

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 Duval-Midlothian Lines and Duval Substation

Application No. 351

Case No. PUR-2025-00073

Filed: April 24, 2025

Volume 2 of 3

# COMMONWEALTH OF VIRGINIA BEFORE THE STATE CORPORATION COMMISSION

APPLICATION OF

VIRGINIA ELECTRIC AND POWER COMPANY

FOR APPROVAL AND CERTIFICATION OF ELECTRIC TRANSMISSION FACILITIES

230 kV Duval-Midlothian Lines and Duval Substation

Application No. 351

**DEQ Supplement** 

Case No. PUR-2025-00073

Filed: April 24, 2025

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Based on consultations with the Virginia Department of Environmental Quality ("DEQ"), Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") has developed this DEQ Supplement to facilitate review and analysis of the proposed 230 kV Duval-Midlothian Lines and Duval Substation (the "Project") by DEQ and other relevant agencies.

# 1. **Project Description**

In order to serve significant projected residential and commercial load growth identified by Dominion Energy Virginia's Distribution Planning group, to maintain and ensure reliable service for the overall load growth in the area thereby supporting economic development in Chesterfield County and Virginia, and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, the Company proposes in Chesterfield County, Virginia, to:

- Construct two new 230 kilovolt ("kV") double circuit overhead transmission lines (for a total of four circuits) extending approximately 7.1 miles on new primarily 160-foot-wide right-of-way<sup>1</sup> from the Company's existing Midlothian Substation to the proposed new Duval Substation in Chesterfield County, Virginia, resulting in (i) Duval-Midlothian Line #2448, (ii) Duval-Midlothian Line #2449, (iii) Duval-Midlothian Line #2453, and (iv) Duval-Midlothian Line #2454 (the "Duval-Midlothian Lines"). The Duval-Midlothian Lines will be constructed primarily with double circuit weathering steel monopoles utilizing twin-bundled three-phase 768.2 Aluminum Conductor Steel Supported/Trapezoidal Wire/High Strength ("ACSS/TW/HS") type conductor with a summer transfer capability of 1,573 MVA.
- Construct a new 230-34.5 kV substation in Chesterfield County, Virginia, within property rights to be obtained by the Company ("Duval Substation") and perform minor substation-related work at and expansion of the Company's existing Midlothian Substation.<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> The Company will need expanded right-of-way width in one location along the Duval-Midlothian Lines to accommodate engineering requirements. Specifically, for approximately 780 feet between proposed Structure #2453/56 / #2449/56 and Structure #2453/58 / #2449/58, the Company proposes to expand to a 250-foot-wide right-of-way (an additional 90 feet) approaching the Duval Substation in order to transition from a vertical configuration (monopoles) to a horizontal configuration (H-frames) and then back to a vertical configuration (monopoles) to match substation phasing. *See* Attachment II.B.3.d of the Appendix.

<sup>&</sup>lt;sup>2</sup> To accommodate termination of the Duval-Midlothian Lines at the Midlothian Substation, transmission-related work will be required within the Company's existing property rights. Specifically, four existing lines coming into and out of the Midlothian Substation will need to be reconfigured to accommodate termination of the Duval-Midlothian Lines, including 230 kV Midlothian-Short Pump Line #2009, 230 kV Bremo-Midlothian Line #2027, 230 kV Midlothian-Spruance Non-Utility Generator ("NUG") Line #282, and 500 kV Midlothian-North Anna Line #576. The Project will not require reconfiguration of Midlothian-Trabue Line #2066. The reconfiguration of these four lines will include the following work entirely within the Company's existing property rights: (i) replacing one steel double dead-end H-frame structure on Line #2009 (Structure #2009/1) with one steel double dead-end H-frame structure on Line #2027 (Structure #2027/1B) with two steel double dead-end three-pole structures (Structure #2009/1), (ii) replacing one concrete double dead-end H-frame structure on Line #282 (Structure #282/1C), and (iv) replacing two steel double dead-end tower structures on Line #576 (Structures #576/208 and #576/209) with two steel double dead-end three-pole structures (Structure #282/1C), and (iv) replacing two steel double dead-end tower structures on Line #576 (Structures #576/208 and #576/209) with two steel double dead-end three-pole structures (Structures #576/208). While components of the proposed Project, the Company considers the transmission-related work described herein, all of which is

The Duval-Midlothian Lines and Duval Substation and related work are referred to as the "Western Chesterfield Electric Transmission Project" or the "Project."<sup>3</sup>

The Project is necessary to (i) ensure that Dominion Energy Virginia can adequately and reliably serve significant projected residential and commercial load growth identified in Chesterfield County, Virginia; (ii) maintain and ensure reliable electric service consistent with NERC Reliability Standards for the overall growth in the load area, which for purposes of this Application, is defined generally as the area south of Genito and Otterdale Roads, west of the Swift Creek Reservoir and the Woodlake area, north of the Appomattox River and Winterpock area, and east of the Amelia and Powhatan County borders located in western Chesterfield County, Virginia (the "Western Chesterfield Load Area"), thereby also supporting economic development in Chesterfield County and Virginia. As discussed in Section I.C, the Company's primary sources of distribution power in the Western Chesterfield Load Area-including the existing Genito, Midlothian, and Winterpock Substations-cannot serve the identified projected load due to practical considerations, geographic constraints, and/or the lack of available capacity. Accordingly, the Company is proposing the Project to serve the projected residential and commercial load identified in the delivery point ("DP") request beginning in 2028 and increasing to approximately 134 MW by 2038, as well as to support future load growth identified in DP requests totaling approximately 900 MW of projected load by 2033 in the Western Chesterfield Load Area by constructing the Duval-Midlothian Lines as two new 230 kV double circuit overhead transmission lines.

The Company identified an approximately 7.1-mile overhead proposed route for the Duval-Midlothian Lines (the "Proposed Route" or "Route 3B"),<sup>4</sup> an approximately 8.6-mile overhead

entirely within the Company's existing property rights, to qualify as an "ordinary extension[] or improvement[] in the usual course of business" (*i.e.*, "ordinary course") pursuant to § 56-265.2 A 1 of the Code of Virginia ("Va. Code") and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a certificate of public convenience and necessity ("CPCN") from the State Corporation Commission (the "Commission"). Importantly, (i) no more than two structures will be removed on each of Lines #2009, #2027, #282, and #576; (ii) for any of the structures being replaced, none of the proposed structures will be more than 20% taller than the existing structures; and (iii) all of the work will be entirely within the Company's existing property rights. This is consistent with the Commission Staff's July 6, 2017 guidance (available at <a href="https://scc.virginia.gov/getdoc/7f6ec0f6-7d14-4ca9-bd8a-9bd2511c5cdb/StaffGuidanceOrdvsNonOrd.pdf">https://scc.virginia.gov/getdoc/7f6ec0f6-7d14-4ca9-bd8a-9bd2511c5cdb/StaffGuidanceOrdvsNonOrd.pdf</a>). As a component of the proposed Project, the costs associated with the transmission-related work described above on Lines #2009, #2027, #282, and #576 have been included in the total transmission-related conceptual costs. Should the Commission grant such CPCNs as part of its final order in this proceeding.

<sup>&</sup>lt;sup>3</sup> For outreach purposes, the Company also has referred to the Project as the "Western Chesterfield 230 kV Electric Transmission Improvement Project."

<sup>&</sup>lt;sup>4</sup> The Company's Underground Engineering group reviewed underground construction of the Duval-Midlothian Lines and determined that while it is permittable and technically feasible to route the underground lines following the overhead Proposed Route (Route 3B), constructing the Project in such a manner would require an additional five years for completion (2033), meaning it could not meet the need date for the Project (June 1, 2028). The Underground Engineering group further determined that constructing the Duval-Midlothian Lines underground

alternative route ("Alternative Route 2B" or "Route 2B"), and an approximately 7.5-mile overhead alternative route ("Alternative Route 3A" or "Route 3A"), all of which the Company is proposing for Commission consideration and notice. Discussion of the Proposed and Alternative Routes, as well as other overhead, underground, or overhead/underground hybrid routes that the Company studied but ultimately rejected, is provided in Section II of the Appendix and discussed in more detail in the Routing Study included with the Application.

In accordance with the Company's Facility Interconnection Requirements ("FIR") document and to reliably serve identified projected load growth in the Western Chesterfield Load Area, the proposed Duval Substation initially will be constructed with an air insulated substation ("AIS") 230 kV ring bus with six 4000 amp ("A") circuit breakers, four 230 kV line terminals, and other associated equipment, including a control enclosure to accommodate the protective relay, communications, and security cabinets. The total area of the proposed Duval Substation within the substation fence is approximately 5.1 acres.

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

While the Company is proposing only overhead construction of the Duval-Midlothian Lines, Section V.A of the Appendix provides notice of the Proposed Route (Route 3B) of the Project regardless of whether the proposed Duval-Midlothian Lines utilize overhead construction, underground construction, or a hybrid combination thereof along that route. A description of the overhead Proposed and Alternative Routes for the Duval-Midlothian Lines is as follows:

## **Duval-Midlothian Lines**

## Proposed Route (Route 3B)

The Proposed Route (Route 3B) is approximately 7.1 miles in length. Beginning at the Company's existing Midlothian Substation, located off Dry Bridge Road south of the Midlothian Turnpike in western Chesterfield County, the Proposed Route heads southeast on Company property for about 0.3 mile. The Proposed Route turns southwest to follow the north and then south side of the Norfolk Southern Railway railroad for about 1.3 miles. At the intersection of Hallsboro Road, the Proposed Route turns south for about 1.8 miles between

would cost approximately \$902.4 million—more than nine times the transmission-related costs associated with overhead construction of the lines along the Proposed Route (Route 3B) of approximately \$93.1 million. For these reasons, the Company rejected underground construction of the Duval-Midlothian Lines along the overhead Proposed Route (Route 3B). However, if the Commission were to select underground construction of the Duval-Midlothian Lines along the overhead Proposed Route (Route 3B), the Company asserts that all property owners along Route 3B would have received notice of the Project, which should be sufficient regardless of whether the lines utilize overhead construction or underground construction. The same would be true for overhead/underground hybrid construction of the lines along the overhead and at the appropriate time. *See* Section 4.3.2 of the Environmental Routing Study (or "Routing Study") for discussion of underground and overhead/underground hybrid construction of the Duval-Midlothian Lines and the challenges associated with constructing the Project underground.

residential areas of Mount Hermon Road and Brightwalton Road. The Proposed Route turns southwest for about 2.5 miles crossing Genito Road, the eastern extents of Horner Park, and currently undeveloped, forested areas. The Proposed Route crosses into Chesterfield County Economic Development Authority's Upper Magnolia Green – West development from the north and continues for 1.2 miles to reach the proposed Duval Substation site, located off Duval Road and west of the Otterdale Road intersection.

## Alternative Route 2B

Alternative Route 2B is 8.6 miles in length. Beginning at the Company's existing Midlothian Substation, located off Dry Bridge Road, south of the Midlothian Turnpike in western Chesterfield County, Alternative Route 2B heads southeast on Company property for about 0.3 mile. The route turns southwest to follow the north and then south side of the Norfolk Southern Railway railroad for about 1.3 miles. At the intersection of Hallsboro Road, Alternative Route 2B turns south for 0.2 mile and then turns west. Alternative Route 2B continues south of the railroad and Mount Hermon Road for 1.3 miles. The route turns northwest to follow the railroad for an additional 0.6 mile. Alternative Route 2B turns south for 1.6 miles crossing currently undeveloped, forested areas. Alternative Route 2B crosses Genito Road and continues for about two miles heading southwest then southeast across currently undeveloped, forested properties. Alternative Route 2B crosses into Chesterfield County Economic Development Authority's Upper Magnolia Green – West development from the west and continues for 1.3 miles to reach the proposed Duval Substation site, located off Duval Road and west of the Otterdale Road intersection.

## Alternative Route 3A

Alternative Route 3A is approximately 7.5 miles in length. Beginning at the Company's existing Midlothian Substation, located off Dry Bridge Road, south of the Midlothian Turnpike in western Chesterfield County, Alternative Route 3A follows the same alignment as the Proposed Route for 3.3 miles. Alternative Route 3A deviates from the Proposed Route and continues southeast for about three miles crossing Genito Road and currently undeveloped, forested and planned development areas. Sharing a common alignment with the Proposed Route, Alternative Route 3A crosses into Chesterfield County Economic Development Authority's Upper Magnolia Green – West development and continues for 1.2 miles to reach the proposed Duval Substation site, located off Duval Road and west of the Otterdale Road intersection.

## 2. Environmental Analysis

The Company has conducted an environmental analysis on the proposed Project.\_The impact values in this document include both transmission line and substation rights-of-way, with the Duval-Midlothian Lines inclusive of the proposed Duval Substation, unless otherwise noted.

## A. Air Quality

For the Project, the Company will control fugitive dust during construction in accordance with DEQ regulations. During construction, if the weather is dry for an extended period, there will be airborne particles from the use of vehicles and equipment within the right-of-way. However, minimal earth disturbance will take place and vehicle speed, which is often a factor in airborne particulate, will be kept to a minimum. Erosion and sedimentation control is addressed in Section 2.H of this Supplement. Equipment

and vehicles that are powered by gasoline or diesel motors will be used during the construction of the line so there will be exhaust from those motors. Exhaust from those motors will result in minimal air pollution.

Tree clearing within the new rights-of-way will be required as part of this Project. The Company does not expect to burn cleared material, but, if necessary, the Company will coordinate with the responsible locality to obtain the appropriate permits and will comply with any conditions set forth by the locality or take actions in accordance with the Company's property rights. The Company's tree clearing methods are described in Section 2.L.

## **B.** Water Source

No water source is required for transmission lines. This discussion focuses on waterbodies that will be crossed by the proposed transmission lines.

On behalf of the Company, ERM identified and mapped waterbodies in the vicinity of the routes using publicly available geographic information system ("GIS") databases, U.S. Geological Survey ("USGS") National Hydrography Dataset Plus High Resolution ("NHD"), ESRI World Elevation Terrain 2-foot contours, the United States Fish and Wildlife Service ("USFWS") National Wetland Inventory ("NWI"), recent (2025) and historic digital aerial photography (VGIN Most Recent Imagery, ESRI World Imagery, Planet Labs Aerial Imagery, and Google Earth).

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

According to U.S. Army Corps of Engineers ("USACE") documentation, no waters considered navigable under Section 10 of the Rivers and Harbors Act are crossed by the Proposed or Alternative Routes for the Project. Waterbodies in the vicinity of the Project's routes, inclusive of the proposed substation footprint, are shown on Attachments 2 and 3 of the Wetland and Waterbody Desktop Summaries for the Project, which is included in <u>Attachment 2.D.1</u>. For waterbody acreages crossed (riverine and open water features), as identified in the Wetland and Waterbody Desktop Summary, see Table D-2 below.

## **Duval-Midlothian Lines**

## Proposed Route (Route 3B)

The Proposed Route crosses 22 waterbodies, 14 of which are NHD-mapped waterbodies, including six perennial waterbodies (Swift Creek (two crossings), a marsh/swamp associated with Swift Creek, Turkey Creek, Otterdale Branch, and Horsepen Creek), and eight unnamed, intermittent streams. Additionally, ERM identified eight unnamed, unclassified streams within the right-of-way using recent (2025) aerial imagery.

## Alternative Route 2B

Alternative Route 2B crosses 29 waterbodies, 16 of which are NHD-mapped waterbodies, including four perennial waterbodies (Swift Creek, Turkey Creek, Otterdale Branch, and Horsepen Creek) and 12 unnamed, intermittent streams. Additionally, ERM identified 12 unnamed, unclassified streams, and one open waterbody feature within the right-of-way using recent (2025) aerial imagery.

## Alternative Route 3A

Alternative Route 3A crosses 24 waterbodies, 16 of which are NHD-mapped waterbodies, including six perennial waterbodies (Swift Creek, a marsh/swamp associated with Swift Creek, Turkey Creek (two crossings), Otterdale Branch, and Horsepen Creek), and 10 unnamed, intermittent streams. Additionally, ERM identified eight unnamed, unclassified streams within the right-of-way using recent (2025) aerial imagery.

## **Duval Substation**

ERM identified no NHD-mapped waterbodies within the footprint of the proposed Duval Substation; however, one field-delineated waterbody is crossed within the footprint (Timmons Group 2024, <u>Attachment 2.D.1</u>).

During construction, proper drainage of waterbodies will be maintained using culverts and/or other crossing devices, as needed, according to the Company's standard policies. Where clearing of trees and/or woody shrubs is required, clearing within 100 feet of a stream will be conducted by hand. Vegetation will be cut at or slightly above ground level, and stumps will not be grubbed. To protect waterways from soil erosion and sedimentation during construction, the Company will use sediment barriers along waterways and steep slopes. If a section of line cannot be accessed from existing roads, the Company may need to install a culvert or temporary bridge to cross small streams. In such cases, temporary fill material may be required that would be placed on erosion control fabric and removed when work is completed, returning the surface to original contours. If necessary, a Joint Permit Application ("JPA") will be submitted for review by the Virginia Marine Resources Commission ("VMRC"), DEQ, and the USACE to authorize jurisdictional crossings and for any impacts to jurisdictional features.

# C. Discharge of Cooling Waters

No discharge of cooling waters is associated with the Project.

# D. Tidal and Non-tidal Wetlands

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

On behalf of the Company, ERM identified wetlands along the Project's routes, inclusive of the proposed Duval Substation site, using GIS and remote sensing data sources to conduct an offsite desktop wetlands delineation. A copy of ERM's Wetland and Waterbody Desktop Summary for the Project is included in <u>Attachment 2.D.1</u>. Sources for this desktop summary include the USFWS NWI, the USGS NHD, the Natural Resources Conservation Service Web Soil Survey, ESRI World Elevation Terrain 2-foot contours, National Agricultural Imagery Program Digital Ortho-Rectified Infrared Images dating from recent (2025) and historic digital aerial photography (National Agricultural Imagery Program, ESRI World Imagery, Planet Labs Imagery, and Google Earth).

ERM did not field delineate wetlands along the Project's routes. Field wetland delineations were completed by external parties. Specifically, two separate field delineations were completed by Timmons Group on January 28, 2022, and February 26, 2024, on parcels containing the Duval-Midlothian Lines and the proposed Duval Substation, which identified aquatic resources along the Proposed and Alternative Routes between Mount Hermon Road and the proposed Duval Substation footprint (Timmons Group 2024). Data from these delineations was provided to Dominion Energy Virginia and was used to identify boundaries of aquatic resources where they overlap with the Duval-Midlothian Lines, described in detail in <u>Attachment 2.D.1</u>. Further, a field wetland delineation will be completed for the approved route alignment selected by the Commission upon the Company receiving a final order on the Project.

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

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

- 2. To further determine the probability of a wetland occurring within a given location, polygon shapefiles for Interpreted Wetlands were digitally layered with NWI and NHD mapping and hydric soils information from the Natural Resources Conservation Service ("NRCS") soil survey database.
- 3. ERM assigned a probability of wetland occurrence based on the number of overlapping data layers (*i.e.*, indicators of potential wetland presence) in any given area (Table D-1).

Table D-1 Western Chesterfield Electric Transmission Project Wetland Probability Criteria					
Probability Class	Criteria				
High	Areas where layers of hydric soils, Interpreted Wetlands, and NWI data overlap				
Medium/High	Areas where NWI data overlaps hydric soils; or NWI data overlaps Interpreted Wetlands with or without partially hydric soils; or hydric soils overlap Interpreted Wetlands				
Medium	Interpreted Wetlands with or without overlap by partially hydric soils				
Medium/Low	Hydric soils only; or NWI data with or without overlap by partially hydric soils				
Low	Partially hydric soils only				
Very Low	Non-hydric soils only				

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

Wetlands in the study areas are predominantly forested. Within the Western Chesterfield study area, wetlands are associated with Tomahawk Creek, Swift Creek, Turkey Creek, Otterdale Branch, and Horsepen Creek, with large areas of palustrine forested ("PFO") wetlands located in the central and southern portion of the study area. The PFO wetlands are associated with the major tributaries to the Swift Creek Reservoir, with large areas of PFO located in the central portion of the study area associated with Swift Creek and Turkey Creek and in the southern portion of the study area associated with Horsepen Creek.

For ease of reference, wetlands and waterbodies of medium or higher probability crossed by the Proposed and Alternative Routes are summarized in Tables D-2, D-3, and D-4.

Table D-2									
	Western Chesterfield Electric Transmission Project								
Desktop-Deline:	ated Wetlands and V	Vaterbodies Crossec Alternatives <sup>a</sup>	l by the Western Che	esterfield Route					
Aquatic Resource Classification	Proposed Route (Route 3B) (acres)	Alternative Route 2B (acres)	Alternative Route 3A (acres)	Duval Substation (acres)					
Palustrine Forested (PFO)	16.9	12.4	19.3	<0.1					
Palustrine Scrub- shrub (PSS)	NA	NA	NA	NA					
Palustrine Emergent (PEM)	0.2	0.2	0.2	NA					
Palustrine Unconsolidated Bottom (PUB)	<0.1	0.1	<0.1	NA					
Riverine	2.0	1.4	1.9	NA					
Total	19.1	14.1	21.4	<0.1					

NA = Not applicable due to absence of a wetland type within the Project footprint a Values have been rounded to the tenths place; as a result, the totals may not reflect the sum of the addends. A value of <0.1 indicates that less than 0.05 acre of a wetland type is present.

## **Duval-Midlothian Lines**

## Proposed Route (Route 3B)

Based on the wetland desktop delineation method described above, the Proposed Route (Route 3B) right-of-way encompasses approximately 19.1 acres of wetlands and waterbodies, including 16.9 acres of PFO wetlands, 0.2 acre of palustrine emergent marsh ("PEM") wetlands, <0.1 acre of palustrine unconsolidated bottom ("PUB") wetlands, and 2.0 acres of riverine features.

#### Alternative Route 2B

Based on the wetland desktop delineation method described above, the Alternative Route 2B right-of-way encompasses approximately 14.1 acres of wetlands and waterbodies, including 12.4 acres of PFO wetlands, 0.2 acre of PEM wetlands, 0.1 acre of PUB wetlands, and 1.4 acres of riverine features.

## Alternative Route 3A

Based on the wetland desktop delineation method described above, the Alternative Route 3A right-of-way encompasses approximately 21.4 acres of wetlands and waterbodies, including 19.3 acres of PFO wetlands, 0.2 acre of PEM wetlands, <0.1 acre of PUB wetlands, and 1.9 acres of riverine features.

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.

Prior to construction, the Company will delineate wetlands and other waters of the United States using the *Routine Determination Method*, as outlined in the *1987 Corps of Engineers Wetland Delineation Manual* and methods described in the *2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: *Eastern Mountains and Piedmont Region* (Version 2.0). The Company will obtain any necessary permits to impact jurisdictional resources. The Company has sited structures to avoid wetlands and streams to the extent practicable. Temporary impacts will be restored to pre-existing conditions, and permanent impacts will be mitigated for in accordance with all applicable federal and state regulations and laws. The Project is expected to require a Virginia Water Protection general permit, a Nationwide Permit 57, and a VMRC VGP-5 for non-tidal stream crossing permit. A JPA will be submitted for further evaluation and final permit need determination by DEQ, VMRC, and the USACE.

## E. Floodplains

As depicted on the Federal Emergency Management Agency's ("FEMA") online Flood Insurance Rate Maps #51041C0105E and 51041C0115E, 51041C0095E, and 51041C0015E (effective dates 5/08/2024). The Project study area contains flood zone hazard area Zone A, the 100-year floodzone, and Zone AE, around Tomahawk Creek and its tributaries, Swift creek and its tributaries, Turkey Creek and its tributaries, Otterdale Branch and its tributaries, and Horsepen Creek and its tributaries. The Company will coordinate with the local floodplain coordinators as required.

## F. Solid and Hazardous Waste

ERM conducted a review of available U.S. Environmental Protection Agency ("EPA"), USACE, and DEQ GIS databases to identify facilities within the study area that currently or have historically used, stored and/or generated hazardous substances, and properties that may be associated with releases of hazardous chemicals to the environment.

The goal of this review was to identify locations associated with historic contamination, remedial investigations, corrective actions or emergency response events related to releases of hazardous substances that may be impacted by, or cause impact to, the route alternatives. Properties with such designations may be associated with environmental conditions which could pose a current or future risk to human health and the

environment, and the property or portions of the property may be subject to restrictive covenants. If construction activities or permanent structures were proposed within or in close proximity to an impacted property, the Company may be required to follow rules set forth in property use restrictions, and if any soil, sediment or groundwater is encountered during construction that is suspected of contamination, or if any hazardous waste is generated or disturbed due to project activities, that material must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations.

The review included a search of the EPA Federal Registry Service ("FRS") database to identify Resource Conservation and Recovery Act ("RCRA") and Toxic Release Inventory ("TRI") regulated facilities; a search of the EPA Cleanups In My Community ("CIMC") database to identify Superfund, Brownfields, RCRA Corrective Action, and Emergency Response properties; a search of the USACE Formerly Used Defense Sites ("FUDS") database to identify FUDS properties with and without remediation projects; and a search of the DEQ Environmental Data Mapper ("EDM") to identify Registered Petroleum Tank, Solid Waste Permit, and Virginia Pollution Discharge Elimination System ("VPDES") outfall facilities, as well as Petroleum Release, Voluntary Remediation Program ("VRP") and Pollution Response Program ("PREP") cases.

Database point counts for all regulated facilities (*i.e.*, facilities that are regulated but not necessarily associated with contamination cases) mapped within 0.25-mile of each route right-of-way are provided in Table F-1. Database point counts for all contamination, remediation and response cases (collectively, referred to as "contamination cases") mapped within 0.25-mile of the route right-of-way are provided in Table F-2. The locations of the database points are depicted in <u>Attachment 2.F.1</u>.

	TABLE F-1								
	Western Chesterfield Electric Transmission Project								
Active and Inactiv	ve EPA and DEQ Regulate	d Solid and Hazardous Waste F	acilities within 0.25 Mile <sup>1</sup>						
Facility Type	Proposed Route (Route 3B)	Alternative Route 2B	Alternative Route 3A						
EPA									
RCRA LQG Facilities	0	0	0						
RCRA Other Facilities <sup>2</sup>	0	0	0						
TRI Facilities	0	0	0						
USACE									
FUDS Total <sup>3</sup>	0	0	0						
DEQ									
Registered Petroleum Tank Facilities	0	0	0						
Solid Waste Facilities	1	0	0						
VPDES Industrial Outfalls <sup>4</sup>	1	1	1						
Notes	d only on the location of nois	nta mannad in aganay datahagag y	rithin 0.25 mile of route rights						

<sup>1</sup> Site counts are based only on the location of points mapped in agency databases within 0.25-mile of route rightsof-way. Database point placement accuracy may vary, and the true boundaries of a site may be within or outside of the 0.25-mile buffer zone. Data accuracy and true site boundaries have not been accounted for in this table.

<sup>2</sup> Includes RCRA Small Quantity Generators, Very Small Quantity Generators, Transporters and/or Treatment, Storage and Disposal Facilities.

<sup>3</sup> FUDS may include facilities with or without projects. Site counts in this table represent all FUDS properties within the specified distance.

<sup>4</sup> VPDES Industrial Outfalls represent permitted offsite discharge locations from industrial facilities. Several outfalls may be associated with a single facility.

	TABLE F-2								
	Western Chesterfield Electric Transmission Project								
Active and Historic	Contamination, Investigation	n, Cleanup and Corrective Action	1 Cases within 0.25 Mile <sup>1</sup>						
Case TypeProposed Route (Route 3B)Alternative Route 2BAlternative									
EPA									
Brownfields	0	0	0						
Emergency Response	0	0	0						
RCRA Corrective Action	0	0	0						
Superfund <sup>2</sup>	0	0	0						
USACE		· ·							
FUDS Projects <sup>3</sup>	0	0	0						
DEQ			•						
Petroleum Releases	5	3	3						
PREP	0	0	0						
VRP	1	1	1						
Notor									

Notes

<sup>1</sup> Site counts are based only on the location of points mapped in agency databases within 0.25-mile of route rights-of-way. Database point placement accuracy may vary, and the true boundaries of a site may be within or outside of the 0.25-mile buffer zone. Data accuracy and true site boundaries have not been accounted for in this table.

<sup>2</sup> Includes both National Priority List and/or Non-National Priority List (Non-NPL) Superfund sites within 0.25-mile. Superfund sites located within 1.0-mile of the project may be reviewed in Table F-3 and in the 'EPA Contamination Cases' section below.

<sup>3</sup> FUDS Project sites may include contaminated and non-contaminated facilities.

Contamination cases that are mapped on properties with parcel boundaries within 200-feet of the route rights-of-way are considered to be within "close proximity" to the routes and are summarized in Table F-3 below.

TABLE F-3 Western Chesterfield Electric Transmission Project Historic Contamination, Investigation, Cleanup and Corrective Action Cases Mapped on Parcels in Close Proximity <sup>1</sup> to Route Rights-of-Way									
Program ID Number	Case Name	Site Address <sup>2</sup>	Nearest Project Feature <sup>3</sup>	Distance from Route <sup>3</sup>	Gradient from Project <sup>4</sup>	Agency Status <sup>5</sup>			
EPA Superfund Sit	es								
VAN000306029 <sup>6,7</sup> Moseley Hg Site Genito Road and Otterdale Road, Moseley, Virginia		Genito Road and Otterdale Road, Moseley, Virginia	Alternative Route 3A (MP 4.6)	0.8 mile	Down- Gradient	Closed (2023)			
DEQ Petroleum Re	lease Cases								
PC 20124313 <sup>7</sup>	Belvin Ernest Property	17517 Midlothian Turnpike, Midlothian, Virginia	All routes, shared alignment (Midlothian Substation to MP 0.3)	ROW Overlaps Parcel	Up-Gradient	Closed (2017)			
PC 19901559 <sup>7</sup>	Penn Company	2000 Hicks Road, Chesterfield, Virginia	All routes, shared alignment (MP 1.4)	ROW Overlaps Parcel	Down- Gradient	Closed (1992)			

TABLE F-3 Western Chesterfield Electric Transmission Project Historic Contamination, Investigation, Cleanup and Corrective Action Cases Mapped on Parcels in Close Proximity <sup>1</sup> to Route Rights-of-Way								
Program ID Number	Case Name	Site Address <sup>2</sup>	Nearest Project Feature <sup>3</sup>	Distance from Route <sup>3</sup>	Gradient from Project <sup>4</sup>	Agency Status <sup>5</sup>		
DEQ VRP Cases	•							
VRP 00400	VRP 00400 Hallsboro Site Road, Midlothian, Virginia (MP 1.6) Virginia Closed							
Notes: <sup>1</sup> "Close Proximity whose parcel bo Cases may be ir impacts are susp suspected durin, <sup>2</sup> Site address was points and addre <sup>3</sup> Distances from r on which points <sup>4</sup> Estimated surfac reported from d release location summaries for closed cases <sup>6</sup> Superfund sites v <sup>7</sup> Note indicates th files. Pafer to a	" is defined in buildaries are w bected or have b g case file revie obtained from esses. Refer to oute is reported are mapped. e gradients base atabase mapped and project fea lescriptions of uld be assumed represent closu within 1.0-mile at the data poir	this review, at a minimur ithin 200 feet of any port table that are mapped outs been reported within close ew. Agency database records case summaries for descri- l from the nearest point al ed on available elevation d point or parcel boundary ture may differ if the data verified release locations. I ongoing, and dates prov- ire year. of the Project have been at has been determined to for descriptions of varifi	n, as cases that are ion of the proposed side of these param e proximity to righ . The true location riptions of verified long the nearest rig data. Groundwater y to nearest project abase point has bee ided represent the y assessed due to the be, or likely to be,	mapped on or as or alternative ro- eters in agency of ts-of-way, or if in of a release may release locations ht-of-way to the r gradients may w feature. The tru n incorrectly ma year the case was potential off-site mapped incorrect	ssociated with oute rights-of- latabases if of naccurate map deviate from nearest parce vary. Gradien e gradient bet pped. Refer t opened; date e impacts. ctly in agency	properties way. ffsite oping is reference l boundary t is ween a o case s provided database		

Identification of EPA, USACE or DEQ environmental permits or cases mapped on a property does not necessarily indicate that the property is a past, present or future hazard, and datapoint mapping errors may be present in agency databases. As such, additional review of case files is required to determine the actual location, extent and nature of contamination associated with database points on a property. Case file review summaries are provided below for each datapoint identified in Table F-3.

## **EPA Contamination Cases**

Based on a review of the EPA's CIMC database, no properties with Superfund, Brownfield, RCRA Corrective Action or Emergency Response cases are mapped within 0.25 mile or are mapped on properties within 200 feet of the Project.

One Non-NPL Superfund site, referred to as the Moseley Hg Site - VAN000306029, is mapped within one-mile of the Project area at the intersection of Genito Road and Otterdale Road. This site was reviewed due to the potential for Superfund sites to have extensive offsite impacts. The site is also associated with a DEQ PREP case, referred to as the Cabretta Dr-Hg release – IR 307646. Based on a review of available EPA and DEQ case records, the site is associated with an indoor elemental mercury spill at 5507

Cabretta Drive, Moseley, Virginia. The spill occurred approximately 0.8 mile southeast of Alternative Route 3A and did not impact soil and/or groundwater in the Project area.

# **DEQ Contamination Cases**

Based on a review of the DEQ Petroleum Release, PREP and VRP databases, five Petroleum Release, one VRP cases, and no PREP cases were mapped within 0.25-mile of any route rights-of-way. Of these, two Petroleum Release cases and one VRP case were mapped on properties within 200 feet of at least one of the route rights-of-way (summarized in Table F-3). ERM obtained DEQ case files via Freedom of Information Act ("FOIA") for the cases listed in Table F-3, which are summarized below.

# PC 20124313 – Belvin Ernest Property

The Belvin Ernest Property Petroleum Release case has a database reference address at 17517 Midlothian Turnpike, Midlothian, Virginia. The DEQ case point is mapped approximately 410 feet northeast of the Proposed Route and Alternative Routes 2B and 3A rights-of-way, north of the Midlothian Substation on Company-owned property; however, based on the reference address and maps provided by the DEQ, the case point is incorrectly mapped in the Petroleum Release Database. The actual release occurred within the property boundaries of 17517 Midlothian Turnpike, approximately 1.3 miles west of the Proposed Route and Alternative Routes.

Based on a review of DEQ files, the case was opened in 2011 after soil and groundwater impacts were detected due to a residential heating oil tank leak. Soil excavation, free product removal, and groundwater monitoring occurred between 2012 and 2017, and the case was closed by the DEQ in 2017. No impacts were observed outside of the affected property parcel.

Due to the distance between the route right-of-way and the verified release location at 17517 Midlothian Turnpike, the case is not anticipated to have impacted soil and/or groundwater within the route right-of-way. However, should contaminated media be encountered during construction, the Company will implement its standard response and reporting procedures.

# PC 19901559 – Penn Company

The Penn Company petroleum release case has a database reference address at 2000 Hicks Road, Chesterfield, Virginia; however, the DEQ case point is mapped within the parcel boundaries of 16410 Scottwood Road, Midlothian, Virginia, and approximately 1,700 feet east of the Proposed Route and Alternative Routes 2B and 3A. This case has been included for review because all routes share a common alignment across the parcel with the mapped DEQ case point; however, the database reference address is located approximately 10 miles east of the Project.

ERM, on behalf of the Company, requested case files from the DEQ for PC 19901559; however, files for the site were destroyed in 2014 per the DEQ's Records Retention and Disposition Schedule (Number 440-011). Surviving database records indicate that the

case was associated with a residential heating oil tank removal in 1990, and the case was closed by the DEQ in 1992. Information regarding the exact location of the release or potential extent of soil and/or groundwater contamination was not available.

Due to the multiple locations identified by the DEQ, it is possible that soil and/or groundwater was impacted at either 16410 Scottwood Road, Midlothian or at 2000 Hicks Road, Chesterfield. Given the distances between the route rights-of-way, the case point location, the reference address location, and the length of time since case closure, it is unlikely that soil and/or groundwater has been impacted by this release within the proposed right-of-way. However, should contaminated media be encountered during construction, the Company will implement its standard response and reporting procedures.

## VRP 00400 – Hallsboro Site

The Hallsboro Site VRP case has a database reference address at 911 Mount Hermon Road, Chesterfield County, Virginia. The DEQ case point is mapped approximately 275 feet east of the Proposed Route and Alternative Routes rights-of-way, which share a common alignment. The proposed right-of-way overlaps the western corner of the parcel at 911 Mount Hermon Road.

Based on a review of a 2004 Site Characterization Report, the property operated as a tannery between the late 1880's and 1920's, then operated as a pulpwood and excelsior mill until it's abandonment sometime between 1935 and 1958. As of 2004, remnants of former buildings remained on site.

No known release events have been reported at the site; however, subsurface investigations were conducted at the property in 1999 and 2004 due to the property's historic industrial use, and the property entered the VRP in 2004. Soil and groundwater samples were collected during both investigations and analyzed for common contaminants associated with historic tanning operations. 2004 soil samples detected elevated concentrations of aluminum (up to 20,000 milligrams per kilogram [mg/kg]) and chromium (20 mg/kg) below their respective Residential Risk-Based Soil Concentrations, and arsenic (0.95 mg/kg) within regional background concentration range in the vicinity of the abandoned building foundations. 2004 groundwater samples detected aluminum (0.79 milligrams per liter [mg/L]) below its respective VRP Tap Water Risk-Based Concentration. A Certificate of Satisfactory Completion was issued, and the case was closed by the DEQ in 2005.

Based on the case file maps, the abandoned infrastructure was located approximately 250 feet east of the proposed right-of-way, and the right-of-way does not overlap with any known debris or investigation areas. The investigation area is estimated to be hydraulically side gradient of the Project area, and groundwater is estimated to flow off site to the north. Due to the distance between the route and the investigation area, hydraulic gradient and the reported extent of contamination, it is not anticipated that soil and/or groundwater has been impacted within the route right-of-way. However, should

debris or contaminated media be encountered during construction, the Company will implement its standard response and reporting procedures.

# DEQ Cases mapped within 0.25-mile and greater than 200-feet from route rights-of-way:

Based on DEQ's EDM database, the following cases mapped are within 0.25-mile of the Project but are located on properties whose parcel boundaries are greater than 200-feet from the route rights-of-way. Due to distance, these PC cases are not anticipated to impact, or be impacted by, the Project:

- PC 20184391 Kelley Residence 516 Mount Hermon Rd, Midlothian, Virginia Closed
- PC 20014962 Wooding Martha Residence 1000 Hallsboro Dr, Midlothian, Virginia Closed
- PC 20034205 Mount Hermon Baptist Church 18100 Genito Rd, Moseley, Virginia Closed
- PC 20184306 Mt Hermon Baptist Church Parsonage 18100 Genito Rd, Moseley, Virginia – Closed

## **Summary**

Based on the Company's desktop review of DEQ databases and case files, the Company has determined that all of the Petroleum Release and VRP cases identified on property parcels within 200-feet of Proposed Route 3B and Alternative Routes 2B and 3A are unlikely to have impacted soil and/or groundwater within the right-of-way. In addition, none of the EPA, USACE or DEQ facility sites identified in Table F-1, or other potential release cases identified in Table F-2 that are located within 0.25 mile of the Project, are anticipated to have impacted soil and/or groundwater in the Project area, and no impacts to those sites and cases should be anticipated as a result of the transmission lines construction.

Although the Project is constructing overhead lines, minor subsurface work is required during installation. This disturbance occurs at discrete locations along the route, with temporary spoils contained as they are generated. Should contaminated media be encountered in any location during construction, the Company will implement its standard response and reporting procedures to properly manage and dispose of any suspected hazardous materials in accordance with required safety standards and all applicable federal, state, and local regulations.

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

# G. Natural Heritage, Threatened and Endangered Species

## **Threatened and Endangered Species**

On behalf of the Company, ERM conducted online database searches for threatened and endangered ("T&E") species in the vicinity of the Project, including the Virginia Department of Conservation and Recreation ("DCR") Natural Heritage Data Explorer ("NHDE"). The NHDE Screening Layer includes two components: Conservation Sites and Stream Conservation Sites ("SCSs"). ERM also obtained query results from the Virginia Department of Wildlife Resources ("DWR") Fish and Wildlife Information Service ("VaFWIS"), and the USFWS Information for Planning and Consultation ("IPaC") System to identify federal- and state-listed species that may occur within the study area. Digital data were obtained from the DCR-NHDE to identify locations within the study area that potentially support protected species. Results of these queries are provided in <u>Attachment 2.G.1</u>.

The review accounted for regulatory changes and requirements associated with the USFWS uplisting of the Northern long-eared bat ("NLEB," *Myotis septentrionalis*) from federally threatened to federally endangered. On October 15, 2024, USFWS issued the NLEB Final Guidance for development projects. The USFWS Interim Guidance for the NLEB expired on November 30, 2024, and the Final Guidance for NLEB took effect.

The review also accounted for regulatory changes and requirements associated with Tricolored bat ("TCB," *Perimyotis subflavus*) and Monarch butterfly (*Danaus plexippus*) and the proposed USFWS listing of these species as federally endangered and federally threatened, respectively. The Company is anticipating the TCB and Monarch butterfly 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.

In October 2024 USFWS issued a final NLEB and TCB Range-wide Determination Key ("DKey") to allow project proponents to assess project impacts, practicable avoidance and minimization measures, and consultation requirements under the final NLEB guidance and the eventual TCB listing ahead of the final decision. The Company will utilize the DKey to further assess project impacts and determine appropriate avoidance and minimization measures to ensure compliance with state and federal regulations when the Project enters permitting.

To obtain the most current eagle nest data, ERM reviewed the Center for Conservation Biology ("CCB") Virginia Eagle Nest Locator mapping portal, which provides information about the Virginia Bald eagle (*Haliaeetus leucocephalus*) population, including the results of the CCB's annual eagle nest survey.

Based on the CCB Virginia Eagle Nest Locator mapping portal, the study area is not located within an Eagle Concentration Area, and the Project's Proposed or Alternative Routes, inclusive of the proposed substation, do not intersect any Primary or Secondary Buffers of currently documented Bald eagle nests as identified in The Bald Eagle Protection Guidelines for Virginia (2012). According to the CCB database, the eagle nest nearest to the Project is Nest ID CD0702, which was last observed to be occupied in 2021. This nest is approximately 0.3-mile northeast of Alternative Route 3A. The Company will work with the appropriate jurisdictional agencies to minimize impacts on this species should Alternative Route 3A be selected.

Three federal- and/or state-listed or proposed T&E species have the potential to occur within the Project study area (Table G-1). For additional information, see Section 5.2.3 of the Environmental Routing Study.

	TABLE G-1 Western Chesterfield Electric Transmission Project Potential Federal-and State-Listed Species in the Project Area						
Species	Status	Database	Habitat	Results			
Northern long-eared bat ( <i>Myotis septentrionalis</i> )	FE, ST	IPaC	Generally associated with old-growth or late successional interior forests. Use partially dead or decaying trees for breeding, summer day roosting, and foraging. Hibernation occurs primarily in caves, mines, and tunnels.	Species not confirmed as present. Summer foraging habitat present, but no known hibernacula or maternity roost trees are documented within the Project area. The Project would require clearing of forested areas; however, given the lack of confirmed species presence, impacts are not anticipated.			
Tricolored bat (Perimyotis subflavus)	FPE, SE	IPaC	Typically roost in trees near forest edges during summer. Hibernate deep in caves or mines in mountainous areas with warm, stable temperatures during winter.	Species not confirmed as present. Summer foraging habitat present, but no known hibernacula or maternity roost trees are documented within the Project area. The Project would require clearing of forested areas; however, given the lack of confirmed species presence, impacts are not anticipated.			
Monarch butterfly ( <i>Danaus plexippus</i> )	FPT	IPaC	Habitat generalists that rely on flowering plants. Require milkweed to lay eggs and for reproduction and the caterpillar stage.	Species not confirmed as present. Suitable habitat may exist in open space areas along the route alternatives.			
Federal/State Status:							
FE Federally listed as endered	dangered		FT Federally listed as threatened	FPE Federally proposed as endangered			
SE State listed as elidang	Serea		51 State fisted as uncatched	FPT Federally proposed as threatened			

Within the Project study area and/or within a 2.0-mile radius of the study area, database queries identified three federal-listed or federal-proposed species under the Endangered Species Act ("ESA") that could potentially occur in the study area: NLEB, TCB, and Monarch butterfly. The Monarch butterfly was the only species identified that was not also state-listed. The federal listing of the TCB and the Monarch butterfly has been proposed but they have not been officially listed at this time.

All three of these species were identified by the USFWS IPaC system as having potential occurrence within the Project study area, but none of the identified species were confirmed as present within the study area.

During the permitting phase, the Company will coordinate with state and federal agencies as needed to determine if surveys, construction time-of-year restrictions, or other mitigation required to mitigate potential impacts on T&E species. If any T&E species are encountered during Project construction, the Company will work with the DWR and other appropriate jurisdictional agencies to minimize any impacts on the species.

# Natural Heritage Resources

On behalf of the Company, ERM submitted the Project to the DCR-DNH for review. As mentioned above, DCR-DNH conducted an official review dated March 5, 2025, (see <u>Attachment 2.G.1</u>). DCR-DNH concluded that the Project will not affect any documented state-listed plants or insects and does not cross any State Natural Area Preserves under DCR's jurisdiction. There are no SCSs or Conservation Sites within the study area; however, there are ecological cores crossed by the Project, and they are discussed below.

## 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. As part of its official review, DCR-DNH found that the route alternatives intersect ecological cores of ranks C3 (high integrity), C4 (moderate integrity), and C5 (general integrity).

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

Per the recommendation of DCR<sup>5</sup> (see <u>Attachment 2.G.1</u>), no formal impact analysis is provided for the cores ranked C3, C4, or C5 that are crossed. Ecological cores crossed by the Proposed and Alternative Routes are summarized in the Table G-2 below.

	Table G-2						
	W	estern Che	esterfield Electric Transmission Project				
		Ecolog	ical Cores Crossed by the Project				
Core ID	Core Rank	Total Core Acres	Existing Condition				
59536	3-High	1,759	Predominantly unfragmented forest containing Swift Creek and Turkey Creek. Forested lands include undisturbed areas interspersed with regenerating managed timber. Development exists along the north, west, and east edges of the core.				
59883	3-High	3,926	Predominantly unfragmented forest containing Horsepen Creek. According to historic aerial imagery dating back to 1994, approximately 300 acres in the western portion of the core surrounding Horsepen Creek and its tributaries have historically been maintained as managed timber. Development exists along the eastern edge of the core, and Mount Hermon Road bisects the core.				
59168	4-Moderare	572	Southern portion contains housing development that began construction between 2012 and 2014; northern portion contains predominantly unfragmented forest.				
59495	4-Moderate	786	Predominantly unfragmented forest containing Turkey Creek; approximately 42.0 acres are maintained as managed timber in the eastern portion of the core.				
59110	5-General	40	Predominantly unfragmented forest between Mount Hermon Road and the Norfolk Southern Railroad. Contains development along the western edge.				
59428	5-General	48	Partially forested and fragmented by multiple unnamed roads.				

Table G-3 provides the total acreages of ecological cores crossed by each route alternative.

Table G-3 Western Chesterfield Electric Transmission Project Ecological Cores Crossed by the Project							
Ecological Core RankProposed Route (Route 3B)Alternative Route 2BAlternative Route 3ADuval Substation							
C1 - Outstanding	0.0	0.0	0.0	0.0			
C2 – Very High	0.0	0.0	0.0	0.0			
C3 - High	78.9	58.3	91.9	5.1			
C4 - Moderate	18.5	48.1	18.5	0.0			
C5 - General	3.9	12.2	3.9	0.0			
Total Acres <sup>a</sup>	101.4	118.6	114.3	5.1			

<sup>a</sup> The sum of the addends may not equal the totals due to rounding.

<sup>&</sup>lt;sup>5</sup> Nicki Gustafson, DCR e-mail message to ERM, May 23, 2024. See <u>Attachment 2.G.1</u>.

Most of the land within each route alternative is classified as an ecological core. The Proposed Route would impact the smallest area of ecological cores among the route alternatives, and Alternative Route 2B would impact the greatest acreage of ecological cores. However, Alternative Route 2B would cross the smallest area of C3-ranked cores. Acreage associated with the proposed Duval Substation would be impacted regardless of which route is selected for the Project.

The Company will work with the appropriate jurisdictional agencies to minimize any impacts on ecological cores and protected species during implementation of the Project. Additional analysis on ecological core impacts can be found in the Environmental Routing Study for the Project.

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

For impacts on wildlife habitat (forested, agricultural, open space, and open water/waterbodies), see Section K. No other natural heritage resources (habitat of rare, threatened, or endangered species, unique or exemplary natural communities, or significant geological formations) were identified within the study area by the DCR.

New and updated information is continually added to DCR's Biotics database. The Company shall re-submit Project information and a map for an update on this natural heritage information if the scope of the Project changes and/or six months have passed before this information is utilized.<sup>6</sup>

## H. Erosion and Sediment Control

The DEQ approved the Company's *Standards & Specification for Erosion & Sediment* Control *and Stormwater Management for Construction of Linear Electric Transmission Facilities (TE VEP 8000).* These specifications are given to the Company's contractors and require erosion and sediment control measures to be in place before construction of the line begins and specifies the requirements for rehabilitation of the right-of-way. A copy of the current DEQ approval letter dated February 27, 2024, is provided as <u>Attachment 2.H.1</u>. According to the approval letter, coverage is effective from February 27, 2024, through February 26, 2025. The Company is actively coordinating with DEQ to renew the Standards and Specifications and will continue to operate under the currently approved agreement until agency approval is obtained.

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

ERM conducted a Stage I Pre-Application Analysis ("Stage I Analysis") of potential impacts on cultural resources for the Proposed and Alternative Routes in accordance with the Virginia Department of Historic Resource's ("VDHR") *Guidelines for* 

<sup>&</sup>lt;sup>6</sup> The Company updated this commitment consistent with discussions held between Company and DCR-DNH representatives on August 23, 2022.

Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia (VDHR 2008). A copy of the Stage I Analysis, which was provided to VDHR on April 23, 2025, is included as <u>Attachment 2.I.1</u>. For each route alternative, the analysis identified and considered previously recorded resources within the following study tiers as specified in the Guidelines:

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

Information on cultural resources within each of these study tiers was obtained from the Virginia Cultural Resources Information System ("VCRIS").

In addition to the VCRIS, ERM collected information from the Chesterfield County Preservation Committee (2025), Chesterfield Historical Society of Virginia (2025), Experience Chesterfield (2025), and Preservation Virginia (2025) to identify locally significant resources within a 1.0-mile radius of the right-of-way for each route alternative. ERM additionally collected information on battlefields surveyed and assessed by the National Park Service's American Battlefield Protection Program ("ABPP") (NPS 2023). No additional ABPP study areas, core areas, or potential NRHP boundaries for battlefields were identified within the relevant study tiers for the various route options through this source.

Along with a records review carried out for the four tiers as defined by VDHR, ERM also conducted field assessments of the considered aboveground resources for the route alternatives in accordance with the VDHR Guidelines. Photo simulations were prepared to assess potential viewshed impacts from construction of the proposed transmission line for each considered resource and relevant route.

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

The resources located within the right-of-way of the route alternatives may be subject to both direct impacts from placement of the transmission line across the property as well as visual impacts from changes to the viewshed introduced by the new transmission infrastructure. Resources in the 0.0 to 0.5-mile study tier would not be directly impacted but would likely be visually impacted unless topography or vegetation obscures the view from the resource to the transmission line. At a distance over 0.5 mile, it becomes less

likely that a resource would be within line-of-sight of the new transmission facilities. Beyond 1.0 mile, it becomes even less likely that a given resource would be within lineof-sight of the Project. However, a full architectural survey (to be completed following the selection of a route) is necessary to determine which resources would be visually impacted and to survey for additional unrecorded resources.

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

## **Duval-Midlothian Lines**

## Proposed Route (Route 3B) and Alternative Route 3A

Both the Proposed Route (Route 3B) and Alternative Route 3A overlap in areas where the considered historic resources lay. Thus, findings for both routes are identical for the five considered historic resources. The resource descriptions and impact assessments below are therefore applicable for both the Proposed Route and Alternative Route 3A.

Five aboveground historic resources were identified within the VDHR study tiers for the Proposed Route and Alternative Route 3A (Table I-1). Construction and operation of the facilities would have no impact on four resources (020-0023, 020-0030, 020-0111, and 020-0405), and a severe impact on one resource (020-0407).

There would be no visibility of the Project infrastructure along the Proposed Route or Alternative Route 3A due to intervening vegetation and distance from the following resources:

- The Dinwiddie County Pullman Car (020-0023), which lies approximately 0.5 mile to the west of the Proposed Route and Alternative Route 3A;
- Hallsborough Tavern (020-0030), which lies approximately 0.5 mile to the northwest of the Proposed Route and Alternative Route 3A;
- Bethel Baptist Church (020-0111), which lies approximately 0.5 mile to the northwest of the Proposed Route and Alternative Route 3A; and
- Mt. Sinai Baptist Church (020-0405), which lies approximately 0.4 mile to the north-northwest of the Proposed Route and Alternative Route 3A.

Consequently, construction and operation of the Proposed Route and Alternative Route 3A would have no impact on these resources.

The Hallsboro Store (020-0407) is located approximately 250 feet to the northwest of the Proposed Route and Alternative Route 3A in an area where the routes use a greenfield alignment. The area between the routes and the resource includes the Norfolk

Southern Railway. The Proposed Route and Alternative Route 3A would be visible from the resource's southern boundary when looking to the east and northeast. In addition, the construction of the routes would include vegetation and tree removal to the south and east, which would also be visible from the resource. The thinning in the trees in this area would make the routes more prominent during off-leaf seasons. The construction of the Proposed Route (and Alternative Route 3A would add modern elements to the resource's northeastern and eastern viewsheds where there currently are no modern elements, and would remove trees and vegetation along the transmission line right-of-way. Thus, ERM recommends that the Proposed Route and Alternative Route 3A would have a severe impact on 020-0407, the Hallsboro Store.

Because the pre-application analysis indicates that each alternative route would result in a severe impact on 020-0407, the Hallsboro Store, mitigation of impacts from the Project will likely be required. The Company will address impacts on this resource in the next stage of investigations.

TABLE I-1 Western Chesterfield Electric Transmission Project Resources in VDHR Tiers for the Proposed Route (Route 3B) and Alternative Route 3Aª							
Buffer (miles)	Considered Resources	VDHR #	Description	Impact			
1.0-1.5	National Historic Landmarks	NA	NA	NA			
0.5.1.0	National Register— Listed	020-0023	Dinwiddie County Pullman Car	None			
0.3-1.0	Battlefields	NA	NA	NA			
	Historic Landscapes	NA	NA	NA			
		020-0030	Hallsborough Tavern	None			
	National Register—	020-0111	Bethel Baptist Church	None			
0.0- 0.5	Listed	020-0407	Hallsboro Store	Severe			
	National Register— Eligible	NA	NA	NA			
	Locally Significant	020-0405	Mt. Sinai Baptist Church	None			
0.0 (within right-of- way)	NA	NA	NA	NA			

Source: VDHR 2025

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

The Stage I Analysis also considered the potential effects to archaeological resources. No previously recorded archaeological sites were identified within or adjacent to the rights-of-way for Proposed Route or Alternative Route 3A.

## Alternative Route 2B

Five aboveground historic resources were identified within the VDHR study tiers for Alternative Route 2B (Table I-2). Construction and operation of the facilities would

have no impact on four resources (020-0023, 020-0030, 020-0111, and 020-0405) and a severe impact on one resource (020-0407).

There would be no visibility of the Project infrastructure along Alternative Route 2B due to intervening vegetation and distance from the following resources:

- The Dinwiddie County Pullman Car (020-0023), which lies approximately 798 feet to the northwest of Alternative Route 2B;
- Hallsborough Tavern (020-0030), which lies approximately 0.5 mile to the northwest of Alternative Route 2B;
- Bethel Baptist Church (020-0111), which lies approximately 0.5 mile to the northwest of Alternative Route 2B; and
- Mt. Sinai Baptist Church (020-0405), which lies approximately 0.4 mile to the north-northwest of Alternative Route 2B.

Consequently, construction and operation of Alternative Route 2B would have no impact on these resources.

The Hallsboro Store (020-0407) is located approximately 250 feet to the northwest of Alternative Route 2B in a shared greenfield alignment, similar to the Proposed Route and Alternative Route 3A. The area between the route and the resource includes the Norfolk Southern Railway. Alternative Route 2B would be visible from the resource's southern boundary when looking to the east and northeast. In addition, the construction of the route would include vegetation and tree removal to the south and east, which would also be visible from the resource. The thinning in the trees in this area would make the route more prominent during off-leaf seasons. The construction of Alternative Route 2B would add modern elements to the resource's northeastern and eastern viewsheds where there currently are no modern elements, and it would remove trees and vegetation along the transmission line right-of-way. Thus, ERM recommends that Alternative Route 2B would have a severe impact on 020-0407, the Hallsboro Store. Like the Proposed Route and Alternative Route 3A, mitigation of impacts from the Project will likely be required. The Company will address impacts on this resource in the next stage of investigations.

TABLE I-2Western Chesterfield Electric Transmission ProjectResources in VDHR Tiers for the Alternative Route 2B a							
Buffer (miles)	Considered Resources	VDHR #	Description	Impact			
1.0-1.5	National Historic Landmarks	NA	NA	NA			
0510	National Register— Listed	NA	NA	NA			
0.3-1.0	Battlefields	NA	NA	NA			
	Historic Landscapes	NA	NA	NA			
0.0.05	National Register—	020-0023	Dinwiddie County Pullman Car	None			
0.0- 0.3	Listed	020-0030	Hallsborough Tavern	None			

		020-0111	Bethel Baptist Church	None
		020-0407	Hallsboro Store	Severe
	National Register— Eligible	NA	NA	NA
	Locally Significant	020-0405	Mt. Sinai Baptist Church	None
0.0 (within right-of- way)	NA	NA	NA	NA

Source: VDHR 2025

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

The Stage I Analysis also considered the potential effects to archaeological resources. No previously recorded archaeological sites were identified within or adjacent to the rights-of-way for Alternative Route 2B.

## J. Chesapeake Bay Preservation Areas

Chesterfield County is a locality subject to the Chesapeake Bay Preservation Act ("CBPA"), which regulates development of lands that could impact water quality in the Chesapeake Bay and its tributaries.

Chesterfield County has adopted the Chesapeake Bay Preservation Ordinance and has designated environmentally sensitive areas as Resource Protection Areas ("RPAs"), including tidal wetlands, tidal shores, perennially flowing streams, non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or perennial waterbodies, and buffer areas that include land within a major floodplain, and a 100-foot buffer around any of these features. As such, Chesterfield County designated RPAs are located around perennial waterbodies and associated wetland areas along the Proposed Route, including Canal Swamp and an unnamed tributary to this waterbody and its associated wetlands. The Proposed Route crosses approximately 1.1 miles of land designated as an RPA.

Construction, installation, operation, and maintenance of electric transmission lines are conditionally exempt from the CBPA as stated in the exemption for public utilities, railroads, public roads, and facilities in 9 VAC 25-830-150. The Company will meet those conditions. In addition, the Company will use Best Management Practices to limit impacts to CBPA areas to the minimum extent possible while safely and effectively constructing and maintaining its infrastructure.

## K. Wildlife Resources

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

The VGIN statewide land cover dataset (2024) was utilized to quantify land cover classifications impacted by each route alternative. Desktop-delineated wetlands and waterbodies and the methodology for delineation are discussed further in Section D and values provided below.

## **Duval-Midlothian Lines**

## Proposed Route (Route 3B)

The majority of the Proposed Route crosses forested land (131.4 acres), with a smaller amount of open space (5.1 acres), agricultural land (1.3 acres), and developed land (1.6 acres). The Proposed Route would cross 19.1 acres of wetlands, 8 NHD-mapped intermittent waterbodies, and 6 NHD-mapped perennial waterbodies.

## Alternative Route 2B

The majority of Alternative Route 2B crosses forested land (160.7 acres), with a smaller amount of open space (3.7 acres), agricultural land (2.0 acres), and developed land (1.6 acres). Alternative Route 2B would cross 14.1 acres of wetlands, 12 NHD-mapped intermittent waterbodies, and 4 NHD-mapped perennial waterbodies.

## Alternative Route 3A

The majority of Alternative Route 3A crosses forested land (142.0 acres), with a smaller amount of open space (3.3 acres), agricultural land (1.3 acres), and developed land (1.3 acres). Alternative Route 3A would cross 21.4 acres of wetlands, 10 NHD-mapped intermittent waterbodies, and 6 NHD-mapped perennial waterbodies.

## L. Recreation, Agricultural, and Forest Resources

The Project is expected to have minimal impacts on recreational, agricultural, and forest resources. Opportunities for collocation with other rights-of-way, particularly the Company's existing 230 kV Midlothian-Short Pump Line #2009, 230 kV Bremo-Midlothian Line #2027, and 500 kV Midlothian-North Anna Line #576, as well as existing 230 kV Midlothian-Spruance NUG Line #282, and 230 kV Midlothian-Winterpock Line #2066 and 500 kV Carson-Midlothian Line #563, the Norfolk Southern Railway, a Colonial Pipeline Company ("Colonial Pipeline") natural gas pipeline, and existing and planned road corridors such as US 60, Old Hundred Road,

Mount Hermon Road, Genito Road, and VDOT's Powhite Parkway project were considered where possible as a means of avoiding or minimizing impacts on resources. Collocation opportunities are discussed in Section 4 of the Environmental Routing Study. Where the route alternatives cross agricultural lands, impacts would be limited to structure placement and agricultural activities could resume post construction. Where forested areas are crossed, trees would be removed and vegetation kept to maintained heights within the right-of-way.

The Virginia Agricultural and Forestal Districts Act provides for the creation of conservation districts designed to conserve, protect, and encourage the development and improvement of a locality's agricultural and forested lands. According to the Virginia Department of Forestry, there are no Virginia Agricultural and Forestal Districts ("AFDs") crossed by the Project.

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

Under the Virginia Open-Space Land Act, any public body can acquire title or rights to real property to provide means of preservation of open-space land. Most easements created under the Act are held by the Virginia Outdoors Foundation ("VOF"), but any state agency is authorized to create and hold an open-space easement. Such conservation easements are designed to preserve and protect open space and other resources and must be held for no less than five years in duration and can be held in perpetuity. According to the DCR's Managed Conservation Lands Database and the Protected Areas Database of the United States ("PAD-US"), no easements held by the VOF, AFDs, or Virginia Natural Area Preserves are present in the study area. There is one 89-acre North American Land Trust ("NALT") easement within 600 feet of Alternative Route 2B, but no Project rights-of-way would cross the easement. A threeacre VDHR easement for the Hallsboro Store is located approximately 300 feet west of the Proposed Route 3B and Alternative Routes 3A and 2B; however, no routes cross this VDHR easement. Three Chesterfield County conservation easements (managed by the Parks and Recreation Department) were identified on private parcels in the eastern extents of the study area. Of these three, one easement is located on an approximately 150-acre private property northwest of the Swift Creek Reservoir, with frontage on Otterdale Road. This County easement is largely forested and consists of a County resource protection area around Swift Creek. Alternative Route 3A right-of-way is adjacent to the northwest corner of-but does not cross-the easement. As part of the Chesterfield County EDA's Upper Magnolia Green - East development, the Swift Creek Preserve is proposed as an environmental conservation area around Horsepen Creek and associated tributaries. The Proposed Route and Alternative Routes are approximately 400 feet west of and would not cross the proposed Swift Creek Preserve.

Chesterfield County Parks and Recreation owns and maintains Irvin G. Horner Park (Horner Park, formerly Clover Hill Athletic Complex) encompassing four parcels,

totaling 316 acres, off Genito Road within the study area: Parcels 7026886738, 7026852369, 7016863250, and 7016872664. Approximately 100 acres of the northern parcel contain developed areas with seven multi-use fields, four baseball/softball fields, restrooms and concessions, and a community recycling center. Proposed Route 3B crosses the eastern extents of the northern parcel on the east side of Mount Hermon Road. Alternative Routes 2B and 3A are about 0.6 and 0.4 mile, respectively, away from the nearest existing park facilities. The Company coordinated with Chesterfield County to discuss the proposed crossing as it may relate to future park enhancements; however, the County indicated its property on the east side of Mount Hermon Road is less developable and did not express any concern.

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

None of the route alternatives run parallel to or cross any Virginia Byways or Virginia Birding and Wildlife Trails. The nearest Virginia Byway is Old Gun Road in Chesterfield County, which is approximately 3.8 miles northeast of the study area. Agricultural and forest resources identified within 0.25 mile of the Proposed and Alternative Routes are discussed below.

## **Duval-Midlothian Lines**

#### Proposed Route (Route 3B)

The Proposed Route crosses approximately 131.4 acres of forested land (about 94% of the route) and 1.3 acres of pastureland (about 1.0% of the route). NRCS soils data indicates about 32.8 acres are classified as farmland of statewide importance. No prime farmland was identified within the right-of-way of the Proposed Route.

#### Alternative Route 2B

Alternative Route 2B crosses approximately 160.7 acres of forested land (about 96% of the route) and 2.0 acres of pastureland (about 1.2% of the route). NRCS soils data indicates about 56.3 acres are classified as farmland of statewide importance. No prime farmland was identified within the right-of-way of Alternative Route 2B.

## Alternative Route 3A

Alternative Route 3A crosses approximately 142.0 acres of forested land (about 96% of the route) and 1.3 acres of pastureland (about 1.0 % of the route). NRCS soils

data indicates about 35.2 acres are classified as farmland of statewide importance. No prime farmland was identified within the right-of-way of Alternative Route 3A.

## **Duval Substation**

The footprint of the proposed Duval Substation encompasses 5.1 acres of forested land. NRCS soils data indicates 0.6 acres are classified as farmland of statewide importance. No prime farmland was identified within the footprint of the proposed Duval Substation.

# M. Use of Pesticides and Herbicides

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

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

Additionally, based on a discussion between Company and DCR-DNH representatives, the Company reviewed its Integrated Vegetation Management Plan ("IVMP") for application to both woody and herbaceous species based on the species list available on the DCR website. The Company continues to coordinate with DCR-DNH 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 DCR to continue ongoing coordination. At that time, the Company committed to providing DCR 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 DCR on February 7, 2025.

Updates to the Company's recommended shrub species planting list include: (i) addition of a QR code providing a direct link to DCR's invasive species list, (ii) addition of a link to DCR's website for invasive species information, (iii) incorporation of

additional native species, and (iv) removal of all invasive species.

The Company is continuing to coordinate with DCR to identify ways to collaborate that are consistent with the Company's IVMP and will provide the outcome of those efforts.<sup>7</sup>

# N. Geology and Mineral Resources

The study area is within the Piedmont geological province, which lies between the mountainous Blue Ridge province to the west and the terraced slopes of the Coastal Plain province to the east. The Piedmont province is characterized by rolling topography, thick soils, and heavily weathered bedrock primarily caused by the region's humid climate. The Piedmont province consists of several complex geologic terranes where faults separate the rock units with variable igneous and metamorphic histories. Based on review of the Geologic Map of Virginia, the route alternatives are located approximately on the transitional boundary between the Western Piedmont-Potomac Terrane and a Mesozoic basin.<sup>8</sup>

Each of the route alternatives start within a unit of unconsolidated deposits known as the Terrace Deposits, primarily composed of clay, gravel, and sand. The routes then encounter sedimentary bedrock belonging to the Newark Supergroup made up of sandstone, siltstone, and shale. For the majority of the route lengths, bedrock underlying Proposed Route (Route 3B) and Alternative Route 3A is composed of Arkosic sandstone. Alternative Route 2B also encounters Arkosic sandstone from MP 5.0 to the route's terminus at the proposed Duval Substation<sup>9</sup> (Virginia Energy 2024).

<sup>&</sup>lt;sup>7</sup> See, Application of Virginia Electric and Power Company, For approval and certification of electric transmission facilities: 230 kV Line #293 and 115 kV Line #83 Rebuild Project, Case No. PUR-2021-00272, Final Order at 9-11 (Aug. 31, 2022) (The Commission agreed with the Chief Hearing Examiner and declined to adopt DCR-DNH's recommendation regarding an invasive species management plan ("ISMP"), but directed the Company to meet with DCR-DNH and to report on the status of the meetings in the Company's next transmission certificate of public convenience and necessity ("CPCN") filing); see also Report of Alexander F. Skirpan, Jr., Chief Hearing Examiner (Jun. 22, 2022) at 22 (agreeing with the Company that, with its IVMP, the Company should not be required to undergo the additional cost of DCR-DNH's ISMP; however, recommending that the Company meet with DCR-DNH regarding its IVMP and report the results of the meeting in the next transmission CPCN filing).

<sup>&</sup>lt;sup>8</sup> William and Mary Department of Geology. 2024. Geology of Virginia. Accessed February 2025. http://geology.blogs.wm.edu/. USGS (U.S. Geological Survey). 2005. Open-file Report 2005-1325, Preliminary integrated geologic map databases for the United States: Delaware, Maryland, New York, Pennsylvania, and Virginia. Accessed February 2025. <u>https://pubs.usgs.gov/of/2005/1325/#VA</u>.

 <sup>&</sup>lt;sup>9</sup> Virginia Department of Energy (Virginia Energy). 2024a. Geology Mineral Resources Map. Accessed February 2025. <u>https://energy.virginia.gov/webmaps/GeologyMineralResources/</u>. Virginia Energy.
2024b. Mineral Mining Map. Accessed February 2025. https://energy.virginia.gov/webmaps/MineralMining/.
Because there are no active permitted mining sites or inactive mineral resource prospects within 0.25 mile of the Proposed and Alternative Routes, it is unlikely for construction and operation of the Project's transmission infrastructure to impact mineral resources.

#### **O.** Transportation Infrastructure

#### Road and Railroad Crossings

One Norfolk Southern Railway railroad runs east-west for about 5.2 miles in the northern portion of the study area. The railroad generally parallels portions of Mount Hermon Road and crosses forested and scattered residential areas. No other railroads are in the Project vicinity. All routes share a common alignment and collocate with the railroad for about 1.3 miles between Hallsboro Road and Old Hundred Road. The shared alignment crosses the railroad once to minimize the length of crossing on a planned residential development located south of the railroad. Dominion Energy Virginia solicited preliminary feedback from Norfolk Southern Railway on the route alternative crossings and did not receive any objections to the proposed crossing. The Company will coordinate with Norfolk Southern Railway to avoid impacts on the railroad and to ensure that proper clearances and setbacks are met.

The road network in the study area includes a variety of functional classifications identified by Chesterfield County's Transportation Department, including limited access (State Route 288), major arterials (US 60 or Midlothian Turnpike), collector roads (segments of Old Hundred Road, Dry Bridge Road, Genito Road, Moseley Road, Mount Hermon Road, and Duval Road), and local roads including privately maintained roads in residential areas. VDOT owns and maintains most public road rights-of-way within the study area.

ERM reviewed Chesterfield County's 2019 Comprehensive Plan (Plan) and Proposed Thoroughfare Plan, Chesterfield County Western Area Capital Improvement Projects, the Richmond Regional Transportation Planning Organization Long-term Transportation Plan, the Richmond VDOT District project website, and individual planned developments filed within Chesterfield County for upcoming projects within the study area to determine potential impacts on future road projects. Based on a review of these sources, eight planned roadway projects are within 0.25 mile of the Proposed Route and Alternative Routes.

# Planned Limited Access Roads

• **Powhite Parkway project** is a VDOT project to extend Powhite Parkway from Woolridge Road to US 360 (Hull Street Road). VDOT, in coordination with the Federal Highway Administration (FHWA) and Chesterfield County, is preparing an Environmental Impact Statement (EIS) to evaluate the impacts of extending Powhite Parkway as a limited access road, which can accommodate high-speed traffic and typically have a right-of-way width of 200 feet. At this time, the EIS is evaluating two conceptual alignments (1A and 1B) for the Powhite Parkway project, both of which would cross the study area through forested areas east of Moseley Road and west of Otterdale Road. For the study, interchanges are planned at Wooldridge

Road, Otterdale Road, Genito Road, and Hull Street Road, of which one is crossed by the Project (Genito Road). The Powhite Parkway project, including the two conceptual alignments, are crossed by all route alternatives at least once and collocated for portions of the route. The Proposed Route (Route 3B) and Alternative Route 2B do not cross Conceptual Alignment 1A or 1B but instead cross a proposed alignment (where no other alternate alignment exists) for the Powhite Parkway project to reach the proposed Duval Substation site. Regardless of the conceptual alignment chosen for the Powhite Parkway project, Alternative Route 3A would cross the planned limited access road three times. All routes would collocate with the proposed Powhite Parkway project alignment for 1.2 miles on the Chesterfield County EDA's Upper Magnolia Green developments; however, the length of future collocation for the Proposed Route and Alternative Route 3A would depend on the preferred alignment chosen.

Throughout the route development process, the Company coordinated with Chesterfield County and VDOT to determine practical locations to collocate the proposed Duval-Midlothian Lines alongside the Powhite Parkway project. As of April 2025, Chesterfield County and VDOT are reviewing community feedback and are not expected to have a final highway alignment selected until 2026 (see the Company's Application for further discussion). As such, the Proposed Route (Route 3B) and Alternative Route 3A collocate alongside the Powhite Parkway project's Conceptual Alignments 1B and 1A, respectively, and are not anticipated to conflict with those areas planned for the Powhite Parkway project. The Company will continue to coordinate with Chesterfield County and VDOT as a final project alignment is determined.

#### Planned Major Arterial/Collector/Local Roads per Chesterfield County

- **Duval Road Realignment** includes multiple improvements to Duval Road (a major arterial road up to 90-feet-wide), west of the intersection with Otterdale Road. The Project would realign Duval Road west of the proposed North-South Collector Road, construct a new connector road to the planned Powhite Parkway Project through the Upper Magnolia Green East development, and improve Duval Road east of the proposed North-South Collector Road. The Duval Substation will require two access locations from the realigned Duval Road with the footprint at least 200 feet from the road. No routes cross Duval Road; the road is 0.1 mile south of all routes. The proposed connector road is less than 0.1 mile east of the proposed Duval Substation. Throughout its routing process, the Company coordinated with Chesterfield County and its EDA on the realignment plans as it relates to siting the proposed Duval Substation on the EDA's Upper Magnolia Green East development. The Company will continue to coordinate with the County and VDOT as the final road alignment is determined.
- Mount Hermon Road Extension would extend Mount Hermon Road (a major arterial road up to 90-feet-wide) from Horner Park to future Westerleigh Parkway and Magnolia Green Parkway. The Proposed Route (Route 3B) is less than 200 feet (after collocating along an existing portion of Mount Hermon

Road) and Alternative Route 2B crosses the planned road extension. Alternative Route 3A does not cross the Mount Hermon Road Extension.

- Westerleigh Parkway Extension would extend Westerleigh Parkway (a major arterial road up to 90-feet-wide) from Otterdale Road to the planned North-South Collector and eventually to Mount Hermon Road within Upper Magnolia Green—West. The segment from Otterdale to the new North-South Collector Road is under construction based on recent (2025) aerial imagery and at least 0.3 mile from the nearest route. The Westerleigh Parkway Extension is crossed once by all route alternatives.
- North-South Collector Road would construct a new collector road (up to 70feet-wide) between Mount Hermon Road and Duval Road. The North-South Collector Road project is currently under construction and is expected to be complete by Spring 2026. The North-South Collector Road is 0.3 mile east of the Proposed Route (Route 3B) and 0.2 mile southeast of Alternative Route 3A.
- **Brightwalton Road Extension** is a planned local road project to extend Brightwalton Road from the existing Hallsley neighborhood to Hallsboro Road, as part of Chesterfield County's Roseland Zoning Overlay District. This project would be crossed by the Proposed Route (Route 3B) and both Alternative Routes, where all routes share a common alignment.

#### Planned Road Improvements per Private Planned Developments

- Genito Road Improvements is a road project to make improvements along Genito Road as part of an approved rezoning case for a planned residential development (Lattice Hall). The project is less than 200 feet east of Alternative Route 3A.
- Old Hundred Road Improvements is a planned road project for various road improvements, including a new roundabout, as part of the approved rezoning case for a planned residential development (North Hallsley). The planned improvements are less than 400 feet south of the Proposed Route (Route 3B) and the Alternative Routes, where all routes share a common alignment.

# **Duval-Midlothian Lines**

#### Proposed Route (Route 3B)

The Proposed Route would cross two existing roadways:

- Old Hundred Road
- Genito Road

The Proposed Route would cross three planned roadways:

- Brightwalton Road Extension
- Powhite Parkway project (proposed alignment where no alternatives exist)
- Westerleigh Parkway Extension

Old Hundred Road and Genito Road are maintained by VDOT. The Proposed Route (Route 3B) collocates with existing roads for about 0.8 mile and could collocate with future roads (including the Powhite Parkway project) for up to 3.1 miles. Based on review of private, County, and VDOT projects, the Proposed Route would not conflict with any existing or planned roads.

#### Alternative Route 2B

Alternative Route 2B would cross three existing roadways:

- Old Hundred Road
- Mount Hermon Road
- Genito Road

Alternative Route 2B would cross four planned roadways:

- Brightwalton Road Extension
- Powhite Parkway Project (proposed alignment where no alternatives exist)
- Westerleigh Parkway Extension
- Mount Hermon Road Extension

Old Hundred Road, Mount Hermon Road, and Genito Road are maintained by VDOT. Alternative Route 2B collocates with existing roads for about 0.3 mile and could collocate with future roads (including the Powhite Parkway project) for up to 1.4 miles. Based on review of private, County, and VDOT projects, Alternative Route 2B would not conflict with any existing or planned roads.

#### Alternative Route 3A

Alternative Route 3A would cross two existing roadways:

- Old Hundred Road
- Genito Road

Alternative Route 3A would cross the following planned roadways nine times:

- Brightwalton Road Extension
- Powhite Parkway Project (proposed alignment where no alternatives exist), and its Conceptual Alignments 1A and 1B
- Westerleigh Parkway Extension

Old Hundred Road and Genito Road are maintained by VDOT. Alternative Route 3A collocates with existing roads for about 0.3 mile and future roads (including the

Powhite Parkway project) for up to 3.8 miles. Based on review of private, County, and VDOT projects, Alternative Route 3A would not conflict with any existing or planned roads.

#### **Duval Substation**

The Duval Substation does not cross any existing or planned roads based on current County and VDOT data. The Company has been coordinating with Chesterfield County to ensure that the Duval Substation does not interfere with the planned realignment of Duval Road.

The proposed Duval Substation is at least 200 feet from Chesterfield County's Duval Road Realignment project, which includes multiple improvements to Duval Road, west of the intersection with Otterdale Road.

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

#### **Airports**

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

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

ERM, on behalf of the Company, reviewed the FAA website<sup>10</sup> to identify public use airports, airports operated by a federal agency or the U.S. Department of Defense, airports, or heliports with at least one FAA-approved instrument approach procedure, and public use or military airports under construction within 10.0 nautical miles of the Project's Proposed and Alternative Routes. Based on this review, the following airports, which include public airports with FAA-restricted airspace, and private facilities

<sup>&</sup>lt;sup>10</sup> See <u>https://oeaaa.faa.gov/oeaaa/external/portal.jsp</u> and <u>https://adip.faa.gov/agis/public/#/public</u>.

Table O-1 Western Chesterfield Electric Transmission Project Airports And Heliports Located Within 10.0 Nautical Miles (nm) of the Proposed and					
Alternative Routes					
Airport/Heliport Name and FAA Identifier	Use Designation	Approximate distance and direction of nearest runway from the nearest project route/ feature			
Private Airstrip (Planned; currently unregistered with FAA)	Private	0.3 nm north of Alternative Route 2B			
Johnston Willis Heliport (VG41)	Private	2.7 nm east of Midlothian Substation			
Bon Secours St Francis Medical Center Heliport (VG68)	Private	3.2 nm east of Alternative Route 3A			
Plainview Airport (VA94)	Private	7.3 nm northwest of Alternative Route 2B			
Sabot Airport (1VA0)	Private	7.7 nm north of Midlothian Substation			
Merlin Aerodrome Airport (2VA3)	Private	8.2 nm southwest of Duval Substation			
Chippenham Hospital Heliport (6VA3)	Private	8.6 nm east of Midlothian Substation			
Richmond Executive (Chesterfield County) Airport (FCI)	Public	9.3 nm southeast of Alternative Route 3A			
Saunders Field Airport (9VA6)	Private	9.8 nm northwest of Alternative Route 2B			
H D T Heliport (60VA)	Private	9.9 nm north of Midlothian Substation			

without restricted airspace, are located within 10.0 nautical miles of the Proposed and Alternative Routes.

The Company conducted an airport analysis to determine if any of FAA defined Civil Airport Imaginary Surface would be penetrated by structures associated with the Project. The regulations that govern objects that may affect navigable airspace are codified in the Code of Federal Regulations, Title 14, Part 77.

As described in the following sections, none of the route alternatives will overlap with any airport imaginary surfaces or notification surfaces, and none of the structures would exceed FAA airspace obstruction thresholds. Unless specifically requested by the FAA, notification to the FAA would not be required for any component. If the FAA were to request additional information regarding the proposed project for any reason, the Company may be required to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration, pursuant to 14 CFR Part 77 for FAA notification. Any such submittal would occur after a route is selected by the Commission during the permitting phase of the Project.

#### Public Airports

Of the 10 airports and heliports identified in Table O-1, Richmond Executive Airport is the only public use airport within 10 nm of the Proposed and Alternative Routes. ERM conducted an airport analysis using FAA-defined imaginary surface geometry definitions and obstruction standards to review the extent and height limitations associated with Richmond Executive Airport. Based on the results of this review, all Project components are outside the horizontal extent of the civil airport imaginary surfaces associated with Richmond Executive Airport. As such, no penetration of regulated airspace is anticipated. In addition, the proposed transmission line structures for the Project would not exceed 200 feet AGL. Dominion Energy Virginia would likely use cranes to install the Project's transmission structures. Based on the typical maximum crane height needed for construction (approximately 35 feet above the structure height), these cranes would not exceed the FAA notification thresholds.

Unless specifically requested by the FAA, notification to the FAA would not be required for any component. If the FAA were to request additional information regarding the proposed project for any reason, Dominion Energy Virginia may be required to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration, pursuant to 14 CFR Part 77 for FAA notification. Any such submittal would occur after a route is selected by the Commission during the permitting phase of the Project.

#### Private Airports

The FAA does not regulate the airspace of any private airports or heliports listed in Table O-1. As a safety precaution, Dominion Energy Virginia considers the impact proposed structures may have on private facilities within close proximity to the routes.

In 2022, the County approved a conditional use permit to construct a private airstrip at 1401 County Line Road. As proposed in the permit application, the airstrip would be a 2,054 foot-long (maximum approved length of 2,750 feet) private-use turf airstrip. As of April 2025, the private airstrip has not been constructed and is not registered with the FAA. The proposed runway would be oriented north-northeast to south-southwest, with its southern end facing toward Alternative Route 2B near County Line Road and Mount Hermon Road intersection. The planned runway is located approximately 3,350 feet west of Alternative Route 3A and the Proposed Route (Route 3B). The southern end of the runway is located approximately 1,900 feet northwest of Alternative Route 2B at its nearest point, and approximately 2,200 feet separates the end of runway from Alternative Route 2B when measured along the runway centerline.

As previously stated, the runway is not registered with the FAA, and private airports are not required to have runway obstruction categories assigned to them or be evaluated as such. As a conservative measure, this review considered the imaginary surface geometry of a Visual Approach Utility Runway (A[V]) in evaluating potential structure height risk for the proposed airstrip. FAA-defined A(V) runway approach surfaces extend for 5,000 feet at a 20:1 slope from the end of the runway. The elevation at the end of the runway is approximately 280 feet above mean sea level ("AMSL"). The ground elevation along the section of Alternative Route 2B within the approach path ranges between 200 and 225 feet AMSL. Based on this analysis, structure heights along Alternative Route 2B would need to be restricted to approximately 165 to 185 feet above ground level ("AGL") in the vicinity of the County Line Road and Mount Hermon Road intersection. As such, structures along Alternative Route 2B would not pose a risk to the runway's air navigation. The transmission structures for Alternative

Route 3A and the Proposed Route (Route 3B) will be positioned at a greater distance from the airstrip, thereby mitigating any potential impact on the proposed airstrip. Dominion Energy Virginia has been in contact with the property owner that plans to construct the private runway. No additional actions are required based on FAA regulations.

# P. Drinking Water Wells

The Company has coordinated with the Department of Health ("VDH"), Office of Drinking Water ("ODW") on the Company's analysis of drinking water sources in proximity to the Company's construction project components. VDH-ODW has requested the Company identify known drinking water wells within the project area on the Company's Erosion and Sediment Control Plans. Water wells within 1,000 feet of the Project, however, may be outside of the transmission line corridor. The Company does not have the ability or right to field-mark wells located on private property. The Company has agreed to a method of well protection, including plotting and calling out the wells on the Project's Erosion and Sediment Control Plan, to which VDH-ODW indicated that the Company's proposed method is reasonable. A copy of that correspondence is included as <u>Attachment 2.P.1</u>. The Company intends to follow this same approach as a standard practice with transmission line projects and will coordinate with VDH-ODW, as needed.

# **Q.** Pollution Prevention

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

# ATTACHMENTS

Attachment 2.D.1 Page 1 of 50



222 South 9<sup>th</sup> Street Suite 2900 Minneapolis, Minnesota 55402 T +0 804 253 1090 F +0 804 253 1091

erm.com

Virginia Department of Environmental Quality Office of Environmental Impact Review Ms. Bettina Rayfield, Manager P.O. Box 1105 Richmond, Virginia 23218 DATE April 24, 2025

SUBJECT Western Chesterfield Electric Transmission Project

REFERENCE 0662361

Dear Ms. Rayfield:

Environmental Resources Management (ERM), on behalf of Virginia Electric and Power Company (Dominion Energy Virginia, Dominion, or the Company), conducted a desktop wetland and waterbody review of publicly available information for the proposed Western Chesterfield Electric Transmission Project (Project) in Chesterfield County, Virginia. This delineation was done using desktop resources and methodology. A field delineation is required to verify the accuracy and extent of aquatic resource boundaries. Project route alternatives are shown in Attachment 1, with aquatic resource type and probability shown on Attachments 2 and 3.

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

- Construct two new approximately 7.1-mile overhead 230 kilovolt (kV) double circuit transmission lines (for a total of four circuits) on new right-of-way. The new transmission lines will originate at the Company's existing Midlothian Substation and continue to the proposed Duval Substation (Duval-Midlothian Lines); and
- Construct a new 230-34.5 kV substation in Chesterfield County, Virginia (Duval Substation) and perform substation-related work at the Company's existing Midlothian Substation.

These facilities are collectively referred to as the Project.

The Project is necessary to serve significant projected residential and commercial load growth identified by the Company in Chesterfield County, Virginia; to maintain and ensure reliable service for the overall load growth in the Project area thereby supporting economic development in Chesterfield County and Virginia; and to comply with mandatory North American Electric Reliability Corporation Reliability Standards.

The purpose of this desktop analysis is to identify and evaluate potential impacts of the Project on aquatic resources (wetlands, streams, creeks, runs, and open water features) in the area.



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In accordance with Virginia Department of Environmental Quality (DEQ) and the SCC's Memorandum of Agreement, the evaluation was conducted using various data sets that may indicate wetland location and type. This report is being submitted to the DEQ as part of the DEQ Wetland Impacts Consultation.

This assessment did not include field investigations required for wetland delineations, as defined in the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0).

# PROJECT STUDY AREAS AND POTENTIAL ROUTES

The Project study area encompasses an area containing the Project origin and termination points for the planned facilities as well as an area broad enough for the identification of reasonable route alternatives meeting the Project objectives. Additionally, and to the extent practicable, the limits of the study area were defined by reference to easily distinguishable landmarks, such as roads or other recognizable features. The limits of the study area are generally defined by the following features:

- U.S. Route 60 (Midlothian Turnpike or Anderson Highway) and existing Dominion Lines #219, #282, and #576 connecting the Company's Midlothian Substation to the north;
- Route 667 (Otterdale Road) to the east;
- Route 605 (Moseley Road) to the west; and
- Route 668 (Duval Road) and the proposed Duval Substation to the south.

The study area encompasses approximately 18,000 acres (28 square miles) in western Chesterfield County and the eastern portion of Powhatan County, Virginia. About 90% of the study area encompasses Chesterfield County. The unincorporated communities of Holly Hills, Hallsboro, Moseley, and Otterdale are located within the study area. Land use and land cover consists mostly of forested, agricultural, and undeveloped lands; however, there are numerous planned developments throughout the study area including Chesterfield County Economic Development Authority's (EDA) proposed Upper Magnolia Green development. Most forested areas exist along Tomahawk Creek, Swift Creek, Turkey Creek, Otterdale Branch, Horsepen Creek, and associated tributaries. The largest forested/undeveloped areas are associated with riparian areas along Swift Creek, Turkey Creek, Otterdale Branch, and Horsepen Creek within waterways within the study area. Commercial and industrial buildings in the study area include medical facilities, athletic complexes, and commercial business facilities. In general, existing commercial businesses and buildings are located in the northwest portion of the study area. The study area is shown in Attachment 1.



# DUVAL-MIDLOTHIAN LINES

#### **ROUTE 2B**

Route 2B is approximately 8.6 miles long. From the existing Midlothian Substation, the route heads southeast, collocating with Dry Bridge Road and the Norfolk Southern Railway for about 1.6 miles. Route 2B then turns south and southwest, crossing parcels south of Mount Hermon Road for about 1.7 miles. It again collocates with the railroad and a Colonial Gas pipeline for about 0.6 mile before turning south and generally following parcel boundaries for about 2.5 miles. This portion of Route 2B crosses large, forested parcels associated with two planned residential developments along Genito Road. The route turns southeast for approximately 0.9 mile crossing large, forested parcels that are associated with planned industrial development before turning south to collocate with the west side of VDOT's planned Powhite Parkway Project for about 1.2 miles across large, undeveloped and forested parcels within Chesterfield County EDA's planned Upper Magnolia Green development. Route 2B then crosses the planned Powhite Parkway Project for about 0.1 mile to enter the proposed Duval Substation site from the east.

# ROUTE 3A

Route 3A is approximately 7.5 miles long. From the Midlothian Substation, it follows the same alignment as Route 2B for about 2.0 miles. Route 3A then runs south and southeast across large, forested parcels for approximately 2.0 miles to avoid existing and planned residential subdivisions along Old Hundred Road and Mount Hermon Road. Route 3A then turns southwest and collocates with VDOT's planned Powhite Parkway Project Conceptual Alignment 1A for about 2.3 miles (including one angled crossing of the Powhite Parkway alignment). The remaining approximately 1.2 miles of Route 3A to the proposed Duval Substation site follows the same alignment as Route 2B.

# ROUTE 3B

Route 3B is approximately 7.1 miles long. It follows the same alignment as Route 3A for approximately 3.2 miles, then turns southeast to collocate with the west side of VDOT's planned Powhite Parkway Project Conceptual Alignment 1B for 2.4 miles (except for a 0.7-mile segment near Genito Road that is not collocated, in order to avoid an existing residence). The remaining approximately 1.5 miles of Route 3B to the proposed Duval Substation site follows the same alignment as Route 2B.

# DUVAL SUBSTATION

The proposed 230-34.5 kV Duval Substation, located north of Duval Road and on Chesterfield County EDA's property (the Upper Magnolia Green development), will be constructed on property rights to be obtained by Dominion. The substation will be designed to accommodate



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multiple network connections to allow for increased reliability and to serve the projected load. The total area of the proposed Duval Substation is approximately 5.1 acres.

# DESKTOP EVALUATION METHODOLOGY

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

- Digital Aerial Photography taken in January 2025 (Planet Labs Imagery 2025);
- ESRI World Imagery from 2024 (ESRI et al. 2024b);
- Google Earth aerial imagery (Google Earth 2025);
- ESRI (Environmental Systems Research Institute, Inc.) World Elevation Terrain 2-foot contours (ESRI et al. 2024a);
- NWI maps from the USFWS online data mapping portal (USFWS 2024a);
- The National Hydrography Dataset (NHD) Plus High Resolution (USGS 2024);
- VGIN statewide land cover dataset (VGIN 2024); and
- Soil Survey Geographic Database soils data from the U.S. Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS 2024).

# NATURAL COLOR AND INFRARED AERIAL PHOTOGRAPHY

Recent (2025) natural color aerial photography was used to provide a visual overview of the Project area and to assist in evaluating current conditions. Infrared aerial photography was used to identify the potential presence of wetlands based on signatures associated with the levels of reflectance. For example, areas that are inundated with water appear very dark (almost black) due to the low level of reflectance in the infrared spectrum. The presence of these dark colors can be used as a potential indicator of hydric or inundated soils that are likely associated with wetlands.

#### TOPOGRAPHIC MAPS

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

#### USFWS NATIONAL WETLAND INVENTORY MAPPING

NWI maps provide the boundaries and classifications of potential wetland areas as mapped by the USFWS (USFWS 2024). NWI data is based primarily on aerial photo interpretations with limited ground-truthing and may represent incorrect boundaries or wetland cover types. NWI data can be unreliable in some areas, especially in forested landscapes, where aerial photography is used as the major data source. The classifications of the majority of the NWI



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polygons in the study area appear to be accurate based on a review of the cover types observed in the aerial photography. However, in areas where there was an obvious discrepancy between the NWI classification and the aerial photography, ERM modified the classification to more accurately reflect current conditions. In order to acknowledge ERM's adjustment of NWI classifications where appropriate, all the wetland types referenced in this assessment are referred to as "assigned wetland cover types" regardless of whether the cover type was modified from the NWI classification.

# USDA-NRCS SOILS DATA

Soils in the study area were identified and assessed using the SSURGO database, which is a digital version of the original county soil surveys (USDA-NRCS 2024). The attribute data within the SSURGO database provides the proportionate extent of the component soils and their properties (e.g., hydric rating) for each soil map unit. The soils in the study area were grouped into three categories based on the hydric rating of the component soils within each map unit: hydric, partially hydric, and non-hydric. Hydric soils were defined as those where the major component soils, and minor components in some cases, are designated as hydric. Hydric soils include map units that only contain minor component soils that are designated as hydric. The partially hydric map units in the Project area contain 10% or less hydric soils. The remaining map units do not contain any component soils that are designated as hydric. Areas mapped as hydric or partially hydric have a higher probability of containing wetlands than areas with no hydric soils.

# USGS NATIONAL HYDROGRAPHY DATASET

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

# PROBABILITY ANALYSIS

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

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



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

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

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

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

# WETLAND AND WATERBODY CROSSINGS

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

- Palustrine emergent (PEM) wetlands characterized by erect, rooted, herbaceous hydrophytes (i.e., aquatic plants) and woody species less than 3.28 feet in height, excluding mosses and lichens;
- Palustrine scrub-shrub (PSS) wetlands characterized by woody vegetation, excluding woody vines, approximately 3 to 20 feet in height;
- Palustrine forested (PFO) wetlands characterized by woody vegetation, excluding woody vines, approximately 20 feet or more in height and 3 inches or larger diameter at breast height (DBH);
- Palustrine unconsolidated bottom (PUB) open waters characterized by bottom substrate particles smaller than stones (less than 10 inches in diameter) covering greater than 25% of the area, with plants covering less than 30% of the area; and
- Riverine streams channels containing periodically or continuously moving water (USFWS 2013).



As stated above, field delineations were not performed and would be required to verify the accuracy and extent of aquatic resource boundaries. However, the Company obtained two separate field delineations completed by Timmons Group on January 28, 2022, and February 26, 2024, on parcels containing the Duval-Midlothian Lines and the proposed Duval Substation, which identified aquatic resources along the route alternatives between Mount Hermon Road and the proposed Duval Substation footprint, specifically, where all the route alternatives share an alignment on the County EDA's Upper Magnolia Green property. The boundaries of these field delineated aquatic resources were used in the desktop wetland delineation and are included in the wetland and waterbody numbers provided in this report.

#### RESULTS

Results of the probability analysis are presented in Table 2 below. A range of wetland occurrence probabilities are reported from very low to high. The probability of wetland occurrence increases as multiple indicators begin to overlap towards the "high" end of the spectrum. The medium, medium-high, and high probability categories are the most reliable representation of in-situ conditions, due to overlapping data sets, and these categories are reported in the summary below as a percentage of the total acreage of each route. Summaries are provided in the sections following the table. Riverine (stream) and PUB (open water features) are described in the Waterbody Crossings section below. Attachment 2 depicts the type and 3 depicts the probability of medium or higher interpreted wetlands displayed on color base map images.

# TABLE 2: SUMMARY OF THE PROBABILITIES OF WETLAND AND WATERBODY OCCURRENCE ALONG THE PROJECT <sup>a</sup>

Probability	Total Within Right-of-way (acres)	Wetland and Waterbody type (acres)				
		PEM (Emergent)	PFO (Forested)	PSS (Scrub- Shrub)	PUB (Freshwater pond)	Riverine (Stream)
Duval- Midlothian Lines <sup>a</sup>						
Route 2B						
High	2.1	<0.1	1.9	NA	NA	0.1
Medium/High	7.4	<0.1	6.6	NA	NA	0.8
Medium	4.6	0.2	3.9	NA	0.1	0.5
Medium/Low	1.3	NA	0.9	0.4	0.1	<0.1
Low	NA	NA	NA	NA	NA	NA



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Probability	Total	Wetland and Waterbody type (acres)					
	Within Right-of-way (acres)	PEM (Emergent)	PFO (Forested)	PSS (Scrub- Shrub)	PUB (Freshwater pond)	Riverine (Stream)	
Very Low	NA	NA	NA	NA	NA	NA	
Route 3A							
High	6.4	<0.1	5.9	NA	NA	0.5	
Medium/High	7.1	<0.1	6.4	NA	<0.1	0.7	
Medium	7.9	0.2	7.0	NA	NA	0.8	
Medium/Low	1.6	NA	1.4	NA	0.1	0.1	
Low	NA	NA	NA	NA	NA	NA	
Very Low	NA	NA	NA	NA	NA	NA	
Route 3B							
High	4.8	<0.1	4.3	NA	NA	0.5	
Medium/High	6.6	<0.1	5.9	NA	<0.1	0.7	
Medium	7.7	0.2	6.7	NA	NA	0.8	
Medium/Low	1.1	NA	1.0	NA	0.1	NA	
Low	NA	NA	NA	NA	NA	NA	
Very Low	NA	NA	NA	NA	NA	NA	
Duval Substation							
High	NA	NA	NA	NA	NA	NA	
Medium/High	NA	NA	NA	NA	NA	NA	
Medium	<0.1	NA	<0.1	NA	NA	NA	
Medium/Low	NA	NA	NA	NA	NA	NA	
Low	NA	NA	NA	NA	NA	NA	
Very Low	NA	NA	NA	NA	NA	NA	

NA = Not applicable due to absence of a wetland type within the right-of-way of a route alternative <sup>a</sup> Values have been rounded to the tenths place; as a result, the totals may not reflect the sum of the addends. A value of <0.1 indicates that less than 0.05 acre of a wetland type is present.



#### WETLAND CROSSINGS

Wetlands within the Project study area are associated with Tomahawk Creek, Swift Creek, Turkey Creek, Otterdale Branch, and Horsepen Creek, as well as their associated, unnamed tributaries. Large areas of PFO wetlands associated with the major tributaries, like Swift Creek and Turkey Creek, are located in the central portion of the study area while the southern portion of the study area contains PFO wetlands associated with Horsepen Creek.

#### ROUTE 2B

The length of the corridor for Route 2B is approximately 8.6 miles and encompasses a total of approximately 168.1 acres. Based on the methodology discussed above, the right-of-way footprint will encompass approximately 8.4% (14.1 acres) of land with a medium or higher probability of containing wetlands and waterbodies. These 14.1 acres consist of 12.4 acres of PFO wetlands, 0.2 acre of PEM wetlands, 0.1 acre of open water features, and 1.4 acres of riverine features.

#### ROUTE 3A

The length of the corridor for Route 3A is approximately 7.5 miles and encompasses a total of approximately 147.9 acres. Based on the methodology discussed above, the right-of-way footprint will encompass approximately 14.5% (21.4 acres) of land with a medium or higher probability of containing wetlands and waterbodies. These 21.4 acres consist of 19.3 acres of PFO wetlands, 0.2 acre of PEM wetlands, less than 0.1 acre of open water features, and 1.9 acres of riverine features.

#### ROUTE 3B

The length of the corridor for Route 3B is approximately 7.1 miles and encompasses a total of approximately 139.4 acres. Based on the methodology discussed above, the right-of-way footprint will encompass approximately 13.7% (19.1 acres) of land with a medium or higher probability of containing wetlands and waterbodies. These 19.1 acres consist of 16.9 acres of PFO wetlands, 0.2 acre of PEM wetlands, less than 0.1 acre of open water features, and 2.0 acres of riverine features.

#### DUVAL SUBSTATION

The footprint of the proposed Duval Substation site encompasses a total of 5.1 acres. Based on the methodology discussed above, the footprint will encompass approximately less than 0.1 acre of land with a medium or higher probability of containing wetlands and waterbodies, consisting of less than 0.1 acre of PFO wetlands.

#### WATERBODY CROSSINGS

ERM identified and mapped waterbodies in the study area using similar publicly available GIS databases as those used to identify and map wetlands. Waterbodies crossed by the route



alternatives and the proposed Duval Substation are perennial Tomahawk Creek, Swift Creek, Turkey Creek, Otterdale Branch, and Horsepen Creek, as well as their associated, unnamed tributaries and open waterbodies. These surface waters generally flow south and east and ultimately converge into the Swift Creek Reservoir to the west of the study area.

Waterbodies Crossed	Unit	Route 2B	Route 3A	Route 3B	Duval Substation
Total	Number	29	24	22	1 <sup>b</sup>
Perennial Waterbodies	Number	4	6	6	0
Intermittent Waterbodies	Number	12	10	8	0
Non-NHD Mapped Waterbodies <sup>a</sup>	Number	13	8	8	1

# TABLE 2: WATERBODIES CROSSED BY THE PROJECT

Source: NHD (USGS 2024)

<sup>a</sup> Identified during desktop analysis using aerial imagery (Google Earth 2025; Planet Labs Imagery 2025).

<sup>b</sup> Identified via field delineations completed by Timmons Group (Timmons Group 2022; 2024)

# ROUTE 2B

Route 2B crosses 29 waterbodies, 16 of which are NHD-mapped waterbodies, including four perennial waterbodies (Swift Creek, Turkey Creek, Otterdale Branch, and Horsepen Creek) and 12 unnamed, intermittent streams. Additionally, ERM identified 13 unnamed, unclassified streams, and one open waterbody feature within the right-of-way using recent (2025) aerial imagery. Based on ERM's desktop wetland and waterbody analysis, the right-of-way for Route 2B would encompass approximately 1.4 acres of riverine features and 0.1 acre of PUB open water features.

#### ROUTE 3A

Route 3A crosses 24 waterbodies, 16 of which are NHD-mapped waterbodies, including six perennial waterbodies (Swift Creek, a marsh/swamp associated with Swift Creek, Turkey Creek (two crossings), Otterdale Branch, and Horsepen Creek), and 10 unnamed, intermittent streams. Additionally, ERM identified eight unnamed, unclassified streams within the right-of-way using recent (2025) aerial imagery. Based on ERM's desktop wetland and waterbody analysis, the right-of-way for Route 3A would encompass approximately 1.9 acres of riverine features and less than 0.1 acre of PUB open water features.



#### ROUTE 3B

Route 3B crosses 22 waterbodies, 14 of which are NHD-mapped waterbodies, including six perennial waterbodies (Swift Creek (two crossings), a marsh/swamp associated with Swift Creek, Turkey Creek, Otterdale Branch, and Horsepen Creek), and eight unnamed, intermittent streams. Additionally, ERM identified eight unnamed, unclassified streams within the right-of-way using recent (2025) aerial imagery. Based on the methodology described above, the right-of-way for Route 3B would encompass approximately 2.0 acres of riverine features and less than 0.1 acre of PUB open water features.

#### DUVAL SUBSTATION

ERM identified no NHD-mapped waterbodies within the footprint of the proposed Duval Substation site; however, one field-delineated waterbody is crossed within the footprint.

#### PROJECT IMPACTS

Avoiding or minimizing new impacts on wetlands and streams was among the criteria used in developing routes for the Project. To minimize impacts on wetland areas, the transmission lines have been designed to span or avoid wetlands and waterbodies where possible, keeping transmission structures outside of aquatic resources to the extent practicable.

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

Permanent direct impacts to wetlands would be limited to placement of structures within wetlands, if unavoidable, and, due to the necessity of removing trees and shrubby vegetation from the right-of-way, the permanent conversion of PSS/PFO wetlands to PEM type wetlands.

No change in contours of wetlands and waterbodies, or redirection of the flow of water, is anticipated and the amount of spoil from foundation and structure placement would be minimal. Excess spoil in wetlands generated through foundation construction would be controlled through construction best management practices (e.g., the implementation erosion and sediment controls).

Required tree removal adjacent to waterbodies would reduce riparian buffer functions such as stream bank stabilization and erosion control, nutrient and sediment filtration, floodwater

Attachment 2.D.1 Page 12 of 50 REFERENCE 0662361



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

#### SUMMARY

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

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

https://www.dominionenergy.com/projects-and-facilities/electric-projects/power-lineprojects/western-chesterfield-electric-transmission-improvement-project.

If you have any questions regarding this wetland assessment, please contact me at 857-302-6502 or by email at <u>jake.bartha@erm.com</u>.

Sincerely,

Jake Bartha Environmental Resources Management

cc: Lucas A. DuPont, Dominion Energy Virginia Blair M. Parks, Dominion Energy Virginia

Enclosures: Attachments 1, 2, and 3



# REFERENCES

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# **ATTACHMENT 1**







# **ATTACHMENT 2**













Attachment 2.D.1 Page 22 of 50
































# **ATTACHMENT 3**













Attachment 2.D.1 Page 39 of 50





































Attachment 2.F.1 Page 3 of 7



Attachment 2.F.1 Page 4 of 7











Stefanie K. Taillon Acting Secretary of Natural and Historic Resources

Matthew S Wells Director

Attachment 2.G.1 Frank N. Stovall Page 1 of 26 Deputy Director

Darryl Glover Deputy Director for Dam Safety, Floodplain Management and

for Operations

Andrew W. Smith Chief Deputy Director

# **COMMONWEALTH of VIRGINIA** DEPARTMENT OF CONSERVATION AND RECREATION

Laura Ellis Deputy Director for Administration and Finance

Soil and Water Conservation

March 5, 2025

Rosemary Hopson Environmental Resources Management, Inc. 800 Cranberry Woods Drive #290 Cranberry TWP, PA 55402

Re: 0688007, Western Chesterfield

Dear Ms. Hopson:

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.

# Fine Creek Mills Quadrangle, Midlothian Quadrangle, Clayville Quadrangle, Hallsboro Quadrangle

According to the information currently in Biotics, natural heritage resources have not been documented within the submitted project boundary including a 100 foot buffer. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources. In addition, the project boundary does not intersect any of the predictive models identifying potential habitat for natural heritage resources.

DCR recommends the development and implementation of an invasive species plan to be included as part of the maintenance practices for the right-of-way (ROW). The invasive species plan should include an invasive species inventory for the project area based on the current DCR Invasive Species List (https://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2024.pdf) and methods for treating the invasives. DCR also recommends the ROW restoration and maintenance practices planned include appropriate revegetation using native species in a mix of grasses and forbs to the extent that it is consistent with erosion and sediment control requirements, robust monitoring, and an adaptive management plan to provide guidance if initial revegetation efforts are unsuccessful or if invasive species outbreaks occur.

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

Ecological Cores are areas of at least 100 acres of continuous interior, natural cover that provide habitat for a wide range of species, from interior-dependent forest species to habitat generalists, as well as species that utilize marsh, dune, and beach habitats. Interior core areas begin 100 meters inside core edges and continue to the deepest parts

600 East Main Street, 24th Floor | Richmond, Virginia 23219 | 804-786-6124

State Parks • Soil and Water Conservation • Outdoor Recreation Planning Natural Heritage • Dam Safety and Floodplain Management • Land Conservation 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 statelisted 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 \$360.00 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, 24<sup>th</sup> 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 <u>https://services.dwr.virginia.gov/fwis/</u> or contact Lee Brann at Lee.Brann@dwr.virginia.gov.

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

Sincerely,

Type Meade

Tyler Meader Natural Heritage Locality Liaison



# Virginia Department of Wildlife Resources

Home » By Coordinates » VaFWIS GeographicSelect Options

Options

DWR

**Species Information** 

By Name

By Land Management

References

. ....

Geographic Search

Ву Мар

By Coordinates

By Place Name

Database Search

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VaFWIS Search Report Compiled on 1/24/2025, 4:12:16 PM

Known or likely to occur within a 2 mile buffer around polygon; center 37.5093200 -77.7516599 in 041 Chesterfield County, 145 Powhatan County, VA

513 Known or Likely Species ordered by Status Concern for Conservation (displaying first 26) (26 species with Status\* or Tier I\*\* or Tier I\*\* )

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
050022	FEST	la	Bat, northern long-eared	Myotis septentrionalis		BOVA,HU6
060017	FESE	la	Spinymussel, James	Parvaspina collina		BOVA
010032	FESE	lb	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA
060173	FTST	la	Pigtoe, Atlantic	Fusconaia masoni		BOVA,HU6
060029	FTST	lla	Lance, yellow	Elliptio lanceolata		BOVA,HU6
050020	SE	la	Bat, little brown	Myotis lucifugus		BOVA,HU6
050034	SE	la	Bat, Rafinesque's eastern big-eared	Corynorhinus rafinesquii macrotis		BOVA,HU6
050027	FPSE	la	Bat, tri-colored	Perimyotis subflavus		BOVA,HU6
060006	SE	lb	Floater, brook	Alasmidonta varicosa		BOVA
040096	ST	la	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	la	<u>Shrike, loggerhead</u>	Lanius Iudovicianus		BOVA
060081	FPST	lla	Floater, green	Lasmigona subviridis		BOVA,HU6
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030063	сс	Illa	Turtle, spotted	Clemmys guttata		BOVA,HU6
030031	cc	IIIc	<u>Kingsnake, scarlet</u>	Lampropeltis elapsoides		BOVA
010077		la	Shiner, bridle	Notropis bifrenatus		BOVA
060084		lb	<u>Pigtoe, Virginia</u>	Lexingtonia subplana		BOVA
040213		lc	Owl, northern saw-whet	Aegolius acadicus		BOVA,HU6
020002		lla	Treefrog, barking	Hyla gratiosa		BOVA,HU6
040052		lla	Duck, American black	Anas rubripes	Potential	BOVA,BBA,HU6
040029		lla	<u>Heron, little blue</u>	Egretta caerulea caerulea		BOVA
040036		lla	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040320		lla	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140		lla	Woodcock, American	Scolopax minor		BOVA,HU6
040203		llb	Cuckoo, black-billed	Coccyzus erythropthalmus		HU6
040105		llb	Rail, king	Rallus elegans		BOVA

To view All 513 species View 513

\*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 III - High Conservat

View Map of

Site Location

Attachment 2.G.1 Page 3 of 26 Find a Commonwealth Resource

Search VA DWR

Go

Fish and Wildlife Information Service

Bat Colonies or Hibernacula: Not Known

# Anadromous Fish Use Streams

N/A

Impediments to Fish Passage	(2 records)	

ID	Name	River	View Map
1036	GENERAL LAND COMPANY DAM	TR-TOMAHAWK CREEK	<u>Yes</u>
1010	GORDON DAM	TR-TURKEY CREEK	Yes

# **Colonial Water Bird Survey**

N/A

# Threatened and Endangered Waters

N/A

# 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

View Map of All Fish Impediments

Nest	N Obs	Latest Date	DGIF Nest Status	View Map	
CD0301	6	Mar 20 2006	HISTORIC	<u>Yes</u>	
CD0702	3	Mar 9 2008	Unknown	<u>Yes</u>	
CD9602	14	Jan 1 2002	HISTORIC	Yes	

Displayed 3 Bald Eagle Nests

# Species Observations (79 records - displaying first 20)

#### View Map of All Query Results Species Observations

	_			N Species				
ODSID Class		Date Observed	Observer	Different Species	Highest TE <sup>*</sup>	Highest Tier**	view wap	
<u>66851</u>	SppObs	Jun 1 2000	DR. R. J. REILLY (PRINCIPLE PERMITTEE)	8		III	<u>Yes</u>	
<u>322326</u>	SppObs	Apr 4 1986	M. Norman; R. Southwick; D. Shuber	12		111	<u>Yes</u>	
<u>363626</u>	SppObs	Jan 1 1900		1		111	<u>Yes</u>	
375250	Aquatics	Oct 5 2007	B. T. Watson, M. E. Bradley	7		IV	<u>Yes</u>	
<u>66870</u>	SppObs	Oct 12 2000	DR. R. J. REILLY (PRINCIPLE PERMITTEE)	8		IV	<u>Yes</u>	
<u>66869</u>	SppObs	Oct 5 2000	DR. R. J. REILLY (PRINCIPLE PERMITTEE)	10		IV	<u>Yes</u>	
<u>66867</u>	SppObs	Sep 21 2000	DR. R. J. REILLY (PRINCIPLE PERMITTEE)	14		IV	<u>Yes</u>	
<u>66862</u>	SppObs	Aug 20 2000	DR. R. J. REILLY (PRINCIPLE PERMITTEE)	7		IV	<u>Yes</u>	
<u>66849</u>	SppObs	May 19 2000	DR. R. J. REILLY (PRINCIPLE PERMITTEE)	4		IV	<u>Yes</u>	
<u>66848</u>	SppObs	May 7 2000	DR. R. J. REILLY (PRINCIPLE PERMITTEE)	15		IV	<u>Yes</u>	
363688	SppObs	Jan 1 1900		1		IV	<u>Yes</u>	
363699	SppObs	Jan 1 1900		3		IV	<u>Yes</u>	
<u>649049</u>	SppObs	Apr 3 2023	David Beasley; Chris Horvath; Caleb Yankee; Tyler Mei	4			<u>Yes</u>	
<u>631161</u>	SppObs	Sep 1 2019	Nettie; Hebert	1			<u>Yes</u>	
<u>628037</u>	SppObs	Oct 21 2016	Dave Beasley; Jeremy Haley; Tyler Meighan; Vic DiCenz	5			<u>Yes</u>	
<u>619876</u>	SppObs	Jun 11 2013	Sergio ; Harding Kylie; Draucker	1			<u>Yes</u>	
<u>613879</u>	SppObs	Sep 8 2011	William; Kirkpatrick  John ; Elliot	2			<u>Yes</u>	
<u>611511</u>	SppObs	Jun 26 2010	Joyce; Caldwell	1			Yes	
<u>426879</u>	SppObs	Aug 12 2005	VCU - INSTAR	9			<u>Yes</u>	
426873	SppObs	Aug 5 2005	VCU - INSTAR	8			Yes	

Displayed 20 Species Observations

N/A

#### Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

# Virginia Breeding Bird Atlas Blocks (7 records )

#### <u>View Map of All Query Results</u> <u>Virginia Breeding Bird Atlas Blocks</u>

BBA ID	Atlas Quadrangle Block Name	Breeding				
		Different Species	Highest TE <sup>*</sup>	Highest Tier**	View Map	
48083	<u>Clayville, CW</u>	2			Yes	
48086	<u>Clayville, SE</u>	71		III	<u>Yes</u>	
48096	Fine Creek Mills, SE	54		III	Yes	
49084	Hallsboro, CE	38		II	Yes	
49083	Hallsboro, CW	1		II	Yes	
49086	Hallsboro, SE	58		III	Yes	
49096	<u>Midlothian, SE</u>	66		III	<u>Yes</u>	

#### 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
041	Chesterfield	397	FESE	I
145	Powhatan	348	FESE	I

# USGS 7.5' Quadrangles:

Clayville Fine Creek Mills Hallsboro Midlothian

**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
JA23	Appomattox River-Skinguarter Creek	60	SE	I
JA28	Appomattox River-Smacks Creek	56	FPST	I
JA35	Winterpock Creek	51	SS	II
JA41	Swift Creek-Swift Creek Reservoir	57	SE	I
JA42	Swift Creek-Third Branch	63	FESE	I
JL02	Falling Creek	56	SS	II
JM81	Norwood Creek	49	FTSE	I
JM83	James River-Bernards Creek	65	FTSE	I

Complete nr (2)/2025, 4:1746 PM (2)/2026, 4:1746 PM (2)/20276, 1772 Control 202760, 7772 Field 20270, 7772 Field 20270,

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Shaded topographic maps are from T	OPO! ©2006 National Geographic	Attachment 2.G.1
http://www.national.geographic.com/	topo	Page 7 of 26
All other map products are from the 6	Commonwealth of Virginia Department of Wildlife	e Resources.
map assembled 2025-01-24 16:25:21 I ) \$poi=37.5093200 -77.7516599	(qa/qc March 21, 2016 12:20 - tn=3498442.0	

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#### United States Department of the Interior

FISH AND WILDLIFE SERVICE Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410 Phone: (804) 693-6694



In Reply Refer To: Project Code: 2025-0065644 Project Name: Western Chesterfield 03/07/2025 14:54:31 UTC

# Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

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

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

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

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds

# **OFFICIAL SPECIES LIST**

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Virginia Ecological Services Field Office** 6669 Short Lane Gloucester, VA 23061-4410 (804) 693-6694

#### **PROJECT SUMMARY**

Project Code:2025-0065644Project Name:Western ChesterfieldProject Type:Transmission Line - New Constr - Above GroundProject Description:New overhead powerline route.Project Location:Vestern Chesterfield

The approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@37.4634676,-77.73599815418376,14z</u>



Counties: Chesterfield and Powhatan counties, Virginia

#### **ENDANGERED SPECIES ACT SPECIES**

There is a total of 3 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, 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. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

#### MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/9045</u>	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/10515</u>	Proposed Endangered

#### INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i>	Proposed
There is <b>proposed</b> critical habitat for this species. Your location does not overlap the critical	Threatened
habitat.	
Species profile: https://ecos.fws.gov/ecp/species/9743	

#### **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 <u>National Wildlife Refuge</u> 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 <u>Bald and Golden Eagle Protection Act</u> of 1940.
- 2. The <u>Migratory Birds Treaty Act</u> 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 <u>National Bald Eagle Management Guidelines</u>. 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 <u>Bald Eagle Nesting and Sensitivity to Human Activity</u>.

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 <u>Migratory Bird Office</u> or <u>Ecological Services Field Office</u>.

If disturbance or take of eagles cannot be avoided, an <u>incidental take permit</u> 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 <u>Do I Need A Permit Tool</u>. For assistance making this determination for golden eagles, please consult with the appropriate Regional <u>Migratory Bird Office</u> or <u>Ecological Services Field Office</u>.

#### **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 <u>Supplemental Information</u> on <u>Migratory Birds and Eagles</u>, 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 Haliaeetus leucocephalus	Breeds Sep 1 to
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention	Jul 31
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	

#### **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 <u>"Supplemental Information on Migratory Birds and Eagles"</u>, 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.

				prob	ability of	f presenc	e 📕 br	eeding se	eason	survey e	effort -	– no data
SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Bald Eagle Non-BCC Vulnerable		[			<b>‡</b> 1+1	III)		III+			111	

Additional information can be found using the following links:

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

### **MIGRATORY BIRDS**

The Migratory Bird Treaty Act (MBTA) <sup>1</sup> 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). The incidental take of migratory

birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

- 1. The <u>Migratory Birds Treaty Act</u> of 1918.
- 2. The <u>Bald and Golden Eagle Protection Act</u> 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 Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Black-billed Cuckoo Coccyzus erythropthalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Cerulean Warbler Setophaga cerulea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 28 to Jul 20
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9406</u>	Breeds Mar 15 to Aug 25
Chuck-will's-widow Antrostomus carolinensis This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <u>https://ecos.fws.gov/ecp/species/9604</u>	Breeds May 10 to Jul 10
Eastern Whip-poor-will Antrostomus vociferus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/10678</u>	Breeds May 1 to Aug 20
Grasshopper Sparrow Ammodramus savannarum perpallidus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <u>https://ecos.fws.gov/ecp/species/8329</u>	Breeds Jun 1 to Aug 20

NAME	BREEDING SEASON
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 Setophaga discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513	Breeds May 1 to Jul 31
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9439</u>	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 <u>https://ecos.fws.gov/ecp/species/9478</u>	Breeds elsewhere
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9431</u>	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 <u>"Supplemental Information on Migratory Birds and Eagles"</u>, 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.

				prob	ability of	f presenc	e 📕 br	eeding se	eason	survey e	effort -	– no data
SPECIES Bald Eagle Non-BCC Vulnerable	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT		DEC
Black-billed Cuckoo BCC Rangewide (CON)	++++	++++	++++	++++	<mark>┼</mark> ╂╄╄	++++	++++	++++	++ <mark>∎</mark> +	<mark>++</mark> ++	++++	++++
Cerulean Warbler BCC Rangewide (CON)	++++	++++	++++	+++ <mark>+</mark>	++++	++++	++++	++++	++∎+	++++	++++	++++
Chimney Swift BCC Rangewide (CON)	++++	++++	+ <mark>++</mark> ∎	+111		111				<b>  </b>    +	++++	++++
Chuck-will's-widow BCC - BCR	++++	++++	++++	+1	++	+++1+	┨┼┼┼	++++	++-+	++++	++++	+++++
Eastern Whip-poor- will BCC Rangewide (CON)	++++	++++	+++1	++  +	1111	++1+	++++	++11	++-+	++++	++++	+++++
Grasshopper Sparrow BCC - BCR	++++	++++	++++	-+++	++++	• • • • •	1+++	++++	+++	++++	++++	++++
Kentucky Warbler BCC Rangewide (CON)	++++	++++	++++	++ <mark>+</mark> ∎	┼┇║	++ <mark>∎</mark> ∔	++++	++++	++++	++++	++++	++++
Prairie Warbler BCC Rangewide (CON)	++++	++++	++++	┼빠┼┼	++++		<b>  </b>  ++	++++	┼┼║┼	₩+++	++++	++++
Prothonotary Warbler BCC Rangewide (CON)	++++	++++	++++	+11	111	11+	▋┼┃尊	++++	++++	++++	++++	++++
Red-headed Woodpecker BCC Rangewide (CON)									1111	[[]]		

Additional information can be found using the following links:

- Eagle Management <u>https://www.fws.gov/program/eagle-management</u>
- Measures for avoiding and minimizing impacts to birds <u>https://www.fws.gov/library/</u> <u>collections/avoiding-and-minimizing-incidental-take-migratory-birds</u>
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC <u>https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action</u>

#### **IPAC USER CONTACT INFORMATION**

Agency:	Private Entity
Name:	Rosemary Hopson
Address:	800 Cranberry Woods Dr
Address Line 2:	#290
City:	Cranberry Twp
State:	PA
Zip:	16066
Email	rosemary.hopson@erm.com
Phone:	3072998800



The CENTER for CONSERVATION BIOLOGY

# **CCB** Mapping Portal



Layers: VA Eagle Nest Locator

Map Center [longitude, latitude]: [-77.70217895507811, 37.459734584562185]

#### Map Link:

 $\label{eq:https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&zoom=12&lat=37.459734584562185&lng=-77.70217\\895507811&base=Street+Map+&280SM&2FCarto&29\\$ 

#### Report Generated On: 01/24/2025

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 <u>Data Use Agreement</u> to ensure compliance with our data use policies. For additional data access questions, view our <u>Data Distribution Policy</u>, 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 <u>ccbbirds.org</u> or contact us at info@ccbbirds.org



NLEB Locations and Roost Trees - Western Chesterfield

VA Dept. Game & Inland Fisheries Goochland County, Virginia GIS, VGIN, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS | Virginia Geographic Information Network (VGIN), and the Census and Localities and Towns submitting data to the project | Goochland County, Virginia GIS, VGIN, Esri,



MYLU-PESU Locations and Roost Trees - Western Chesterfield

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



Critical Habitat - Western Chesterfield

Virginia Critical Habitat (published)

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

50

25

0

From:	nhreview (DCR)
To:	Briana Cooney
Cc:	Hypes, Rene (DCR); Weber, Joseph (DCR)
Subject:	Re: 0642267, Golden-Mars
Date:	Thursday, May 23, 2024 9:58:13 AM
Attachments:	image002.png
	image003.png
	image.png
	image.png

#### EXTERNAL MESSAGE

Briana,

Thanks for your patience with this. I've reiterated your questions in blue, with answers below.

I was reviewing the SCS shapefile you all sent, and I noticed that there are pieces of the SCS that are now developed. Have there been any studies of this area recently? Are you able to tell me when this SCS area was created or last modified?

- Our **Chief of Biodiversity Information and Conservation Tools** said that there does seem to be areas of the SCS that were developed since it was created. Much of the SCS is still intact, however, and perhaps even more important for maintaining water quality for NHR.
- It looks like the SCS was last modified 7/6/2023. Stream Conservation Sites do not represent protected areas, but waterways and terrestrial areas that contribute to the habitat quality of the documented resource. These areas will affect the water quality of the Yellow lampmussel habitat regardless of their current land use.

I also noticed that the natural heritage resource associated with this SCS is the Yellow lampmussel; however, in my database searches, I haven't seen a documented occurrence of this species within the SCS or study area. Do you have additional information on the presence of this species?

- Generally we do not share the location of our documented resources, only the associated SCS or Conservation Site. Looking at my data, the Yellow lampmussel is documented within the SCS. The documented locations are in Broad Run, the main branch of the SCS in the northern portion. The other stream areas included in the SCS are upstream of documented occurrences and changes to the water quality within the SCS will impact the documented resource.
- I can't really comment on the lack of the Yellow lampmussel in the databases without knowing which ones you used. It would not be found in DWR or USFWS databases as it is not a listed species. NHDE (*Natural Heritage Database Explorer*) only shows documented occurrences to Tier 3 users, which is only available to our conservation partners.

I've also noticed in this project and previous projects that some ecological cores identified are less than 100 acres, and the VDCR letter states: "Ecological Cores are areas of at least 100 acres of continuous interior..." Should we continue to study cores that are under 100 acres?

- The cores are found in <u>Virginia Natural Landscape Assessment</u> Ecological Cores and Habitat Fragments data layer. It looks like the feature in question is a habitat fragment, the link above can give you some more information about Cores and Habitat Fragments.
- From our Chief of Biodiversity Information and Conservation Tools: "Smaller areas of continuous interior cover (i.e., 10 to 99 acres) called Habitat Fragments support Ecological

**Cores and provide similar functions and values.** Both feature types are discussed on the website.

- Ecological Cores and Habitat Fragments are ranked by Ecological Integrity based on variables including rare species habitats, habitat diversity, resilience, and water quality, to reflect the wide range of important benefits and ecosystem services they provide. Brief descriptions of Ecological Integrity rankings are:
- C1 Outstanding: These cores tend to be large in area, of deepest interior, of greatest water quality protections, highest in habitat diversity and rich in rare species, including species listed as threatened or endangered. Of all Ecological Cores in the Commonwealth 1% are ranked as C1.
- C2 Very High: These cores have all or many of the same characteristics and values as C1 cores, though to a lesser extent. About 2.5% of all cores in the Commonwealth are ranked C2.
- C3 High, C4 Moderate, and C5 General: These cores, as well as **habitat fragments**, have some of the same quantifiable values and characteristics as higherranked cores, though much reduced due to their having substantially less interior area and smaller area overall.
- •
- There are no Habitat Fragments ranked above C3. "
- Due to Habitat Fragments ability to provide important ecological functions and values, we do still recommend avoiding impacts and when impacts can not be avoided to keep them to the edge of the fragment/core. We only recommend a formal impact analysis for C1 and C2 Cores, which never include fragments.

Hopefully this information is helpful. I have Cc'd Joe Weber our Chief of Biodiversity Information and Conservation Tools and Rene' Hypes our Project Review Coordinator. Let me know if you have anymore questions or if any of the information here needs clarification.

Thank you,

Nicki Gustafson (she/her) Project Review Assistant Division of Natural Heritage Virginia Department of Conservation and Recreation 600 E. Main Street, 24th Floor Richmond, VA 23219 804-625-3979 | nicki.gustafson@dcr.virginia.gov





#### Commonwealth of Virginia

#### VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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

Travis A. Voyles Secretary of Natural and Historic Resources Michael S. Rolband, PE, PWD, PWS Emeritus Director (804) 698-4020

February 27, 2024

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

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

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

Dear Ms. Hester:

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

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

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

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

2. The following information must be submitted to DEQ for each project at least two weeks in advance of the commencement of regulated land-disturbing activities. Notifications shall be sent by email to: <u>StandardsandSpecs@deq.virginia.gov</u>

- a. Project name or project number;
- b. Project location (including nearest intersection, latitude and longitude, access point);
- c. On-site project manager name and contact info;

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

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

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

Respectfully,

In Kandy

Kyle Kennedy, Manager Office of Stormwater Management

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



# Western Chesterfield Electric Transmission Project Pre-Application Analysis Report

PREPARED FOR



Dominion Energy Virginia

DATE April 23, 2025

REFERENCE 0662361



#### DOCUMENT DETAILS

The details entered below are automatically shown on the cover and the main page footer. PLEASE NOTE: This table must NOT be removed from this document.

DOCUMENT TITLE	Western Chesterfield Electric Transmission Project
DOCUMENT SUBTITLE	Pre-Application Analysis Report
PROJECT NUMBER	0662361
Date	April 23, 2025
Version	01
Author	Mary Beth Derrick, Jeffrey Holland, Eric Johnson, MacKenzie Carroll, and Larissa A. Thomas, Ph.D.
Client name	Dominion Energy Virginia





SIGNATURE PAGE

# Western Chesterfield Electric Transmission Project

Pre-Application Analysis Report

Many Beth 7 Dereveick

Mary Beth Derrick Senior Architectural Historian

Maikeyvland

MacKenzie Carroll Architectural Historian

Jeffrey L. Holland Senior Historian

Kattlin Becht

Kaitlin Becht Architectural Historian

ERM 3300 Breckenridge Boulevard Suite 300 Duluth, GA 30096

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#### ACRONYMS AND ABBREVIATIONS

ACRONYM	Description
3D	Three dimensional
AF	Auto Focus
CMOS	Complementary Metal Oxide Semiconductor
ERM	Environmental Resources Management
ESRI	Environmental Systems Research Institute
GNSS	Global Navigation Satellite System
JPEG	Joint Photographic Experts Group format
КОР	Key Observation Point
kV	kilovolt
NHL	National Historic Landmark
NPS	National Park Service
NRHP	National Register of Historic Places
NERC	North American Electric Reliability Corporation
PBR	Physically Based Rendering
PDF	Portable Document Format
ROW	Right-Of-Way
SCC	State Corporation Commission
SLR	Single-Lens Reflex
UTM	Universal Transverse Mercator
VCRIS	Virginia Cultural Resource Information System
VDHR	Virginia Department of Historic Resources



#### EXECUTIVE SUMMARY

This report presents the findings of a pre-application analysis completed by Environmental Resources Management, Inc. (ERM) on behalf of Virginia Electric and Power Company (Dominion Energy Virginia, Dominion, or the Company) for the proposed Western Chesterfield Electric Transmission Project in Chesterfield County, Virginia (Project).

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

- Construction of two new 230 kilovolt (kV) double-circuit overhead transmission lines (for a total of four circuits) on a new 160-foot-wide right-of-way. The new transmission lines will extend from Dominion's existing Midlothian Substation to the proposed Duval Substation (Duval-Midlothian Lines); and
- Construct a new 230–34.5 kV substation in Chesterfield County, Virginia (Duval Substation) and perform substation-related work at the Company's existing Midlothian Substation.

These facilities are collectively referred to as the Project.<sup>1</sup>

The Project is necessary to serve significant projected residential and commercial load growth identified by the Company in Chesterfield County, Virginia; to maintain and ensure reliable service for the overall load growth in the Project area thereby supporting economic development in Chesterfield County and Virginia; and to comply with mandatory North American Electric Reliability Corporation Reliability Standards.

This pre-application analysis assesses and compares potential impacts on previously recorded historic and archaeological resources in relation to three route alternatives under consideration for the Project. ERM conducted the analysis on behalf of Dominion Energy Virginia to assist in the development of a feasible Project design that minimizes impacts to historic resources. The pre-application analysis is a required study for transmission line projects regulated by the SCC. The study was completed in accordance with the Virginia Department of Historic Resources' (VDHR's) *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) (Guidelines).

No known archaeological sites are within or adjacent to the right-of-way for any of the routes under consideration. Five previously recorded aboveground historic resources meeting criteria specified in the Guidelines are within study tiers defined by the VDHR for identifying aboveground historic resources along and near transmission line routes (Table 1). Because the alternative routes utilize common or similar alignments where they pass near the resources, Project impacts would be identical regardless of the route selected by the SCC. ERM recommends that installation of transmission infrastructure related to the alternative routes would result in a severe impact for one resource and no impact for the remaining four resources. Because the resource impacts are the same regardless of the route chosen, and no previously recorded archaeological sites are within or adjacent to the route rights-of-way, no alternative is preferable to the others with respect to known cultural resource impacts.

<sup>&</sup>lt;sup>1</sup> For outreach purposes, the Company also has referred to the Project as the "Western Chesterfield 230 kV Electric Transmission Improvement Project."



#### EXECUTIVE SUMMARY OF PROJECT IMPACTS TO CONSIDERED ABOVEGROUND TABLE 1 HISTORIC RESOURCES IN THE STUDY AREA OF THE ROUTE ALTERNATIVES

Considered	Alternative Routes			
Resource	Route 2B	Route 3A	Route 3B	
020-0023	None	None	None	
020-0030	None	None	None	
020-0111	None	None	None	
020-0405	None	None	None	
020-0407	Severe	Severe	Severe	

Source: VDHR 2025



#### 1. INTRODUCTION

This report presents the findings of a pre-application analysis completed by ERM on behalf of Dominion for its proposed Project in Chesterfield County, Virginia. The Project is necessary to serve significant projected residential and commercial load growth identified by the Company in Chesterfield County, Virginia; to maintain and ensure reliable service for the overall load growth in the Project area thereby supporting economic development in Chesterfield County and Virginia; and to comply with mandatory North American Electric Reliability Corporation Reliability Standards.

The Project consists of two components:

- Construction of two new 230 kilovolt (kV), double-circuit overhead transmission lines (for a total of four circuits) on a new 160-foot-wide right-of-way. The new transmission lines will extend from the Company's existing Midlothian Substation to the proposed Duval Substation (Duval-Midlothian Lines); and
- Construct a new 230–34.5 kV substation in Chesterfield County, Virginia (Duval Substation) and perform substation-related work at the Midlothian Substation.

The pre-application analysis assesses potential impacts on previously recorded historic and archaeological resources relative to route alternatives under consideration for the Project. ERM conducted the analysis on behalf of Dominion Energy Virginia to assist in the development of a feasible Project design that minimizes impacts on historic resources. The study was completed in accordance with the Virginia Department of Historic Resources' (VDHR's) *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) (Guidelines).

#### 1.1 OVERVIEW

Three overhead alternative routes (Routes 2B, 3A, and 3B) are under consideration for the proposed Duval-Midlothian Lines<sup>2</sup>. A map depicting each alternative route and the proposed Duval Substation is provided as Figure 1.

<sup>&</sup>lt;sup>2</sup> In addition to those alternative routes, the Company's Underground Engineering group reviewed underground construction of the Duval-Midlothian Lines and determined that while it is permittable and technically feasible to route the underground lines following the overhead Proposed Route (Route 3B), constructing the Project in such a manner would require an additional five years for completion (2033), meaning it could not meet the need date for the Project (June 1, 2028). The Underground Engineering group further determined that constructing the Duval-Midlothian Lines underground would cost more than nine times the transmission-related costs associated with overhead construction of the lines. For these reasons, the Company rejected underground construction of the Duval-Midlothian Lines. Additional information is provided in the Company's application to the SCC.



WESTERN CHESTERFIELD ELECTRIC TRANSMISSION PROJECT



# OVERVIEW OF TRANSMISSION LINE SEGMENTS UNDER CONSIDERATION FOR THE PROJECT FIGURE 1

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Woodlake

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#### 1.1.1 ROUTE 2B

Route 2B is approximately 8.6 miles long. From the existing Midlothian Substation, it heads southeast, collocated with Dry Bridge Road and the Norfolk Southern Railway, for about 1.6 miles. Route 2B then turns south and southwest, following parcel boundaries south of Mount Hermon Road and crossing large, forested parcels for about 1.7 miles. It again collocates with the railroad for about 0.6 mile before turning south and generally following parcel boundaries for about 2.5 miles. This portion of Route 2B crosses large, forested parcels and a planned residential development along Genito Road. The route then turns southeast for approximately 0.9 mile before turning south to collocate with the west side of the planned Powhite Parkway Project for about 1.3 miles across large, undeveloped and forested parcels and land within the planned Upper Magnolia Green development. Route 2B then crosses the planned Powhite Parkway Project to enter the proposed Duval Substation site from the east.

#### 1.1.2 ROUTE 3A

Route 3A is approximately 7.5 miles long. From Midlothian Substation, it follows the same alignment as Route 2B for about 2.0 miles. Route 3A then runs south and southeast across large, forested parcels for approximately 2.0 miles to avoid existing and planned residential subdivisions along Old Hundred Road and Mount Hermon Road. The route then turns southwest and collocates with the planned Powhite Parkway Project Conceptual Alignment 1A for about 2.5 miles (including one angled crossing of the Powhite Parkway alignment). The remaining about 1.4 miles of Route 3A to the proposed Duval Substation site follows the same alignment as Route 2A.

#### 1.1.3 ROUTE 3B

Route 3B is approximately 7.1 miles long. It follows the same alignment as Route 3A for about 3.2 miles, then turns southeast to collocate with the west side of the planned Powhite Parkway Project Conceptual Alignment 1B for about 2.4 miles (except for a 0.7-mile segment near Genito Road that is not collocated, to avoid an existing residence). The remaining approximately 1.5 miles of Route 3A to the proposed Duval Substation site follows the same alignment as Route 2A.

#### 1.1.4 DUVAL SUBSTATION

Dominion will obtain property rights for and construct the proposed 230–34.5 kV Duval Substation north of Duval Road on 5.1 acres of land currently within Chesterfield County Economic Development Authority's Upper Magnolia Green-East planned development. The substation will be designed to accommodate multiple network connections to allow for increased reliability and to serve the projected load.

#### 1.2 MANAGEMENT RECOMMENDATIONS

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

Five previously recorded historic resources meeting criteria specified in the Guidelines fall within study tiers defined by the VDHR for identifying aboveground historic sites along and near transmission line routes. Because the alternative routes share common alignments where they pass near these resources, the Project impacts would be identical regardless of the route selected



by the SCC. ERM recommends that installation of transmission infrastructure related to the alternative routes would result in a severe impact for one resource and no impact for the remaining four resources. Because the resource impacts would be the same regardless of the route chosen, and no previously recorded archaeological sites are within in or adjacent to the right-of-way, no route is preferable over the others with respect to known cultural resource impacts.



#### 2. RECORDS REVIEW

#### 2.1 DATA COLLECTION APPROACH

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

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

Information on the considered resources in each study tier was collected from the Virginia Cultural Resource Information System (VCRIS) (VDHR 2025). ERM also collected information from the Chesterfield County Preservation Committee (2025), Chesterfield Historical Society of Virginia (2025), Experience Chesterfield (2025), and Preservation Virginia (2025) to identify locally significant resources within a 1.0-mile radius of each route.

Along with the records review, ERM conducted field assessments of the considered aboveground resources along each route in accordance with the Guidelines. Digital photographs of each historic resource and views to the transmission line routes were taken. Photo simulations were then prepared to assess the potential for visual impacts from the new transmission infrastructure on the resources.

#### 2.2 ARCHAEOLOGICAL RESOURCES

No known archaeological sites were identified within the right-of-way for any of the alternative transmission line routes.

#### 2.3 HISTORIC RESOURCES

The following discussion summarizes the known historic resources in the vicinity of each alternative route based on the VDHR's tiered study model defined in the Guidelines. The locations of the considered resources and the various alternative routes are shown on Figure 2. Individual maps for the routes are provided in Attachment 1.

Resources within the right-of-way of a route may be subject to both direct impacts from placement of the line across the property as well as visual impacts from changes to the viewshed introduced by the new transmission line structures and conductors. Resources in the 0.5-mile tier would not be directly impacted, but would likely be visually impacted, unless topography, vegetation, or the built environment obscures the view to the transmission line. At over 0.5 mile and 1.0 mile, it becomes progressively less likely that a resource would be within line-of-sight of the proposed transmission line due to distance.



Because the alternative routes use common alignments where they pass aboveground resources, impacts would be the same for the Project regardless of the alternative selected by the SCC. The nature of the impacts, while estimated in this study with the assistance of photo simulations, would depend on the final Project design in which the exact placement and height of transmission structures are determined. The purpose of the simulations and associated assessments in this report are to provide data on likely impacts.

Once a route is certified by the SCC, that route would be subject to a full historic architectural survey in which additional (yet, unrecorded) historic properties could be identified and Project impacts assessed. The survey area would be defined based on the design height of the transmission line structures, topography, tree cover, and other factors impacting line-of-sight from historic resources to the selected route.


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RECORDS REVIEW

FIGURE 2 LOCATIONS OF CONSIDERED HISTORIC RESOURCES ALONG AND NEAR ROUTES



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#### 2.3.1 ROUTE 2B

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

#### TABLE 2HISTORIC RESOURCES IN VDHR TIERS FOR ROUTE 2B

Buffer (miles)	Resource Category	Resource Number	Description
0.0 to 0.5	National Register Properties (Listed)	020-0023	Dinwiddie County Pullman Car
		020-0030	Hallsborough Tavern
		020-0111	Bethel Baptist Church
		020-0407	Hallsboro Store
	Locally Significant	020-0405	Mt. Sinai Baptist Church

Source: VDHR 2025

#### 2.3.2 ROUTE 3A

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

#### TABLE 3 HISTORIC RESOURCES IN VDHR TIERS FOR ROUTE 3A

Buffer (miles)	Resource Category	Resource Number	Description
0.5 to 1.0	National Register Properties (Listed)	020-0023	Dinwiddie County Pullman Car
0.0 to 0.5	National Register Properties (Listed)	020-0030	Hallsborough Tavern
		020-0111	Bethel Baptist Church
		020-0407	Hallsboro Store
	Locally Significant	020-0405	Mt. Sinai Baptist Church

Source: VDHR 2025

#### 2.3.3 ROUTE 3B

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



Buffer (miles)	Resource Category	Resource Number	Description
0.5 to 1.0	National Register Properties (Listed)	020-0023	Dinwiddie County Pullman Car
0.0 to 0.5	National Register Properties (Listed)	020-0030	Hallsborough Tavern
		020-0111	Bethel Baptist Church
		020-0407	Hallsboro Store
	Locally Significant	020-0405	Mt. Sinai Baptist Church

#### TABLE 4 HISTORIC RESOURCES IN VDHR TIERS FOR ROUTE 3B

Source: VDHR 2025

#### 2.4 PREVIOUS SURVEYS

Some portions of the Project have previously been surveyed for cultural resources among 13 studies reported within 1.0 mile of the Project. Three of the surveys intersect at least one of the routes under consideration. Information on these previous surveys—including VDHR survey number, report title, report authors, and report date—is provided in Table 5. The extent of the previous survey coverage is depicted on maps provided in Attachment 2.



#### TABLE 5 CULTURAL RESOURCE SURVEYS WITHIN 1 MILE OF THE PROJECT

VDHR Survey #	Title	Author(s)	Date
CF-007	A Cultural Resources Survey and Evaluation of the Right-of- Way for the Carson-Midlothian 500 kV Transmission Line in Chesterfield and Dinwiddie Counties, Virginia	James E. Fitting, Jeffrey C. Kimball, and C. Stephan Demeter	1977
CF-104	Midlothian to Trabue: 230kV Transmission Line and Trabue Substation, Preliminary Phase I Archaeological Reconnaissance Survey	Lyle E. Browning	1989
CF-109	Archaeological Survey of a Portion of Proposed Route 288, Chesterfield County, Virginia	Ellen M. Brady and Loretta Lautzenheiser	1998
CF-257	Horner Park Access Road Phase I Cultural Resources Intensive Survey Report	Lyle E. Browning	2006
CF-402	Phase I Archaeological Survey of the 11-acre Area of Potential Effect within the Proposed 26,000-foot Tomahawk Creek Sanitary Sewer Line, Chesterfield County, Virginia	Darby O'Donnell	2020
CF-403	Phase I Cultural Resources Survey of Dry Bridge Energy Center, LLC, Chesterfield County, Virginia	Skye Hughes, Carol D. Tyrer, and Dawn M. Muir	2020
CF-408	Phase I Archaeological Survey of the Proposed Dry Bridge Energy Center, LLC Access Road, Chesterfield County, Virginia	Randy Lichtenberger	2020
CF-409	Peer Review of Phase I Archaeological Survey of Dry Bridge Energy Center, LLC	Karen Hutchins-Keim and Jean Cascardi	2020
CF-413	Phase I Archaeological Survey of the Proposed Dry Bridge Energy Center, LLC, Chesterfield County, Virginia	Dwayne W. Pickett and Randy Lichtenberger	2021
CF-419	Phase I Cultural Resource Survey of the $\pm$ .16-Hectare ( $\pm$ .4-Acre) Dry Bridge Project Area, Chesterfield County, Virginia	Dara Friedberg	2021
CF-440	Phase I Cultural Resource Survey of the ±81 Hectare (±199 Acre) NE Upper Magnolia Project Area, Chesterfield County, Virginia	David H. Dutton, Christine Muron, and Dara Friedberg	2022
CF-459	Phase I Archaeological Survey of the Proposed Moseley Solar Project Area, Chesterfield County, Virginia	Joseph R. Blondino and Claudia Abernathy	2023
CF-472	Phase I Cultural Resource Survey of the ±43.1-Hectare (±106.4-Acre) Upper Magnolia CCPS Project Area, Chesterfield County, Virginia	David H. Dutton, Dara Friedberg, and Michael A. Lundberg	2024

Source: VDHR 2025

\* Gray highlighted rows denote surveys that overlap portions of the route alternatives



## 3. STAGE 1 PRE-APPLICATION ANALYSIS FINDINGS

## 3.1 METHODS OF ANALYSIS

Fieldwork for the pre-application analysis was conducted by Haley Hoffman and Emma Jennings under the direction of Secretary of the Interior Qualified architectural historian, Mary Beth Derrick on February 5, 2025. The fieldwork involved photographing five resources requiring visual assessment according to the Guidelines and examining potential line-of-sight views from each resource toward the alternative routes. For resources where property owner approval was granted for historic resource documentation, photographs were taken toward the alternative route(s) from the property at the most prominent view of the landscape. When permission to access such locations was not available, photographs were taken from the public right-of-way (typically a road) nearest to the resource facing toward the applicable route(s).

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

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

The following camera and tripod configuration was used:

 Camera body: Nikon z6ii professional specification digital Single Lens Reflex (SLR) (full frame complementary metal oxide semiconductor [CMOS] sensor)



- Camera lens: Nikkor Auto Focus (AF)50mm f1.8 prime
- Tripod: Ulanzi Zero F38 Quick Release Travel Tripod 3131 with Level
- Panoramic head: Nodal Ninja 6 with Nadir Adapter

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

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

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

## 3.2 STRUCTURE TYPES AND RIGHT-OF-WAY WIDTHS

The Company proposes to construct the Duval-Midlothian Lines supported primarily by doublecircuit, weathering steel monopoles. The transmission lines would be installed within new right-ofway typically measuring 160-feet-wide to accommodate a total of four circuits. The structures would have a minimum height of approximately 80 feet, a maximum height of 125 feet, and an average height of approximately 108 feet for Route 2B, approximately 105 feet for Route 3A, and approximately 110 feet for Route 3B.



Structure heights are estimated based on preliminary conceptual design, do not include foundation reveal, and are subject to change based on final engineering. Attachment 3 provides section views depicting typical right-of-way widths and structure configurations.

## 3.3 ASSESSMENT OF POTENTIAL IMPACTS

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

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

## 3.4 HISTORIC RESOURCE DESCRIPTIONS

## 3.4.1 020-0023, DINWIDDIE COUNTY PULLMAN CAR

Dinwiddie County Pullman Car (020-0023) is located to the northeast of the intersection of County Line Road and Mount Hermon Road in Midlothian, in the Hallsboro Yard, which is associated with the Norfolk Southern Railroad. The surrounding area is forested and rural.

020-0023 was most extensively and recently surveyed by Jospeh S. White, III in 1991. The Dinwiddie County Pullman Car is a heavyweight, all-steel sleeping car built in 1926 with ten sections and one observation lounge, built in the style coined "Pullman Deco." The car was built at the Pullman Company's works in Chicago, Illinois, and was the first of this design produced by Pullman. White mentioned a clerestory roof that provided ventilation to the car through a series of vents and fans, which was modified in 1937 with the addition of an enclosure over the middle section for mechanical air-conditioning. Originally the car was a blunt-end car and could only operate as the last car in the train. In the 1930s, the Pullman Company fitted a platform, vestibule, diaphragm, and buffer plate to the car allowing it to operate at any position in the train (White 1991).

ERM attempted to revisit the Dinwiddie County Pullman Car in February 2025, but could not view the car due to its location on private property (Attachment 4, Figure 1). Any changes that have occurred to the car could not be observed from the nearest public right-of-way. However, according to historic aerial photographs, it does appear that a pole shed was built over the car between 2011 and 2012 for shelter (NETROnline 2025).

The Dinwiddie County Pullman Car was listed on the NRHP in 1991 under Criteria A and C for significance in transportation and engineering. It is a well-preserved example of railroad passenger sleeping cars that were popular in the United States from the 1920s to the 1950s, and



it was one of 30 cars built to this plan, with only two still extant as of 1991. The Dinwiddie Pullman Car (020-0023) lies within the 0.5-mile study tier for Route 2B and within the 1.0-mile study tiers for Routes 3A and 3B.

## 3.4.2 020-0030, HALLSBOROUGH TAVERN

Hallsborough Tavern (020-0030) is located at 16300 Midlothian Turnpike in Midlothian, at the intersection of Midlothian Turnpike and Huguenot Spring Road. The surrounding area is rural and forested, with a church (Bethel Baptist Church, 020-0111) situated directly to the north.

020-0030 was most extensively and recently surveyed by the Virginia Historic Landmarks Commission Staff in 1979. They noted that the tavern was patronized by nineteenth century travelers along what is now Midlothian Turnpike. The original portion of the dwelling was built in the last quarter of the eighteenth century as a three-bay, double-pen, one-and-a-half story structure with a gabled roof and weatherboard siding. The second addition was built prior to 1832, and included a one-story single-pen, single-bay room on the west elevation with a scored stucco foundation. The third addition was completed by 1832, and included a double-pen, two story section on the east elevation, originally constructed as a hall-parlor. This section featured a onestory, shed-roofed porch. A circa 1900 renovation changed the hall-parlor to a central passage plan when a stair was inserted and divided the rooms to form a central passage. This circa 1900 renovation also included an addition to the eastern elevation. The survey also noted three twentieth century outbuildings: a shed, barn, and smokehouse (Virginia Historic Landmarks Commission Staff 1979). Two outbuildings were mentioned in a 1977 survey that were not mentioned in the 1979 survey: an outhouse and granary.

ERM surveyed the resource in February of 2025 and noted minor changes since the prior study (Attachment 4, Figure 2). A ramp for wheelchair access and a stoop have been added to the north elevation. The tavern now functions as an antique store. The outbuildings were not visible from the public right-of-way due to vegetation, but all five outbuildings are visible on aerial imagery (GoogleEarth Pro 2025).

The Hallsborough Tavern was listed on the NRHP in 1980 under Criteria A and C for its association with transportation as a historic tavern for travelers throughout much of the nineteenth century and for its architecture as a well-preserved example of an evolutionary vernacular building. Hallsborough Tavern (020-0030) is within the 0.5-mile study tiers for Routes 2B, 3A, and 3B.

#### 3.4.3 020-0111, BETHEL BAPTIST CHURCH

Bethel Baptist Church (020-0111) is located on an approximate 19.13-acre parcel at 1100 Huguenot Springs Road in Midlothian. The surrounding area is rural, with Hallsborough Tavern (020-0030) directly to the south. A golf course is located west of the resource with commercial and residential areas to the east. The parcel has dense tree growth surrounding the resource (GoogleEarth Pro 2025).

Bethel Baptist Church was established in 1799, an offshoot of Spring Creek Church. Among the founding members were several French Huguenot families that had fled France in 1700 to escape persecution. They settled at Manakin-towne on the James River, about 4.0 miles from the church. Some of these Huguenots were influenced in the 1770s by itinerant Baptist preachers who were



initially jailed for their dissent against the Church of England. In the 1790s, members of the Spring Creek Church began meeting for prayer services at Shortt's Tavern, in the Hillsborough community, which was closer to their homes. In 1799, they purchased land for a church on the current site of Bethel Baptist Church. Among the founders of the church were members of the Trabue, Martin, Foudree, Forsee, Ammonette, and Flournoy families of Huguenot descent (Moseley 1998).

Bethel Baptist Church was most extensively surveyed in 1998 by Lucille C. Moseley. The church was built in 1894 and replaced two former meeting houses in 1803 and 1820. The current church is a Gothic Revival structure with a steep slate gabled roof and five course American bond brick cladding. Modifications included a wing added in 1906 and additional classrooms and office spaces added in 1980 and 1987. The resource also includes a gymnasium built in 1910 with wood siding and a tin roof. This structure was altered in 1960 with the addition of brick veneer, various additions, and a front porch with columns. Finally, a cemetery enclosed by a cast-iron fence is located to the west. Nearly 500 persons are buried in the cemetery, including veterans of the Revolutionary War though the Vietnam War (Moseley 1998). ERM visited the resource in February of 2025 and noted a large addition had been built on the gymnasium's north elevation between 2006 and 2007, and a breezeway was added between the two buildings. No other changes were noted (Attachment 4, Figure 3).

020-0111 was listed on the NRHP in 1999 under Criterion A for its involvement in religious liberty in Virginia and its hosting of African American members in its congregation prior to the Civil War. Bethel Baptist Church's founding members included several Huguenot families whose ancestors fled France to escape religious persecution from the Catholic Church. Bethel Baptist Church (020-0111) is within the 0.5-mile study tiers for Routes 2B, 3A, and 3B.

#### 3.4.4 020-0405, MT. SINAI BAPTIST CHURCH

Mt. Sinai Baptist Church (020-0405) is located on an approximate 2.01-acre parcel at 200 Old Hundred Road/Route 652 in Midlothian. It is situated directly south of the intersection of Midlothian Turnpike and Old Hundred Road/Route 652. The surrounding area is densely wooded and rural.

The resource was surveyed once, in 1977 by J.M. O'Dell. O'Dell briefly described the church as a circa 1884 building with a gabled roof, weatherboard siding, concrete foundation, and arched windows (O'Dell 1977). ERM visited the resource in February of 2025 and observed no major changes, but did note additional details. The land where the church was built was provided by members of Bethel Baptist Church (020-0111) after the Civil War, to assist African Americans in forming their own church during Reconstruction (Mt. Sinai Baptist Church 2025). The church's website claims that the present building was built in 1884 and originally had a flat roof and sat on pillars. Since that time, the roof was replaced with a front-gable design, the foundation was rebuilt using concrete masonry units, and an internal brick chimney was added. In addition, the weatherboard siding mentioned in the 1977 survey has been replaced by vinyl siding and the church now includes a basement level. Furthermore, O'Dell described the church as having arched windows, but they are lancet windows.



According to aerial imagery, the primary entrance is located through a front-gabled portico, which was added to the east elevation prior to 1955 (NETROnline 2025). A large gabled rear addition was constructed on the church's west elevation in 2004 and features the same materials as the main block (Attachment 4, Figure 4). A cemetery is located to the north of the church and includes burials from 1915 to 2022 (Find a Grave 2025).

Mt. Sinai Baptist Church (020-0405) has not been formally evaluated for NRHP eligibility. ERM has categorized the resource as locally significant for the purposes of this Project due to its association with the African American community. Mt. Sinai Baptist Church lies within the 0.5-mile study tier for Routes 2B, 3A, and 3B.

#### 3.4.5 020-0407, HALLSBORO STORE

Hallsboro Store (020-0407) is located on an approximate 2.79-acre parcel at 920 Mount Hermon Road in Midlothian at the intersection of Hallsboro and Mount Hermon Roads. The surrounding area is rural and consists of dense forest with few surrounding dwellings.

Hallsboro Store was most extensively surveyed in 2004 by Teresa Hudson, who described the building as a circa 1885 two-story frame structure with a slate hipped roof, weatherboard siding, and a brick and concrete foundation. The primary entrance is on the southeast elevation through a double-leaf door with a nine-light transom window. The door is flanked by store windows with wooden shutters. The entrance is accessed via a full-width porch with an asphalt shingle shed roof supported by wooden posts. The primary elevation features a bracketed cornice. A circa 1970 pump house is located to the west of the store (Hudson 2004). The store served as a post office and general store and was built directly adjacent to the Norfolk-Southern Railroad (originally Richmond-Danville Railroad), which brought rail passengers to the store. The property was placed under easement with VDHR in 2005. A 2016 survey noted a circular brick-lined pit and categorized it as an archaeological site, although no archaeological site number was assigned (McDonald 2016). ERM visited the property in February of 2025 and noted no changes since the 2004 survey (Attachment 4, Figure 5).

The Hallsboro Store was listed on the NRHP in 2005 under Criterion C as an intact, well-designed example of a rural county store from the late nineteenth century. Hallsboro Store (020-0407) lies within the 0.5-mile study tier for Routes 2B, 3A, and 3B.

## 3.5 HISTORIC RESOURCE FINDINGS FOR ROUTE 2B

## 3.5.1 020-0023, DINWIDDIE COUNTY PULLMAN CAR

The Dinwiddie County Pullman Car is approximately 798 feet to the northwest of Route 2B in an area where the route does not share an alignment with Routes 3A and 3B (Attachment 5, Figure 1). The area between the route and the resource contains the Norfolk Southern Railroad and vegetation. One simulation was prepared for the resource, at KOP 101, along County Line Road (Attachment 5, Figure 2). This location was chosen because it was the closest point to the resource from the public right-of-way. As shown in the simulation, the route's conductors would only be visible at the road crossing. The resource is east of the KOP; however, at a place where the road would not be visible and from which there is no break in the trees. Extrapolating from the



simulation, transmission infrastructure installed along the route would not be visible from the resource due to the dense vegetation to its south. Thus, ERM recommends that the Project would have **No Impact** on 020-0023, Dinwiddie County Pullman Car, if Route 2B is selected for the Duval-Midlothian Lines.

## 3.5.2 020-0030, HALLSBOROUGH TAVERN

Hallsborough Tavern is approximately 0.46 mile to the northwest of Route 2B in an area where the route connects to Dominion's existing Midlothian Substation, which also connects to Dominion's existing Lines #153, #219, #282, #563, #576, #1151, #2009, #2027, and #2066 (Attachment 5, Figure 3). The area between the route and the resource consists of dense vegetation and Dominion's existing transmission lines. One simulation was prepared for the resource, at KOP 102, near the intersection of Midlothian Turnpike and Huguenot Springs Road (Attachment 5, Figure 4). As shown in the simulation, a transmission line installed along the route would not be visible from the resource due to distance and intervening vegetation and infrastructure. Thus, ERM recommends that the Project would have **No Impact** on 020-0030, Hallsborough Tavern, if Route 2B is selected for the Duval-Midlothian Lines.

## 3.5.3 020-0111, BETHEL BAPTIST CHURCH

Bethel Baptist Church is approximately 0.49 mile to the northwest of Route 2B in an area where the route connects to Dominion's existing Midlothian Substation, which also connects to Dominion's existing Lines #153, #219, #282, #563, #576, #1151, #2009, #2027, and #2066 (Attachment 5, Figure 5). The area between the route and the resource consists of dense vegetation and Dominion's existing transmission lines. One simulation was prepared for the resource, at KOP 103, along Huguenot Springs Road (Attachment 5, Figure 6). As shown in the simulation, a transmission line installed along the route would not be visible from the resource due to distance and intervening vegetation and infrastructure. Thus, ERM recommends that the Project would have **No Impact** on 020-0111, Bethel Baptist Church, if Route 2B is selected for the Duval-Midlothian Lines.

#### 3.5.4 020-0405, MT. SINAI BAPTIST CHURCH

Mt. Sinai Baptist Church is approximately 0.37 mile to the north-northwest of Route 2B in an area where the route uses a greenfield alignment (Attachment 5, Figure 7). The area between the route and the resource consists of dense vegetation. Two simulations were prepared for the resource, at KOP 104, along Old Hundred Road (Attachment 5, Figures 8 and 9). As shown in the simulations, a transmission line installed along the route would not be visible from the resource when looking to the south or east due to intervening vegetation. Thus, ERM recommends that the Project would have **No Impact** on 020-0405, Mt. Sinai Baptist Church, if Route 2B is selected for the Duval-Midlothian Lines.

#### 3.5.5 020-0407, HALLSBORO STORE

The Hallsboro Store is approximately 250 feet to the northwest of Route 2B in an area where the route uses a greenfield alignment (Attachment 5, Figure 10). The area between the route and the resource includes the Norfolk Southern Railroad. One simulation was prepared for the resource, at



KOP 106, along Mount Hermon Road (Attachment 5, Figure 11). As shown in the simulation, a transmission line installed along Route 2B would be visible from the resource's southern boundary when looking to the east and northeast. In addition, the construction of the route would require vegetation and tree removal to the south and east, which would also be visible from the resource. The thinning in the trees in this area would make the transmission line more prominent during offleaf seasons. The line would add modern elements to the resource's northeastern and eastern viewsheds where there currently are no modern elements, and it would remove trees and vegetation along the right-of-way. Thus, ERM recommends that the Project would have a **Severe Impact** on 020-0407, the Hallsboro Store, if Route 2B is selected for the Duval-Midlothian Lines.

## 3.6 HISTORIC RESOURCE FINDINGS FOR ROUTE 3A

#### 3.6.1 020-0023, DINWIDDIE COUNTY PULLMAN CAR

The Dinwiddie County Pullman Car is approximately 0.53 mile to the west of Route 3A in an area where the route uses a greenfield alignment (Attachment 5, Figure 12). The area between the route and the resource is heavily wooded. One simulation was prepared for the resource, at KOP 101, along County Line Road (Attachment 5, Figure 13). This location was the closest point to the resource from public right-of-way. As shown in the simulation, transmission infrastructure installed along the route would not be visible from the resource due to distance and intervening vegetation. Thus, ERM recommends that the Project would have **No Impact** on 020-0023, the Dinwiddie County Pullman Car, if Route 3A is selected for the Duval-Midlothian Lines.

#### 3.6.2 020-0030, HALLSBOROUGH TAVERN

Hallsborough Tavern is approximately 0.46 mile to the northwest of Route 3A in an area where the route connects to Dominion's existing Midlothian Substation, which also connects to Dominion's existing Lines #153, #219, #282, #563, #576, #1151, #2009, #2027, and #2066 (Attachment 5, Figure 14). The area between the route and the resource consists of dense vegetation and Dominion's existing transmission lines. One simulation was prepared for the resource, at KOP 102, near the intersection of Midlothian Turnpike and Huguenot Springs Road (Attachment 5, Figure 15). As shown in the simulation, transmission infrastructure installed along the route would not be visible from the resource due to distance and intervening vegetation and infrastructure. Thus, ERM recommends that the Project would have **No Impact** on 020-0030, Hallsborough Tavern, if Route 3A is selected for the Duval-Midlothian Lines.

#### 3.6.3 020-0111, BETHEL BAPTIST CHURCH

Bethel Baptist Church is approximately 0.49 mile to the northwest of Route 3A in an area where the route connects to Dominion's existing Midlothian Substation, which also connects to Dominion's existing Lines #153, #219, #282, #563, #576, #1151, #2009, #2027, and #2066 (Attachment 5, Figure 16). The area between the route and the resource contains dense vegetation and Dominion's existing transmission lines. One simulation was prepared for the resource, at KOP 103, along Huguenot Springs Road (Attachment 5, Figure 17). As shown in the simulation, transmission infrastructure installed along the route would not be visible from the resource due to distance and intervening vegetation and infrastructure. Thus, ERM recommends



that the Project would have **No Impact** on 020-0111, Bethel Baptist Church, if Route 3A is selected for the Duval-Midlothian Lines.

## 3.6.4 020-0405, MT. SINAI BAPTIST CHURCH

Mt. Sinai Baptist Church is approximately 0.37 mile to the north-northwest of Route 3A in an area where the route uses a greenfield alignment (Attachment 5, Figure 18). The area between the route and the resource consists of dense vegetation. Two simulations were prepared for the resource, at KOP 104, along Old Hundred Road (Attachment 5, Figures 19 and 20). As shown in the simulations, transmission infrastructure installed along the route would not be visible from the resource when looking to the south or east due to intervening vegetation. Thus, ERM recommends that the Project would have **No Impact** on 020-0405, Mt. Sinai Baptist Church, if Route 3A is selected for the Duval-Midlothian Lines.

## 3.6.5 020-0407, HALLSBORO STORE

The Hallsboro Store is approximately 250 feet to the northwest of Route 3A in an area where the route uses a greenfield alignment (Attachment 5, Figure 21). The area between the route and the resource includes the Norfolk Southern Railroad. One simulation was prepared for the resource, at KOP 106, along Mount Hermon Road (Attachment 5, Figure 22). As shown in the simulation, Route 3A would be visible from the resource's southern boundary when looking to the east and northeast. In addition, construction of the transmission line along the route would require vegetation and tree removal to the south and east, which would also be visible from the resource. The thinning in the trees in this area would make the transmission line more prominent during offleaf seasons. Installation of the transmission line along the route would add modern elements to the resource's northeastern and eastern viewsheds where there currently are no modern elements, and it would remove trees and vegetation along the right-of-way. Thus, ERM recommends that the Project would have a **Severe Impact** on 020-0407, the Hallsboro Store, if Route 3A is selected for the Duval-Midlothian Lines.

## 3.7 HISTORIC RESOURCE FINDINGS FOR ROUTE 3B

#### 3.7.1 020-0023, DINWIDDIE COUNTY PULLMAN CAR

The Dinwiddie County Pullman Car is approximately 0.53 mile to the west of Route 3B in an area where the route uses a greenfield alignment (Attachment 5, Figure 23). The area between the route and the resource is heavily wooded. One simulation was prepared for the resource, at KOP 101, along County Line Road (Attachment 5, Figure 24). This location was chosen because it was the closest point to the resource from public right-of-way. As shown in the simulation, transmission infrastructure installed along route would not be visible from the resource due to distance and intervening vegetation. Thus, ERM recommends that the Project would have **No Impact** on 020-0023, the Dinwiddie County Pullman Car, if Route 3B is selected for the Duval-Midlothian Lines.



## 3.7.2 020-0030, HALLSBOROUGH TAVERN

Hallsborough Tavern is approximately 0.46 mile to the northwest of Route 3B in an area where the route connects to Dominion's existing Midlothian Substation, which also connects to Dominion's existing Lines #153, #219, #282, #563, #576, #1151, #2009, #2027, and #2066 (Attachment 5, Figure 25). The area between the route and the resource consists of dense vegetation and Dominion's existing transmission lines. One simulation was prepared for the resource, at KOP 102, near the intersection of Midlothian Turnpike and Huguenot Springs Road (Attachment 5, Figure 26). As shown in the simulation, transmission infrastructure installed along the route would not be visible from the resource due to distance and intervening vegetation and infrastructure. Thus, ERM recommends that the Project would have **No Impact** on 020-0030, Hallsborough Tavern, if Route 3B is selected for the Duval-Midlothian Lines.

## 3.7.3 020-0111, BETHEL BAPTIST CHURCH

Bethel Baptist Church is approximately 0.49 mile to the northwest of Route 3B in an area where the route connects to Dominion's existing Midlothian Substation, which also connects to Dominion's existing Lines #153, #219, #282, #563, #576, #1151, #2009, #2027, and #2066 (Attachment 5, Figure 27). The area between the route and the resource contains dense vegetation and Dominion's existing transmission lines. One simulation was prepared for the resource, at KOP 103, along Huguenot Springs Road (Attachment 5, Figure 28). As shown in the simulation, transmission infrastructure installed along the route would not be visible from the resource due to distance and intervening vegetation and infrastructure. Thus, ERM recommends that the Project would have **No Impact** on 020-0111, Bethel Baptist Church, if Route 3B is selected for the Duval-Midlothian Lines.

#### 3.7.4 020-0405, MT. SINAI BAPTIST CHURCH

Mt. Sinai Baptist Church is approximately 0.37 mile to the north-northwest of Route 3B in an area where the route uses a greenfield alignment (Attachment 5, Figure 29). The area between the route and the resource consists of dense vegetation. Two simulations were prepared for the resource, at KOP 104, along Old Hundred Road (Attachment 5, Figures 30 and 31). As shown in the simulations, transmission infrastructure installed along the route would not be visible from the resource when looking to the south or east due to intervening vegetation. Thus, ERM recommends that the Project would have **No Impact** on 020-0405, Mt. Sinai Baptist Church, if Route 3B is selected for the Duval-Midlothian Lines.

#### 3.7.5 020-0407, HALLSBORO STORE

The Hallsboro Store is approximately 250 feet to the northwest of Route 3B in an area where the route uses a greenfield alignment (Attachment 5, Figure 32). The area between the route and the resource includes the Norfolk Southern Railroad. One simulation was prepared for the resource, at KOP 106, along Mount Hermon Road (Attachment 5, Figure 33). As shown in the simulation, transmission infrastructure installed along Route 3B would be visible from the resource's southern boundary when looking to the east and northeast. In addition, construction along the route would require vegetation and tree removal to the south and east, which would also be visible from the resource. The thinning in the trees in this area would make the route more prominent during off-



leaf seasons. Installation of the transmission line along Route 3B would add modern elements to the resource's northeastern and eastern viewsheds where there currently are no modern elements, and would remove trees and vegetation along the right-of-way. Thus, ERM recommends that the Project would have a **Severe Impact** on 020-0407, the Hallsboro Store, if Route 3B is selected for the Duval-Midlothian Lines.

## 3.8 ARCHAEOLOGY FINDINGS

No known archaeological sites have been documented in the rights-of-way of the transmission line alternative routes.



## 4. CONCLUSION AND RECOMMENDATIONS

The pre-application analysis gathered information on archaeological and historic architectural resources that qualify for consideration according to the VDHR Guidelines for transmission line projects. No known archaeological sites are adjacent to or in the right-of-way of the transmission line alternative routes reviewed in this study. Five aboveground historic resources fall within the VDHR study tiers for each route under consideration. A comparison of the number of resources impacted and the degree of impact of each route is presented in Table 6. The specific resources affected by each route are covered in the subsections that follow.

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

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

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

## 4.1 ROUTE 2B

Five previously recorded historic resources meet the criteria specified in the Guidelines within the VDHR study tiers for Route 2B (Table 7). If this route is selected for the Duval-Midlothian Lines, the Project would have no impact on four resources (020-0023, 020-0030, 020-0111, and 020-0405) and a severe impact on one resource (020-0407).



Buffer (miles)	Resource Category	Resource Number	Description	Impact
1.0 to 1.5	National Historic Landmarks	-	-	-
0.5 to 1.0	National Register Properties (Listed)	-	-	-
0.0 to 0.5	National Register Properties (Listed)	020-0023	Dinwiddie County Pullman Car	None
		020-0030	Hallsborough Tavern	None
		020-0111	Bethel Baptist Church	None
		020-0407	Hallsboro Store	Severe
	National Register – Eligible	-	-	-
	Locally Significant	020-0405	Mt. Sinai Baptist Church	None
0.0 (within ROW)	National Historic Landmarks, National Register Properties (Listed and Eligible)	-	-	-

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

Source: VDHR 2025; ROW = right-of-way

#### 4.2 ROUTE 3A

Five previously recorded historic resources meet the criteria specified in the Guidelines within the VDHR study tiers for Route 3A (Table 8). If this route is selected for the Duval-Midlothian Lines, the Project would have no impact on four resources (020-0023, 020-0030, 020-0111, and 020-0405) and a severe impact on one resource (020-0407).

#### TABLE 8 IMPACTS TO HISTORIC RESOURCES IN THE VDHR STUDY TIERS FOR ROUTE 3A

Buffer (miles)	Resource Category	Resource Number	Description	Impact
1.0 to 1.5	National Historic Landmarks	-	-	-
0.5 to 1.0	National Register Properties (Listed)	020-0023	Dinwiddie County Pullman Car	None
		020-0030	Hallsborough Tavern	None
	National Register Properties (Listed)	020-0111	Bethel Baptist Church	None
0.0 to 0.5		020-0407	Hallsboro Store	Severe
	National Register – Eligible	-	-	-
	Locally Significant	020-0405	Mt. Sinai Baptist Church	None
0.0 (within ROW)	National Historic Landmarks, National Register Properties (Listed and Eligible)	-	-	-

Source: VDHR 2025; ROW = right-of-way



## 4.3 ROUTE 3B

Five previously recorded historic resources meet the criteria specified in the Guidelines within the VDHR study tiers for Route 3B (Table 9). If this route is selected for the Duval-Midlothian Lines, the Project would have no impact on four resources (020-0023, 020-0030, 020-0111, and 020-0405) and a severe impact on one resource (020-0407).

Buffer (miles)	Resource Category	Resource Number	Description	Impact
1.0 to 1.5	National Historic Landmarks	-	-	-
0.5 to 1.0	National Register Properties (Listed)	020-0023	Dinwiddie County Pullman Car	None
		020-0030	Hallsborough Tavern	None
	National Register Properties (Listed)	020-0111	Bethel Baptist Church	None
0.0 to 0.5		020-0407	Hallsboro Store	Severe
	National Register – Eligible	-	-	-
	Locally Significant	020-0405	Mt. Sinai Baptist Church	None
0.0 (within ROW)	National Historic Landmarks, National Register Properties (Listed and Eligible)	-	-	-

### TABLE 9 IMPACTS TO HISTORIC RESOURCES IN THE VDHR STUDY TIERS FOR ROUTE 3B

Source: VDHR 2025; ROW = right-of-way

## 4.4 FUTURE INVESTIGATIONS

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

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

The survey teams will be led by individuals meeting the Secretary of the Interior's professional qualifications standards for archaeology and architectural history, respectively. Teams will traverse the length of the Project corridor, revisiting previously recorded historic architectural resources and documenting additional as-of-yet unrecorded cultural resources in the survey area defined in the Guidelines for the Project design. The archaeological survey will adhere to VDHR survey standards (VDHR 2017) and will entail systematic coverage of the approved route. All material culture, including artifacts and features, that could be 50 years old or older will be recorded. Sites



will be delineated within the proposed right-of-way and investigations will include subsurface testing sufficient to inform recommendations of potential eligibility for the NRHP under Criterion D. Each site will be fully documented with appropriate mapping, digital photography, and artifact collection/analysis. Site forms will be prepared for VCRIS submittal along with full descriptions in the technical report.

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

Because this study indicates that each of the alternative routes would result in a severe impact on 020-0407, the Hallsboro Store, mitigation of impacts from the Project will likely be required. The Company will address impacts on this resource in the next stage of investigations.



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## Virginia Department of Historic Resources (VDHR)

- 2008 Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia. Accessed June 2022. Retrieved from: https://www.dhr.virginia.gov/wpcontent/uploads/2018/08/DHR\_Guidelines\_for\_Transmission\_Line\_Assessment.pdf.
- 2017 Guidelines for Conducting Historic Resources Survey in Virginia. Accessed February 2024. Retrieved from: https://www.dhr.virginia.gov/wp-content/uploads/2023/05/SurveyManual\_2017.pdfeyManual\_2017.pdf (virginia.gov).
- 2025 Virginia Cultural Resources Information System. Accessed 2025. Retrieved from: https://www.dhr.virginia.gov/programs/vcris/.

#### Virginia Historic Landmarks Commission Staff

1979 National Register of Historic Places Inventory – Nomination Form: Hallsborough Tavern. On file, Virginia Department of Historic Resource, Richmond, Virginia.

## White, Joseph S. III

1991 National Register of Historic Places Registration Form: Dinwiddie County Pullman Car. On file, Virginia Department of Historic Resources, Richmond, Virginia.





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









# ATTACHMENT 2 CULTURAL RESOURCES SURVEYS WITHIN 1 MILE OF PROJECT





ATTACHMENT 3 TYPICAL DESIGN AND LAYOUT











# ATTACHMENT 4 HISTORIC RESOURCE PHOTOS

# FIGURE 1 020-0023, DINWIDDIE COUNTY PULLMAN CAR, NOT VISIBLE, VIEW TO EAST-NORTHEAST



FIGURE 2 020-0030, HALLSBOROUGH TAVERN, SOUTH ELEVATION, VIEW TO THE NORTH



# FIGURE 3 020-0111, BETHEL BAPTIST CHURCH, WEST AND SOUTH ELEVATIONS, VIEW TO THE NORTHEAST



FIGURE 4 020-0405, MT. SINAI BAPTIST CHURCH, NORTH AND EAST ELEVATIONS, VIEW TO THE SOUTHWEST


## PRE-APPLICATION REPORT

WESTERN CHESTERFIELD ELECTRIC TRANSMISSION PROJECT

## FIGURE 5 020-0407, HALLSBORO STORE, NORTHEAST AND SOUTHEAST ELEVATIONS, VIEW TO THE SOUTHWEST



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## ATTACHMENT 5 PHOTO SIMULATIONS



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

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

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

Best Regards,

Arlene Fields Warren

**GIS Program Support Technician** 

Office of Drinking Water

Virginia Department of Health

109 Governor Street

Richmond, VA 23219

(804) 864-7781

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

Hello Ms. Warren,

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

Thank you,

## Rachel Studebaker

Environmental Specialist II

**Dominion Energy Services** 

120 Tredegar Street, Richmond, VA 23219

Office: (804) 273-4086

Cell: (804) 217-1847

#



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