workspace needs during construction, temporary closures of portions of these trails may be required. No long-term impacts to the continued use of the recreation area are expected to occur.

Route 3

Route 3 is within 0.25 mile of the Drive Shack and Puttery, however the route alternative is located on the west side of Route 288 whereas the recreation area is on the east side of Route

288. No temporary closures will need to occur during construction of the Project and no long-term impacts to the continued use of the recreation area will occur as a result of the Project.

Route 3 is within 0.25 mile of a portion of the Readers Branch trail system and the Mosaic at West Creek trail system, which weaves through and wraps around portions of these residential subdivisions. Depending on access and workspace needs during construction, temporary closures of portions of these trails may be required. No long-term impacts to the continued use of the recreation area are expected to occur.

Route 3 is also within 0.25 mile of the proposed Goochland County East End Trails. Depending on timing of construction of the trail system in relation to the proposed Project, temporary closures to portions of the trail may occur.

Route 4

Route 4 is within 0.25 mile of the Drive Shack and Puttery, however the route alternative is located on the west side of Route 288 whereas the recreation area is on the east side of Route 288. No temporary closures will need to occur during construction of the Project and no long-term impacts to the continued use of the recreation area will occur as a result of the Project.

Route 4 is within 0.25 mile of a portion of the Readers Branch trail system and the Mosaic at West Creek trail system, which weaves through and wraps around portions of these residential subdivisions. Depending on access and workspace needs during construction, temporary closures of portions of these trails may be required. No long-term impacts to the continued use of the recreation area are expected to occur.

Route 4 crosses the proposed Goochland County East End Trails. Segment 1 of the trail is currently mapped as starting behind Hardywood Park Craft Brewery and following the southern extent of the floodplain surrounding Broad Branch, turning north along Route 288, and then following the northern extent of the floodplain along Broad Branch. Segment 1 is shown to end at the current terminus of Tuckahoe Creek Parkway. Route 4 would also be within 0.25 mile of approximately 1.1 miles of the proposed trail as it extends north towards Broad Street (250). Depending on final trail alignment and timing of construction of the trail system in relation to the proposed Project, temporary closures to portions of the trail may occur.

Route 5

Route 5 crosses the eastern portion of the CarMax property and is within 0.25 mile of the public trail system located on the property. Route 5 is also within 0.25 mile of a portion of the existing Readers Branch trail system and Mosaic at West Creek trail system, which weaves through and wraps around portions of these residential subdivisions. The proposed Goochland County East End Trails is also within 0.25 mile of Route 5, however would be located on the opposite side of Route 288. Depending on access and workspace needs during construction, temporary closures of portions of these trails may be required. No long-term impacts to the continued use of the recreation area are expected to occur.

Route 5 is also within 0.25 mile of the Capital One private recreational facilities and is about 0.2 mile from the facility at the nearest point. No temporary closures are anticipated to occur during construction of Route 5 and no long-term impacts to the continued use of the recreation area will occur as a result of the Project.

4.1.9 TRANSPORTATION

Temporary closures of roads and/or traffic lanes would be required during construction of the Project; however, no long-term impacts on roads are anticipated. The Company will comply with VDOT requirements for access to the rights-of-way from public roads, as well as the crossings of roads and any required traffic control plans for construction of the Project. At the appropriate time, the Company will obtain the necessary VDOT permits, as required, and comply with permit conditions. The Company met with VDOT to discuss the potential for structures within VDOT rights-of-way along the various route alternatives. VDOT iterated that there are Dominion structures within VDOT rights-of-way throughout the state, and that while a higher level of permit review and coordination is required for these structures, that they did not anticipate it would be prohibited.

The two planned road projects (Route 288 Southbound Auxiliary Lane Project and Route 250 & Route 288 Interchange Project) are generally avoided by all route alternatives. Route 3, 4, and 5 would cross Broad Street (250) in an area where improvements are proposed on the north side of the street, however no structures would be placed in areas proposed for improvements. All route alternatives are in close proximity to these planned road projects and Dominion will continue to coordinate with VDOT regarding the timing of these projects in relation to the timing of construction of the transmission line.

Route 2

Route 2 crosses 11 existing roads; Bennington Road, I-64, Three Chopt Road, Broad Street (250), Route 288 Off-Ramp, Tuckahoe Creek Parkway, Route 288 On-Ramp, Broad Branch Drive, West Creek Parkway, Route 288 On-Ramp, and Route 288. Route 2 would only require one crossing of Route 288 and, based on preliminary engineering, is expected to require three structures in VDOT rights-of-way. These three structures would be on the south side of the Broad Street and Route 288 interchange where the VDOT right-of-way extends south to Tuckahoe Creek. No structures within cloverleaves or interchanges would be required for Route 2.

Route 3

Route 3 crosses 14 existing roads; Bennington Road, I-64, Three Chopt Road, Broad Street (250), Route 288 Off-Ramp, Route 288 On-Ramp, Route 288, Tuckahoe Creek Parkway, Tuckahoe Creek Court, Route 288, Broad Branch Drive, West Creek Parkway, Route 288 On Ramp, and Route 288. Route 3 would require three crossings of Route 288 and, based on preliminary engineering, is expected to require five structures in VDOT rights-of-way. Two of these structures would be located within the cloverleaf of the Broad Street and Route 288 interchange and two structures would be on the south side of the Broad Street and Route 288 interchange where the VDOT right-of-way extends south to Tuckahoe Creek. The remaining structure would be located within the cul-de-sac ending of Tuckahoe Creek Court.

Route 4

Route 4 crosses 12 existing roads; Bennington Road, I-64, Three Chopt Road, Broad Street (250), Route 288 Off-Ramp, Route 288 On-Ramp, Route 288, Route 288, Broad Branch Drive, West Creek Parkway, Route 288 On Ramp, and Route 288. Route 4 would require three crossings of Route 288 and, based on preliminary engineering, is expected to require four structures in VDOT rights-of-way. Two of these structures would be located within the cloverleaf of the Broad Street and Route 288 interchange. The remaining two structures would be on the south side of the Broad Street and Route 288 interchange where the VDOT right-of-way extends south to Tuckahoe Creek.

Route 5

Route 5 crosses 13 existing roads; Bennington Road, I-64, Three Chopt Road, Broad Street (250), Route 288 Off-Ramp, Route 288 On-Ramp, Tuckahoe Creek Parkway, Route 288 Off-Ramp, Route 288 On-Ramp, Broad Branch Drive, West Creek Parkway, Route 288 On-Ramp, and Route 288. Route 5 would only require one crossing of Route 288 and, based on preliminary engineering, is expected to require seven structures in VDOT rights-of-way. Two of these structures would be located within the cloverleaf of the Broad Street and Route 288 interchange. Two structures would be on the south side of the Broad Street and Route 288 interchange where the VDOT right-of-way extends south to Tuckahoe Creek. The remaining three structures would be within the cloverleaves of the Route 288 and Tuckahoe Creek Parkway interchange.

4.1.10 AIRPORT FACILITIES

Of the 15 airports, private airstrips or heliports located within 10 nautical miles of the study area, only 9 are located within 10 nautical miles of the route alternatives. The airports and approximate distance to each route alternative is presented in Table 4-1 below and shown on Figure 4.1-5 in Appendix B.

Table 4-1: Airports and Heliports within 10 Nautical Miles of Route Alternatives

Name	Approximate Distance and Direction			
	Route 2	Route 3	Route 4	Route 5
Sabot Airport (1VA0)	3.8 W	4.0 W	4.0 W	3.8 W
Innsbrook Technical Center Heliport (VG02)	3.8 E	3.5 E	3.5 E	3.5 E
H D H Heliport (60VA)	5.8 E	5.8 E	5.5 E	5.8 E
St Mary's Hospital Heliport (37VA)	7.3 SE	7.3 SE	7.2 SE	7.3 SE
Johnston Willis Heliport (VG41)	6.7 SE	6.7 SE	6.7 SE	6.7 SE
Bon Secours St Francis Medical Center (VG68)	8.3 S	8.3 S	8.3 S	8.3 S
Chippenham Hospital Heliport (6VA3)	8.5 SE	8.5 SE	8.5 SE	8.5 SE
Virginia DMV Headquarters Heliport (7VA7)	10.0 SE	10.0 SE	9.9 SE	10.0 SE
Mayers Airport (VG24)	9.9 NE	9.9 NE	9.9 NE	9.9 NE

Based on this review, there are no public or private airports or heliports located within three nautical miles of any of the route alternatives, and no impacts to FAA regulated airspace from the proposed structures are anticipated. The Company is not expecting to need to file an

FAA Form 7460-1, Notice of Proposed Construction or Alteration, however; during the permitting phase of the project, the Company will utilize the FAA's Obstruction Evaluation pre-screening tool to confirm and will file Form 7460-1 if required.

In summary, none of the structures along the route alternatives are anticipated to penetrate civil airport imaginary surfaces or interfere with TERPS established by the FAA. Therefore, no impacts to navigable airspace from the Project are anticipated, and no special features or design alterations are expected to be required for the transmission structures installed for the Project.

4.2 ENVIRONMENTAL JUSTICE

The EJ study area extended beyond areas where Project impacts on EJ communities are expected to occur. The review discussed in Section 3.2 suggests that, based on the full 1-mile study area, construction of Routes 2 through 5 could affect communities of color and low-income communities. Of the 15 CBGs included in the study area, only three are crossed by the route alternatives, and the same three CBGs are crossed by all four alternatives. EJ communities identified within the three CBGs crossed by the route alternatives include two communities of color.

To ensure that potential direct and indirect impacts from Project construction and operation were fully understood and incorporated into routing decisions, Dominion developed and implemented a comprehensive outreach program early in Project planning. This program was designed to identify and engage all community stakeholders through written and in-person communication (e.g., letters, open houses), provide accessible Project information, document stakeholder input, and incorporate feedback by evaluating opportunities to avoid or mitigate identified impacts, including any that could disproportionately affect EJ communities.

When evaluating whether any community could experience a disproportionate share of environmental impacts, C2 reviewed temporary construction impacts and potential visual effects, as described in the sections below.

4.2.1 ENVIRONMENTAL IMPACTS

As part of the regulatory review process after a route is certified by the SCC, Dominion will conduct a comprehensive assessment of potential environmental, cultural, and historical impacts related to the Project. Dominion will have ongoing coordination with local and state agencies to support the completion of these evaluations and the development of mitigation measures for construction-related impacts. Prior to construction of the Project, Dominion will secure all necessary environmental permits and adhere to all associated permit conditions. Anticipated environmental impacts are expected to be mitigated by design and construction practices.

4.2.2 CONSTRUCTION ACTIVITIES

Active Project construction is expected to result in temporary impacts lasting between approximately 9 to 12 months. Construction and subsequent restoration activities would be conducted in accordance with applicable regulations, industry standards, and best management practices. Potential short-term impacts include elevated day-time noise levels due to construction equipment, temporary changes in traffic patterns, and general ground disturbance.

Noise, defined as unwanted sound, could potentially affect nearby commercial properties, residential dwellings, and recreational facilities. Temporary, localized noise from heavy equipment and increased vehicle traffic is anticipated during daytime work hours. While exceedances of any local daytime noise thresholds are not anticipated, if exceedances were to occur, they would be brief and limited in duration.

Construction activities may occasionally require temporary lane closures or short-term roadway restrictions. Such closures would occur only for the time needed to complete the work in a specific area, and no long-term effects on transportation infrastructure are anticipated. Prior to construction, Dominion will obtain required VDOT permits and adhere to all permit conditions, including any constraints on construction timing.

Dominion reduces ground-disturbing activities during construction to the extent practicable. After construction is complete, Dominion will remove all construction equipment and debris from the right-of-way and restore disturbed areas as closely as possible to pre-construction conditions.

4.2.3 VISUAL IMPACTS

The EJ desktop review identified 15 CBGs within one mile of the alternative routes. Of these, three CBGs intersect all route alternatives, while the remaining CBGs occur within the one-mile EJ analysis area but are not directly intersected by the proposed alignments. Many of the identified EJ communities are located within developed or transportation-oriented settings, including residential neighborhoods and mixed-use development within the West Creek Business Park, where existing visual conditions already include roadway infrastructure, commercial development, and utility features.

Visual impacts within EJ communities are generally limited due to distance from route alternatives, existing vegetation, and intervening existing development. In residential areas located within or near EJ CBGs, such as Readers Branch, Mosaic at West Creek, Avery Point Senior Living Community, the 2000 West Creek apartment complex, and other residential components of the study area, views toward the proposed transmission facilities are frequently screened by mature tree canopy, terrain, and existing built features. Where visibility may occur, transmission structures are typically limited to partial or intermittent skyline exposure above the tree line and do not intrude into residential foreground views or neighborhood streets.

Transportation corridors that traverse or are adjacent to EJ communities, including I-64, Route 288, Broad Street (250), and associated interchange areas, are characterized by high levels of existing visual complexity, short view durations, and frequent exposure to

infrastructure. In these settings, transmission facilities would be visible primarily in the midground and background and would remain visually compatible with existing roadway characteristics, signage, lighting, and utility elements. Visual changes experienced by commuters and travelers within EJ communities along these corridors are anticipated to be minor and consistent with the existing infrastructure-dominated landscape.

Recreational resources open to the public located within or near EJ communities, including portions of the Tuckahoe Creek Boardwalk, residential area trail systems, Bogeys Sports Park, and the Drive Shack and Puttery, generally benefit from substantial vegetative buffers and terrain that limit long-range views. Where transmission facilities may be visible from these locations, visibility is typically confined to upper structural elements appearing above the tree canopy in the background. The transmission line does not intrude into recreational activity areas or alter the natural or recreational character of these resources.

Across all route alternatives, visual changes affecting EJ communities are comparable to those experienced by non-EJ communities in similar land use and viewing contexts. Because the same EJ communities intersect each route alternative, differences in visual effects among routes are attributable to localized alignment characteristics rather than the presence or absence of EJ communities. No route alternative would introduce transmission facilities into residential foregrounds within EJ communities, and no substantial changes to neighborhood character or use of recreational resources are anticipated.

Based on the results of the visual analysis and EJ desktop review, the proposed Project would not result in disproportionately high and adverse visual impacts on EJ communities. Visual effects within all communities are expected to be negligible to moderate and consistent with existing visual conditions influenced by surrounding development and infrastructure.

4.2.4 CONCLUSION

Based on the results of the desktop EJ analysis, regardless of the route alternative selected, it is not expected for EJ communities to bear disproportionate impacts related to environmental, construction, or visual impacts, due to construction and operation of the Project. If any EJ community concerns come up during continued outreach for the Project, Dominion will work directly with the communities to understand their concerns and determine appropriate avoidance or minimization measures where feasible.

4.3 NATURAL RESOURCES

4.3.1 WETLANDS AND WATERBODIES

To minimize impacts on wetlands and other jurisdictional areas, route alternatives will be designed to span or avoid these resources to the greatest extent practicable. Most wetlands in the study area occur adjacent to streams and rivers, and it is anticipated (based on desktop resources) that the majority of these features can be fully spanned, keeping structure locations outside of waterbody and wetland boundaries where possible. The project will require clearing of forested areas to establish the new right-of-way, including areas of PFO and PSS wetland.

Within wetlands and within 100-feet of waterbodies, trees are cut above ground level either by hand or by equipment working from mats. When utilizing equipment on mats, the tree is cut above ground level and the equipment maintains control of the tree for collection and removal to an upland location. Where hand clearing occurs, trees are felled in place and picked up by equipment on mats for removal. No grubbing or grinding of stumps occurs within wetlands for establishment of the right-of-way, and trees are not dragged across wetlands for removal. Additionally, no chipping or mulching within wetlands occurs. It is generally understood that these methods of tree clearing do not constitute a discharge of dredge or fill material and therefore are not regulated by the USACE. The clearing activity may require authorization at the discretion of the VDEQ as a permanent conversion. Waterbodies crossed by the Project would be maintained to support proper drainage in accordance with Dominion Energy Virginia's standard construction and environmental protection practices.

Dominion employs an IVMP approach in accordance with the 2018 American National Standard for Tree Care Operations for Tree Support Systems manual (ANSI A300) for the maintenance of the right-of-way, including wetlands, once cleared. Specifically, Dominion utilizes selective manual removal of incompatible brush and woody-stem tree species, as well as selective herbicide applications on a cyclical basis, typically every three to four years to control growth within the right-of-way. This allows the right-of-way to naturally regenerate while preventing the overgrowth of species that could interfere with the safe operation of the power line. This maintenance practice results in the right-of-way being permanently maintained at an emergent or scrub-shrub level. Danger trees, which include but are not limited to, incompatible tree species outside of the right-of-way and of sufficient height and clearance to endanger the electrical facilities, within a 10 foot tolerance, in falling or being felled, are cut as needed using the methods described above. Dominion follows standard practices of no grubbing or stump removal during danger tree removal activities.

Construction access to the right-of-way will be provided via existing roads wherever possible. Where no existing access is present, temporary construction road stabilization will be used. Dominion specifically uses timber mats or other specialty heavy equipment matting systems in wetlands to provide construction access and for work pad areas at proposed structure locations. The mats distribute the weight of equipment to minimize ground compaction, preserve vegetative root systems and prevent ground disturbance due to rutting from equipment. All stream channels are clear spanned bridged with no instream work. A portion of the route cannot be accessed from existing roads, Dominion may need to install a temporary bridge or culvert to cross waterbodies. In these cases, temporary fill in wetlands adjacent to stream crossings may be needed. All temporary fill would be placed on erosion control fabric and removed once work is completed, thereby returning ground elevations to preexisting conditions. All temporarily disturbed areas would be restored to pre-construction contours and revegetated. Dominion will also implement erosion and sediment control best management practices consistent with their Annual Standards & Specifications and project-specific plans to avoid unintended impacts to Wetlands and Other WOTUS.

Erosion and sediment control measures will be used as appropriate throughout the duration of the project, some of which may be located within wetlands. These temporary measures may include, but are not limited to, controls such as silt fence and silt sock. All temporary access materials and controls will be removed upon completion of work and areas returned to pre-construction contours. All temporary controls, including construction entrances and

temporary bridges, will be installed within the limits of disturbance identified on the Erosion and Sediment Control Plans approved for the project, in accordance with the latest edition of the Virginia Erosion and Sediment Control Handbook and the Nationwide Permit.

After the SCC has approved a route, and the Project moves forward through final engineering, Dominion will coordinate with the USACE and VDEQ to minimize potential impacts on aquatic resources and obtain permits for work within wetlands and waterbodies. Figure 4.3-1 provides an overview of the watershed, National Wetlands Inventory wetlands, and NHD waterbodies along the route alternatives. The sections below outline the results of the Desktop Wetland Review (Appendix C).

Route 2

The length of Route 2 is approximately 5.9 miles, and the study area for the Desktop Wetland Review encompassed a total of approximately 76.0 acres. Based on the methodology discussed in Section 3.3.2 and Appendix C, the proposed new right-of-way encompasses approximately 19.0 percent (approximately 14.4 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Of these 14.4 acres, 12.3 acres consist of PFO wetlands, 1.0 acre consist of PSS/PEM wetlands, and 1.0 acre consist of stream channels. Based on this desktop report Route 2 crosses 33 stream channels, 10 of which are NHD-mapped intermittent or perennial streams, including Tuckahoe Creek, Readers Branch, Broad Branch, and many small unnamed tributaries.

Route 3

The length of Route 3 is approximately 6.5 miles, and the study area for the Desktop Wetland Review encompassed a total of approximately 83.8 acres. Based on the methodology discussed in Section 3.3.2 and Appendix C, the proposed new right-of-way encompasses approximately 11.6 percent (approximately 9.7 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Of these 9.7 acres, 8.4 acres consist of PFO wetlands, 0.7 acre consist of PSS/PEM wetlands, and 0.6 acre consist of stream channels. Based on this desktop report Route 3 crosses 23 stream channels, 10 of which are NHD-mapped intermittent or perennial streams including Tuckahoe Creek, Readers Branch, Broad Branch, and many small unnamed tributaries.

Route 4

The length of Route 4 is approximately 6.5 miles, and the study area for the Desktop Wetland Review encompassed a total of approximately 83.9 acres. Based on the methodology discussed in Section 3.3.2 and Appendix C, the proposed new right-of-way encompasses approximately 19.1 percent (approximately 16.0 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Of these 16.0 acres, 14.0 acres consist of PFO wetlands, 1.4 acres consist of PSS/PEM wetlands, and 0.6 acre consist of stream channels. Based on this desktop report Route 4 crosses 27 stream channels, 10 of which are NHD-mapped including intermittent or perennial streams including Tuckahoe Creek, Readers Branch, Broad Branch, and many small unnamed tributaries.

Route 5

The length of Route 5 is approximately 6.0 miles, and the study area for the Desktop Wetland Review encompassed a total of approximately 77.9 acres. Based on the methodology discussed in Section 3.3.2 and Appendix C, the proposed new right-of-way encompasses approximately 11.0 percent (8.6 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Of these 8.6 acres, 7.6 acres consist of PFO wetlands, 0.5 acre consist of PSS/PEM wetlands, and 0.5 acre consist of stream channels. Based on this desktop report Route 5 crosses 22 stream channels, 7 of which are NHD-mapped intermittent or perennial streams including Tuckahoe Creek, Readers Branch, Broad Branch, and many small unnamed tributaries.

4.3.2 AREAS OF ECOLOGICAL SIGNIFICANCE

According to the Project review completed by the VDCR on November 10, 2025, the alternative transmission line routes within the Project area would not affect conservation sites, SCUs, general location areas for natural heritage resources, or state natural area preserves. All routes are equally distant to Tuckahoe Creek – West Park conservation site (B2 ranking), approximately 1 mile to the west of the conservation site. The VDCR Review indicated that no impacts are anticipated to this natural heritage resource as a result of project activities.

According to the VDCR, impacts on ecological cores occur when their natural cover is partially or completely converted to developed land uses. Habitat conversion can result in changes that reduce ecosystem processes, biodiversity, population viability, and habitat quality (VDCR, 2025e). Impacts on ecological cores from the Project would result from the tree clearing required for establishing a new transmission line right-of-way. Ecological cores crossed by the route alternatives are depicted on Figure 4.3-1.

Route 2

Route 2 crosses two ecological cores having VDCR rankings of C4 (Moderate) and three ecological cores with a ranking of C5 (General), with a combined permanent right-of-way impact of about 17.6 acres of land. The crossings of these five ecological cores all occur along the edge of the core, thereby reducing the potential for habitat fragmentation. The three C5 cores that are crossed (55972, 56658, 56865) do not meet the minimum area requirement for an ecological core (100 acres) based on the VDCR's definition, as these cores measure 77, 65, and 46 acres respectively.

Route 3

Route 3 crosses one ecological core having VDCR ranking of C3 (High), two ecological cores with a ranking of C4 (Moderate), and one ecological core with a ranking of C5 (General), with a combined permanent right-of-way impact of about 23.6 acres of land. The crossings of all three cores will remain along the edge of the core reducing potential for habitat fragmentation. The C5 core that is crossed (55972) does not meet the minimum area requirement for an ecological core (100 acres) based on the VDCR's definition, as this core measures 77 acres.

Route 4

Route 4 crosses one ecological core having VDCR ranking of C3 (High), two ecological cores with a ranking of C4 (Moderate), and one ecological core with a ranking of C5 (General), with a combined permanent right-of-way impact of about 30.7 acres of land. The crossing of the C3 core (56338) will occur through the center of the ecological core resulting in permanent impacts of about 27.3 acres of land, bisecting the core and increasing the potential for habitat fragmentation. The crossings of the other ecological cores will occur along the edges of the cores, thereby reducing the potential for habitat fragmentation. The C5 core that is crossed (55972) does not meet the minimum area requirement for an ecological core (100 acres) based on the VDCR's definition, as this core measures 77 acres.

Route 5

Route 5 crosses two ecological cores having VDCR rankings of C4 (Moderate) and three ecological cores with a ranking of C5 (General), with a combined permanent right-of-way impact of about 15.1 acres of land. The crossings of these five ecological cores will all occur along the edge of the core, thereby reducing the potential for habitat fragmentation. The three C5 cores that are crossed (55972, 56658, 56865) do not meet the minimum area requirement for an ecological core (100 acres) based on the VDCR's definition, as these cores measure 77, 65, and 46 acres respectively.

4.3.3 PROTECTED SPECIES

Federally and State-Listed Endangered and Threatened Species

Three federally proposed listed threatened or endangered species (two of which are state listed), as well as one state-rare plant species, were identified as being historically documented within the study area. These species are listed in Table 4-2, which also provides information on each species' habitat along with a summary of potential impacts on species resulting from the Project. Based on the terrain and vegetation within the Project area, each route alternative crosses a variety of potential habitat types including forested land, shrub and grass land, and waterbodies with perennial or intermittent stream flow. Within each of the route alternatives, these habitat types could have potential to provide suitable habitat for one or more of the species identified in Table 4-2.

The Company is anticipating that the TCB and Monarch butterfly (both currently proposed for listing) will be listed; therefore, it assumes any regulatory changes associated with the potential listing of the TCB and Monarch butterfly will affect this Project. On September 14, 2022, the TCB was proposed to be listed as Endangered by the USFWS. USFWS extended its Final Rule issuance target from September 2023 to the end of 2024. At this time, the TCB Final Rule has not been issued. On December 12, 2024, the Monarch butterfly was proposed to be listed as Threatened by the USFWS, and the 90-day public comment period was extended and will close on May 19, 2025. The Company is actively tracking these rulings and evaluating the effects of potential outcomes on Company projects' permitting, construction, and in-service dates, including electric transmission projects.

Regardless of the route selected for the Project, Dominion will coordinate with state and federal agencies as needed to determine if any surveys, construction-timing windows, or other mitigation would be required for the Project.

Table 4-2: Federal and State-Listed Species Conclusions

Species Name	Scientific Name	Status	Species Info/Habitat	Results/Potential Impacts
Tricolored bat	<i>Perimyotis subflavus</i>	FPE, SE	Typically roost in trees near forest edges during summer. Hibernates deep in caves or mines in areas with warm, stable temperatures during winter.	Species not confirmed as present. Study area is within TCB consultation range, but no known hibernacula or maternity roost trees are documented within the study area. The Project would require clearing of forested areas; however, given the lack of confirmed species presence, impacts are not anticipated.
Monarch butterfly	<i>Danaus plexippus</i>	FPT	Typically found in herbaceous and scrub-shrub areas particularly with the presence of milkweed.	The project is located outside of proposed critical habitat for this species. The project is expected to create additional habitat for this species given the proposed forested conversion and Dominion's right-of-way maintenance practices.
Green floater	<i>Lasmigona subviridis</i>	FPT, ST	Usually found in fast-flowing, clean water in substrates that contain relatively firm rubble, gravel and sand substrates swept free from siltation. Commonly buried in the substrate in shallow riffle and shoal areas.	The project is located outside of proposed critical habitat for this species. No in-stream work is proposed and erosion and sediment controls will be used throughout the project.

F=federal, S=state, T=threatened, P=proposed, E=endangered

Bald Eagle Management

The Project study area is not located within an eagle concentration area. Additionally, none of the route alternatives are within the primary or secondary buffers of a documented eagle nest location. If eagle nests are identified within 660 feet of Project facilities during project permitting or construction, Dominion will coordinate with the appropriate agencies to minimize impacts on the species.

4.3.4 VEGETATION

Local Vegetation Characteristics

Across all route alternatives, forested land represents the dominant vegetation type and comprises the majority of expected vegetation impacts. Forested areas are located primarily along the southern portion of the route alternatives near the proposed West Creek Substation, along the I-64 corridor, and within remaining undeveloped tracts between the major residential subdivisions west of Short Pump. Other vegetation includes roadside clearings, managed grasslands within the West Creek development area, and small

unmanaged fields which would be temporarily disturbed during construction activities but are expected to return to preconstruction conditions following restoration.

Vegetation clearing would be required within all forested sections of the proposed rights-of-way. Following construction, the Project rights-of-way would be maintained consistent with Dominion vegetation management practices. Temporary workspace areas are expected to naturally reestablish herbaceous vegetation and revert to preconstruction conditions over time.

As summarized in Appendix G, Route 2 would impact approximately 61.3 acres of forested vegetation and 8.6 acres of open land vegetation, Route 3 would impact approximately 67.8 acres of forested vegetation and 10.8 acres of open land vegetation, Route 4 would impact 70.8 acres of forested vegetation and 8.8 acres of open land vegetation, and Route 5 would impact about 62.1 acres of forested vegetation and 11.2 acres of open land vegetation.

Forest Conservation Values

Across route alternatives, Routes 2 and 5 intersect the lowest total acreage of FCV-ranked forest (48.2 acres and 49.5 acres, respectively), while Route 4 intersects the greatest (60.4 acres). FCV distribution for each route is provided in Table 4-3 through Table 4-6 along with a summary of the general existing condition of the forested areas. Figure 4.3-2 in Appendix B depicts the FCVs crossed by the route alternatives.

Route 2

Route 2 primarily intersects forest ranked as Average and Moderate, utilizing a corridor consisting of fragmented forest edges and mixed land uses. A few small areas of High-value forest occur along the west side of Route 288 and where the alignment of Route 2 crosses the edge of these forested areas. Overall, Route 2 traverses forest resources of relatively modest conservation value compared to the other alternatives.

Table 4-3: Forest Conservation Values Crossed by Route 2

FCV	Acreage	General Condition
1 (Average)	28.9	Fragmented or edge forest adjacent to mixed land uses.
2 (Moderate)	18.1	Moderately intact forest with some prior disturbance.
3 (High)	2.5	Limited areas of undisturbed forested land on the west side of Route 288.
Total	49.5	

Route 3

Route 3 intersects a broader range of FCVs, including meaningful areas of High and Very High forest value. High and Very High forest values are crossed in multiple areas by Route 3, mostly occurring along the east side of State Route 288 where the route runs adjacent to the roadway south of Broad Street (250). These segments correspond to larger forest patches which may retain higher ecological integrity. The crossings of the higher quality forested areas will occur along the edges of forest reducing potential for forest and habitat fragmentation.

Table 4-4: Forest Conservation Values Crossed by Route 3

FCV	Acreage	General Condition
1 (Average)	30.9	Forest edges are near developed or semi-developed areas.
2 (Moderate)	16.8	Moderately intact forest influenced by past clearing.
3 (High)	9.0	Contiguous forest blocks primarily on the east side of Route 288.
4 (Very High)	0.3	Localized high-quality forest habitat along Readers Branch stream corridor on the east side of Route 288
Total	57.0	

Route 4

Route 4 intersects the greatest acreage of FCV-ranked forest among all alternatives. The route spans extensive areas of High and Very High forest value between Tuckahoe Creek and State Route 288, north of Tuckahoe Creek Parkway, indicating that it traverses some of the most intact and ecologically important forest within the study area. As a result, Route 4 exhibits the highest overall conservation sensitivity.

Table 4-5: Forest Conservation Values Crossed by Route 4

FCV	Acreage	General Condition
1 (Average)	27.8	Forest margins and early successional stands and forest edges near semi-developed areas.
2 (Moderate)	8.4	Moderately intact forest patches.
3 (High)	22.2	Dominant higher-value forest near Tuckahoe Creek and Readers Branch.
4 (Very High)	2.0	High-quality forest habitat with limited fragmentation primarily between Tuckahoe Creek and Route 288.
Total	60.4	

Route 5

Route 5 intersects the smallest extent of FCV-ranked forest. The affected forested areas consist largely of fragmented or edge-dominated stands. A few small areas of High-value forest occur along the west side of Route 288 and where the alignment of Route 2 crosses the edge of these forested areas. Overall, Route 5 presents the lowest conservation sensitivity among the alternatives.

Table 4-6: Forest Conservation Values Crossed by Route 5

FCV	Acreage	General Condition
1 (Average)	33.5	Dispersed forest fragments and edge habitats.
2 (Moderate)	12.2	Moderately intact forest segments.
3 (High)	2.5	Small extent of higher-value forest.
Total	48.2	

Forest Fragmentation

According to the VDCR, habitat loss is the primary threat to biodiversity. Forest fragmentation occurs when development modifies the landscape and divides large, continuous natural areas into smaller, isolated patches, which in turn causes the ecological integrity of the region to decline. Larger habitat blocks provide greater ecological value than an equivalent area fragmented into smaller pieces because species richness and diversity generally increase with habitat size, larger patches support a wider range of habitat conditions and offer greater buffering from disturbances in surrounding developed areas, and ecosystem services are more substantial in larger, intact areas (VDCR, 2023).

Habitat fragmentation within the study area is influenced by the distribution and continuity of forest resources. Forested areas occur as a mixture of interior forest blocks, riparian corridors, and smaller tracts adjacent to developed or previously disturbed land. Planned development including data centers, substations, and associated infrastructure, will continue shaping forest structure and connectivity in the region.

Although forested areas represent the primary vegetation type affected by the Project, fragmentation potential varies among route alternatives. Routes intersecting larger forest blocks have greater potential to alter interior forest conditions, whereas routes traversing already fragmented landscapes, or along the edge of a larger forested area, pose lower fragmentation risk.

Route 2

Route 2 forest impacts occur across mid-sized woodland patches and previously disturbed edges. Fragmentation risk is relatively limited due to the dispersed configuration of forest along the route and that the route primarily crosses the edges of forested habitat along Route 288.

Route 3

Route 3 intersects more extensive forested land than Route 2, including Moderate and High FCV areas, however the route is collocated with the west and east sides of Route 288 and primarily crosses the edges of forested habitat, thereby limiting fragmentation impacts.

Route 4

Route 4 intersects the greatest total forest acreage, including the largest extent of High and Very High FCV habitat on the west side of Tuckahoe Creek. The route travels through the middle of more forested areas and right-of-way clearing would introduce new breaks in larger forest blocks, resulting in the greatest relative fragmentation potential among route alternatives.

Route 5

Route 5 intersects less FCV-ranked forest than other routes, with many forested areas already partially fragmented, or traveling along the edge of forested areas along Route 288. Resulting fragmentation is expected to be comparatively moderate.

4.4 VISUAL CONDITIONS

As described in Section 3.4, the study area contains a mix of suburban residential development, commercial parcels, active recreation facilities, wooded land, and open space adjacent to major transportation corridors, including West Creek Parkway, Route 288, and Broad Street (250). Existing vertical features include distribution-level utilities, roadway lighting, traffic signals, and mid-rise commercial development, creating a visually heterogeneous environment. Within this context, potential changes to visual character associated with the proposed overhead transmission line are assessed using a combination of VSR analysis and representative KOPs. The following sections describe the selected KOPs, summarize the conditions observed at each location, and present the impact assessment by VSR and route alternative.

4.4.1 KEY OBSERVATION POINT SELECTIONS

C2 selected 16 KOPs to document site-specific existing conditions and assess anticipated visual changes associated with the proposed Project (Table 4-7). These KOPs were chosen to represent typical viewpoints associated with the VSRs and their corresponding user groups within the study area. Photographs obtained at each KOP were used to establish existing visual baseline conditions and to develop photographic simulations illustrating the appearance of the proposed Project. Not every VSR has a corresponding KOP; instead, the selected KOPs collectively represent common viewpoints from which the Project would likely be visible. Appendix E identifies the locations and viewing directions of all KOPs established for the Project.

Table 4-7: Key Observation Points

KOP Number	Location	Reason for Inclusion	Routes Represented
1	Viewing west from Bennington Road toward I-64 corridor	Example of the proposed right-of-way next to a highway corridor. Affected user groups include residents, workers, commuters and through-travelers.	Routes 2, 3, 4, and 5
2	Viewing east from the Bogeys Sports Park	Example of the proposed right-of-way from Bogeys Sports Park. Affected user groups include residents, recreationalists, and tourists.	Routes 2, 3, 4, and 5
3	Viewing west from Drive Shack and Puttery *	Example of the proposed right-of-way from Drive Shack and Puttery. Affected user groups include residents, recreationalists, and tourists.	Routes 2, 3, 4, and 5
4	Viewing west from Broad Street (250) near Bellview Gardens	Example of proposed right-of-way next to Broad Street (250) and Bellview Gardens. Affected user groups include residents, workers, and commuters.	Routes 2, 3, 4, and 5
5	Viewing southwest from the interchange of Broad Street (250) and Route 288	Example of proposed right-of-way in the distance and crossing Broad Street (250) from the proposed VDOT Route 288 & Route 250 interchange improvements. Affected user groups include residents, workers, and commuters.	Routes 2, 3, 4, and 5
6	Viewing west from Sheltering Arms	Example of proposed right-of-way from the Sheltering Arms rehabilitation center. Affected user groups include residents.	Routes 2, 3, 4, and 5

KOP Number	Location	Reason for Inclusion	Routes Represented
7	Viewing east from Readers Branch subdivision	Example of proposed right-of-way in the background of Readers Branch subdivision. Affected user groups include residents.	Routes 2, 3, 4, and 5
8	Viewing west from Avery Point Senior Living Community	Example of proposed right-of-way from the Avery Point subdivision. Affected user groups include residents.	Routes 2, 3, 4, and 5
9	Viewing east from the Capital One Campus private recreation area	Example of proposed right-of-way adjacent to the Capital One Campus private recreation area. Affected user groups include Capital One workers.	Routes 2, 3, 4, and 5
10	Viewing north toward Route 288	Example of proposed right-of-way next to Route 288 corridor. Affected user groups include residents, workers, commuters, and through-travelers.	Routes 2, 3, 4, and 5
11	Viewing northwest from the 2000 West Creek luxury apartment complex	Example of proposed right-of-way next to the 2000 West Creek luxury apartment complex. Affected user groups include residents.	Routes 2, 3, 4, and 5
12	Viewing northeast from River Road (Virginia Byway) near entrance to Richmond Country Club	Example of proposed right-of-way and substation from the Virginia Byway and entrance to the Richmond Country Club. Affected user groups include recreationalists and commuters.	Routes 2, 3, 4, and 5
13	Viewing southwest from Tuckahoe Creek Park	Example of proposed right-of-way from Tuckahoe Creek Park. Affected user groups include recreationalists.	Routes 2, 3, 4, and 5
14	Viewing northwest from Hardywood Park Craft Brewery	Example of proposed right-of-way from Hardywood Park Craft Brewery. Affected user groups include residents and recreationalists.	Routes 2, 3, 4, and 5
15	Viewing east from Mosaic Creek Blvd and Broad Branch	Examples of proposed right-of-way from Mosaic Creek Boulevard and Broad Branch. Affected user groups include residents and commuters.	Routes 2, 3, 4, and 5
16	Viewing northwest from Tuckahoe Creek Park	Example of proposed right-of-way from Tuckahoe Creek Park. Affected user groups include recreationalists and residents.	Routes 2, 3, 4, and 5

*Drive Shack and Puttery was not considered a VSR as recreational activities are indoors or looking away from the proposed Project. Views would be limited to the parking lot.

Visual simulations prepared for each KOP illustrate the appearance of the proposed transmission structures within the existing landscape. Photographs taken at each KOP are combined with structure height, conductor configuration, and right-of-way clearing limits to produce accurate visual representations. The simulations depict the context of existing vegetation, surrounding development, and terrain conditions, allowing a clear comparison between existing and proposed views. Each simulation illustrates the scale and visual contrast of typical double circuit weathering steel monopole and two pole structures relative to existing vertical elements, background vegetation, and foreground land uses. Final rendered simulations appear in Appendix E.

Summaries of the existing visual conditions at each KOP and anticipated changes to these conditions as a result of each route alternative are provided in the sections below.

KOP 1

Existing Conditions: KOP 1 faces west from Bennington Road, a no-outlet street serving a limited number of businesses. The immediate foreground consists of narrow pavement width, grass shoulders, private drive entrances, and mature tree canopy extending fully to the roadway edge. The midground transitions to a dense, continuous tree line that forms a complete vegetative barrier, creating a visually enclosed condition that restricts long-range viewing depth. The I-64 corridor lies beyond Bennington Road with highway travel lanes visible from this KOP. Bennington Road functions as a local-access road with low travel frequency and short view durations. I-64 functions as high-volume regional traffic with short view duration for commuters.

The primary users of KOP 1 are daily commuters, through-travelers, residents, and workers traveling along I-64 within the West Creek development area. Given that users are moving at posted highway speeds and are accustomed to visually complex transportation settings, user groups are anticipated to possess a lower sensitivity to additional landscape changes. The KOP represents an active travel corridor characterized by vehicular movement, directional signage, and transportation infrastructure.

Visual Simulation: Under Route 2, the proposed transmission structures are visible above the existing tree line in the midground west of I-64. The structures introduce new vertical elements into a view that is currently dominated by continuous forest canopy and roadway linear features. Although these structures add height above the current vegetative screen, they remain visually consistent with the broader utility and transportation context surrounding the highway corridor. Overall, Route 2 results in a negligible change to the existing visual condition as observed from KOP 1.

Routes 3, 4, and 5 occupy an alignment that continues adjacent to I-64, placing the transmission line within the same visible horizon band as Route 2 with structure elements closer in proximity to the KOP. The resulting transmission line structures produce a similar level of vertical introduction above the tree canopy, however, the horizontal conductor lines are more noticeable to commuters due to their closer proximity to I-64. The structures remain compatible with existing utility and roadway elements associated with I-64 and therefore would result in a minor visual effect on the overall landscape and viewer experience.

Residents, workers, through-travelers, and commuters traveling along I-64 comprise the primary user group at KOP 1. Due to speed of travel, roadway focus, and proximity to existing highway infrastructure, user sensitivity is anticipated to be low. Route 2 results in a negligible visual change maintaining the overall visual components and characteristics of the I-64 corridor. Across Routes 3, 4, and 5, the introduction of transmission structures results in a minor visual change, with noticeable structures and conductor lines in the background adjacent to I-64. Overall, the KOP remains dominated by the I-64 corridor and dense vegetation in the midground.

KOP 2

Existing Conditions: KOP 2 faces east from Bogey's Sports Park, a recreational facility characterized by driving range infrastructure, short-cut turf, netting systems, lighting poles, and associated range amenities within the immediate foreground. The midground transitions

quickly to a dense and continuous vegetative edge composed of mature canopy, which forms an effective visual screen and limits long-range viewing depth. The background horizon remains visually compressed due to uniform tree height, with no direct views of regional roadway corridors or major utility infrastructure under existing conditions.

Primary users at KOP 2 include nearby residents, tourists, and recreational users such as golfers and sports facility patrons. These users typically experience the landscape at low travel speeds or from stationary viewpoints for extended durations, resulting in a moderate sensitivity to visual change relative to highway commuters. Existing views are primarily framed by the recreational field boundary, internal circulation features, and surrounding vegetation, with limited vertical elements present in the visible skyline.

Visual Simulation: Under Route 2, the proposed transmission alignment is fully or partially obscured by intervening vegetation and terrain. Only limited portions of the upper structure elements may intermittently appear above the tree canopy in the background, and these views are fragmentary and visually filtered. Where visibility may occur, it is limited to brief, partial glimpses above the tree canopy that do not alter the enclosed visual character of the recreational environment. The alignment does not introduce a dominant vertical feature into the recreational setting, resulting in a negligible visual change to the existing skyline character.

Routes 3, 4, and 5 place the transmission alignment at similar or greater distances from the viewpoint relative to Route 2. As illustrated in the visual simulations, proposed structures associated with these routes remain largely screened by the continuous vegetative buffer in the midground. Where visibility may occur, the transmission elements remain visually subordinate to existing site features such as lighting poles, netting infrastructure, and tree cover, resulting in visual effects comparable to those observed under Route 2.

Residents, tourists, and recreational users at Bogey's Sports Park represent the primary viewer groups at KOP 2. While these users exhibit moderately elevated sensitivity due to longer view durations and stationary observation, the proposed transmission facilities across Routes 2, 3, 4, and 5 are largely or entirely screened by existing vegetation and terrain. As a result, changes to the visual environment are limited and maintain compatibility with the surrounding recreational and developed landscape. Overall, the proposed transmission line results in a negligible visual change at KOP 2 for all route alternatives.

KOP 3

Existing Conditions: KOP 3 faces west from the Drive Shack and Puttery facility. The immediate foreground consists of the recreational building frontage, paved access areas, internal circulation, and associated parking areas. The view transitions rapidly to a dense stand of mature trees that forms a continuous vegetative screen and limits overall viewing depth. The existing horizon is defined by the height of the tree canopy rather than an open skyline or distant structures, and there are no direct views of transportation corridors or large-scale infrastructure in this viewing direction.

Primary users at this KOP include nearby residents, tourists, and recreational patrons such as golfers, game participants, and restaurant guests. These users are typically stationary or moving slowly within the facility and therefore experience longer view durations than

roadway travelers. As a result, viewer sensitivity at KOP 3 is moderately elevated relative to commuters traveling along adjacent transportation corridors. The existing visual character reflects a designed entertainment and recreational environment set within a developed landscape influenced by nearby regional transportation infrastructure, including Route 288, although the roadway itself is not directly visible from this viewpoint

Visual Simulation: Under Route 2, the proposed transmission alignment remains fully obscured by intervening vegetation and terrain. The dense tree canopy in the midground effectively screens transmission structures from view, and no consistent vertical elements are introduced into the existing skyline. As a result, Route 2 does not produce a noticeable change to the existing visual condition resulting in a negligible visual change.

Under Routes 3, 4, and 5, proposed transmission structures and associated conductors become visible above the tree line in the midground beyond the Drive Shack and Puttery facility. These structures introduce additional vertical and linear elements into a view that already contains tall net supports, lighting poles, and other built recreational features. While the transmission line is perceptible along the skyline, it remains set back from the foreground activity areas and does not dominate the scene. The scale and form of the structures are consistent with the existing infrastructure-influenced context near Route 288. Viewers would experience a minor visual change as a result of the transmission line.

Viewers at KOP 3 consist primarily of residents, tourists, and recreational users who are generally stationery and experience extended viewing durations, resulting in moderate sensitivity to visual change. Under Route 2, the proposed transmission facilities remain effectively screened and do not alter the existing visual character resulting in a negligible visual change. Under Routes 3, 4, and 5, transmission structures are visible above the tree canopy but remain visually compatible with the surrounding developed and infrastructure-oriented landscape. Across Routes 3, 4, and 5, the introduction of the proposed transmission line results in a minor visual change at KOP 3.

KOP 4

Existing Conditions: KOP 4 faces west along Broad Street (250) near the entrance to the Bellview Gardens residential community. The immediate view consists of a multi-lane roadway framed by grass shoulders, small roadway signage, and a continuous band of mature trees on both sides of the corridor. The tree line creates a visually contained roadway environment that limits distant horizon views and focuses attention on the roadway and adjacent vegetation. The existing visual condition is defined by linear transportation features and roadside vegetation, with limited built development visible beyond the tree edge. Overall, the setting exhibits an enclosed highway character with moderate view depth and a visually cohesive corridor form.

Primary users at KOP 4 include residents, workers, and commuters traveling along Broad Street (250). View durations are generally short due to travel speeds, and viewers are accustomed to visually complex transportation settings that include roadway infrastructure, signage, and existing utility features. As a result, overall sensitivity to incremental visual change at this KOP is anticipated to be low to moderate.

Visual Simulation: Under Route 2, transmission structures become visible where the alignment spans Broad Street (250) in the midground. Portions of the structures and associated conductors extend above the tree line, introducing new horizontal and vertical elements into the skyline. While perceptible, these features remain visually secondary to the roadway corridor and do not disrupt the enclosed character created by roadside vegetation. The transmission line is visible primarily at the point where it crosses the roadway and where it clears the tree canopy, resulting in a localized alteration to the existing skyline. Overall, Route 2 results in a moderate change in visual conditions from this viewpoint.

Under Routes 3, 4, and 5, the proposed transmission alignment is not visible from KOP 4 due to the west-facing orientation of the viewpoint and the location of these routes relative to the observer. The alignment associated with these routes falls outside the visible field of view. As a result, Routes 3, 4, and 5 do not introduce visible transmission structures into the existing view and do not contribute to changes in visual conditions at this KOP.

Residents, workers, and commuters traveling along Broad Street (250) comprise the primary viewer groups at KOP 4. Given short view durations, roadway focus, and familiarity with transportation and utility infrastructure, viewer sensitivity is low to moderate. From this west-facing viewpoint, only Route 2 introduces visible transmission structures where the alignment spans Broad Street (250) and contributes to a moderate visual change. Routes 3, 4, and 5 are not visible and do not affect the existing visual condition resulting in a negligible visual change.

KOP 5

Existing Conditions: KOP 5 faces southwest from the Broad Street and Route 288 interchange, looking toward the Broad Street (250) corridor beyond the interchange. The immediate foreground is dominated by multilane pavement, signal equipment, turn-lane channelization, interstate directional signage, guardrails, and overhead lighting typical of a major freeway access point. Midground conditions are defined by continuous vegetation bands that frame the roadway corridor and partially filter views toward commercial development farther west. Background view depth remains limited by vegetative screening and the gentle curvature of Broad Street (250), resulting in a scene primarily defined by active interchange infrastructure rather than distant landscape features. Overall, the visual character is strongly transportation-focused, with extensive built elements already present in the foreground.

Primary users at this KOP include residents, workers, and regional commuters traveling through the Broad Street and Route 288 interchange system. View durations are short due to travel speeds, and users are accustomed to visually complex environments dominated by roadway geometry, signage, and utility features. As a result, viewer sensitivity to incremental visual change at this location is anticipated to be low.

Visual Simulation: Under Route 2, transmission structures and associated conductors emerge above the southwest tree line in the background. While the height of the structures makes them visible at the skyline, they remain visually set back from the immediate interchange features and do not intrude into the near-field roadway view. Existing interchange elements such as lighting poles, signage, and lane geometry continue to dominate the visual frame,

and the transmission line appears as secondary infrastructure within an already developed transportation setting. Route 2 therefore results in a minor visual change at KOP 5.

Under Routes 3, 4, and 5, the transmission alignment shifts closer to the Broad Street (250) corridor, resulting in increased visibility relative to Route 2. Transmission poles and conductors are visible above the tree line in the southwest midground and appear in closer proximity to the roadway environment experienced by commuters. These routes introduce additional vertical and linear elements into views that already contain extensive transportation infrastructure and mature roadside vegetation. The alignment crosses Broad Street (250) and is visible to commuters traveling along the corridor. While more apparent than Route 2, the transmission line remains visually consistent with the broader network of roadway and utility features associated with the Broad Street and Route 288 interchange. As a result, Routes 3, 4, and 5 produce a moderate change in visual conditions at this KOP.

The primary users at this location are residents, workers, and regional commuters traveling within the Broad Street and Route 288 interchange system. Route 2 contributes to a minor visual change as proposed transmission visibility occurs in the distance above tree canopy and beyond existing roadway lighting and signage. The interchange remains the dominant visual element. Across Routes 3, 4, and 5, the transmission line introduces a moderate level of visual change with visible structures adjacent to Broad Street (250) and conductor lines crossing Broad Street (250). While the transmission line is more visible, it does not alter the visual character of the transportation network in this KOP.

KOP 6

Existing Conditions: KOP 6 faces west from the Sheltering Arms rehabilitation facility within the West Creek Business Park office and commercial area. The immediate foreground includes a divided parkway cross section with landscaped median edges, parking access points, sidewalks, internal drive aisles, and building frontage oriented along the corridor. Beyond the developed foreground, mature trees form a continuous vegetative barrier that encloses the view and substantially limits background visibility toward the west. The skyline is defined by tree canopy height rather than distant horizon features, resulting in a visually contained corridor condition. No highway travel lanes are visible from this viewpoint, although surrounding land use context indicates proximity to Route 288 beyond the tree cover.

Primary users at this KOP include residents and visitors accessing the Sheltering Arms facility and nearby office uses within a private circulation network. These users typically experience the landscape at low travel speeds or from stationary positions, resulting in moderate sensitivity to visual change. The existing visual character reflects a landscaped corporate and institutional setting with a strong vegetative framework.

Visual Simulation: Under Route 2, the proposed transmission alignment remains fully obscured by intervening vegetation and terrain. From KOP 6, the alignment remains indistinct or fully screened. Transmission elements introduce only subtle linear features along the upper edge of the tree line and do not alter the enclosed character of the landscaped corridor resulting in a negligible visual change.

Under Routes 3, 4, and 5, the transmission line shifts to occupy a different alignment than Route 2 but remains similarly filtered by dense midground vegetation. As illustrated in the visual simulations, transmission structures associated with these routes are largely screened, with visibility limited to occasional, partial exposure above the treetops. No prominent vertical elements are introduced into the view, and the transmission line remains visually subordinate to existing roadway design features, landscaped medians, light poles, and building frontage. The overall visual effect under Routes 3, 4, and 5 is comparable to Route 2, with screening maintaining the contained visual setting and resulting in a negligible visual change.

The primary viewers at KOP 6 consist of residents and visitors traveling within a private office and institutional circulation network. Across Routes 2, 3, 4, and 5, the proposed transmission facilities are largely screened by existing vegetation and terrain, with only limited and intermittent skyline visibility above the tree canopy. Given the contained visual setting and moderate viewer sensitivity, the introduction of the transmission line results in a negligible visual change at KOP 6, and the overall corporate and landscaped character of the area is maintained.

KOP 7

Existing Conditions: KOP 7 faces east from within the Readers Branch residential subdivision. The immediate foreground consists of maintained lawns, ornamental trees, and driveway entrances. The midground is defined by single-family homes, front yards, street-edge landscaping, sidewalks, and local residential circulation, transitioning quickly to a continuous backdrop of mature canopy. The tree line limits background views, resulting in a neighborhood-scale visual environment rather than an open skyline. The existing scene is fully residential in character, with no visible highway activity in this viewing direction. Overall, the view is structured by residential frontage in the foreground and a stable vegetative backdrop at the horizon.

Primary users at this KOP include residents within a neighborhood street setting. Viewers are typically stationary or moving slowly, with extended view durations and elevated sensitivity to visual change relative to roadway users.

Visual Simulation: Under Route 2, portions of pole tops and conductor spans rise above the tree line in the background. Although these elements introduce new skyline-level visibility, they remain visually separated from the foreground residential environment and do not interfere with views of homes, yards, or street-level features. Vegetation continues to define the horizon, and the transmission line is perceived only as a distant element above tree height. Route 2 results in a minor visual change.

Under Routes 3, 4, and 5, the transmission alignment produces the same visual outcome from this viewpoint. Proposed structures are visible only where they clear the treetops in the background, with no encroachment into the residential foreground or midground. Visibility is limited to the upper portions of poles and conductors, which appear behind the established neighborhood frame and remain secondary to existing residential and vegetative features. The shared alignment does not alter street-level views or residential character, and the resulting visual effect is consistent across all three routes resulting in a minor visual change.

KOP 7 represents a residential neighborhood setting with viewers who exhibit elevated sensitivity due to stationery use and long view durations. Across Routes 2, 3, 4, and 5, transmission visibility is limited to skyline exposure above the existing tree canopy, with no intrusion into foreground residential features or alteration of neighborhood character. The proposed transmission line results in a minor visual change at KOP 7 for all route alternatives, with effects confined to the background tree-line horizon.

KOP 8

Existing Conditions: KOP 8 faces west from Avery Point, an age-restricted (55 and older) residential community characterized by single-family style dwelling units, uniform landscaping, and a low-speed internal street network. The immediate foreground includes maintained lawns, driveway entrances, street-lining trees, sidewalks, and residential features typical of a planned senior community. The midground transitions quickly to a continuous tree line that forms a strong visual edge and restricts background views toward the west. The existing backdrop is defined entirely by mature vegetation, with no visible roadway corridors, utility infrastructure, or commercial development in this viewing direction. Overall, the visual setting is neighborhood-focused, with tree canopy defining the skyline.

Primary users at this KOP are residents of an age-restricted community who are generally stationary or moving slowly within the neighborhood and experience extended view durations. As a result, viewer sensitivity to visual change is moderately elevated.

Visual Simulation: Under Routes 2 and 5, which share a common alignment, the proposed transmission facilities are fully screened by existing tree canopy and terrain. In the direction of the view, the alignment remains obscured, and the tree mass continues to function as the dominant horizon element. Transmission features remain visually subordinate to the residential and landscaped setting, resulting in a negligible change in visual conditions.

Under Route 3, the transmission line occupies a slightly different alignment relative to Routes 2 and 5, resulting in closer proximity to Avery Point. Due to the alignment shift and closer proximity to the viewpoint, Route 3 has the potential to be visible from KOP 8. Overall, the alignment remains nearly completely screened by existing tree canopy. Where visibility may occur, views would be limited to brief appearances of conductor spans in the gaps of tree canopy screening. In many portions of the view, the alignment remains fully screened. As a result, the transmission line does not become a focal element within this view. Route 3 would contribute in a negligible visual change to the overall setting of KOP 8.

Under Route 4, the alignment shifts closer to Avery Point compared to Routes 2, 3, and 5, producing the most noticeable skyline exposure among the route alternatives at this KOP. Upper portions of transmission structures and conductors are visible above the treetops in the background horizon. Despite this increased visibility, the alignment remains fully behind the established residential framework, and no changes occur to street-level views, landscaping, or neighborhood character. The transmission line remains secondary to the vegetative backdrop, resulting in a minor visual change.

KOP 8 represents a residential neighborhood setting within an age-restricted community where residents experience long view durations and exhibit moderate sensitivity to visual change. Under Routes 2, 3, and 5, transmission visibility is limited to brief skyline exposure

and results in a negligible visual change. Under Route 4, increased alignment exposure produces slightly greater visibility above the tree canopy. However, effects remain confined to the background and do not alter residential character or foreground views resulting in a minor visual change.

KOP 9

Existing Conditions: KOP 9 faces east from private recreational areas within the Capital One Campus, specifically overlooking a maintained soccer field. The immediate foreground consists of the athletic field surface, perimeter fencing, adjacent lawn areas, and pedestrian pathways. The midground transitions to a continuous tree line that forms a complete visual enclosure and limits background views. No roadway infrastructure or commercial development is visible in this viewing direction. The existing visual condition is defined by the contrast between the open recreational field in the foreground and a dense vegetative backdrop at the horizon.

Primary viewers at this KOP include Capital One employees using the recreation area for organized or informal activities, as well as employees passing through the campus. Viewers are typically stationary or moving slowly and experience extended view durations, resulting in moderate sensitivity to visual change.

Visual Simulation: Under Route 2, portions of transmission poles and conductor spans become visible above the tree canopy in the midground. These features are limited to skyline exposure and do not intersect with the edges of the recreation field, fencing, or spectator areas. The tree line continues to screen the lower extent of the structures, concentrating visibility at the upper background horizon. Due to the open nature of the foreground and the recreational setting, Route 2 introduces a noticeable change to the skyline and results in a moderate visual change at KOP 9.

Under Route 3, the transmission line shifts to occupy a different alignment compared to Route 2, resulting in a farther proximity to the viewpoint. Transmission elements are entirely screened by vegetation and terrain. As a result, Route 3 produces a negligible visual change at this KOP.

Under Route 4, the transmission line shifts to occupy the furthest alignment relative to the viewpoint compared to all other route alternatives and is more effectively screened by intervening vegetation and terrain. Transmission elements are entirely screened by vegetation and terrain. As a result route 4 results in a negligible visual change similar to Route 3.

Under Route 5, the transmission line shifts to a location closer to the KOP and facilities are fully or partially obscured by terrain and vegetation. From KOP 9, visibility is limited to occasional, subtle glimpses of conductor segments or pole tops through gaps in the canopy, and in many areas the alignment remains fully screened. The transmission line contributes only a faint background presence and does not introduce strong visual contrast. Route 5 results in a minor visual change.

KOP 9 is a recreational open space setting within a private corporate campus, where users experience long view durations and exhibit moderate sensitivity to visual change. Under

Route 2, transmission structures are visible above the tree canopy and result in a moderate visual change. Under Routes 3 and 4 transmission line visibility is fully screened by vegetation, resulting in a negligible visual change. Route 5 results in a minor visual change as the transmission line is fully or partially obscured by a vegetation screen. Across all route alternatives, the open field foreground and mature tree canopy remain the dominant visual elements, and no changes occur to the functional or spatial character of the recreation area.

KOP 10

Existing Conditions: KOP 10 faces north from Route 288. The immediate foreground consists of highway travel lanes, pavement markings, interchange-related signage, guardrails, overhead lighting, and landscaped median elements typical of a limited-access roadway. The view along Route 288 is partially enclosed by roadside vegetation, with tree cover lining both sides of the corridor. Traffic movement, directional signage, and lighting remain central visual components of the scene. The highway clearly dominates the visual frame, while surrounding tree mass functions as a background filter rather than a complete visual screen. Overall, the existing visual character is strongly transportation oriented.

Primary users at this KOP include residents, workers, commuters, and through-travelers utilizing Route 288 at higher travel speeds. View durations are short, and viewers are accustomed to visually complex environments that include roadway infrastructure and utility features, resulting in low sensitivity to incremental visual change.

Visual Simulation: Under Route 2, transmission structures become visible above the tree line in the upper midground and background. Poles and conductors are perceived at skyline level, introducing additional vertical and horizontal elements that extend the visual presence of regional infrastructure already associated with the corridor. Although visible, the transmission line remains set back from the roadway and does not alter the immediate foreground highway character. Route 2 results in a minor visual change at KOP 10.

Under Route 3, the transmission alignment shifts slightly relative to Route 2 but produces a similar level of visibility. Poles and conductors appear above the tree line and are seen in association with existing highway-related infrastructure. The alignment crosses Route 288 in the distance and is visible to commuters traveling along the corridor. However, the scale and appearance of the facilities remain consistent with the surrounding transportation setting. Route 3 results in a minor visual change.

Under Route 4, transmission structures are introduced in slightly different positions within the northern background. The scale, height, and visual prominence of the facilities remain comparable to those of Routes 2 and 3. Where the alignment crosses Route 288 in the distance, poles and conductors are visible above vegetated buffers but do not alter the foreground or midground character of the highway corridor. Route 4 remains visually compatible with the existing infrastructure context and results in a minor visual change.

Under Route 5, the transmission alignment continues to parallel the general corridor followed by the other routes, resulting in similar visibility conditions from this viewpoint. Transmission structures are visible above the tree line in the background and are perceived as part of the broader regional utility and transportation network serving the West Creek area. The facilities

do not introduce new visual contrast beyond that already present in the highway setting. Route 5 results in a minor visual change.

Viewers at KOP 10 consist primarily of residents, workers, commuters, and through-travelers using Route 288, who experience short view durations and exhibit low sensitivity to visual change. Across Routes 2, 3, 4, and 5, proposed transmission facilities are visible primarily in the background above the tree canopy and remain compatible with the existing regional highway and infrastructure context. For all route alternatives, the overall visual effect at KOP 10 is considered minor.

KOP 11

Existing Conditions: KOP 11 faces northwest from the 2000 West Creek apartment complex, with the viewpoint located behind residential building frontage within the development. The immediate foreground consists of landscaped lawn areas, structured planting beds, internal walkways, parking areas, and multi-story apartment complexes. As the view extends northwest, a dense stand of mature trees forms a continuous visual barrier that restricts long-range background visibility. No roadway corridors are visible in this viewing direction, and the scene remains visually separated from the broader transportation network. The existing visual character is defined by residential architecture and outdoor amenity spaces in the foreground, with a stable vegetative backdrop forming the horizon.

Primary users at this KOP include residents of the apartment complex who are typically stationary or moving slowly within shared outdoor spaces. View durations are moderate to long, resulting in moderate sensitivity to visual change; however, extensive vegetation and intervening terrain reduce potential visual exposure.

Visual Simulation: Under Routes 2, 3, 4, and 5, the proposed transmission alignment is fully or partially obscured by intervening terrain and dense vegetation. From KOP 11, visibility is largely limited to brief, intermittent glimpses of conductor segments or pole tops appearing above the tree canopy or through small openings in the forested midground. In many portions of the view, the alignment remains fully screened. Transmission elements appear as subdued and discontinuous features within the background and do not introduce prominent vertical structures into the view.

Across all route alternatives, residential buildings and landscaped open space remain unchanged and continue to define the visual frame. The transmission line does not intrude into foreground or midground residential views and remains visually subordinate to the existing vegetative and built features resulting in a negligible impact.

Viewers at KOP 11 experience the landscape within a residential setting that is already influenced by nearby regional infrastructure but is visually buffered by terrain and mature vegetation. For Routes 2, 3, 4, and 5, the proposed transmission facilities are largely screened, with visibility limited to occasional and fragmented skyline exposure. Given the level of screening and the contained nature of the view, the proposed transmission line results in a negligible visual change at KOP 11 for all route alternatives.

KOP 12

Existing Conditions: KOP 12 represents views facing northeast from River Road, a designated Virginia Byway characterized by a narrow roadway profile, limited shoulder width, and a strong vegetative enclosure that frames the travel corridor. The immediate foreground consists of the paved roadway, grass shoulders, and roadside tree canopy that extends over portions of the travel way, creating a visually contained and shaded driving experience. The midground and background are dominated by mature deciduous and evergreen vegetation, rolling terrain, and intermittent views of adjacent land uses including the Richmond Country Club, that are largely screened by topography and tree cover.

The primary user groups at this location include commuters traveling along River Road and recreational users including potential cyclists and motorists utilizing the byway for travel. Views are experienced at low to moderate travel speeds with generally short view durations. While portions of the Richmond Country Club property are located across the view from River Road, golf course facilities and maintained fairway areas are substantially obscured by intervening terrain and dense vegetation. As a result, views from River Road remain focused on the roadway corridor itself and the surrounding wooded landscape, with limited long-range visibility and no prominent built features defining the skyline.

Visual Simulation: Under Routes 2, 3, 4, and 5, proposed transmission facilities, including both the transmission line and the proposed substation, would be entirely screened from view when observed from River Road. The visual simulation indicates that existing terrain and mature vegetation fully obstruct views toward the proposed facilities, and no transmission structures, conductors, or substation components would be visible within the foreground, midground, or background of the roadway view.

Across all route alternatives, the visual experience from River Road remains dominated by the wooded corridor, rolling topography, and linear roadway typical of a Virginia Byway. The presence of the Project would not introduce visible contrast, skyline elements, or visual distraction within the travel corridor. As a result, the anticipated visual change at KOP 12 is negligible under all route alternatives, and the overall characteristics of the roadway and travel experience of River Road would be maintained.

KOP 13

Existing Conditions: KOP 13 faces southwest from the boardwalk in Tuckahoe Creek Park within a wooded riparian corridor. The immediate foreground consists of the elevated boardwalk structure, wooden railings, and adjacent natural groundcover associated with the creek environment. The midground is characterized by open wetland and riparian vegetation, with low-lying water features and grasses that transition to a continuous band of mature trees along the perimeter of the corridor. The background skyline is defined by uninterrupted tree canopy, and no roadway corridors or built development are visible in this viewing direction. Overall, the visual setting at KOP 13 is naturalistic and recreation-oriented, with vegetation and water features dominating the view.

Primary users at this KOP include recreational users such as pedestrians, joggers, and nature observers utilizing the boardwalk. These users typically move slowly or pause along the

boardwalk and experience extended view durations, resulting in moderate to high sensitivity to visual change.

Visual Simulation: Under Routes 2, 3, 4, and 5, the proposed transmission alignment is fully screened by intervening vegetation and terrain. Transmission elements are not visible to user groups from this KOP. Across all route alternatives, the transmission line does not alter the overall naturalistic and recreational character from this view within Tuckahoe Creek Park, as views remain dominated by wetland vegetation, riparian forest, and the linear boardwalk structure.

KOP 13 represents a recreational and naturalistic setting where users exhibit moderate to high sensitivity due to slow movement and extended observation periods. Across Routes 2, 3, 4, and 5, proposed transmission facilities are entirely screened by vegetation and terrain. As a result, the proposed transmission line results in a negligible visual change at KOP 13 for all route alternatives.

KOP 14

Existing Conditions: KOP 14 faces northwest from the Hardywood Park Craft Brewery property within the West Creek development area. The immediate foreground consists of paved parking areas, parked vehicles, landscaped islands, pedestrian circulation areas, and brewery building frontage, including vertical architectural elements and service infrastructure. The midground transitions to maintained lawn areas and scattered ornamental plantings before giving way to a continuous band of mature forest. The background skyline is defined by uninterrupted tree canopy, with no roadway corridors or distant development dominating the view. Overall, the existing visual setting reflects a mixed-use recreational and neighborhood-scale environment with strong vegetative enclosure beyond the developed foreground.

Primary users at this KOP include nearby residents and recreationalists, such as brewery patrons and visitors using outdoor seating areas, open spaces, and pedestrian circulation areas. These users are generally stationary or moving slowly and experience extended view durations, resulting in moderate sensitivity to visual change.

Visual Simulation: Under Routes 2, 3, 4, and 5, the proposed transmission alignment would be fully screened from KOP 14 by intervening vegetation and terrain. Transmission structures and conductors associated with all route alternatives would not be visible from this observation point. Across all route alternatives, the proposed transmission line would not alter the overall character of the view from Hardywood Park Craft Brewery, as views remain dominated by maintained landscaped areas in the foreground and a continuous band of mature forest in the midground and background.

KOP 14 represents a recreational and neighborhood-scale setting where users, including residents, recreationalists, brewery patrons, and visitors utilize the space, experience extended view durations and exhibit moderate sensitivity to visual change. However, because proposed transmission facilities would be entirely screened by existing vegetation and terrain across Routes 2, 3, 4, and 5, the Project would result in a negligible visual change at KOP 14 for all route alternatives.

KOP 15

Existing Conditions: KOP 15 faces east from Mosaic Creek Boulevard and Broad Branch. The immediate foreground consists of multilane pavement, guardrails, directional signage, and landscaped roadside edges typical of a limited-access roadway. The midground transitions quickly to dense, continuous forest canopy lining both sides of the corridor. Background views are visually constrained by the tree line, resulting in a contained transportation corridor with limited long-range viewing depth. The existing visual character is dominated by roadway infrastructure and associated safety features, with vegetation forming a continuous visual backdrop.

Primary viewers at KOP 15 include commuters travelling along Mosaic Creek Boulevard as well as residents within the adjacent Mosaic at West Creek subdivision. Commuters experience the view at low to moderate travel speeds and are accustomed to visually complex roadway environments associated with the West Creek Business Park. Residential viewers experience longer view durations from neighborhood streets and nearby properties. Considering the mixed roadway and residential context, viewer sensitivity to visual change at this location is anticipated to be moderate.

Visual Simulation: Under Routes 2, 3, 4, and 5, transmission structures and associated conductors are visible above the tree canopy in the background east of the roadway. The structures appear at skyline level and remain set back from the immediate roadway environment. Existing transportation features, including guardrails, signage, and pavement geometry, continue to dominate the foreground view. The transmission line appears as secondary infrastructure within an already developed transportation corridor, resulting in a minor visual change.

KOP 15 represents a transportation-oriented setting with low viewer sensitivity due to short view durations and familiarity with infrastructure-dominated landscapes. Across Routes 2, 3, 4, and 5, transmission facilities are visible primarily at the skyline level beyond the roadway corridor and do not disrupt the existing visual character. The proposed transmission line results in a minor visual change at KOP 15 for all route alternatives.

KOP 16

Existing Conditions: KOP 16 faces northwest from the boardwalk in Tuckahoe Creek Park. The immediate foreground includes a shallow water feature and emergent wetland vegetation, transitioning to an open meadow in the midground. The background is defined by a continuous band of mature forest canopy forming a strong visual edge. The existing visual condition is naturalistic in character, with no dominant transportation infrastructure present within the primary view. The horizon is defined by tree canopy rather than skyline features.

Primary viewers at KOP 16 include recreational users and residents experiencing views from nearby crossings and access points. View durations may be moderate to extended for stationary observers, resulting in moderate to high sensitivity to visual change. The existing landscape is perceived as largely undeveloped and visually cohesive.

Visual Simulation: Under Routes 2, 3, and 5, proposed transmission facilities are fully obscured by intervening terrain and dense vegetation. As illustrated in the visual simulations, transmission structures appear visually filtered by distance and vegetation. The facilities do not intrude into the open wetland or meadow foreground resulting in a negligible visual change.

Under Route 4, the alignment shifts to be in the closest proximity to the KOP out of all route alternatives. Due to the alignment shift and closer proximity to the viewpoint, Route 4 has the potential to be visible from KOP 16. Overall, the alignment remains mostly screened by existing tree canopy. Where visibility may occur, views would be limited to brief appearances of conductor spans in the gaps of tree canopy screening. In many portions of the view, the alignment remains fully screened. In all cases, the transmission line does not form a continuous or dominant skyline feature and remains visually subordinate to the natural vegetative backdrop resulting in a negligible visual change.

KOP 16 represents a naturalistic landscape with moderate viewer sensitivity. However, substantial screening provided by terrain and mature vegetation limits visual exposure to the proposed transmission facilities. Across Routes 2, 3, 4, and 5, transmission visibility is intermittent and confined to the background horizon. The proposed transmission line results in a negligible visual change at KOP 16 for all route alternatives, with wetland and forested landscape remaining the dominant visual elements.

4.4.2 IMPACT ASSESSMENT FOR VISUALLY SENSITIVE RESOURCES

The visibility and overall influence of overhead transmission lines on the surrounding landscape are determined by multiple factors, including structure height, existing landscape characteristics (such as topography, vegetation patterns, and surrounding development), and the distance between the viewer and the facilities. The interaction of these variables differs throughout the study area, resulting in a range of visual conditions and potential impact levels. Anticipated impacts on visual resource conditions for each VSR are summarized in Table 4-8, which provides both a description and an assigned impact rating (negligible, minor, moderate, or major) for each VSR.

Table 4-8: Summary of Anticipated Impacts by Visually Sensitive Resources and Key Observations Point

VSR Number	VSR Name	Representative KOP(s)	Relevant Route	Description of Impact	Potential Impact Rating/Visual Sensitivity
Scenic Resources					
1	River Road (Virginia Byway)	KOP 12	2, 3, 4, 5	Views are transportation-oriented with intermittent vegetation screening. Transmission facilities would not be visible and would remain fully screened by existing tree canopy and terrain.	Visual Change: Negligible Sensitivity: Low - Moderate Overall Impact: Negligible
2	Tuckahoe Creek Park / Ducks Unlimited Easement	KOPs 13 and 16	2, 3, 4, 5	Views are naturalistic and defined by riparian vegetation, wetlands, and forested buffers. Transmission facilities are largely screened by vegetation and terrain, with visibility limited to Route 4's alignment where intermittent conductor spans may be visible. The transmission line does not intrude into the boardwalk or park foreground.	Visual Change: Negligible Sensitivity: Moderate - High Overall Impact: Negligible
Recreational Resources					
3	Richmond Country Club (Private)	KOP 12	2, 3, 4, 5	Transmission visibility is fully screened by vegetation. Transmission facilities would not be visible and would remain fully screened by existing tree canopy and terrain.	Visual Change: Negligible Sensitivity: Low - Moderate Overall Impact: Negligible
4	Hardywood Park Craft Brewery	KOP 14	2, 3, 4, 5	Transmission visibility is fully screened by vegetation. Transmission facilities would not be visible and would remain fully screened by existing tree canopy and terrain.	Visual Change: Negligible Sensitivity: Moderate Overall Impact: Negligible
5	Bogeys Sports Park	KOP 2	2, 3, 4, 5	Transmission facilities are largely screened by vegetation and terrain, with only brief partial glimpses above the tree line. Facilities remain visually subordinate to existing recreational infrastructure.	Visual Change: Negligible Sensitivity: Moderate Overall Impact: Negligible
6	Capital One Private Recreation Area	KOP 9	2, 3, 4, 5	Under Route 2, transmission structures are visible above the tree canopy from portions of the open recreation field, introducing noticeable skyline elements within an otherwise naturalistic foreground and resulting in a moderate visual change. Under Routes 3 and 4, the alignment is entirely screened by vegetation and terrain. Under Route 5, transmission visibility remains visually subordinate to the open field and vegetated backdrop.	Visual Change: Negligible - Moderate Sensitivity: Moderate Overall Impact: Negligible - Moderate

VSR Number	VSR Name	Representative KOP(s)	Relevant Route	Description of Impact	Potential Impact Rating/Visual Sensitivity
Community Resources					
7	Mosaic at West Creek	KOP 15	2, 3, 4, 5	Views are defined by mixed-use development and internal roadways. Transmission facilities, where visible, appear in the background and remain visually secondary to existing built features, resulting in a minor visual change that does not alter the overall mixed-use character of the area.	Visual Change: Minor Sensitivity: Moderate Overall Impact: Minor
8	Bellview Gardens	KOPs 4 and 5	2, 3, 4, 5	Visibility is generally limited by roadway geometry, intervening vegetation, and corridor orientation. Transmission facilities are visible at localized roadway crossing locations where structures and conductors clear the tree canopy and appear within view of commuters traveling along Broad Street (250). The transmission line remains visually secondary to existing transportation infrastructure, and the residential character within Bellview Gardens remains intact.	Visual Change: Negligible - Moderate Sensitivity: Moderate Overall Impact: Negligible - Moderate
9	Readers Branch	KOP 7	2, 3, 4, 5	Transmission facilities are visible only as limited skyline elements above the existing tree canopy in the background. Pole tops and conductor spans remain visually separated from the residential foreground and midground, with no intrusion into views of homes, yards, or street-level features. The transmission line remains secondary to existing residential and vegetative features and the residential character within Readers Branch remains intact.	Visual Change: Minor Sensitivity: Moderate Overall Impact: Minor
10	Avery Point Senior Living Community	KOP 8	2, 3, 4, 5	Transmission facilities are largely screened by vegetation and terrain, with visibility limited to Route 4's alignment where intermittent conductor spans may be visible between gaps in tree canopies. The transmission line does not intrude into the boardwalk or park foreground.	Visual Change: Negligible Sensitivity: Moderate Overall Impact: Negligible
11	Sheltering Arms	KOP 6	2, 3, 4, 5	Transmission facilities are largely screened, with visibility limited to occasional, partial exposure above the treetops. No prominent vertical elements are introduced into the view, and the transmission line remains visually subordinate to existing roadway design features, landscaped medians, light poles, and building frontage.	Visual Change: Negligible Sensitivity: Moderate Overall Impact: Negligible

VSR Number	VSR Name	Representative KOP(s)	Relevant Route	Description of Impact	Potential Impact Rating/Visual Sensitivity
12	2000 West Creek	KOP 11	2, 3, 4, 5	Transmission facilities are largely screened, with visibility limited to occasional fragmented glimpses above the canopy. Residential and landscaped features remain dominant.	Visual Change: Negligible Sensitivity: Moderate Overall Impact: Negligible
Road Corridors					
13	Interstate 64	KOP 1	2, 3, 4, 5	Under Route 2, transmission structures are visible above the existing tree canopy in the midground west of I-64 but remain compatible with the surrounding transportation and utility setting, resulting in a negligible visual change. Under Routes 3, 4, and 5, transmission structures and conductors occur in closer proximity to the I-64 corridor and are more noticeable above the tree line. However, they remain visually consistent with existing roadway and utility features resulting in a minor visual change.	Visual Change: Negligible - Minor Sensitivity: Low Overall Impact: Negligible - Minor
14	Route 288 (multiple)	KOP 10	2, 3, 4, 5	Transmission structures appear in the background above the tree line and remain secondary to roadway features within a transportation-focused corridor.	Visual Change: Minor Sensitivity: Low Overall Impact: Minor
15	Broad Street (250)	KOPs 4 and 5	2, 3, 4, 5	At KOP 4, only Route 2 introduces visible transmission structures where the alignment crosses Broad Street (250), resulting in a localized and minor change within an enclosed roadway corridor. At KOP 5, Routes 3, 4, and 5 place transmission facilities closer to the interchange environment, where structures and conductors are more apparent above the tree line and roadway. While more visible, the facilities remain consistent with the scale and character of existing interchange infrastructure, resulting in a moderate visual change.	Visual Change: Negligible - Moderate Sensitivity: Low-Moderate Overall Impact: Negligible - Moderate

4.4.3 IMPACT ASSESSMENT BY ROUTE

Table 4-9 summarizes the anticipated impacts on visual conditions from all route alternatives. This table also provides a potential impact rating (negligible, minor, moderate, or major) for each route alternative.

Route 2

Under Route 2, visual changes are most apparent in transportation-oriented settings where the alignment becomes visible above the tree canopy adjacent to major roadway corridors and at roadway crossings. Along the I-64 corridor (KOP 1), transmission structures would be visible above the tree line and introduce new vertical elements. However, the setting is defined by a high-volume highway corridor with low viewer sensitivity and short view durations, resulting in a negligible visual change. Along the Route 288 corridor (KOP 10), poles and conductors appear at skyline level in the background and remain consistent with the existing infrastructure-dominated character, resulting in a minor visual change.

At Broad Street (250) (KOP 4), Route 2 is visible where the alignment spans the roadway and clears the tree canopy, introducing noticeable vertical and linear elements into the skyline within an otherwise enclosed roadside vegetative corridor. Visibility is localized at the crossing and results in a moderate visual change. At the Broad Street and Route 288 interchange (KOP 5), Route 2 visibility occurs in the distance above the tree line and remains secondary to the extensive interchange infrastructure, resulting in a minor visual change.

In residential and community settings, Route 2 visibility is primarily limited to background skyline exposure above the tree canopy. At Readers Branch (KOP 7), pole tops and conductor spans may be visible above the tree line, resulting in a minor visual change without intrusion into residential foreground views. At Avery Point (KOP 8) and 2000 West Creek (KOP 11), terrain and vegetation provide effective screening, resulting in negligible visual change. From the Belleview Garden subdivision (KOP 4), transmission structures associated with Route 2 become visible where the alignment crosses Broad Street (250) and clears the tree canopy, introducing noticeable vertical and linear elements into the skyline and resulting in a moderate visual change. At River Road (Virginia Byway) (KOP 12), both the transmission line and proposed substation are entirely screened from view, resulting in negligible visual change.

Visual effects at recreational resources are generally limited. At Bogey's Sports Park (KOP 2), the alignment is screened by a continuous vegetative buffer and remains visually subordinate to existing recreational infrastructure, resulting in negligible visual change. At Tuckahoe Creek Park boardwalk viewpoints (KOPs 13 and 16) and Hardywood Park Craft Brewery (KOP 14), transmission facilities are screened by terrain and vegetation and do not alter the naturalistic character of the park, resulting in negligible visual change. The most notable recreational setting for Route 2 is the Capital One private recreation area (KOP 9), where portions of poles and conductor spans are visible above the tree canopy from the open soccer field, resulting in a moderate visual change.

Overall, Route 2 would result in predominantly negligible to minor visual change, with moderate visual change limited to localized roadway crossing visibility at Broad Street (250) near the entrance to the Bellview Gardens residential community (KOP 4) and skyline exposure from the Capital One recreation field (KOP 9).

Route 3

Under Route 3, visual impacts are largely similar across transportation, residential, and recreational settings, with visibility generally limited to skyline or background exposure above existing vegetation. Along I-64 (KOP 1), transmission structures are closer in proximity to the roadway than Route 2, resulting in more noticeable conductor lines and producing a minor visual change for highway commuters. At Broad Street (250) (KOP 5), Route 3 introduces visible transmission structures and conductors within the roadway corridor at crossing locations, resulting in a moderate visual change for commuters traveling through an infrastructure-dominated setting with short view durations. Along Route 288 (KOP 10) and Mosaic Creek Boulevard (KOP 15), transmission facilities are visible above the tree canopy in the background and remain compatible with the transportation-focused visual context, resulting in minor visual change.

In residential settings, including Readers Branch (KOP 7), Avery Point (KOP 8), and 2000 West Creek (KOP 11), Route 3 visibility is generally confined to partial skyline exposure above the tree line. In these locations, transmission structures remain visually separated from residential foreground views and do not alter neighborhood character, resulting in minor to negligible visual change.

Recreational resources experience limited visual effects under Route 3. At Bogey's Sports Park (KOP 2), Capital One private recreation area (KOP 9), Hardywood Park Craft Brewery (KOP 14), and Tuckahoe Creek Park viewpoints (KOPs 13 and 16), transmission facilities are screened by vegetation and terrain and do not alter recreational or naturalistic character, resulting in negligible visual change.

Overall, Route 3 results in negligible to minor visual change across most viewpoints, with moderate visual change limited to transportation-oriented setting along Broad Street (250) (KOP 5).

Route 4

Under Route 4, visual impacts are primarily associated with increased proximity to certain residential and recreational viewpoints. However, extensive vegetation and terrain screening limit overall visibility. Along I-64 (KOP 1), transmission structures appear closer to the roadway and result in minor visual change within an infrastructure-dominated corridor. At Broad Street (250) (KOP 5), Route 3 introduces visible transmission structures and conductors within the roadway corridor at crossing locations, resulting in a moderate visual change for commuters traveling through an infrastructure-dominated setting with short view durations. Along Route 288 (KOP 10) and Mosaic Creek Boulevard (KOP 15), skyline-level visibility remains consistent with existing transportation features, resulting in minor visual change.

Within residential settings such as Avery Point (KOP 8), Route 4 introduces the most noticeable skyline exposure among the route alternatives; however, visibility remains confined to upper portions of structures above the tree canopy and does not intrude into residential foreground views. The resulting visual change is minor. At Readers Branch (KOP 7) and 2000 West Creek (KOP 11), Route 4 visibility is limited and results in minor to negligible visual change.

Recreational resources, including Bogey's Sports Park (KOP 2), Capital One private recreation area (KOP 9), Hardywood Park Craft Brewery (KOP 14), and Tuckahoe Creek Park viewpoints (KOPs 13 and 16), experience negligible visual change due to effective screening by vegetation and terrain.

Overall, Route 4 results in negligible to minor visual change across most viewpoints, with moderate visual change limited to transportation-oriented setting along Broad Street (250) (KOP 5).

Route 5

Under Route 5, visual impacts reflect a combination of transportation-oriented visibility and background exposure in residential and recreational settings. Along I-64 (KOP 1), transmission facilities are visible in close proximity to the roadway and result in minor visual change for commuters. At Broad Street (250) (KOP 5), Route 5 introduces visible transmission structures and conductors within the roadway corridor at crossing locations, resulting in a moderate visual change for commuters traveling through an infrastructure-dominated setting with short view durations. Along Route 288 (KOP 10) and Mosaic Creek Boulevard (KOP 15), skyline-level visibility remains consistent with the existing infrastructure context, resulting in minor visual change.

In residential settings including Readers Branch (KOP 7), Avery Point (KOP 8), and 2000 West Creek (KOP 11), Route 5 visibility is generally limited to background skyline exposure above the tree canopy. Transmission facilities remain visually subordinate to residential features, resulting in negligible to minor visual change.

Recreational resources experience minimal visual effects under Route 5. At Bogey's Sports Park (KOP 2), Hardywood Park Craft Brewery (KOP 14), and Tuckahoe Creek Park viewpoints (KOPs 13 and 16), transmission facilities are screened or visually filtered by vegetation and terrain, resulting in negligible visual change. At the Capital One private recreation area (KOP 9), Route 5 transmission facilities are partially screened, with occasional background visibility resulting in a minor visual change.

Overall, Route 5 results in predominantly negligible to minor visual change, with moderate visual change limited to transportation-oriented view along Broad Street (250) (KOP 5).

Table 4-9: Visually Sensitive Resource Impact Results

Route Alternative	Impacted VSRs (Impacts > Negligible)	Impacted Areas	Impacted Viewer Groups	Potential Impact Rating
Route 2	6, 7, 8, 9, 14, 15 Total: 6	• Road crossings: 11 total crossings • Sensitive VSRs (impacts > negligible): -Broad Street (250) (VSR 15) -Readers Branch (VSR 9) -Bellview Gardens (VSR 8) -Capital One Private Recreation Area (VSR 6) -Route 288 (VSR 14) -Mosaic at West Creek (VSR 7)	Through-travelers, commuters, residents, and recreational users	• Sensitive VSRs: Minor to Moderate • User Group Viewer Sensitivity: Minor to Moderate • Overall Impact: Minor to Moderate
Route 3	7, 8, 9, 13, 14, 15 Total: 6	• Road crossings: 14 total crossings • Sensitive VSRs (impacts > negligible): -Interstate 64 (VSR 13) -Broad Street (250) (VSR 15) -Bellview Gardens (VSR 8) -Readers Branch (VSR 9) -Route 288 (VSR 14) -Mosaic at West Creek (VSR 7)	Through-travelers, commuters and residents	• Sensitive VSRs: Minor to Moderate • User Group Viewer Sensitivity: Minor to Moderate • Overall Impact: Minor to Moderate
Route 4	7, 8, 9, 10, 13, 14, 15 Total: 7	• Road crossings: 12 total crossings • Sensitive VSRs (impacts > negligible): -Interstate 64 (VSR 13) -Broad Street (250) (VSR 15) -Bellview Gardens (VSR 8) -Readers Branch (VSR 9) -Avery Point Senior Living -- Community (VSR 10) -Route 288 (VSR 14) -Mosaic at West Creek (VSR 7)	Through-travelers, commuters and residents	• Sensitive VSRs: Minor to Moderate • User Group Viewer Sensitivity: Minor to Moderate • Overall Impact: Minor to Moderate
Route 5	7, 8, 9, 13, 14, 15 Total: 6	• Road crossings: 13 total crossings • Sensitive VSRs (impacts > negligible): -Interstate 64 (VSR 13) -Broad Street (250) (VSR 15) -Bellview Gardens (VSR 8) -Readers Branch (VSR 9) -Route 288 (VSR 14) -Mosaic at West Creek (VSR 7)	Through-travelers, commuters, recreational users, and residents	• Sensitive VSRs: Minor to Moderate • User Group Viewer Sensitivity: Minor to Moderate • Overall Impact: Minor to Moderate

4.4.4 VISUAL IMPACT ASSESSMENT SUMMARY

The Project would introduce new overhead transmission infrastructure into an area characterized by a mix of transportation corridors, residential neighborhoods, recreational resources, and commercial and institutional development. The degree of visual change varies by location and route alternative and is influenced by viewer sensitivity, distance from the alignment, existing vegetation, and the presence of surrounding infrastructure. Overall, anticipated visual effects range from negligible to moderate, with no major visual impacts identified.

In transportation-oriented settings, including I-64, Route 288, and Broad Street (250), transmission facilities are visible primarily in the midground, background, or at skyline level and remain visually compatible with existing roadway, utility, and lighting infrastructure. Short view durations and an existing infrastructure-dominated visual context result in negligible to moderate visual changes that do not alter corridor character.

Within residential, recreational, and institutional settings, existing vegetation and terrain substantially limit visibility of transmission facilities. Where visible, transmission structures are typically confined to partial skyline exposure above the tree canopy and do not intrude into foreground views or activity areas. As a result, visual changes in these settings are predominantly negligible to moderate.

Moderate visual effects are limited to localized areas where open views or reduced screening increase skyline exposure, including Capital One private recreation area (Route 2) and Broad Street (250) (all route alternatives). Even in these locations, transmission facilities remain visually subordinate to existing development patterns and do not substantially alter visual character.

4.5 CULTURAL RESOURCES

Impacts on the considered cultural resources relevant to each route alternative are discussed below. The full *Stage 1 Pre-Application Analysis of Cultural Resources*, prepared by D+A, is provided in Appendix F.

4.5.1 ARCHAEOLOGY FINDINGS

Four previously recorded archaeological sites are located within the right-of-way of one or more of the route alternatives. No previously recorded archaeological sites are located within the proposed West Creek Substation site. A formal archaeological survey has not been conducted as part of this Project, therefore, the existing conditions of the sites are unknown. Right-of-way clearing during construction of the Project and installation of transmission line structures have the potential to impact deposits associated with the archaeological sites crossed by the route alternatives. All four sites have not been evaluated for inclusion in the NRHP. A formal evaluation of these sites would be required as a part of an archaeological survey to determine their eligibility for listing in the NRHP. This would be followed by an assessment of Project impacts for any site recommended eligible for listing on the NRHP if the site cannot be avoided.

Route 2

No previously recorded archaeological sites are within the right-of-way of Route 2. If Route 2 were selected as the preferred route by the SCC, a formal archaeological survey would be completed for portions of the route alternative that have not been previously surveyed.

Route 3

One previously recorded archaeological site (44GO0342) is located within the right-of-way of Route 3. Based on a review of aerial photography, the majority of this site looks to have been previously disturbed by a transportation project. Additionally, based on conceptual engineering, no structures would be located within the previously designated site boundaries. If Route 3 were selected as the preferred route by the SCC, a formal archaeological survey would be completed for portions of the route alternative that have not been previously surveyed. This survey would include revisiting site 44GO0342 to assess potential Project impacts.

Route 4

Three previously recorded archaeological sites (44GO0266, 44GO0273, and 44GO0370) are located within the right-of-way of Route 4. Based on a review of aerial photography, these sites do not appear to have been previously disturbed by other development project in the area. Additionally, based on conceptual engineering, one structure would be located within the previously designated site boundary of 44GO0370. If Route 4 were selected as the preferred route by the SCC, a formal archaeological survey would be completed for portions of the route alternative that have not been previously surveyed. This survey would include revisiting sites 44GO0266, 44GO0273, and 44GO0370 to assess potential Project impacts.

Route 5

No previously recorded archaeological sites are within the right-of-way of Route 5. If Route 5 were selected as the preferred route by the SCC, a formal archaeological survey would be completed for portions of the route alternative that have not been previously surveyed.

4.5.2 ABOVEGROUND HISTORIC PROPERTIES

One previously recorded aboveground historic resource (Farm, 2105 Rockville Road) was identified within the review area for the route alternatives that meets the criteria for inclusion in the VDHR's tiered study area model. This resource is within 0.5 mile of all four route alternatives, approximately 0.35 mile west of where all route alternatives turn southeast after crossing I-64. No previously recorded aboveground historic resources meeting the criteria for inclusion in the VDHR's tiered study model were identified within the review area for the proposed West Creek Substation.

Based on a desktop analysis and results of a visual simulation completed for the resource, none of the route alternatives would be visible from the resource, and therefore no impact on the resource is anticipated from construction of the Project.

Farm, 2105 Rockville Road (037-5238)

The farm house located at 2105 Rockville Road is a two-story residence that reflects a Dutch Colonial Revival style. In addition to the primary home, the property also includes a variety of barns, silos, an office, a pool, a lamppost, and a well house all set on a rural property with active agricultural fields. While local records suggest a construction date of 1947, previous investigation reveals a home was present in roughly the same location on historic maps as early as 1863 and therefore further investigation would need to be conducted to conclusively determine its age and evolution. The building was last documented in 2023 and no visible changes were observed at that time. The building was previously noted as an outstanding and architecturally distinctive example of the Colonial Revival style and in 2025, the VDHR determined it to be potentially eligible for listing in the NRHP.

The 2105 Rockville Road property is located near the northern end of the route alternatives where all four routes share a common corridor after crossing I-64 before Route 2 diverges from Routes 3, 4, and 5. The edge of the property is approximately 0.4 mile from all route alternatives and the home is set further away at approximately 0.8 mile from the routes. As none of the route alternatives cross the resource, there would be no direct impact to the resource as a result of the Project.

To assess potential indirect, and specifically visual impacts, a site visit was made to the property to inspect the existing setting and viewshed with emphasis on views towards the project and route alternatives. Photographs were taken from the public right-of-way along the road bordering the property towards the project to document current conditions and lines of sight. A photo simulation was prepared to model the proposed appearance and visibility of the proposed transmission structures from the front of the property.

Because of the distance between the project and the property coupled with the intervening landscape and topography, it is not expected that any of the route alternatives would be visible from the resource. The wooded areas throughout the intervening landscape are thick and mature with a mix of deciduous and evergreen vegetation that would provide year-round screening. The topography also generally slopes down from the property towards the project, so that the elevation of the project route alternatives ranges from roughly 250-265 feet above sea level, while the elevation of the property ranges from 260-285. As such, the project is anticipated to be below the line of sight created by the height and thickness of the intervening wooded areas. As such, none of the project route alternatives are anticipated to be visible from the property or any vantage points along public road frontage bordering the property. This was confirmed with photo simulation conducted from the road along the front of the property that illustrates all proposed structures will remain screened behind and beneath the tree line. As such, the project will not introduce any change in setting or viewshed of or from the farm at 2105 Rockville Road, or publicly accessible vantage points along the road in the vicinity. Therefore, it is D+A's opinion that the project will not be visible from the property will therefore result in no impact to the farm at 2105 Rockville Road per VDHR's impact characterization scale.

4.6 GEOLOGIC CONSTRAINTS

As noted in Section 3.6, all route alternatives are located within the Piedmont physiographic province. C2 identified three active quarries that are located within 1-mile of the study area. None of these quarries are within 0.25 mile of any of the route alternatives. Given the distance between the quarries and the route alternatives, impacts from construction and operation of the Project on use of the quarries are not anticipated.

4.7 ROUTING OPPORTUNITIES

4.7.1 ROUTE 2

Route 2 is collocated with existing infrastructure for approximately 4.0 miles or 68 percent of the route. Of these 4.0 miles, approximately 2.2 miles would be collocated with roadways, and 1.8 miles would be collocated with both roadways and other existing utility easements.

4.7.2 ROUTE 3

Route 3 is collocated with existing infrastructure for approximately 5.4 miles or 84 percent of the route. Of these 5.4 miles, approximately 5.3 miles would be collocated with roadways, and 0.1 mile would be collocated with both roadways and other existing utility easements.

4.7.3 ROUTE 4

Route 4 is collocated with existing infrastructure for approximately 4.6 miles or 70 percent of the route. Of these 4.6 miles, approximately 2.5 miles would be collocated with roadways, 0.1 mile would be collocated with both roadways and other existing utility easements, and 2.0 miles would be collocated with just existing utility easements.

4.7.4 ROUTE 5

Route 5 is collocated with existing infrastructure for approximately 5.1 miles or 84 percent of the route. Of these 5.1 miles, approximately 3.3 miles would be collocated with roadways, and 1.7 miles would be collocated with both roadways and other existing utility easements.

5.0 ANALYSIS OF ROUTE ALTERNATIVES

This section provides a summary of the advantages and disadvantages of the four overhead route alternatives: Routes 2, 3, 4, and 5. Considerations relevant to selecting a proposed and alternative routes are described below.

Length of Route, Amount of New Right-of-Way, and VDOT Impacts: Given the scale of the proposed Project, the lengths of the route alternatives are relatively comparable. The route alternatives have a maximum difference in length of approximately 0.7 mile. Routes 2 and 5 are the shortest routes at 5.9 and 6.0 miles respectively. Routes 3 and 4 are both 6.5 miles in length. Similarly, Routes 2 and 5 would require less right-of-way (70.9 and 72.8 acres respectively) when compared with Routes 3 and 4 (78.7 and 78.8 acres respectively).

Route 5 would have the greatest impact on VDOT rights-of-way, crossing 1.2 miles of VDOT right-of-way and would require the greatest number of structures to be installed within VDOT right-of-way (seven) based on conceptual engineering. Route 5 would only require one crossing of Route 288; however, it would require a crossing of the Route 288/Tuckahoe Creek Parkway interchange. Routes 3 and 4 would cross 1.0 and 0.8 miles of VDOT right-of-way respectively and would both require three crossings of Route 288. Route 3 is expected to require five structures in VDOT rights-of-way while Route 4 is expected to require four. Route 2 would have the least impact on VDOT rights-of-way, crossing approximately 0.6 mile, only requiring one crossing of Route 288, and needing three structures in VDOT right-of-way, none of which are within cloverleafs or interchanges.

Land Ownership, Economic Impacts, and Public Input: With the exception of crossings of VDOT rights-of-way, all route alternatives cross land that is privately owned. Route 4 crosses the greatest number of parcels (48), compared with 40 parcels along Route 3, and 28 parcels along routes 2 and 5. Similarly, Route 4 would impact the largest number (42) of unique landowners based on parcel data landowner names. Route 3 would impact 34 landowners, Route 2 would impact 24 landowners, and Route 5 would impact 22 landowners. It should be noted that multiple parcels along each route alternative are owned by West Creek Associates and other LLCs which have unique landowner names but are all owned by the same entity. When taking this into account, Route 2 would impact 16 landowners, Route 3 would impact 14 landowners, Route 4 would impact 13 landowners, and Route 5 would impact 15 landowners.

Goochland County approved the TOD in November 2025. Dominion and C2 attempted to maximize a route alternative's crossing length on parcels within the recently approved TOD as portions of the TOD approve certain users (including data centers) by right and development within the TOD is expected to increase. Route alternatives range from 73 to 80 percent of the route lengths being located within the TOD. Route 2 has the largest percentage of the route within the TOD, while Route 5 has the smallest percentage. Another consideration of economic impacts is if a route alternative would impact planned developments. All routes require the same crossings of the West Creek Commerce Center and Mosaic at West Creek Section 9 planned developments. Routes avoid any direct impacts with buildings, and it is not expected that any economic impacts would occur due to construction of a route across these planned developments.

Where feasible potential impacts on future developments were also taken into consideration. All route alternatives require the same crossing of the Eli Lilly and Company future development. Routes 3, 4, and 5 all cross approximately 0.3 mile of the Asgard Property future development. Dominion met with representatives of the Asgard Property in January 2025. During this meeting Dominion was provided with a preliminary conceptual site plan with building layouts. Based on this site plan, Route 3 conflicts with seven potential buildings (one commercial and six residential). Adjusting the route to avoid direct conflicts with potential future buildings would cause the route to conflict with an existing commercial building. As Dominion has not received any formal documentation that this building will be demolished, the alignment through this future development has not been adjusted. Dominion will continue to coordinate with the developer on this crossing to minimize impacts on the future development if Routes 3, 4, or 5 are selected as the preferred route by the SCC and if the future development moves forward through County permitting processes. Route 3 crosses 0.3 mile of the West Creek Industrial future development. While considered a future development, Dominion was able to modify the alignment of Route 3 to cross the frontage of this property, avoiding impacts on future building footprints and not conflicting with any existing use of the property. The developer did not have any concerns with the modified route. Route 4 crosses 0.4 mile of the Tuckahoe Creek Court future development. Based on the conceptual site layout, Route 4 would conflict with two of the buildings on the site plan. If Route 4 were selected by the SCC as the preferred route, and if the future develop moves forward through County permitting processes, Dominion would continue to work with the West Creek Business Park and Summit Real Estate Group to attempt to reduce impacts on the future development where feasible.

During the open house for the project and comments submitted online through Dominion's website, the Company received public input on the various route alternatives. A summary of this input is provided below:

- Route 2 - The majority of feedback associated with Route 2 was negative. Many residents from the Readers Branch and Bellview Gardens communities provided input against Route 2. The route wraps around the eastern portion of Readers Branch and while it maintains a distance of greater than 500 feet from the nearest residents, it would have the greatest impact on this community when compared with the other route alternatives. Two residences in the Bellview Gardens community are within 250 feet of the route, whereas other route alternatives are more than 500 feet from residences in this community. The public also had concerns with Route 2 where it follows Tuckahoe Creek on the west side of Route 288, noting that it would have more impacts to wetlands and waterbodies compared to the alignment of Routes 3, 4, and 4 in this area. It should be noted that the developer associated with the Asgard Property favors Route 2 over all other routes alternatives as it is the only route that would not cross parcels associated with this future development.
- Route 3 - Route 3 received primarily positive feedback from the community. The majority of Goochland County residents wanted a route that stayed on the east side of Route 288 for as great a distance as possible. Residents liked the fact that the route was collocated with Route 288 while maintaining a greater distance from residential areas. Some residents expressed concern about environmental impacts along Route 3 when compared with Route 5. The Goochland County BOS and Economic Development Authority are both in support of Route 3 as it stays further from

residential areas where possible and is located in areas the County believes likely to be developed by non-residential uses (see Appendix H).

- Route 4 - The majority of feedback associated with Route 4 was negative. The public understood that the route had significantly greater environmental impacts compared with the other route alternatives. Residents from Henrico County had concerns about the potential visual impact from the neighborhoods bordering Tuckahoe Creek and from Tuckahoe Creek Park. A few residents from Goochland County preferred Route 4 as it would bring the route further from Goochland County residential areas.
- Route 5 - Route 5 received primarily positive feedback from the community. Residents liked the fact that the route was collocated with Route 288 and that it looked to have fewer environmental impacts when compared with Route 3. Some residents preferred Route 3 over Route 5 as it would bring the route further from residents on the west side of Route 288. Others did not see the benefit when Route 3 would require more crossings of Route 288 (three for Route 3 versus one for Route 5).

Wetlands and Waterbodies Affected: Routes 4 and 2 would have the greatest impact on wetlands, impacting a total of 16.0 and 14.4 acres respectively, of which 14.0 and 12.3 acres are forested along each route. Routes 3 and 5 would have lesser impacts on wetlands, with 9.7 acres (8.4 forested) along Route 3, and 8.6 acres (7.6 forested) along Route 5.

Route 2 would impact the largest number of waterbodies, with 33 crossings and 1.0 acre of riverine wetland impacts. Route 4 would have the second greatest impact on waterbodies with 27 crossings and 0.6 acre of riverine wetland impact. Routes 3 and 5 would have lesser impacts on waterbodies with 23 and 22 crossings and 0.6 and 0.5 acre of riverine wetland impact respectively.

Ecological Cores and Forest Impacts: Routes 4 and 3 would have the greatest impact on ecological cores crossing a total of 30.7 and 23.6 acres of ecological cores respectively. Of these crossings, 27.3 and 20.3 acres have a ranking of C3 (High). Route 3 crosses C3 ecological cores where paralleling the east side of Route 288, primarily crossing the edges of forested habitat, thereby reducing forested habitat fragmentation. Route 4 bisects C3 ecological cores between Tuckahoe Creek and Route 288, causing greater impacts to the cores and fragmenting forested habitat. Route 2 and 5 both avoid crossing any C3 ecological cores.

Route 4 would impact the greatest amount of forested land at 70.8 acres, of which 24.2 acres have a FCV classification of high or very high. As described above, Route 4 bisects larger forested areas, thereby causing greater impacts and fragmented forested areas. Route 3 has the second greatest impact on forested land with 67.8 acres impact, of which 9.3 acres have a FCV classification of high or very high. Route 3 crosses these higher quality forested areas when collocated with Route 288, thereby reducing the potential for forest fragmentation. Routes 2 and 5 have fewer impacts on forested land, crossing 61.3 and 62.1 acres respectively. Both of these route alternatives avoid crossing FCV areas with a high or very high designation.

Cultural Resources: No impacts on previously recorded architectural resources are expected to occur as a result of any of the route alternatives. Routes 2 and 5 do not cross any previously recorded archaeological resources. Route 3 crosses one previously recorded archaeological resource, however based on aerial photography the majority of the site appears to have been disturbed by construction of Route 288.

Visual Impacts: Visual impacts are similar across all route alternatives resulting in minor to moderate impacts at VSRs. Routes 2, 3, and 5 would all result in minor to moderate impacts at six VSRs while Route 4 would result in minor to moderate impacts at seven VSRs. Moderate visual effects are limited to localized areas where open views or reduced screening increase skyline exposure, including Capital One private recreation area (Route 2) and Broad Street (250) (all route alternatives). Even in these locations, transmission facilities remain visually subordinate to existing development patterns and do not substantially alter visual character.

Routing Opportunities: Route 288 bisects the study area and provided an excellent collocation opportunity which generally brought route alternatives further from residential areas. Routes 3 and 5 maximize collocation opportunities with both routes being collocated for 84 percent of the route lengths (5.4 miles and 5.1 miles respectively). Route 2 is collocated for the shortest distance, at 4.0 miles (68 percent) and Route 4 is collocated for 4.6 miles (70 percent).

6.0 CONCLUSIONS AND RECOMMENDATIONS

Considering all of the factors discussed in this report, C2 and the Company have reached the following conclusions.

6.1 REJECTION OF ROUTE 4

While the same length as Route 3, Route 4 would have significantly greater environmental impacts. As noted in Section 5.0 above, the majority of public feedback associated with Route 4 was negative. The public understood that the route had significantly greater environmental impacts compared with the other route alternatives. The route would require the most clearing of forested lands of all route alternatives including bisecting large, forested tracts, thereby fragmenting forested land and habitat. Route 4 would also impact the greatest amount of ecological cores, including a portion of the route that bisects a large C3 ranked core, thereby causing more significant impacts when compared with the other route alternatives. The route would also have the largest amount of wetland impacts and the second largest number of waterbody crossings.

Route 4 follows the back end of undeveloped parcels within the West Creek Business Park, closely following the floodplain of Tuckahoe Creek. The route would have a greater impact on forested stream buffers and forested riparian wetland systems. This would negatively impact the watershed and wetland functions and values. A significant portion of the alignment of Route 4 would require the removal of forested riparian habitat that is adjacent to Tuckahoe Creek and associated unnamed tributaries, including portions of the floodplain and the floodway. These impacts on the riparian system surrounding Tuckahoe Creek and its associated unnamed tributaries would be permanent, as Dominion would need to maintain a cleared right-of-way across this area. While these impacts would be mitigated to a certain extent by best management practices, some degradation of the function and value of the wetland system may continue to occur.

Route 4 is the only route that crosses the proposed East End Trails, and would generally parallel the proposed trail system for approximately 1.2 miles. Route 4 would also have the greatest potential to impact previously recorded archaeological resources. The route crosses three known sites, one of which would require a structure to be placed within the previously identified site boundary.

For these reasons, and because three viable route alternatives with fewer environmental impacts are available, the Company has rejected Route 4 from further consideration and has decided to not propose this route for notice as a route alternative.

6.2 PROPOSED ROUTE – ROUTE 3

Route 3 was selected as the Proposed Route for the Project for the reasons described in this section. While the route is longer than both Routes 2 and 5, it balances a variety of impacts along with keeping portions of the route further from residential areas in Goochland County. There is one residence located within 250 and 500 feet from the centerline of Route 3, however this residence is abandoned and associated with an unevaluated aboveground historic resource on the east side of Route 288. As noted in Section 5.0, Route 3 received

primarily positive feedback from the public and both the Goochland County BOS and the Economic Development Authority are in support of Route 3 as it stays further from residential areas where possible and is located in areas the County believes likely to be developed by non-residential uses. Letters of support from the County are included in Appendix H.

Route 3 maximizes collocation and crossings of the Goochland County TOD. Route 3 is collocated with existing linear features (roads and utilities) for 84 percent of the route, the same percentage as Route 5, and a greater percentage than Route 2 (68 percent). Based on the current TOD boundary (which excludes roadways), 74 percent of Route 3 is located within the TOD. On the east side of Route 288 there is an interior “paper road” that is not included in the TOD, however it is the Company’s understanding that the location of this road is subject to change based on future development. As such, when including crossings of this road within the TOD, 79 percent (5.1 miles) of Route 3 is in the TOD. This is greater than the percentage for Route 5 (73 percent) and less than the percentage for Route 2 (80 percent).

While all routes cross the same two planned developments, Route 3 crosses a larger number of future developments (3) compared with Routes 2 (1 future development crossed) and Route 5 (2 future developments crossed). Based on conversations that have occurred to date with developers of these planned developments, no impacts to buildings within developments with filed site layouts would occur. As previously noted for the Asgard Properties, Route 3 conflicts with seven potential buildings (one commercial and six residential) based on the preliminary conceptual site plan shared with Dominion in January 2026. Adjusting the route to avoid direct conflicts with potential future buildings would cause the route to conflict with an existing commercial building. As Dominion has not received any formal documentation that this building will be demolished, the alignment through this future development has not been adjusted. Dominion will continue to coordinate with the developer on this crossing to minimize impacts on the future development if Routes 3, 4, or 5 are selected as the preferred route by the SCC and if the future development moves forward through County permitting processes. Dominion will continue to coordinate with developers as the Project moves forward.

Route 3 would require three crossings of Route 288 compared with one crossing for both Routes 2 and 5. Route 3 avoids crossing the interchange of Route 288 and Tuckahoe Creek Parkway which is required along Route 5. In total, Route 3 crosses 12.3 acres of VDOT rights-of-way, which is more than Route 2 (7.7 acres), and less than Route 5 (14.9 acres). Route 3 would require five structures to be placed in VDOT rights-of-way.

Overall, Route 3 results in negligible to minor visual change across most viewpoints, with moderate visual change limited to transportation-oriented setting along Broad Street (250) (KOP 5).

Route 3 would require more acres of forest clearing and impacts on ecological cores when compared with Routes 2 and 5. However, when looking at the overall percentage of each route that is comprised of forested land, the route alternatives are very similar (81 percent for Routes 2 and 3 and 80 percent for Route 5). The majority of forested land that would be cleared for Route 3 would be in areas where the alignment is collocated with existing roadways, clearing near the edges of forest, thereby reducing potential impacts associated with forest fragmentation.

Route 3 would impact an estimated total of 9.7 acres of wetlands, which is fewer than Route 2 (14.4 acres) and more than Route 5 (8.6 acres). Similarly for waterbody crossings, Route 3 would cross 23 waterbodies, which is fewer than Route 2 (33 crossings), and more than Route 5 (22 crossings).

6.3 ALTERNATIVE ROUTE - ROUTE 2

Route 2 represents a viable, but less favorable alternative to Route 3. As described in Section 5.0, Route 2 received primarily negative feedback from the public who had concerns that the route was closer to both Readers Branch and Bellview Gardens residential communities. Route 2 has the largest number of residences in proximity to the route. A total of five residences are within 500 feet of the centerline of Route 2, two of which are also within 250 feet of the centerline. Route 2 is also collocated with existing linear infrastructure for the lowest percentage of the route (68 percent) and would have the greatest amount of wetland and waterbody impacts when compared with Routes 3 and 5.

Overall, Route 2 would result in predominantly negligible to minor visual change, with moderate visual change limited to localized roadway crossing visibility at Broad Street (250) near the entrance to the Bellview Gardens residential community (KOP 4) and skyline exposure from the Capital One recreation field (KOP 9).

Route 2 would have the least amount of impacts on VDOT rights-of-way and crosses the least amount of planned developments. The route would cross 0.6 mile of VDOT right-of-way and only requires one crossing of Route 288. While the route would require three structures in VDOT right-of-way, none of these structures would be located within a cloverleaf of an interchange. Route 2 avoids crossing both the Broad Street / Route 288 interchange and the Route 288 / Tuckahoe Creek Parkway interchange.

Route 2 crosses two planned developments and one future development, all of which are crossed where the three routes share a common alignment. Route 2 is the only route that avoids crossing the Asgard Property future development. At the time of this filing, while a variety of documents have been filed with the County for this development, no official POD or site plan with building layouts has been filed. The developer has filed conceptual land use layouts, for which rezoning would need to occur in order for these types of development to be constructed. As noted above in Section 6.2, the Company will continue to coordinate with the developer on the crossing of the property if Routes 3 or 5 are selected as the preferred route by the SCC.

6.4 ALTERNATIVE ROUTE - ROUTE 5

Route 5 represents a viable, but less favorable alternative to Route 3. As described in Section 5.0, Route 5 received primarily positive feedback from the community. Residents liked that the route was collocated with Route 288 and that it had fewer environmental impacts when compared with Route 3 as discussed in the section above. Route 5 is collocated with existing linear infrastructure for the same percentage (84 percent) as Route 3. The route has the smallest percentage (73 percent) of the route located within the TOD. Overall, Route 5 results in predominantly negligible to minor visual change, with moderate visual change limited to transportation-oriented view along Broad Street (250) (KOP 5).

Route 5 was considered less favorable than Route 3 as it does not cross to the east side of Route 288 and stays on the west side, closer to residential and existing commercial development. As noted in Sections 3.1.7 and 4.1.6, there are already two future developments proposed for the east side of Route 288, and the County anticipates additional higher energy customers proposing development in this area. Having a transmission line routed in this area may provide cut-in options for future developers.

Additionally, Route 5 would have the greatest impact on VDOT rights-of-way (1.2 miles) and the largest number of structures (7) needing to be located within VDOT rights-of-way. Route 5 is the only route that crosses the Route 288 / Tuckahoe Creek Parkway interchange. While the Company has structures in interchanges across the state, they are cognizant of the fact that the permitting for these structures can take additional time and coordination with VDOT. At the time of this filing, the Company does not anticipate that the crossings of these interchanges would impact the schedule for the Project.

6.5 RECOMMENDATIONS

In conclusion, for the reasons discussed in the sections above, the Company is proposing to Notice Route 3 as the Proposed Route and Routes 2 and 5 as Alternative Routes. Route 4 has been rejected from further consideration due to the increased environmental impacts of this route identified during this routing analysis.

7.0 REFERENCES

- 2000 West Creek, 2025. Luxury Apartment Amenities in Goochland. Available online at: <https://www.2000westcreek.com/amenities>. Accessed September 2025.
- 40 Eagle, 2025a. The Blufftons. Available online at: <https://www.eagleofva.com/new-homes/va/richmond/the-blufftons/9375/>. Accessed September 2025.
- 40 Eagle, 2025b. Readers Branch. Available online at: <https://www.eagleofva.com/new-homes/va/manakin-sabot/readers-branch-single-family-homes/8176/>. Accessed September 2025.
- Avery Point, 2025. Avery Point by Erickson Senior Living. Available online at: <https://www.ericksonseniorliving.com/avery-point>. Accessed September 2025.
- Bogeys Sports Park, 2025. Attractions. Available online at: <https://bogeysportspark.com/attractions/>. Accessed September 2025.
- CCB, 2025. CCB Mapping Portal. Available online at: <https://ccbbirds.org/maps/>. Accessed December 2025.
- Drive Shack, 2025. Drive Shack. Available online at: <https://www.driveshack.com/location/richmond/>. Accessed September 2025.
- FAA, 2023. FAA Regulations. Available online at: https://www.faa.gov/regulations_policies/faq_regulations. Accessed October 2025.
- FAA, 2025. Airport Data and Information Portal. Available online at: [Airport Data and Information Portal](#). Accessed December 2025.
- Goochland County, 2015. 2035 Comprehensive Plan. Available online at: <https://www.goochlandva.us/250/2035-Comprehensive-Plan>. Accessed October 2025.
- Goochland County, 2023. Goochland County Parks, Recreation & Facilities Master Plan 2020-2023 Amended. Available online at: <https://www.goochlandva.us/DocumentCenter/View/309/Parks-Master-Plan-PDF>. Accessed October 2025.
- Goochland County, 2025a. Technology Overland District and Technology Overlay Zone. Available online at: <https://www.goochlandva.us/1408/Technology-Overlay-District-Technology-Z>. Accessed November 2025.
- Goochland County, 2025b. Technology Overlay District Technology Zone Frequently Asked Questions. Available online at: https://www.goochlandva.us/DocumentCenter/View/12607/TOD-FAQs_Updated-9-27-25-?bidId=. Accessed November 2025.

Goochland County, 2025c. Community Development Frequently Asked Questions Handout. Available online at: <https://www.goochlandva.us/DocumentCenter/View/12417/Technology-Overlay-District-FAQ-Handout-?bidId=>. Accessed November 2025.

Goochland County, 2025d. Planning and Zoning FAQs. Available online at: <https://www.goochlandva.us/Faq.aspx?OID=220>. Accessed November 2025.

Goochland County, 2025e. Code of Ordinance. Available online at: https://library.municode.com/va/goochland_county/codes/code_of_ordinances. Accessed November 2025.

Goochland County, 2025f. GIS Web Viewers. Available online at: <https://www.goochlandva.us/1402/GIS-related-Web-Viewers>. Accessed December 2025.

Goochland County, 2025g. Capital One. Available online at: <https://www.goochlandforbusiness.com/192/Capital-One>. Accessed September 2025.

Goochland County, 2025h. CarMax. Available online at: <https://www.goochlandforbusiness.com/193/CarMax>. Accessed September 2025.

Goochland County, 2025i. East End Trails Phase 1. Available online at: <https://www.goochlandva.us/1260/East-End-Trails-Phase-I>. Accessed September 2025.

Goochland County, 2025j. Route 288/Broad Street Rd Improvements. Available online at: <https://www.goochlandva.us/1257/Route-288Broad-Street-Rd-Improvements>. Accessed October 2025.

Goochland County, 2025k. Route 288 Southbound Auxiliary Lane. Available online at: <https://www.goochlandva.us/1259/10797/Route-288-Southbound-Auxiliary-Lane>. Accessed October 2025.

Henrico County, 2023. Short Pump Area Interchange Access Report. Available online at: <https://henrico.gov/assets/Short-Pump-Area-IAR-Final-051923-1.pdf>. Accessed October 2025.

Henrico County, 2025. Tuckahoe Creek Park. Available online at: <https://henrico.gov/rec/places/tuckahoe-creek-park/>. Accessed September 2025.

HHunt 2025. Mosaic at West Creek. Available online at: <https://www.hhhuntcommunities.com/mosaic-at-west-creek-new-homes/overview.html>. Accessed September 2025.

MAA West Creek, 2025. MAA West Creek. Available online at: <https://www.maac.com/virginia/richmond/maa-west-creek/#amenities>. Accessed September 2025.

- Mosaic at West Creek, 2025. Community Map. Available online at: <https://www.hhhuntcommunities.com/mosaic-at-west-creek-new-homes/community-map.html>. Accessed September 2025.
- National Conservation Easement Database, 2025. Planning Application. Available online at: <https://site.tplgis.org/NCED/planningapp/>. Accessed December 2025.
- National Park Service, 2009. "Civil War Sites Advisory Commission Report Update and Resurvey," American Battlefield Protection Program. Accessed December 2025.
- Patterson Golf Park, 2025. Patterson Golf Park. Available online at: <https://pattersongolfpark.com/>. Accessed September 2025.
- Richmond Country Club, 2025. Amenities. Available online at: <https://www.richmondcountryclubva.com/>. Accessed September 2025.
- SCC, 2017. Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia. Available online at: [Guidelines for Transmission Line Applications](#). Accessed December 2025.
- U.S. Census Bureau, 2023a. American Community Survey 5-Year Estimates Census Data (2019-2023). File No. B03002, Hispanic or Latino Origin by Race. Available online at: [B03002: Hispanic or Latino Origin ... - Census Bureau Table](#). Accessed December 2025.
- U.S. Census Bureau, 2023b. American Community Survey 5-Year Estimates Census Data (2019-2023). File No. C17002, Ratio of Income to Poverty Level in the Past 12 Months. Available online at: [C17002: Ratio of Income to Poverty ... - Census Bureau Table](#). Accessed December 2025.
- U.S. Census Bureau, 2023c. American Community Survey 5-Year Estimates Census Data (2019-2023). File No. C16002, Household Language by Household Limited English Speaking Status. Available online at: [C16002: Household Language by ... - Census Bureau Table](#). Accessed December 2025.
- U.S. Census Bureau, 2023d. American Community Survey 5-Year Estimates Census Data (2019-2023). File No. B15002, Sex by Educational Attainment for the Population 25 Years and Over. Available online at: [B15002: Sex by Educational ... - Census Bureau Table](#). Accessed December 2025.
- U.S. Census Bureau 2023e. American Community Survey 5-Year Estimates Census Data (2019-2023). File No. B01001, Sex by Age. Available online at: [B01001: Sex by Age - Census Bureau Table](#). Accessed December 2025.
- USFWS, 2019. Bald Eagle Concentration Areas in Virginia. Available online at: <https://www.arcgis.com/home/item.html?id=0e5ca36a4056471db1b12c1b4065f3cb>. Accessed December 2025.

- USFWS, 2025. Information for Planning and Consultation online system. Available online at: <https://ipac.ecosphere.fws.gov/>. Accessed December 2025.
- USGS, 2025. PAD-US Overview. Available online at: <https://www.usgs.gov/programs/gap-analysis-project/science/pad-us-data-overview>. Accessed December 2025.
- VDOT, 2025. Virginia Byways. Available online at: <https://www.vdot.virginia.gov/travel-traffic/travelers/virginia-byways/#PrintableMap3>. Accessed October 2025.
- VDCR, 2021a. Overview of the Physiography and Vegetation of Virginia. Available online at: <https://www.dcr.virginia.gov/natural-heritage/natural-communities/document/ncoverviewphys-veg.pdf>. Accessed October 2025.
- VDCR, 2021b. Forest Conservation Values. Available online at: <https://www.dcr.virginia.gov/natural-heritage/vaconvisforest>. Accessed November 2025.
- VDCR, 2023. Virginia Natural Landscape Assessment. Available online at: <https://www.dcr.virginia.gov/natural-heritage/vaconvisvnl>. Accessed November 2025.
- VDCR, 2025a. Virginia Scenic Rivers Program. Available online at: <https://www.dcr.virginia.gov/recreational-planning/srmain>. Accessed October 2025.
- VDCR, 2025b. Department of Conservation and Recreation's Virginia Conservation Lands Database. Available online at: <https://www.dcr.virginia.gov/natural-heritage/clinfo>. Accessed December 2025.
- VDCR, 2025c. Natural Heritage Data Explorer. Available online at: <https://vanhde.org/>. Accessed December 2025.
- VDCR, 2025d. Natural Heritage Program. Available online at: <https://www.dcr.virginia.gov/natural-heritage/>. Accessed November 2025.
- VDCR, 2025e. Virginia Natural Landscape Assessment. Available online at: <https://www.dcr.virginia.gov/natural-heritage/vaconvisvnl>. Accessed November 2025.
- VDHR, 2008. Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia. Available online at: [DHR Guidelines](#). Accessed December 2025.
- VDHR, 2025. Virginia Cultural Resource Information (VCRIS) database and GIS server. Available online at: [V-CRIS - Log in](#). Accessed December 2025.
- VDWR, 2025a. Virginia Department of Wildlife Resources Fish and Wildlife Information Services. Available online at: <https://services.dwr.virginia.gov/fwis/>. Accessed December 2025.

VDWR, 2025b. Northern Long-eared Bat, Tri-colored Bat and Little Brown Bat Consultation Tool. Available online at: <https://dwr.virginia.gov/wildlife/bats/northern-long-eared-bat-tri-colored-bat-and-little-brown-bat-consultation-tool/>. Accessed December 2025.

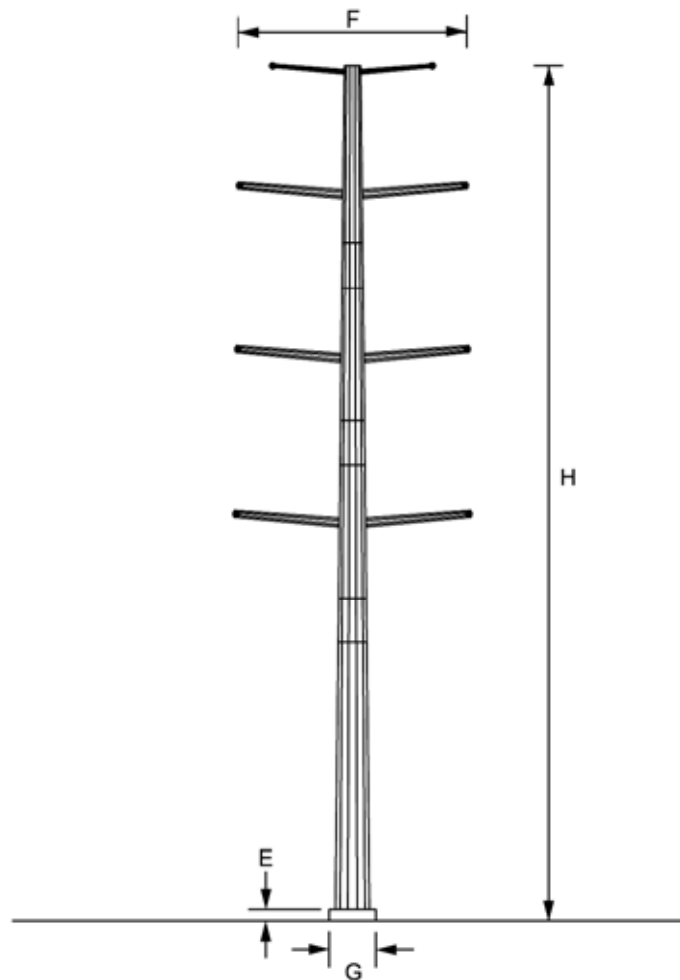
Virginia Department of Energy, 2025. Virginia Provinces and Fossils. Available online at: <https://energy.virginia.gov/geology/FossilProvinces.shtml#piedmont>. Accessed October 2025.

Virginia Department of Game and Inland Fisheries et al., 2012. Management of Bald Eagle Nests, Concentration Areas, and Communal Roosts in Virginia: A Guide for Landowners. Available online at: [Virginia Bald Eagle Guidelines for Landowners](#). Accessed September 2025.

West Creek, 2025. West Creek Business Park. Available online at: <https://www.westcreekva.com/>. Accessed September 2025.

APPENDIX A

Structural Drawings



TYPICAL DC ENGINEERED MONOPOLE DOUBLE DEADEND STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:	MINIMIZES RIGHT OF WAY ACQUISITION
C. LENGTH OF R/W (STRUCTURE QTY):	6.59 MILES (22) - SEE NOTE 1
D. STRUCTURE MATERIAL:	WEATHERING STEEL
RATIONALE FOR STRUCTURE MATERIAL:	WEATHERING STEEL WAS SELECTED TO MATCH THE RURAL NATURE OF THE PROPOSED RIGHT OF WAY
E. FOUNDATION MATERIAL:	CONCRETE
AVERAGE FOUNDATION REVEAL:	SEE NOTE 2
F. AVERAGE WIDTH AT CROSSARM:	26'
G. AVERAGE WIDTH AT BASE:	SEE NOTE 3
H. MINIMUM STRUCTURE HEIGHT (SEE NOTE 4):	96.5'
MAXIMUM STRUCTURE HEIGHT (SEE NOTE 4):	131.5'
AVERAGE STRUCTURE HEIGHT (SEE NOTE 4):	107.4'
I. AVERAGE SPAN LENGTH:	596' (317' - 1013')
J. MINIMUM CONDUCTOR-TO-GROUND:	22.5' (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. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE AND EXCLUDE FOUNDATION REVEAL
5. THE SPAN LENGTHS ASSOCIATED WITH THIS STRUCTURE 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
5000 Dominion Blvd.
Glen Allen, VA 23060

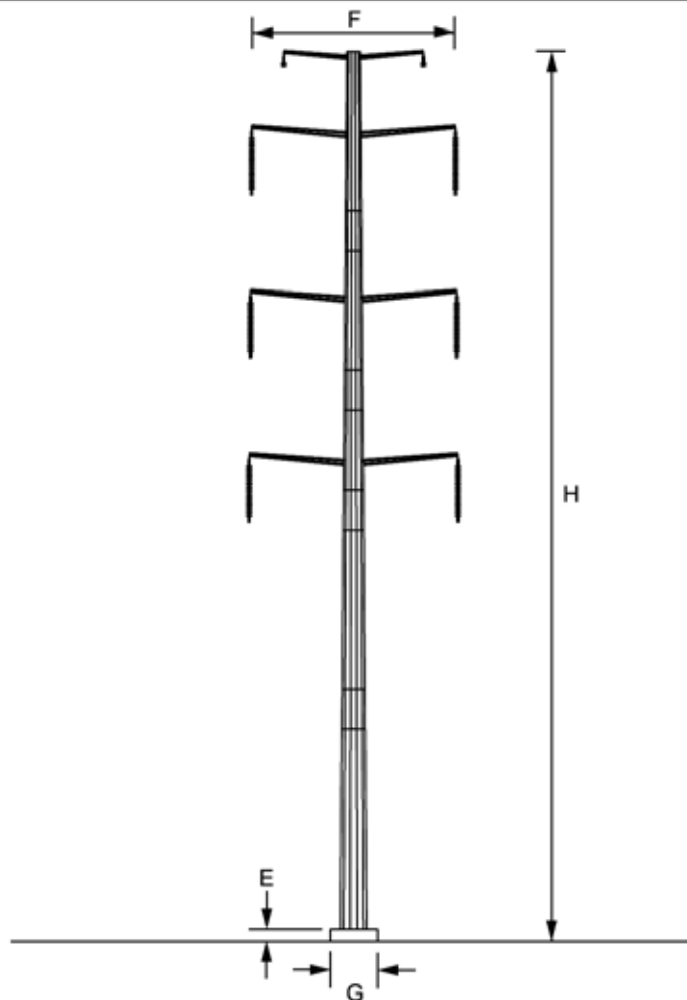
LINES 2009, 2510

TYPICAL DC ENGINEERED MONOPOLE
DOUBLE DEADEND STRUCTURE

ATTACHMENT NO.

II.B.3.a

DRAWN BY: LJC



TYPICAL DC ENGINEERED MONOPOLE SUSPENSION STRUCTURE (I-STRING)

B. RATIONALE FOR STRUCTURE TYPE:	MINIMIZES RIGHT OF WAY ACQUISITION
C. LENGTH OF R/W (STRUCTURE QTY):	6.59 MILES (25) - SEE NOTE 1
D. STRUCTURE MATERIAL:	WEATHERING STEEL
RATIONALE FOR STRUCTURE MATERIAL:	WEATHERING STEEL WAS SELECTED TO MATCH THE RURAL NATURE OF THE PROPOSED RIGHT OF WAY
E. FOUNDATION MATERIAL:	CONCRETE
AVERAGE FOUNDATION REVEAL:	SEE NOTE 2
F. AVERAGE WIDTH AT CROSSARM:	26'
G. AVERAGE WIDTH AT BASE:	SEE NOTE 3
H. MINIMUM STRUCTURE HEIGHT (SEE NOTE 4):	97'
MAXIMUM STRUCTURE HEIGHT (SEE NOTE 4):	132'
AVERAGE STRUCTURE HEIGHT (SEE NOTE 4):	116'
I. AVERAGE SPAN LENGTH (RANGE):	597' (337' - 784') - SEE NOTE 5
J. MINIMUM CONDUCTOR-TO-GROUND:	22.5' (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. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE AND INCLUDE FOUNDATION REVEAL
 5. THE SPAN LENGTHS ASSOCIATED WITH THIS STRUCTURE 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
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 Glen Allen, VA 23060

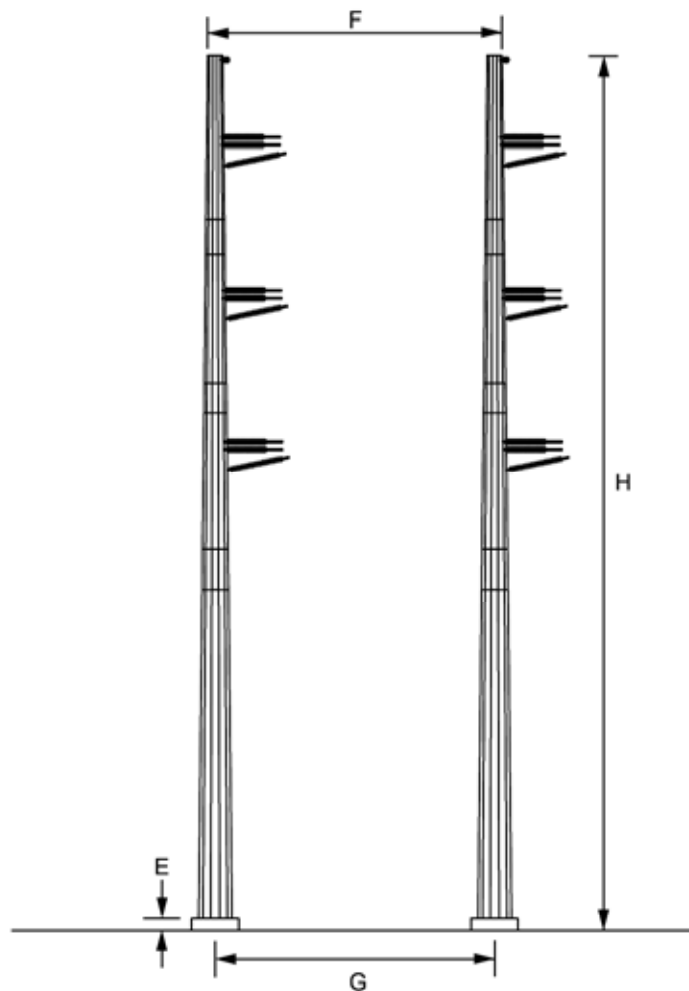
LINES 2009, 2510

TYPICAL DC ENGINEERED MONOPOLE
 SUSPENSION STRUCTURE (I-STRING)

ATTACHMENT NO.

II.B.3.b

DRAWN BY: LJC



TYPICAL DC ENGINEERED 2-POLE DOUBLE DEADEND STRUCTURE

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):	6.59 MILES (12) - SEE NOTE 1
D. STRUCTURE MATERIAL:	WEATHERING STEEL
RATIONALE FOR STRUCTURE MATERIAL:	WEATHERING STEEL WAS SELECTED TO MATCH THE RURAL NATURE OF THE PROPOSED RIGHT OF WAY
E. FOUNDATION MATERIAL:	CONCRETE
AVERAGE FOUNDATION REVEAL:	SEE NOTE 2
F. AVERAGE WIDTH BETWEEN POLE EDGES:	36'
G. AVERAGE WIDTH AT BASE:	34' - SEE NOTE 3
H. MINIMUM STRUCTURE HEIGHT (SEE NOTE 4):	97'
MAXIMUM STRUCTURE HEIGHT (SEE NOTE 4):	127'
AVERAGE STRUCTURE HEIGHT (SEE NOTE 4):	110'
I. AVERAGE SPAN LENGTH (RANGE):	562' (355' - 756') - SEE NOTE 5
J. MINIMUM CONDUCTOR-TO-GROUND:	22.5' (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. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE AND INCLUDE FOUNDATION REVEAL
 5. THE SPAN LENGTHS ASSOCIATED WITH THIS STRUCTURE 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 2009,2510

TYPICAL DC ENGINEERED 2-POLE
 DOUBLE DEADEND STRUCTURE

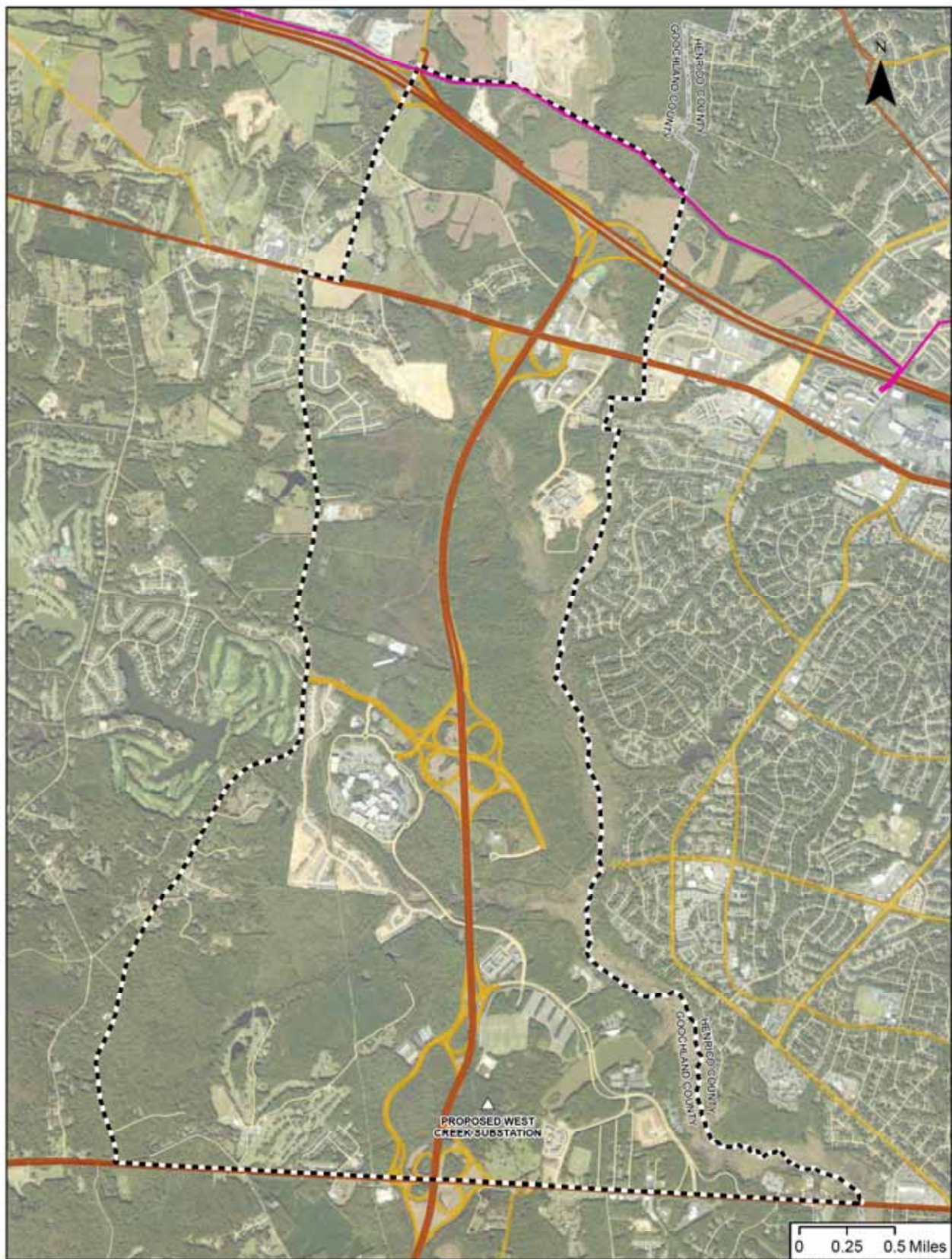
ATTACHMENT NO.

II.B.3.c

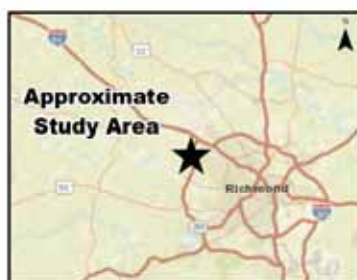
DRAWN BY: LJC

APPENDIX B

Figures



Scale is 1" = 0.5 Mi when printed at original size of 11x17

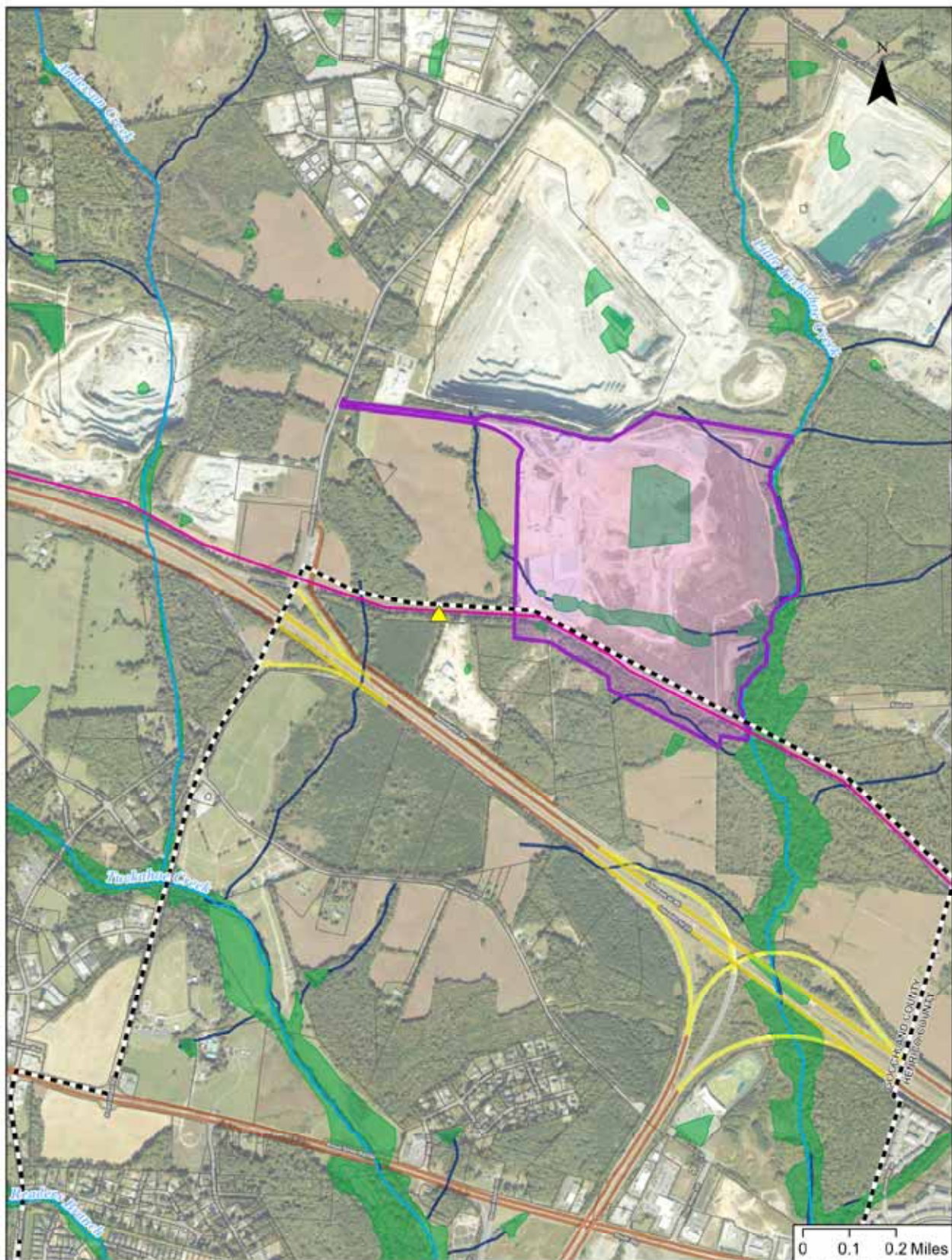


PROJECT DATA
 ■ Study Area
 △ Proposed Substation
 — Existing Dominion Transmission Line
 — County Boundary

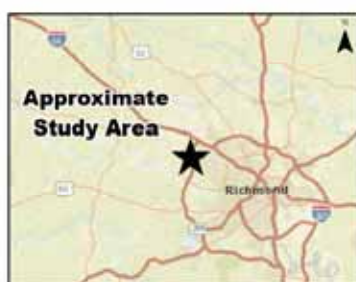
Figure 2.1-1 Study Area

230 kV West Creek Loop and Substation
 Dominion Energy Virginia
 Goochland County, Virginia





Scale is 1 ft = 0.2 Mi when printed at original size of 11x17



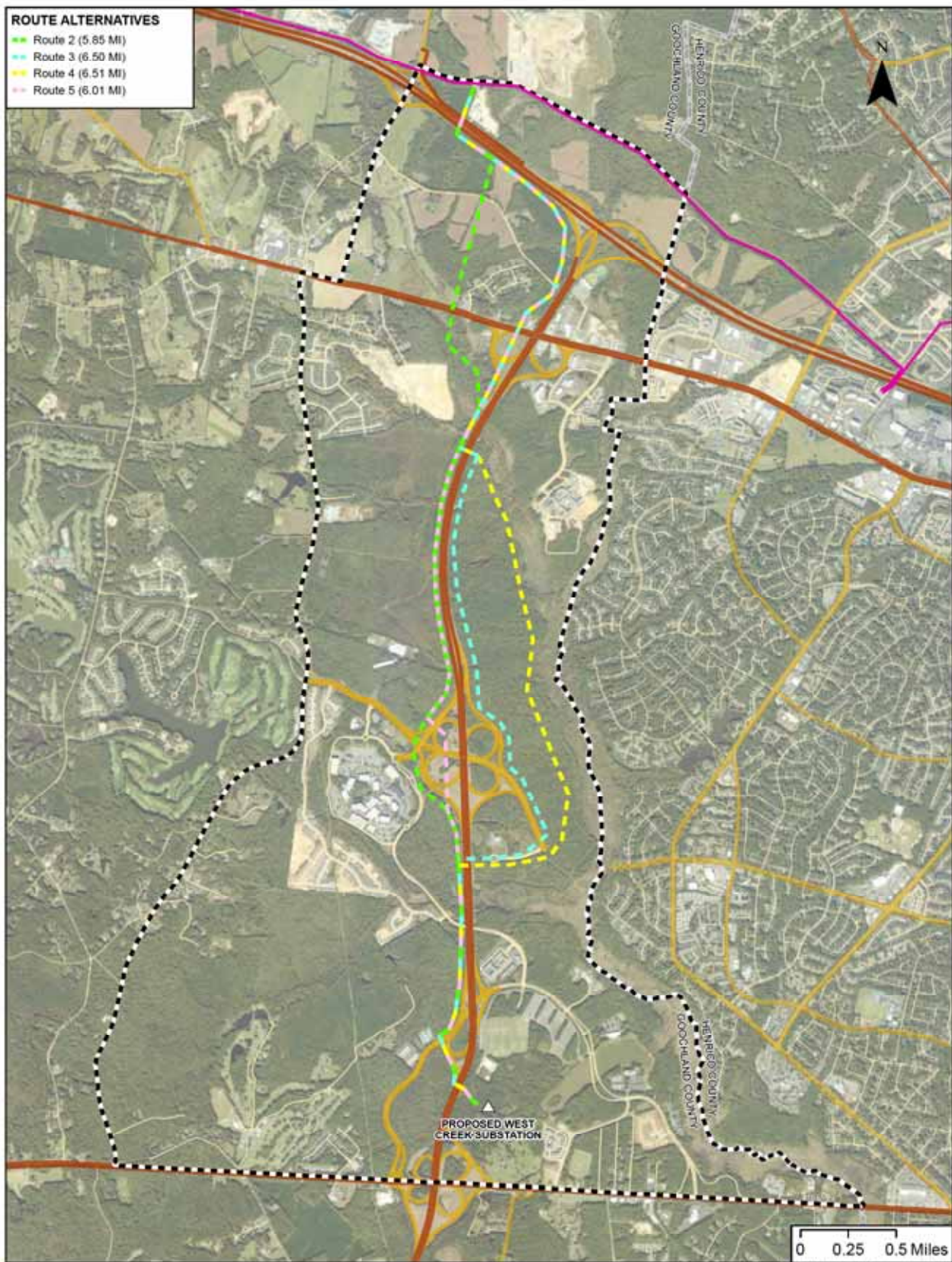
PROJECT AND CONSTRAINT DATA

- Study Area
- Existing Dominion Transmission Line
- ▲ Cut-In Location
- I-64 Interchange Crossing
- 623 Landfill
- NWI Wetland
- NWI Water Body
- USGS National Hydrography Stream Centerline
- Parcel Boundary
- County Boundary

Figure 2.3-1 Line 2009 Cut-In Location

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia





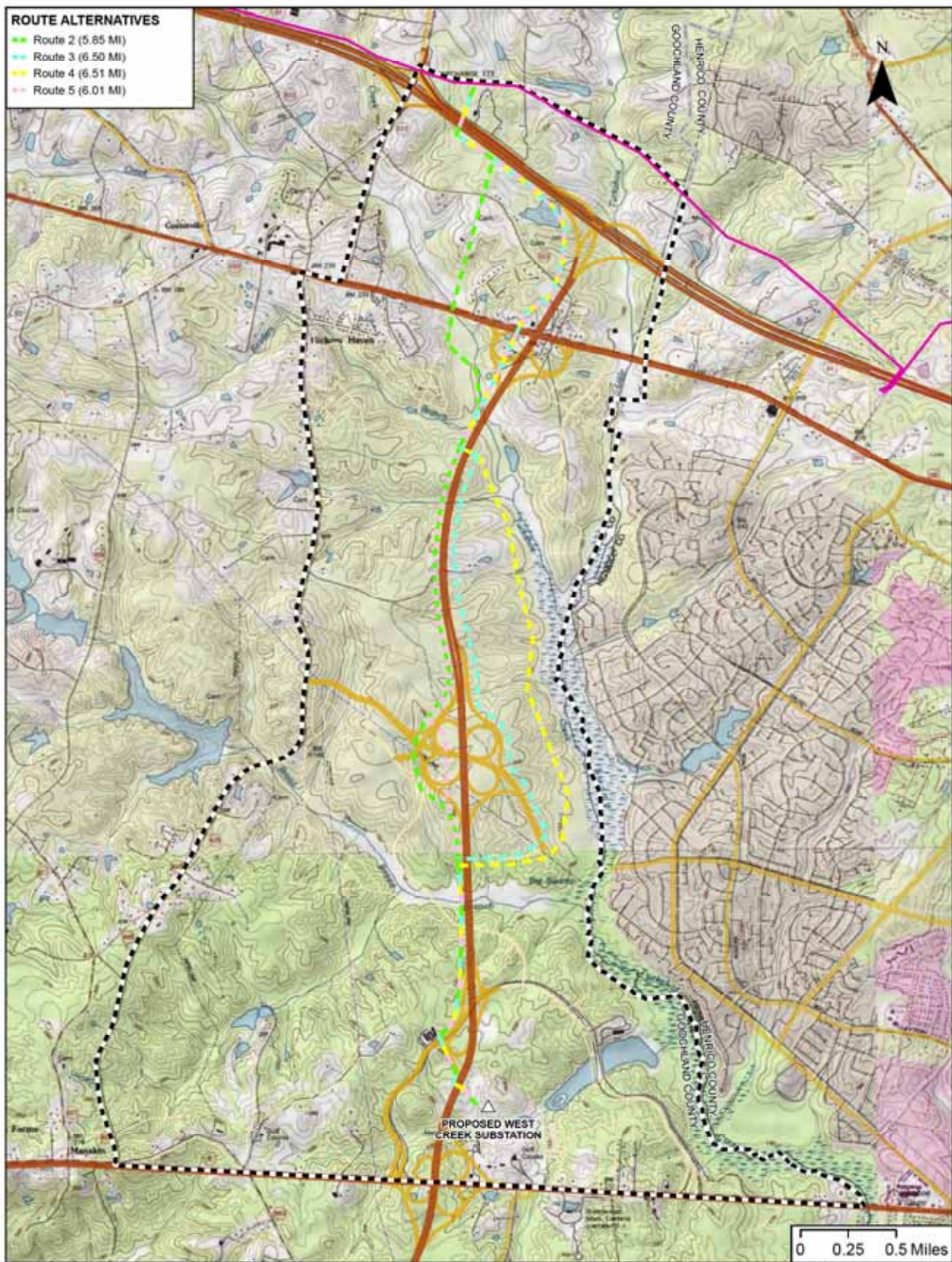
PROJECT DATA

- Study Area
- Proposed Substation
- Existing Dominion Transmission Line
- County Boundary

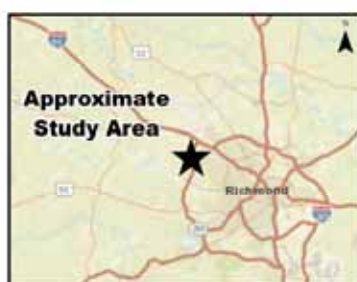
Figure 2.4-1 Route Alternatives (Aerials)

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia





Scale is 1" = 0.5 Mi when printed at original size of 11x17



PROJECT DATA

- Study Area
- Proposed Substation
- Existing Dominion Transmission Line
- County Boundary

Figure 2.4-2 Route Alternatives (Topos)

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia



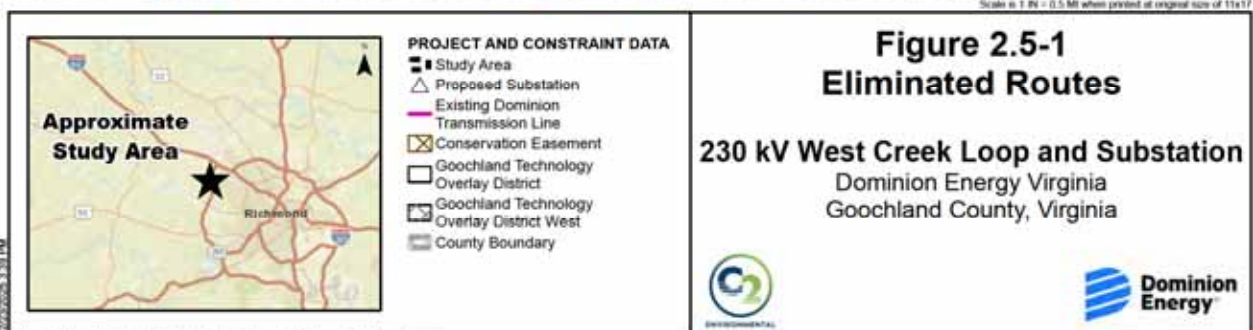
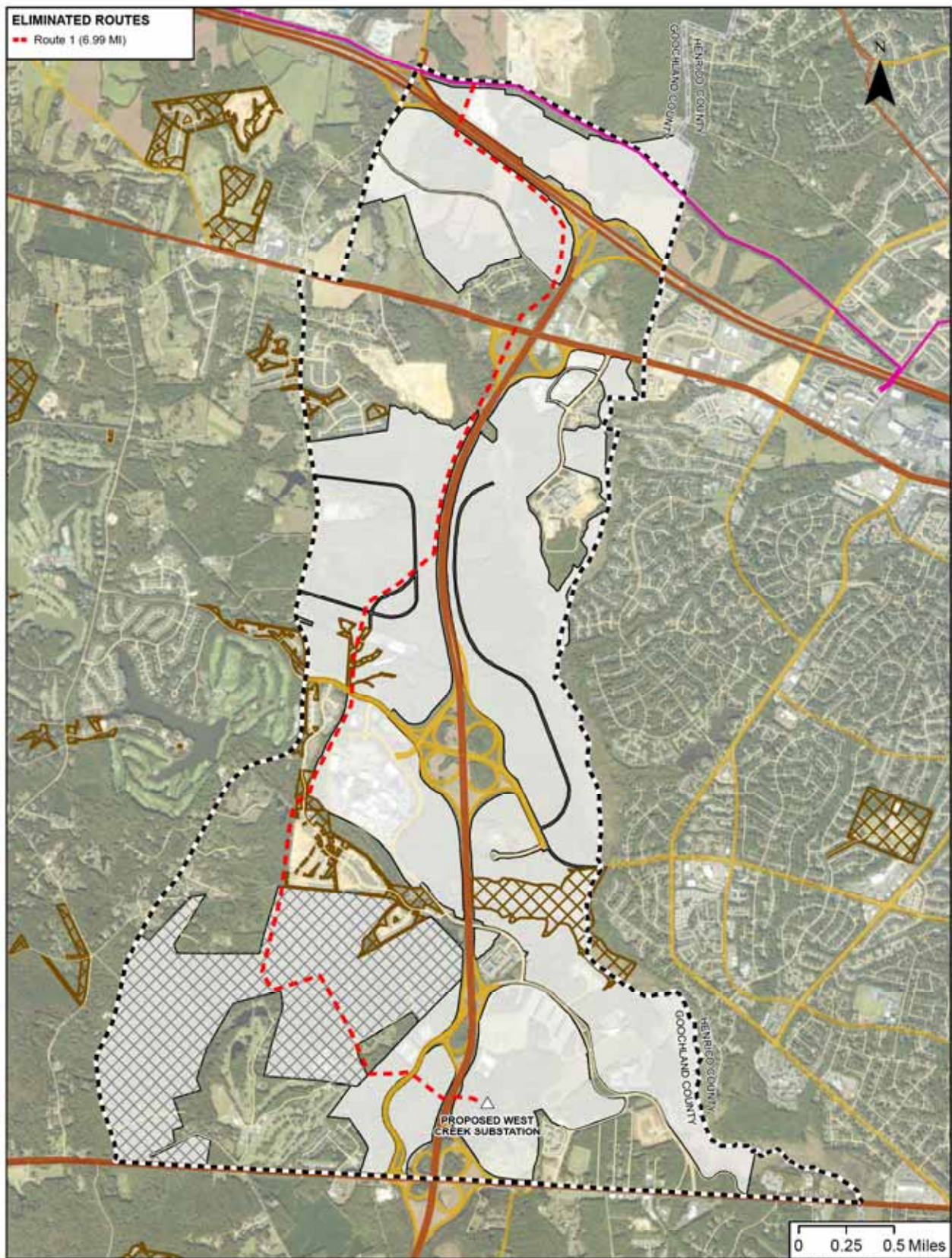




Figure 2.6-1 Western Solution

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goodland County, Virginia

- PROJECT DATA**
- Existing Substation
 - Proposed Substation
 - Existing Dominion Transmission Line
- CONSTRAINT DATA**
- Subdivision
 - VDHR Architectural Resource
 - Conservation Land
 - NW1 Wetland
 - NW1 Water Body
 - Virginia Byway
 - Potential Scenic River
 - Railroad
 - County Boundary

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Feet



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SHEET
1 OF 1

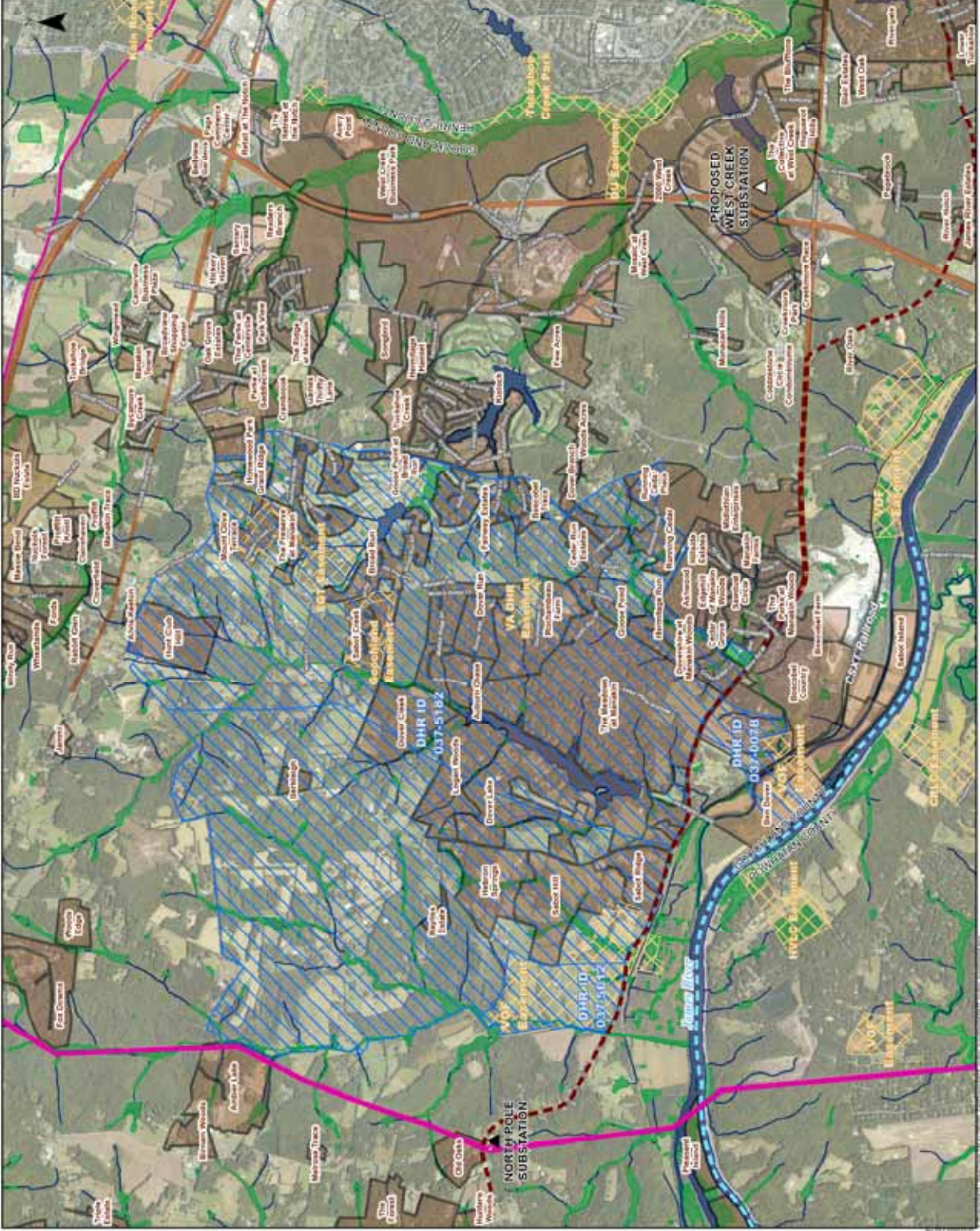




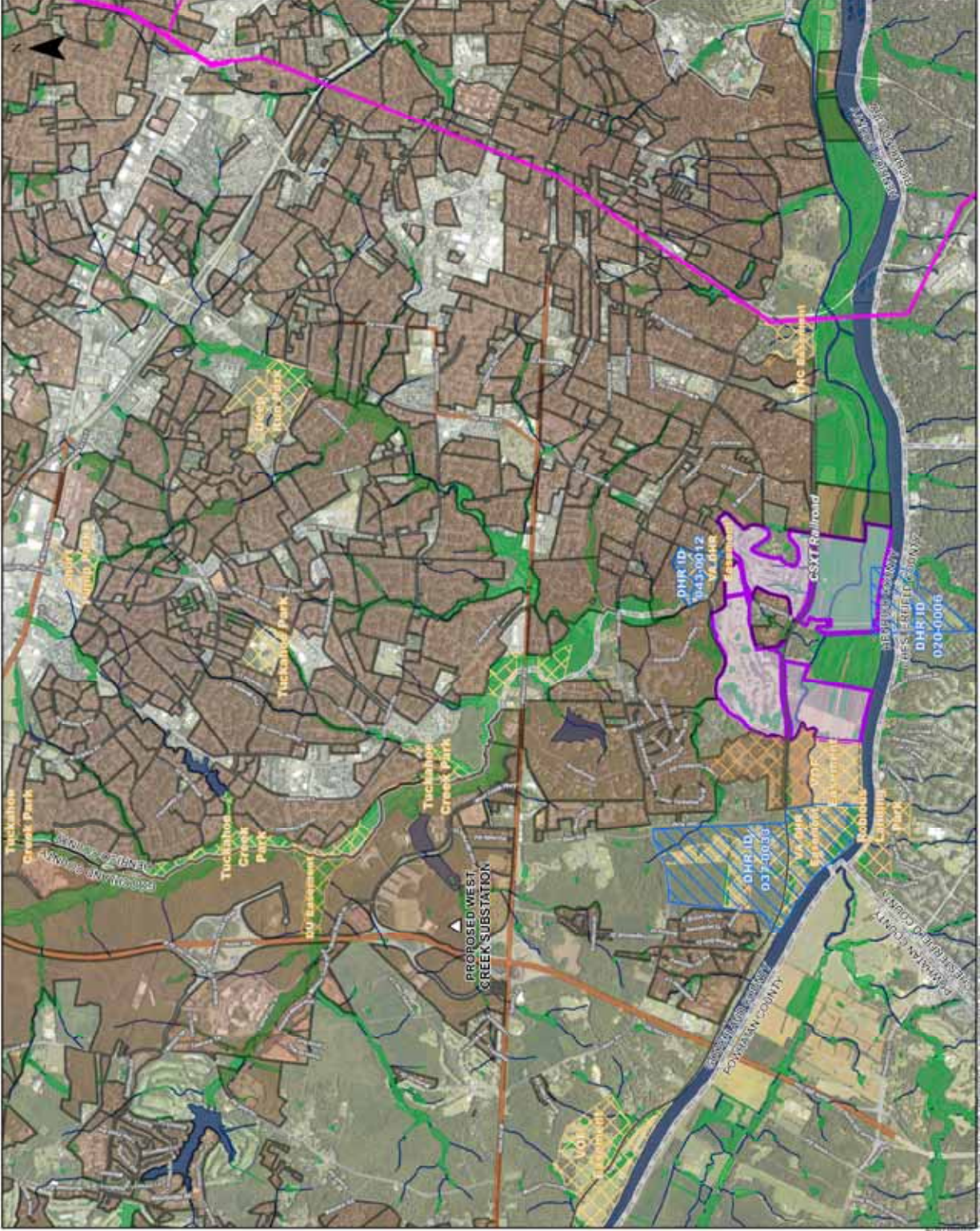
Figure 2.6-2
Eastern Solution
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goodland County, Virginia

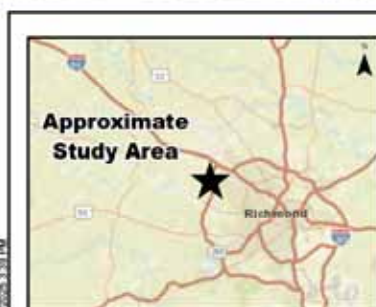
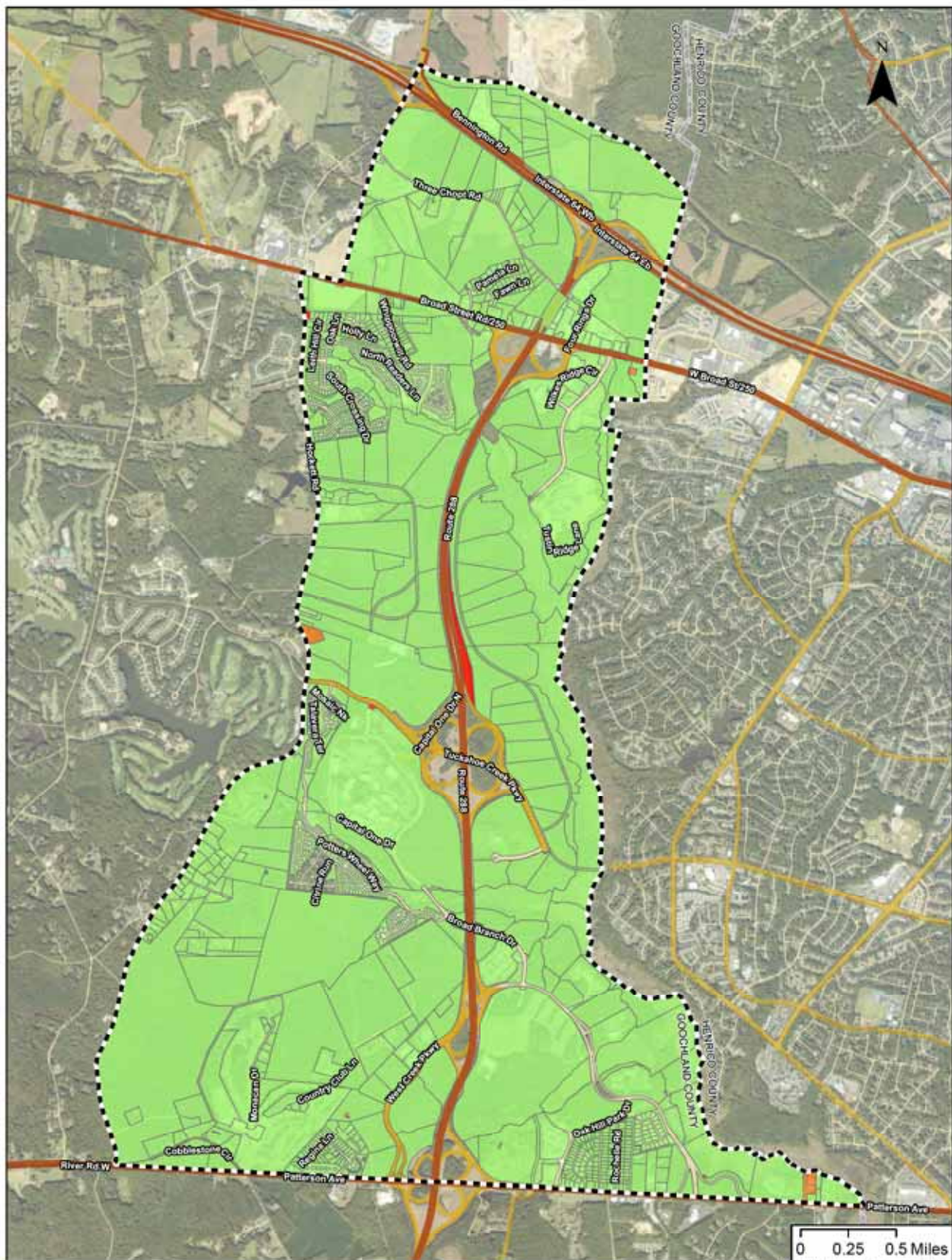
- PROJECT DATA**
- △ Proposed Substation
 - Existing Dominion Transmission Line
- CONSTRAINT DATA**
- Subdivision
 - Country Club of Virginia
 - Conservation Land
 - VDHR Architectural Feature
 - NW Water Body
 - NW Water Body
 - County Boundary
 - Railroad

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Feet



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SHEET
1 OF 1





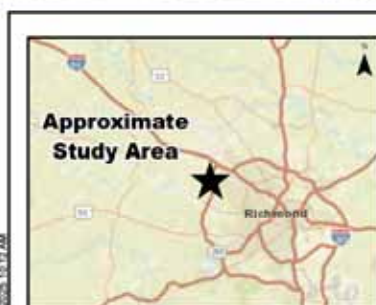
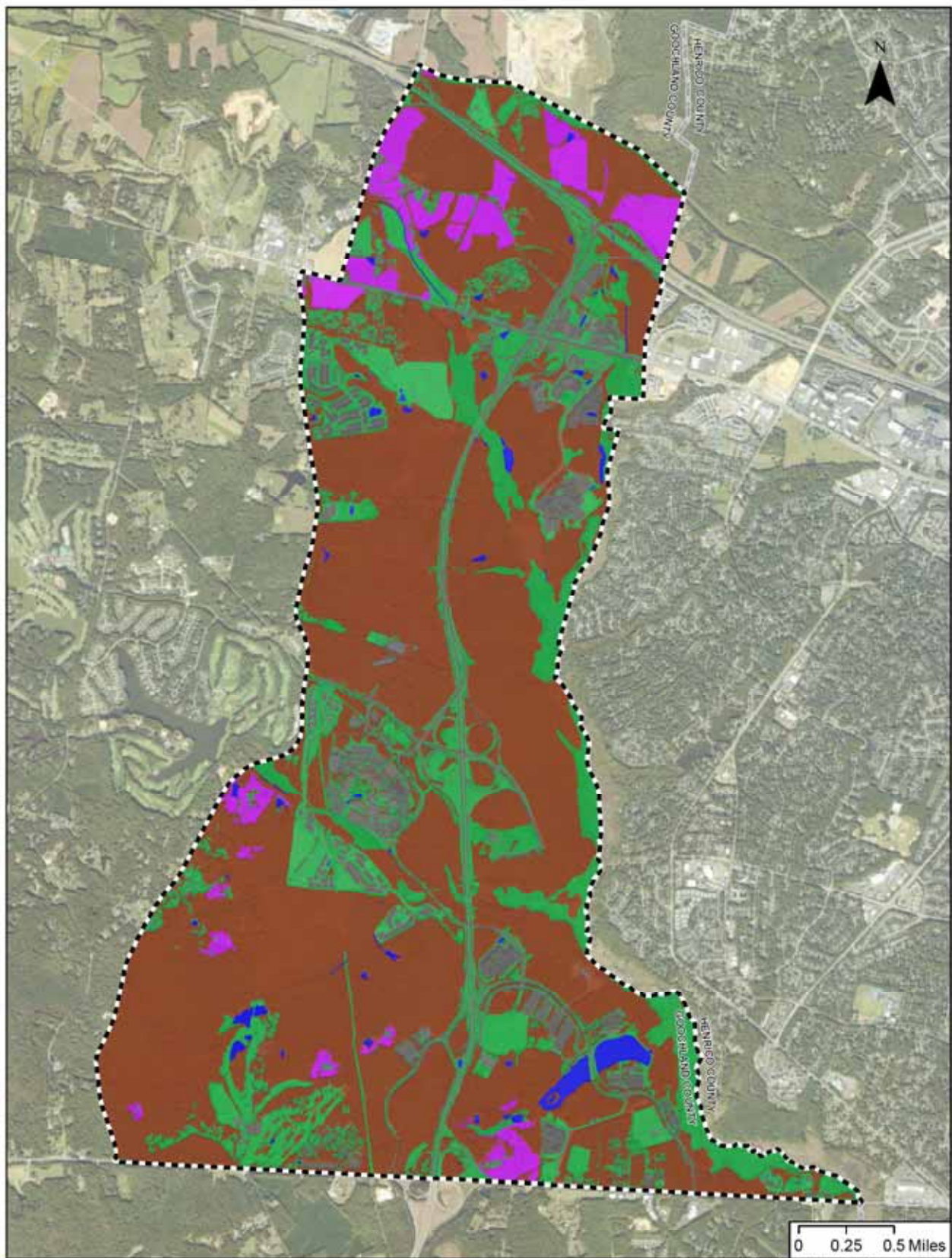
PROJECT AND CONSTRAINT DATA

- Study Area
- Parcel - Private Ownership
- Parcel - County Ownership
- Parcel - State Ownership
- County Boundary

Figure 3.1-1 Study Area Land Ownership and Roads

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia





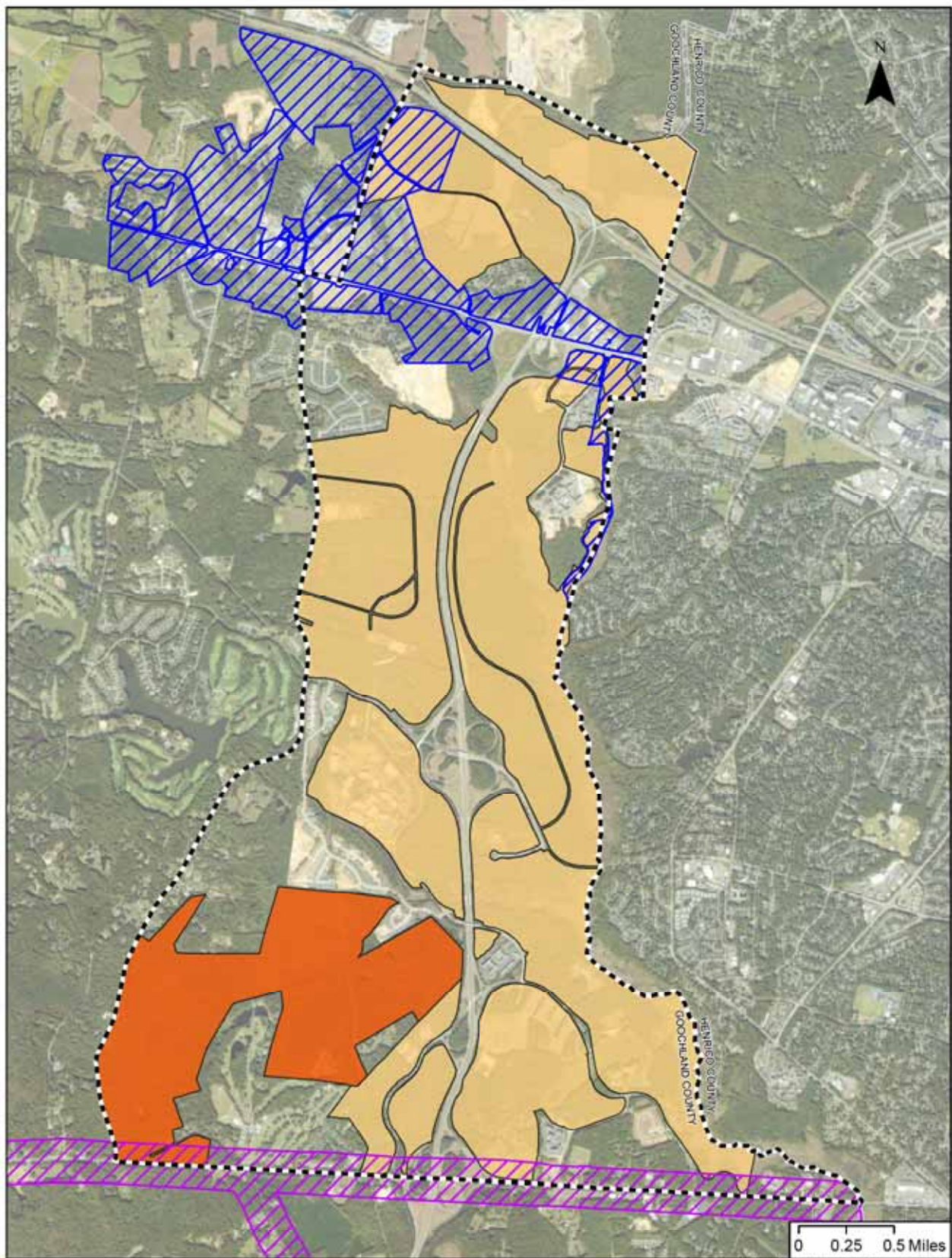
PROJECT AND CONSTRAINT DATA

- Study Area
- Agriculture
- Developed
- Forested
- Open Land
- Open Water
- County Boundary

**Figure 3.1-2
Study Area Land Use
and Land Cover**

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia





Scale is 1" = 0.5 Mi when printed at original size of 11x17



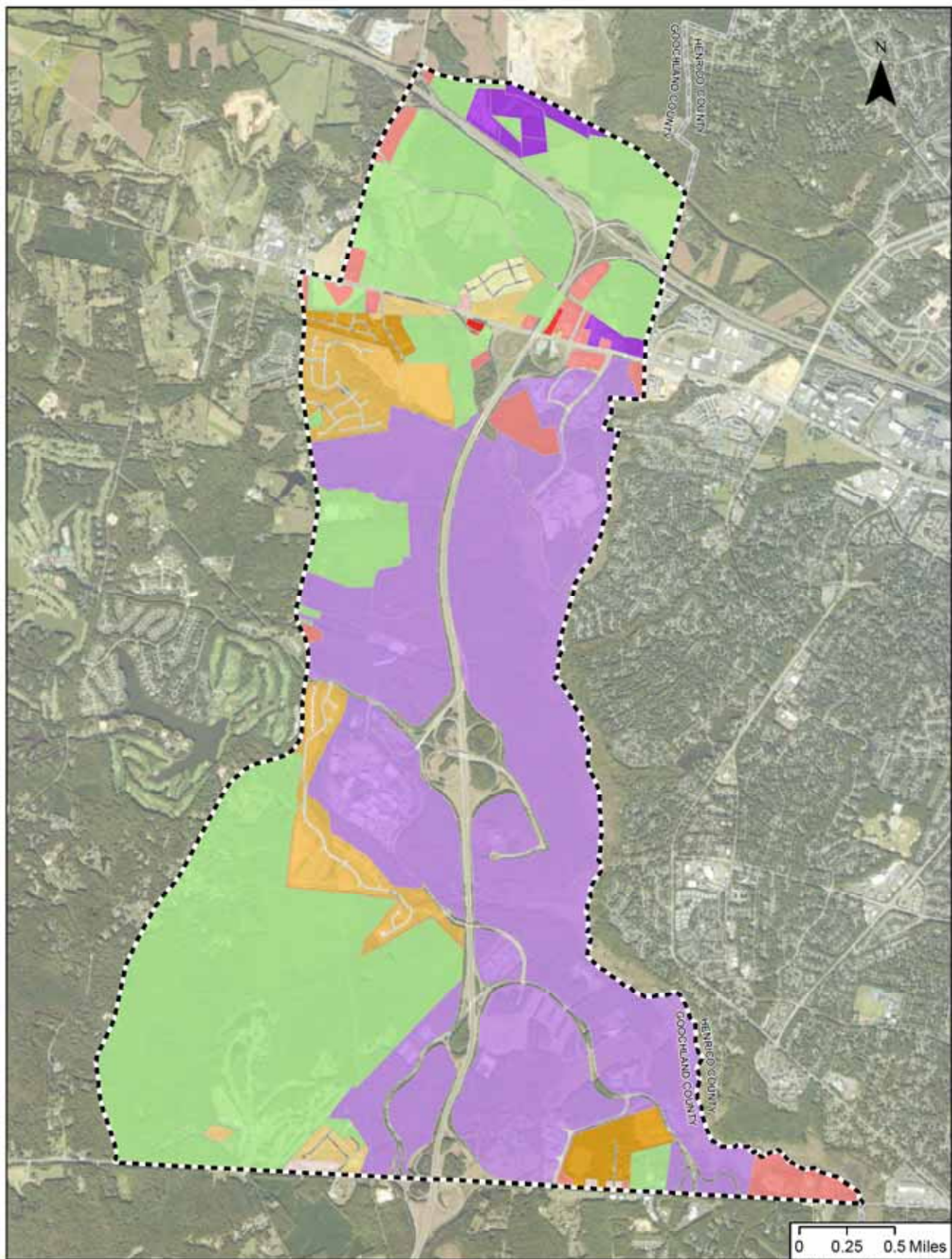
PROJECT AND CONSTRAINT DATA

- Study Area
- ▨ River Road Design Overlay
- ▨ Route 250 Design Overlay
- Technology Overlay District
- Technology Overlay District West
- ▬ County Boundary

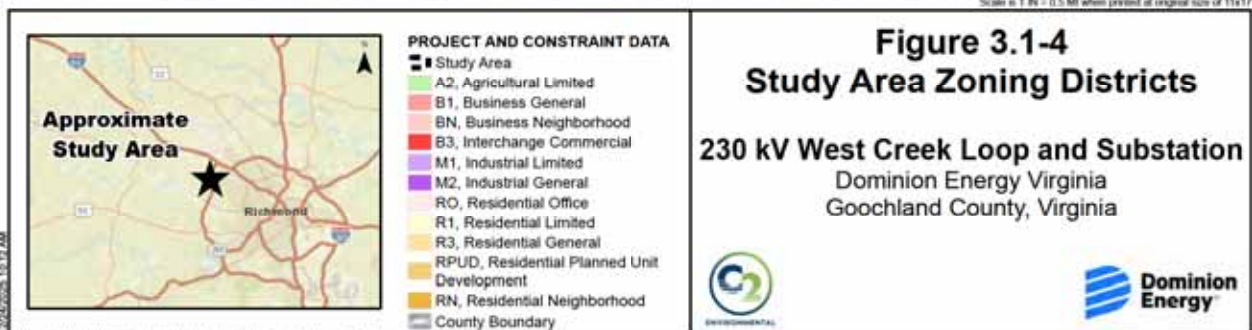
Figure 3.1-3 Study Area Land Use and Land Cover

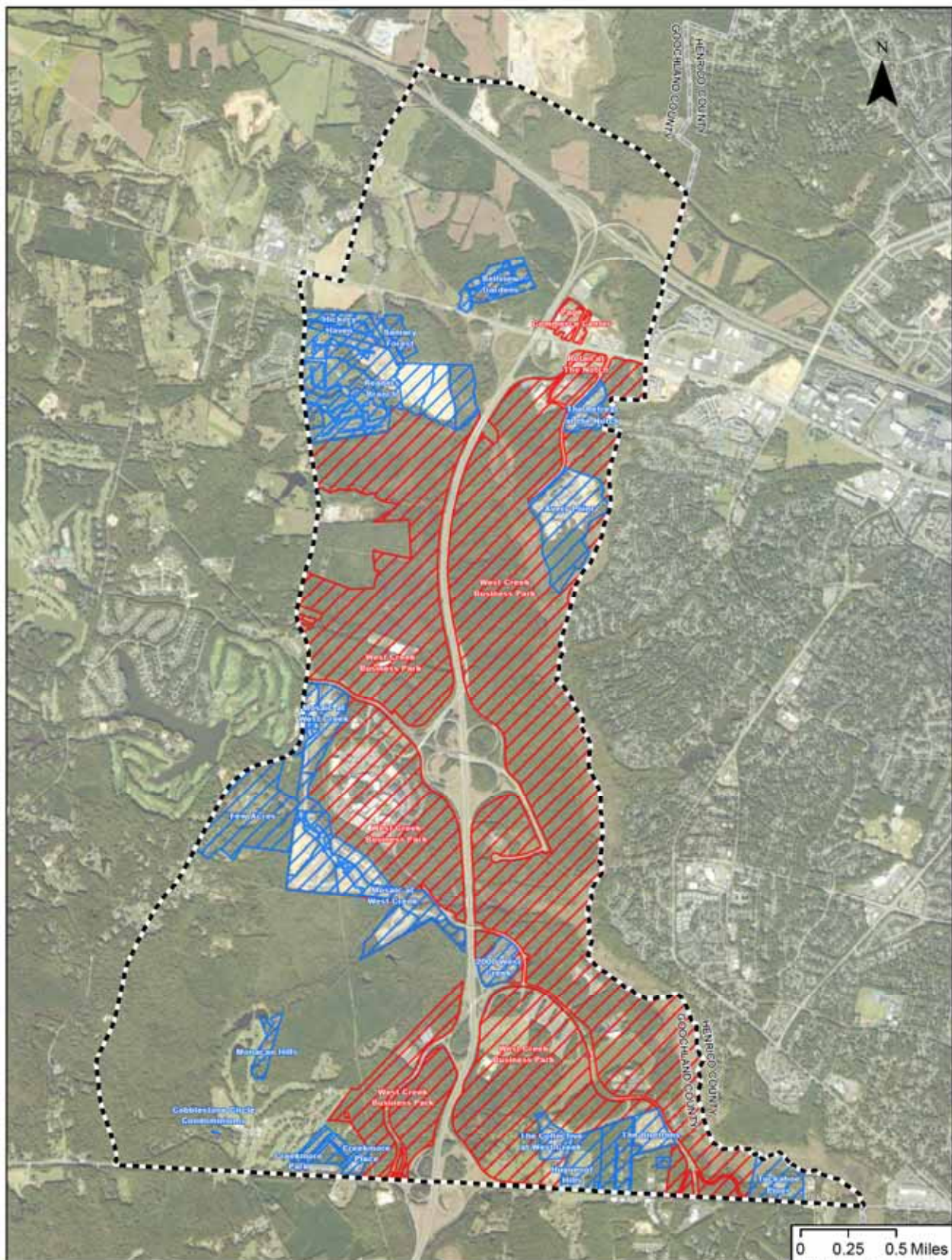
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia



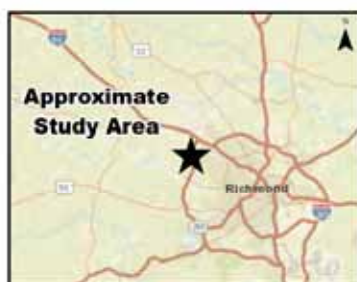


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Scale is 1" = 0.5 Mi when printed at original size of 11x17



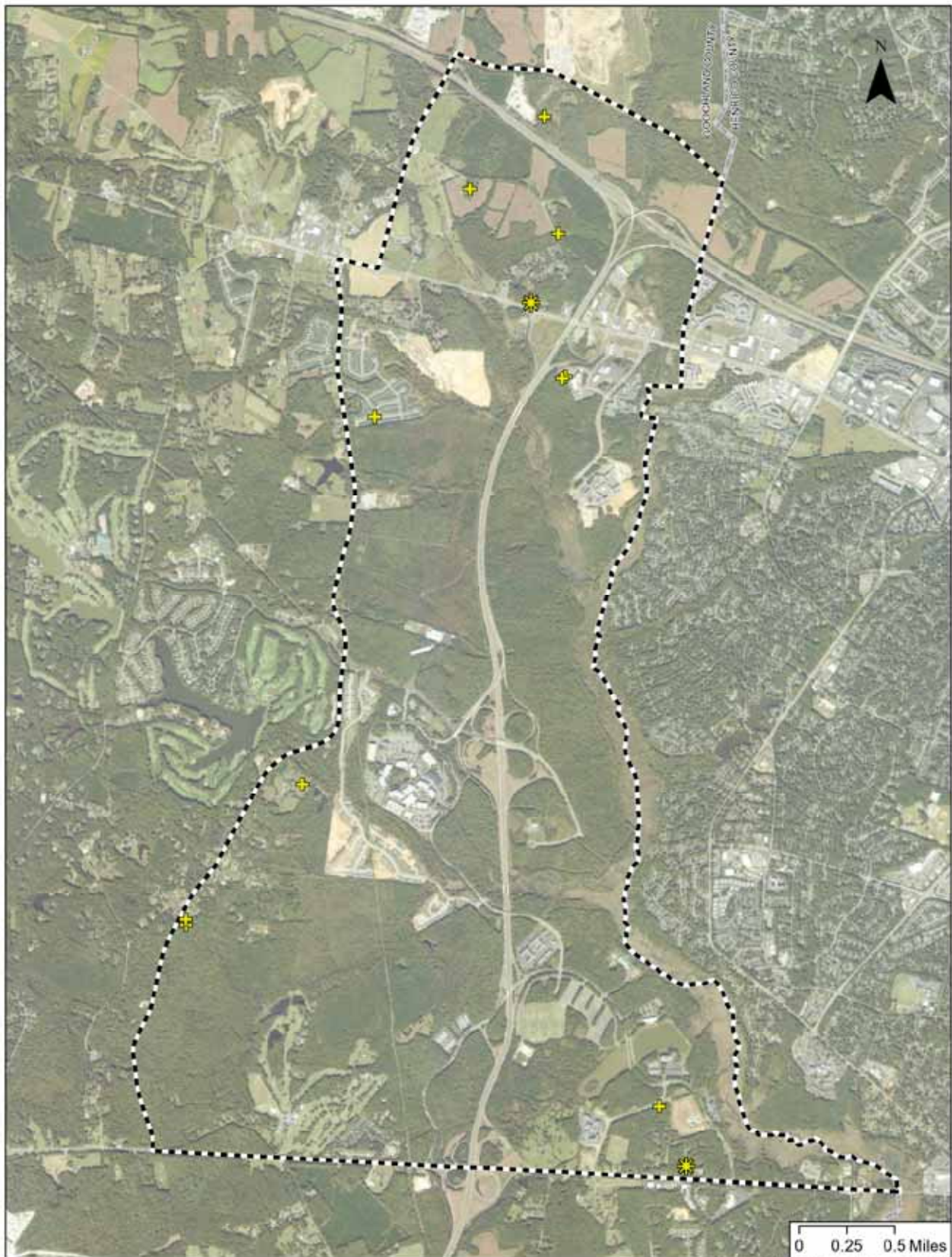
PROJECT AND CONSTRAINT DATA

- Study Area
- ▨ Commercial Subdivision
- ▨ Residential Subdivision
- ▬ County Boundary

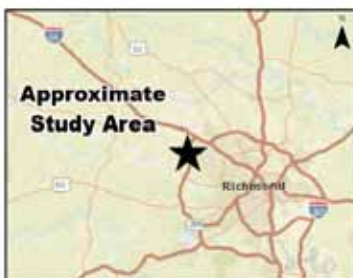
Figure 3.1-5 Residential and Commercial Subdivisions in the Study Area

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia





Scale is 1 in = 0.5 mi when printed at original size of 11x17



PROJECT AND CONSTRAINT

- Study Area
- Cemetery
- Place of Worship
- County Boundary

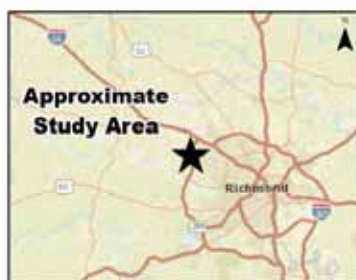
**Figure 3.1-6
Cemeteries and Places of
Worship in the Study Area**

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia





Scale is 1" = 0.5 Mi when printed at original size of 11x17

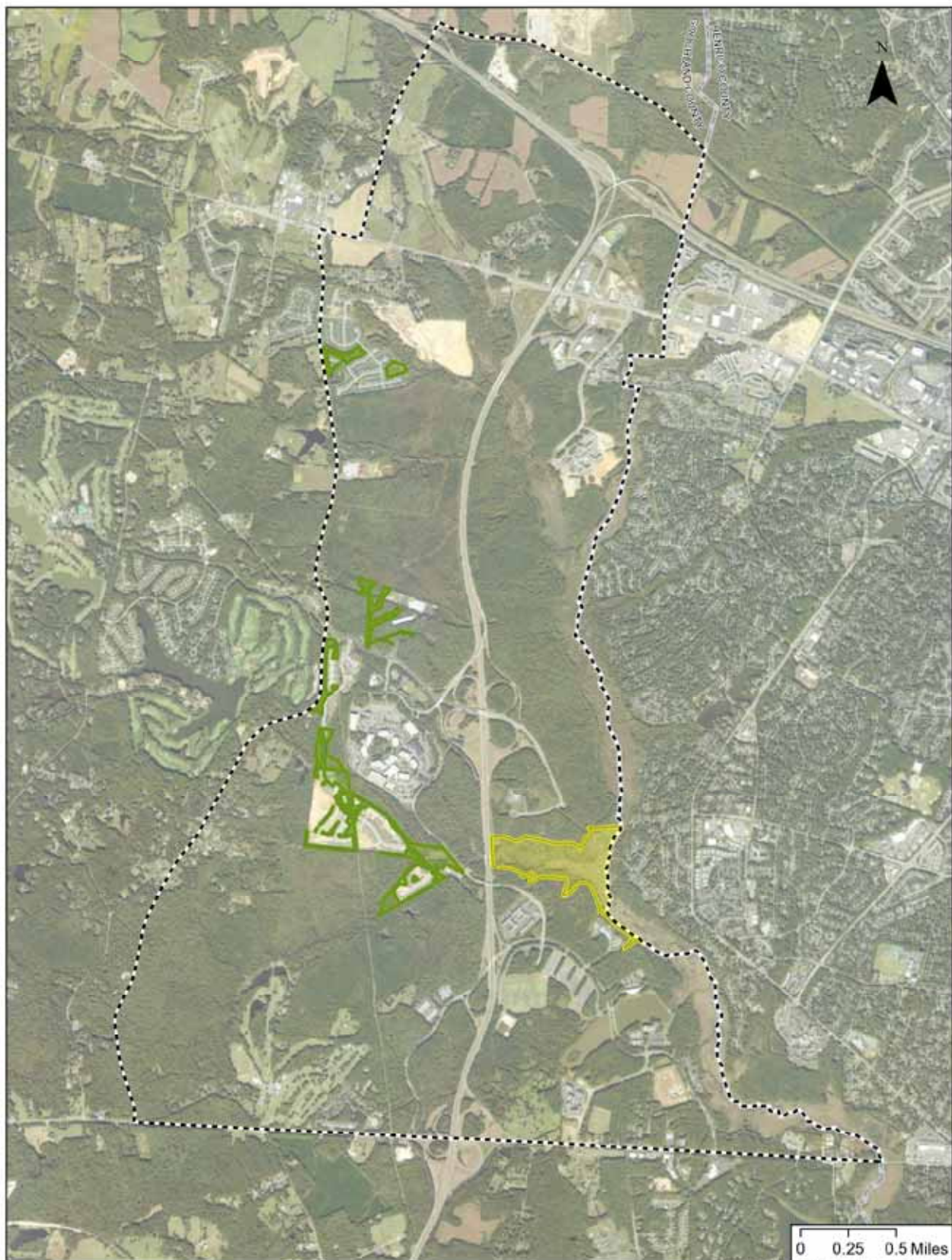


PROJECT AND CONSTRAINT DATA

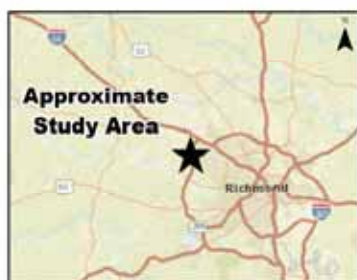
- Study Area
- Planned Development
- Future Development
- Planned Road Project
- County Boundary

Figure 3.1-7
Planned Developments, Future
Developments and Planned Road
Projects in the Study Area
230 kV West Creek Loop and Substation
 Dominion Energy Virginia
 Goochland County, Virginia





Scale is 1 in = 0.5 Mi when printed at original size of 11x17

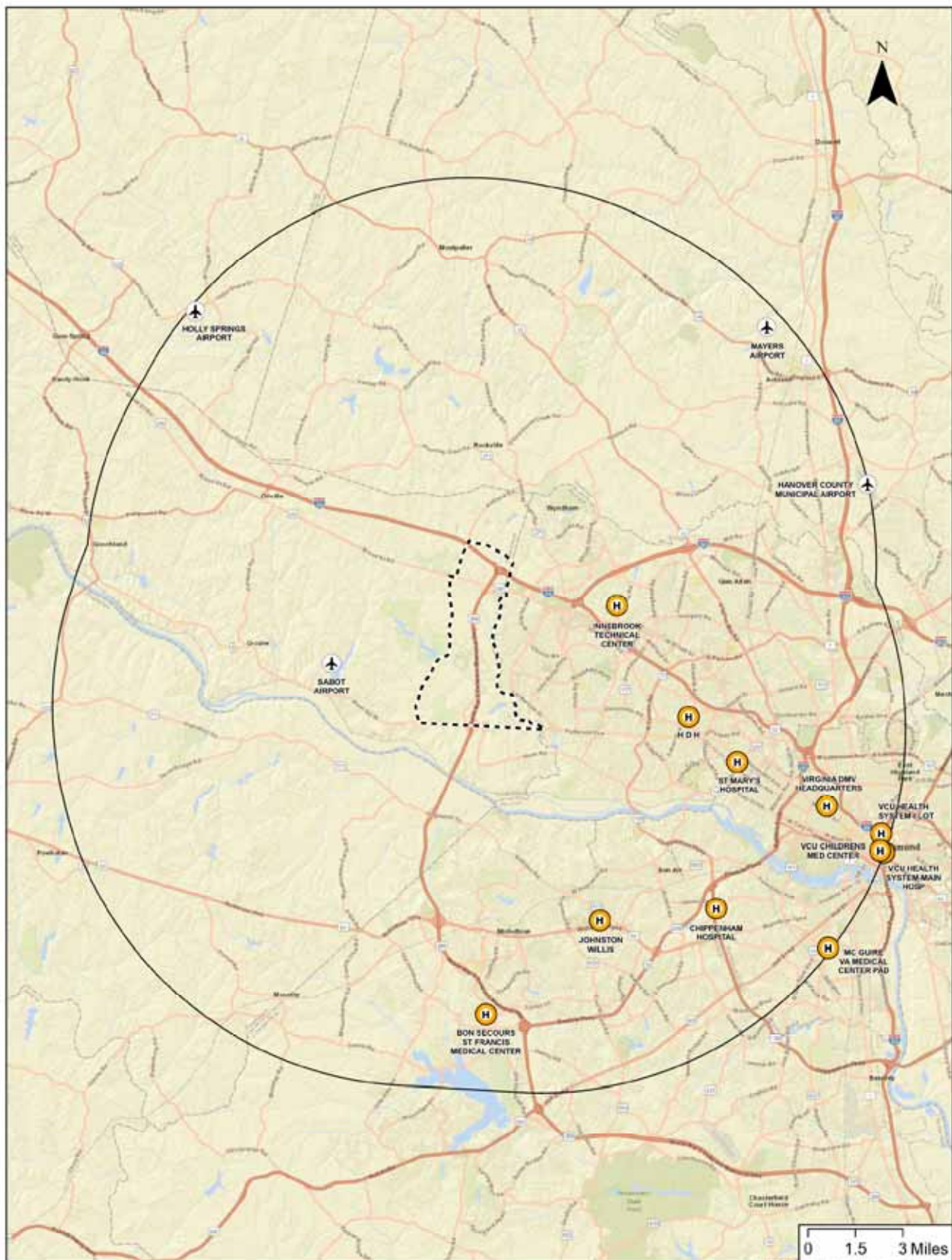


PROJECT AND CONSTRAINT DATA
 - Project Area
 - Private Conservation Easement
 - Ducks Unlimited Easement
 - County Boundary

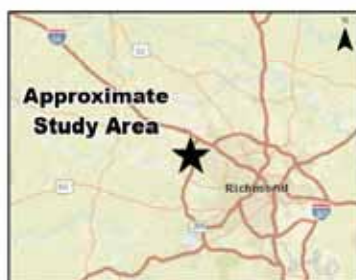
**Figure 3.1-8
 Conservation Easements
 in the Study Area**

230 kV West Creek Loop and Substation
 Dominion Energy Virginia
 Goochland County, Virginia





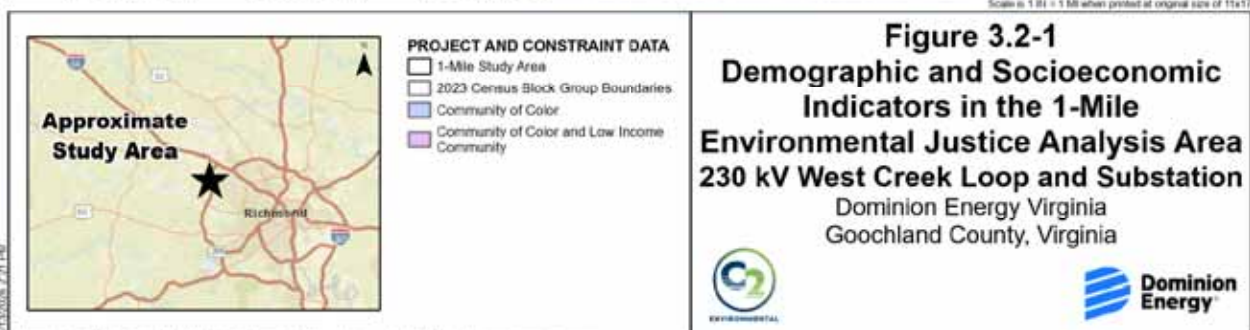
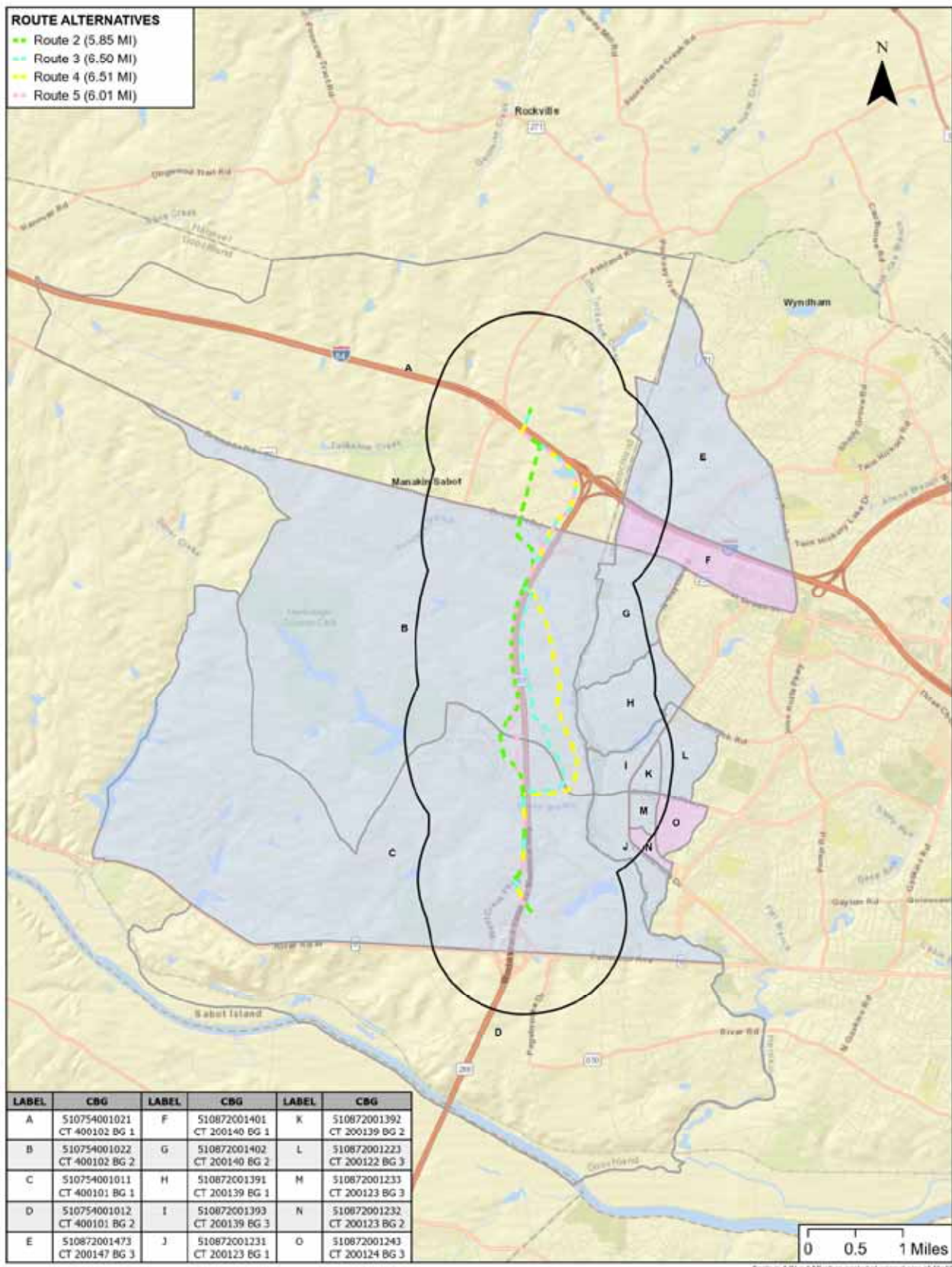
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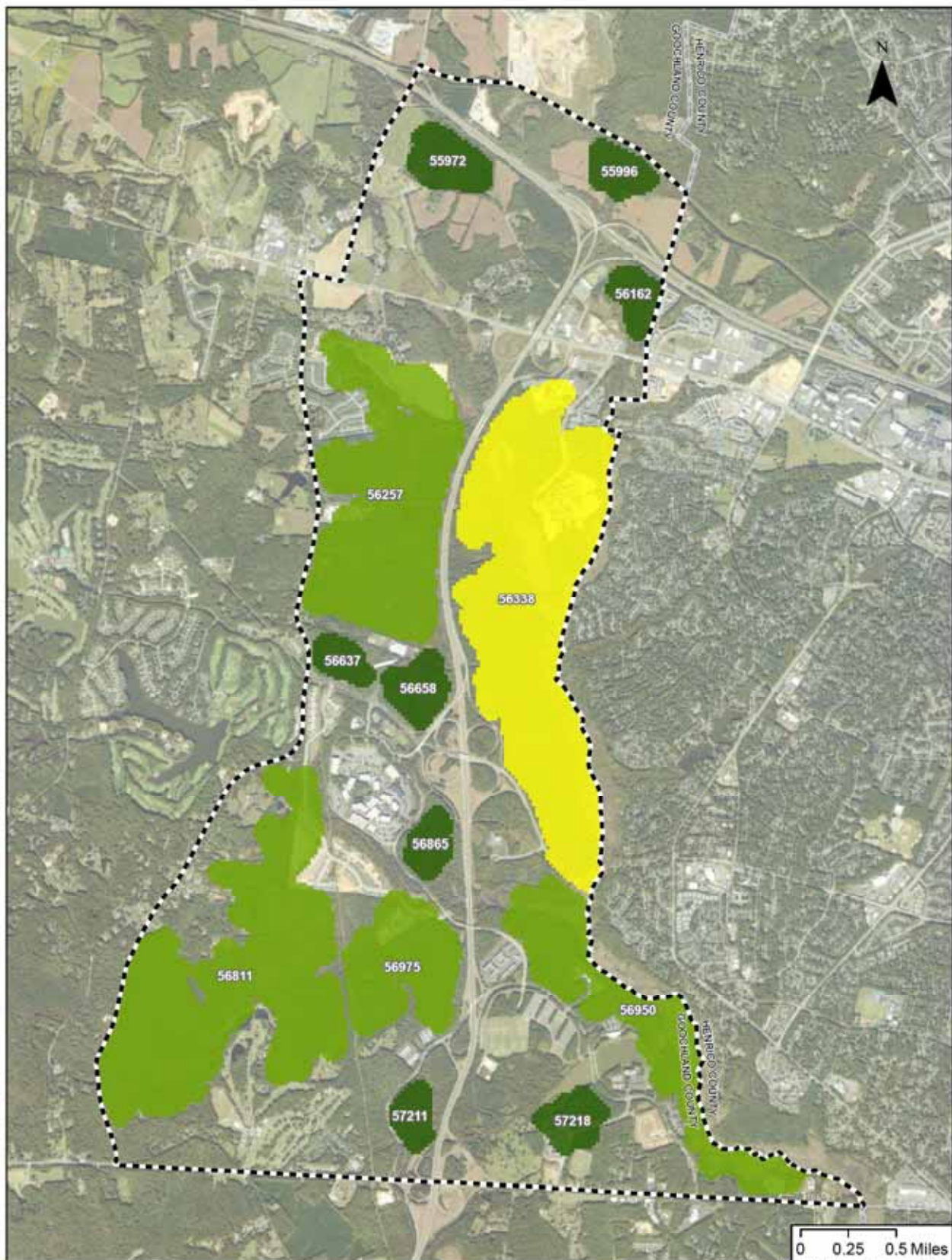


PROJECT AND CONSTRAINT DATA
 ■ Study Area
 □ 10-Nautical Mile Search Radius
 ✈ Airport
 H Heliport

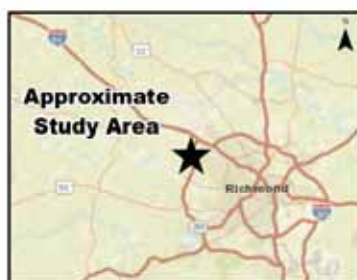
Figure 3.1-10
Airports and Heliports within
10-Nautical Miles of the
Study Area
230 kV West Creek Loop and Substation
 Dominion Energy Virginia
 Goochland County, Virginia







Scale is 1 in = 0.5 Mi when printed at original size of 11x17



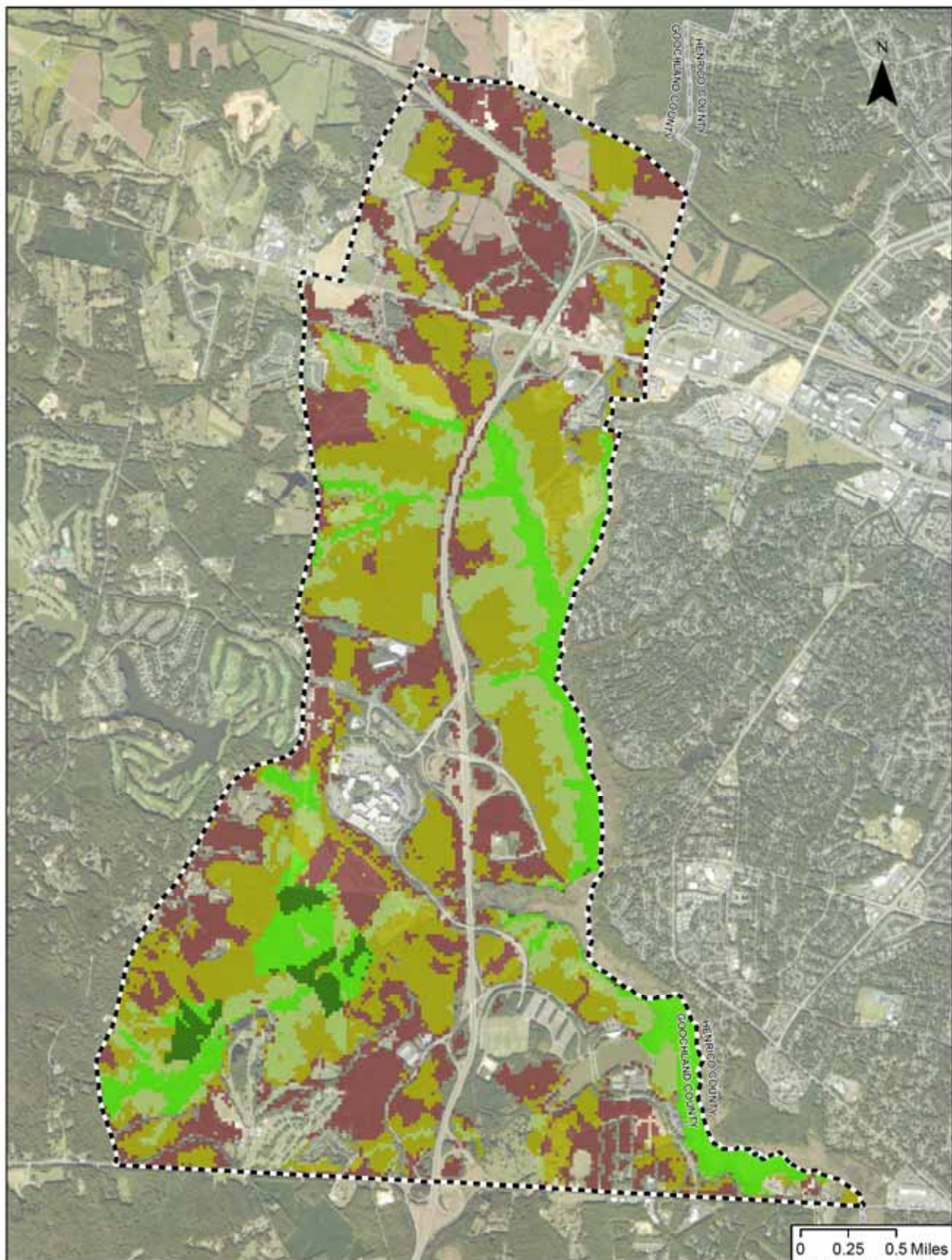
PROJECT AND CONSTRAINT DATA

- Study Area
- C3: High
- C4: Moderate
- C5: General
- County Boundary

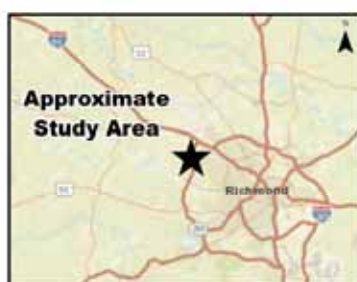
**Figure 3.3-1
Ecological Cores
in the Study Area**

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia





Scale is 1" = 0.5 Mi when printed at original size of 11x17



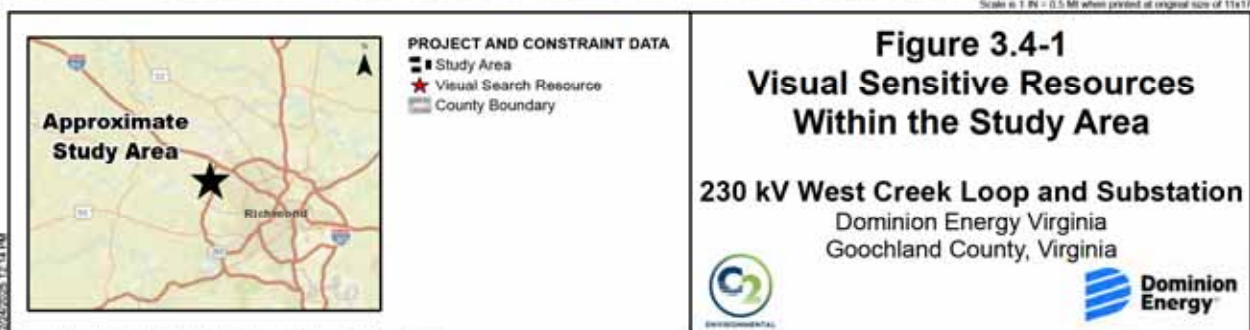
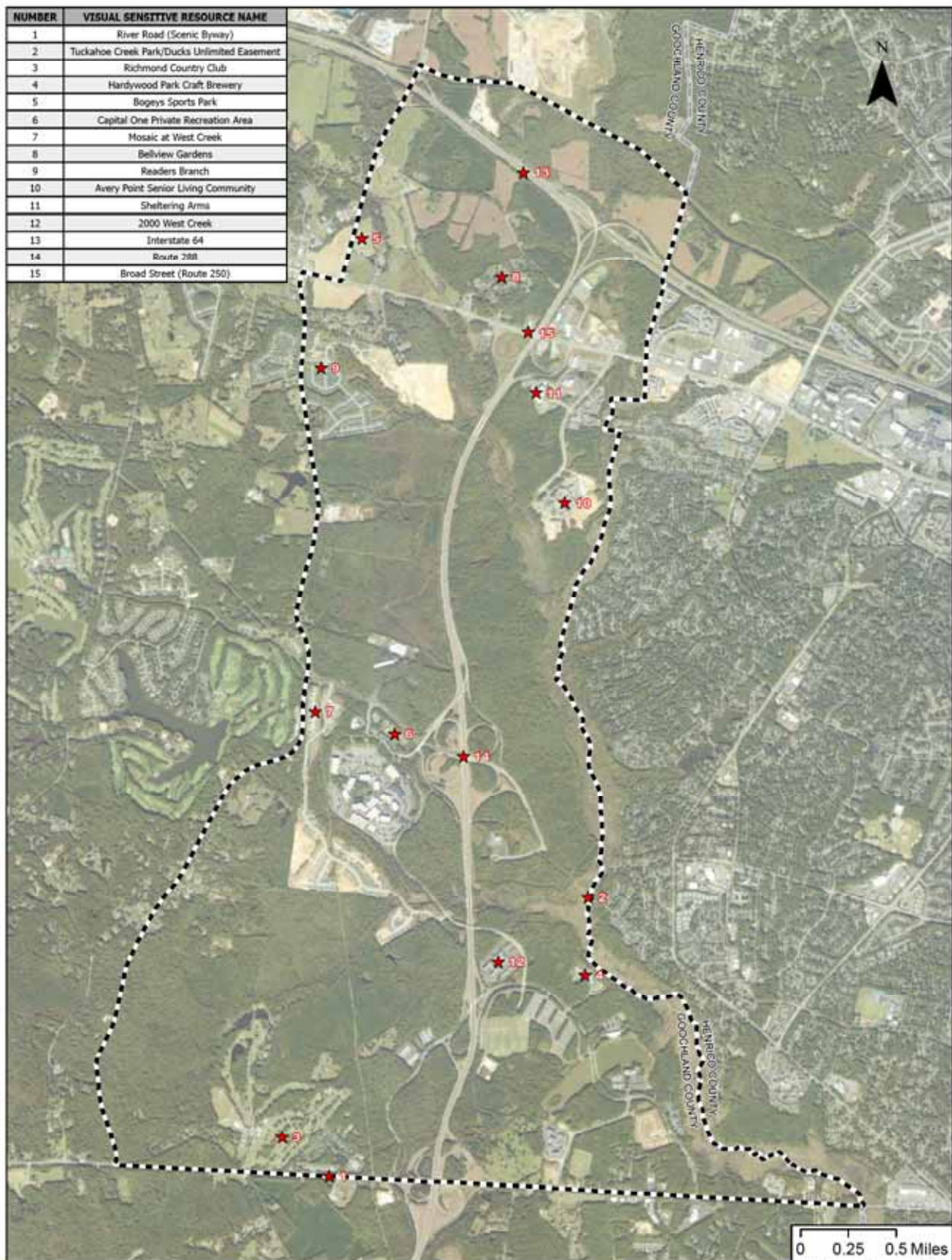
PROJECT AND CONSTRAINT DATA

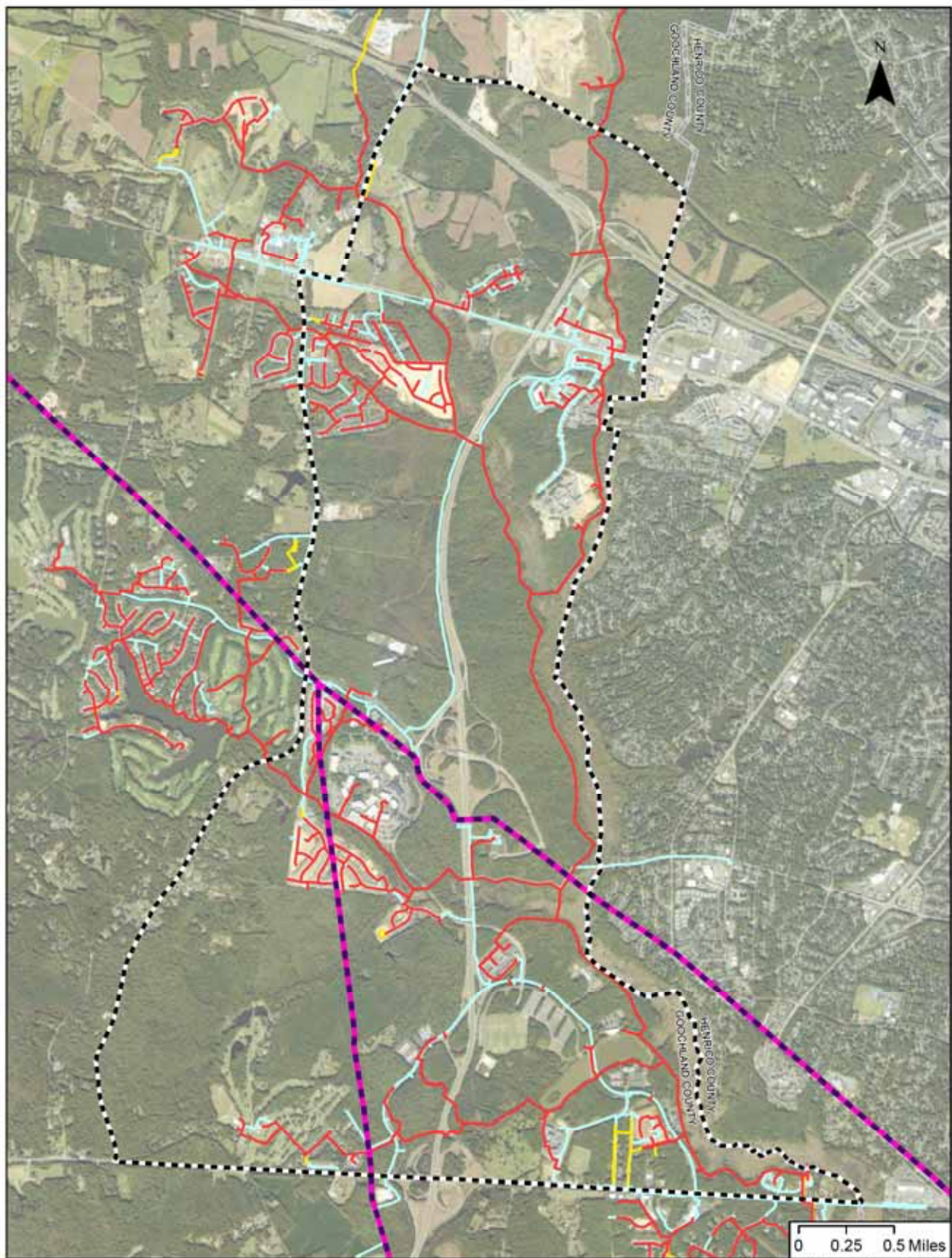
- Study Area
- 1: Average
- 2: Moderate
- 3: High
- 4: Very High
- 5: Outstanding
- County Boundary

Figure 3.3-2
Forest Conservation Values
in the Study Area

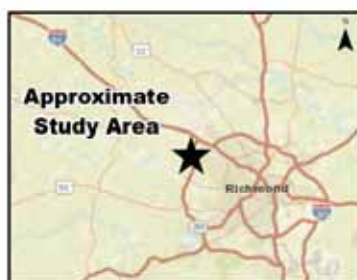
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia







Scale is 1" = 0.5 Mi when printed at original size of 11x17



PROJECT AND CONSTRAINT DATA

- Study Area
- Existing Columbia Gas Transmission Pipeline
- Water Pipe
- Sewer - Force Main
- Sewer - Gravity Main
- County Boundary

Figure 3.7-1 Existing Utilities

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia



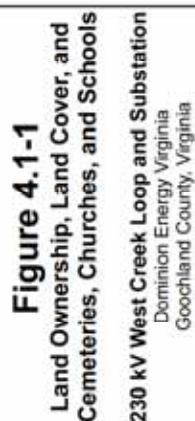


Figure 4.1-1

**Land Ownership, Land Cover, and
Cemeteries, Churches, and Schools**

PROJECT DATA

-  Study Area
 Route 2 (5.85 Mi)
 Route 3 (6.50 Mi)
 Route 4 (6.51 Mi)
 Route 5 (6.01 Mi)
 Proposed Substation
 Map Sheet

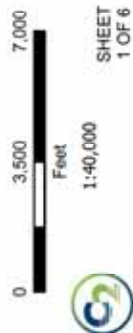




Figure 4.1-1
Land Ownership, Land Cover, and
Cemeteries, Churches, and Schools
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)

CONSTRAINT DATA

- Existing Dominion Transmission Line
- Proposed Substation
- Proposed Substation Footprint
- Cemetery
- Place of Worship
- Existing Columbia Gas Transmission Pipeline
- Land Cover - Agriculture
- Land Cover - Developed
- Land Cover - Forested
- Land Cover - Open Land
- Land Cover - Open Water
- Parcel - Private Ownership
- Parcel - County Ownership
- Parcel - State Ownership



Feet

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SHEET
2 OF 6





Figure 4.1-1
Land Ownership, Land Cover, and
Cemeteries, Churches, and Schools
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)

- Existing Dominion Transmission Line

- Proposed Substation

- Proposed Substation Footprint

CONSTRAINT DATA

- Cemetery
- Place of Worship
- Existing Columbia Gas Transmission Pipeline
- Land Cover - Agriculture
- Land Cover - Developed
- Land Cover - Forested
- Land Cover - Open Land
- Land Cover - Open Water
- Parcel - Private Ownership
- Parcel - County Ownership
- Parcel - State Ownership



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3 OF 6

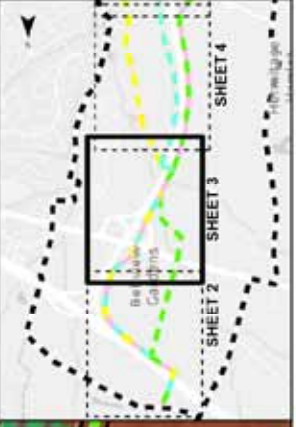




Figure 4.1-1
Land Ownership, Land Cover, and
Cemeteries, Churches, and Schools
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)

- Existing Dominion Transmission Line

- Proposed Substation

- Proposed Substation Footprint

CONSTRAINT DATA

- Cemetery
- Place of Worship
- Existing Columbia Gas Transmission Pipeline
- Land Cover - Agriculture
- Land Cover - Developed
- Land Cover - Forested
- Land Cover - Open Land
- Land Cover - Open Water
- Parcel - Private Ownership
- Parcel - County Ownership
- Parcel - State Ownership

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4 OF 6

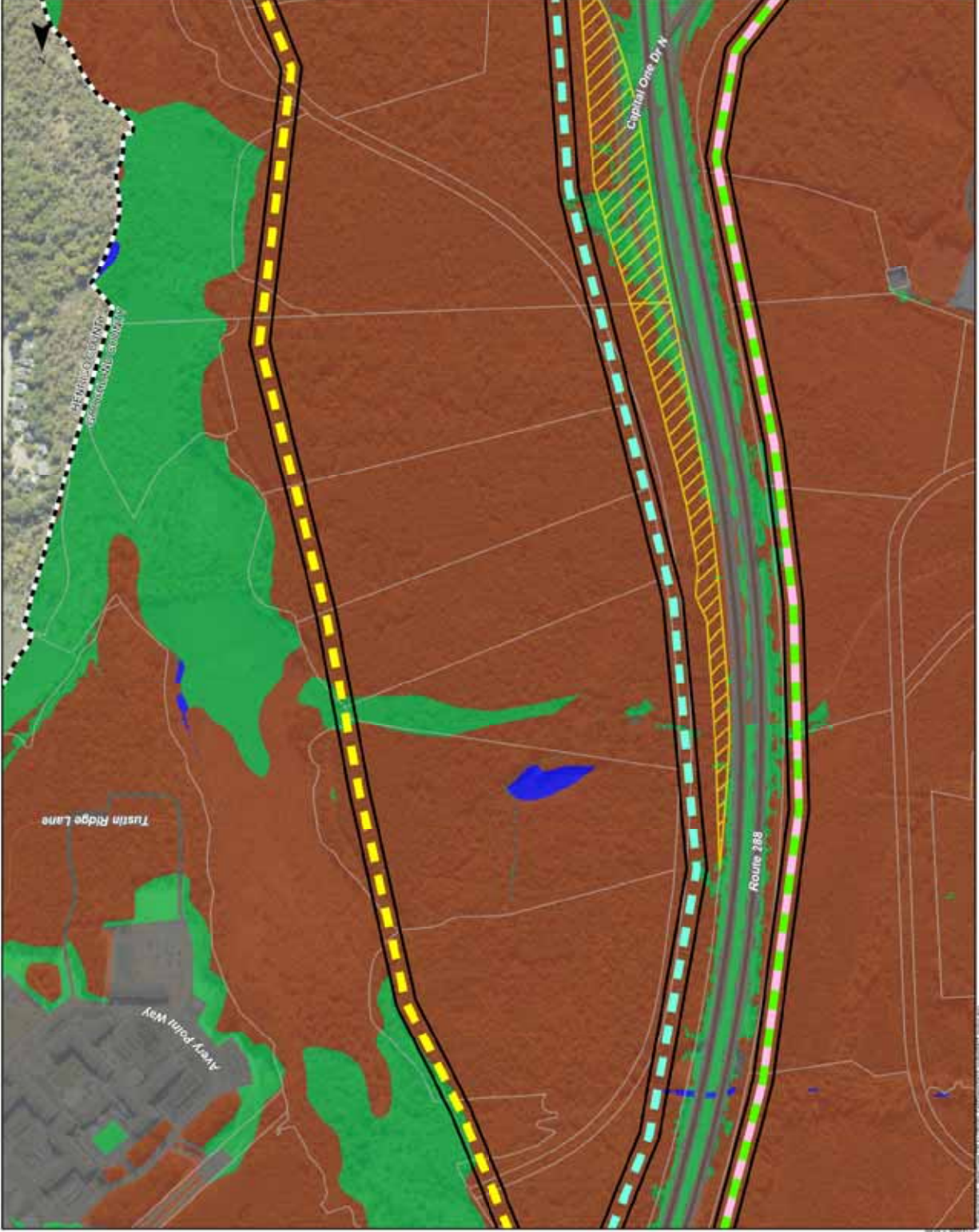
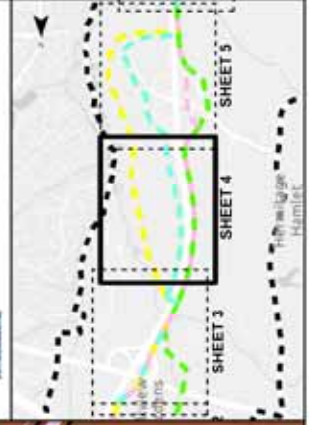




Figure 4.1-1
Land Ownership, Land Cover, and
Cemeteries, Churches, and Schools
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)

- Existing Dominion Transmission Line

- Proposed Substation

- Proposed Substation Footprint

CONSTRAINT DATA

- Cemetery
- Place of Worship
- Existing Columbia Gas Transmission Pipeline
- Land Cover - Agriculture
- Land Cover - Developed
- Land Cover - Forested
- Land Cover - Open Land
- Land Cover - Open Water
- Parcel - Private Ownership
- Parcel - County Ownership
- Parcel - State Ownership



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5 OF 6

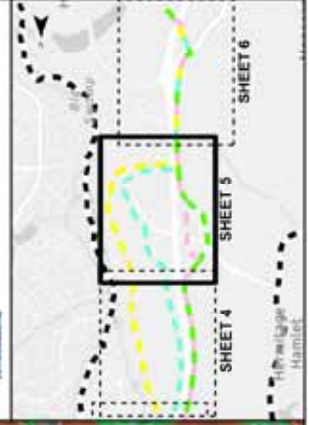




Figure 4.1-1
Land Ownership, Land Cover, and
Cemeteries, Churches, and Schools
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)
- Existing Dominion Transmission Line
- Proposed Substation
- Proposed Substation Footprint

CONSTRAINT DATA

- Cemetery
- Place of Worship
- Existing Columbia Gas Transmission Pipeline
- Land Cover - Agriculture
- Land Cover - Developed
- Land Cover - Forested
- Land Cover - Open Land
- Land Cover - Open Water
- Parcel - Private Ownership
- Parcel - County Ownership
- Parcel - State Ownership



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6 OF 6

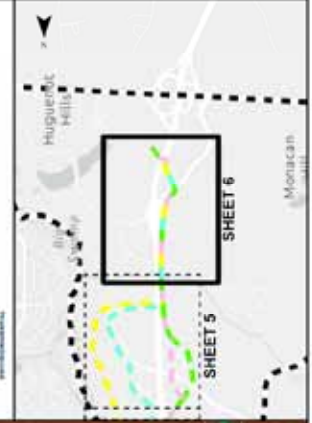




Figure 4.1-2
Zoning and Technology
Overlay District

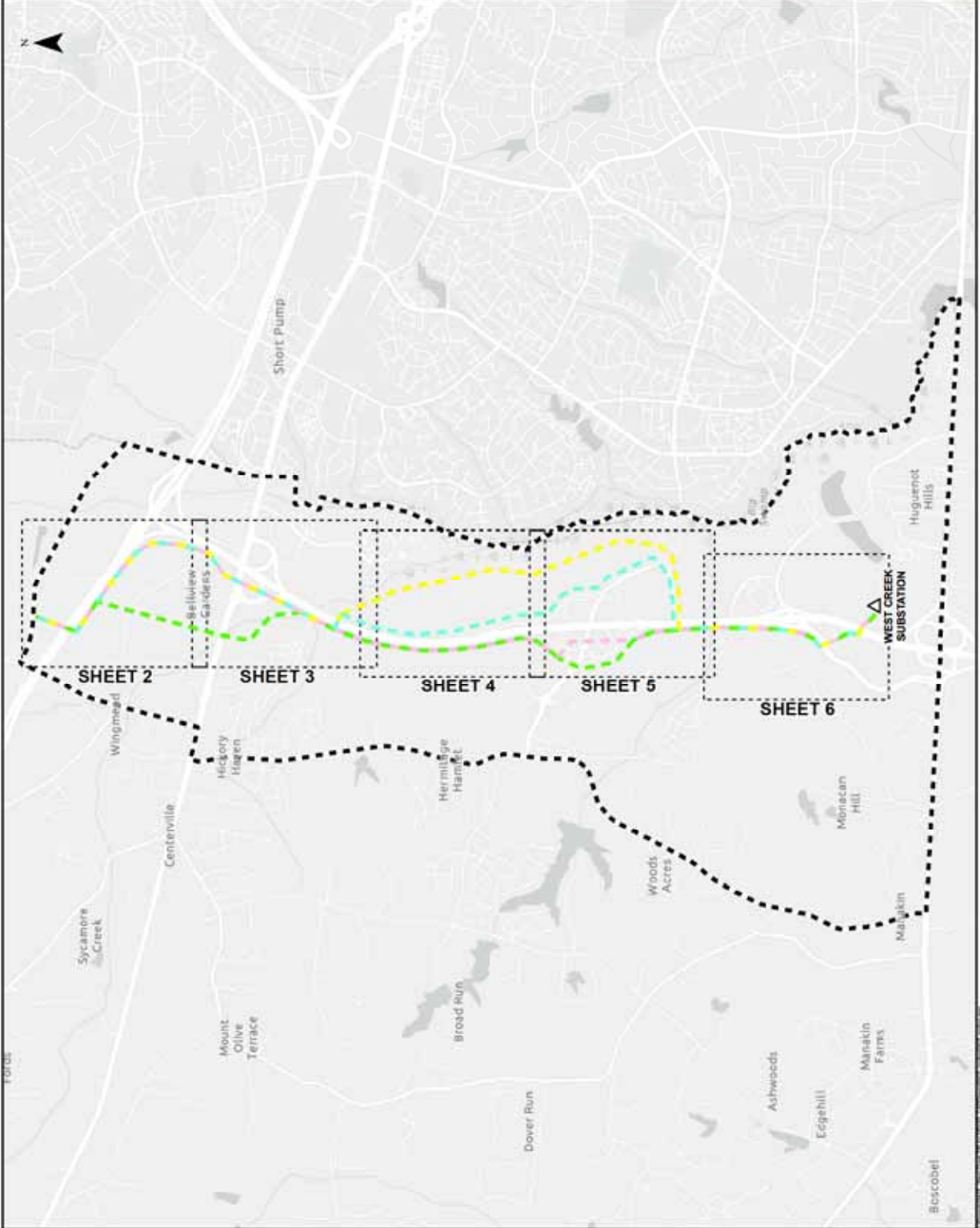
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goodland County, Virginia

- PROJECT DATA**
- Study Area
 - Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)
 - Proposed Substation
 - Map Sheet

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Feet



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SHEET
1 OF 6



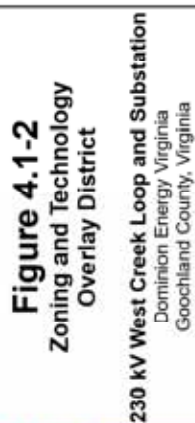


Figure 4.1-2
Zoning and Technology
Overlay District

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

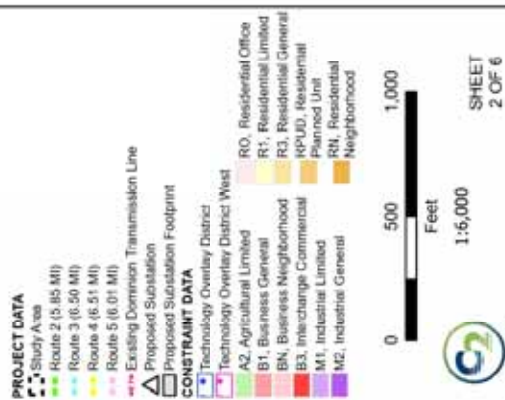




Figure 4.1-2
Zoning and Technology
Overlay District

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goodland County, Virginia

- PROJECT DATA**
- Study Area
 - Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)
 - Existing Dominion Transmission Line
- CONSTRAINT DATA**
- Proposed Substation
 - Proposed Substation Footprint
 - Technology Overlay District
 - Technology Overlay District West
- Zoning and Technology Overlay District Legend**
- R0, Residential Office
 - R1, Residential Limited
 - R3, Residential General
 - RPUD, Residential Planned Unit
 - RN, Residential Neighborhood
 - M1, Industrial Limited
 - M2, Industrial General
 - B1, Business General
 - BN, Business Neighborhood
 - B3, Interchange Commercial
 - A2, Agricultural Limited

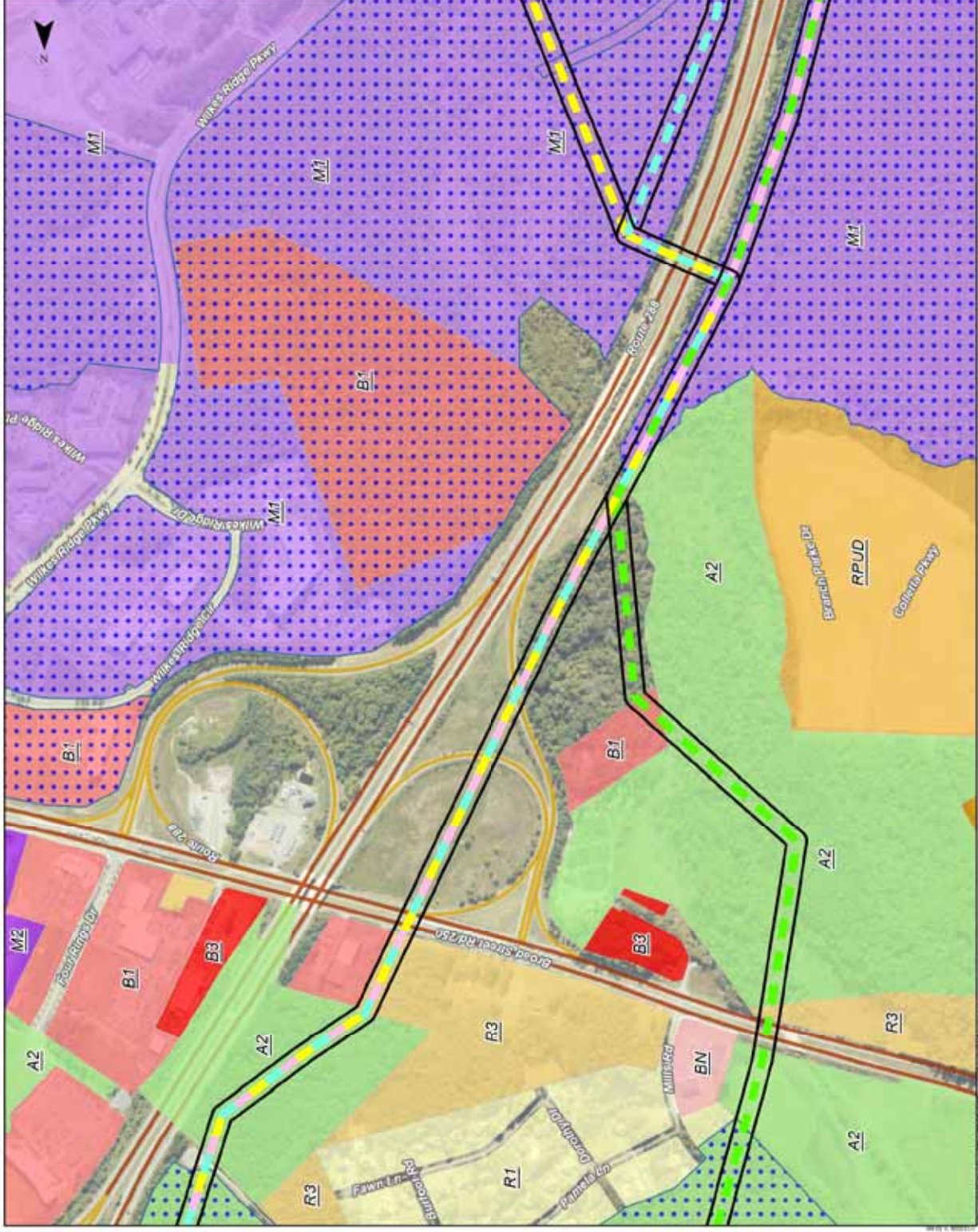
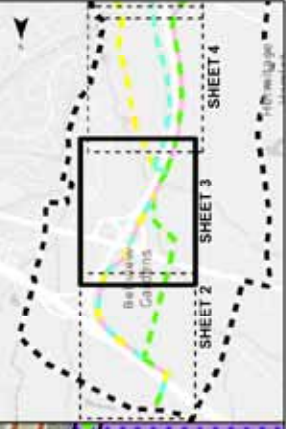




Figure 4.1-2
Zoning and Technology
Overlay District

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

- PROJECT DATA**
- Study Area
 - Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)
 - Existing Dominion Transmission Line
 - Proposed Substation
 - Proposed Substation Footprint
- CONSTRAINT DATA**
- Technology Overlay District
 - A2, Agricultural Limited
 - B1, Business General
 - BN, Business Neighborhood
 - B3, Interchange Commercial
 - M1, Industrial Limited
 - M2, Industrial General
 - RO, Residential Office
 - R1, Residential Limited
 - R3, Residential General
 - RPUD, Residential Planned Unit
 - RN, Residential Neighborhood

0 500 1,000
Feet



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SHEET
4 OF 6

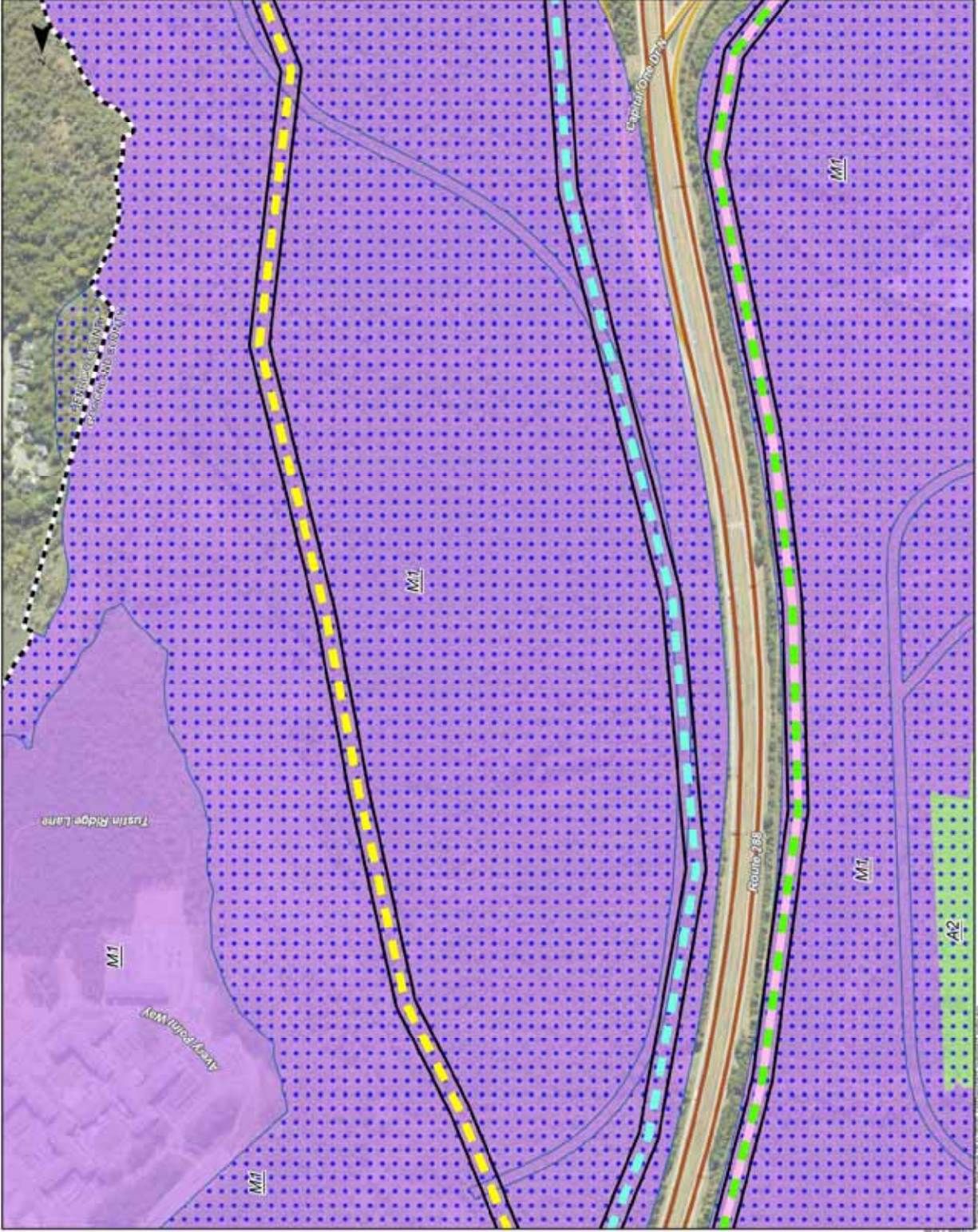
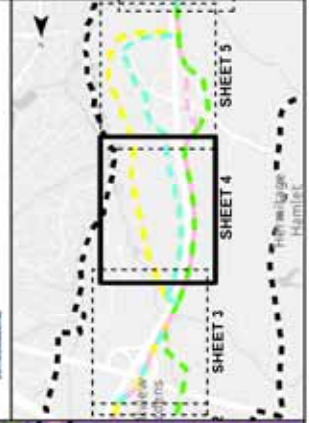
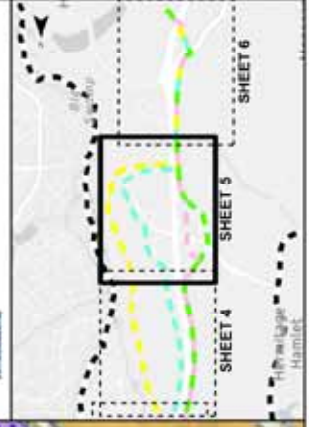


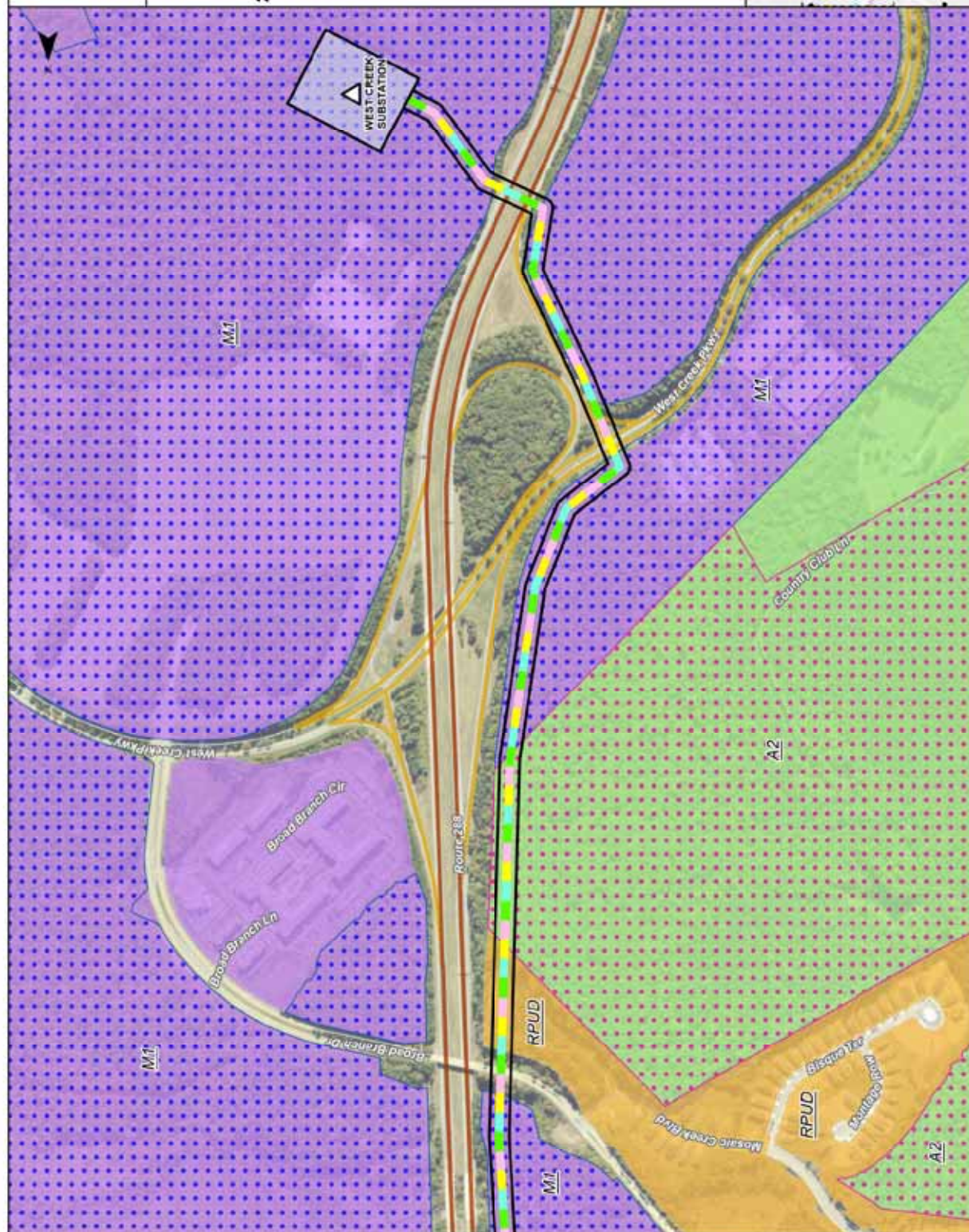
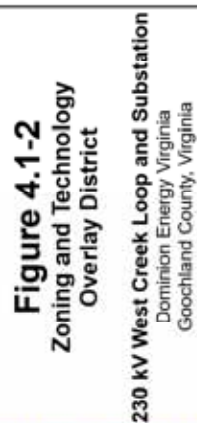


Figure 4.1-2
Zoning and Technology
Overlay District

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

- PROJECT DATA**
- Study Area
 - Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)
 - Existing Dominion Transmission Line
 - Proposed Substation
 - Proposed Substation Footprint
- CONSTRAINT DATA**
- Technology Overlay District
 - Technology Overlay District West
 - A2, Agricultural Limited
 - B1, Business General
 - BN, Business Neighborhood
 - B3, Interchange Commercial
 - M1, Industrial Limited
 - M2, Industrial General
 - RO, Residential Office
 - R1, Residential Limited
 - R3, Residential General
 - RPUD, Residential Planned Unit
 - RN, Residential Neighborhood
- 0 500 1,000 Feet
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- SHEET 5 OF 6





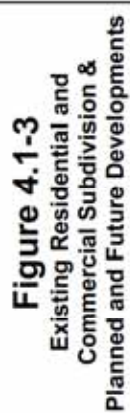


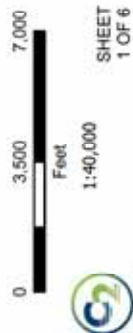
Figure 4.1-3

Existing Residential and Commercial Subdivision & Planned and Future Developments

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

-  Study Area
 Route 2 (5.85 MI)
 Route 3 (6.50 MI)
 Route 4 (6.51 MI)
 Route 5 (6.01 MI)
 Proposed Substation
 Map Sheet



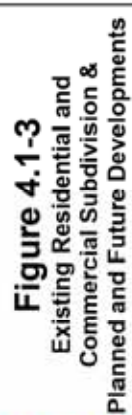


Figure 4.1-3

Existing Residential and Commercial Subdivision & Planned and Future Developments

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)

CONSTRAINT DATA

-  Future Development
 Planned Development
 Commercial Subdivision
 Residential Subdivision



Feet

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SHEET
2 OF 6





Figure 4.1-3
Existing Residential and Commercial Subdivision & Planned and Future Developments

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)

Existing Dominion Transmission Line

Proposed Substation

Proposed Substation Footprint

CONSTRAINT DATA

- Future Development
- Planned Development
- Commercial Subdivision
- Residential Subdivision

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Feet



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3 OF 6

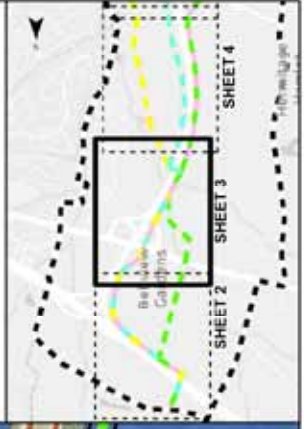




Figure 4.1-3 Existing Residential and Commercial Subdivision & Planned and Future Developments

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)

Existing Dominion Transmission Line

Proposed Substation

Proposed Substation Footprint

CONSTRAINT DATA

- Future Development
- Planned Development
- Commercial Subdivision
- Residential Subdivision

0 500 1,000
Feet



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SHEET
4 OF 6

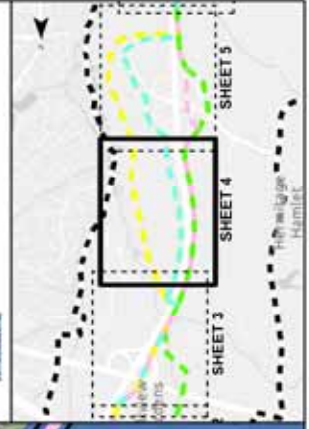




Figure 4.1-3
Existing Residential and
Commercial Subdivision and
Planned and Future Developments

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)

Existing Dominion Transmission Line

Proposed Substation

Proposed Substation Footprint

CONSTRAINT DATA

- Future Development
- Planned Development
- Commercial Subdivision
- Residential Subdivision

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Feet



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SHEET
5 OF 6

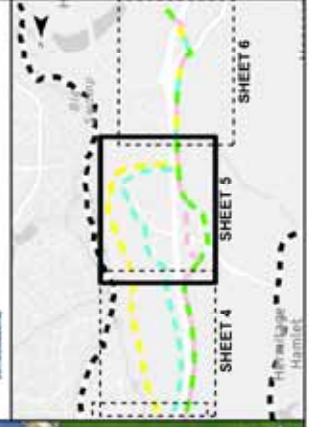






Figure 4.1-4
Conservation Easements
and Recreation Areas
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goodland County, Virginia

- PROJECT DATA**
- Study Area
 - Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)
 - Proposed Substation
 - Map Sheet

0 3,500 7,000
Feet



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1 OF 6

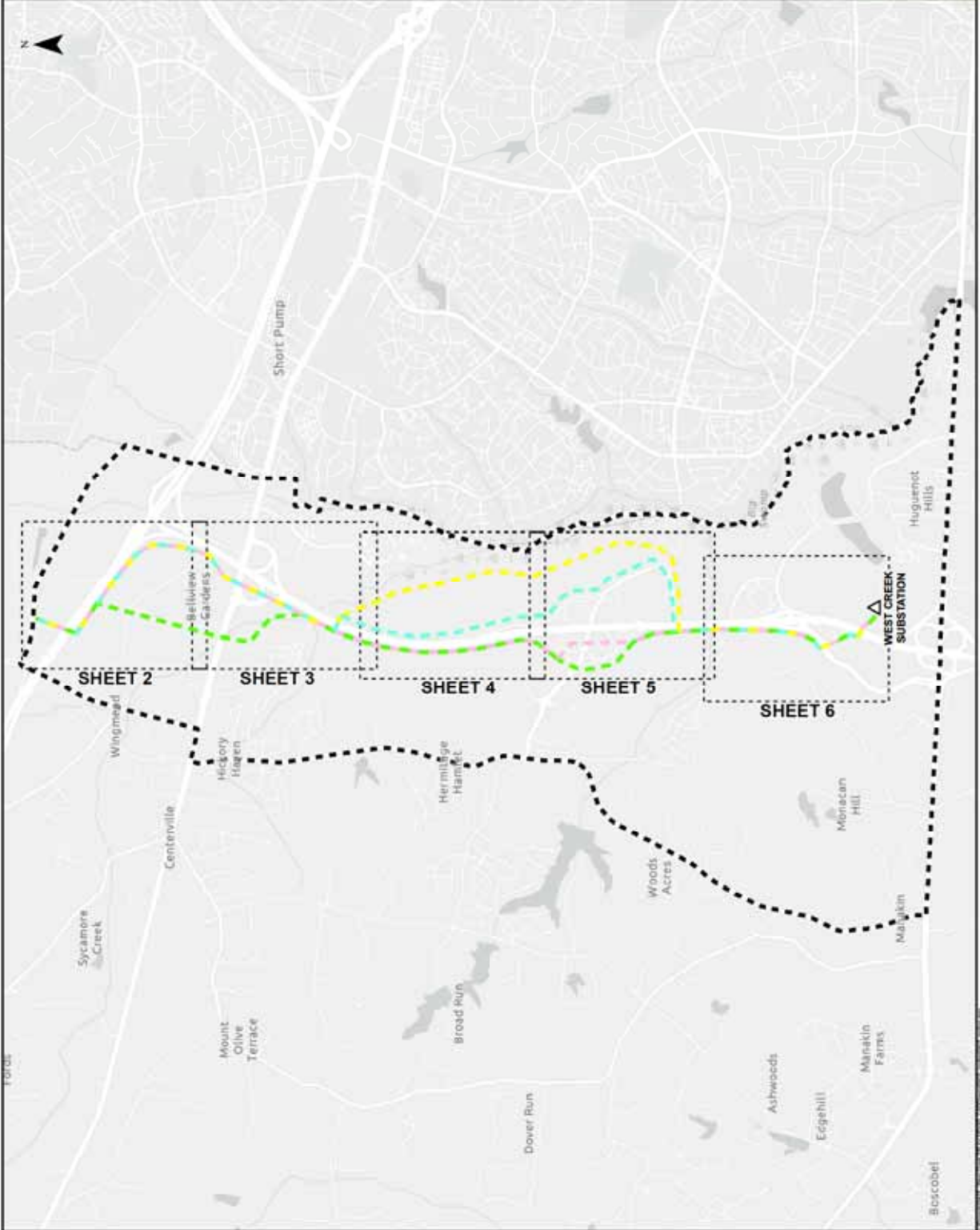




Figure 4.1-4
Conservation Easements
and Recreation Areas

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)

- Existing Dominion Transmission Line
- Proposed Substation
- Proposed Substation Footprint

CONSTRAINT DATA

- Existing Trail
- Proposed Trail
- Blueway
- Recreation Site
- Ducks Unlimited Easement
- Private Conservation Easement

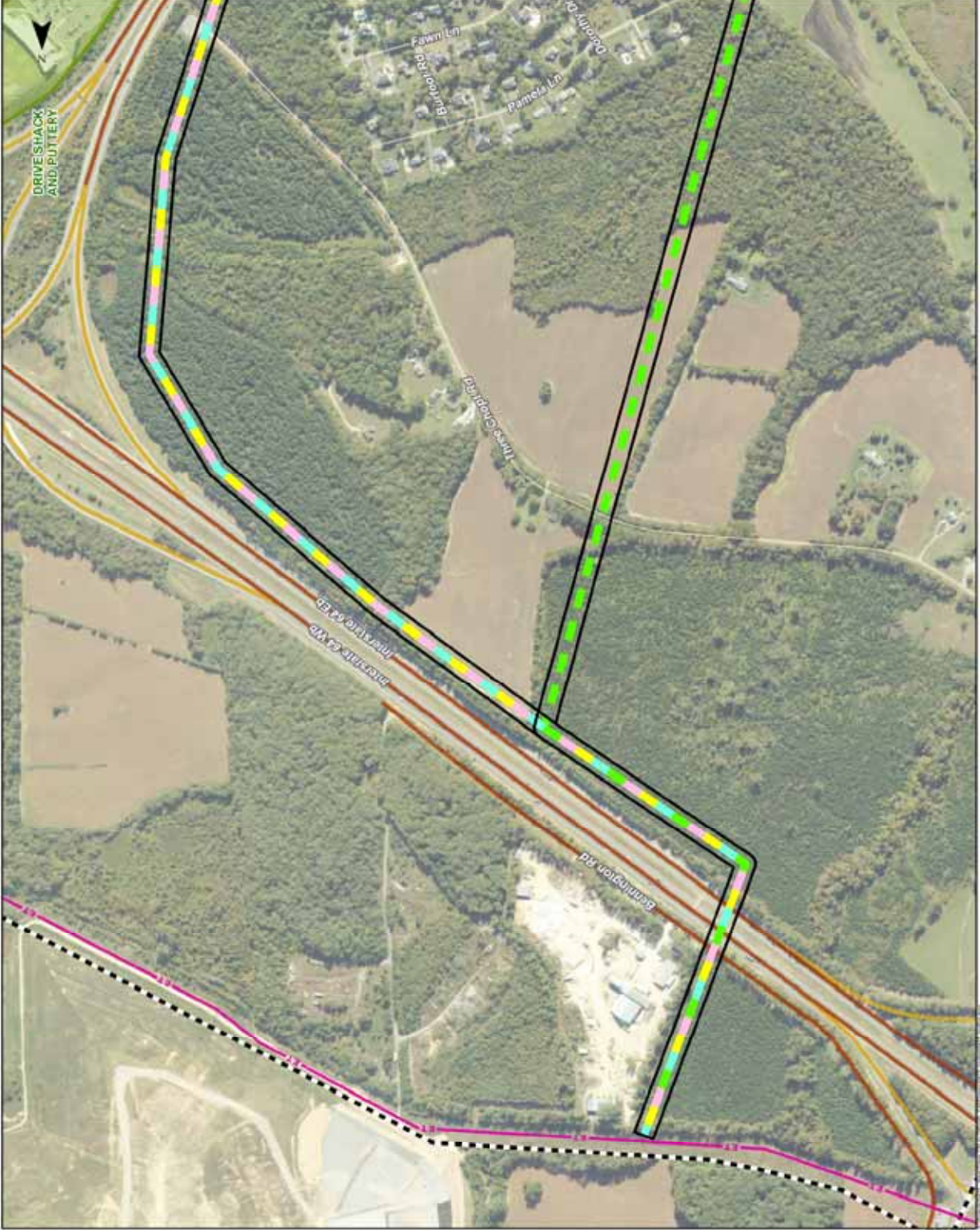


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2 OF 6



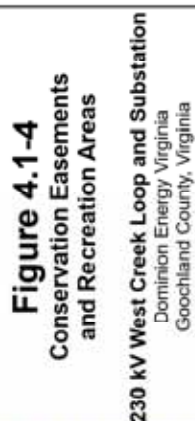


Figure 4.1-4
Conservation Easement
and Recreation Area

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)

Existing Dominion T

-  Proposed Substation
 Proposed Substation Footprint
CONSTRAINT DATA
 Existing Trail
 Proposed Trail
 Blueway
 Recreation Site
 Ducks Unlimited Easement
 Private Conservation Easement



Feet

16,000

100,000



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3 OF 6

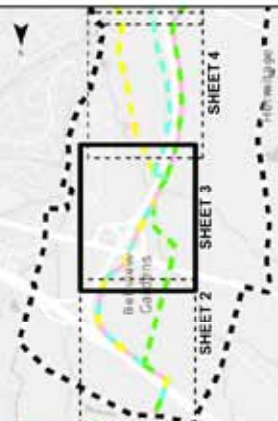




Figure 4.1-4
Conservation Easements
and Recreation Areas

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)
- Existing Dominion Transmission Line

- Proposed Substation
- Proposed Substation Footprint

CONSTRAINT DATA

- Existing Trail
- Proposed Trail
- Blueway
- Recreation Site
- Ducks Unlimited Easement
- Private Conservation Easement

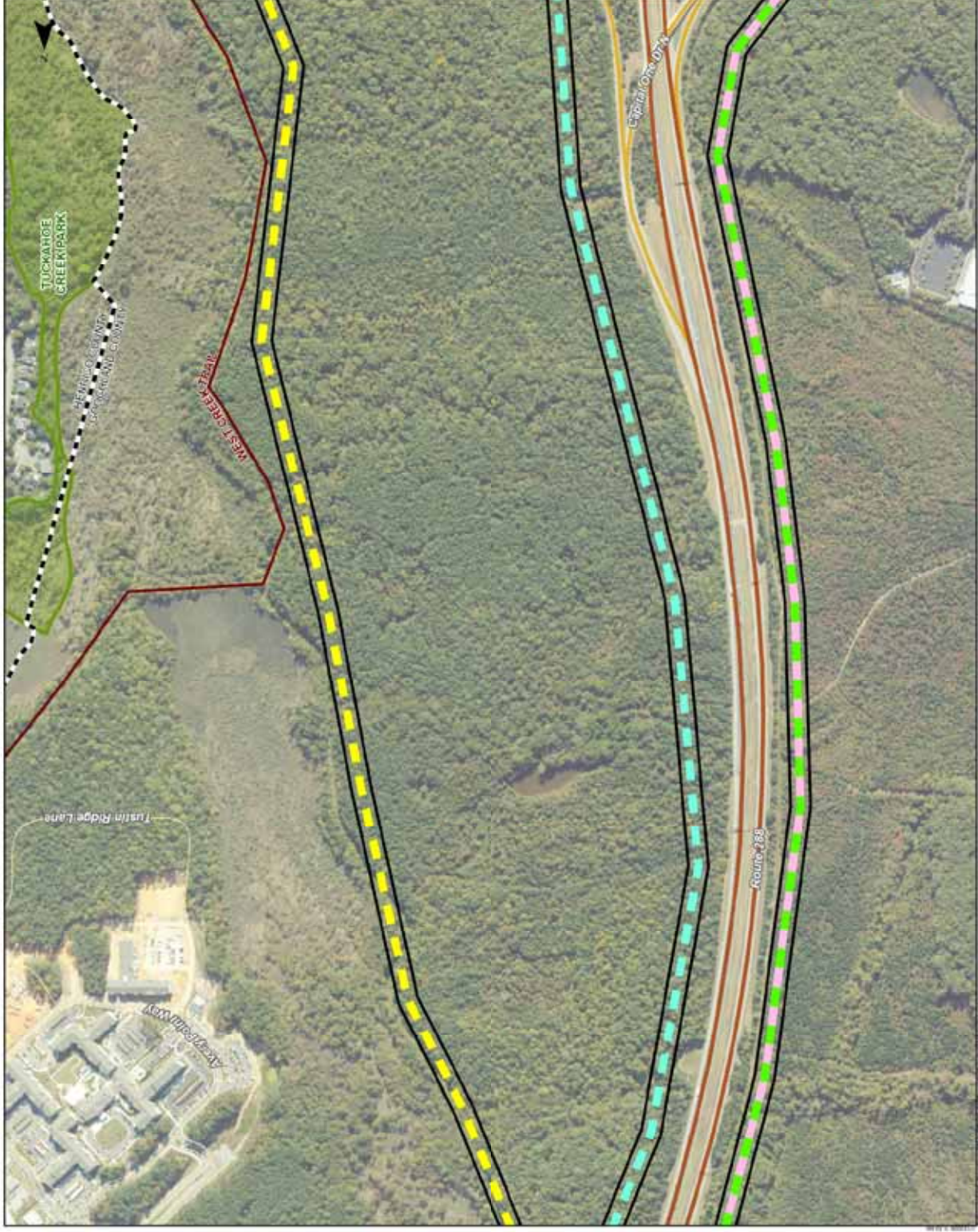


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4 OF 6



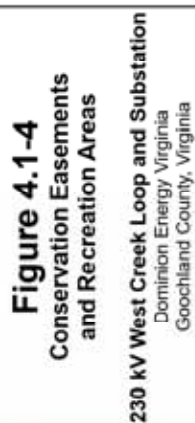


Figure 4.1-4

Conservation Easements and Recreation Areas

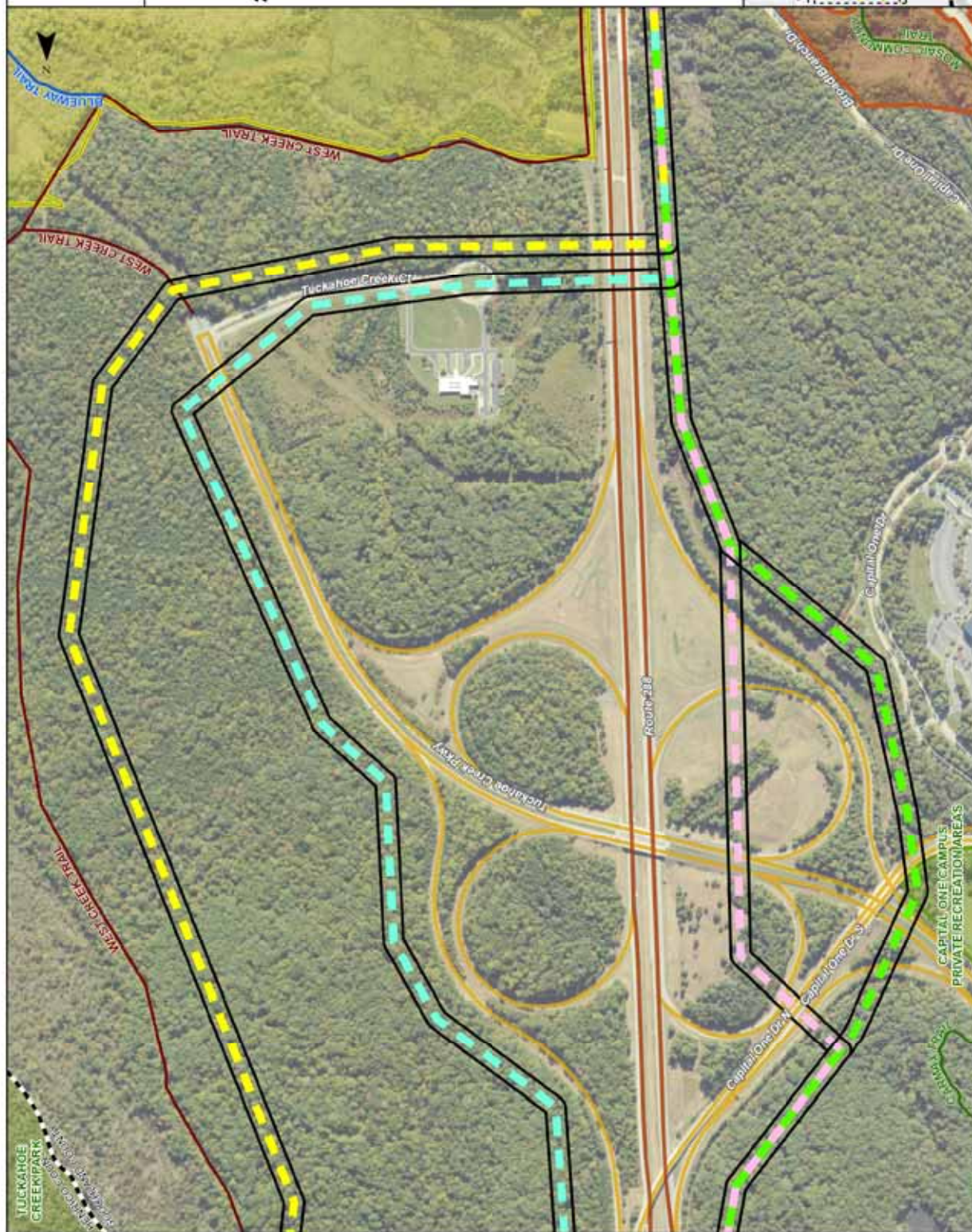
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)

Existing Dominion T

- △ Proposed Substation
 ▣ Proposed Substation Footprint
CONSTRAINT DATA
 — Existing Trail
 — Proposed Trail
 — Blueway
 ■ Recreation Site
 ■ Ducks Unlimited Easement
 ■ Private Conservation Easement



Month	Number of People
January	1,000
February	800
March	600
April	400
May	300
June	250
July	200
August	250
September	350
October	500
November	700
December	900

Feet

6,000

6,000 SHEET

SHEET





Figure 4.1-4
Conservation Easements
and Recreation Areas

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

- PROJECT DATA**
- Study Area
 - Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)
 - Existing Dominion Transmission Line
- CONSTRAINT DATA**
- Proposed Substation
 - Proposed Substation Footprint
 - Existing Trail
 - Proposed Trail
 - Blueway
 - Recreation Site
 - Ducks Unlimited Easement
 - Private Conservation Easement

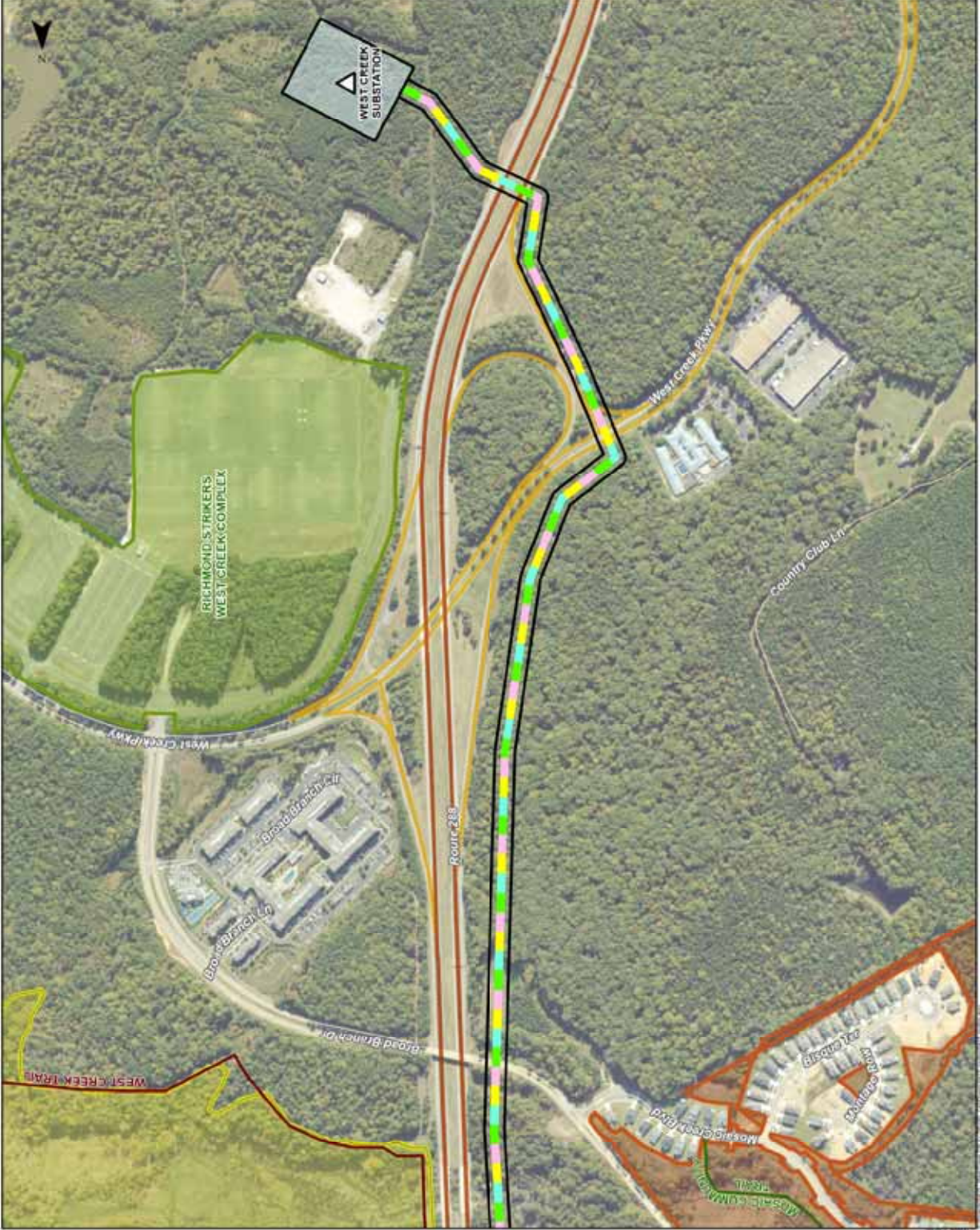
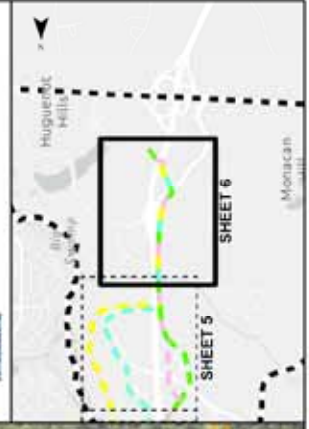


Feet

1:6,000

SHEET

6 OF 6



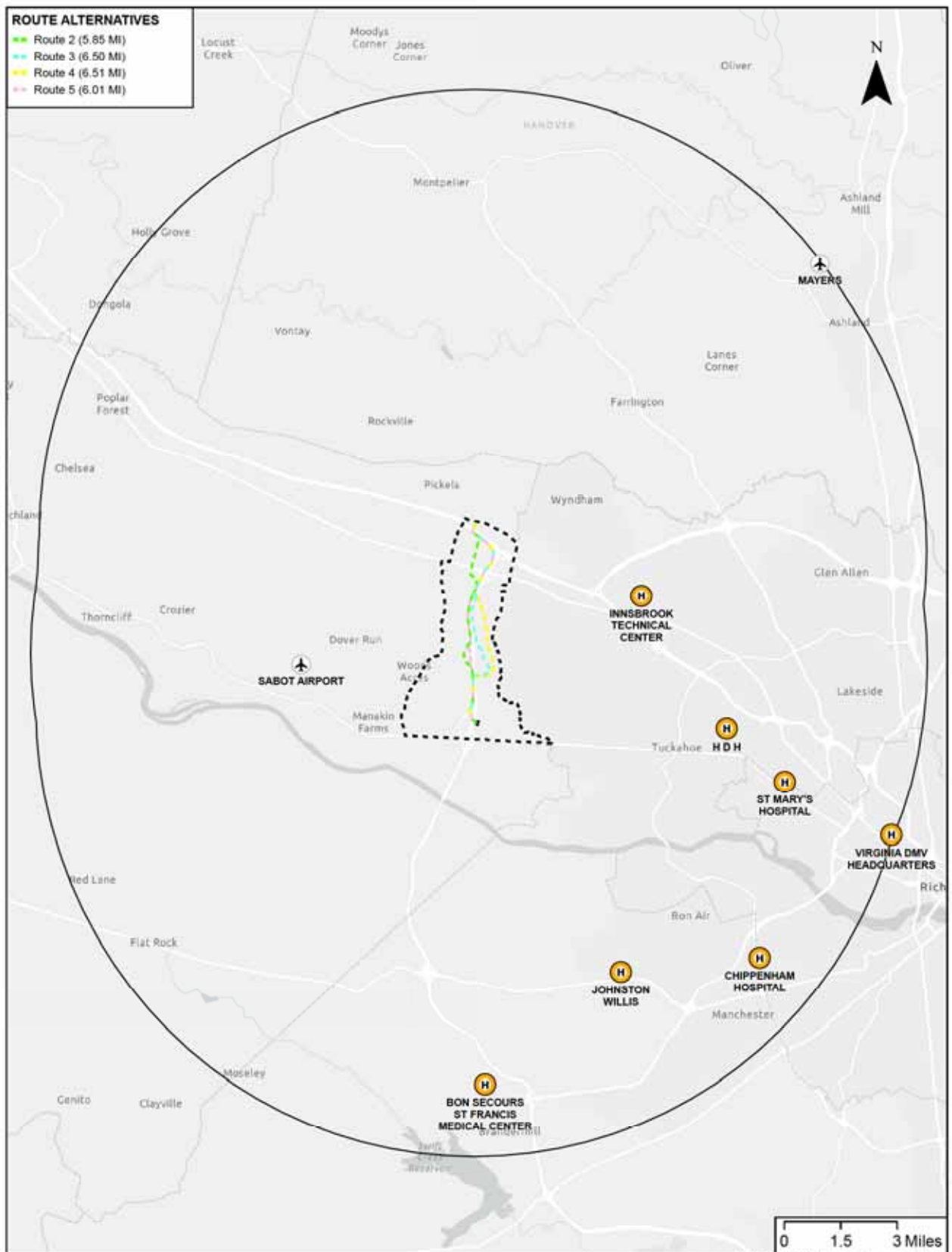




Figure 4.3-1
Wetlands, Waterbodies,
and Ecological Cores
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goodland County, Virginia

- PROJECT DATA**
- Study Area
 - Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)
 - Proposed Substation
 - Map Sheet

0 3,500 7,000
Feet



1:40,000
SHEET
1 OF 6

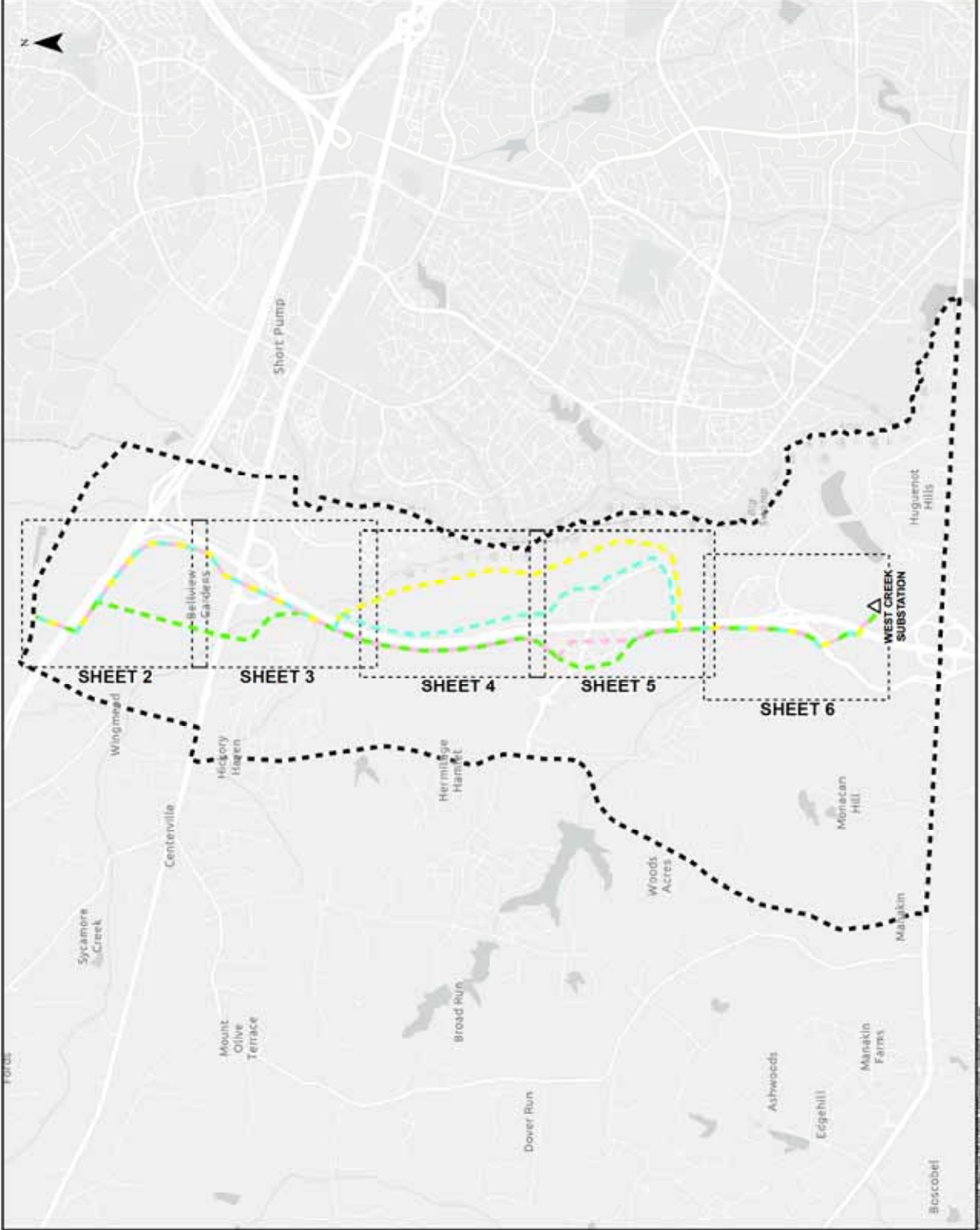




Figure 4.3-1
Wetlands, Waterbodies,
and Ecological Cores

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)

- Existing Dominion Transmission Line
- Proposed Substation
- Proposed Substation Footprint

CONSTRAINT DATA

- NHD Streams
- NW1 Wetland
- NW1 Water Body
- C1: Outstanding
- C2: Very High
- C3: High
- C4: Moderate
- C5: General



Feet

1:6,000

SHEET
2 OF 6





Figure 4.3-1
Wetlands, Waterbodies,
and Ecological Cores

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)

- Existing Dominion Transmission Line
- Proposed Substation
- Proposed Substation Footprint

CONSTRAINT DATA

- NHD Streams
- NW1 Wetland
- NW1 Water Body
- C1: Outstanding
- C2: Very High
- C3: High
- C4: Moderate
- C5: General

0 500 1,000
Feet



1:6,000

SHEET
3 OF 6

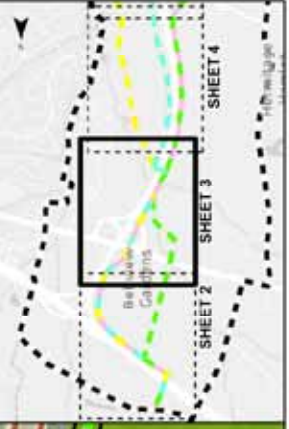
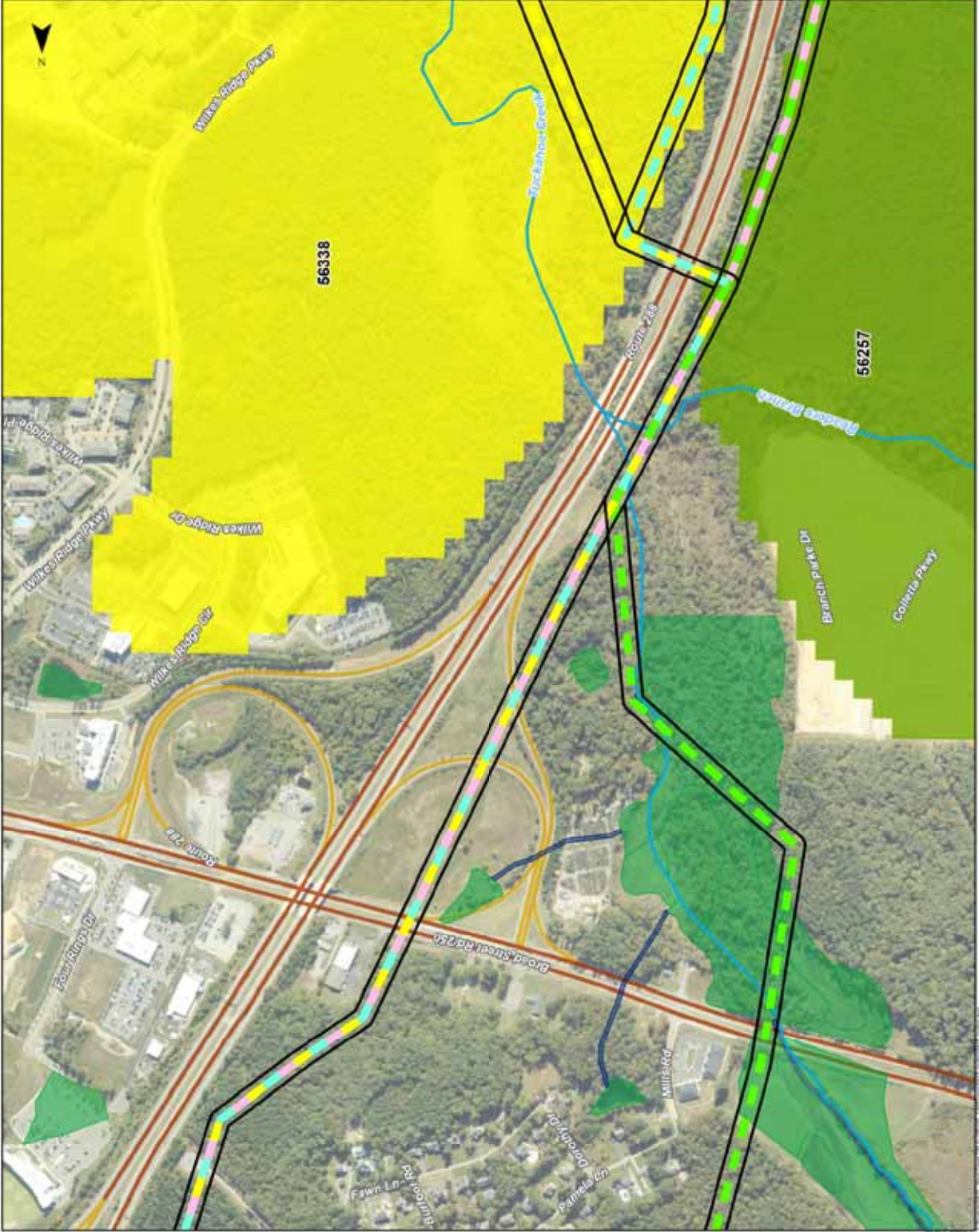




Figure 4.3-1
Wetlands, Waterbodies,
and Ecological Cores

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)
- Existing Dominion Transmission Line
- Proposed Substation
- Proposed Substation Footprint

CONSTRAINT DATA

- NHD Streams
- NW1 Wetland
- NW1 Water Body
- C1: Outstanding
- C2: Very High
- C3: High
- C4: Moderate
- C5: General

0 500 1,000
Feet



1:6,000

SHEET
4 OF 6

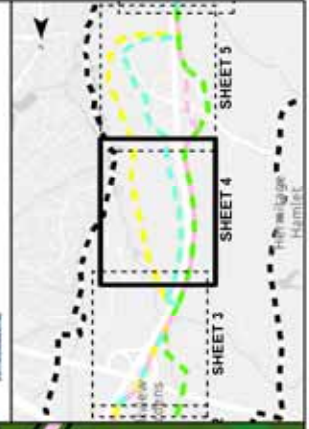




Figure 4.3-1
Wetlands, Waterbodies,
and Ecological Cores

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)
- Existing Dominion Transmission Line

- Proposed Substation
- Proposed Substation Footprint

CONSTRAINT DATA

- NHD Streams
- NWI Wetland
- NWI Water Body
- C1: Outstanding
- C2: Very High
- C3: High
- C4: Moderate
- C5: General

0 500 1,000
Feet



1:6,000

SHEET
5 OF 6

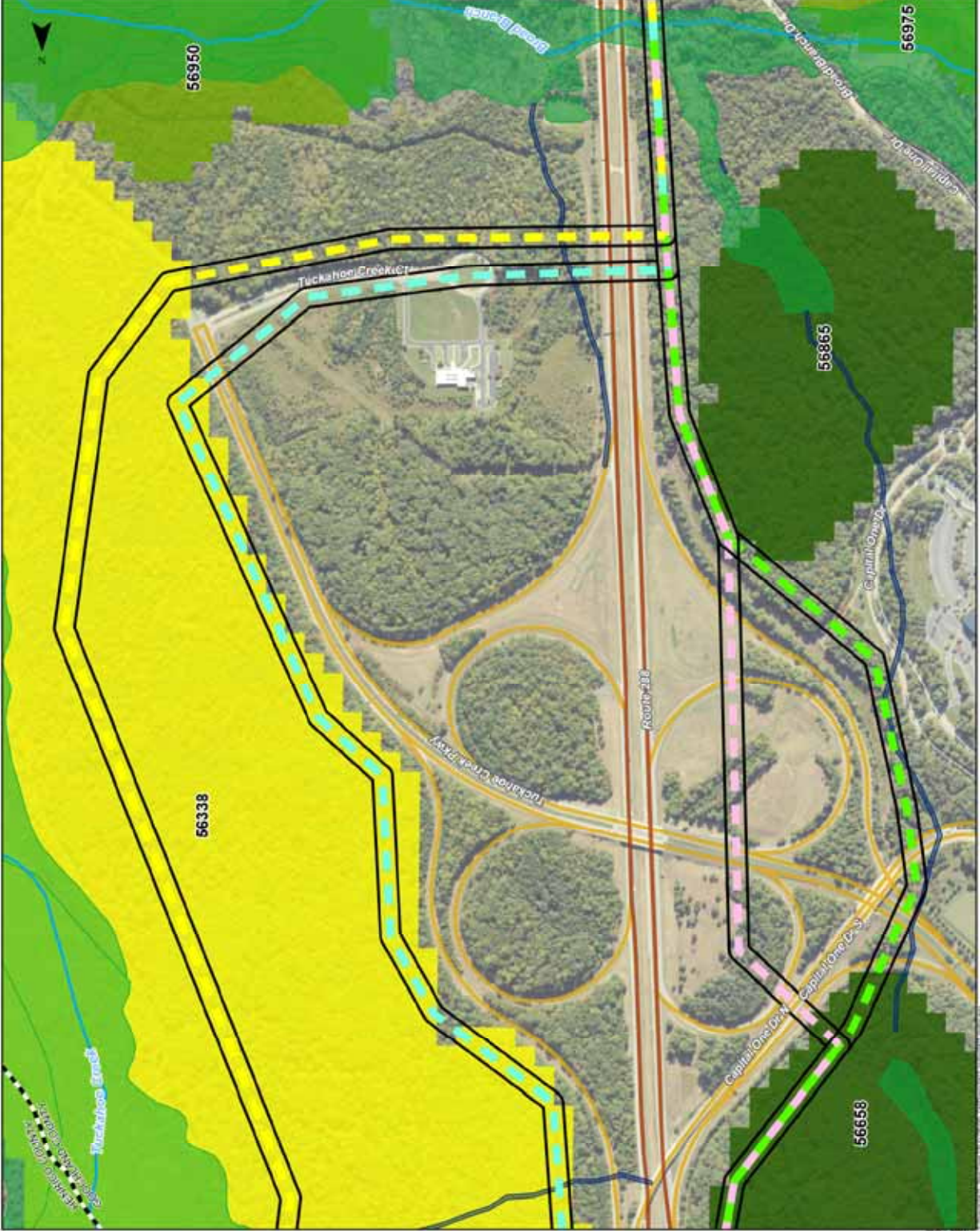
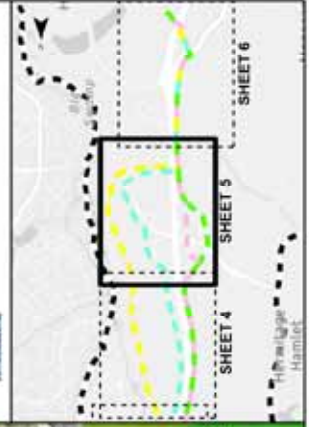




Figure 4.3-1
Wetlands, Waterbodies,
and Ecological Cores

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

PROJECT DATA

- Study Area
- Route 2 (5.85 MI)
- Route 3 (6.50 MI)
- Route 4 (6.51 MI)
- Route 5 (6.01 MI)
- Existing Dominion Transmission Line

- Proposed Substation
- Proposed Substation Footprint

CONSTRAINT DATA

- NHD Streams
- NW1 Wetland
- NW1 Water Body
- C1: Outstanding
- C2: Very High
- C3: High
- C4: Moderate
- C5: General

0 500 1,000
Feet



1:6,000

SHEET
6 OF 6

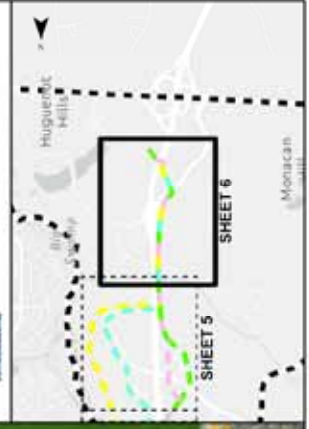




Figure 4.3-2
Forest Conservation Values
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goodland County, Virginia

- PROJECT DATA**
- Study Area
 - Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)
 - Proposed Substation
 - Map Sheet

0 3,500 7,000
Feet



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SHEET
1 OF 6

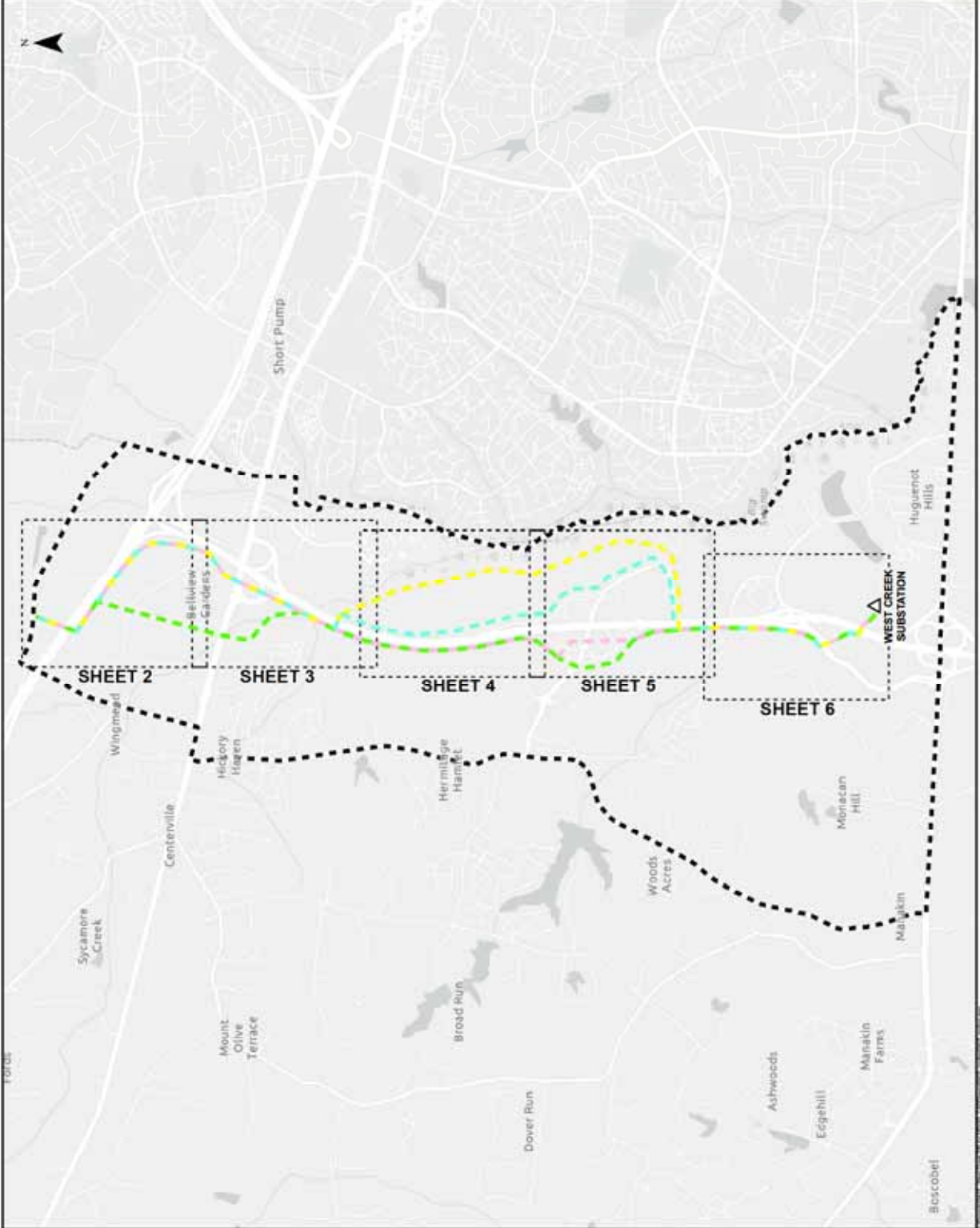




Figure 4.3-2
Forest Conservation Values

230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

- PROJECT DATA**
- Study Area
 - Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)
 - Existing Dominion Transmission Line
 - Proposed Substation
 - Proposed Substation Footprint
- CONSTRAINT DATA**
- 1: Average
 - 2: Moderate
 - 3: High
 - 4: Very High
 - 5: Outstanding

0 500 1,000
Feet



1:6,000

SHEET
2 OF 6

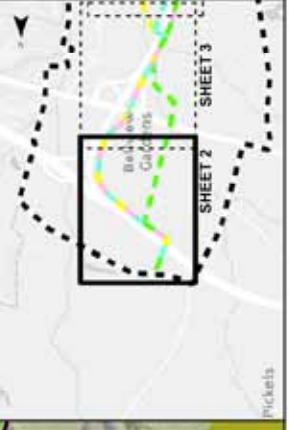




Figure 4.3-2
Forest Conservation Values
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

- PROJECT DATA**
- Study Area
 - Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)
 - Existing Dominion Transmission Line
 - Proposed Substation
 - Proposed Substation Footprint
- CONSTRAINT DATA**
- 1: Average
 - 2: Moderate
 - 3: High
 - 4: Very High
 - 5: Outstanding



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3 OF 6

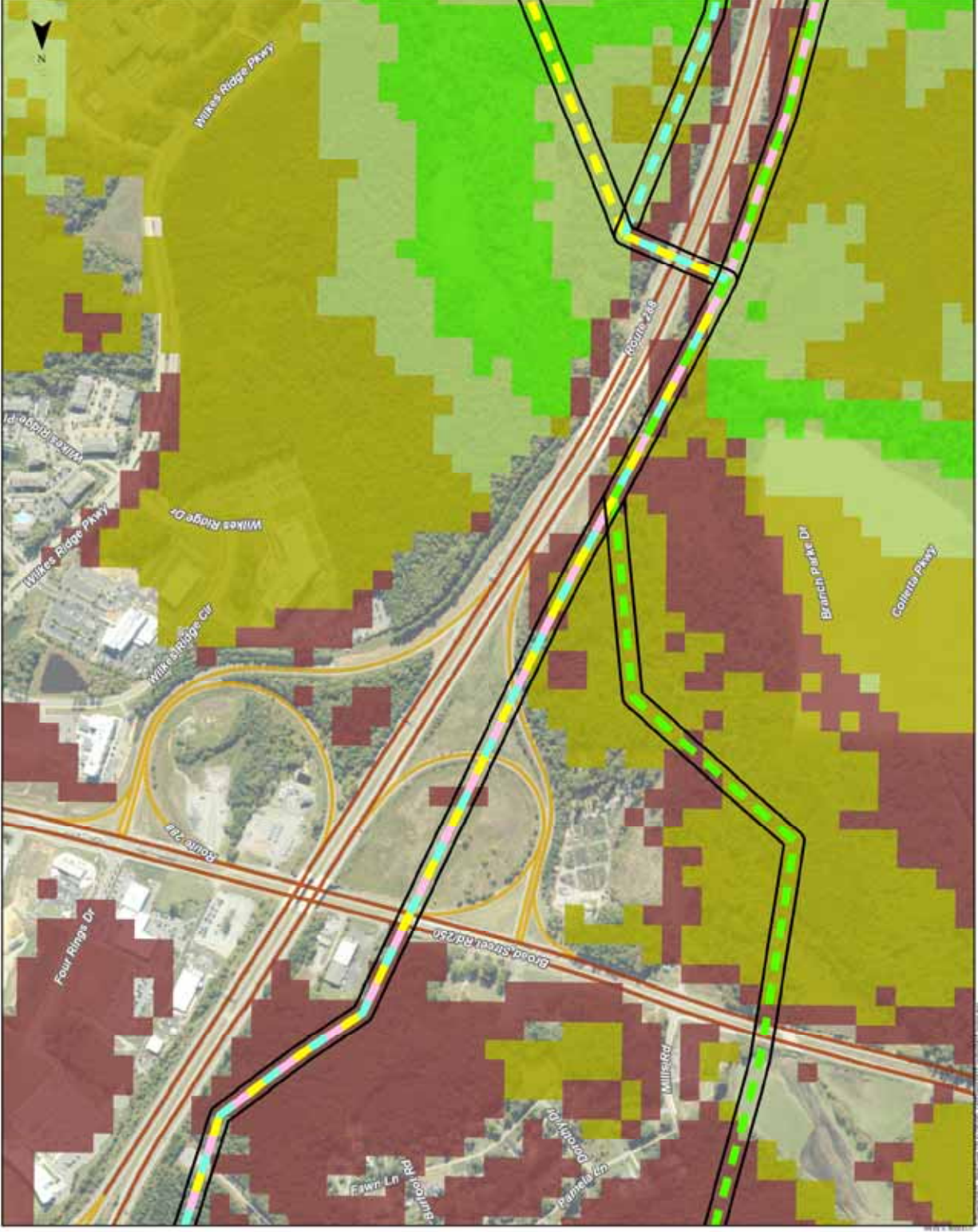
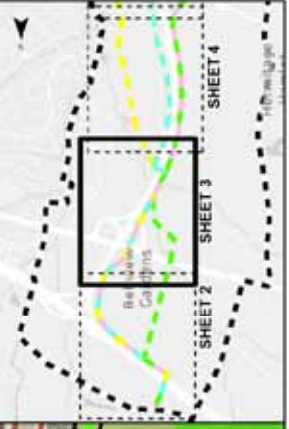




Figure 4.3-2
Forest Conservation Values
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

- PROJECT DATA**
- Study Area
 - Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)
 - Existing Dominion Transmission Line
 - Proposed Substation
 - Proposed Substation Footprint
- CONSTRAINT DATA**
- 1: Average
 - 2: Moderate
 - 3: High
 - 4: Very High
 - 5: Outstanding

0 500 1,000
Feet



1:6,000
SHEET
4 OF 6

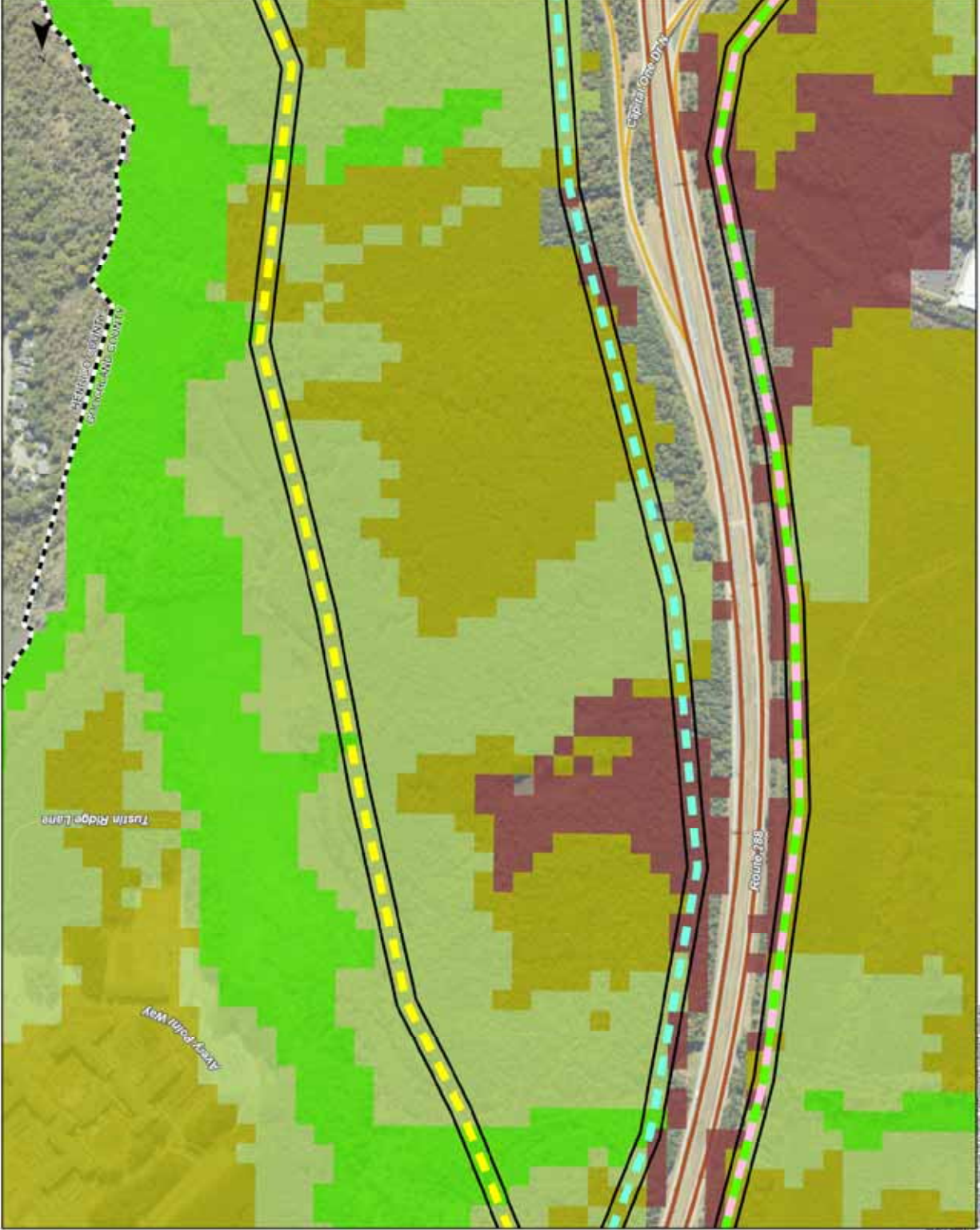
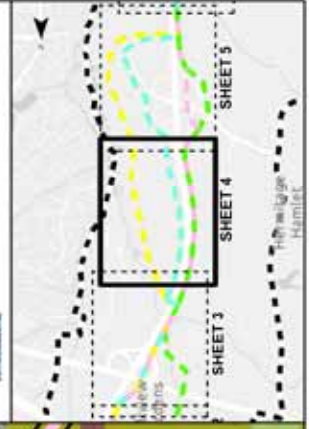






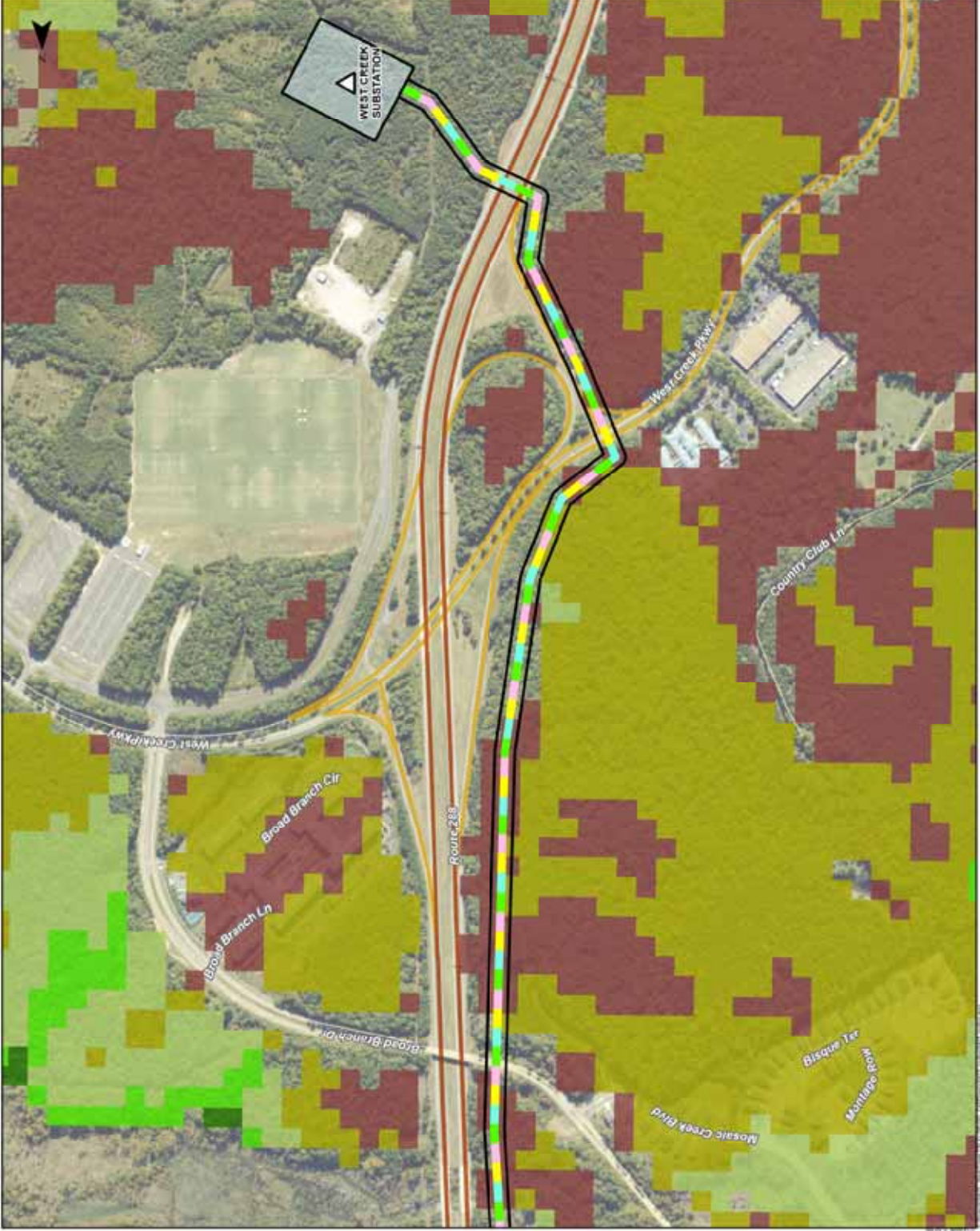
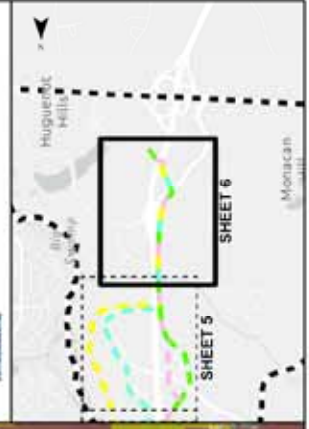
Figure 4.3-2
Forest Conservation Values
230 kV West Creek Loop and Substation
Dominion Energy Virginia
Goochland County, Virginia

- PROJECT DATA**
- Study Area
 - Route 2 (5.85 MI)
 - Route 3 (6.50 MI)
 - Route 4 (6.51 MI)
 - Route 5 (6.01 MI)
 - Existing Dominion Transmission Line
 - Proposed Substation
 - Proposed Substation Footprint
- CONSTRAINT DATA**
- 1: Average
 - 2: Moderate
 - 3: High
 - 4: Very High
 - 5: Outstanding

0 500 1,000
Feet



1:6,000
SHEET
6 OF 6



APPENDIX C

Desktop Wetland Review



DESKTOP WETLAND REVIEW

230 KV WEST CREEK LOOP AND SUBSTATION PROJECT

Goochland County, Virginia

Prepared For:

Dominion Energy Virginia
c/o Andrea Bowles
120 Tredegar Street
Richmond, Virginia 23219

Prepared By:

C2 Environmental, Inc.
11846 Rock Landing Drive, Suite A
Newport News, Virginia 23606
Project No. 0415

January 2026

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2.0 Project Study Area and Route Alternatives	3
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APPENDICES

Appendix A: Project Graphics

1.0 INTRODUCTION

C2 Environmental (C2), on behalf of Dominion Energy Virginia (Dominion or the Company), completed a desktop wetland and waterbody review of publicly available information for the proposed 230 kV West Creek Loop and Substation Project (Project). This study was completed using desktop resources and methodology. Prior to any land disturbing activities, a field delineation will be required to verify aquatic resource boundaries, followed by confirmation by the U.S. Army Corps of Engineers (Corps).

The Company is filing an application with the State Corporation Commission (SCC) to construct and operate the Project which includes:

- i. Constructing one new 230 kilovolt (kV) double circuit overhead transmission line (for a total of two circuits) extending approximately 6.5 miles on new primarily 100-foot-wide right-of-way by cutting the existing 230 kV Line #2009 (Midlothian to Short Pump) and extending a new 230 kV double circuit loop in and out of West Creek Substation (the "West Creek 230 kV Loop"), resulting in new Line #2009 (Midlothian to West Creek) and Line #2510 (West Creek to Short Pump). The West Creek Lines will be constructed primarily with double circuit weathering steel monopoles utilizing three-phase twin-bundled 768.2 Aluminum Conductor Steel Supported/Trapezoidal Wire/High Strength (ACSS/TW/HS) type conductor with a summer transfer capability of 1,573 MVA.
- ii. Constructing a new 230 kV substation in Goochland County, Virginia designed to accommodate an immediate (3) 230 kV breaker ring-bus configuration, expandable to an ultimate of (6) 230 kV breakers for potential future needs, on land provided by the Customer (West Creek Substation).

Collectively, the West Creek Lines and West Creek Substation, and related work are referred to as the 230 kV West Creek Loop and Substation or the Project.

The Project is necessary to (i) ensure that Dominion Energy Virginia can adequately and reliably serve the Customer's new manufacturing facilities in Goochland County, Virginia; (ii) reliably serve significant projected residential and commercial load growth identified in Goochland County, Virginia; (iii) maintain and ensure reliable electric service in Goochland County consistent with NERC Reliability Standards for the overall growth in the load area, which for purposes of this Application, is defined generally as the "Goochland Load Area", thereby supporting economic growth in Goochland County and Virginia; and (iv) comply with mandatory NERC Reliability Standards.

The purpose of this desktop study is to identify potential aquatic resources (e.g., wetlands, streams, jurisdictional ditches, and open water features) within the rights-of-way of the four route alternatives to help assist with routing and siting, conceptual engineering, and determine a permitting pathway for the Project after it receives its final order from the SCC. In accordance with the Virginia Department of Environmental Quality (DEQ) and the SCC's Memorandum of Agreement, this study was conducted utilizing a variety of data sets that may indicate wetland

location and wetland type. This report is being submitted as part of the Company's SCC Appendix and DEQ Supplement.

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

2.0 PROJECT STUDY AREA AND ROUTE ALTERNATIVES

A study area was identified to encompass the fixed and/or variable starting and ending points for the proposed facilities, and an area large enough to allow for the distinguishing of reasonable route alternatives meeting the Project's need. To the extent possible, the boundaries of the study area were defined using easily distinguished features such as existing transmission lines or roadways.

The Project study area is located on the eastern edge of Goochland County and consists of primarily undeveloped forested and open land with scattered areas of low to high density residential and commercial development. The study area's southern boundary extends approximately 3.9 miles along the north side of Patterson Avenue. The western edge of the study area extends north for approximately 5.1 following the eastern side of Hockett Road, and then crosses Broad Street and heads east for 0.2 mile before turning north and following Ashland Road for approximately 1.2 miles. The northern edge of the study area extends east for approximately 1.6 miles paralleling Dominion's existing Line 2009 right-of-way. Lastly, the eastern edge of the study area extends approximately 6.9 miles south, generally following the Tuckahoe Creek and the county boundary between Goochland and Henrico counties.

Through field investigations, desktop study, agency consultation, and public/stakeholder outreach, C2 identified four viable route alternatives for the Project, described below. All route alternatives require the construction of the proposed West Creek Substation on customer property. Dominion will obtain property rights for and construct the proposed 230 kV West Creek Substation east of Route 288 and south of West Creek Parkway on an approximately 5.1-acre portion of the customer site.

Route 2

Route 2 is approximately 5.9 miles in length. Starting at the cut-in location along Dominion's existing Line 2009, the route heads south for about 0.3 mile and crosses I-64. Turning southeast, the route is then collocated with I-64 for approximately 0.2 mile before heading south for approximately 1.0 mile, crossing Three Chopt Road and Broad Street (250). The route then turns southeast for an additional 0.4 mile, crossing Big Tuckahoe Creek in two locations and Readers Branch, before paralleling with the west side of Route 288 for approximately 1.6 miles. Continuing generally south, the route then traverses the outside of the Route 288 / Tuckahoe Creek Parkway interchange for about 0.7 mile, crossing Tuckahoe Creek Parkway and Capital One Drive. The route then continues south, paralleling the west side of Route 288

for another 1.1 miles, crossing Broad Branch, and Broad Branch Drive. Continuing in a generally southerly direction for the remaining 0.6 mile, the route crosses West Creek Parkway and Route 288 before terminating at the substation site.

Route 3

Route 3 is approximately 6.5 miles in length. Starting at the cut-in location along Dominion's existing Line 2009, the route heads south for about 0.3 mile and crosses I-64. Turning southeast, the route is then collocated with I-64 for approximately 0.6 mile before turning south and paralleling the I-64 and Route 288 interchange for another 0.5 mile. The route then crosses Three Chopt Road and turns slight southwest for about 0.2 mile. Continuing south for about 0.5 mile, the route then crosses Broad Street (250) and the Broad Street / Route 288 Interchange. Turning east, the route then crosses Route 288 (0.1 mile) and then heads south paralleling the east side of Route 288 for about 1.5 miles, crossing Big Tuckahoe Creek. Continuing generally south, the route traverses the outside of the Route 288 / Tuckahoe Creek Parkway interchange and Tuckahoe Creek Parkway for about 0.9 mile. The route then crosses Tuckahoe Creek Parkway and heads west for approximately 0.4 mile before crossing Route 288 (0.1 mile) for a second time. Turning south, the route then parallels the west side of Route 288 for about 0.8 mile, crossing Broad Branch and Broad Branch Drive. Continuing in a generally southerly direction for the remaining 0.5 mile, the route crosses West Creek Parkway and Route 288 before terminating at the substation site.

Route 4

Route 4 is approximately 6.5 miles in length. Starting at the cut-in location along Dominion's existing Line 2009, the route heads south for about 0.3 mile and crosses I-64. Turning southeast, the route is then collocated with I-64 for approximately 0.6 mile before turning south and paralleling the I-64 and Route 288 interchange for another 0.5 mile. The route then crosses Three Chopt Road and turns slight southwest for about 0.2 mile. Continuing south for about 0.5 mile, the route then crosses Broad Street (250) and the Broad Street / Route 288 Interchange. Turning east, the route then crosses Route 288 (0.1 mile) and then heads south paralleling the east side of Route 288 for about 0.3 mile, crossing Big Tuckahoe Creek. The route then turns southeast, paralleling, but offset from Big Tuckahoe Creek for about 2.1 miles. Turning west, the route travels 0.4 mile before crossing Route 288 (0.1 mile) for a second time. Turning south, the route then parallels the west side of Route 288 for about 0.8 mile, crossing Broad Branch and Broad Branch Drive. Continuing in a generally southerly direction for the remaining 0.6 mile, the route crosses West Creek Parkway and Route 288 before terminating at the substation site.

Route 5

Route 5 is approximately 6.0 miles in length. Starting at the cut-in location along Dominion's existing Line 2009, the route heads south for about 0.3 mile and crosses I-64. Turning southeast, the route is then collocated with I-64 for approximately 0.6 mile before turning south and paralleling the I-64 and Route 288 interchange for another 0.5 mile. The route then crosses Three Chopt Road and turns slight southwest for about 0.2 mile. Continuing south, the route

then crossing Broad Street (250) and the Broad Street / Route 288 Interchange, and parallels the west side of Route 288 for approximately 2.2 miles. This segment of the route crosses Big Tuckahoe Creek and Readers Branch. The route then crosses a ramp to Route 288 (0.1 mile) and crosses through the Route 288 / Tuckahoe Creek Parkway interchange for about 0.4 mile. Continuing generally south, the route then continues to parallel the west side of Route 288 for another 1.1 miles crossing Broad Branch and Broad Branch Drive. Continuing in a generally southerly direction for the remaining 0.6 mile, the route crosses West Creek Parkway and Route 288 before terminating at the substation site.

3.0 DESKTOP EVALUATION METHODOLOGY

The study area considered for this desktop analysis consists of proposed rights-of-way in which the route alternatives would be constructed and operated. Resources used to complete the desktop review include the following, descriptions of which are provided below:

- Virginia Geographic Information Network (VGIN) aerial imagery dated 2024;
- VGIN infrared imagery dated 2021;
- Google Earth historic imagery ranging from 1994 to 2025;
- U.S. Geologic Survey (USGS) topographic maps;
- USGS Digital Elevation Model (DEM) 1-meter contour data;
- U.S. Department of Agriculture National Resources Conservation Service (USDA-NRCS) hydric soil survey data;
- U.S. Fish and wildlife service (USFWS) National Wetland Inventory (NWI) wetland mapping;
- The National Hydrography Dataset (NHD) Plus High Resolution; and
- Previously confirmed wetland areas.

Natural Color and Infrared Aerial Photograph

Recent (2024) aerial photography and 2021 infrared imagery was used to complete a visual overview of the Project area to evaluate current conditions and help identify potential wetland areas within the study area. The areas identified using the aerial imagery were typically darker in color, which is indicative of inundation or saturated soil conditions associated with wetlands. In many instances these dark signature areas are confined to concave landscapes as defined by the topography. However, wetland occurrence is not limited to concave landforms and can occur in flat landscapes.

Topographic Maps and Digital Elevation Model

USGS topographic maps show the topography of the study area as well as other land use features including forest cover, development, streams, lakes, and wetlands. The USGS DEM further refines topography to a 1-meter contour level.

USDA-NRCS Soils Data

Soils within the study area were assessed utilizing the USDA-NRCS Soil Survey Geographic Database (SSUGRO), which presents a digital version of county level soils surveys. Hydric soils are given a rating within this data which indicates the percentage of a map unit that meets the criteria for hydric soils. This rating is based on the respective map unit components and the percentage of each component within the map unit. The five hydric soils categories are: (1) hydric - 100 percent hydric components; (2) predominantly hydric - 66 to 99 percent hydric components; (3) partially hydric - 33 to 65 percent hydric components; (4) predominantly nonhydric - 1 to 32 percent hydric components; and (5) nonhydric - less than 1 percent hydric components. For the purpose of this desktop study we have combined these five categories into the three categories below:

- Hydric - includes the USDA-NRCS categories of hydric and predominantly hydric
- Partially Hydric - includes the USDA-NRCS categories of partially hydric and predominantly nonhydric
- Nonhydric - includes the USDA-NRCS category of nonhydric.

USFWS National Wetland Inventory Mapping

NWI data provides both the boundaries and Cowardin classifications of potential wetlands areas, as mapped by the USFWS. This data set is primarily based interpretations of aerial photography and may not always represent the correct boundaries or wetland cover type.

USGS National Hydrography Dataset

The NHD dataset contains waterbody features such as streams, rivers, canals, lakes, and ponds. Waterbodies mapped by the NHD generally appeared consistent with those features visible on aerial photography and USGS topographic maps.

Previously Confirmed Wetland Areas

In coordination with a large landholder within the study area, Dominion received a copy of previously surveyed and confirmed delineations. As these delineations will be more than 5 years old by the time the Project goes to construction, therefore the delineations were used as a reference point along with NWI mapping in these areas.

4.0 PROBABILITY ANALYSIS

C2 utilized a step-by-step process to identify probable wetlands and waterbodies within the Project study area as follows:

- 1- Using the available infrared and aerial imagery along with the DEM and USGS topography, C2 identified potential wetland within the study area. Boundaries were assigned to the areas that appeared to exhibit wetland signatures based on this review

(referred to here as “Interpreted Wetlands”), and a Cowardin classification was selected based on aerial photo interpretation.

- 2- C2 then layered Interpreted Wetlands on top of NWI and NRCS-USDA soils data to further determine the probability of a wetland occurring within a given location.
- 3- C2 then assigned a probability ranking based on the number of overlapping data layers that occurred within each portion of the study area.

The criteria assigned to each probability ranking are provided in Table 1.

Table 1: Criteria for Probability of Wetland Occurrence

Probability	Criteria
High	Areas where layers of hydric soils, Interpreted Wetlands, and NWI data all overlap
Medium/High	NWI data overlaps with hydric soil; or NWI data overlaps with 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

5.0 WETLAND AND WATERBODY CROSSINGS

The desktop study provides a probability of wetland and waterbody occurrence within the existing Project right-of-way, with wetlands classified based on the Cowardin classification system described below. For the Project the Cowardin classification of some wetlands have been combined into palustrine scrub-shrub (PSS) / palustrine emergent wetlands (PEM). This is because it is difficult to differentiate between scrub-shrub and emergent wetlands even when utilizing the highest resolution of aerial photography.

- Palustrine System - Includes all nontidal wetlands dominated by trees, shrubs, persistent emergent, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt.
 - Palustrine scrub-shrub (PSS) / Palustrine Emergent (PEM) - woody plants less than 20 feet tall are the dominant vegetation type (PSS) and erect, rooted, herbaceous hydrophytes (typically dominated by perennial plants) are the dominant vegetation type (PEM).
 - Palustrine Forested (PFO) - woody vegetation, 20 feet or more in height and 3 inches or larger diameter at breast height (dbh) are the dominant vegetation type.

- Riverine System – Wetlands and deepwater habitats contained within a channel unless (1) wetlands dominated by trees, shrubs, persistent emergent, emergent mosses; or (2) habitats with water containing ocean-derived salts meeting tidal wetland requirements.
 - Stream channels identified within the riverine system includes both perennial and intermittent streams.

As previously noted, field delineations were not completed as a part of this study, and these delineations will be required to verify the accuracy and extent of wetland and waterbody boundaries. The range of wetland occurrence probabilities included in this study range from very low to high, with the probability of wetland occurrence increasing as multiple indicators overlap on the “high” end of the scale. The medium, medium-high, and high probability categories are the most reliable representation of field conditions due to overlapping data sets, and as such these categories are presented in the results summary below. Appendix A includes mapping of medium, medium-high, and high probability wetlands and waterbodies.

6.0 RESULTS

The results of the probability analysis are presented in Tables 2 through 5, and a summary of the results is provided in the paragraphs that follow.

Table 2: Results of Desktop Wetland Review - Route 2 ^{a, b, c}

Probability	Total in Study Area	PSS/PEM Wetlands	PFO Wetlands	Stream Channel
High	0.0	N/A	0.0	N/A
Medium/High	7.2	0.8	5.6	0.8
Medium	7.2	0.2	6.7	0.2
Medium/Low	2.0	0.2	0.0	0.3
Low	2.0	N/A	N/A	N/A
Very Low	57.6	N/A	N/A	N/A
Total	76.0	1.2	12.3	1.3
N/A: Not applicable due to absence of wetland/waterbody type within the study area ^a Numbers in this table have been rounded for presentation purposes and as such the totals may not reflect the sum of the addends. ^b Total acres may not total the sum of wetland/waterbody types as the lower probability rankings (very low, low, and medium low) do not always overlap with NWI or interpreted wetlands, and therefore do not have a WOTUS type associated with them ^c 0.0 indicates less than 0.05 acre of the wetland is present.				

Table 3: Results of Desktop Wetland Review - Route 3^{a, b, c}

Probability	Total in Study Area	PSS/PEM Wetlands	PFO Wetlands	Stream Channel
High	N/A	N/A	N/A	N/A
Medium/High	2.9	N/A	2.5	0.4
Medium	6.8	0.7	5.9	0.2
Medium/Low	1.0	0.0	N/A	0.1
Low	2.0	N/A	N/A	N/A
Very Low	71.1	N/A	N/A	N/A
Total	83.8	0.7	8.4	0.7

N/A: Not applicable due to absence of wetland/waterbody type within the study area

^a Numbers in this table have been rounded for presentation purposes and as such the totals may not reflect the sum of the addends.

^b Total acres may not total the sum of wetland/waterbody types as the lower probability rankings (very low, low, and medium low) do not always overlap with NWI or interpreted wetlands, and therefore do not have a WOTUS type associated with them

^c 0.0 indicates less than 0.05 acre of the wetland is present.

Table 4: Results of Desktop Wetland Review - Route 4^{a, b, c}

Probability	Total in Study Area	PSS/PEM Wetlands	PFO Wetlands	Stream Channel
High	N/A	N/A	N/A	N/A
Medium/High	3.9	0.3	3.2	0.4
Medium	12.2	1.1	10.8	0.2
Medium/Low	1.0	0.1	0.0	0.0
Low	2.3	N/A	N/A	N/A
Very Low	64.6	N/A	N/A	N/A
Total	83.9	1.5	14.0	0.6

N/A: Not applicable due to absence of wetland/waterbody type within the study area

^a Numbers in this table have been rounded for presentation purposes and as such the totals may not reflect the sum of the addends.

^b Total acres may not total the sum of wetland/waterbody types as the lower probability rankings (very low, low, and medium low) do not always overlap with NWI or interpreted wetlands, and therefore do not have a WOTUS type associated with them

^c 0.0 indicates less than 0.05 acre of the wetland is present.

Table 5: Results of Desktop Wetland Review - Route 5^{a, b, c}

Probability	Total in Study Area	PSS/PEM Wetlands	PFO Wetlands	Stream Channel
High	N/A	N/A	N/A	N/A
Medium/High	2.8	N/A	2.5	0.3
Medium	5.8	0.5	5.1	0.2
Medium/Low	1.2	0.0	0.0	0.0
Low	2.0	N/A	N/A	N/A
Very Low	66.0	N/A	N/A	N/A
Total	77.9	0.5	7.6	0.5

N/A: Not applicable due to absence of wetland/waterbody type within the study area

^a Numbers in this table have been rounded for presentation purposes and as such the totals may not reflect the sum of the addends.

^b Total acres may not total the sum of wetland/waterbody types as the lower probability rankings (very low, low, and medium low) do not always overlap with NWI or interpreted wetlands, and therefore do not have a WOTUS type associated with them

^c 0.0 indicates less than 0.05 acre of the wetland is present.

Wetland Crossings

Route 2

The length of Route 2 is approximately 5.9 miles, and the study area encompasses a total of approximately 76.0 AC. Based on the methodology discussed above, the proposed new right-of-way encompasses approximately 19.0 percent (approximately 14.4 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Of these 14.4 acres, 12.3 acres consist of PFO wetlands, 1.0 acre consist of PSS/PEM wetlands, and 1.0 acre consist of stream channels.

Route 3

The length of Route 3 is approximately 6.5 miles, and the study area encompasses a total of approximately 83.8 AC. Based on the methodology discussed above, the proposed new right-of-way encompasses approximately 11.6 percent (approximately 9.7 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Of these 9.7 acres, 8.4 acres consist of PFO wetlands, 0.7 acre consist of PSS/PEM wetlands, and 0.6 acre consist of stream channels.

Route 4

The length of Route 4 is approximately 6.5 miles, and the study area encompasses a total of approximately 83.9 AC. Based on the methodology discussed above, the proposed new right-of-way encompasses approximately 19.1 percent (approximately 16.0 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Of these 16.0 acres, 14.0 acres consist of PFO wetlands, 1.4 acres consist of PSS/PEM wetlands, and 0.6 acre consist of stream channels.

Route 5

The length of Route 5 is approximately 6.0 miles, and the study area encompasses a total of approximately 77.9 AC. Based on the methodology discussed above, the proposed new right-of-way encompasses approximately 11.0 percent (8.6 acres) of land with a medium or higher probability of containing wetlands and waterbodies. Of these 8.6 acres, 7.6 acres consist of PFO wetlands, 0.5 acre consist of PSS/PEM wetlands, and 0.5 acre consist of stream channels.

Waterbody Crossings

C2 identified and mapped waterbodies in the study area utilizing NWI, NHD, USGS topographic maps, and aerial photography. Waterbodies crossed by the Project right-of-way include Tuckahoe Creek, Readers Branch, Broad Branch, and many small unnamed tributaries.

7.0 POTENTIAL PROJECT IMPACTS

During construction, 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 PEM 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.

8.0 SUMMARY

In accordance with the Memorandum of Agreement between the DEQ and SCC, C2 performed a Desktop Wetland Review on the Project to determine the potential limits of wetlands, streams, and other WOUS within the project area using publicly available off-site resources. Prior to any land disturbing activities, C2 recommends a detailed delineation of wetlands, streams, and other WOUS followed by confirmation by the Corps.

In addition, there is a website for the Project where the SCC application will be available after filing, as well as maps and discussions about the status and timing of the Project. It can be accessed by going to: <https://www.dominionenergy.com/about/delivering-energy/electric-projects/power-line-projects/west-creek>.

9.0 REFERENCES

- Cowardin, L. et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. US Department of the Interior Fish and Wildlife Service Office of Biological Services Washington, D.C. December 1979. Available online at: <https://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-DeepwaterHabitats-of-the-United-States.pdf>. Accessed June 2025.
- Google Earth LLC. Google Earth Pro. Historic Aerial Imagery in Virginia, United States. Accessed November 2025.
- United States Department of Agriculture Natural Resource Conservation (USDA-NRCS) 2023. Soil Survey Geographic Data (SSURGO). Available online at: <https://websoilsurvey.nrcs.usda.gov/app/>. Accessed November 2025.
- U.S. Fish and Wildlife Service. 2024. National Wetlands Inventory. Available online at: <https://www.fws.gov/program/national-wetlands-inventory>. Accessed November 2025.
- U.S. Geological Survey (USGS). 2025. Topographic Maps. Available online at: <https://www.usgs.gov/programs/national-geospatial-program/topographic-maps>. Accessed November 2025
- USGS. 2024. NHDPlus High Resolution. Available online at: <https://www.usgs.gov/national-hydrography/nhdplus-high-resolution>. Accessed November 2025.
- USGS. 2024. 1-Meter Digital Elevation Model. Available online at: <https://data.usgs.gov/datacatalog/data/USGS:77ae0551-c61e-4979-aedd-d797abdcde0e>. Accessed November 2025.
- Virginia Geographic Information Network (VGIN), 2024. Aerial Imagery. Available online at: <https://www.arcgis.com/home/item.html?id=d9b3867d2aa44600b76cfe6a61af7770>. Accessed November 2025.
- VGIN, 2021. Infrared Imagery. Available online at: <https://vgin.vdem.virginia.gov/datasets/VGIN::vbmp-2021-infrared-wgs-web-mercator-vgin/about>. Accessed November 2025.

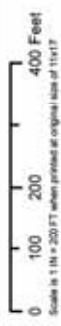
APPENDIX A

Project Graphics

DESKTOP WETLAND REVIEW MAP **ROUTE 2**

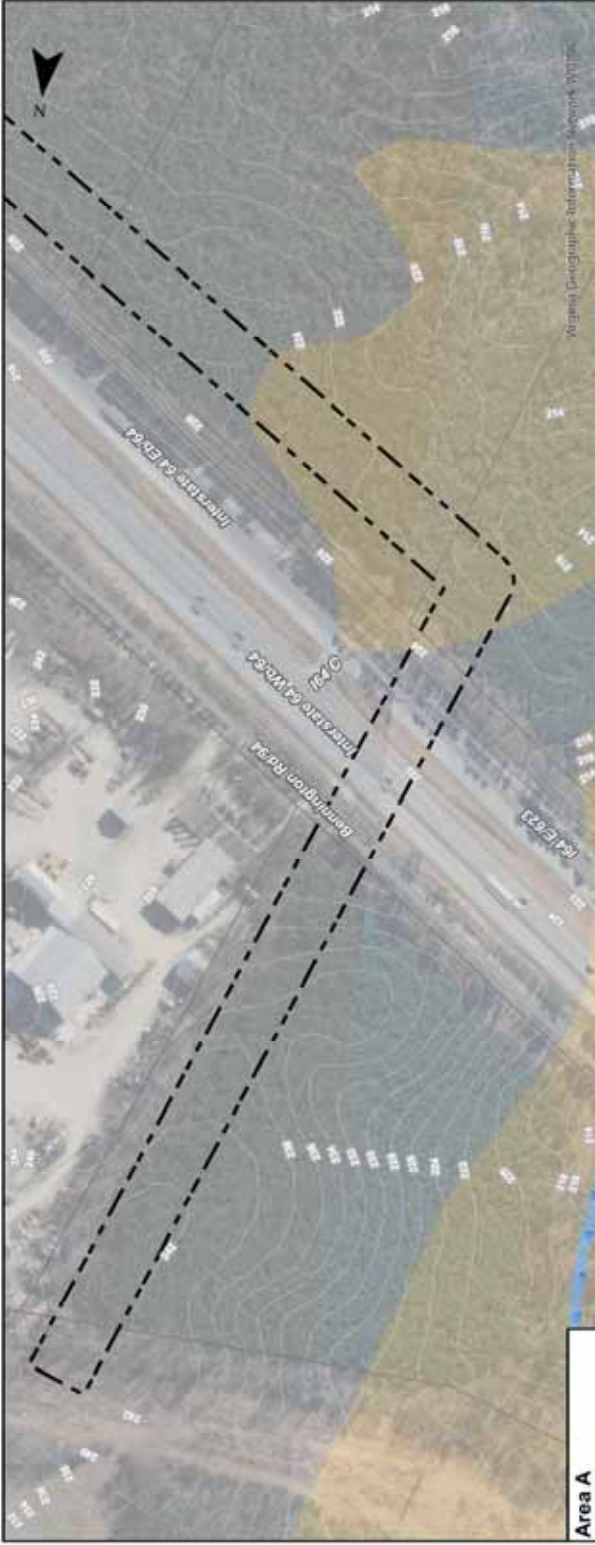
230 KV West Creek Loop and Substation
Goochland County, Virginia

Client:
Dominion Energy Virginia
C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



SITE DATA

- Project Area**
- Wetland Probability**
 - High PFO Wetland
 - Medium-High Stream Channel
 - Medium-High PEM/PSS
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEM/PSS Wetland
 - Medium PFO Wetland
 - USGS MHD Stream Centerline
 - NWI Limits
 - Hydric Soils
 - Partially Hydric Soils
 - Nonhydric Soils
- Parcel Boundary
- Existing 2 FT Contour



Area A



Area B

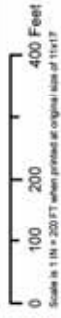


DESKTOP WETLAND REVIEW MAP **ROUTE 2**

230 KV West Creek Loop and Substation
Goochland County, Virginia

Client:
Dominion Energy Virginia

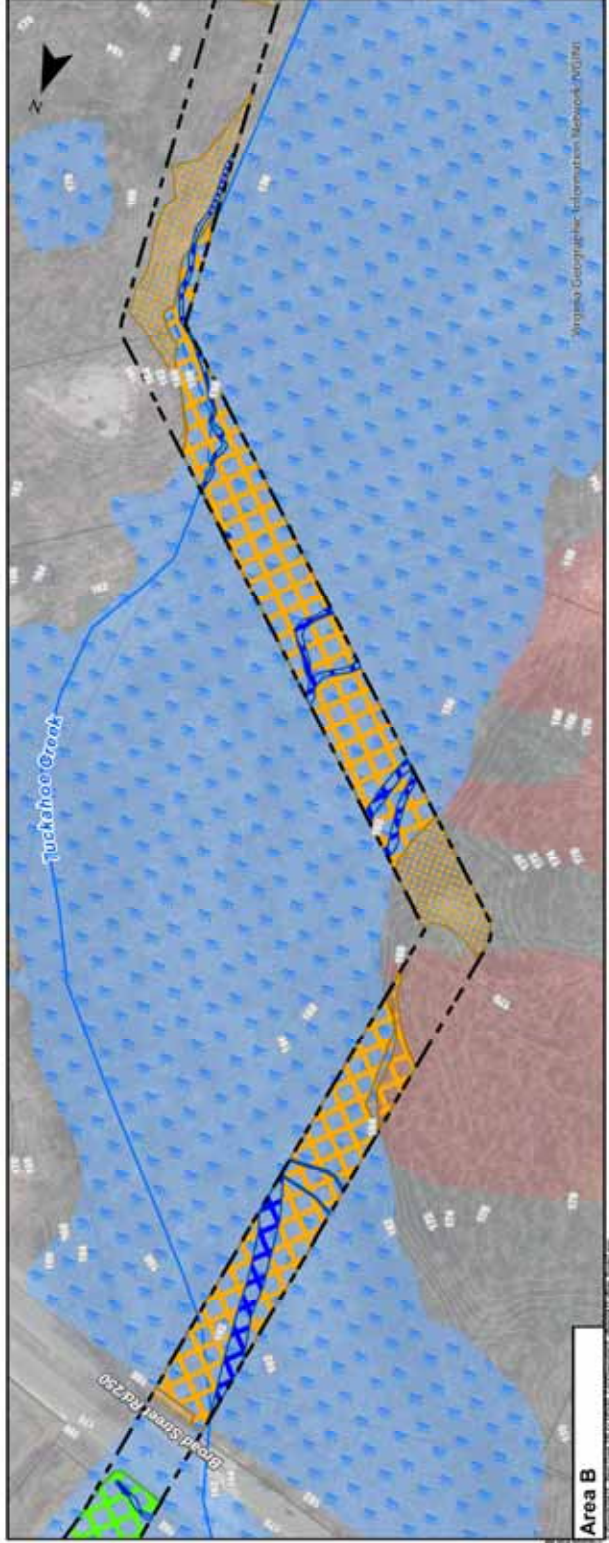
C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



- SITE DATA**
- Project Area
 - Wetland Probability**
 - High PFO Wetland
 - Medium-High Stream Channel
 - Medium-High PEM/PSS
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEM/PSS Wetland
 - Medium PFO Wetland
 - USGS MHD Stream Centerline
 - NWI Limits
 - Hydric Soils
 - Partially Hydric Soils
 - Nonhydric Soils
 - Parcel Boundary
 - Exiting 2 FT Contour



Area A



Area B

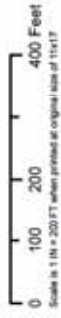


DESKTOP WETLAND REVIEW MAP **ROUTE 2**

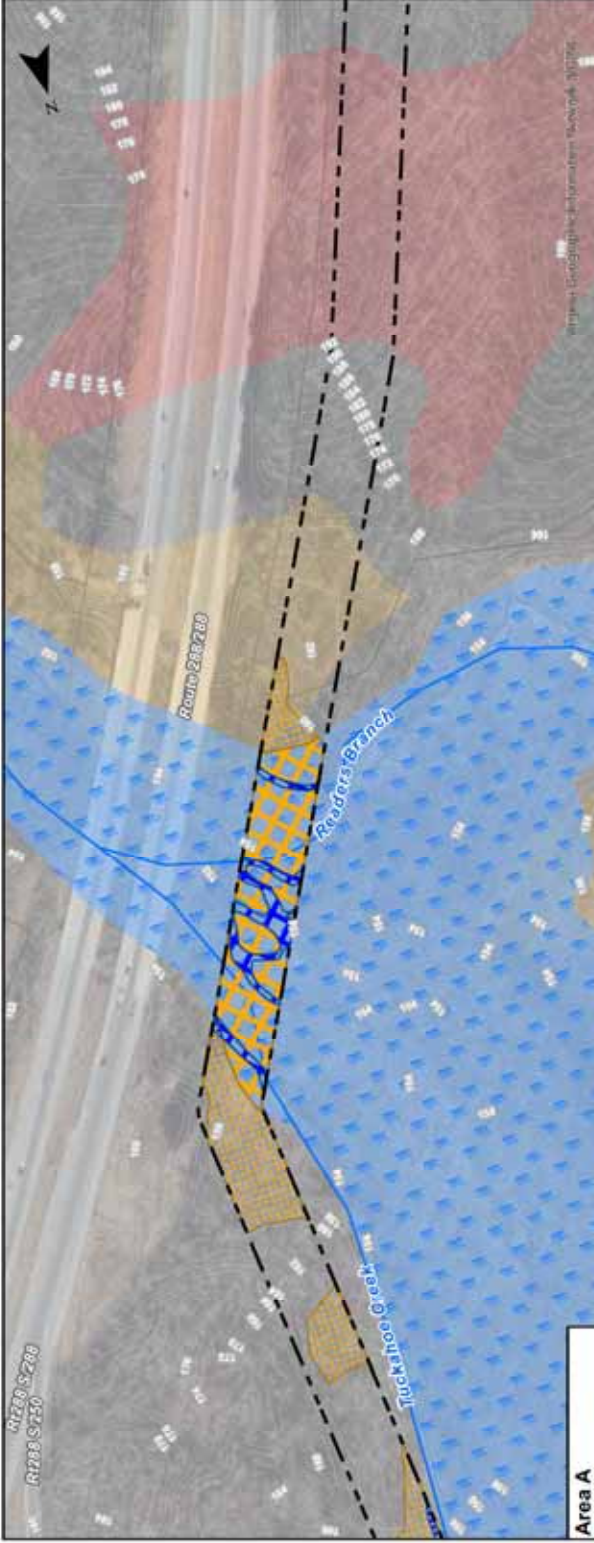
230 KV West Creek Loop and Substation
Goochland County, Virginia

Client:
Dominion Energy Virginia

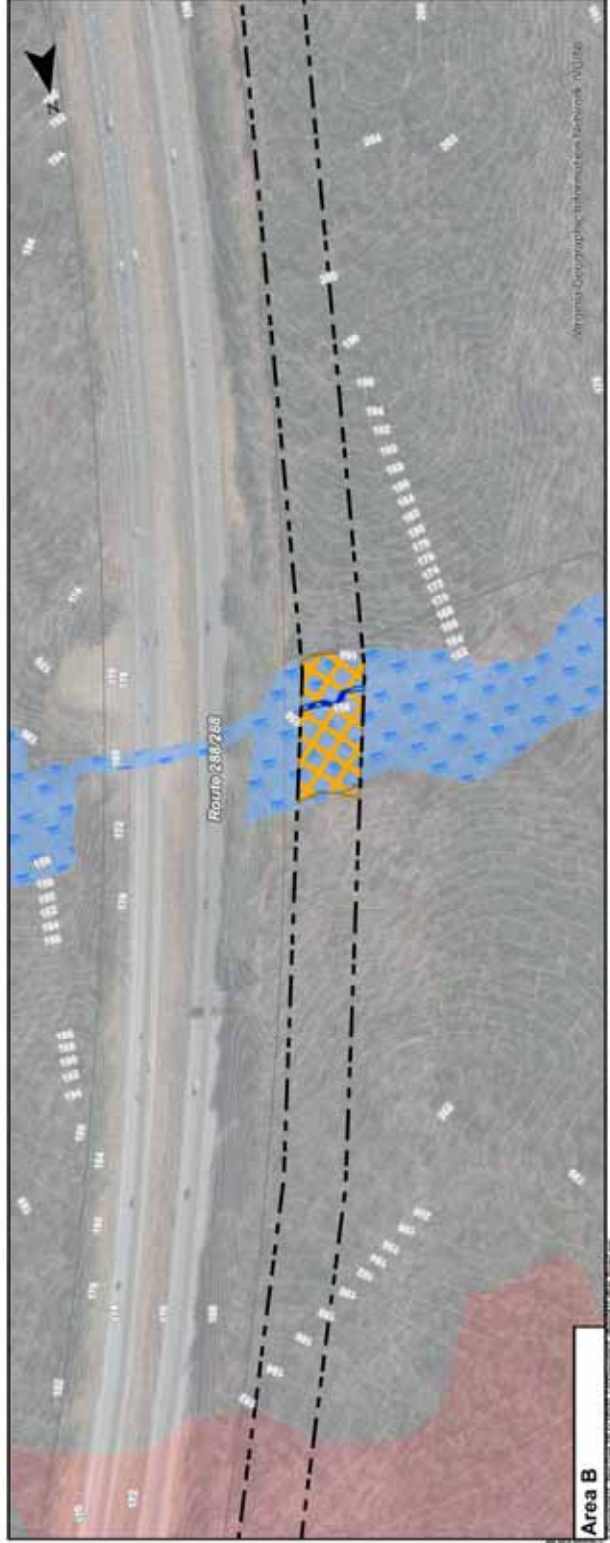
C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



- SITE DATA**
- Project Area
 - Wetland Probability
 - High PFO Wetland
 - Medium/High Stream Channel
 - Medium/High PEM/PSS
 - Medium/High PFO Wetland
 - Medium Stream Channel
 - Medium PEM/PSS Wetland
 - Medium PFO Wetland
 - USGS MHD Stream Centerline
 - NWI Limits
 - Hydric Soils
 - Partially Hydric Soils
 - Nonhydric Soils
 - Parcel Boundary
 - Exiting 2 FT Contour



Area A



Area B

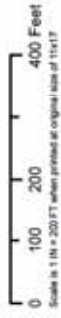


DESKTOP WETLAND REVIEW MAP ROUTE 2

230 KV West Creek Loop and Substation
Goodland County, Virginia

Client:
Dominion Energy Virginia

C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



SITE DATA

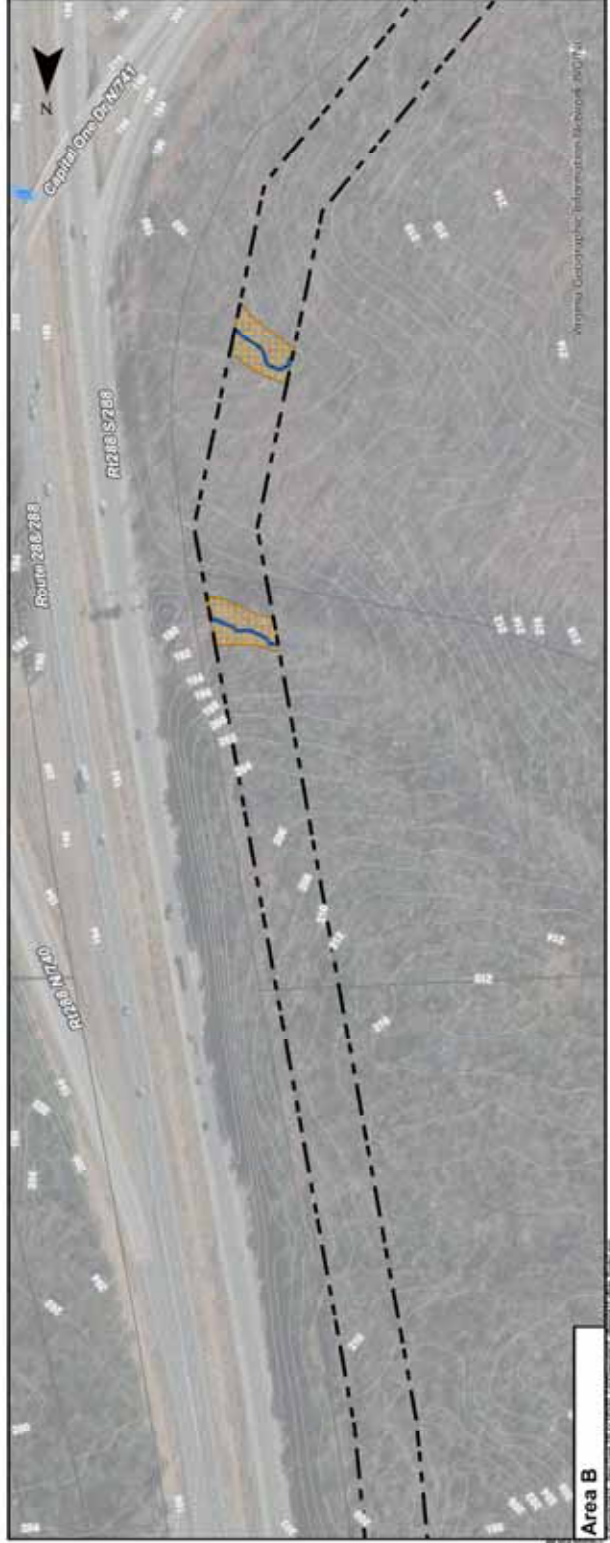
Project Area

Wetland Probability

- High PFO Wetland
- Medium-High Stream Channel
- Medium-High PEM/PSS
- Medium-High PFO Wetland
- Medium Stream Channel
- Medium PEM/PSS Wetland
- Medium PFO Wetland
- USGS MHD Stream Centerline
- NWI Limits
- Hydric Soils
- Partially Hydric Soils
- Nonhydric Soils
- Parcel Boundary
- Existing 2 FT Contour



Area A



Area B



DESKTOP WETLAND REVIEW MAP ROUTE 2

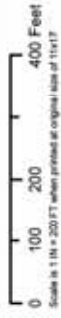
230 KV West Creek Loop and Substation
Goochland County, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:
0415

Prepared By:
ZTW

Date:
01/16/26

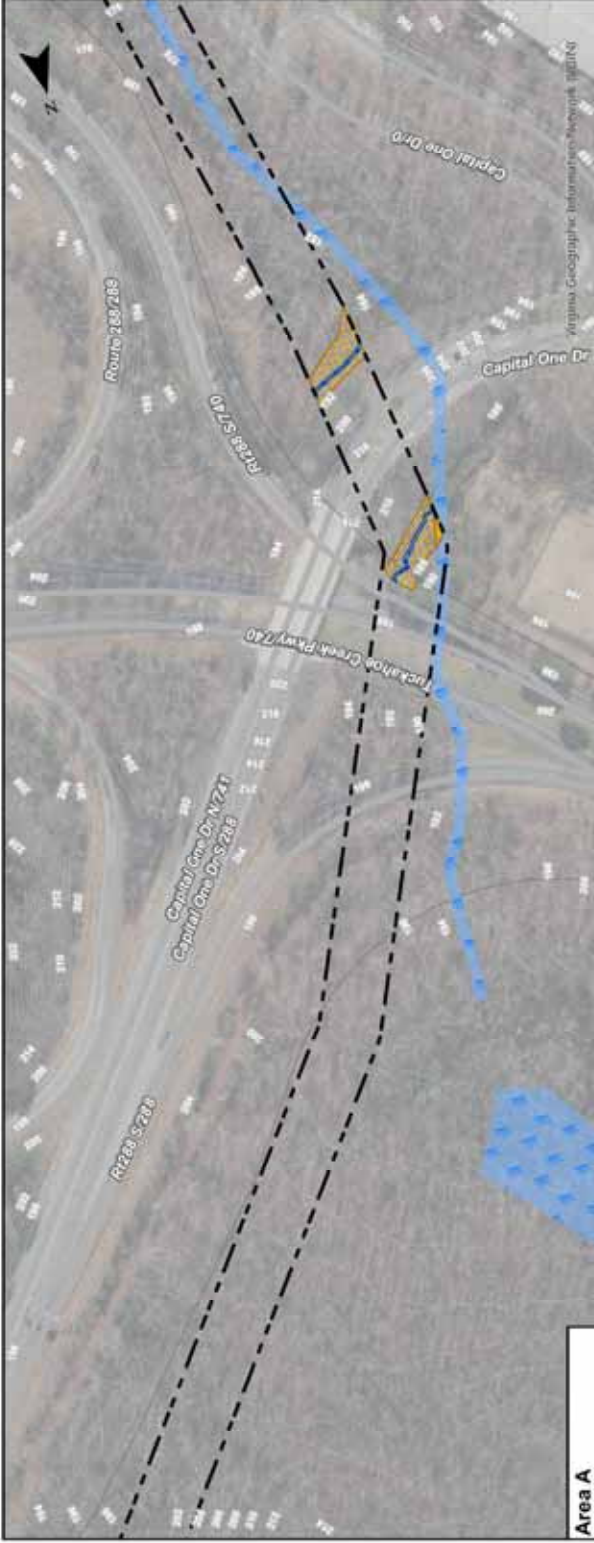


SITE DATA

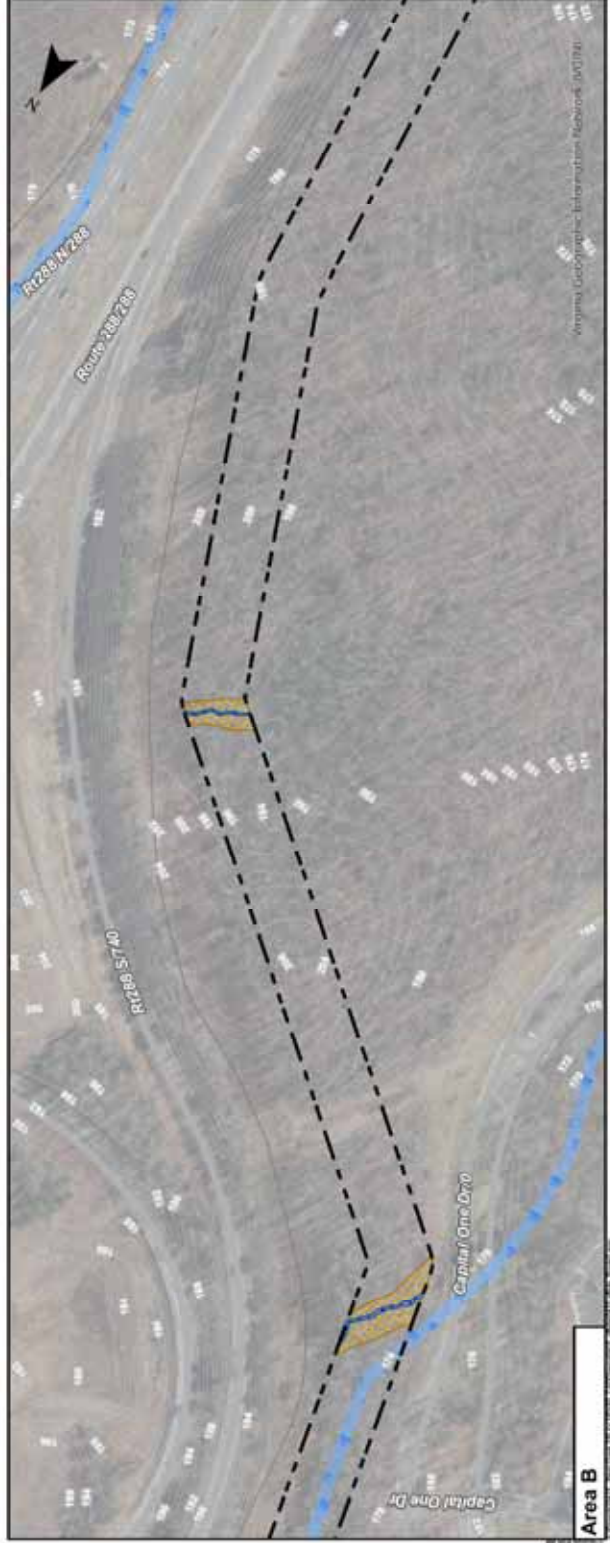
Project Area

Wetland Probability

- High PFO Wetland
- Medium-High Stream Channel
- Medium-High PEMPSS
- Medium-High PFO Wetland
- Medium Stream Channel
- Medium PEMPSS Wetland
- Medium PFO Wetland
- USGS MHD Stream Centerline
- NWI Limits
- Hydric Soils
- Partially Hydric Soils
- Nonhydric Soils
- Parcel Boundary
- Existing 2 FT Contour



Area A



Area B



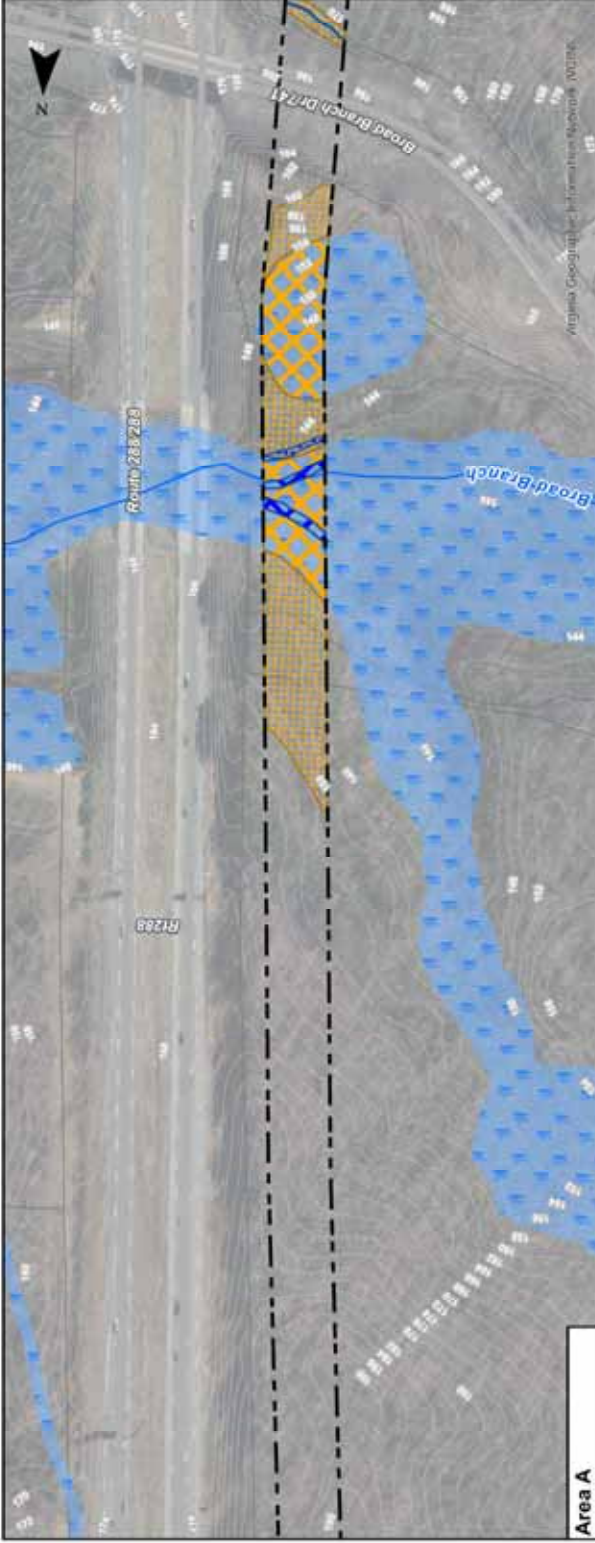
DESKTOP WETLAND REVIEW MAP **ROUTE 2**

230 kV West Creek Loop and Substation
Goochland County, Virginia

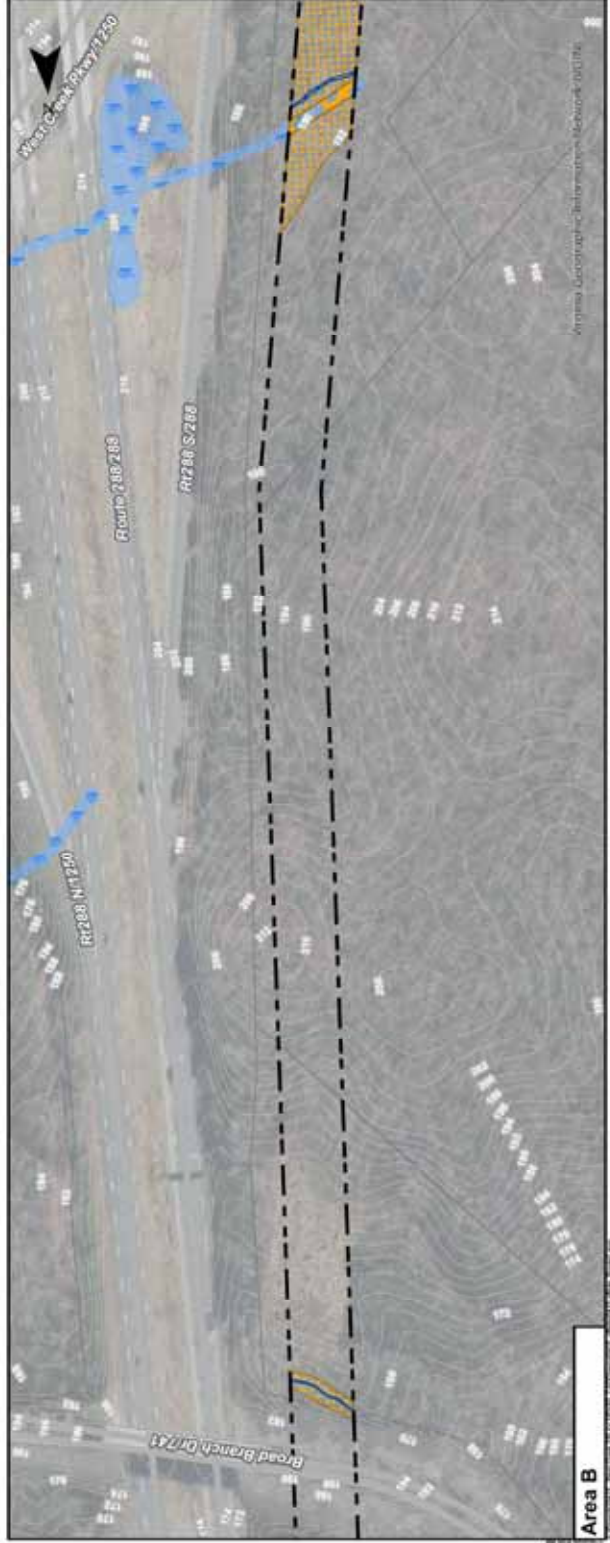
Client:	Dominion Energy Virginia
C2 Env Project:	0415
Prepared By:	ZTW
Date:	01/16/26



- SITE DATA**
- Project Area
 - Wetland Probability**
 - High PFO Wetland
 - Medium-High Stream Channel
 - Medium-High PEM/PSS
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEM/PSS Wetland
 - Medium PFO Wetland
 - USGS MHD Stream Centerline
 - NWI Limits
 - Hydric Soils
 - Partially Hydric Soils
 - Nonhydric Soils
 - Parcel Boundary
 - Existing 2 FT Contour



Area A



Area B



DESKTOP WETLAND REVIEW MAP ROUTE 2

230 kV West Creek Loop and Substation
Goochland County, Virginia

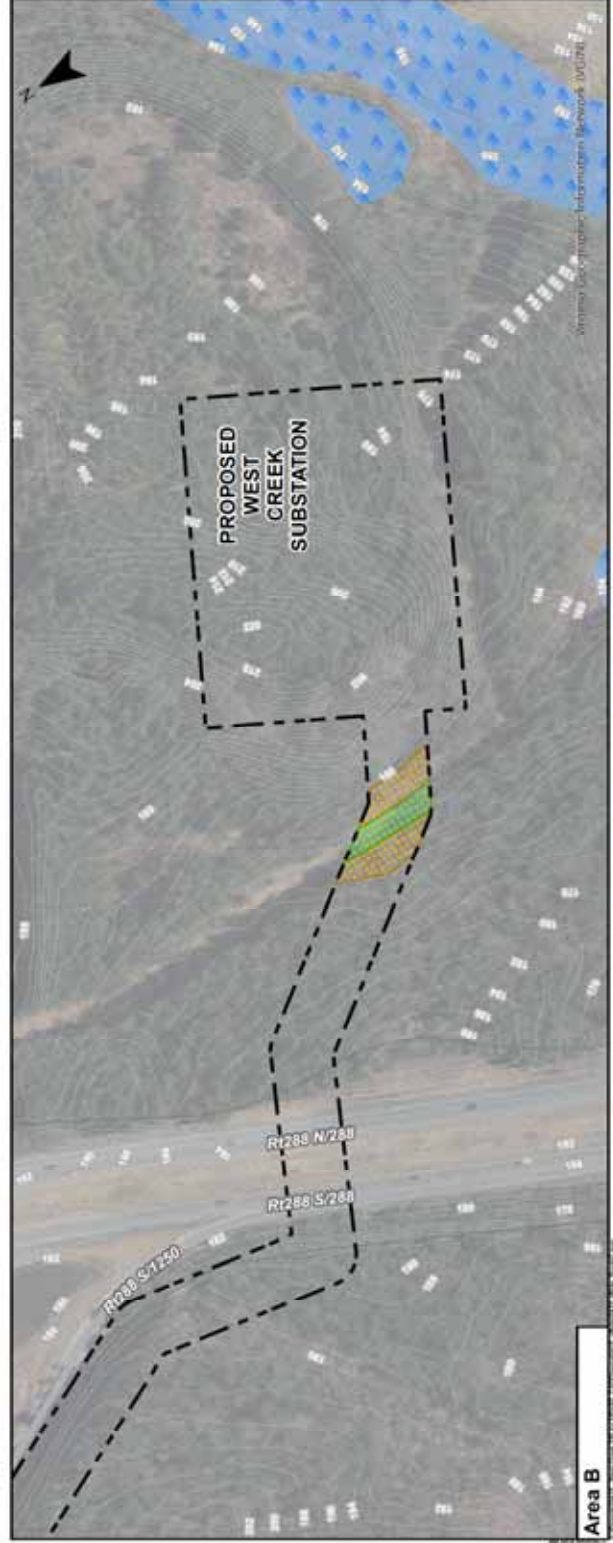
Client:
Dominion Energy Virginia

C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



SITE DATA

- Project Area
- Wetland Probability
 - High PFO Wetland
 - Medium-High Stream Channel
 - Medium-High PEM/PSS
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEM/PSS Wetland
 - Medium PFO Wetland
 - USGS MHD Stream Centerline
 - NWI Limits
 - Hydric Soils
 - Partially Hydric Soils
 - Nonhydric Soils
- Parcel Boundary
- Existing 2 FT Contour



C2 ENVIRONMENTAL

DESKTOP WETLAND REVIEW MAP

ROUTE 3

230 KV West Creek Loop and Substation
Goochland County, Virginia

Client:

Dominion Energy Virginia

C2 Env Project:

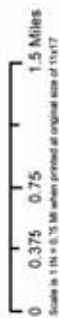
0415

Prepared By:

ZTW

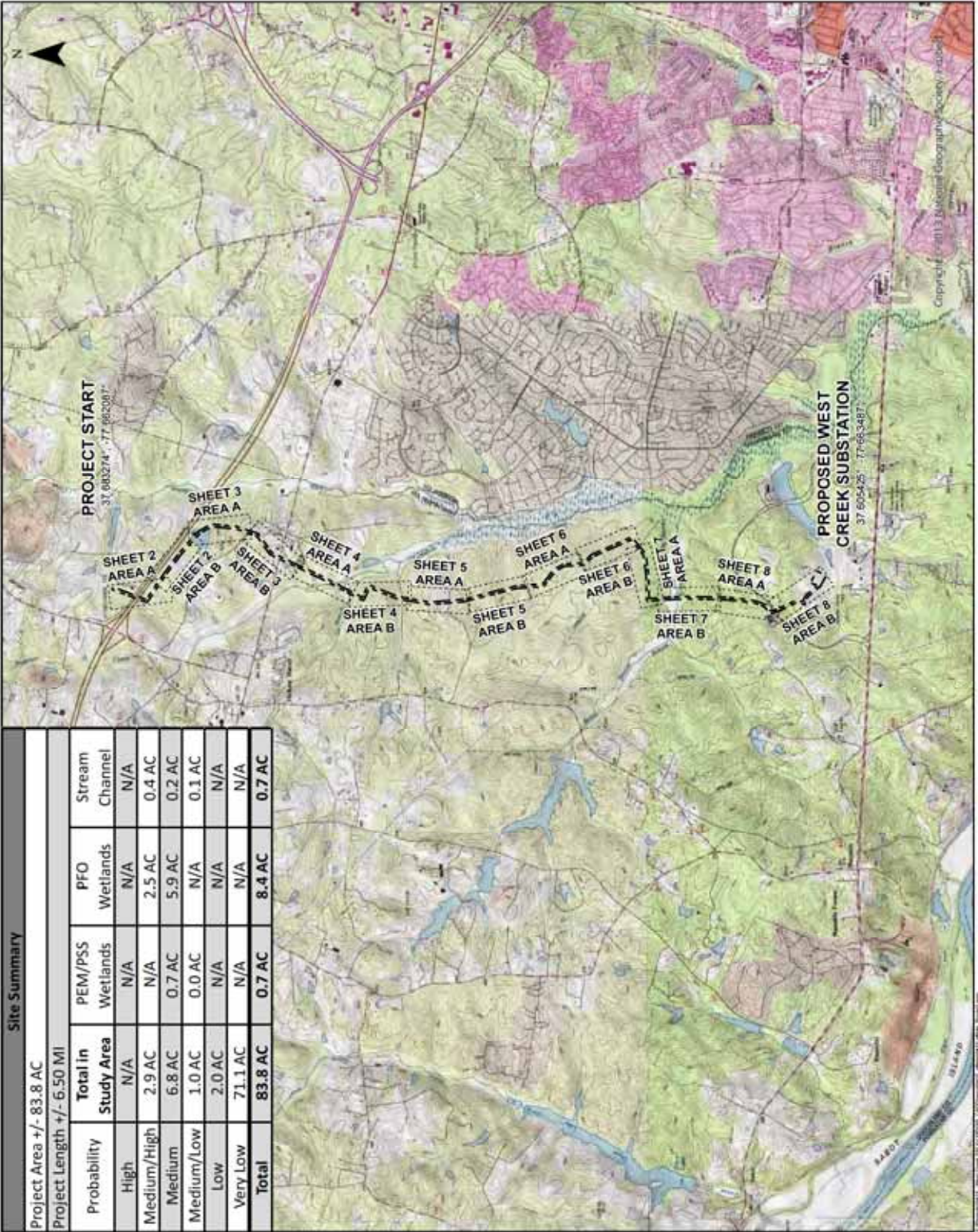
Date:

01/16/26



SITE DATA

Map Sheet
Project Area



Site Summary						
Project Area +/- 83.8 AC						
Project Length +/- 6.50 MI						
Probability	Total in Study Area	PEM/PSS Wetlands	PFO Wetlands	Stream Channel		
High	N/A	N/A	N/A	N/A		
Medium/High	2.9 AC	N/A	2.5 AC	0.4 AC		
Medium	6.8 AC	0.7 AC	5.9 AC	0.2 AC		
Medium/Low	1.0 AC	0.0 AC	N/A	0.1 AC		
Low	2.0 AC	N/A	N/A	N/A		
Very Low	71.1 AC	N/A	N/A	N/A		
Total	83.8 AC	0.7 AC	8.4 AC	0.7 AC		

- Notes:
1. Base map from ESRI World Street Map, VDMA 2025 aerial and infrared imagery.
 2. Wetland areas are shown in pink and purple colors.
 3. Road names and points from VDMA.
 4. Contours generated from USGS 1-meter DEMs.
 5. Desktop wetland evaluation conducted by C2 Environmental, Inc. December 2025



DESKTOP WETLAND REVIEW MAP **ROUTE 3**

230 KV West Creek Loop and Substation
Goochland County, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:
0415

Prepared By:
ZTW

Date:
01/16/26

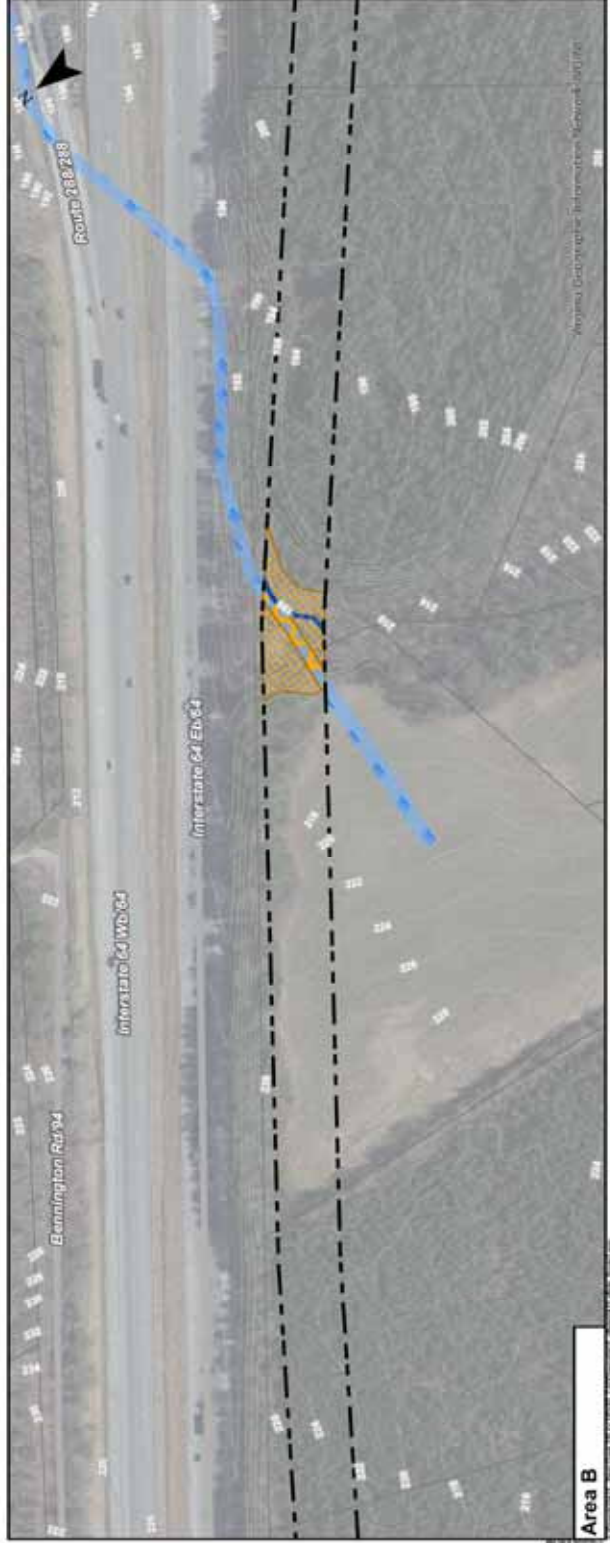
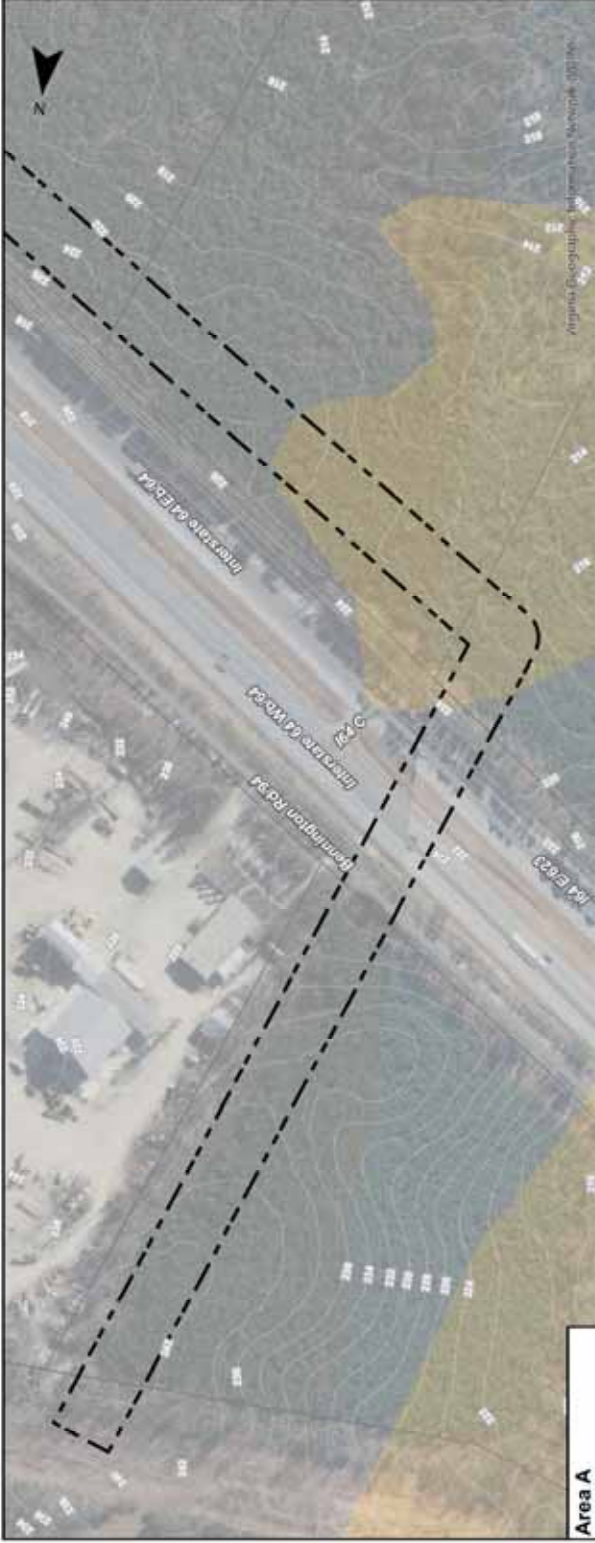


SITE DATA

Project Area

Wetland Probability

- Medium-High Stream Channel
- Medium-High PFO Wetland
- Medium Stream Channel
- Medium PEMPSS Wetland
- Medium PFO Wetland
- USGS MHD Stream Centerline
- NWI Limits
- Hydric Soils
- Partially Hydric Soils
- Nonhydric Soils
- Parcel Boundary
- Existing 2 FT Contour



DESKTOP WETLAND REVIEW MAP

ROUTE 3

230 kV West Creek Loop and Substation
Goodland County, Virginia

Client:

Dominion Energy Virginia

C2 Env Project:

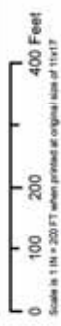
0415

Prepared By:

ZTW

Date:

01/16/26

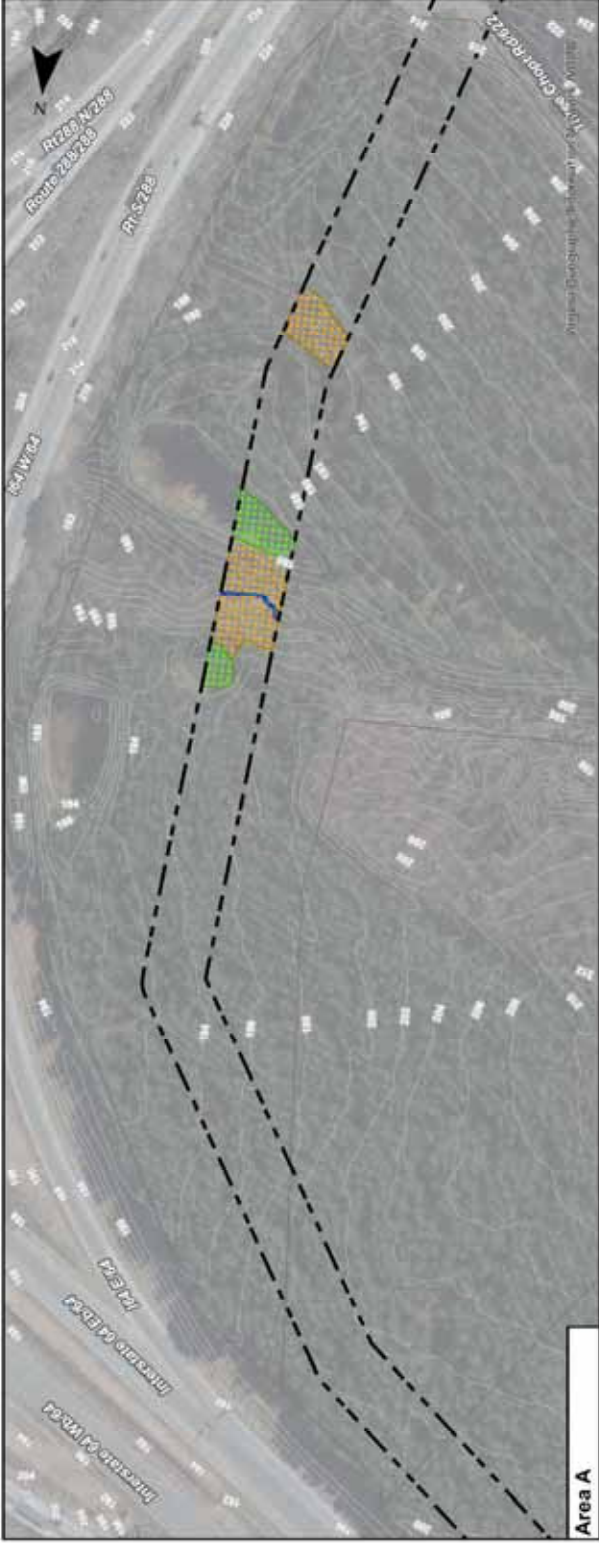


SITE DATA

Project Area

Wetland Probability

- Medium-High Stream Channel
- Medium-High PFO Wetland
- Medium Stream Channel
- Medium PEMPSS Wetland
- Medium PFO Wetland
- USGS MHD Stream Centerline
- NWI Limits
- Hydric Soils
- Partially Hydric Soils
- Nonhydric Soils
- Parcel Boundary
- Existing 2 FT Contour



Area A



Area B

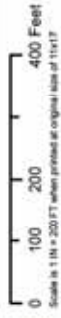


DESKTOP WETLAND REVIEW MAP **ROUTE 3**

230 KV West Creek Loop and Substation
Goochland County, Virginia

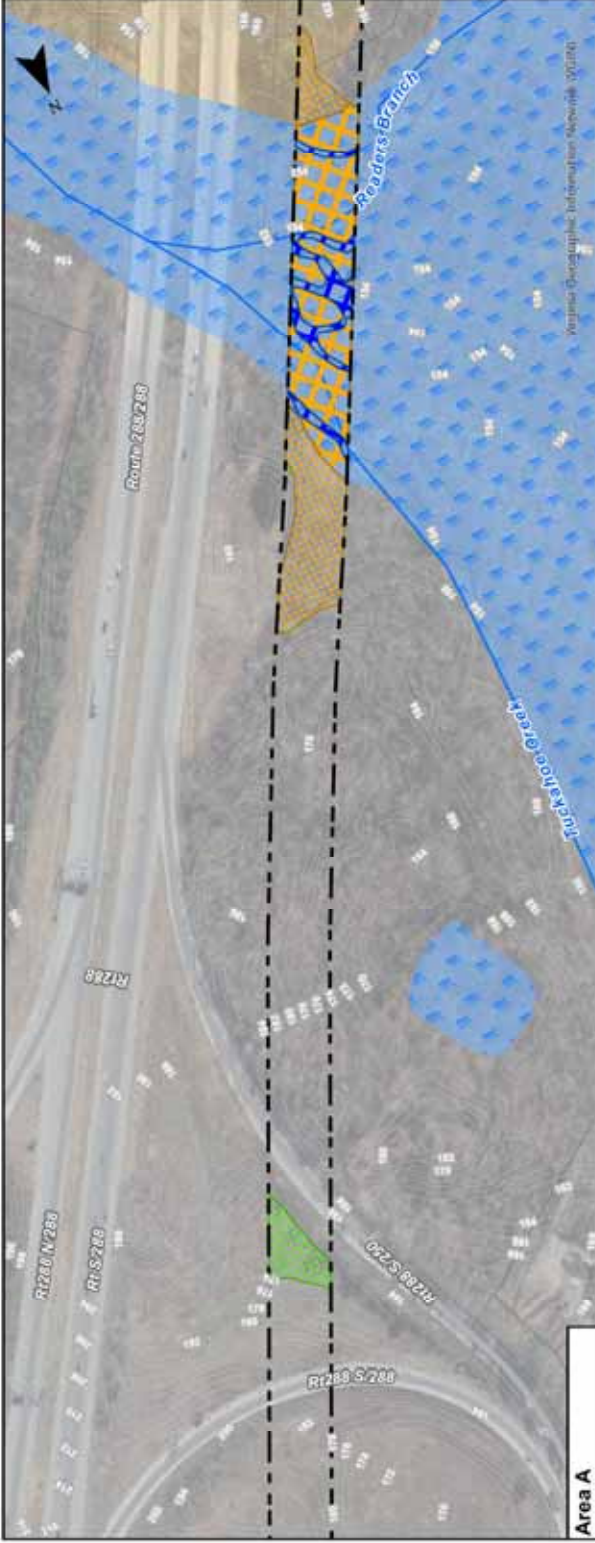
Client:
Dominion Energy Virginia

C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26

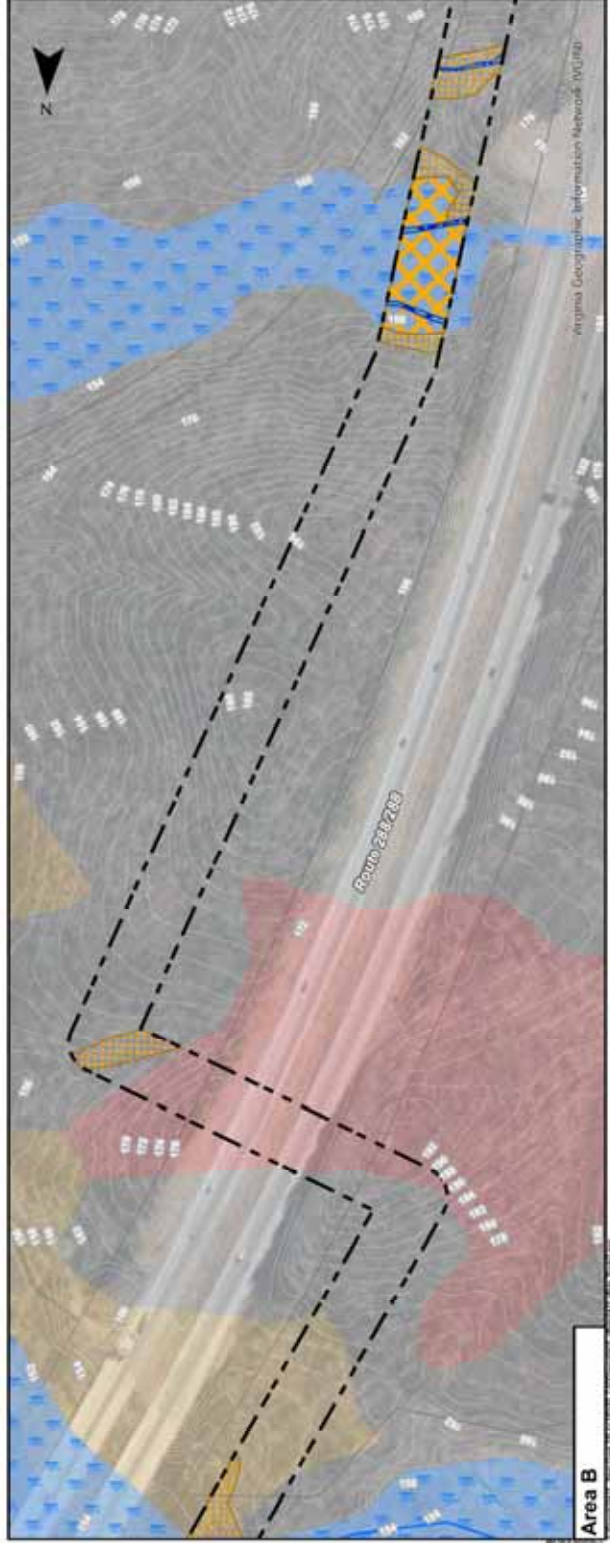


SITE DATA

- Project Area
- Wetland Probability**
 - Medium-High Stream Channel
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEMPSS Wetland
 - Medium PFO Wetland
 - USGS MHD Stream Centerline
 - NWI Limits
 - Hydric Soils
 - Partially Hydric Soils
 - Nonhydric Soils
 - Parcel Boundary
 - Existing 2 FT Contour



Area A



Area B



DESKTOP WETLAND REVIEW MAP

ROUTE 3

230 kV West Creek Loop and Substation
Goochland County, Virginia

Client:

Dominion Energy Virginia

C2 Env Project:

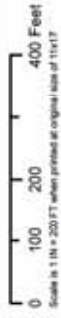
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Prepared By:

ZTW

Date:

01/16/26

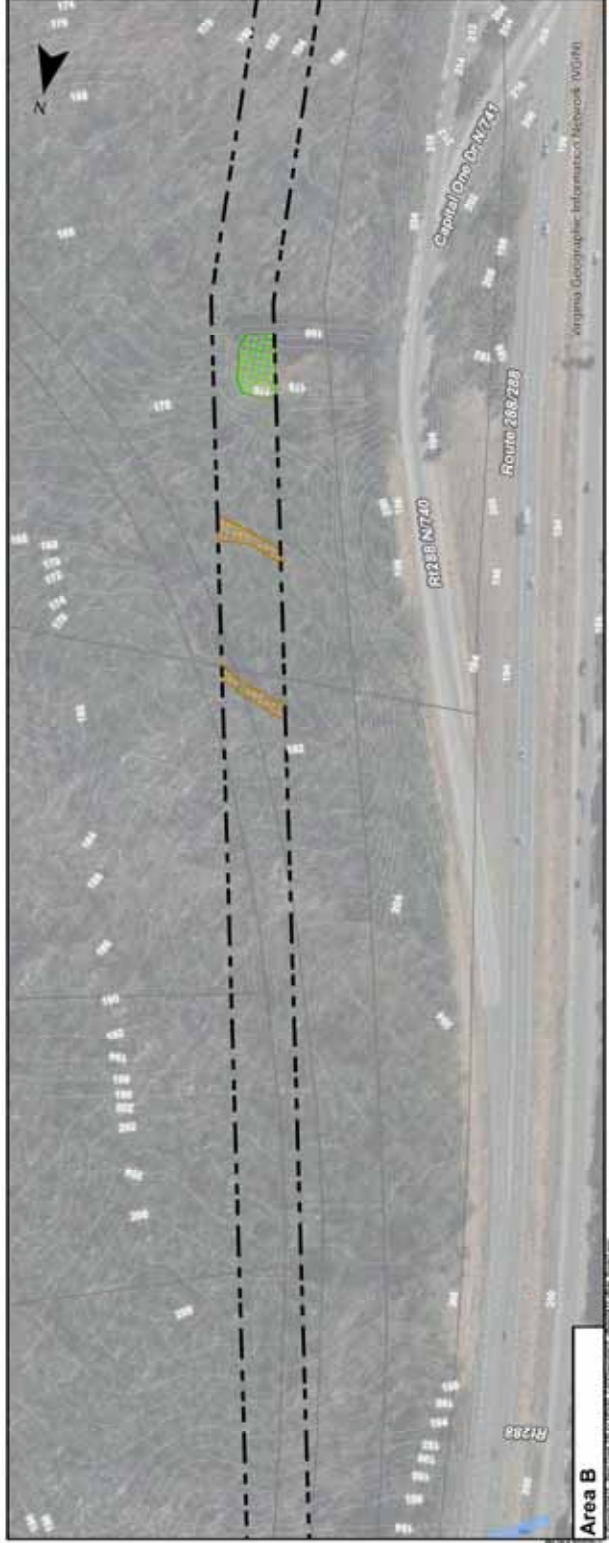


SITE DATA

Project Area

Wetland Probability

- Medium-High Stream Channel
- Medium-High PFO Wetland
- Medium Stream Channel
- Medium PEMPSS Wetland
- Medium PFO Wetland
- USGS MHD Stream Centerline
- NWI Limits
- Hydric Soils
- Partially Hydric Soils
- Nonhydric Soils
- Parcel Boundary
- Existing 2 FT Contour



DESKTOP WETLAND REVIEW MAP **ROUTE 3**

230 KV West Creek Loop and Substation
Goochland County, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:
0415

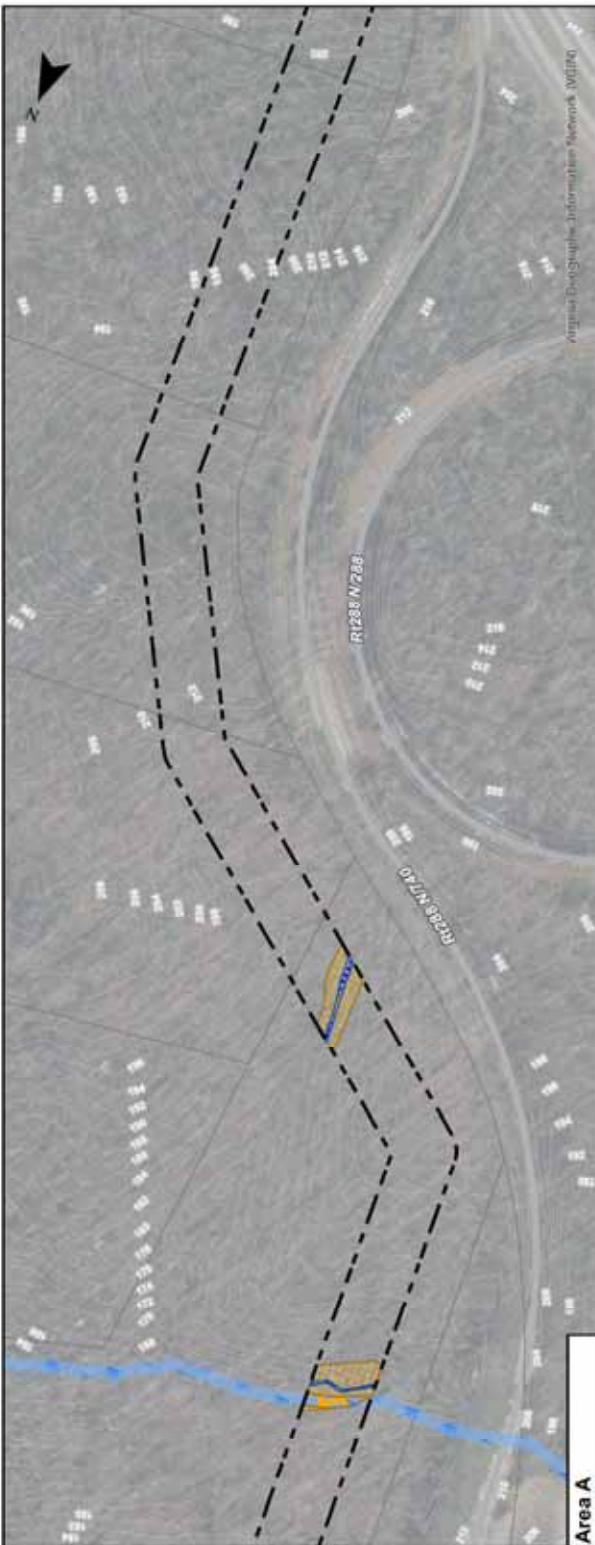
Prepared By:
ZTW

Date:
01/16/26



SITE DATA

- Project Area**
- Wetland Probability**
 - Medium-High Stream Channel
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEMPSS Wetland
 - Medium PFO Wetland
 - USGS MHD Stream Centerline
 - NWI Limits
 - Hydric Soils
 - Partially Hydric Soils
 - Nonhydric Soils
 - Parcel Boundary
 - Existing 2 FT Contour

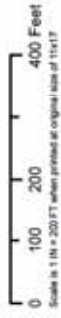


DESKTOP WETLAND REVIEW MAP **ROUTE 3**

230 KV West Creek Loop and Substation
Goochland County, Virginia

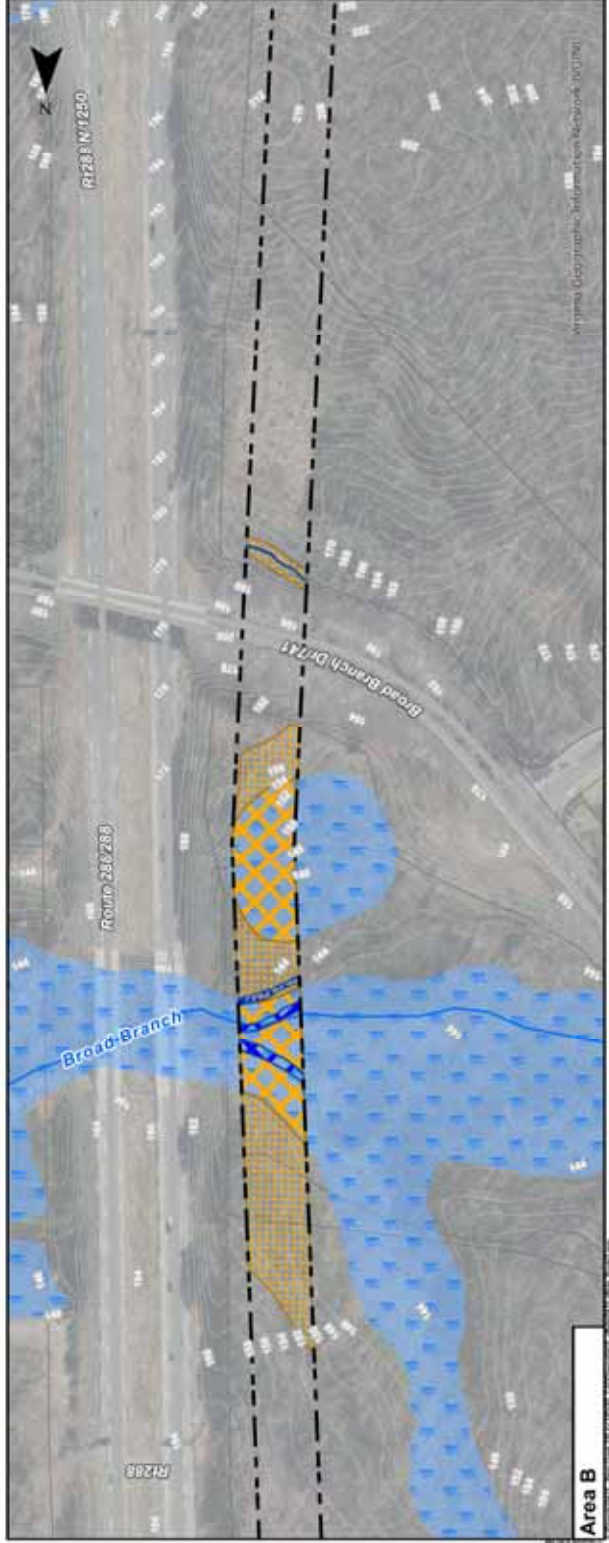
Client:
Dominion Energy Virginia

C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



SITE DATA

- Project Area**
- Wetland Probability**
 - Medium-High Stream Channel
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEMPSS Wetland
 - Medium PFO Wetland
 - USGS MHD Stream Centerline
- NWI Limits
- Hydric Soils
- Partially Hydric Soils
- Nonhydric Soils
- Parcel Boundary
- Existing 2 FT Contour



DESKTOP WETLAND REVIEW MAP **ROUTE 4**

230 KV West Creek Loop and Substation
Goochland County, Virginia

Client:
Dominion Energy Virginia

C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



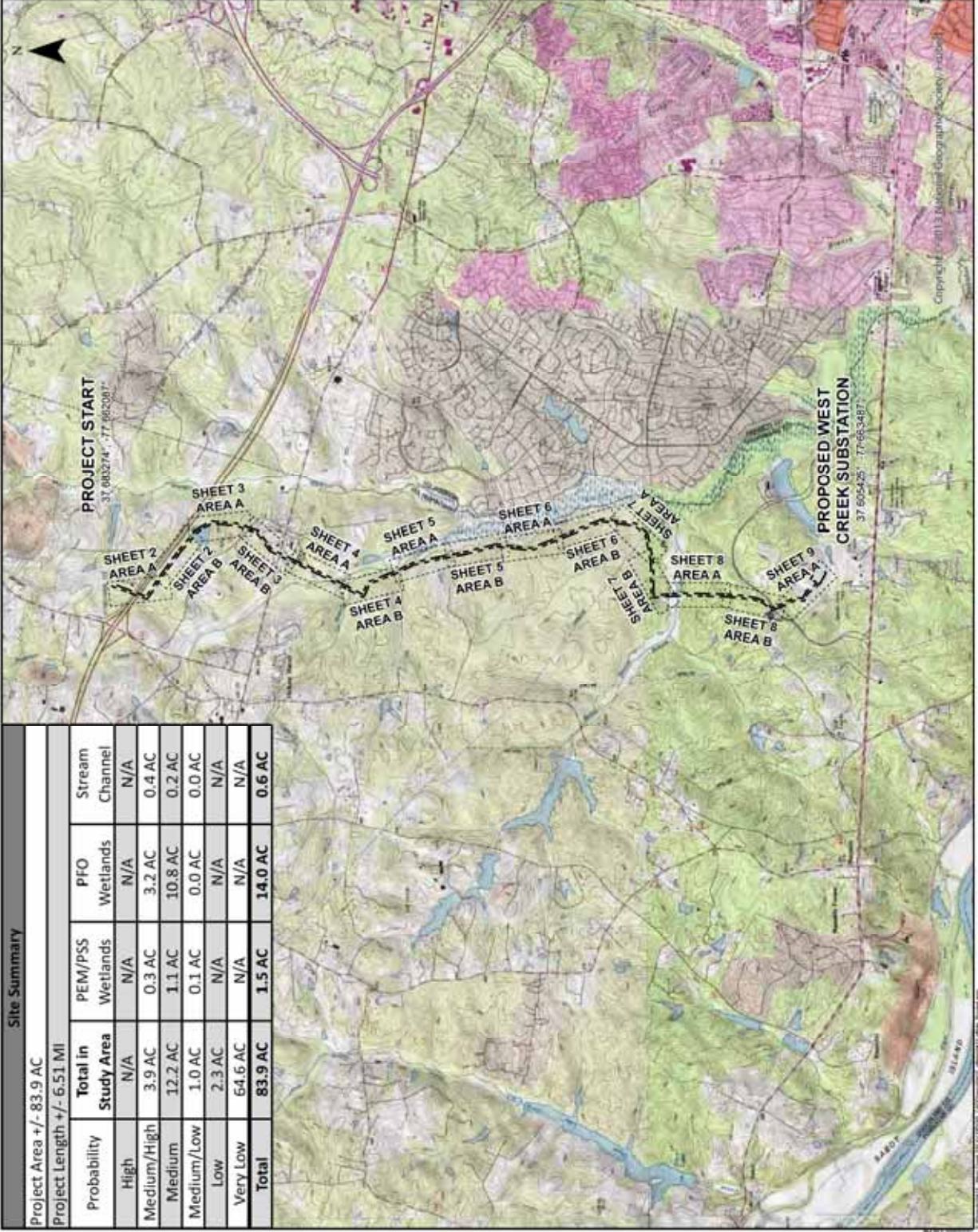
SITE DATA

Map Sheet
Project Area

- Notes:
1. Base map from ESRI World Street Map, VDMA 2025 aerial and infrared imagery.
 2. Road names and labels from VDMA.
 3. Contours generated from USGS 1-meter DEMs.
 4. Desktop wetland evaluation conducted by C2 Environmental, Inc. December 2025



SHEET 1 OF 9



Site Summary						
Project Area +/- 83.9 AC						
Project Length +/- 6.51 MI						
Probability	Total in Study Area	PEM/PSS Wetlands	PFO Wetlands	Stream Channel		
High	N/A	N/A	N/A	N/A		
Medium/High	3.9 AC	0.3 AC	3.2 AC	0.4 AC		
Medium	12.2 AC	1.1 AC	10.8 AC	0.2 AC		
Medium/Low	1.0 AC	0.1 AC	0.0 AC	0.0 AC		
Low	2.3 AC	N/A	N/A	N/A		
Very Low	64.6 AC	N/A	N/A	N/A		
Total	83.9 AC	1.5 AC	14.0 AC	0.6 AC		

DESKTOP WETLAND REVIEW MAP **ROUTE 4**

230 KV West Creek Loop and Substation
Goochland County, Virginia

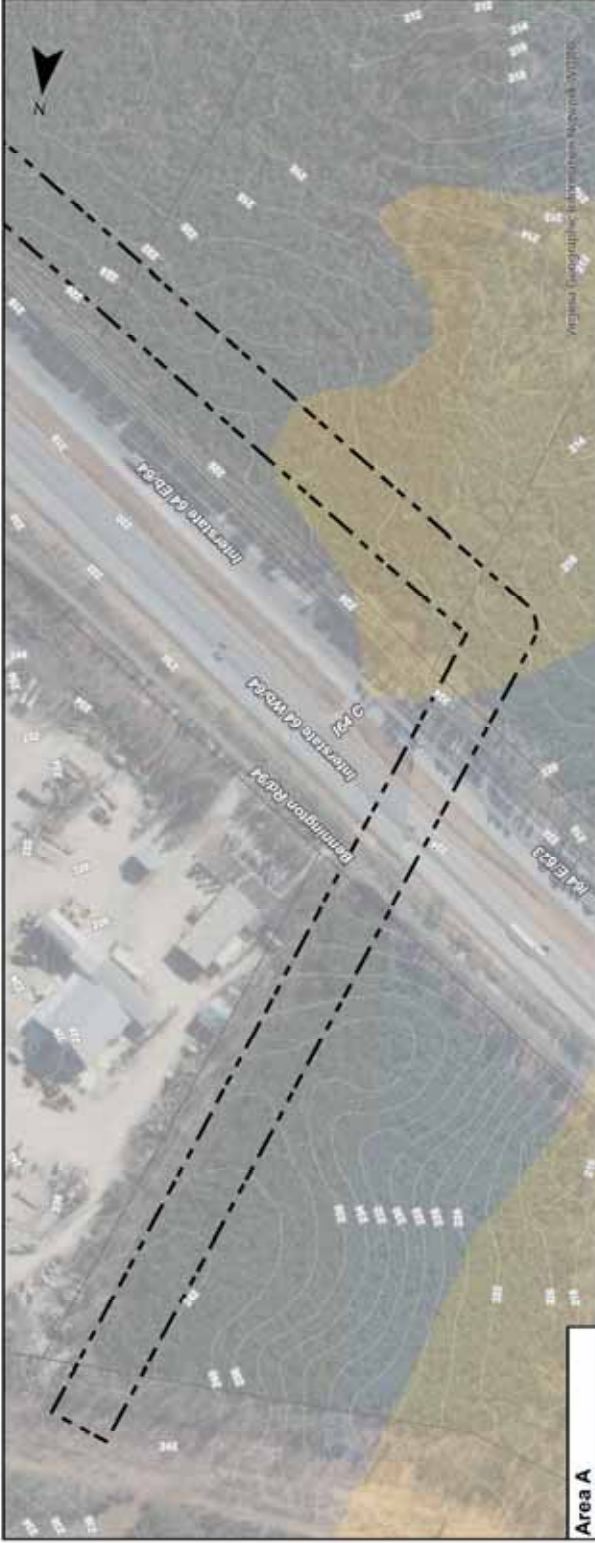
Client:
Dominion Energy Virginia

C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26

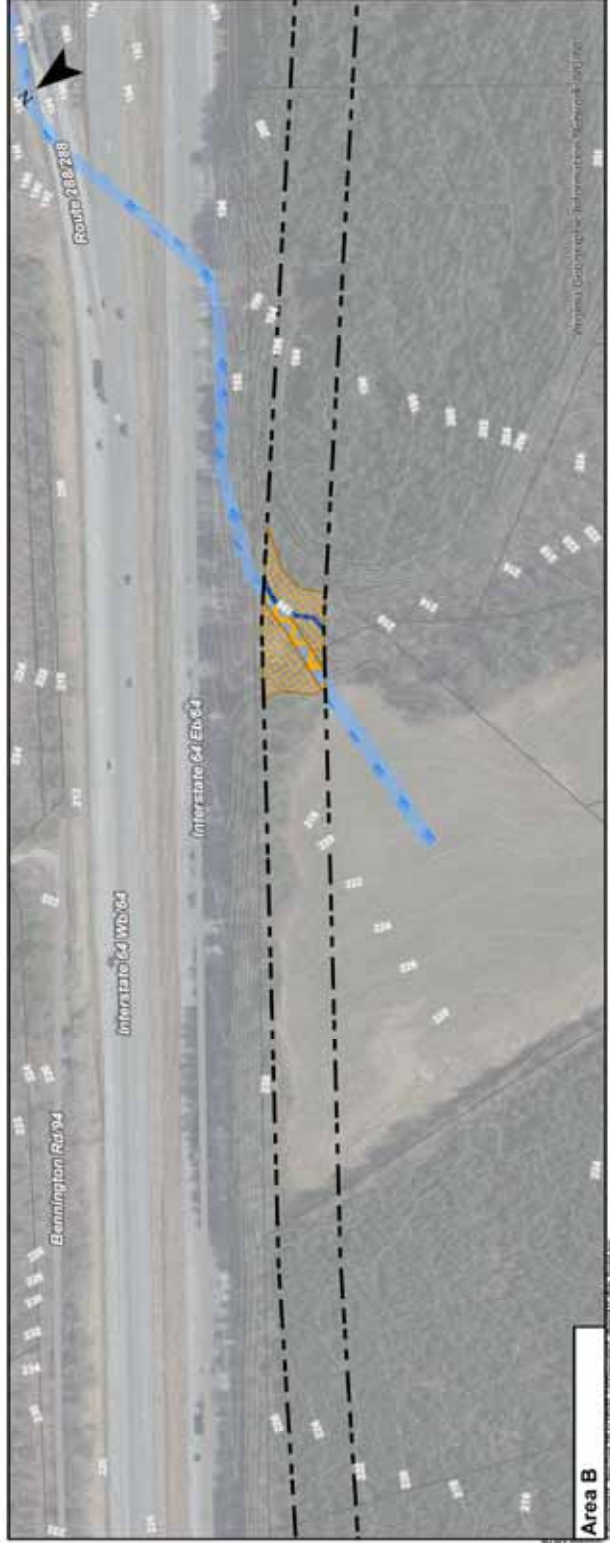


SITE DATA

- Project Area**
- Wetland Probability**
 - Medium-High Stream Channel
 - Medium-High PEM/PSS Wetland
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEM/PSS Wetland
 - Medium PFO Wetland
 - USGS NHD Stream Centerline
 - NWI Limits
 - Hydric Soils
 - Partially Hydric Soils
 - Nonhydric Soils
 - Parcel Boundary
 - Existing 2 FT Contour



Area A



Area B





230 kV West Creek Loop and Substation
Goochland County, Virginia

C2 Env Project:	Prep
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Scale is 1 M = 200 FT when printed at original size of 11x17

Project Area

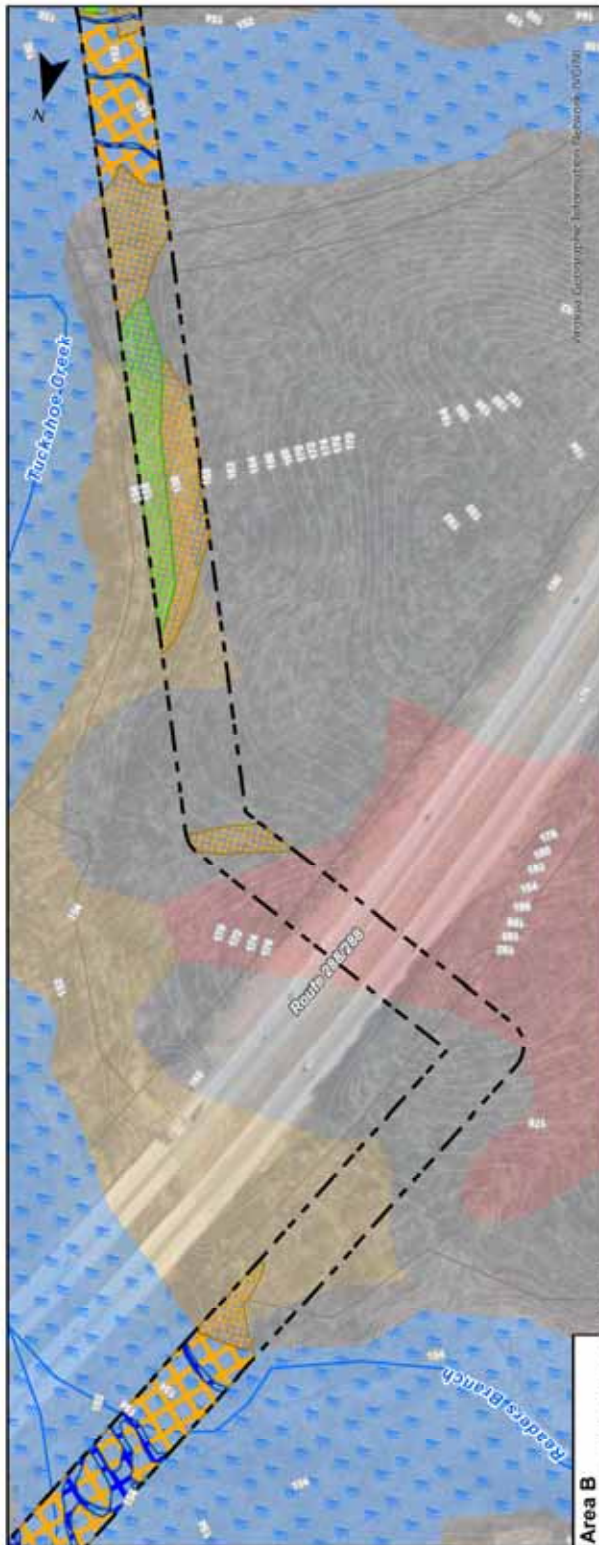
Wetland Probability

 Medium/High PEMPSS Wetland

-  Medium/High PFO Wetland
 Medium Stream Channel
 Medium PEMFSS Wetland
 Medium PFO Wetland
 USGS MHD Stream Centerline
 NWI Limits
 Hydric Soils
 Partially Hydric Soils
 Nonhydric Soils
 Parcel Boundary



Area A



Area B



VITA, Earl HERE, Gamma,
INCREMENT P, Intermap, NGA,
11565



ENVIRONMENTAL

DESKTOP WETLAND REVIEW MAP ROUTE 4

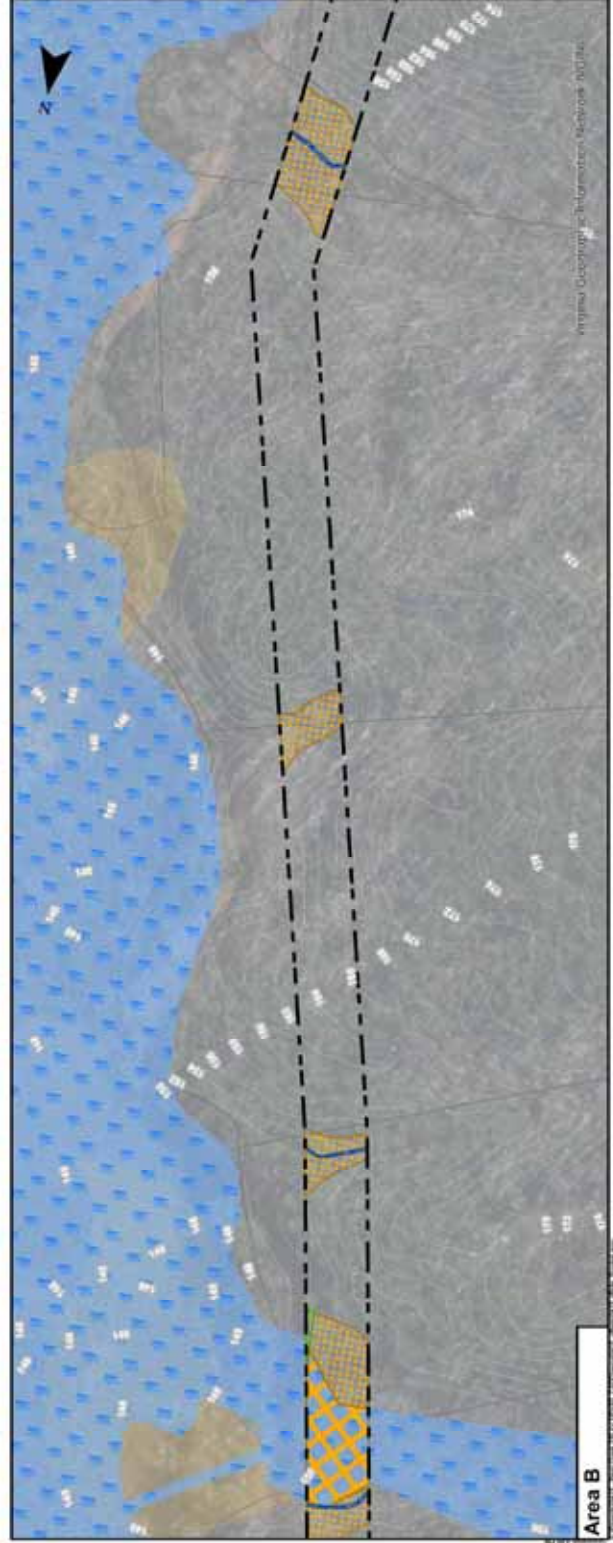
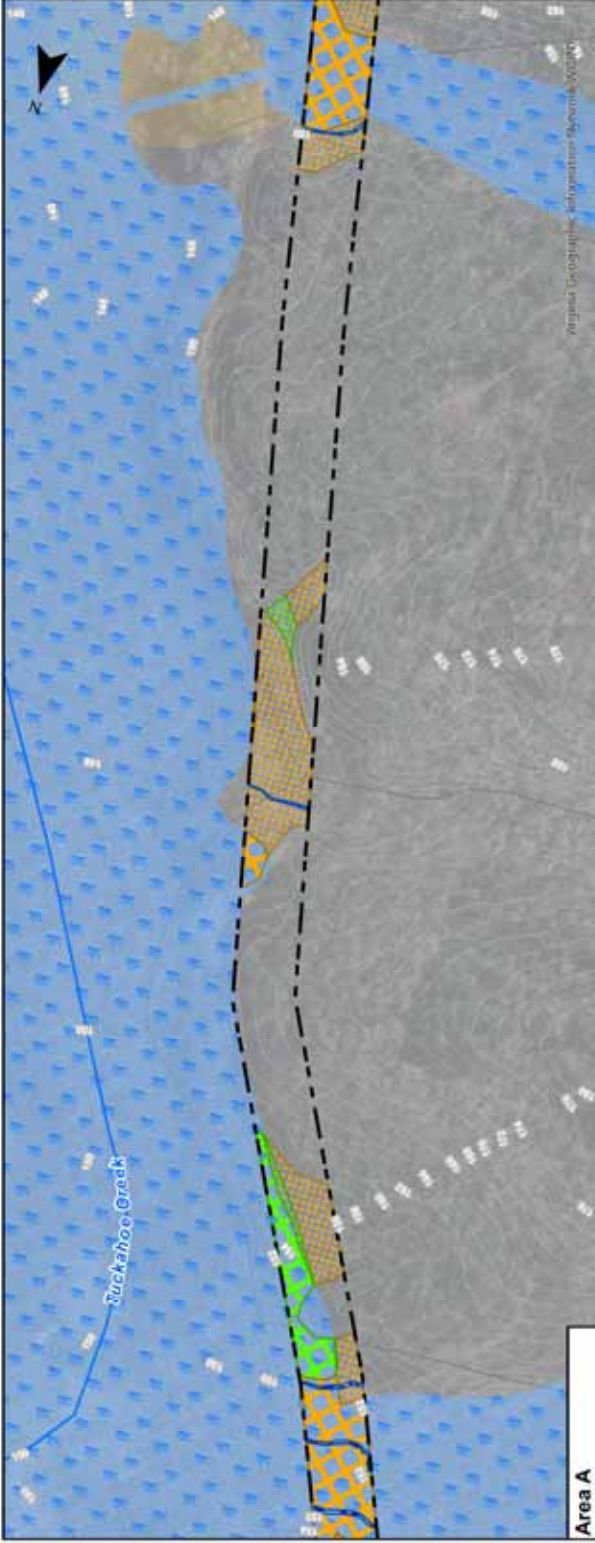
230 KV West Creek Loop and Substation
Goochland County, Virginia

Client:
Dominion Energy Virginia

C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



- SITE DATA**
- Project Area
 - Wetland Probability**
 - Medium-High Stream Channel
 - Medium-High PEM/PSS Wetland
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEM/PSS Wetland
 - Medium PFO Wetland
 - USGS NHD Stream Centerline
 - NWI Limits
 - Hydric Soils
 - Partially Hydric Soils
 - Nonhydric Soils
 - Parcel Boundary
 - Existing 2 FT Contour



C2 ENVIRONMENTAL

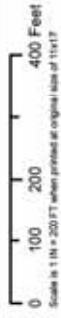
SHEET 5 OF 9

DESKTOP WETLAND REVIEW MAP **ROUTE 4**

230 kV West Creek Loop and Substation
Goochland County, Virginia

Client:
Dominion Energy Virginia

C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



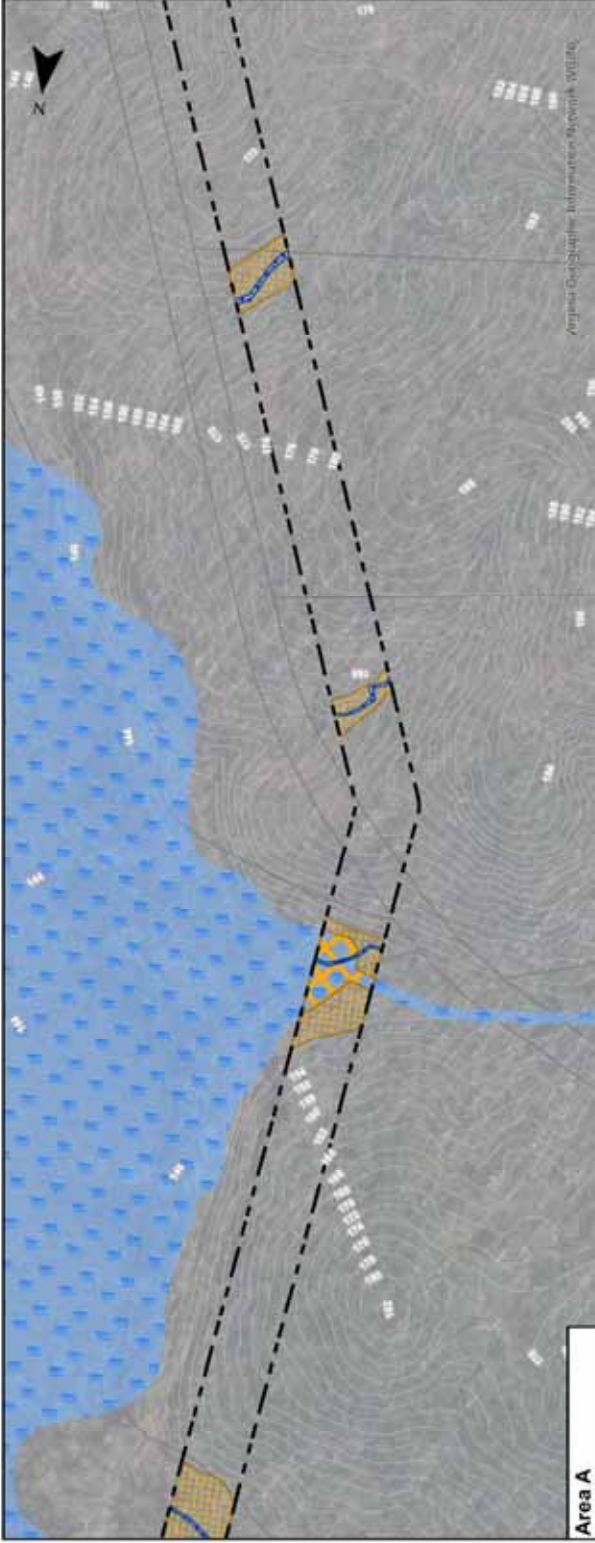
SITE DATA

Project Area

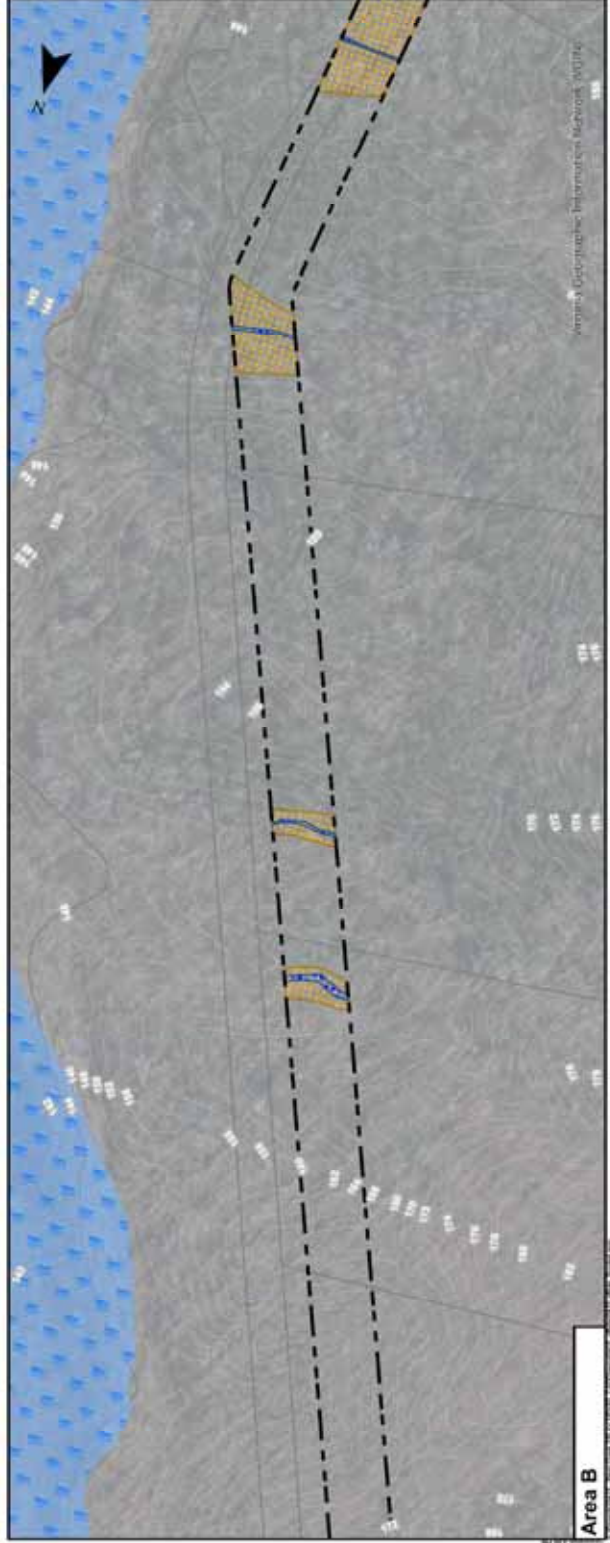
Wetland Probability

- Medium-High Stream Channel
- Medium-High PEM/PSS Wetland
- Medium-High PFO Wetland
- Medium Stream Channel
- Medium PEM/PSS Wetland
- Medium PFO Wetland
- USGS NHD Stream Centerline

- NWI Limits
- Hydric Soils
- Partially Hydric Soils
- Nonhydric Soils
- Parcel Boundary
- Existing 2 FT Contour



Area A



Area B



DESKTOP WETLAND REVIEW MAP **ROUTE 4**

230 kV West Creek Loop and Substation
Goochland County, Virginia

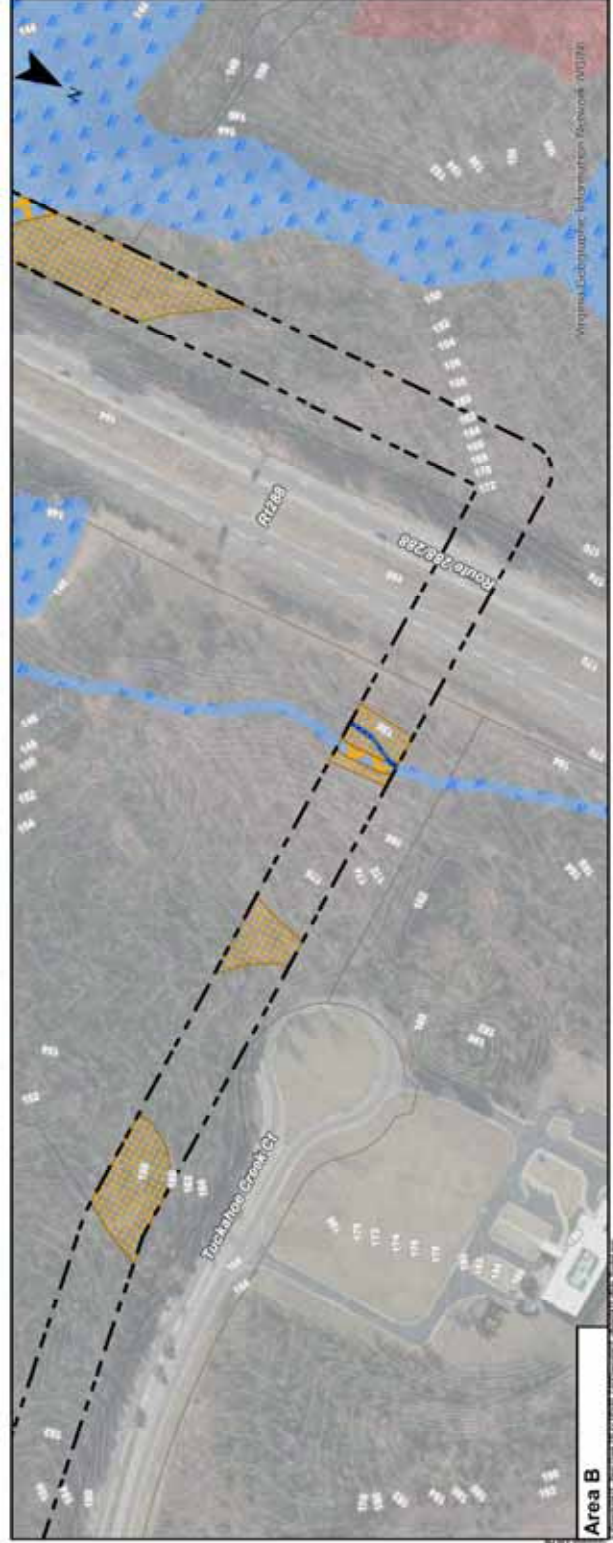
Client:
Dominion Energy Virginia

C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



SITE DATA

- Project Area**
- Wetland Probability**
 - Medium-High Stream Channel
 - Medium-High PEMPSS Wetland
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEMPSS Wetland
 - Medium PFO Wetland
 - USGS NHD Stream Centerline
 - NWI Limits
 - Hydric Soils
 - Partially Hydric Soils
 - Nonhydric Soils
 - Parcel Boundary
 - Existing 2 FT Contour



DESKTOP WETLAND REVIEW MAP

ROUTE 4

230 KV West Creek Loop and Substation
Goochland County, Virginia

Client:

Dominion Energy Virginia

C2 Env Project:

0415

Prepared By:

ZTW

Date:

01/16/26

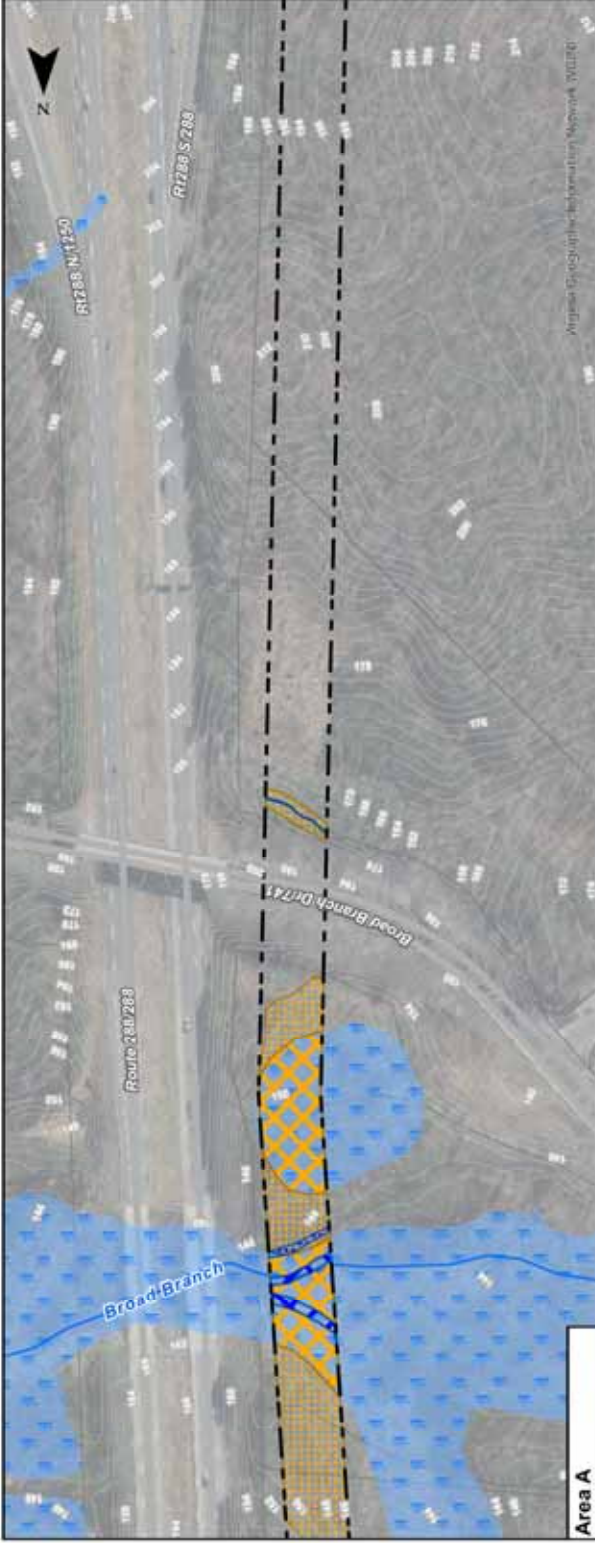


SITE DATA

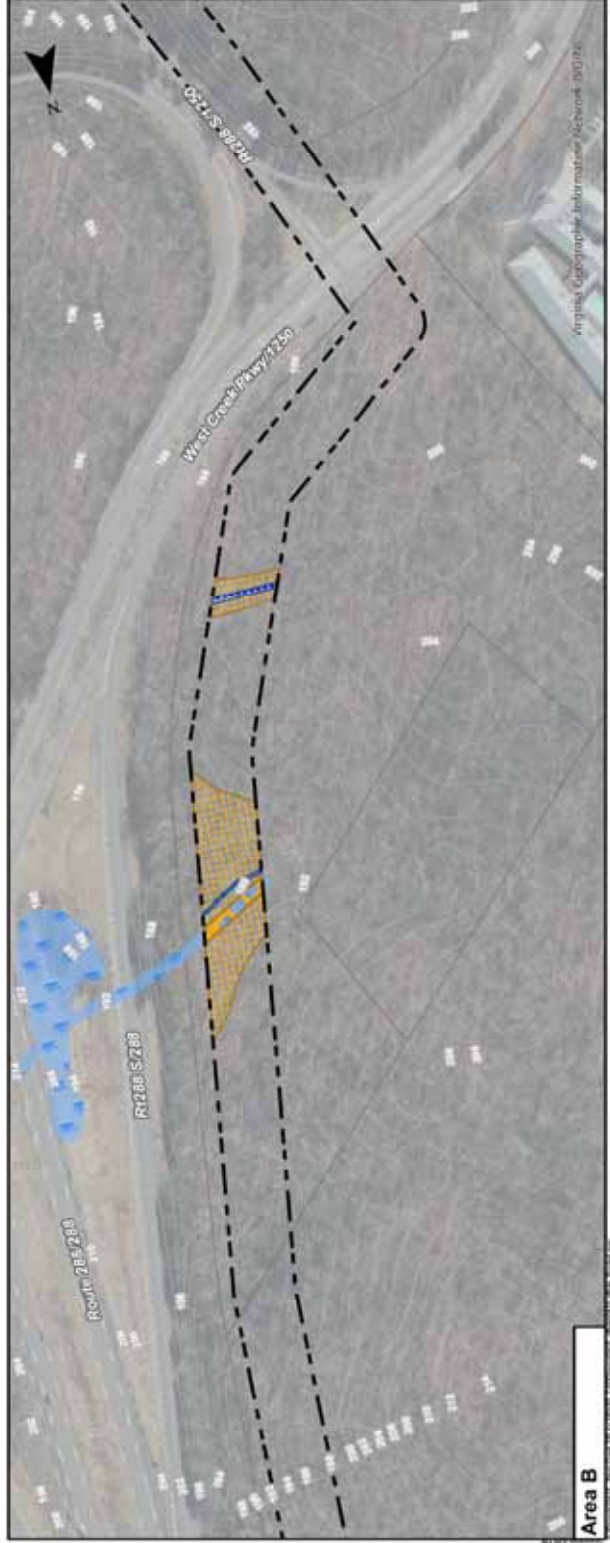
Project Area

Wetland Probability

- Medium-High Stream Channel
- Medium-High PEM/PSS Wetland
- Medium-High PFO Wetland
- Medium Stream Channel
- Medium PEM/PSS Wetland
- Medium PFO Wetland
- USGS NHD Stream Centerline
- NWI Limits
- Hydric Soils
- Partially Hydric Soils
- Nonhydric Soils
- Parcel Boundary
- Existing 2 FT Contour



Area A



Area B



DESKTOP WETLAND REVIEW MAP ROUTE 4

230 kV West Creek Loop and Substation
Goochland County, Virginia

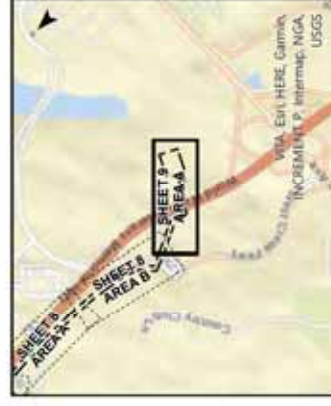
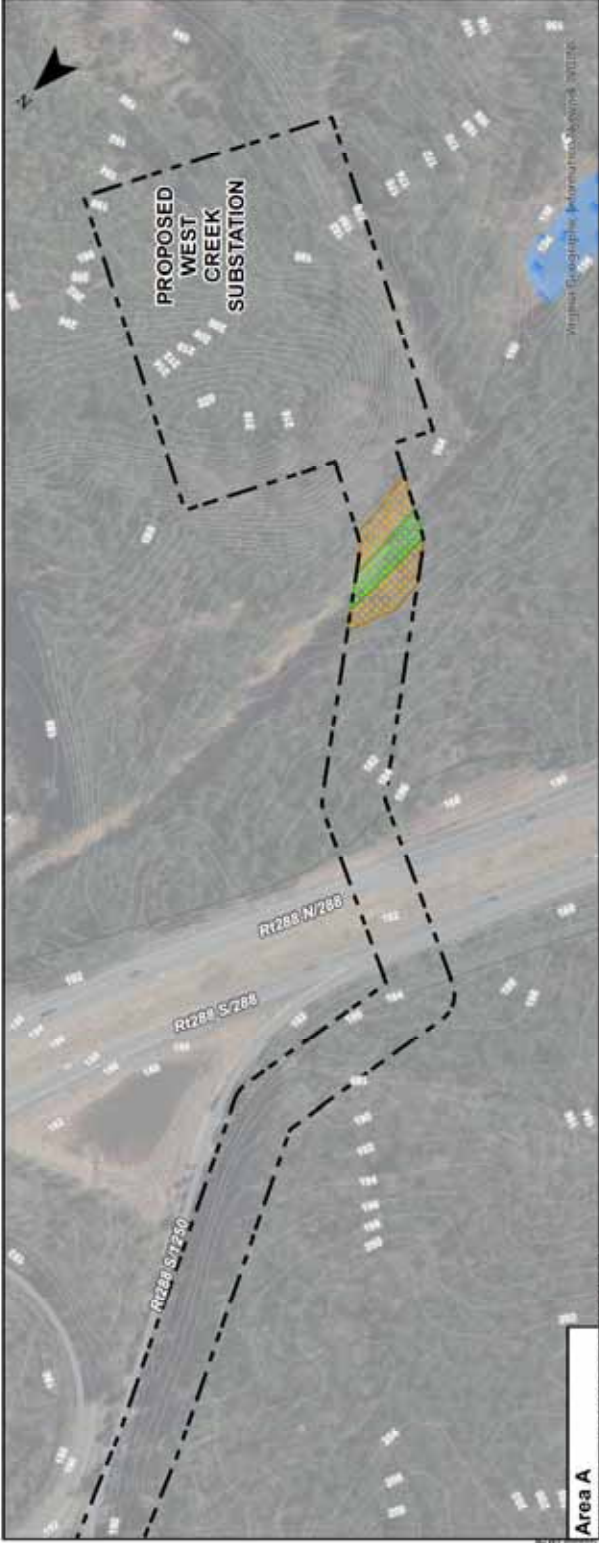
Client:
Dominion Energy Virginia

C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



SITE DATA

- Project Area
- Wetland Probability
 - Medium-High Stream Channel
 - Medium-High PEM/PSS Wetland
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEM/PSS Wetland
 - Medium PFO Wetland
 - USGS NHD Stream Centerline
 - NWI Limits
 - Hydric Soils
 - Partially Hydric Soils
 - Nonhydric Soils
 - Parcel Boundary
 - Existing 2 FT Contour

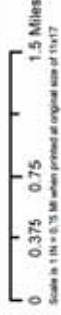


DESKTOP WETLAND REVIEW MAP ROUTE 5

230 KV West Creek Loop and Substation
Goochland County, Virginia

Client:
Dominion Energy Virginia

C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



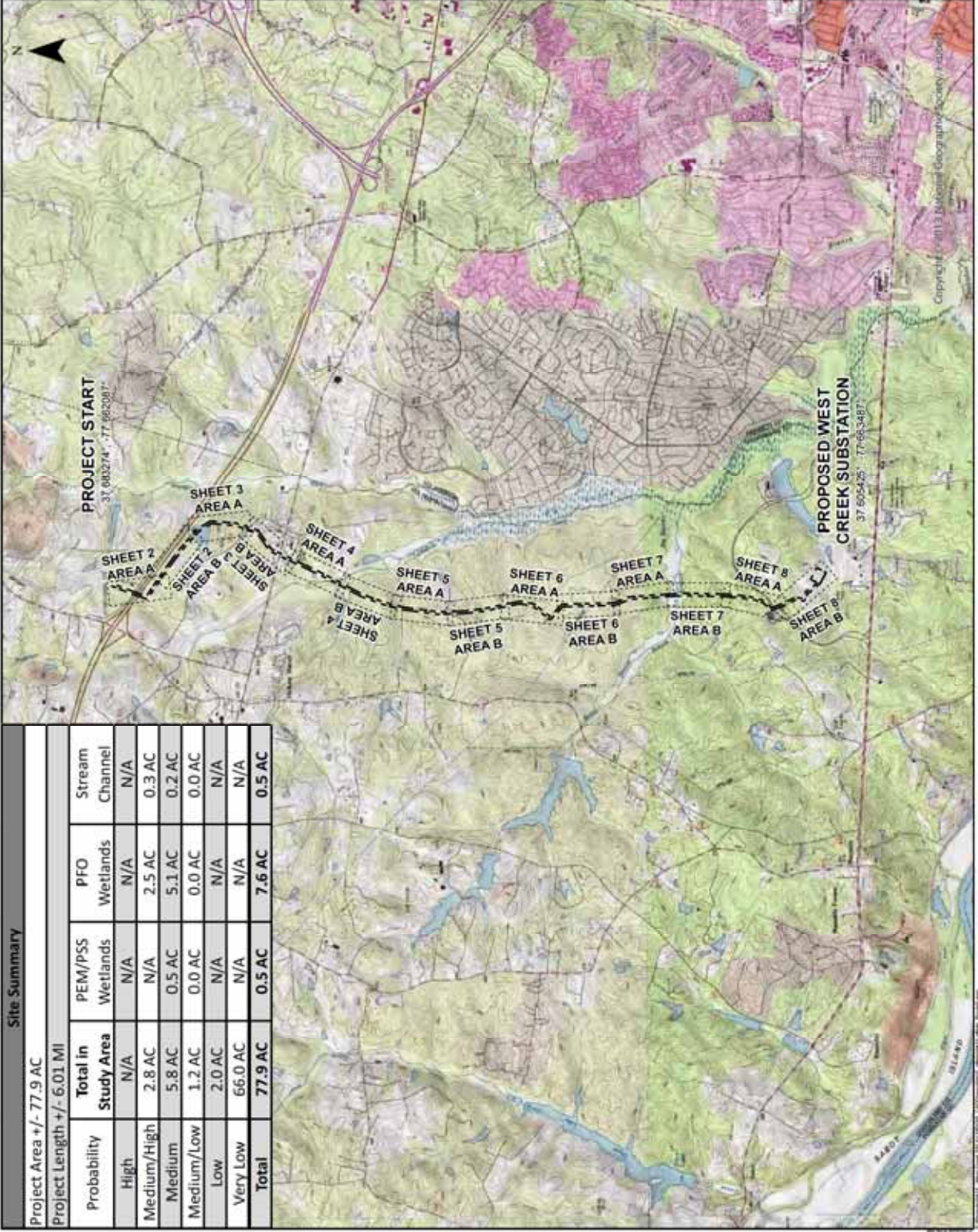
SITE DATA

Map Sheet
Project Area

- Notes:
1. Base map from ESRI World Street Map, VDMA 2025 aerial and infrared imagery.
 2. Road centerlines and points from VDMA.
 3. Contours generated from USGS 1-meter DEMs.
 4. Desktop wetland evaluation conducted by C2 Environmental, Inc. December 2025



SHEET 1 OF 8



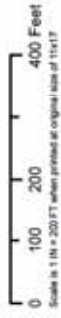
Site Summary						
Project Area +/- 77.9 AC						
Project Length +/- 6.01 MI						
Probability	Total in Study Area	PEM/PSS Wetlands	PFO Wetlands	Stream Channel		
High	N/A	N/A	N/A	N/A		
Medium/High	2.8 AC	N/A	2.5 AC	0.3 AC		
Medium	5.8 AC	0.5 AC	5.1 AC	0.2 AC		
Medium/Low	1.2 AC	0.0 AC	0.0 AC	0.0 AC		
Low	2.0 AC	N/A	N/A	N/A		
Very Low	66.0 AC	N/A	N/A	N/A		
Total	77.9 AC	0.5 AC	7.6 AC	0.5 AC		

DESKTOP WETLAND REVIEW MAP **ROUTE 5**

230 KV West Creek Loop and Substation
Goochland County, Virginia

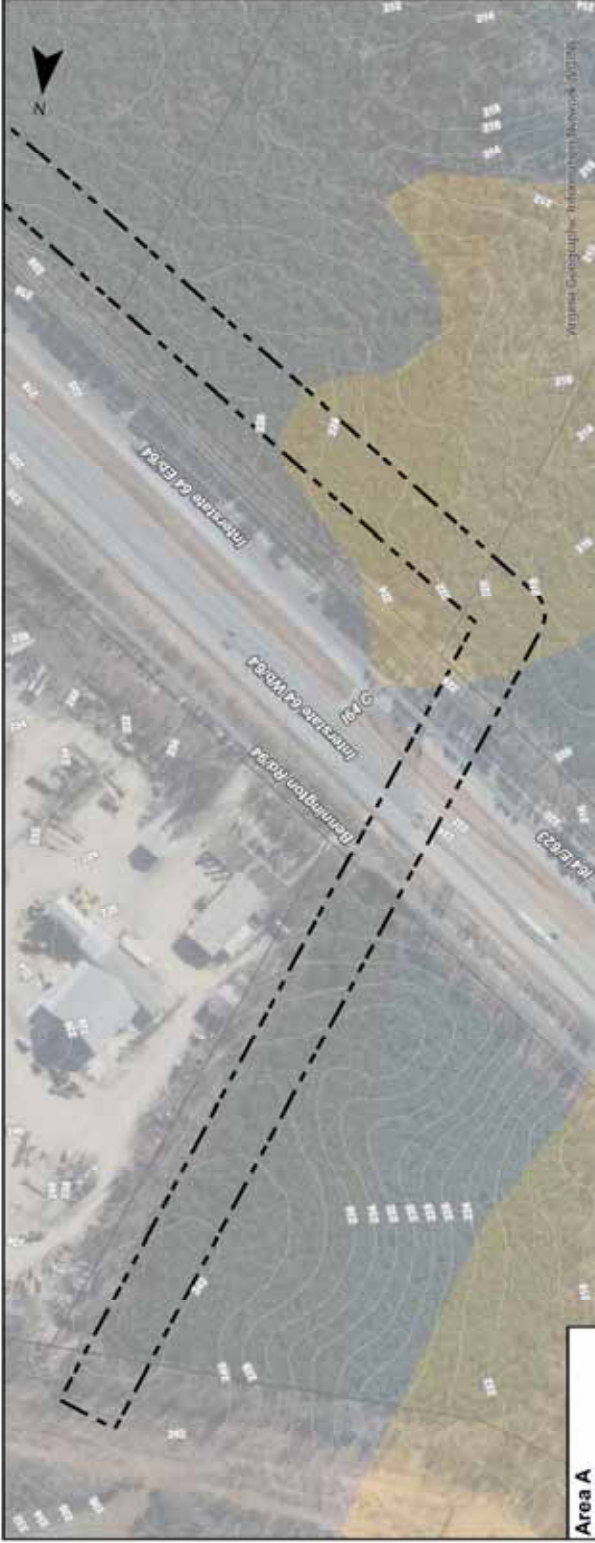
Client:
Dominion Energy Virginia

C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26

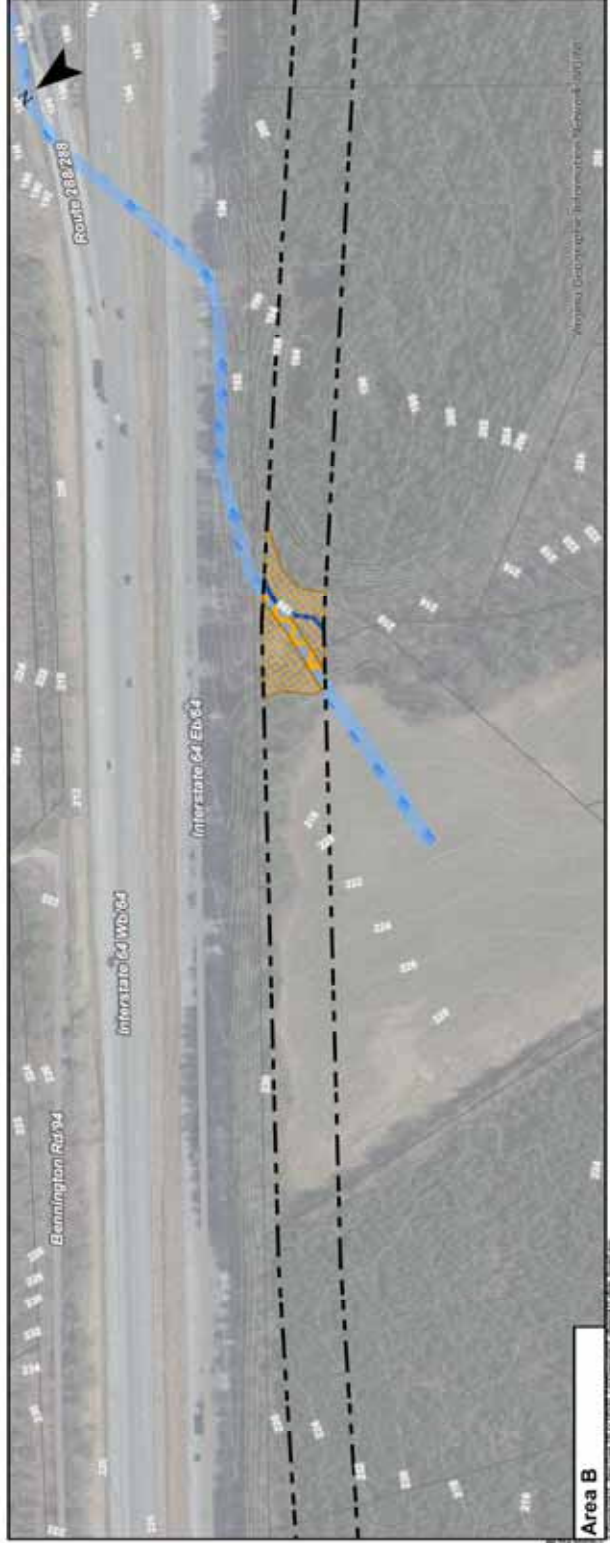


SITE DATA

- Project Area**
- Wetland Probability**
 - Medium-High Stream Channel
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEMPSS Wetland
 - Medium PFO Wetland
 - USGS MHD Stream Centerline
- NWI Limits
- Hydric Soils
- Partially Hydric Soils
- Nonhydric Soils
- Parcel Boundary
- Existing 2 FT Contour



Area A



Area B

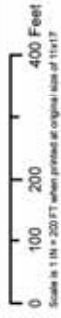


DESKTOP WETLAND REVIEW MAP **ROUTE 5**

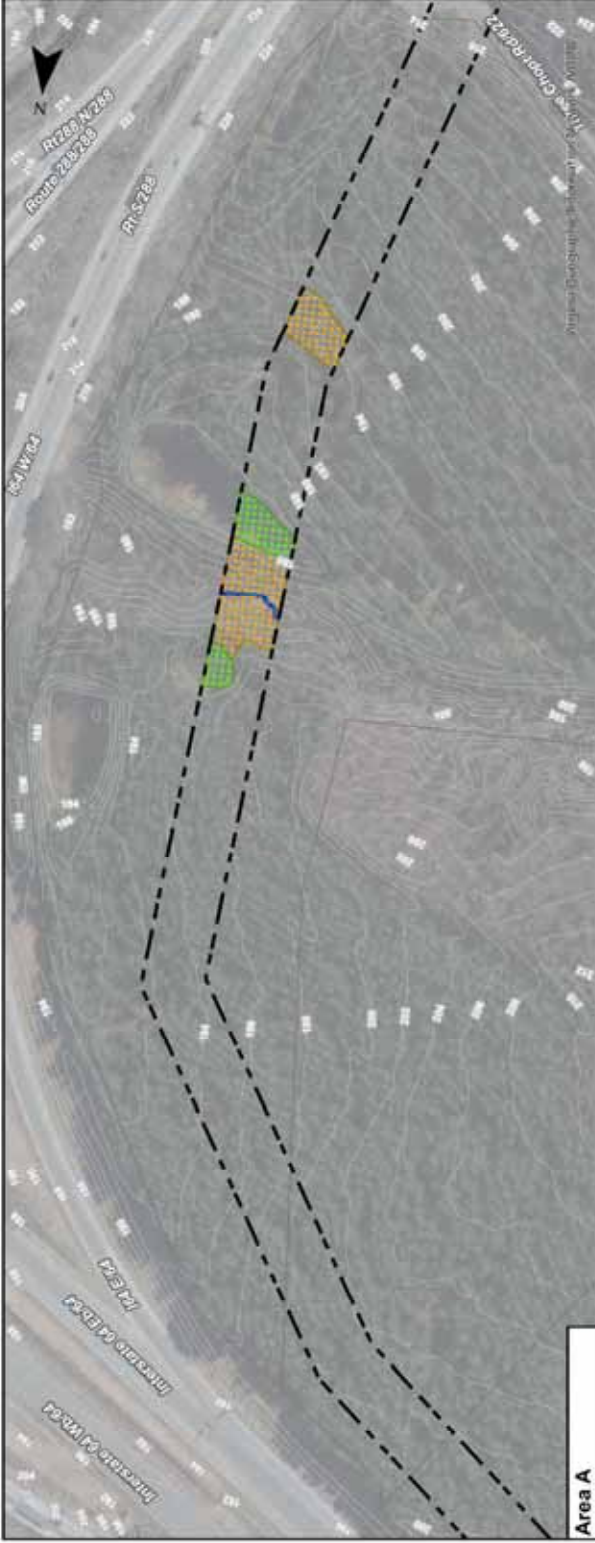
230 kV West Creek Loop and Substation
Goodland County, Virginia

Client:
Dominion Energy Virginia

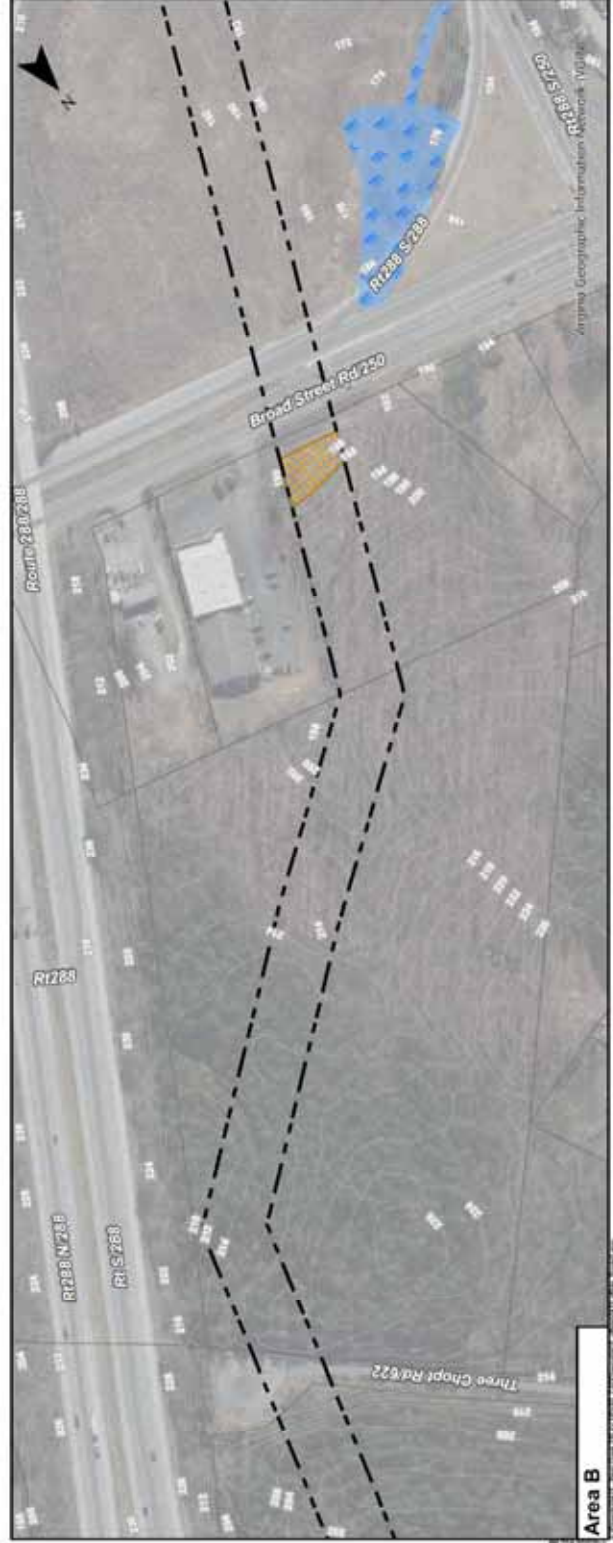
C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



- SITE DATA**
- Project Area
 - Wetland Probability**
 - Medium-High Stream Channel
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEMPSS Wetland
 - Medium PFO Wetland
 - USGS MHD Stream Centerline
 - NWI Limits
 - Hydric Soils
 - Partially Hydric Soils
 - Nonhydric Soils
 - Parcel Boundary
 - Existing 2 FT Contour



Area A



Area B



DESKTOP WETLAND REVIEW MAP **ROUTE 5**

230 KV West Creek Loop and Substation
Goochland County, Virginia

Client:
Dominion Energy Virginia

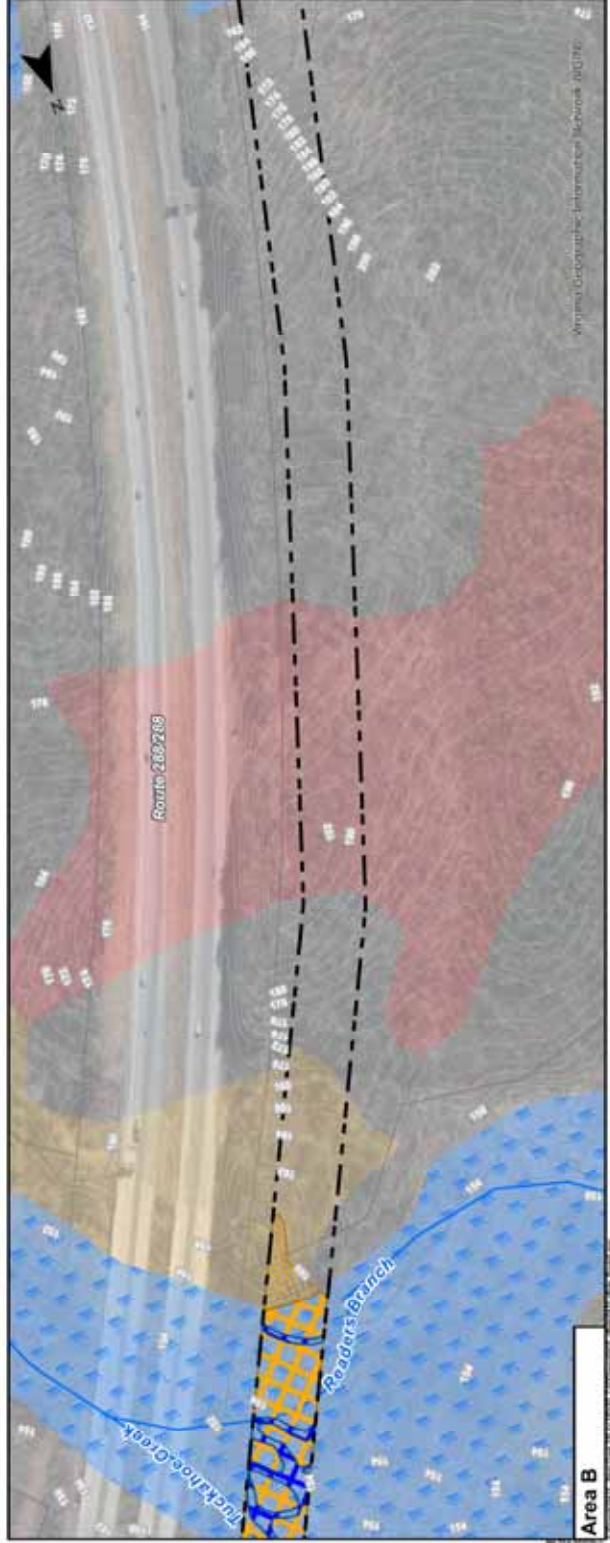
C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



- SITE DATA**
- Project Area
 - Wetland Probability**
 - Medium-High Stream Channel
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Area A



Area B

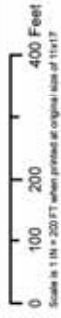


DESKTOP WETLAND REVIEW MAP **ROUTE 5**

230 KV West Creek Loop and Substation
Goochland County, Virginia

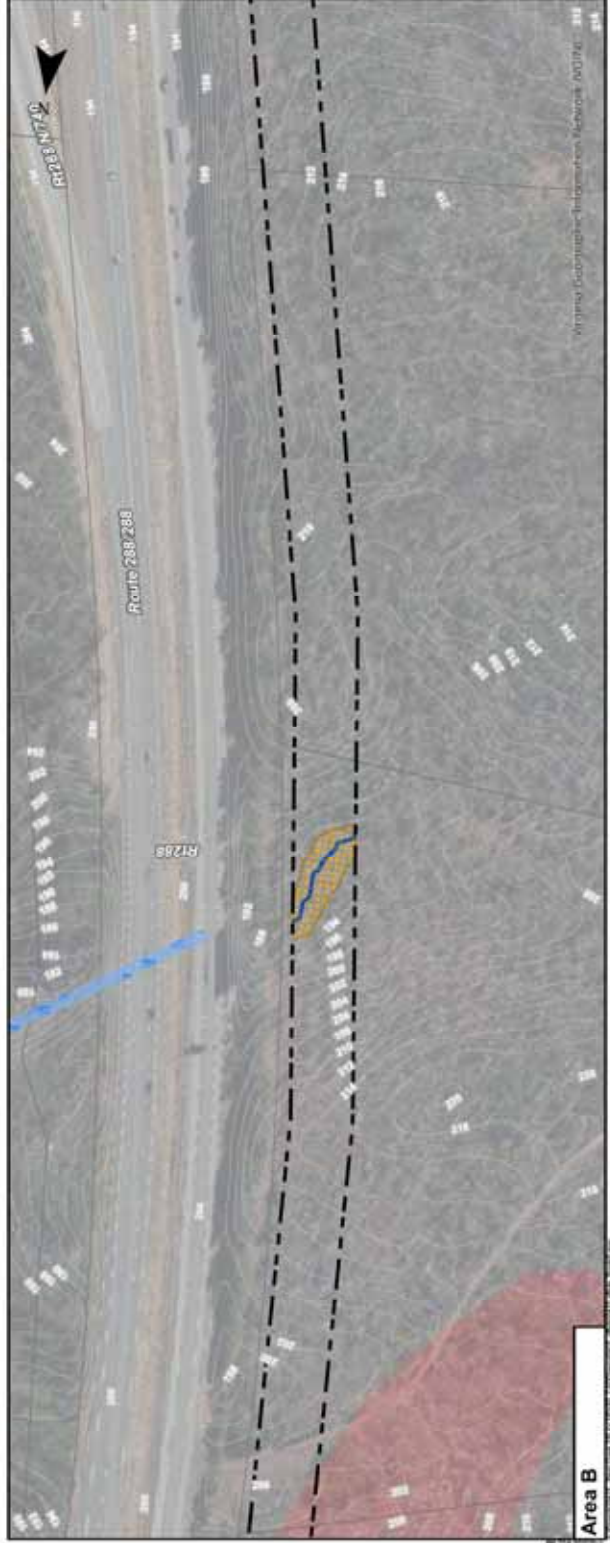
Client:
Dominion Energy Virginia

C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26



SITE DATA

- Project Area**
- Wetland Probability**
 - Medium-High Stream Channel
 - Medium-High PFO Wetland
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 - USGS MHD Stream Centerline
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DESKTOP WETLAND REVIEW MAP **ROUTE 5**

230 kV West Creek Loop and Substation
Goochland County, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:
0415

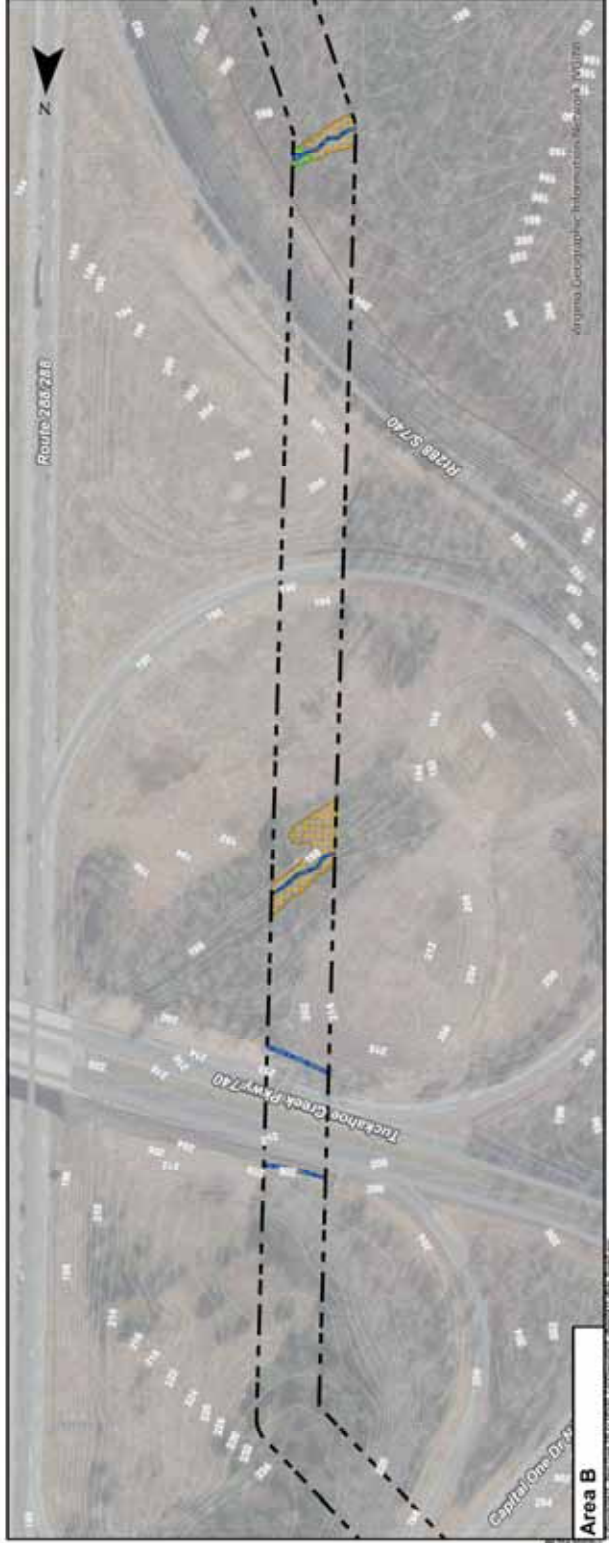
Prepared By:
ZTW

Date:
01/16/26

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

SITE DATA

- Project Area**
- Wetland Probability**
 - Medium-High Stream Channel
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEMPSS Wetland
 - Medium PFO Wetland
 - USGS MHD Stream Centerline
 - NWI Limits
 - Hydric Soils
 - Partially Hydric Soils
 - Nonhydric Soils
 - Parcel Boundary
 - Existing 2 FT Contour

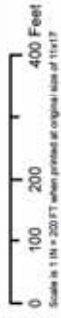


DESKTOP WETLAND REVIEW MAP **ROUTE 5**

230 KV West Creek Loop and Substation
Goochland County, Virginia

Client:
Dominion Energy Virginia

C2 Env Project: 0415
Prepared By: ZTW
Date: 01/16/26

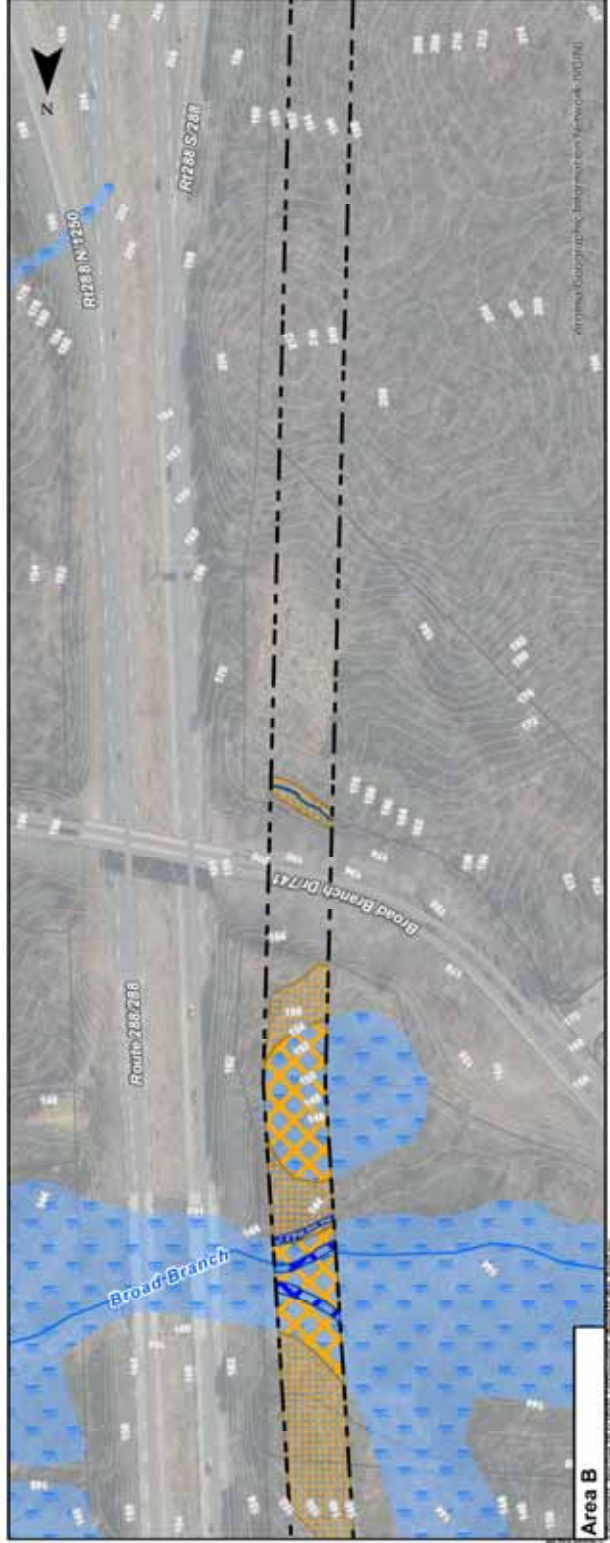


SITE DATA

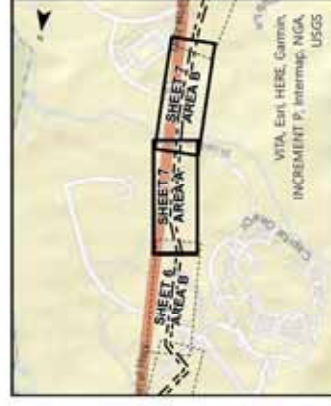
- Project Area
- Wetland Probability**
 - Medium-High Stream Channel
 - Medium-High PFO Wetland
 - Medium Stream Channel
 - Medium PEM/PSS Wetland
 - Medium PFO Wetland
 - USGS MHD Stream Centerline
 - NWI Limits
 - Hydric Soils
 - Partially Hydric Soils
 - Nonhydric Soils
 - Parcel Boundary
 - Existing 2 FT Contour



Area A



Area B



DESKTOP WETLAND REVIEW MAP **ROUTE 5**

230 kV West Creek Loop and Substation
Goochland County, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:
0415

Prepared By:
ZTW

Date:
01/16/26

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

0 100 200 400 Feet

SITE DATA

Project Area

Wetland Probability

Medium-High Stream Channel

Medium-High PFO Wetland

Medium Stream Channel

Medium PEMPSS Wetland

Medium PFO Wetland

USGS MHD Stream Centerline

NWI Limits

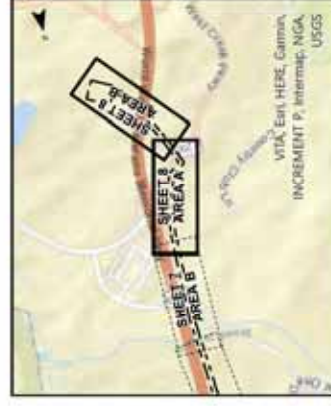
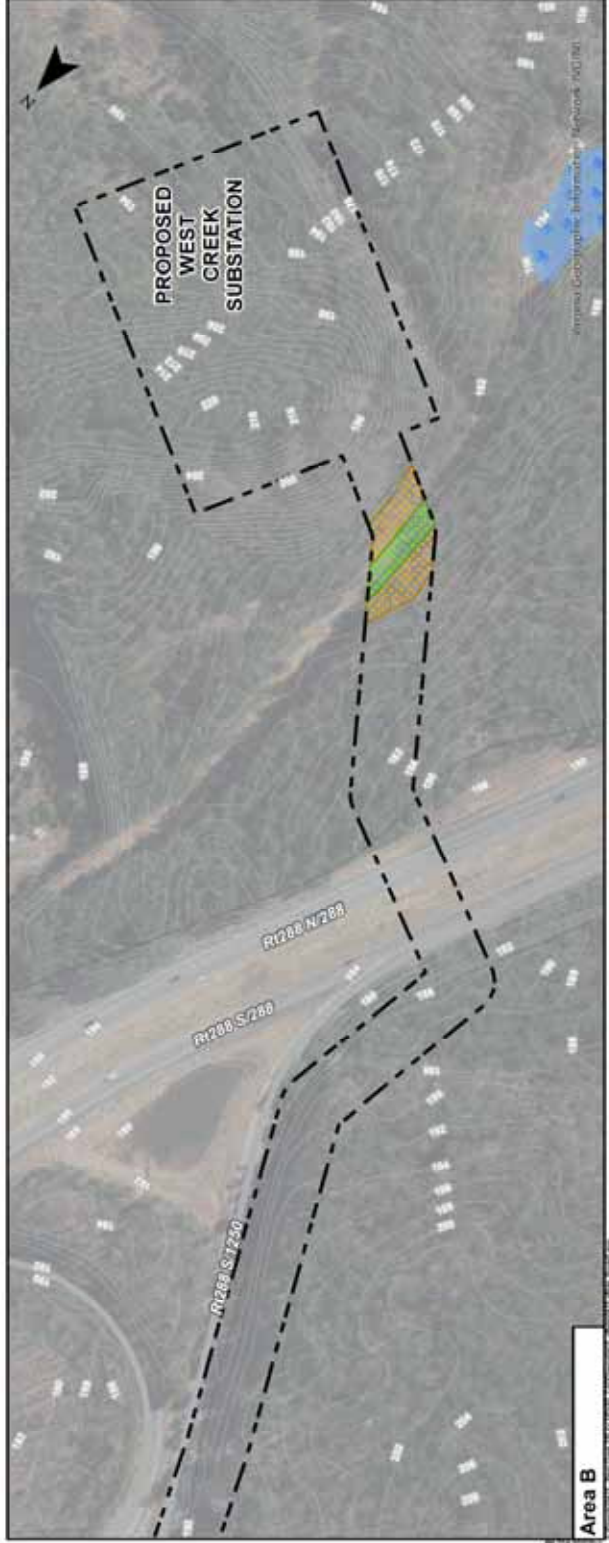
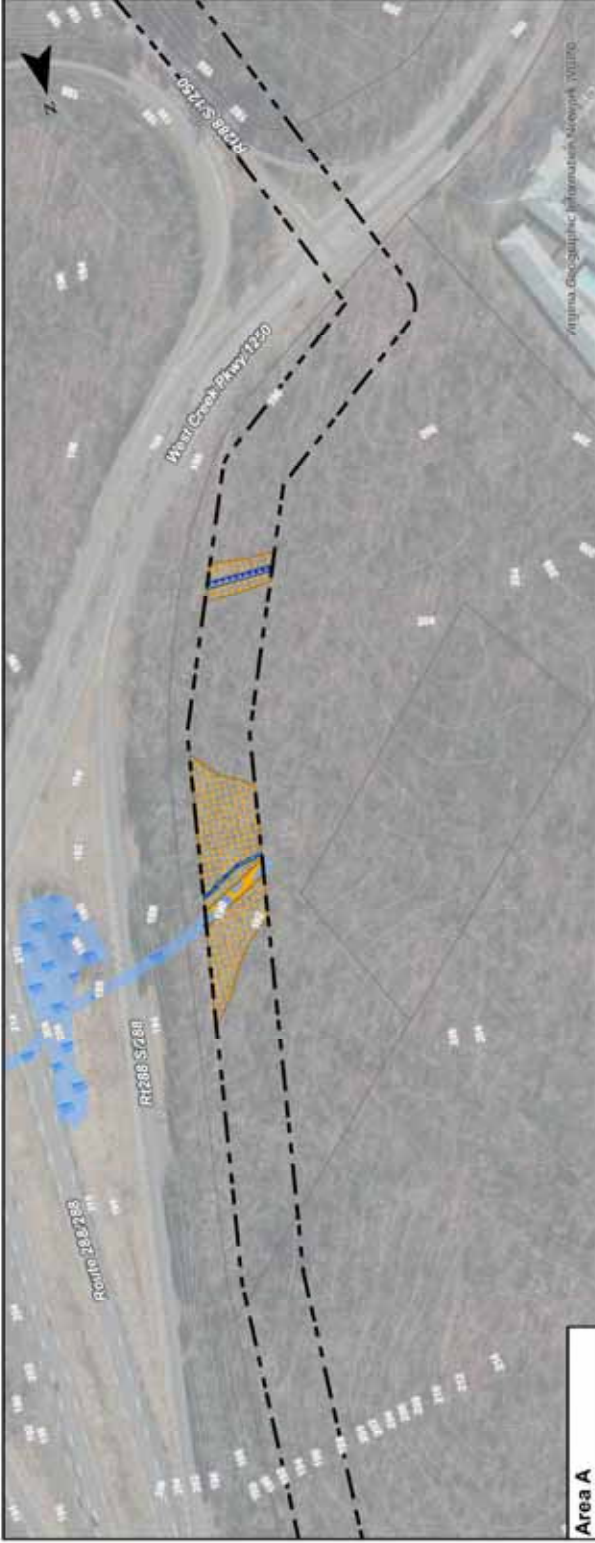
Hydric Soils

Partially Hydric Soils

Nonhydric Soils

Parcel Boundary

Existing 2 FT Contour



C2 ENVIRONMENTAL

SHEET 8 OF 8

APPENDIX D

VDCR Correspondence and Federal and State Listed Species Information



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:

12/03/2025 18:16:12 UTC

Project Code: 2025-0144531

Project Name: 230 kV West Creek Look and Substation

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

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

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

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

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this

letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office

6669 Short Lane

Gloucester, VA 23061-4410

(804) 693-6694

PROJECT SUMMARY

Project Code: 2025-0144531

Project Name: 230 kV West Creek Look and Substation

Project Type: Distribution Line - New Construction - Above Ground

Project Description: The Project is needed to provide the requested electrical service to a new customer within an area proposed as part of Goochland County's Technology Overlay District; to maintain reliable service for the overall load growth in the Project area; and to comply with mandatory North American Electric Reliability Corporation (NERC) standards. To meet the purpose and need of the Project, the Company propose to construct and operate a new double circuit 230 kilovolt (kV) transmission line to serve a new substation on customer property in Goochland County, Virginia.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.6413782,-77.6665265293971,14z>



Counties: Goochland and Henrico counties, Virginia

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

MAMMALS

NAME	STATUS
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

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

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

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act ² and the Migratory Bird Treaty Act (MBTA) ¹. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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

There are Bald Eagles and/or Golden Eagles in your [project](#) area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the [National Bald Eagle Management Guidelines](#). You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#).

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

If disturbance or take of eagles cannot be avoided, an [incidental take permit](#) may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the [Do I Need A Permit Tool](#). For assistance making this determination for golden eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

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

Breeding Season (🟡)

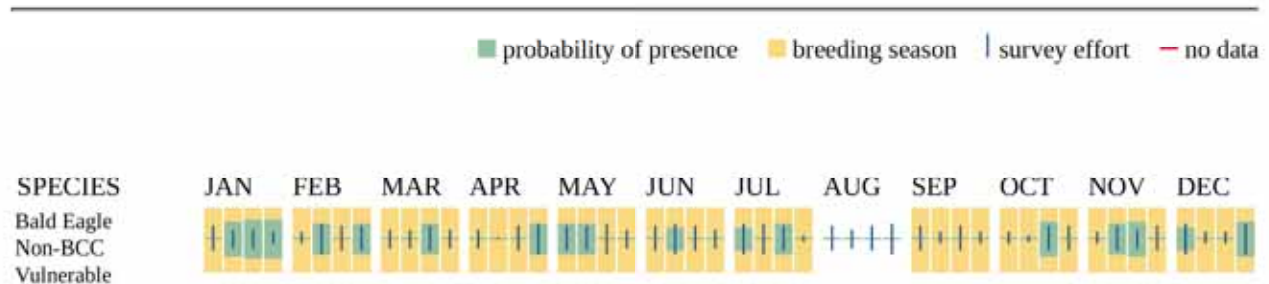
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

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

No Data (—)

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



Additional information can be found using the following links:

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

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

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

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Cerulean Warbler <i>Setophaga cerulea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 28 to Jul 20
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Chuck-will's-widow <i>Antrostomus carolinensis</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9604	Breeds May 10 to Jul 10
Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10678	Breeds May 1 to Aug 20
Grasshopper Sparrow <i>Ammodramus savannarum perpallidus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20
Kentucky Warbler <i>Geothlypis formosa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9443	Breeds Apr 20 to Aug 20
Prairie Warbler <i>Setophaga discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513	Breeds May 1 to Jul 31

NAME	BREEDING SEASON
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

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

Breeding Season (■)

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

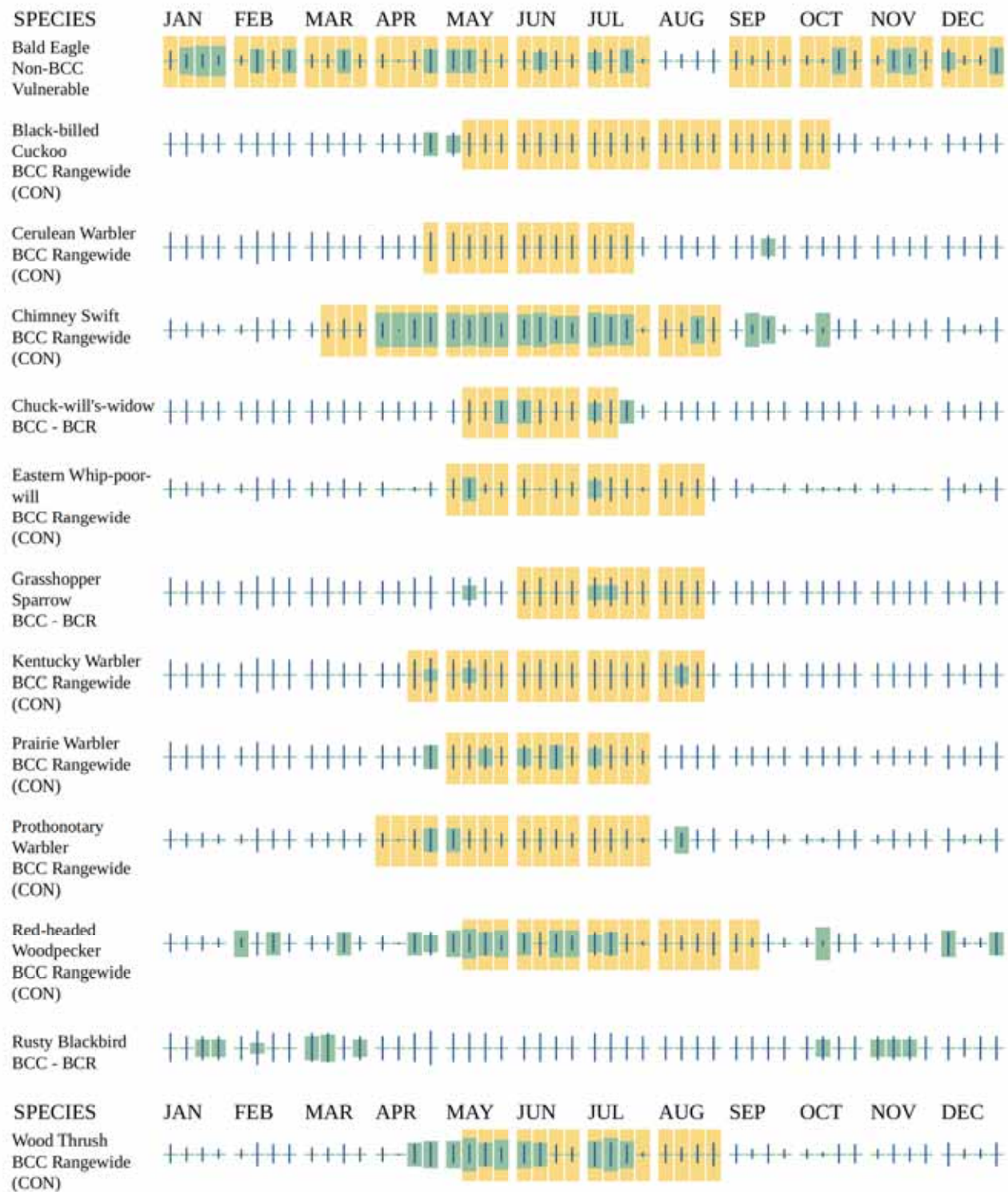
Survey Effort (|)

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

No Data (—)

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

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



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>

- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Emily Ramos
Address: 11846 Rock Landing Dr
Address Line 2: Ste A
City: Newport News
State: VA
Zip: 23606
Email: eramos@c2environmental.com
Phone: 7572768379

LEAD AGENCY CONTACT INFORMATION

Lead Agency: U.S. Fish and Wildlife Service

Known or likely to occur within a **2 mile buffer around polygon; center 37.5979700 -77.6263299**
in **075 Goochland County, 085 Hanover County, 087 Henrico County, 145 Powhatan County, VA**

[View Map of
Site Location](#)

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

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
050022	FESE	Ia	Bat, Northern Long-eared	Myotis septentrionalis		BOVA
060003	FESE	Ia	Dwarf Wedgemussel	Prolasmidonta heterodon		BOVA,HU6
060017	FESE	Ia	Spinymussel, James	Parvaspina collina		BOVA
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA
060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Potential	BOVA,Habitat,HU6
060029	FTST	Ila	Lance, yellow	Elliptio lanceolata		BOVA,HU6
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050034	SE	Ia	Bat, Rafinesque's eastern big-eared	Corynorhinus rafinesquii macrotis		BOVA,HU6
050027	FPSE	Ia	Bat, Tricolored	Perimyotis subflavus		BOVA
060006	SE	Ib	Floater, brook	Alasmidonta varicosa		BOVA,HU6
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
060081	FPST	Ila	Green Floater	Platynaia subviridis	Yes	BOVA,TEWaters
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
100079	FP	IIIa	Butterfly, Monarch	Danaus plexippus		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata	Yes	BOVA,SppObs,HU6
040092		Ia	Eagle, golden	Aquila chrysaetos		BOVA
060084		Ib	Pigtoe, Virginia	Lexingtonia subplana		BOVA
040213		Ic	Owl, northern saw-whet	Aegolius acadicus		BOVA,HU6
040052		Ila	Duck, American black	Anas rubripes		BOVA,HU6
040029		Ila	Heron, little blue	Egretta caerulea caerulea		BOVA
040036		Ila	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040181		Ila	Tern, common	Sterna hirundo		HU6
040320		Ila	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140		Ila	Woodcock, American	Scolopax minor		BOVA,HU6

060071		Ila	Lampmussel, yellow	Lampsilis cariosa		BOVA,HU6
040203		IIb	Cuckoo, black-billed	Coccyzus erythrophthalmus		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA

To view **All 603 species** [View 603](#)

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

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
Virginia Wildlife Action Plan Conservation Opportunity Ranking:

a - On the ground management strategies/actions exist and can be feasibly implemented.; b -

On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.; c -

No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

[View Map of All Query Results from All Observation Tables](#)

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams (1 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 **	
C87	James River 3	Confirmed	1		IV	Yes

Impediments to Fish Passage (5 records)

[View Map of All Fish Impediments](#)

ID	Name	River	View Map
758	BROAD BRANCH DAM	BROAD BRANCH	Yes
759	BROAD BRANCH DAM (RESERVOIR # 2)	BROAD BRANCH	Yes
380	CANTERBURY DAM	DEEP RUN	Yes
753	CHILDRESS DAM	TR-TUCKAHOE CREEK	Yes
741	RESERVOIR #1	BROAD BRANCH	Yes

Colonial Water Bird Survey (2 records)

[View Map of All Query Results Colonial Water Bird Survey](#)

Colony_Name	N Obs	Latest Date	N Species			View Map
			Different Species	Highest TE *	Highest Tier **	
MIDLOTHIAN	3	Jun 1 1991	1			Yes
TUCKAHOE CREEK	8	Jun 1 1991	1			Yes

Displayed 2 Colonial Water Bird Survey

Threatened and Endangered Waters (9 Reaches)

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

Stream Name	T&E Waters Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
James River (0149425)	FPST	060081	FPST	Ila	Green Floater	Platynaias subviridis	Yes
James River (0152218)	FPST	060081	FPST	Ila	Green Floater	Platynaias subviridis	Yes
James River (0156118)	FPST	060081	FPST	Ila	Green Floater	Platynaias subviridis	Yes
James River (0157658)	FPST	060081	FPST	Ila	Green Floater	Platynaias subviridis	Yes
James River (0157830)	FPST	060081	FPST	Ila	Green Floater	Platynaias subviridis	Yes
James River (0161376)	FPST	060081	FPST	Ila	Green Floater	Platynaias subviridis	Yes
James River (0163145)	FPST	060081	FPST	Ila	Green Floater	Platynaias subviridis	Yes
James River (0163427)	FPST	060081	FPST	Ila	Green Floater	Platynaias subviridis	Yes
James River (0163925)	FPST	060081	FPST	Ila	Green Floater	Platynaias subviridis	Yes

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests (3 records)

[View Map of All Query Results Bald Eagle Nests](#)

Nest	N Obs	Latest Date	DGIF Nest Status	View Map
PO1002	1	May 10 2010	UNKNOWN	Yes
PO9601	9	Apr 24 2000	HISTORIC	Yes
PO9801	18	Apr 23 2008	Unknown	Yes

Displayed 3 Bald Eagle Nests

Species Observations (205 records - displaying first 20 , 1
Observation with Threatened or
Endangered species)

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

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE *	Highest Tier **	
363728	SppObs	Jan 1 1900		4	CC	III	Yes
650566	SppObs	Aug 29 2024	Rick Browder; Andrew Kirk; Mitchell McCotter	5		III	Yes
627291	SppObs	Oct 26 2017	Jason; Hill Drew; Miller	22		III	Yes
622290	SppObs	Jun 9 2014	Richard; Browder Kenneth; Berkle Meghan; Bandura Gabr	9		III	Yes
340765	SppObs	Aug 25 2003	WWS DGIF Price Smith and stream crew	17		III	Yes
340766	SppObs	Aug 25 2003	WWS DGIF Price Smith and the stream crew	16		III	Yes
7487	SppObs	Aug 19 1994	JOSEPH C. MITCHELL	1		III	Yes
7486	SppObs	Jul 21 1994	JOSEPH C. MITCHELL	1		III	Yes
11446	SppObs	Sep 30 1988	ANGERMEIER ET AL	7		III	Yes
336190	SppObs	Jan 1 1978	REJ-B-JENKINS	1		III	Yes
15566	SppObs	May 12 1964	WOOLCOTT	10		III	Yes
332714	SppObs	Jan 1 1961	WSW-WOOLCOTT	12		III	Yes
332713	SppObs	Jan 1 1961	WSW-WOOLCOTT	21		III	Yes
332253	SppObs	Jan 1 1956	WSW-WOOLCOTT	21		III	Yes
363727	SppObs	Jan 1 1900		2		III	Yes
363760	SppObs	Jan 1 1900		1		III	Yes
340763	SppObs	Aug 4 2003	WWS DGIF Price Smith and Alan Weaver	21		IV	Yes
340809	SppObs	Jul 23 2003	WWS DGIF Weaver, Peterson	1		IV	Yes
340695	SppObs	Sep 4 2001	WWS DGIF Boshers fisher	1		IV	Yes
340099	SppObs	Sep 4 2001	Boshers fisher	1		IV	Yes

Displayed 20 Species Observations

Selected 205 Observations [View all 205 Species Observations](#)

Habitat Predicted for Aquatic WAP Tier I & II Species (3 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					
James River (20802051)	FTST	060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes
James River (20802052)	FTST	060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes
Norwood Creek (20802052)	FTST	060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (6 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 ^{**}	
50093	Bon Air, CW	25		III	Yes
50091	Bon Air, NW	33		III	Yes
50103	Glen Allen, CW	2			Yes
49104	Hylas, CE	1			Yes
49106	Hylas, SE	60		III	Yes
49092	Midlothian, NE	7		III	Yes

Public Holdings:

N/A

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

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
075	Goochland	389	FESE	I
085	Hanover	384	FESE	I
087	Henrico	389	FESE	I
145	Powhatan	348	FESE	I

USGS 7.5' Quadrangles:

Midlothian

Hylas

Bon Air
Glen Allen

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
JL16	Chickahominy River-Grassy Swamp Creek	60	SE	I
JM81	Norwood Creek	49	FTSE	I
JM82	James River-Little River	57	FTSE	I
JM83	James River-Bernards Creek	65	FTSE	I
JM84	Tuckahoe Creek	61	FTSE	I
JM85	James River-East Branch Tuckahoe Creek	65	SE	I
YO09	South Anna River-Turkey Creek	63	FESE	I

Compiled on 12/3/2025, 1:05:26 PM I4342124.0 report=all searchType=P dist= 3218 poi= 37.5979700 -77.6263299 siteID= 37.5979700 -77.6263398 37.5981900 -77.6322998 37.5984600
-77.6363898 37.5986800 -77.6412498 37.5989000 -77.6443998 37.5990000 -77.6476698 37.5991800 -77.6527498 37.5994000 -77.6573098 37.5995000 -77.6617098 37.6001200 -77.6715798 37.6005700
-77.6802098 37.6007900 -77.6848598 37.6008600 -77.6881198 37.6010900 -77.6921898 37.6015200 -77.6972098 37.6021000 -77.6969998 37.6025000 -77.6970998 37.6031700 -77.6973598 37.6038200
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Inva=0.098991

VAFWIS - Department
of Wildlife Resources



37.64160 -77.66093

is the Search Point

Search Point

☒ Change to "clicked" map point

☐ Fixed at 37.64160 -77.66093

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:

Map Overlay Legend

[back](#)

Map Click

[Pan](#) [To](#) [M](#)

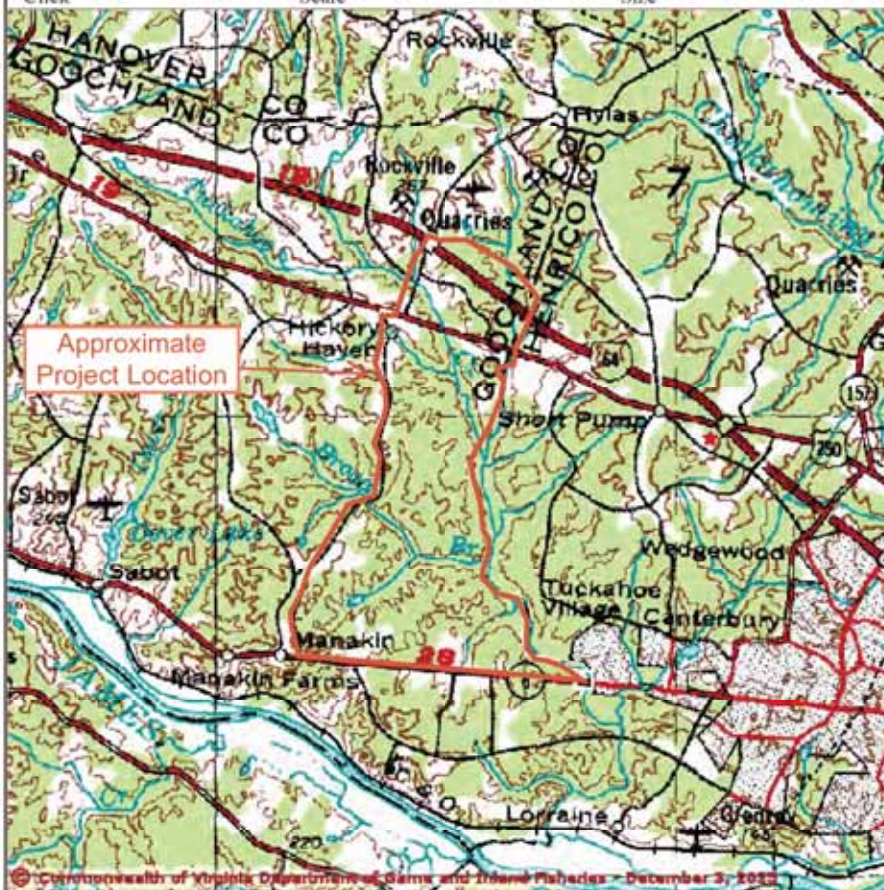
Map Scale

[In](#) [Zoom](#) [Out](#)

Screen Size

[Small](#) [Size](#) [Big](#)

[Help](#)



Point of Search 37.64160 -77.66093

Map Location 37.64160 -77.66093

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.terra-server-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 255625 and top 4178982. Pixel size is 26. Coordinates displayed are decimal Degrees North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixels. The map display represents 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>



COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

November 10, 2025

Emily Ramos
C2 Environmental Inc.
11818 Rock Landing Drive, Suite A
Newport News, VA 23606

Re: West Creek 230 kV Delivery Point Project

Dear Ms. Ramos:

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.

Hylas Quad

According to the information currently in Biotics, natural heritage resources have not been documented within the submitted project boundary including a 100 foot buffer. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources. In addition, the project boundary does not intersect any of the predictive models identifying potential habitat for natural heritage resources.

Midlothian Quad

According to the information currently in our files, the Tuckahoe Creek – West Park Conservation Site is located within the project site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. The Tuckahoe Creek – West Park Conservation Site has been given a biodiversity significance ranking of B2, which represents a site of very high significance. The natural heritage resource of concern at this site is:

Stachys matthewsii

Yadkin hedge-nettle

G1?/S1/SOC/NL

Yadkin hedge-nettle, a member of the mint family (Lamiaceae), is a rhizomatous perennial that grows to about 1 meter tall. Like most mints, the leaves are opposite and the stems are square. The leaves are 5-10cm long and the

flowers are pink to dark pink. This plant blooms in early summer. It is shade-intolerant, occurring along forest edges in wet meadows, and in clearings of the southern Piedmont, as well as on calcareous river shores of the Coastal Plain. This rare species is known only from southern Virginia and coastal North Carolina. It was first collected in Surry County, Virginia and has been subject to much taxonomic and nomenclatural confusion until recently (Weakley et al., 2012).

To minimize potential impacts to natural heritage resources, DCR recommends avoidance of the conservation site.

All Quads

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

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

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

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

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

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

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

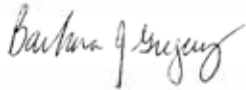
A fee of \$500.00 has been assessed for the service of providing this information. Please find attached an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, DCR Finance, 600 East Main Street, 24th Floor, Richmond, VA 23219. Payment is due within thirty

days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

The Virginia Department of Wildlife Resources (VDWR) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed at <https://services.dwr.virginia.gov/fwis/> or contact Susan Watson at Susan.Watson@dwr.virginia.gov.

Should you have any questions or concerns, please contact me at 804-225-2821. Thank you for the opportunity to comment on this project.

Sincerely,

A handwritten signature in cursive script, appearing to read "Barbara Gregory".

Barbara Gregory
Project Review Assistant, Senior

Literature Cited

Weakley, A.S., J. C. Ludwig, and J.F. Townsend. 2012. Flora of Virginia. Bland Crowder, ed. Foundation of the Flora of Virginia Project Inc., Richmond. Fort Worth: Botanical Research Institute of Texas Press.

From: [nhreview \(DCR\)](#)
To: [Emily Ramos](#)
Subject: Re: West Creek 230 kV Delivery Point Project
Date: Monday, November 10, 2025 12:29:06 PM
Attachments: [image002.png](#)
[Outlook-ux252afk.png](#)
[93421, C2E West Creek 230 kV Delivery Point Project License Agreement.pdf](#)
[93421, C2E, West Creek 230 kV Delivery Point Project Conservation Site.zip](#)
[93421, C2E, West Creek 230 kV Delivery Point Project.pdf](#)
[32600262, 93421, C2E, West Creek 230 kV Delivery Point Project Invoice.pdf](#)

Hi Emily,

Here is an updated letter and new invoice along with the shapefile of the conservation site and a signed license agreement. Please delete the old invoice and the previous letter I sent.

Thank you,

Barbara Gregory
Project Review Assistant, Senior
Division of Natural Heritage
Virginia Department of Conservation and Recreation
600 East Main Street, 24th Floor
Richmond, VA 23219
804-225-2821 |
Barbara.Gregory@dcr.virginia.gov



From: Emily Ramos <eramos@c2environmental.com>
Sent: Friday, November 7, 2025 10:52 AM
To: nhreview (DCR) <nhreview@dcr.virginia.gov>
Subject: RE: West Creek 230 kV Delivery Point Project

Hi Barbara,

Please see the attached license agreement.

Thanks!

Emily Ramos
Environmental Specialist II

C2 Environmental, Inc.

(O): 757-223-0071

(D): 757-276-8379



C2 Environmental is a WBE, DBE and SWaM certified business

From: nhreview (DCR) <nhreview@dcr.virginia.gov>
Sent: Wednesday, November 5, 2025 11:20 AM
To: Emily Ramos <eramos@c2environmental.com>
Subject: Re: West Creek 230 kV Delivery Point Project

Hi Emily,

Here's a copy of the license agreement for the shapefile. Please sign and send back to me.

Thank you,

Barbara



From: nhreview (DCR) <nhreview@dcr.virginia.gov>
Sent: Wednesday, November 5, 2025 8:48 AM
To: Emily Ramos <eramos@c2environmental.com>
Subject: Re: West Creek 230 kV Delivery Point Project

Hi Emily,

Thank you for the explanation. I can update the letter and invoice and send a shapefile of the conservation site to help in your route planning so that it can be avoided. I hope to get to it today but I will send it to you by tomorrow at the latest.

Thanks,
Barbara



From: Emily Ramos <eramos@c2environmental.com>
Sent: Tuesday, November 4, 2025 12:14 PM
To: nhreview (DCR) <nhreview@dcr.virginia.gov>
Subject: RE: West Creek 230 kV Delivery Point Project

Thank you Barbara -

We are still finalizing the possible transmission line routes for the project, but yes you are correct in your assumption that the routes will avoid the majority of wetland areas near Tuckahoe Creek on the eastern side of the study area. Would you be able to send us the GIS file for the boundary of the conservation site? It may help us in making adjustments to a potential route alternative, or provide us with reasoning to eliminate a route from further consideration. We understand that this may cause the review cost to increase.

Emily Ramos
Environmental Specialist II
C2 Environmental, Inc.
(O): 757-223-0071
(D): 757-276-8379



C2 Environmental is a WBE, DBE and SWaM certified business

From: nhreview (DCR) <nhreview@dcr.virginia.gov>
Sent: Tuesday, October 28, 2025 1:35 PM
To: Emily Ramos <eramos@c2environmental.com>
Subject: Re: West Creek 230 kV Delivery Point Project

Hi Emily,

The conservation site within the Midlothian Quad is the Tuckahoe Creek - West Park Conservation Site (B2) and the species associated with the conservation site is the rare plant Yadkin hedge-nettle (*Stachys matthewsii*, G1?/S1/SOC/NL). However, based on a review by our botanist, we do not believe this natural heritage resource will be impacted by the proposed activities. Also, this site is located on the eastern side of the project area and is within an area of bottomland hardwood wetlands along the edge of the project area so we are also thinking that the transmission line would

not be located within the wetlands. Can you confirm this is the case? Also, I did not provide a shapefile of the conservation site because we have no concern for the resource (mentioned above) that is associated with the conservation site.

Thank you,

Barbara Gregory
Project Review Assistant, Senior
Division of Natural Heritage
Virginia Department of Conservation and Recreation
600 East Main Street, 24th Floor
Richmond, VA 23219
804-225-2821 |
Barbara.Gregory@dcr.virginia.gov



From: Emily Ramos <eramos@c2environmental.com>
Sent: Monday, October 27, 2025 1:00 PM
To: nhreview (DCR) <nhreview@dcr.virginia.gov>
Subject: RE: West Creek 230 kV Delivery Point Project

Hi Barbara,

Thank you for reviewing this project. In the Midlothian Quad of the review, it notes that natural heritage resources are present within the project boundary and 100 ft buffer but it does not list what those are. I understand that due to the scope of the project, it is not anticipated that the project will adversely impact any of those resources but when we discuss the review in our reports, we discuss the natural heritage resources identified. Can you provide what natural resources were identified in the Midlothian Quad? I also wanted to confirm that there is no associated GIS data as we originally requested it with the project review. In addition, I want to confirm that there are no conservation sites that were identified as part of the review.

Thanks,

Emily Ramos
Environmental Specialist II
C2 Environmental, Inc.

(O): 757-223-0071

(D): 757-276-8379



C2 Environmental is a WBE, DBE and SWaM certified business

From: nhreview (DCR) <nhreview@dcr.virginia.gov>

Sent: Thursday, October 23, 2025 2:15 PM

To: Emily Ramos <eramos@c2environmental.com>

Subject: West Creek 230 kV Delivery Point Project

Ms. Ramos,

Please find attached the DCR-DNH comments and invoice for the above referenced project. The comments are in pdf format and can be printed for your records. Also species rank information is available at <http://www.dcr.virginia.gov/natural-heritage/help> for your reference.

Along with our comments there is an invoice for our services. Please submit a copy of the invoice with payment to the Treasurer of Virginia, Department of Conservation and Recreation, Finance, [600 East Main Street](#), 24th Floor Richmond, VA 23219. Payment is due within 30 days of the invoice date. Late payment may result in the suspension of project review service for future projects. **To pay the invoice by credit card, please click [here](#) for the DCR credit card payment portal weblink or copy <http://www.dcr.virginia.gov/payment-verification> into your browser. It will take approximately 24 hours for the invoice to be available for payment in the online system.**

Please send a confirmation e-mail upon receipt of our comments. Thank you for the opportunity to provide this information.

Barbara Gregory

Project Review Assistant, Senior

Division of Natural Heritage

Virginia Department of Conservation and Recreation

600 East Main Street, 24th Floor

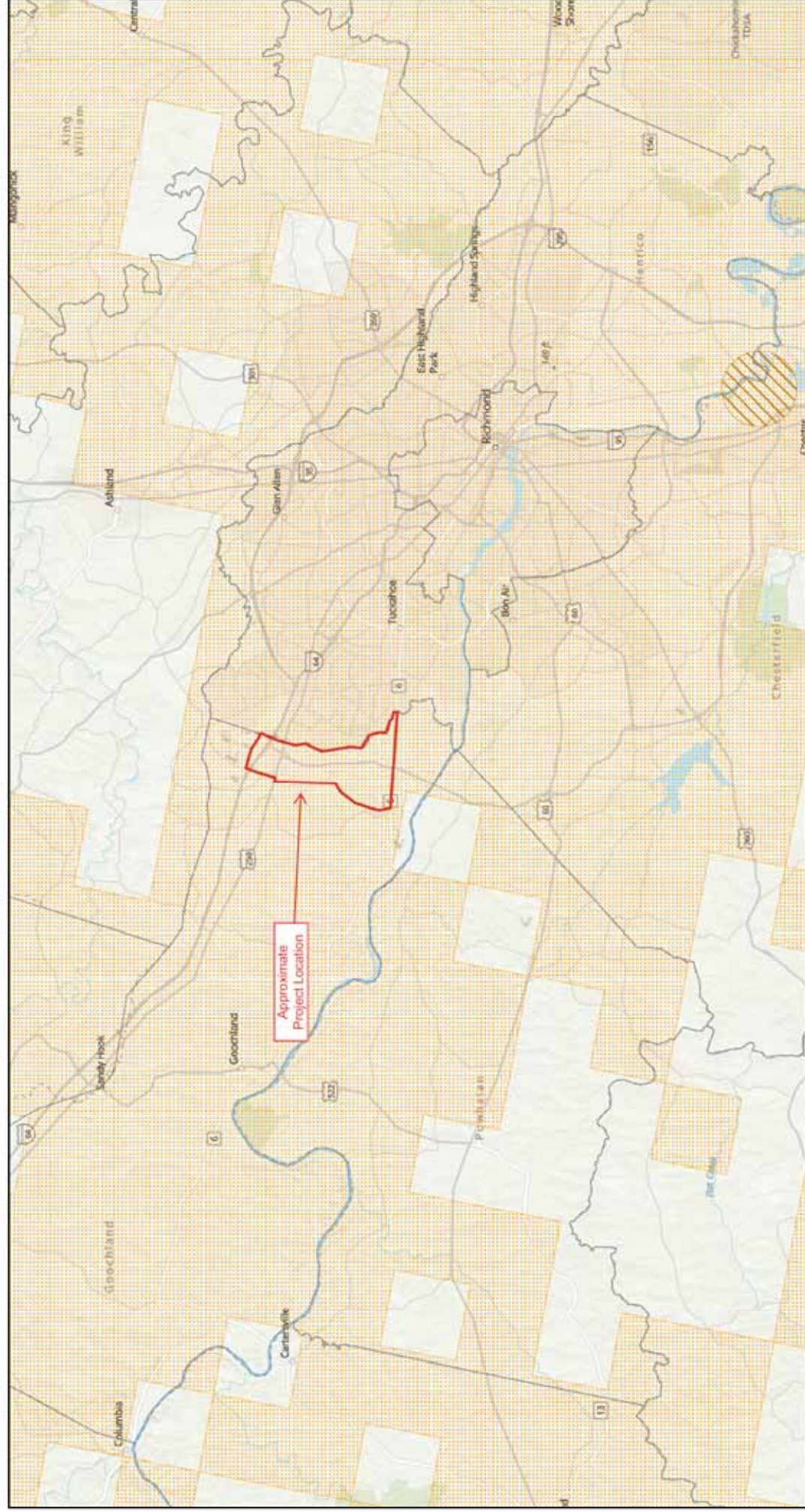
Richmond, VA 23219

804-225-2821 |

Barbara.Gregory@dcr.virginia.gov



Threatened and Endangered Bats - DWR



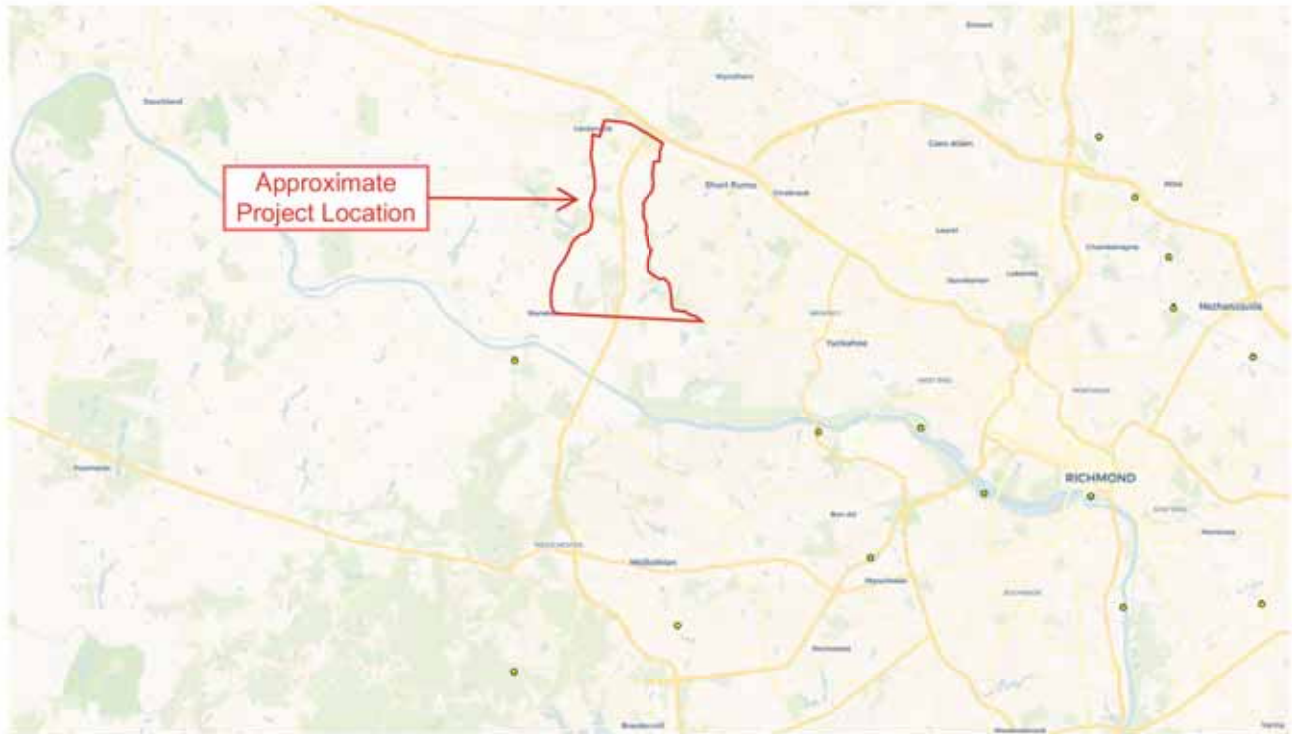
9/3/2025, 6:24:09 PM

TCB Capture

TCB Consultation Range



Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community



Layers: VA Eagle Nest Locator, Eagle Roosts

Map Center [longitude, latitude]: [-77.65445709228516, 37.59573590243413]

Map Link:

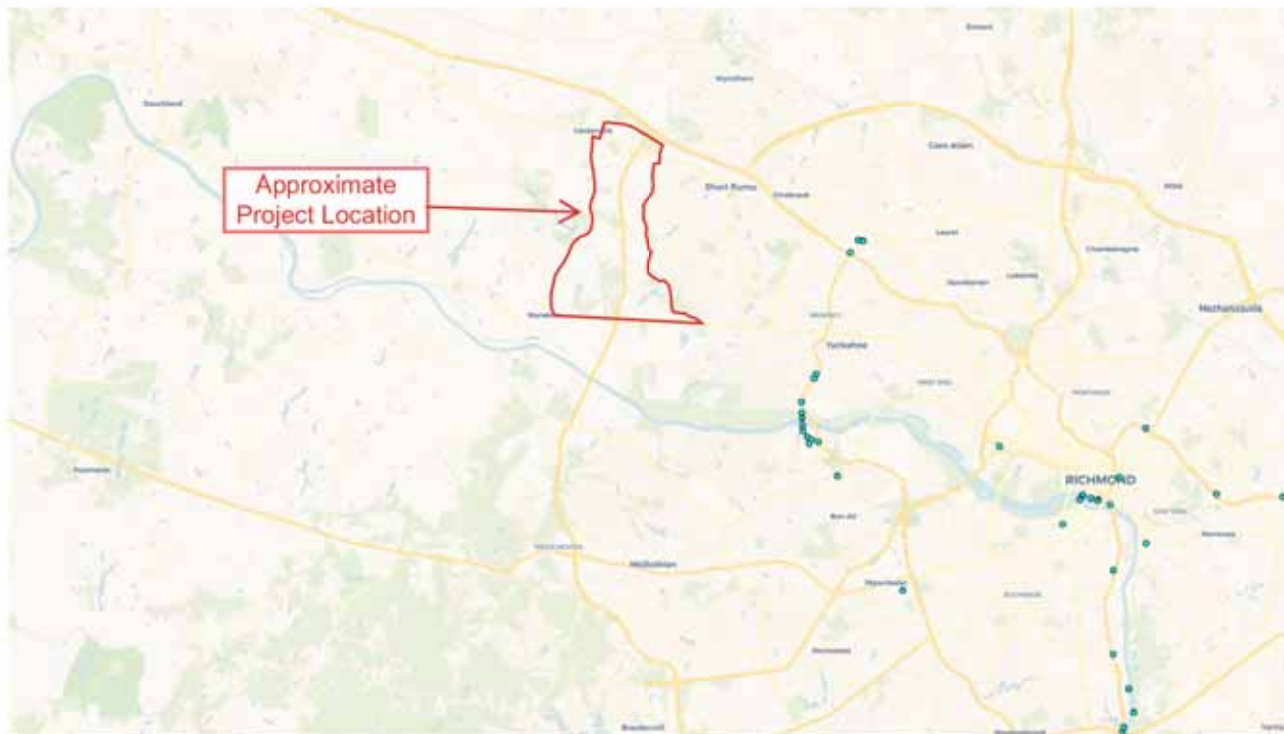
<https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&layer=Eagle+Roosts&zoom=12&lat=37.59573590243413&lng=-77.65445709228516&base=Street+Map+%28OSM%2FCarto%29>

Report Generated On: 12/03/2025

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

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

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



Layers: OspreyWatch Nests

Map Center [longitude, latitude]: [-77.65445709228516, 37.59573590243413]

Map Link:

<https://ccbbirds.org/maps/#layer=OspreyWatch+Nests&zoom=12&lat=37.59573590243413&lng=-77.65445709228516&base=Street+Map+%28OSM%2FCarto%29>

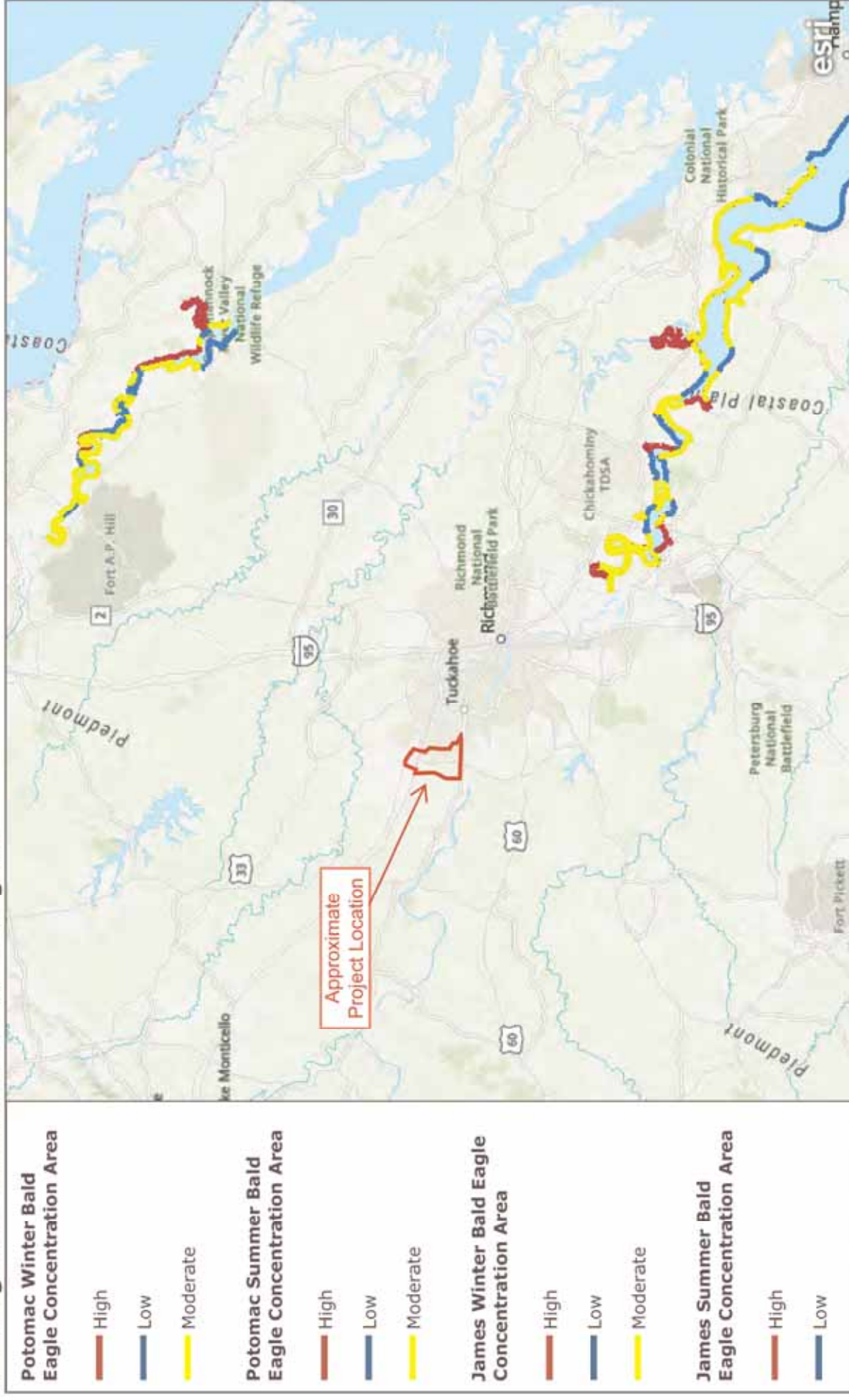
Report Generated On: 12/03/2025

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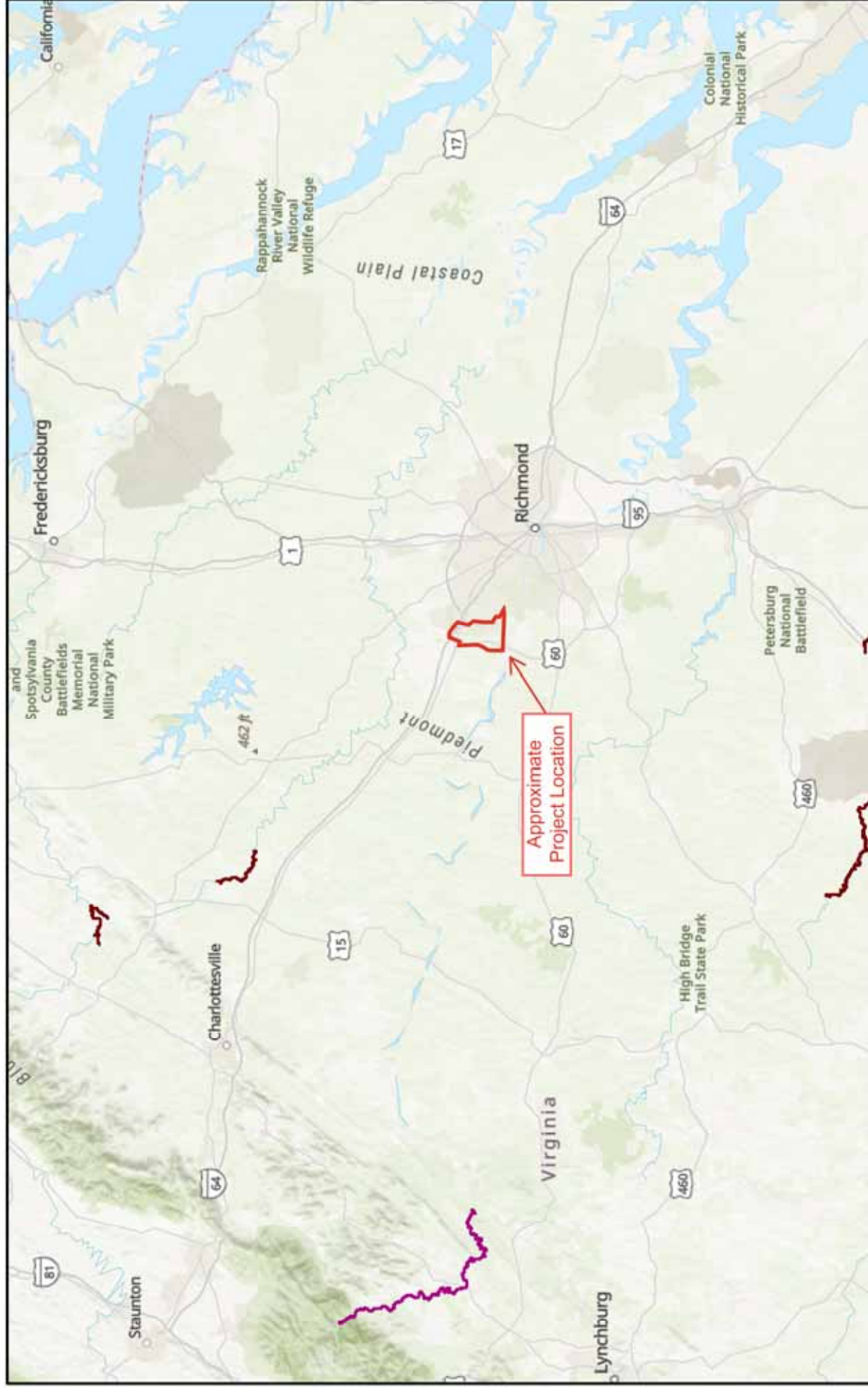
Report generated by [The Center for Conservation Biology Mapping Portal](#).

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

Bald Eagle Concentration Areas in Virginia



VA Critical Habitat



9/3/2025



Final Critical Habitat Features



Proposed Critical Habitat Features

World_Hillshade

1:1,218,779

0 5 10 20 mi

0 5 10 25 50 km

Esri, CGIAR, USGS. Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS.
(c) OpenStreetMap contributors, and the GIS User Community

APPENDIX E

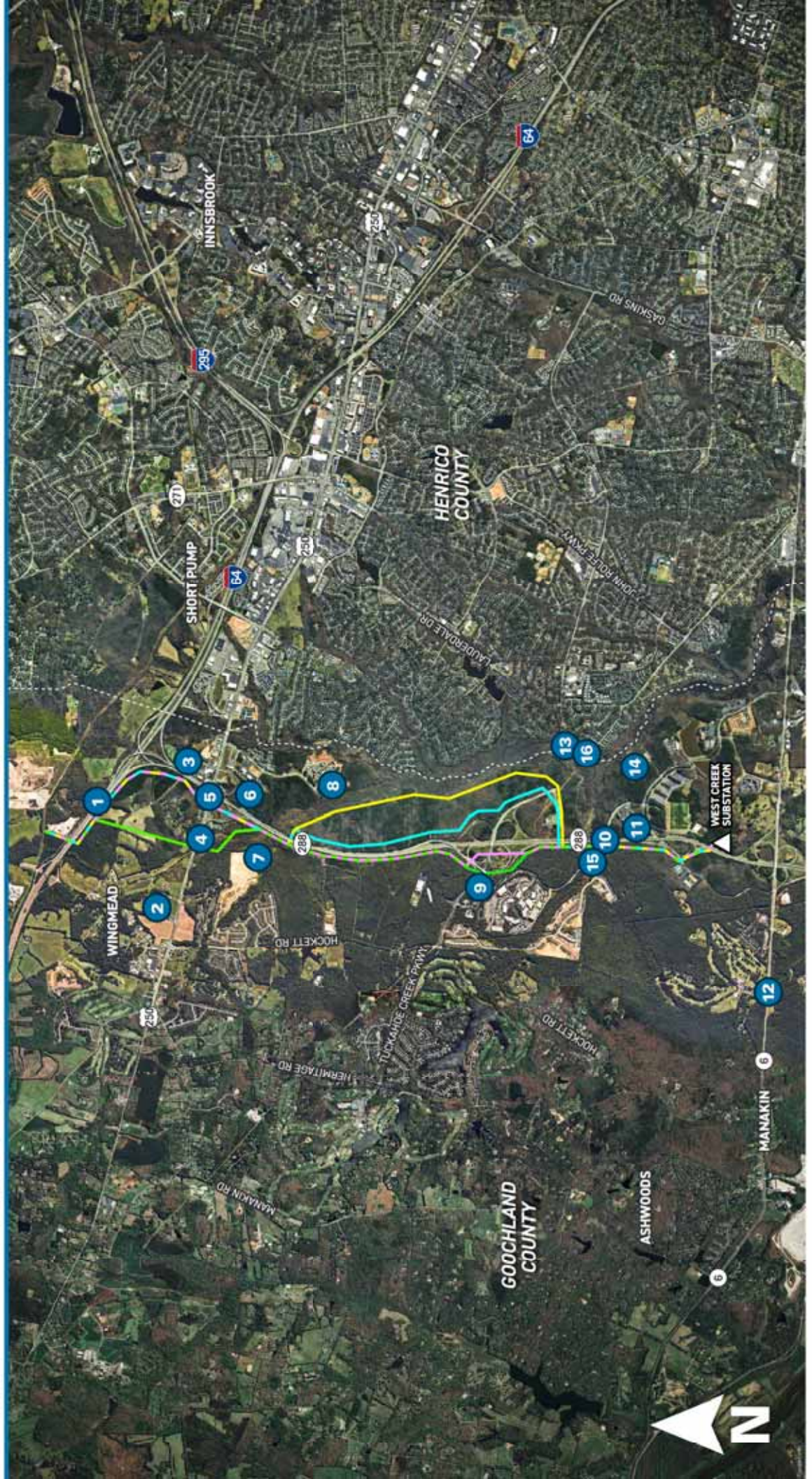
Visual Simulations

WEST CREEK

230 kV Project

Photo Location Map

- Viewpoint Location
- Route 2
- Route 3
- Route 4
- Route 5
- Proposed Substation



WEST CREEK

230 kV Project

Viewpoint 1

Date: 10/8/2025 Time: 8:48 am Viewing Direction: West

Viewpoint Location  Route 2



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK

230 kV Project

Viewpoint 1

Date: 10/8/2025 Time: 8:48 am Viewing Direction: West

- Viewpoint Location
- Route 3
- Route 4
- Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK 230 kV Project

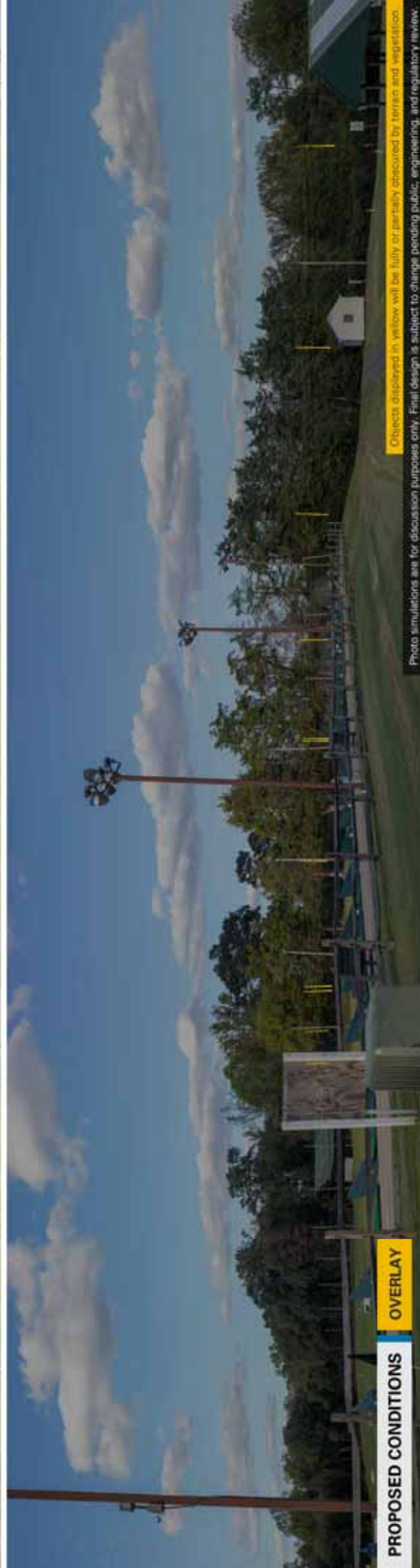
Viewpoint 2

Date: 10/8/2025 Time: 3:40 pm Viewing Direction: East

Viewpoint Location  Route 2



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

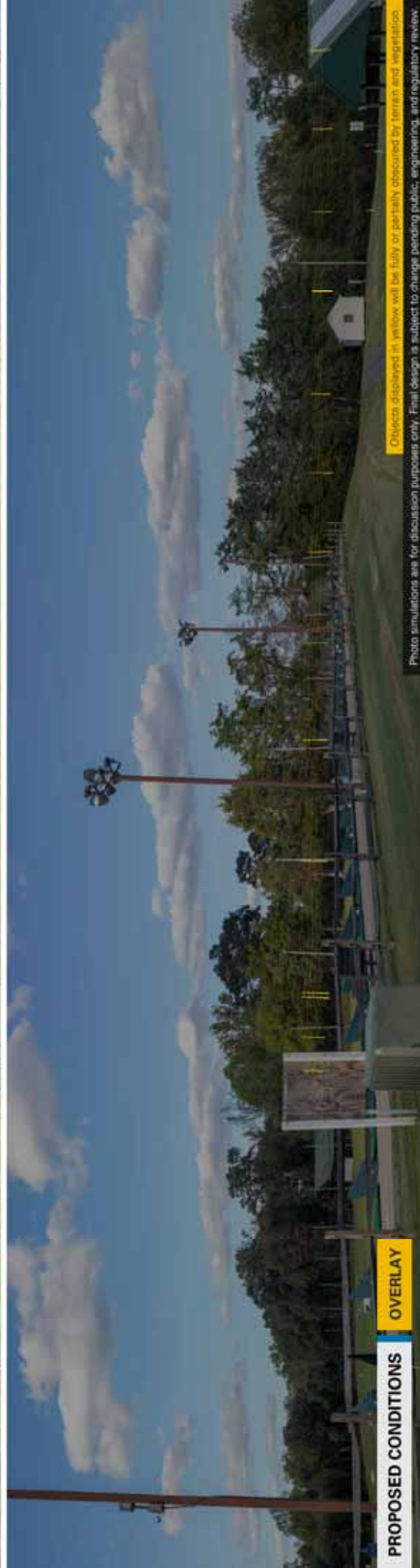
Viewpoint 2

Date: 10/8/2025 Time: 3:40 pm Viewing Direction: East

- Viewpoint Location
- Route 3
- Route 4
- Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

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WEST CREEK

230 kV Project

Viewpoint 3

Date: 10/8/2025 Time: 7:30 am Viewing Direction: Northwest

Viewpoint Location  Route 2



EXISTING CONDITIONS



PROPOSED CONDITIONS



OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

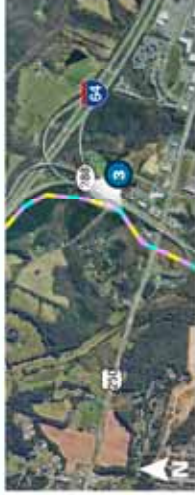
WEST CREEK

230 kV Project

Viewpoint 3

Date: 10/6/2025 Time: 7:30 am Viewing Direction: Northwest

- Viewpoint Location
- Route 3
- Route 4
- Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS



Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK

230 kV Project

Viewpoint 4

Date: 10/8/2025 Time: 3:28 pm Viewing Direction: West

Viewpoint Location Route 2



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK 230 kV Project

Viewpoint 5

Date: 10/8/2025 Time: 2:39 pm Viewing Direction: Southwest

Viewpoint Location  Route 2



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK 230 kV Project

Viewpoint 5

Date: 10/8/2025 Time: 2:29 pm Viewing Direction: Southwest

- Viewpoint Location
- Route 3
- Route 4



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK

230 kV Project

Viewpoint 5

Date: 10/8/2025 Time: 2:39 pm Viewing Direction: Southwest

Viewpoint Location Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK

230 kV Project

Viewpoint 6

Date: 10/8/2025 Time: 7:50 am Viewing Direction: Northwest

Viewpoint Location Route 2



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

Viewpoint 6

Date: 10/8/2025 Time: 7:50 am Viewing Direction: Northwest

- Viewpoint Location
- Route 3
- Route 4
- Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK

230 kV Project

Viewpoint 6

Date: 10/8/2025 Time: 7:50 am Viewing Direction: Northwest

- Viewpoint Location
- Route 3
- Route 4
- Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

Viewpoint 7

Date: 10/6/2025 Time: 3:11 pm Viewing Direction: East

Viewpoint Location Route 2



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK

230 kV Project

Viewpoint 7

Date: 10/6/2025 Time: 3:11 pm Viewing Direction: East

- Viewpoint Location
- Route 3
- Route 4
- Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK

230 kV Project

Viewpoint 8

Date: 10/8/2025 Time: 8:11 am Viewing Direction: West

Viewpoint Location
Route 2
Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

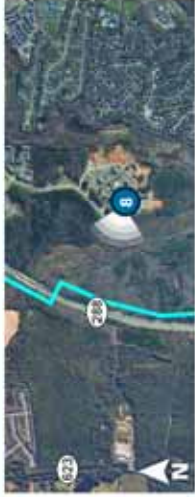
WEST CREEK

230 kV Project

Viewpoint 8

Date: 10/8/2025 Time: 8:11 am Viewing Direction: West

Viewpoint Location Route 3



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

Viewpoint 8

Date: 10/6/2025 Time: 8:11 am Viewing Direction: West

Viewpoint Location Route 4



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK

230 kV Project

Viewpoint 8

Date: 10/8/2025 Time: 8:11 am Viewing Direction: West

Viewpoint Location Route 4



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

Viewpoint 9

Date: 10/8/2025 Time: 12:07 pm Viewing Direction: East

Viewpoint Location Route 2



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK

230 kV Project

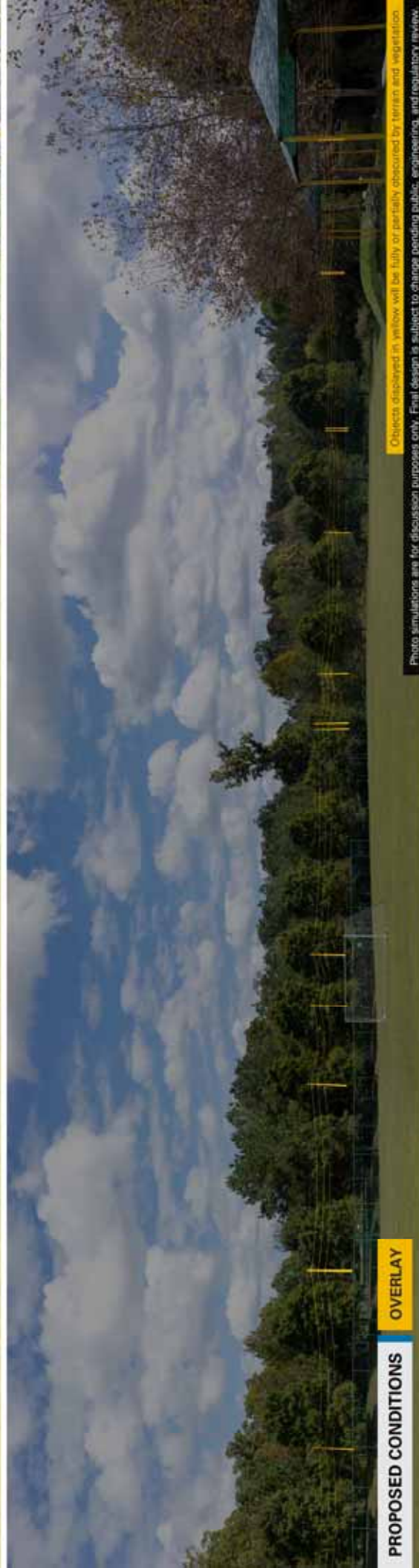
Viewpoint 9

Date: 10/8/2025 Time: 12:07 pm Viewing Direction: East

Viewpoint Location Route 3



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

Viewpoint 9

Date: 10/8/2025 Time: 12:07 pm Viewing Direction: East

Viewpoint Location Route 4



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

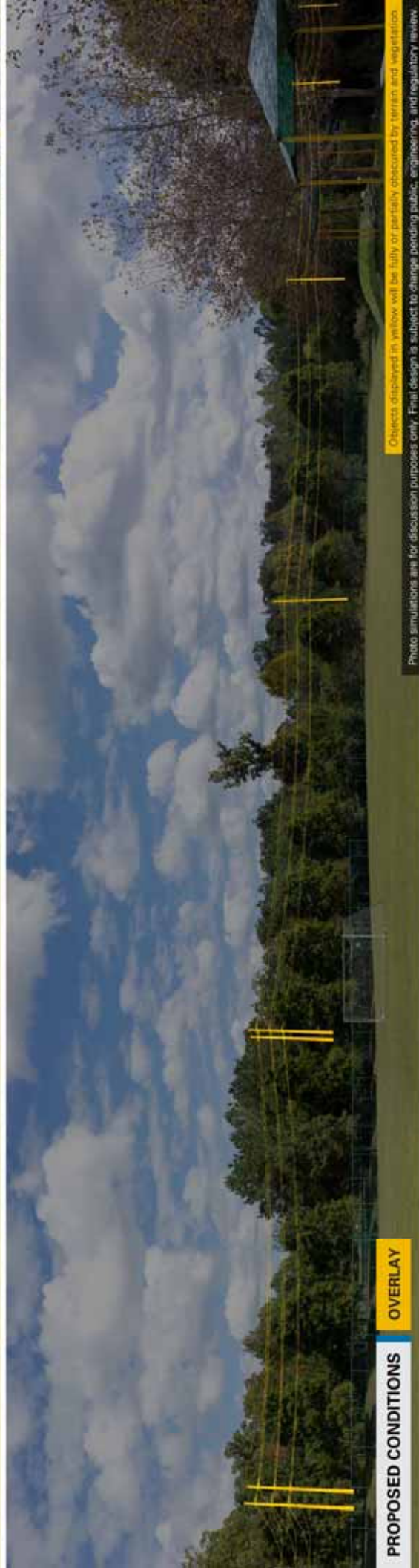
Viewpoint 9

Date: 10/8/2025 Time: 12:07 pm Viewing Direction: East

Viewpoint Location Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

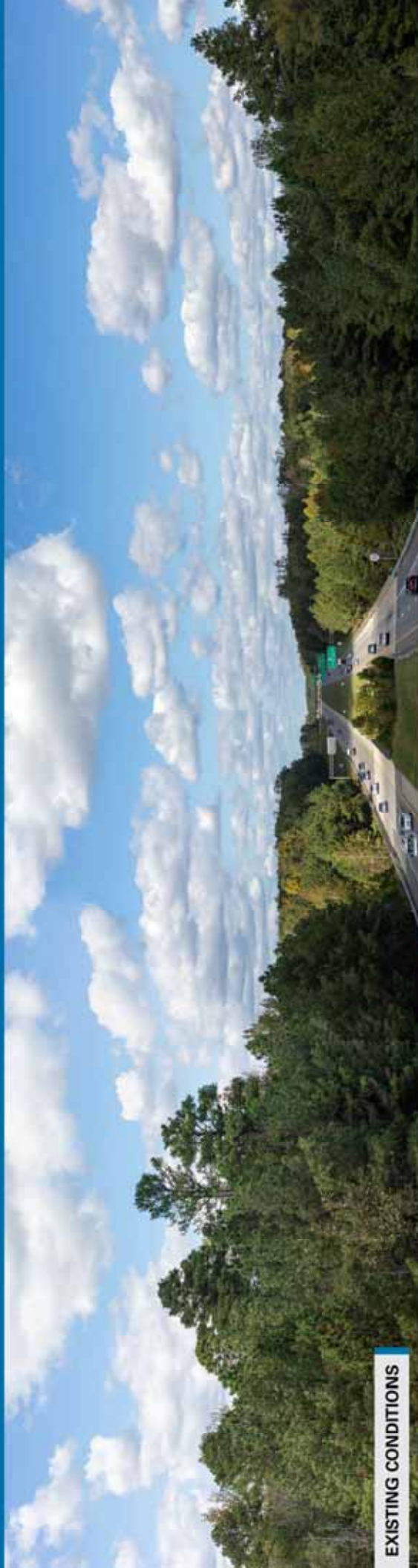
Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

Viewpoint 10

Date: 10/8/2025 Time: 1:02 pm Viewing Direction: North
Viewpoint Location Route 2



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

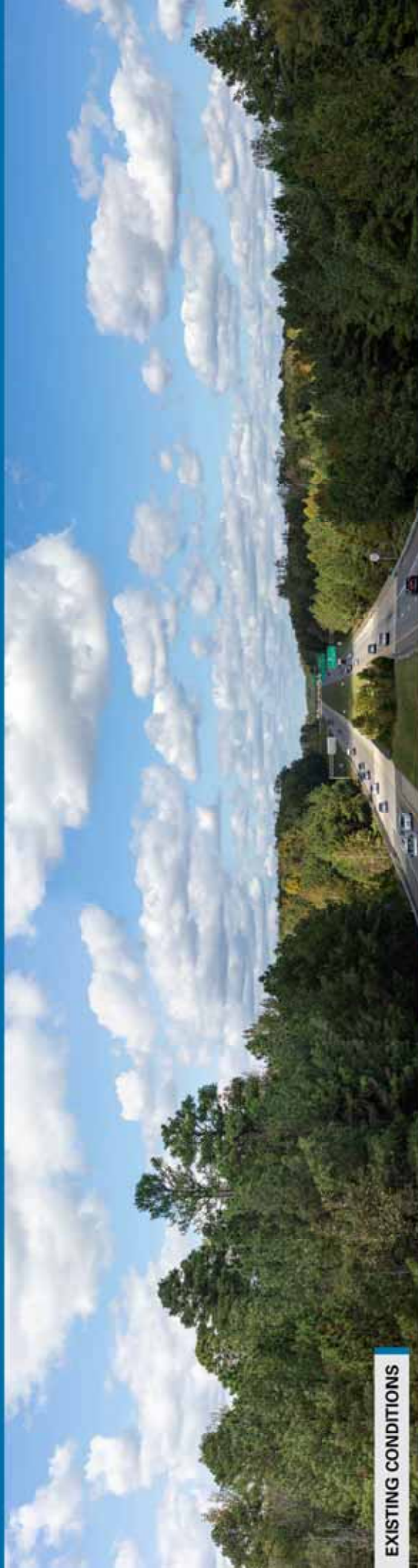
WEST CREEK

230 kV Project

Viewpoint 10

Date: 10/8/2025 Time: 1:02 pm Viewing Direction: North

Viewpoint Location Route 3



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

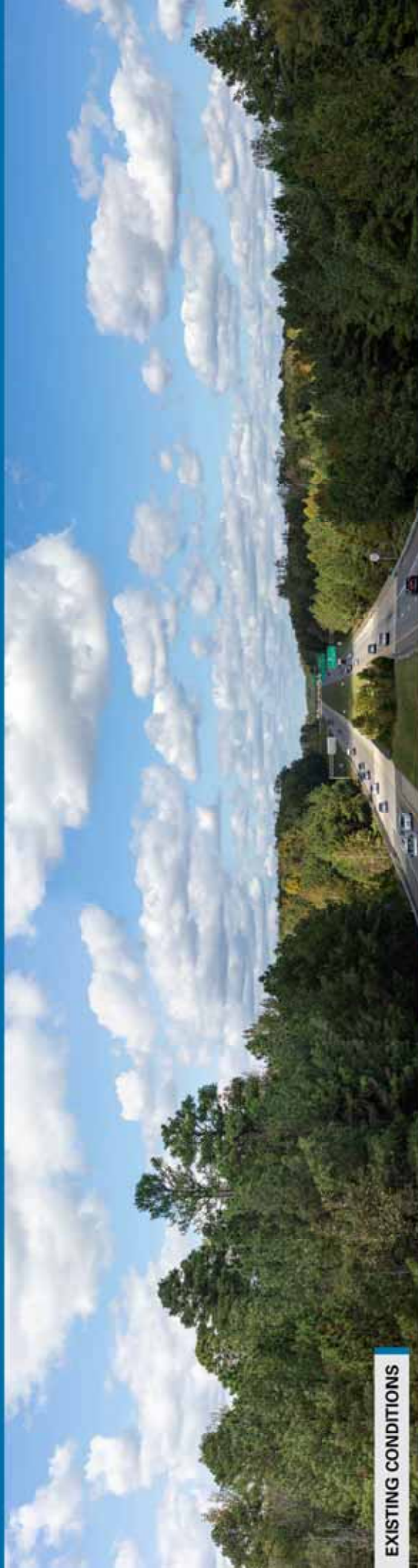
WEST CREEK

230 kV Project

Viewpoint 10

Date: 10/8/2025 Time: 1:02 pm Viewing Direction: North

Viewpoint Location  Route 4



EXISTING CONDITIONS



PROPOSED CONDITIONS

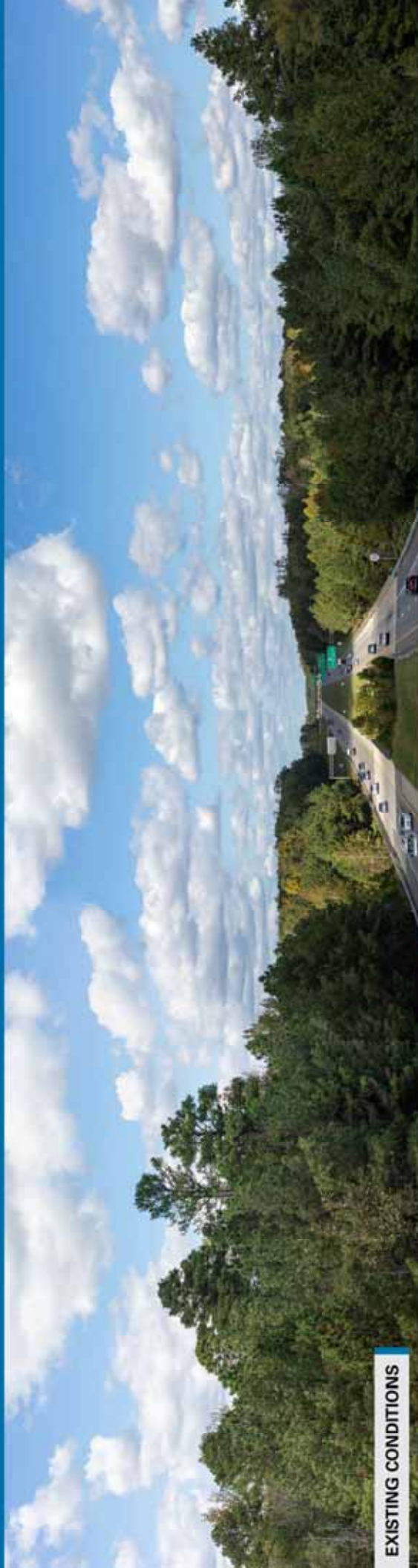
Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK

230 kV Project

Viewpoint 10

Date: 10/8/2025 Time: 1:02 pm Viewing Direction: North
Viewpoint Location Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK 230 kV Project

Viewpoint 11

Date: 10/6/2025 Time: 11:47 am Viewing Direction: Northwest

- Viewpoint Location
- Route 2
- Route 3
- Route 4
- Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK

230 kV Project

Viewpoint 11

Date: 10/6/2025 Time: 11:47 am Viewing Direction: Northwest

- Viewpoint Location
- Route 2
- Route 3
- Route 4
- Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

Viewpoint 12

Date: 10/6/2025 Time: 12:16 pm Viewing Direction: Northeast

- Viewpoint Location
- Route 2
- Route 3
- Route 4
- Route 5
- Proposed Substation



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

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WEST CREEK

230 kV Project

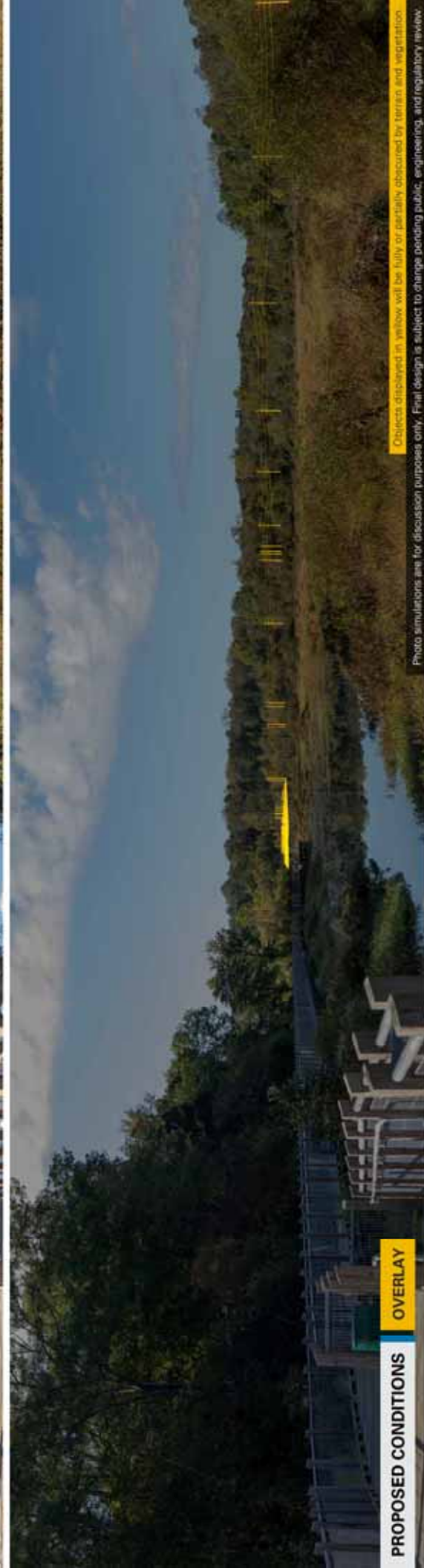
Viewpoint 13

Date: 10/8/2025 Time: 8:48 am Viewing Direction: Southwest

- Viewpoint Location
- Route 2
- Route 3
- Route 4
- Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

Viewpoint 14

Date: 10/6/2025 Time: 10:13 am Viewing Direction: Northwest
Viewpoint Location Route 2



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

Viewpoint 14

Date: 10/6/2025 Time: 10:13 am Viewing Direction: Northwest
Viewpoint Location Route 3



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

Viewpoint 14

Date: 10/6/2025 Time: 10:13 am Viewing Direction: Northwest
Viewpoint Location Route 4



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

Viewpoint 14

Date: 10/6/2025 Time: 10:13 am Viewing Direction: Northwest
Viewpoint Location Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS

OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

Viewpoint 15

Date: 10/6/2025 Time: 12:53 pm Viewing Direction: East

- Viewpoint Location
- Route 2
- Route 3
- Route 4
- Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK

230 kV Project

Viewpoint 16

Date: 10/6/2025 Time: 8:53 am Viewing Direction: Northwest
Viewpoint Location Route 2



EXISTING CONDITIONS



PROPOSED CONDITIONS



OVERLAY

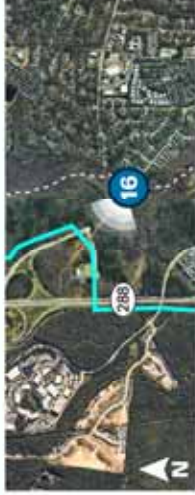
Objects displayed in yellow will be fully or partially obscured by terrain and vegetation. Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK

230 kV Project

Viewpoint 16

Date: 10/8/2025 Time: 8:53 am Viewing Direction: Northwest
Viewpoint Location Route 3



EXISTING CONDITIONS



PROPOSED CONDITIONS



OVERLAY

Objects displayed in yellow will be fully or partially obscured by terrain and vegetation. Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

WEST CREEK

230 kV Project

Viewpoint 16

Date: 10/8/2025 Time: 8:53 am Viewing Direction: Northwest

Viewpoint Location  Route 4



EXISTING CONDITIONS



PROPOSED CONDITIONS



OVERLAY

Photo simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review. Objects displayed in yellow will be fully or partially obscured by terrain and vegetation.

WEST CREEK

230 kV Project

Viewpoint 16

Date: 10/8/2025 Time: 8:53 am Viewing Direction: Northwest
Viewpoint Location Route 5



EXISTING CONDITIONS



PROPOSED CONDITIONS



OVERLAY

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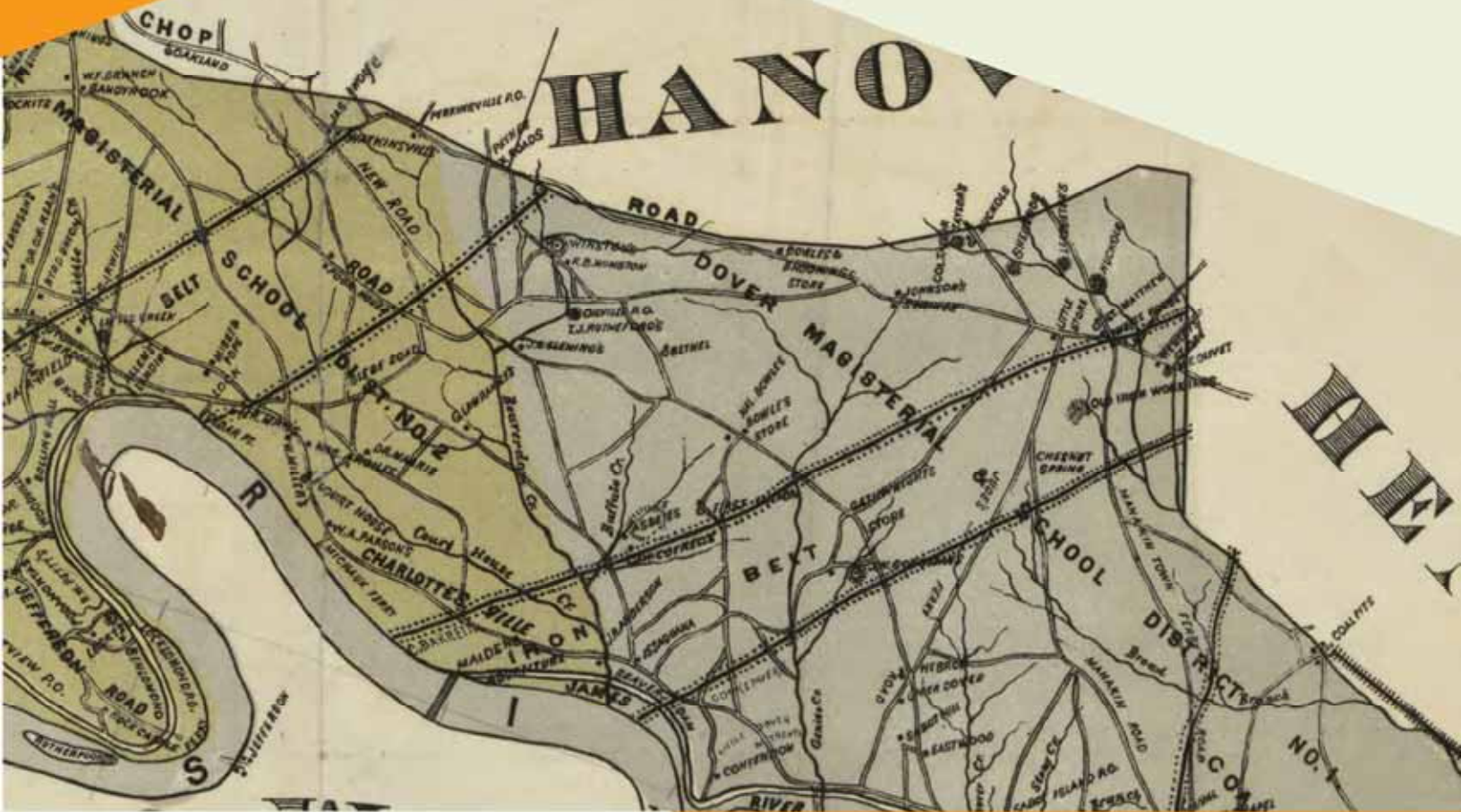
APPENDIX F

Stage 1 Pre-Application Analysis

Dutton + Associates

CULTURAL RESOURCE SURVEY, PLANNING, AND MANAGEMENT

a Timmons Group company



REPORT >

SCC Pre-Application Analysis
of Cultural Resources Survey
for the 230kV West Creek
Loop and Substation Project

REDACTED

LOCATION >

Goochland County, VA

DATE >

January 2026

PREPARED FOR >

Dominion Energy

PREPARED BY >

Dutton + Associates

VDHR FILE NO. >

Not Yet Assigned

www.dutton-associates.com

**SCC PRE-APPLICATION ANALYSIS
OF CULTURAL RESOURCES
FOR THE 230KV WEST CREEK LOOP AND SUBSTATION PROJECT
GOOCHLAND COUNTY, VIRGINIA**

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JANUARY 2026

ABSTRACT

In January 2026, Dutton + Associates, a Timmons Group company (D+A), completed a Pre-Application Analysis (analysis) of cultural resources for the 230kV West Creek Loop and Substation Project in Goochland County, Virginia. The analysis was performed for Dominion Energy Virginia (Dominion) in support of a State Corporation Commission (SCC) application. The analysis was conducted in accordance with Virginia Department of Historic Resources' (VDHR) guidance titled Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia (January 2008) and Commonwealth of Virginia State Corporation Commission Division of Public Utility Regulation Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia (August 2017).

The 230kV West Creek Loop and Substation Project entails the construction of a new 230 kilovolt ("kV") double circuit overhead transmission line (for a total of two circuits) extending approximately 6.5 miles in the West Creek vicinity of Goochland County. After review of the potential electrical solutions, Dominion is investigating four potential route alternatives for the project. All four route alternatives would generally require a new 100-foot ROW. The proposed structures for each route alternative would be centered within the new ROW and generally be steel monopoles with some 2-pole configurations at sharp angles. At this time, engineering is preliminary, and therefore detailed structure heights and locations are not known, however, for the purposes of this study, a typical structure height of 120 feet and a typical span length of 700 feet was utilized.

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

Review of the VDHR VCRIS inventory records revealed a total of 76 previously recorded architectural resources are located within 1.5 mile of the project route alternatives. Of these, there are no (0) NHLs located within 1.5 mile of the proposed project or closer, no (0) NRHP-listed properties located within 1.0 mile or closer of the project, and one (1) property that has been

determined eligible or potentially eligible for listing in the NRHP within 0.5 mile or closer of the project by the VDHR. This one resource is not directly crossed by any of the project route alternatives.

Assessment of impacts for the one NRHP-eligible property, the farm at 2105 Rockville Road (VDHR# 037-5238) found that the property is located near the northern terminus of the project, where all route alternatives generally share the same alignment for roughly 0.5 mile from the tap with the existing Line 2009 before Route 2 splits from the other route alternatives. All of the route alternatives are roughly 0.36 mile from the 2105 Rockville property at the nearest point, and the home is set back farther on a large rural property, roughly 0.81 mile at the closest point. The intervening landscape is gently rolling and a mix of open field and woodland. Due to the vegetation, coupled with the general downward slope from the property to the project, it is not expected that any of the route alternatives would be visible from the property. **Therefore, it is D+A's opinion that the project will not be visible from the property and will therefore result in no impact to the farm at 2105 Rockville Road per VDHR's impact characterization scale.**

Potential impacts summary for architectural resources.

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project	Recommended Impact
037-5238	Farm, 2105 Rockville Road	Potentially NRHP-Eligible	All Routes - ~0.36 Mile at nearest point	All Routes – No Impact

With regards to archaeology, portions of all route alternatives have been subject to previous phase I survey, although none have been surveyed in entirety. As a result of these surveys, four previously recorded sites are located directly within or crossed by the ROW of at least one of the project route alternatives. None of these sites have been formally evaluated for eligibility for listing in the NRHP. While no survey or formal assessment of impacts to archaeological sites was conducted as part of this effort, **it is D+A's opinion that any portions of the selected route alternative that have not been subject to previous cultural resource survey be investigated, and any sites identified should be assessed for existing conditions and project impacts as additional project construction details become available.**

Summary of potential impacts summary for archaeological resources.

VDHR #	Description	NRHP Status	Proximity to Project	Impacts
44GO0266	Camp	No Temporal Data	Not Evaluated	TBD
44GO0273	No Data	No Data	Not Evaluated	TBD
44GO0342	Camp, temporary, Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated	TBD
44GO0370	Farmstead	Archaic (8500 - 1201 B.C.), 18th Century: 2nd half (1750 - 1799), 19th Century: 1st half (1800 - 1849)	Not Evaluated	TBD

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1. INTRODUCTION

In January 2026, Dutton + Associates, a Timmons Group company (D+A), completed a Pre-Application Analysis (analysis) of cultural resources for the 230kV West Creek Loop and Substation Project in Goochland County, Virginia (Figure 1-1). The analysis was performed for Virginia Electric and Power Company (Dominion Energy Virginia, Dominion, or the Company) in support of an application to the State Corporation Commission (SCC) for a Certificate of Public Convenience and Necessity (CPCN). The analysis was conducted in accordance with Virginia Department of Historic Resources' (VDHR) guidance titled *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (January 2008) and Commonwealth of Virginia State Corporation Commission Division of Public Utility Regulation *Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia* (August 2017).

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

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

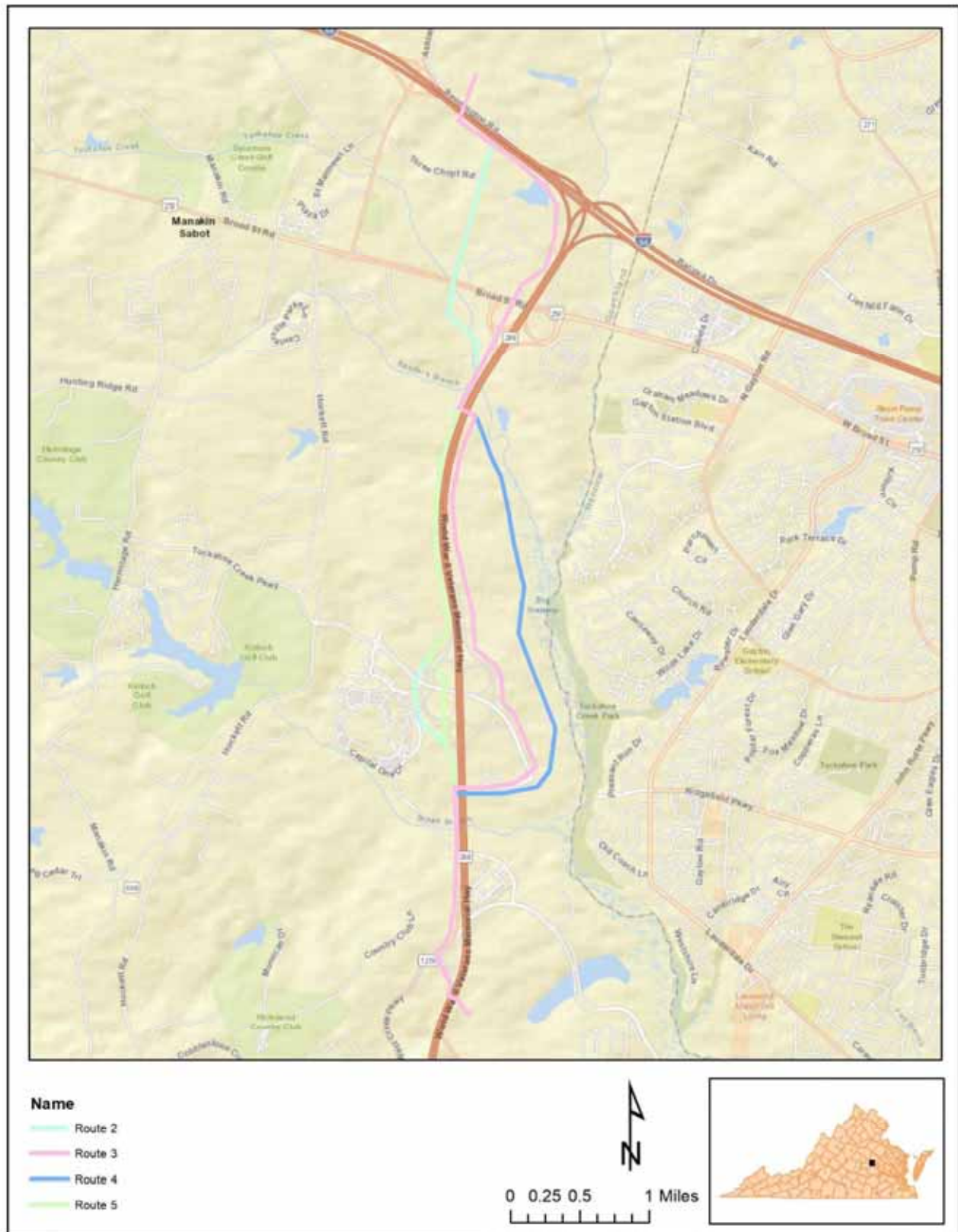


Figure 1-1: General location of the project.

2. PROJECT DESCRIPTION

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

- i. Construct one new 230 kilovolt (“kV”) double circuit overhead transmission line (for a total of two circuits) extending approximately 6.5 miles on new primarily 100-foot-wide right-of-way by cutting the existing 230 kV Line #2009 (Midlothian to Short Pump) and extending a new 230 kV double circuit loop in and out of West Creek Substation, resulting in new Line #2009 (Midlothian to West Creek) and Line #2510 (West Creek to Short Pump). The West Creek Lines will be constructed primarily with double circuit weathering steel monopoles utilizing three-phase twin-bundled 768.2 Aluminum Conductor Steel Supported/Trapezoidal Wire/High Strength (“ACSS/TW/HS”) type conductor with a summer transfer capability of 1,573 MVA.
- ii. Construct a new 230 kV substation in Goochland County, Virginia designed to accommodate an immediate four 230 kV breaker ring-bus configuration, expandable to an ultimate of six 230 kV breakers for potential future needs, on land provided by the Customer (“West Creek Substation”).

Collectively, the West Creek Lines and West Creek Substation, and related work are referred to as the “230 kV West Creek Loop and Substation” or the “Project.”

The Project is necessary to (i) ensure that Dominion Energy Virginia can adequately and reliably serve the Customer’s new manufacturing facilities in Goochland County, Virginia; (ii) reliably serve significant projected residential and commercial load growth identified in Goochland County, Virginia; (iii) maintain and ensure reliable electric service in Goochland County consistent with NERC Reliability Standards for the overall growth in the load area, which for purposes of this Application, is defined generally as the “Goochland Load Area”, thereby supporting economic growth in Goochland County and Virginia; and (iv) comply with mandatory NERC Reliability Standards.

At this time, Dominion is investigating four potential route alternatives for the project (Figure 2-1). All four route alternatives would generally require a new 100-foot ROW. The proposed structures for each route alternative would be centered within the new ROW and generally be steel monopoles with some 2-pole configurations at sharp angles. At this time, engineering is preliminary, and therefore detailed structure heights and locations are not known, however, for the purposes of the study, a typical structure height of 120 feet and a typical span length of 700 feet was utilized (Figure 2-2).



Figure 2-1: 230kV West Creek Loop and Substation Project Route Alternatives.

PROPOSED STRUCTURE TYPE

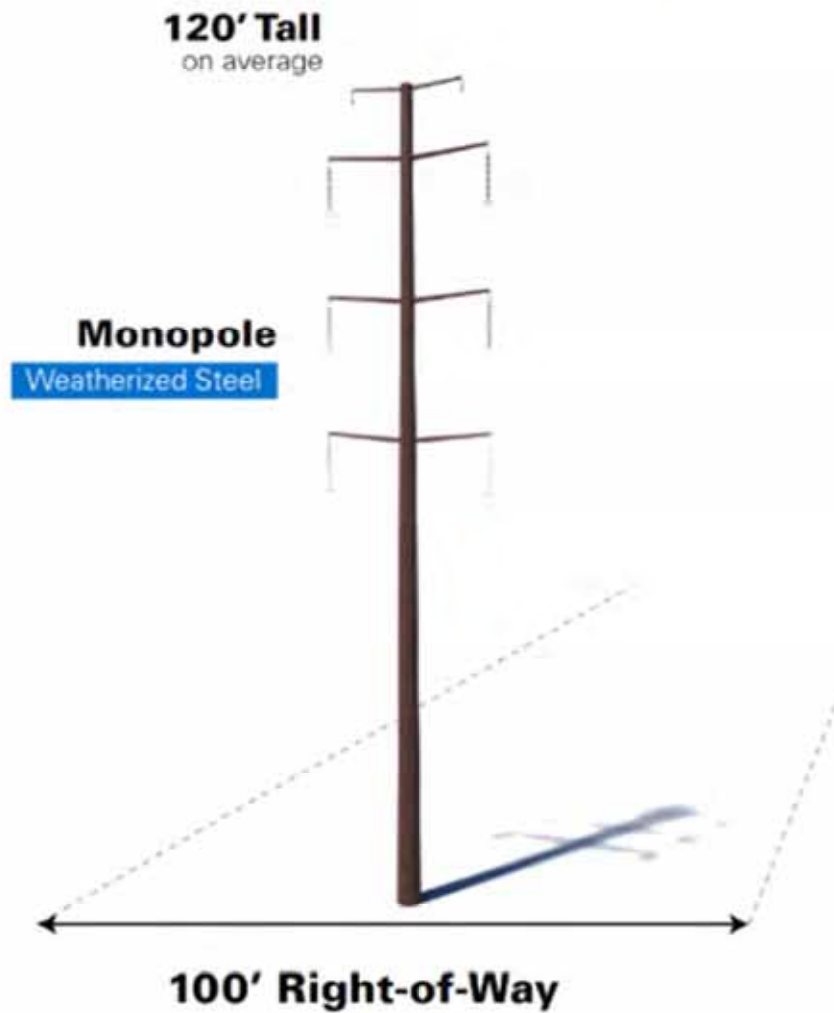


Figure 2-2: Detail of representative proposed typical structure. Source: Dominion Energy Virginia

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3. RESEARCH DESIGN

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

ARCHIVAL RESEARCH

In December 2025, D+A conducted archival research with the goal of identifying all previously recorded historic properties and any additional historic property locations referred to in historic documents and other archives, as well as consultation with local informants and other professionals with intimate knowledge of the project area as appropriate. Background research was conducted at the VDHR and on the internet and included the following sources:

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

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

FIELD RECONNAISSANCE

Field reconnaissance included visual inspection of historic properties within the study tiers, although no inspection of archaeological sites or subsurface testing was performed at this time. Visual inspection included digital photo documentation of each property's existing conditions including its setting and views toward the proposed project. Photographs were taken of primary resource elevations, general setting, and existing viewsheds. All photographs were taken from public right-of-way or where property access was granted.

ASSESSMENT OF POTENTIAL IMPACTS

Following identification and field inspection of historic properties, D+A assessed each architectural resource for potential impacts brought about by the proposed project in accordance

with VDHR's *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (January 2008). Assessment of impacts was conducted through a combination of field inspection, digital photography, review of topography and aerial photography, 3D modeling, and photo simulation. When utilized, 3D modeling and photo simulation was conducted from representative vantage points within or near each resource property deemed most likely to have a change in visibility as a result of the project. These models and simulations are a representation of what the project may look like based upon conceptual data available at the time of the effort.

Archaeological assessment was not conducted as part of this effort and is therefore limited to desktop review of project improvements in relation to previously delineated site boundaries. Existing conditions of sites remain unknown at this level of investigation.

When assessing impacts, D+A considered those qualities and characteristics that qualify the property for listing and whether the project has the potential to alter or diminish the integrity of the property and its associated significance. Specific attention was given to determining whether or not the proposed project would introduce new visual elements into a property's viewshed, which would either directly or indirectly alter those qualities or characteristics that qualify the historic property for listing in the NRHP. Identified impacts were characterized as severe, moderate, minimal, or none in accordance with the following guidance from the VDHR:

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

REPORT PREPARATION

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

4. ARCHIVES SEARCH

This section includes a summary of efforts to identify previously known and recorded cultural resources within the defined study tiers. It includes lists, maps, and descriptive data on all previously conducted cultural resource surveys and previously recorded architectural resources and archaeological sites according to the VDHR archives and VCRIS database. Because the alternatives for the 230kV West Creek Loop and Substation Project are all within close proximity of one another within a relatively small defined space, a single tiered buffer that encompasses all alternatives was used for this analysis, however, proximity to individual route alternatives is noted as pertinent for identified resources.

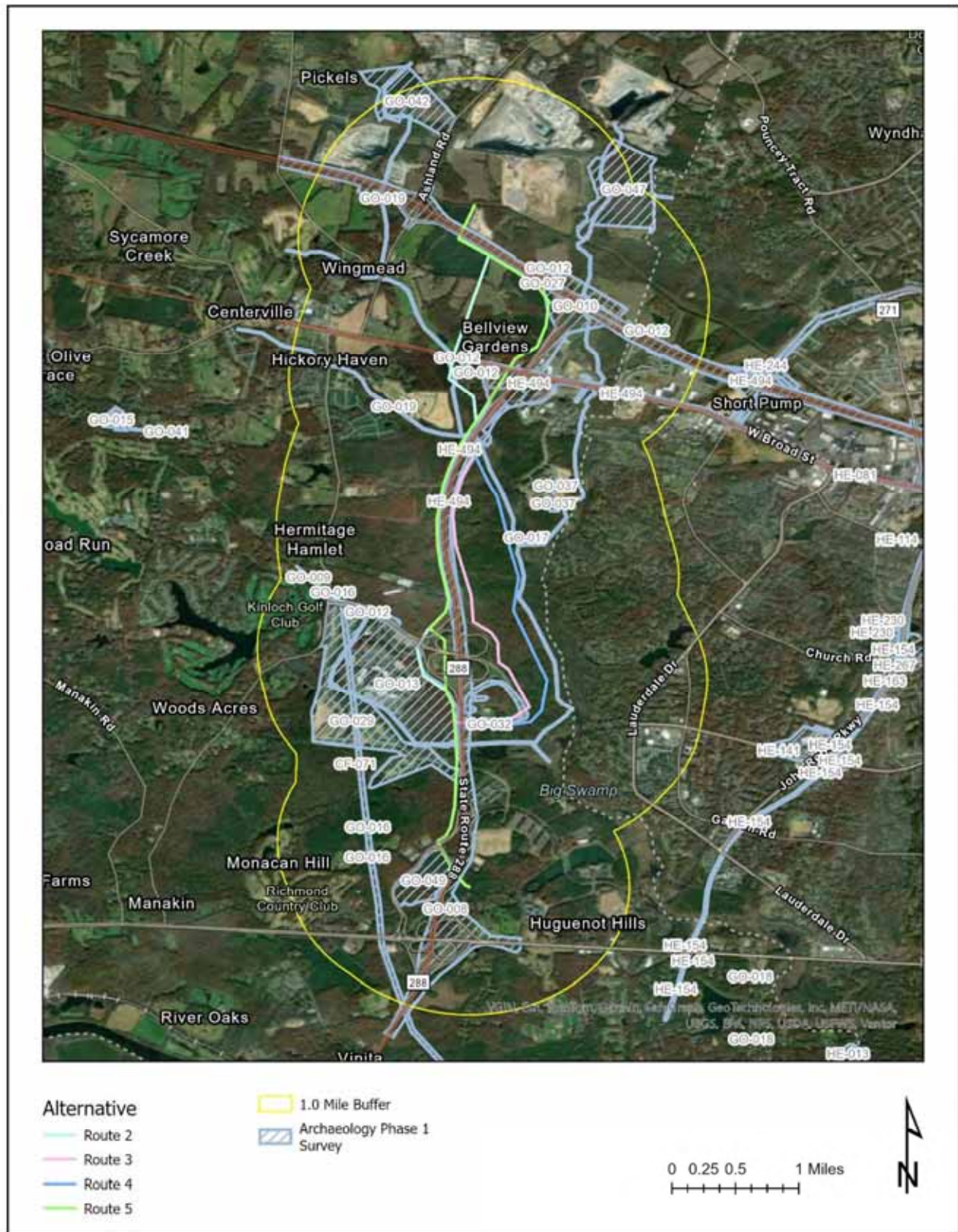
PREVIOUSLY SURVEYED AREAS

VDHR and VCRIS records indicate that there have been eighteen (18) prior Phase I cultural resource surveys within 1-mile of the project study area, including ten (10) that overlap with or included portions of the ROW for one or more of the project alternatives. These surveys are at a minimum archaeological in nature, although some include architectural resources as well. The 10 surveys that include portions of ROW for one or more project alternative were conducted primarily for transportation and utility-related projects, as well as some private development projects. As a result of these prior surveys, portions of each of the four route alternatives have been subject to previous investigation, although none have been surveyed in entirety. The 10 previously conducted cultural resource surveys that include portions of the individual route ROWs are listed in Table 4-1. A detail of those surveys that include portions of the project ROWs is illustrated in Figure 4-1.

Table 4-1: Previously conducted cultural resource surveys that include portions of ROW for one or more project alternatives. Source: VDHR.

VDHR Survey #	Title	Author	Date
GO-008	Phase I Cultural Resource Investigations of Proposed State Route 288 Project, Goochland County, Virginia	LBG	1996
GO-010	Archaeological Survey of Interstate 64 - Route 288 Interchange, Goochland County, Virginia	LBG	1998
GO-013	The Archaeological Identification Survey of Approximately 319 Acres for a Proposed Office Development, Goochland County, Virginia	GP	2000
GO-017	Archaeological Survey of the Proposed Tuckahoe Creek Service District Gravity Sewer and Archaeological Evaluation of Site 44GO357, Goochland County, Virginia	LBG	2003
GO-019	Archaeological Survey, Three Phases of the Proposed Tuckahoe Creek Service District Gravity Sewer, Goochland County, Virginia	LBG	2004
GO-027	An Archaeological Survey for Improvements to I-64, Henrico and Goochland Counties, Virginia	CRI	2012
GO-029	Mosaic Property, Goochland, Virginia, Phase I Cultural Resources Investigation	TAA	2018

VDHR Survey #	Title	Author	Date
GO-032	Phase I Cultural Resources Survey of the West Creek Medical Center Shared Entrance Road Right-of-Way and Utility Right-of-Ways, Goochland County, Virginia	CIRCA	2011
GO-049	Phase IB Archaeological Assessment of the Richmond Delivery Station Property, Goochland County, Virginia	AAHA	2024
HE-494	Management Summary for an Architectural Survey for the Short Pump Area Transportation Improvements Project–Preferred Alternative, Goochland and Henrico Counties, Virginia	CRAI	2024



ARCHITECTURAL RESOURCES

Review of the VDHR VCRIS inventory records revealed a total of 76 previously recorded architectural resources are located within 1.5 mile of the project route alternatives. Of these, there are no (0) NHLs located within 1.5 mile of the proposed project or closer, no (0) NRHP-listed properties located within 1.0 mile or closer of the project, and one (1) property that has been determined eligible or potentially eligible for listing in the NRHP within 0.5 mile or closer of the project by the VDHR. This one resource is not directly crossed by any of the project route alternatives.

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

Table 4-2: Previously recorded architectural resources within their respective tiered buffer zones around the 230kV West Creek Loop and Substation Alignments

Buffer (miles)	Considered Resources	VDHR #	Description	Proximity to Project
1.5	National Historic Landmarks	None	None	
1.0	National Historic Landmarks	None	None	
	National Register- Listed	None	None	
	Battlefields	None	None	
	Historic Landscapes	None	None	
0.5	National Historic Landmarks	None	None	
	National Register- Listed	None	None	
	Battlefields	None	None	
	Historic Landscapes	None	None	
	National Register- Eligible	037-5238	Farm, 2105 Rockville Road	Routes 2, 3, 4, 5
	Locally Recognized	None	None	
0.0 (ROW)	National Historic Landmarks	None	None	
	National Register- Listed	None	None	
	Battlefields	None	None	
	Historic Landscapes	None	None	
	National Register- Eligible	None	None	

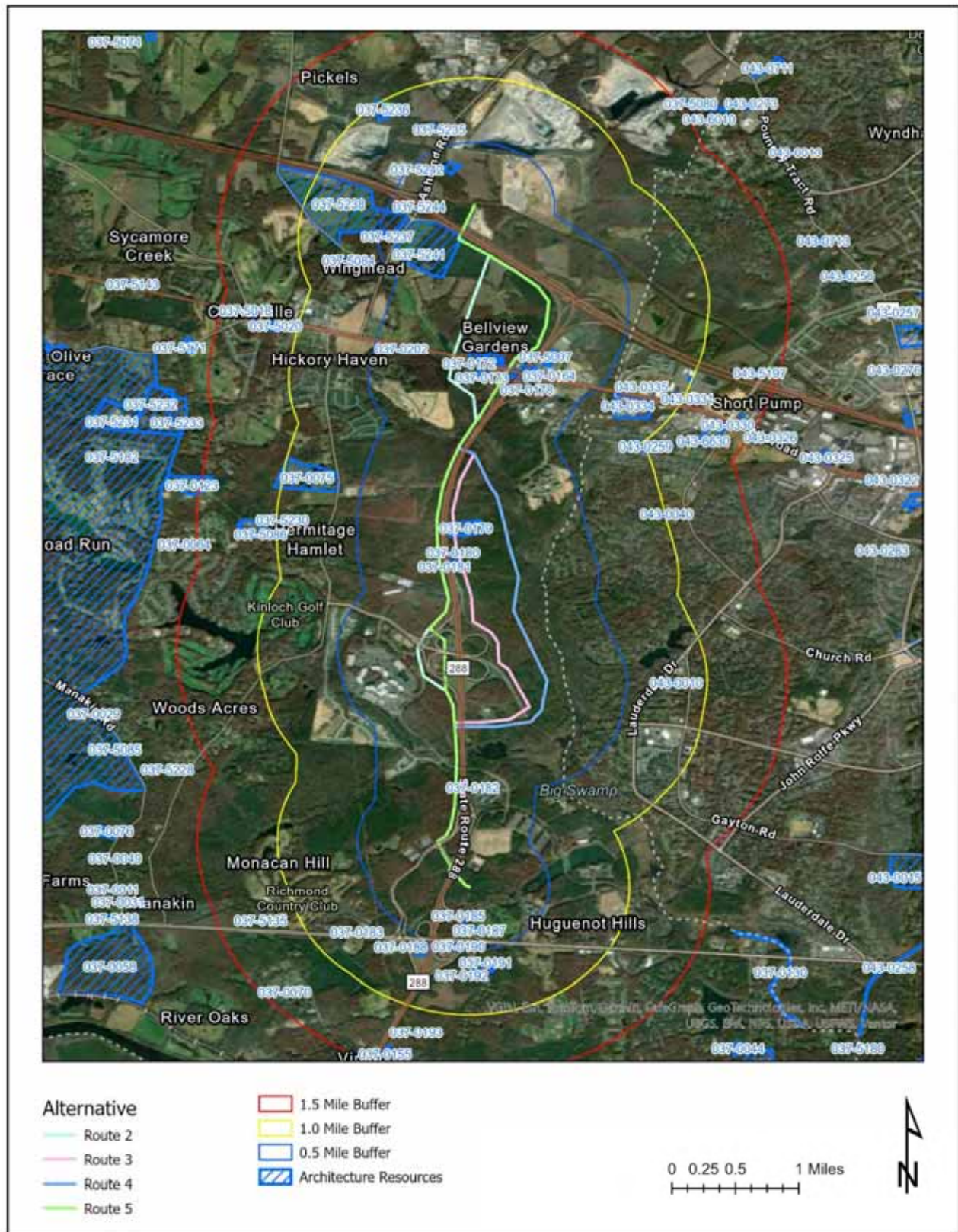
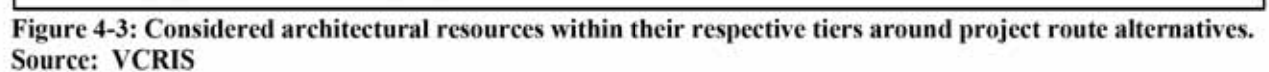


Figure 4-2: All previously identified architectural resources within 1.5-miles of the project route alternatives.
Source: VCRIS



NPS AMERICAN BATTLEFIELD PROTECTION PROGRAM (ABPP)

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

ARCHAEOLOGICAL SITES

Review of the VDHR VCRIS records reveals there are sixty-four (64) previously recorded archaeological sites within one mile of the project route alternatives. These include prehistoric lithic scatters and camps; as well as historic domestic sites, farmsteads, canal features, a cemetery, kiln, and trash scatters. Of these, one (1) has been determined potentially eligible for listing in the NRHP, sixteen (16) have been determined not eligible for listing, and the remaining sites have not been formally evaluated. Four (4) of the sites are located directly within or crossed by the ROW of at least one of the project route alternatives. None of these four sites have been formally evaluated by the VDHR for eligibility for listing in the NRHP.

Table 4-3 lists all previously recorded archaeological resources within one-mile of the project route alternatives and Table 4-4 provides additional information on those that are located within or crossed by a project route alternative. Figure 4-4 illustrates the locations of all previously recorded sites within one mile of the project route alternatives and Figure 4-5 details the locations of sites located within or adjacent to the ROW for project alternatives.

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

VDHR #	Type	Temporal Association	NRHP Status
44GO0250	Other	Middle Archaic (6500 - 3001 B.C.), 19th Century (1800 - 1899)	Not Evaluated
44GO0251	Artifact scatter	Pre-Contact, Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	DHR Staff: Not Eligible
44GO0252	Trash scatter	19th Century (1800 - 1899)	Not Evaluated
44GO0253	Other, Trash scatter	Archaic (8500 - 1201 B.C.), 19th Century (1800 - 1899)	Not Evaluated
44GO0262	No Data	No Data	Not Evaluated
44GO0263	No Data	No Data	Not Evaluated
44GO0264	No Data	No Data	Not Evaluated
44GO0265	No Data	No Data	Not Evaluated
44GO0266	Camp	No Data	Not Evaluated
44GO0267	Camp	No Data	Not Evaluated
44GO0268	No Data	No Data	Not Evaluated
44GO0269	Other	No Data	Not Evaluated
44GO0271	Dwelling, single	No Data	Not Evaluated
44GO0272	No Data	No Data	Not Evaluated
44GO0273	No Data	No Data	Not Evaluated
44GO0274	No Data	No Data	Not Evaluated
44GO0275	Farmstead	No Data	Not Evaluated
44GO0276	No Data	No Data	Not Evaluated
44GO0277	No Data	No Data	Not Evaluated
44GO0287	Other	20th Century: 2nd quarter (1925 - 1949)	Not Evaluated
44GO0294	No Data	Middle Archaic (6500 - 3001 B.C.)	Not Evaluated

VDHR #	Type	Temporal Association	NRHP Status
44GO0295	No Data	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44GO0296	No Data	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44GO0297	No Data	No Data	Not Evaluated
44GO0301	No Data	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44GO0302	No Data	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44GO0303	No Data	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44GO0304	No Data	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44GO0333	Canal	19th Century: 2nd quarter (1825 - 1849)	Not Evaluated
44GO0338	Farmstead	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), 19th Century: 2nd half (1850 - 1899), 20th Century: 1st quarter (1900 - 1924)	Not Evaluated
44GO0340	Farmstead	19th Century (1800 - 1899), 20th Century: 1st quarter (1900 - 1924)	Not Evaluated
44GO0341	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44GO0342	Camp, temporary, Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44GO0343	Farmstead	18th Century: 4th quarter (1775 - 1799), 20th Century: 1st quarter (1900 - 1924)	Not Evaluated
44GO0344	Other	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44GO0347	No Data	19th Century: 2nd half (1850 - 1899)	Not Evaluated
44GO0348	Farmstead	19th Century: 2nd half (1850 - 1899)	Not Evaluated
44GO0349	Camp	No Data	Not Evaluated
44GO0350	No Data	No Data	DHR Staff: Not Eligible
44GO0351	No Data	No Data	DHR Staff: Not Eligible
44GO0356	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44GO0357	Camp	Woodland (1200 B.C. - 1606 A.D.)	DHR Staff: Eligible
44GO0358	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44GO0359	No Data	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44GO0360	Mill	18th Century: 4th quarter (1775 - 1799), 20th Century (1900 - 1999)	DHR Staff: Not Eligible
44GO0370	Farmstead	Archaic (8500 - 1201 B.C.), 18th Century: 2nd half (1750 - 1799), 19th Century: 1st half (1800 - 1849)	Not Evaluated
44GO0371	Road	19th Century (1800 - 1899), 20th Century (1900 - 1999)	Not Evaluated
44GO0372	Dwelling, single	20th Century (1900 - 1999)	DHR Staff: Not Eligible
44GO0375	Artifact scatter, Dwelling, multiple, Lithic scatter	Early Archaic Period (8500 - 6501 B.C.E), Middle Archaic Period (6500 - 3001 B.C.E), Late Archaic Period (3000 - 1201 B.C.E), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)	Not Evaluated

VDHR #	Type	Temporal Association	NRHP Status
44GO0376	Lithic scatter	Pre-Contact, Paleo-Indian (15000 - 8501 B.C.E), Early Archaic Period (8500 - 6501 B.C.E), Middle Archaic Period (6500 - 3001 B.C.E), Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606), Contact Period (1607 - 1750)	DHR Staff: Not Eligible
44GO0377	Lithic scatter	Pre-Contact, Paleo-Indian (15000 - 8501 B.C.E), Early Archaic Period (8500 - 6501 B.C.E), Middle Archaic Period (6500 - 3001 B.C.E), Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606), Contact Period (1607 - 1750)	DHR Staff: Not Eligible
44GO0378	Artifact scatter, Lithic scatter	Pre-Contact, Paleo-Indian (15000 - 8501 B.C.E), Early Archaic Period (8500 - 6501 B.C.E), Middle Archaic Period (6500 - 3001 B.C.E), Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606), Contact Period (1607 - 1750), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)	DHR Staff: Not Eligible
44GO0381	Cemetery	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated
44GO0382	Cemetery	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Not Evaluated
44GO0386	Dwelling, single	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	DHR Staff: Not Eligible
44GO0387	Dwelling, single	Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991), Post Cold War (1992 - Present)	DHR Staff: Not Eligible
44GO0394	Lithic scatter	Pre-Contact	DHR Staff: Not Eligible
44GO0395	Dwelling, single	World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	DHR Staff: Not Eligible
44GO0396	Dwelling, single	World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	DHR Staff: Not Eligible
44HE0241	No Data	Archaic (8500 - 1201 B.C.), Woodland (1200 B.C. - 1606 A.D.)	Not Evaluated
44HE0522	Dwelling, single	18th Century: 2nd/3rd quarter (1725 - 1774)	Not Evaluated
44HE0782	Mine, coal	19th Century (1800 - 1899)	Not Evaluated
44HE0783	Mine, coal	19th Century (1800 - 1899), 20th Century: 1st quarter (1900 - 1924)	Not Evaluated
44HE0894	No Data	Early Archaic (8500 - 6501 B.C.), Middle Archaic (6500 - 3001 B.C.), Late Archaic (3000 - 1201 B.C.)	Not Evaluated

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

VDHR #	Description	NRHP Status	Proximity to Project
44GO0266	Camp; No Temporal Data	Not Evaluated	Crossed by Route 4
44GO0273	No Data; No Data	Not Evaluated	Crossed by Route 4
44GO0342	Camp, temporary, Lithic scatter; Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated	Crossed by Route 3
44GO0370	Farmstead; Archaic (8500 - 1201 B.C.), 18th Century: 2nd half (1750 - 1799), 19th Century: 1st half (1800 - 1849)	Not Evaluated	Crossed by Route 4

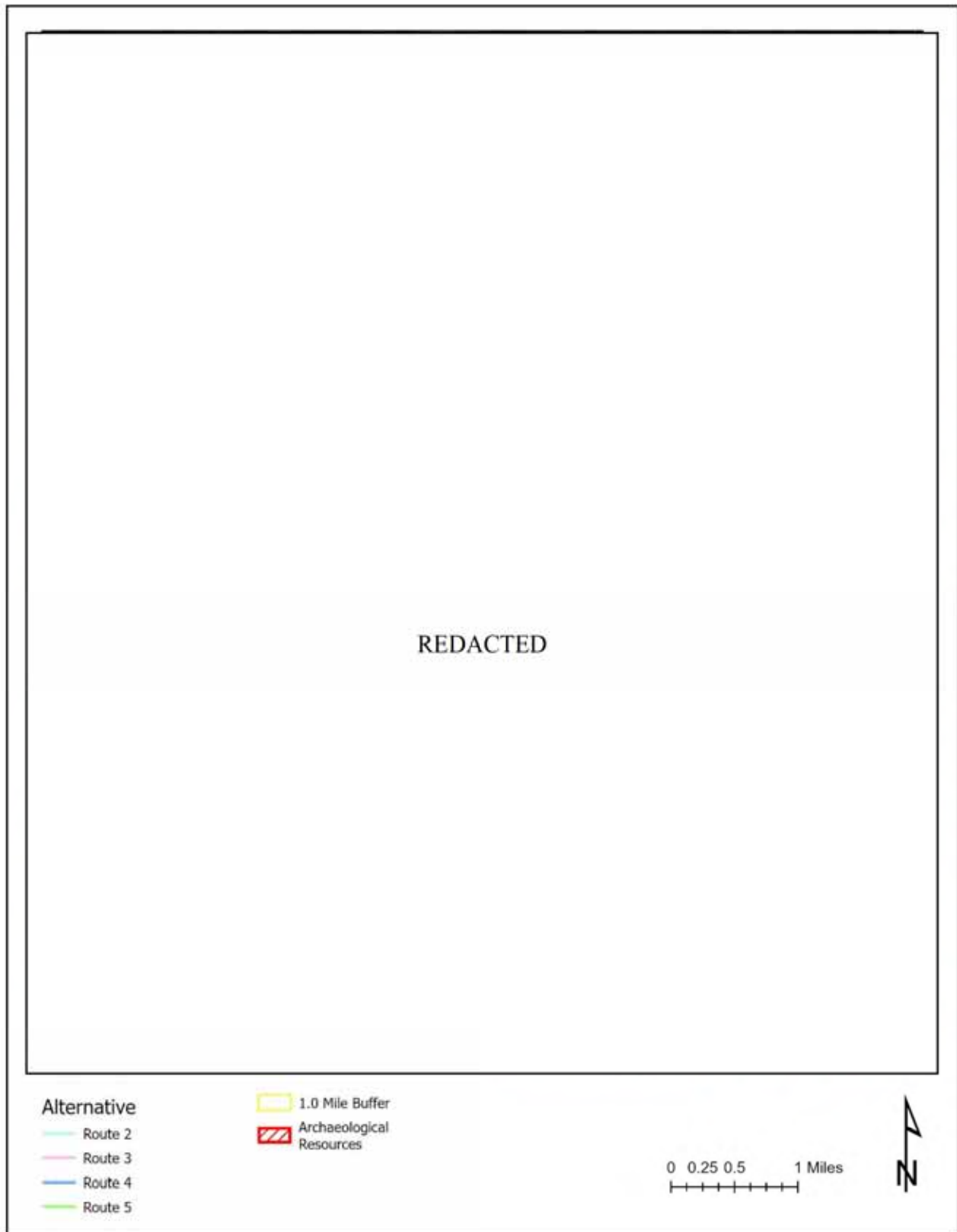


Figure 4-4: Previously recorded archaeological resources located within 1- mile of project route alternatives.
Source: VCRIS

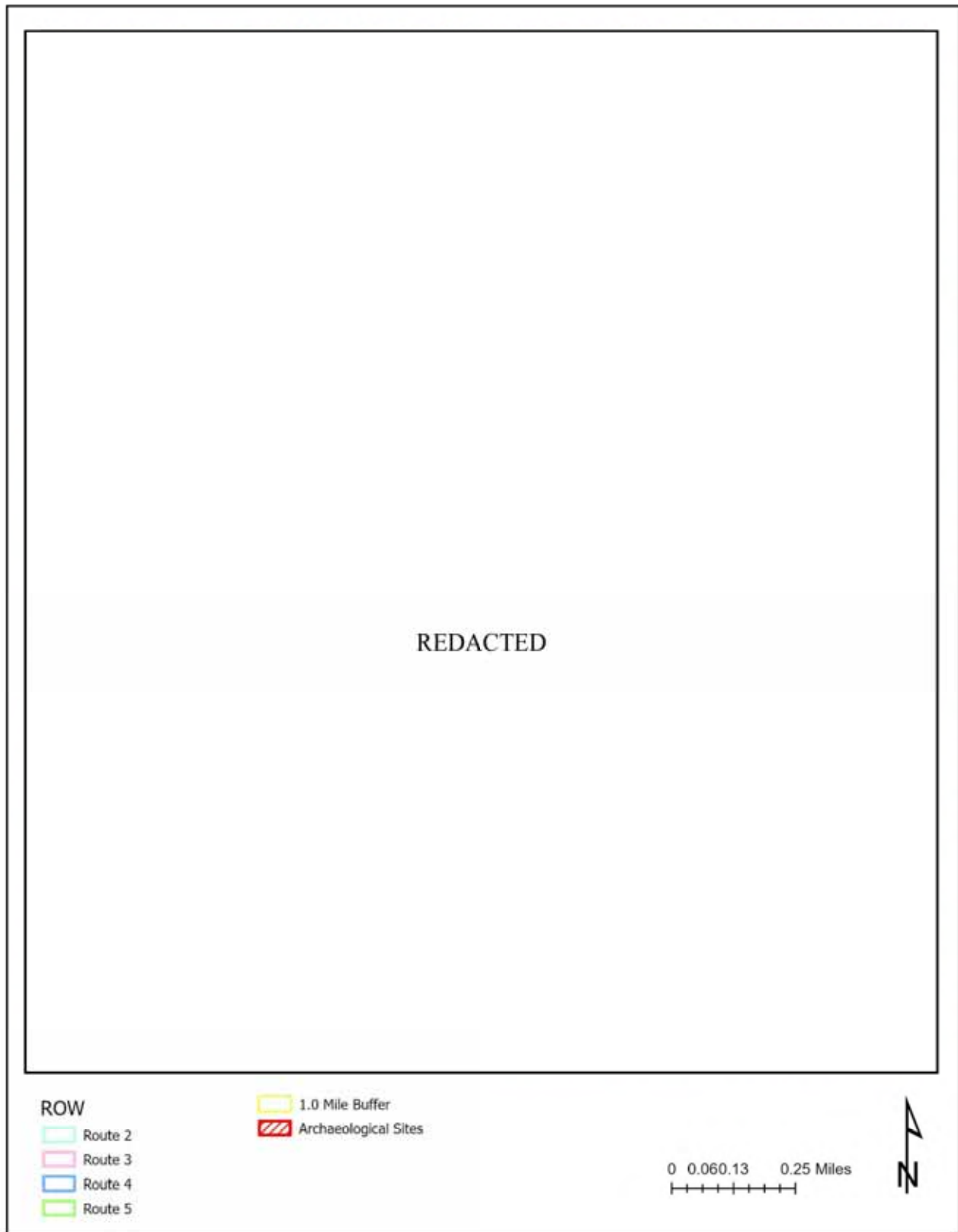


Figure 4-5: Detail of previously recorded archaeological sites located within or crossed by the ROW of a project route alternative. Source: VCRIS

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5. RESULTS OF FIELD RECONNAISSANCE

In accordance with the VDHR guidelines for assessing impacts of proposed electric transmission lines on historic resources, historic properties identified within the VDHR-defined study tiers around the project study area were field verified for existing conditions and photo documented (Table 5-1). Inspection and analysis of the setting around the resource and views towards the project alternatives were also conducted to assess potential project impacts. The results of the field reconnaissance for each resource are summarized in the following pages.

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

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project
037-5238	Farm, 2105 Rockville Road	Potentially NRHP-Eligible	All Routes— ~0.36 Mile

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VDHR# 037-5238
Farm, 2105 Rockville Road



Source: VCRIS 2023

The farm house located at 2105 Rockville Road is a two-story residence that reflects a Dutch Colonial Revival style. In addition to the primary home, the property also includes a variety of barns, silos, an office, a pool, a lamppost, and a well house all set on a rural property with active agricultural fields. While local records suggest a construction date of 1947, previous investigation reveals a home was present in roughly the same location on historic maps as early as 1863 and therefore further investigation would need to be conducted to conclusively determine its age and evolution. The building was last documented in 2023, and no visible changes were observed at that time. The building was previously noted as an outstanding and architecturally distinctive example of the Colonial Revival style and in 2025, the VDHR determined it to be *potentially eligible* for listing in the NRHP.

As a potentially *NRHP-eligible* resource located within the study tiers around the project route alternatives, an assessment of potential impacts was conducted. The property is located near the northern terminus of the project where all route alternatives follow the same corridor before splitting to follow alternative corridors. As such, all route alternatives are located approximately 0.36 mile away from the property boundary of the farm at 2105 Rockville Road at the nearest point. Therefore, there will be no direct impact to the resource.

To assess potential indirect, and specifically visual impacts, a site visit was made to the property to inspect the existing setting and viewshed with emphasis on views towards the project and route alternatives. Photographs were taken from the public right of way along the road bordering the property towards the project to document current conditions and lines of sight. A photo simulation was prepared to model the proposed appearance and visibility of the proposed transmission structures from the front of the property.

The farm at 2105 Rockville Road is situated on the north side of Rockville Road on a roughly 228-acre rural property. The home rests near the northern edge of the property, setback roughly 1,300 feet from the road on a manicured and landscaped homesite. The majority of associated buildings and structures are set in close proximity to the house within a fenced yard area. The rest of the property is comprised primarily of agricultural fields and pasture, divided by treelines. Interstate-64 extends along the northern edge of the property.

The project will extend in a generally north-south configuration through the landscape to the east of the property. The northern terminus of the project is at the tap point of an existing transmission line just north of I-64 and east of Rockville Road, located roughly 0.41 mile to the northeast of the property. From this point, all project route alternatives follow the same alignment south and east for roughly 0.5 mile before Route 2 splits off from the other routes. All route alternatives are roughly 0.36 mile away from the nearest edge of the property although the home is set farther away at approximately 0.81 mile distance. The landscape between the property and the project routes is gently rolling and comprised of alternating open fields and wooded areas.

Because the primary house at 2105 Rockville Road is set back from the road at the end of a long private lane, inspection was conducted from the road frontage along Rockville Road. From vantage points along the road, including at the driveway, at the furthest corner, and nearest corner of the property, views in the direction of the project are interrupted and screened by intervening vegetation. The thick woodland that borders the eastern edge of the property screens all distant views in that direction.

The proposed transmission structures along the selected project route alignment are anticipated to be an average of 120 feet in height. Because of the distance between the project and the property coupled with the intervening landscape and topography, it is not expected that any of the route alternatives would be visible from the resource. The wooded areas throughout the intervening landscape are thick and mature with a mix of deciduous and evergreen vegetation that would provide year-round screening. The topography also generally slopes down from the property towards the project, so that the elevation of the project route alternatives ranges from roughly 250-265 feet above sea level, while the elevation of the property ranges from 260-285. As such, the project is anticipated to be below the line of sight created by the height and thickness of the intervening wooded areas. As such, none of the project route alternatives are anticipated to be visible from the property or any vantage points along public road frontage bordering the property. This was confirmed with photo simulation conducted from the road along the front of the property that illustrates all proposed structures will remain screened behind and beneath the treeline.

As such, the project will not introduce any change in setting or viewshed of or from the farm at 2105 Rockville Road, or publicly accessible vantage points along the road in the vicinity. Therefore, it is D+A's opinion that the project *will not be visible from the property* and will therefore result in ***no impact*** to the farm at 2105 Rockville Road per VDHR's impact characterization scale.

Figure 5-1 illustrates the location of the farm at 2105 Rockville Road in relation to the project route alternatives and study buffers, with the location and direction of representative photographs

and photo simulation. Representative photographs and simulations are provided in Figure 5-2 through Figure 5-6.

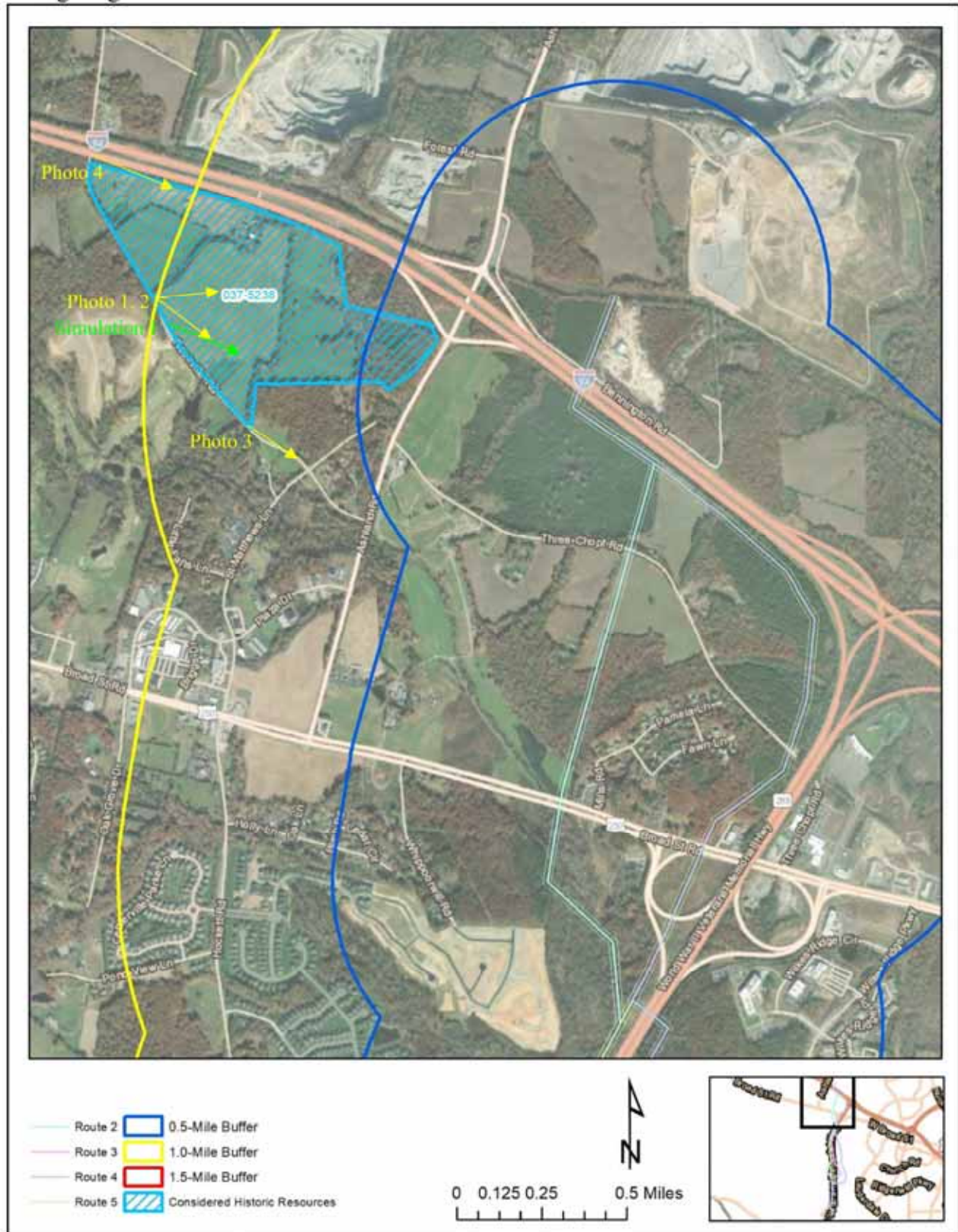


Figure 5-1: Farm 2105 Rockville Road in relation to the project alignment with locations and directions of representative photographs shown in yellow and simulations in green.

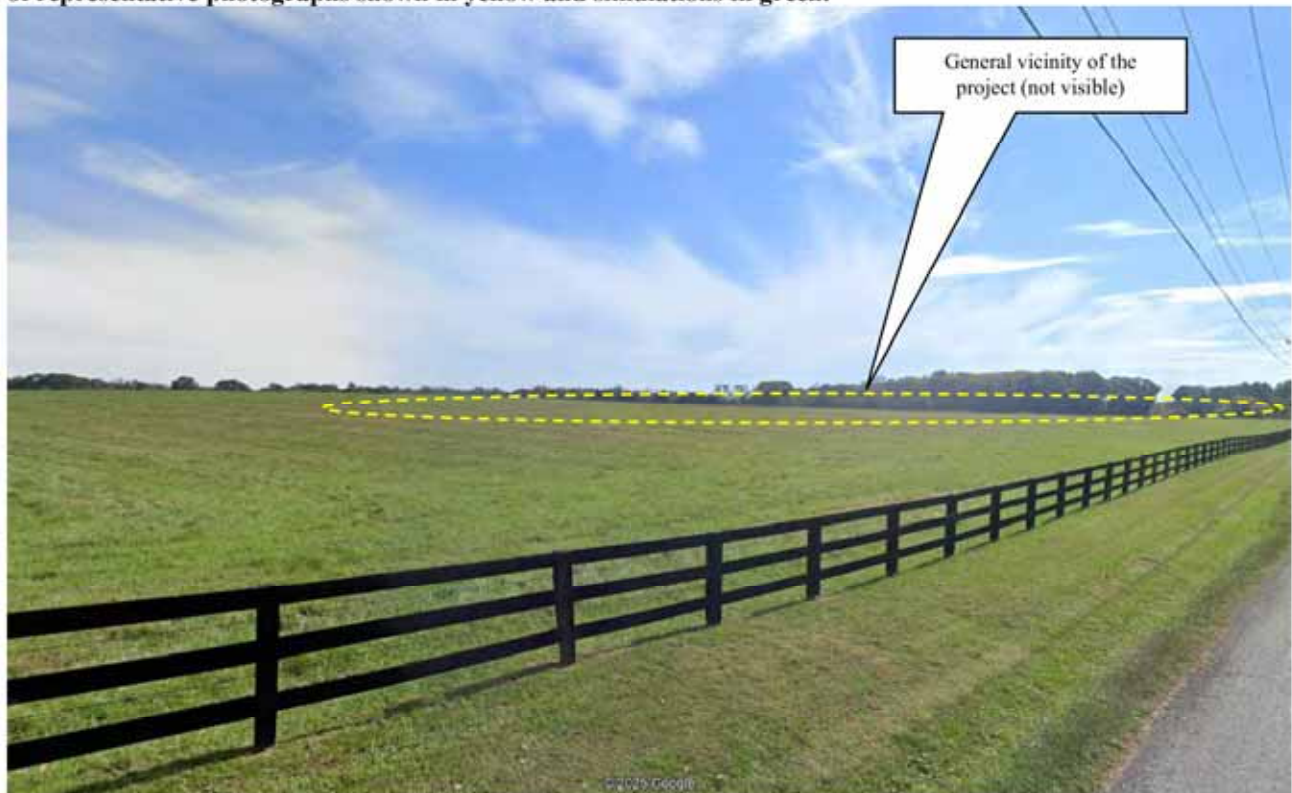


Figure 5-2: Photo location 1- View from Rockville Road at driveway to property, facing east.



Figure 5-3: Photo location 2 – View from Rockville Road at driveway to property, facing southeast.



Figure 5-4: Photo location 3 – View from Rockville Road at eastern edge of property, facing southeast.



Figure 5-5: Photo location 3 – View from Rockville Road at western edge of property, facing east.





Figure 5-6: Photo Simulation 1 – Existing (above) and proposed (below) view from Rockville Road in front of 2105 Rockville Road property, facing east. Proposed view models structures on all route alternatives. All structures (shown in route color) are to remain screened behind vegetation.

6. ARCHAEOLOGICAL ASSESSMENT

A review of the VDHR VCRIS records reveals there are four previously recorded archaeological sites located within or crossed by the ROW of at least one project route alternative. Formal archaeological fieldwork and investigations were not conducted as part of this effort, so the existing conditions of the sites are unknown. Project engineering is also still preliminary so the final project alignment, structure locations, and extent of grading and limits of disturbance are uncertain; however, the table below provides a list of the previously recorded sites and proximity to the project based upon previous site data and preliminary project information available at time of this analysis.

Of the four previously recorded sites within the ROW of at least one route alternative, none have been formally evaluated for eligibility for listing in the NRHP by the VDHR (Table 6-1).

Table 6-1: Previously recorded archaeological resource located within or crossed by the ROW of a project route alternative.

VDHR #	Site Type	Temporal Association	NRHP Status	Proximity to Project
44GO0266	Camp	No Temporal Data	Not Evaluated	Crossed by Route 4
44GO0273	No Data	No Data	Not Evaluated	Crossed by Route 4
44GO0342	Camp, temporary, Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated	Crossed by Route 3
44GO0370	Farmstead	Archaic (8500 - 1201 B.C.), 18th Century: 2nd half (1750 - 1799), 19th Century: 1st half (1800 - 1849)	Not Evaluated	Crossed by Route 4

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7. SUMMARY OF POTENTIAL IMPACTS

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

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

With regards to architectural resources, there are no (0) NHLs located within 1.5 mile of the proposed project or closer, no (0) NRHP-listed properties located within 1.0 mile or closer of the project, and one (1) property that has been determined eligible or potentially eligible for listing in the NRHP within 0.5 mile or closer of the project by the VDHR. The one potentially NRHP-eligible property is not directly crossed by any of the project route alternatives.

Assessment of impacts for the one NRHP-eligible property, the farm at 2105 Rockville Road (VDHR# 037-5238) found that the property is located near the northern terminus of the project, where all route alternatives generally share the same alignment for roughly 0.5 mile from the tap with the existing Line 2009 before Route 2 splits from the other route alternatives. All of the route alternatives are roughly 0.36 mile from the 2105 Rockville property at the nearest point, and the home is set back farther on a large rural property, roughly 0.81 mile at the closest point. The intervening landscape is gently rolling and a mix of open field and woodland. Due to the vegetation, coupled with the general downward slope from the property to the project, it is not expected that any of the route alternatives would be visible from the property. *Therefore, it is D+A's opinion that the project will not be visible from the property and will therefore result in no impact to the farm at 2105 Rockville Road per VDHR's impact characterization scale.*

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

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project	Recommended Impact
037-5238	Farm, 2105 Rockville Road	Potentially NRHP-Eligible	All Routes - ~0.36 Mile at nearest point	All Routes – No Impact

With regards to archaeology, portions of all route alternatives have been subject to previous phase I survey, although none have been surveyed in entirety. As a result of these surveys, four previously recorded sites are located directly within or crossed by the ROW of at least one of the project route alternatives. None of these sites have been formally evaluated for eligibility for listing in the NRHP. While no survey or formal assessment of impacts to archaeological sites was conducted as part of this effort, *it is D+A's opinion that any portions of the selected route alternative that have not been subject to previous cultural resource survey be investigated, and any sites identified should be assessed for existing conditions and project impacts as additional project construction details become available (Table 6-2).*

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

VDHR #	Description	NRHP Status	Proximity to Project	Impacts
44GO0266	Camp	No Temporal Data	Not Evaluated	TBD
44GO0273	No Data	No Data	Not Evaluated	TBD
44GO0342	Camp, temporary, Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated	TBD
44GO0370	Farmstead	Archaic (8500 - 1201 B.C.), 18th Century; 2nd half (1750 - 1799), 19th Century; 1st half (1800 - 1849)	Not Evaluated	TBD

8. REFERENCES

National Park Service

2009 “Civil War Sites Advisory Commission Report Update and Resurvey,” American Battlefield Protection Program

Virginia Department of Historic Resources

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

Virginia Department of Historic Resources

2016 Virginia Cultural Resource Information System (VCRIS) database and GIS server.

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APPENDIX G

Route Comparison Table

230 kV West Creek Loop and Substation
Appendix G – Route Comparison Table

Feature ^a	Unit	Route 2	Route 3	Route 4	Route 5
ROUTE LENGTH AND CONSTRUCTION FOOTPRINT					
Route Length	miles	5.85	6.50	6.51	6.01
Permanent Construction Footprint ^b	acres	76.01	83.80	83.94	77.91
Structures	number	52	59	59	54
ROUTING OPPORTUNITIES					
Parallel to Existing Roads	miles	2.25	5.31	2.47	3.33
Parallel to Existing Roads and other Existing Utility Easements	miles	1.75	0.14	0.14	1.72
Parallel to Existing Utility Easements	miles	0.00	0.00	1.95	0.00
LAND USE					
Land Ownership					
Parcels crossed (total)	number	28	40	48	28
Private	number	28	40	48	28
Public	number	0	0	0	0
Landowners ^c	number	24	34	42	22
Land Use/Land Cover					
Forested	acres (miles)	61.84 (4.78)	68.28 (5.25)	71.27 (5.50)	62.57 (4.79)
Agricultural	acres (miles)	3.29 (0.28)	1.25 (0.13)	1.25 (0.13)	1.25 (0.13)
Developed	acres (miles)	2.24 (0.16)	3.51 (0.26)	2.59 (0.20)	2.86 (0.22)
Open Land	acres (miles)	8.62 (0.63)	10.75 (0.86)	8.83 (0.68)	11.23 (0.87)
Open Water	acres (miles)	0.02 (0.00)	0.01 (0.00)	0.00 (0.00)	0.00 (0.00)
Residences and Other Structures					
Dwellings within ROW	number	0	0	0	0
Dwellings within 60 feet of ROW	number	0	0	0	0
Dwellings within 100 feet of centerline	number	0	0	0	0
Dwellings within 250 feet of centerline	number	2	1 ^d	0	0
Dwellings within 500 feet of centerline	number	5	1 ^d	0	0
Non-residential buildings within ROW	number	0	0	0	0
Non-residential buildings within 500 feet of centerline	number	7	7	6	6
Cemeteries, Schools, and Places of Worship					
Cemeteries within 500 feet of centerline	number	0	0	0	0
Schools within 500 feet of centerline	number	0	0	0	0
Places of Worship within 500 feet of centerline	number	0	0	0	0
Conservation Lands					
Open Space Easements	acres (miles)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Other Conservation Easements	acres (miles)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Zoning ^e					
Agricultural Limited (A2)	acres	21.37	20.47	20.47	20.47

230 kV West Creek Loop and Substation
Appendix G – Route Comparison Table

Feature ^a	Unit	Route 2	Route 3	Route 4	Route 5
	(miles)	(1.76)	(1.69)	(1.69)	(1.69)
Business General (B1)	acres (miles)	0.41 (0.03)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Industrial Limited (M1)	acres (miles)	45.16 (3.34)	48.53 (3.67)	50.74 (3.80)	40.27 (2.94)
Residential General (R3)	acres (miles)	0.16 (0.01)	1.01 (0.08)	1.01 (0.08)	1.01 (0.08)
Residential Planned Unit Development (RPUD)	acres (miles)	1.23 (0.10)	1.23 (0.10)	1.23 (0.10)	1.23 (0.10)
County Overlay Districts					
Route 250 Design Overlay District	miles (percent)	0.48 (8%)	0.34 (5%)	0.34 (5%)	0.34 (6%)
Technology Overlay District	miles (percent)	4.48 (76%)	4.62 (71%) ^f	4.98 (76%) ^f	4.20 (70%)
Technology Overlay District West	miles (percent)	0.18 (3%)	0.18 (3%)	0.18 (3%)	0.18 (3%)
Planned and Future Developments					
Planned Developments Crossed	number (miles)	2 (0.31)	2 (0.31)	2 (0.31)	2 (0.31)
Future Developments Crossed	number (miles)	1 (0.10)	3 (0.68)	3 (0.82)	2 (0.41)
Transportation (crossings)					
Local Roads	number	7	7	5	6
State Highways and On/Off Ramps	number	4	7	7	7
Railroads	number	0	0	0	0
Pipelines	number	1	1	1	1
VDOT right-of-way	acres miles	7.68 (0.61)	12.26 (0.96)	10.49 (0.84)	14.93 (1.20)
Structures in VDOT right-of-way	number	3	5	4	7
NATURAL RESOURCES					
Wetlands ^g					
Wetlands Affected - Total	acres	14.36	9.67	16.03	8.61
Palustrine Forested	acres	12.32	8.41	13.99	7.55
Palustrine Emergent/Palustrine Scrub Shrub	acres	1.03	0.68	1.44	0.53
Riverine	acres	1.01	0.58	0.60	0.53
Waterbodies					
Waterbodies Total	number	33	23	27	22
NHD Mapped Perennial	number	6	4	4	4
NHD Mapped Intermittent	number	4	6	6	3
Other - Desktop Delineated	number	23	13	17	15
Forest Conservation Value					
Average	acres	28.85	30.93	27.83	33.54
Moderate	acres	18.09	16.81	8.35	12.21
High	acres	2.54	8.96	22.18	2.54
Very High	acres	0.00	0.34	1.97	0.00
Outstanding	acres	0.00	0.00	0.00	0.00
NRCS Soil Classification					
Prime Farmland	acres	6.95	11.12	15.09	8.28
Prime Farmland if Drained	acres	0.76	0.76	1.78	0.76
Farmland of Statewide Importance	acres	50.22	62.78	55.13	60.01

230 kV West Creek Loop and Substation
Appendix G – Route Comparison Table

Feature ^a	Unit	Route 2	Route 3	Route 4	Route 5
Ecological Cores					
Outstanding	number (acres)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
Very High	number (acres)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
High	number (acres)	0 (0.00)	1 (20.32)	1 (27.33)	0 (0.00)
Moderate	number (acres)	2 (10.72)	2 (2.51)	2 (2.51)	2 (10.72)
General	number (acres)	3 (6.88)	1 (0.81)	1 (0.81)	3 (4.43)
Protected Species					
Bald eagle nests within 330 feet	number	0	0	0	0
Bald eagle nests within 660 feet	number	0	0	0	0
CULTURAL RESOURCES					
Archaeological sites within ROW	number	0	1	3	0
NRHP eligible and NRHP-listed properties, NHLs, Battlefields, and Historic Landscapes within ROW	number	0	0	0	0
NRHP eligible and NRHP-listed properties, NHLs, Battlefields, and Historic Landscapes within 0.5 mile	number	0	0	0	0
NRHP eligible and NRHP-listed properties, NHLs, Battlefields, and Historic Landscapes between 0.5 and 1.0 mile	number	1	1	1	1
NHLs between 1.0 and 1.5 miles	number	0	0	0	0
Historic Districts Crossed	number	0	0	0	0
NRHP-listed Battlefields Crossed	number	0	0	0	0
NRHP eligible Battlefields Crossed	number	0	0	0	0
Battlefields (National Park Service ABPP) Crossed	number	0	0	0	0

Notes: ABPP = American Battlefield Protection Program; NHD = National Hydrography Dataset; NHL = National Historic Landmark; NRCS = Natural Resources Conservation Service; NRHP = National Register of Historic Places; ROW = right-of-way; VDHR = Virginia Department of Historic Resources; VDOT = Virginia Department of Transportation

^a The sum of the addends may not equal the totals due to rounding

^b Each route requires new right-of-way for its entire length. Acre numbers in this table represent the total right-of-way required and includes the 5.11 acres required for the proposed West Creek Substation.

^c It should be noted that multiple parcels along each route are owned by West Creek Associates and other LLCs which have unique landowner names but are all owned by the same entity. When taking this into account, Route 2 would impact 16 landowners, Route 3 would impact 14 landowners, Route 4 would impact 13 landowners, and Route 5 would impact 15 landowners.

^d The one residence located within 250 and 500 feet from Route 3 is abandoned and associated with an unevaluated aboveground historic resource.

^e VDOT rights-of-way do not have zoning designations in Goochland County zoning data, as such the sum of the zoning categories for each route does not total the route length.

^f Interior "paper" road on the east side of Route 288 that is in the Goodland County parcel layer is not included in the TOD, however it is the Company's understanding that this road is subject to change based on future development. As such, when including crossings of this road within the TOD, Route 3 crosses 4.92 miles (77%) in the TOD and Route 4 crosses 5.05 miles (78%).

^g Based on results of the desktop wetland review (Appendix C).

APPENDIX H

Goochland County Letters

BOARD OF SUPERVISORS

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Dr. Jeremy J. Raley
County Administrator

Sara Worley
Deputy County Administrator

Josh Gillespie, AICP
Deputy County Administrator

www.goochlandva.us

December 11, 2025

Jeff Koestner
Dominion Energy Virginia
5000 Dominion Blvd
Glen Allen, VA 23060

RE: West Creek 230 kV Electric Transmission Project

Dear Mr. Koestner:

Goochland County is in support of Dominion Energy's proposed and expedited transmission line to support connecting Eli Lilly's proposed manufacturing facility in West Creek. With this \$5 billion dollar investment, the new facility will create 1,800 construction jobs and 650 permanent jobs in Goochland County.

Furthermore, the location of the new manufacturing facility is the County's approved Technology Overlay District (TOD), which is consistent with the County's planned uses for that area and economic goals. In addition to promoting jobs and economic development in the County, the TOD was also designed to provide additional protections for nearby residents through buffers, setbacks, and other parameters.

The County supports Dominion Energy's proposed project route and overhead construction, which is located away from residents and in areas the County believes likely will be developed by non-residential uses. Relatedly, the County supports Dominion Energy's request to their regulator, the Virginia State Corporation Commission, to voluntarily obtain 60 additional feet of right of way to secure a place for the location of an additional transmission line in the future, which is consistent with the County's development plans for the TOD area.

Sincerely,

Jeremy Raley, Ed.D
County Administrator



Economic Development Authority

December 15, 2025

Jeff Koestner
Dominion Energy Virginia
5000 Dominion Blvd
Glen Allen, VA 23060
RE: West Creek 230 kV Electric Transmission Project

Dear Mr. Koestner:

The Goochland County Economic Development Authority (EDA) is in support of Dominion Energy's proposed and expedited transmission line to support connecting Eli Lilly's proposed manufacturing facility in West Creek. The mission of the Economic Development Authority is to attract, cultivate, and retain diverse business in Goochland County by promoting economic growth through commercial, and industrial development while preserving Goochland's agricultural heritage. This new proposed and expedited transmission line enhances critical infrastructure in Goochland County that will support the EDA's mission of promoting economic growth. The transmission line will directly support the \$5 billion dollar investment Eli Lilly is making in Goochland, which will lead to 1,800 construction jobs and 650 permanent jobs in the Goochland community.

Furthermore, the location of the new manufacturing facility is in the County's approved Technology Overlay District (TOD), which is consistent with the County's planned uses for that area and economic goals. The new transmission line will enhance the business readiness of West Creek and the TOD, making it more attractive for future investment from new and existing industries, supporting the economic growth goals of Goochland County.

The Goochland Economic Development Authority endorses Dominion Energy's proposed project route and overhead construction, which is located away from residents and in areas the County believes likely will be developed by non-residential uses. In addition, the EDA supports Dominion Energy's request to their regulator, the Virginia State Corporation Commission, to voluntarily obtain 60 additional feet of right of way to secure a place for the location of an additional transmission line in the future, which is consistent with the County's development plans for the TOD area.

Sincerely,

A handwritten signature in dark ink, appearing to read "Ben Slone", with a stylized flourish at the end.

Ben Slone
Chairman
Goochland County Economic Development Authority