Walnut Creek Substation Project Proposal – August 2024

This application for Special Use is submitted to Albemarle County (the "County") by Dominion Energy Virginia, (the "Applicant"), a wholly owned subsidiary of Dominion Energy, Inc. ("Dominion Energy"), to provide for the installation of a new switching station at the junctions of Lines 39 and 91 near Walnut Creek Park and in the Samuel Miller Magisterial District. New 12-foot-tall perimeter fencing will be installed along with several engineered steel monopole transmission structures and foundations as well as a steel backbone transmission structure inside the switching station footprint. Preliminary engineering of the new backbone and transmission poles has indicated these heights will be approximately 75 feet to 110 feet above existing ground elevation. A 24' x 70' Control Enclosure will also be brought in as a prefabricated unit for substation controls.

The Project is to be located on what is currently three parcels. These include Parcels 10100-00-00-012C1 (2419 Old Lynchburg Road), 10100-00-00-012C0 (2443 Old Lynchburg Road), and 10100-00-00-012C2 (2447 Old Lynchburg Road), collectively called the "Project Parcel" or "Project". This site is approximately 6 miles south of the Interstate 64 intersection of 5th Street. The Project Parcel is owned by Virginia Electric & Power Company, a wholly owned subsidiary of Dominion Energy, Inc. See Appendix A – Site Exhibit for Conceptual Layout depicting proposed site features.

The Project Parcel is currently zoned "Rural Areas" and is currently utilized as the location for single family residences. The existing buildings on the Project Parcel will be removed, as will all existing utility services including the well and septic for each of the three properties.

Site access will not require modification as the proposed Project will utilize the existing access road and driveway entrance which currently serves the properties at 2443 and 2447 Old Lynchburg Road. Together the Project Parcel totals approximately 10.95 acres and is comprised of approximately 4.9 acres (45%) of wooded tree canopy coverage and 6.05 acres (55%) of open meadow/maintained right-of-way. Out of this 10.95 acres, approximately 4 acres of area will become the secure fenced substation.

The Project Parcel is positioned in the North Fork Hardware River Watershed within the larger James River Watershed. Site development will require the removal of existing vegetation and replace it with a mix of graveled pad and maintained right-of-way. The Project's unique use does not impact water quality as a traditional impervious development would, due to low potential for pollutant runoff using stormwater management best management practices (BMP) and the purchase of water quality mitigation credits to account for the increase in phosphorous loading.

The proposed facility development will provide the community with increased reliability in their electric service distribution, while requiring no use of County services such as water, wastewater, schools, and other infrastructure.

The Project will be constructed and operated in accordance with all applicable Federal, State, and Local building codes and regulations.

Rural Areas Zoning Designation

The Project Parcels 10100-00-00-012C1, 10100-00-00-012C0, and 10100-00-00-012C2, where the switching station facility is located is zoned "Rural Area". The Albemarle County Code of Ordinance, Chapter 18, Sec. 10.2.2(6), allows for "Energy and communications transmission facilities" by Special Use Permit (SP). Additional insight is per Chapter 18, Sec 5.1.12 – Public utility structures/uses. The intent of the Rural Area Zoning is for Preservation of agricultural and forestal lands and activities, water supply protection, limited-service delivery to rural areas,

conservation of natural, scenic, historic resources. It is intended that permitted development be restricted to land which is of marginal utility for agricultural/forestal purposes, provided that such development be carried out in a manner which is compatible with other purposes of this district. While this switching station is allowed by Special Use, it is being sited ideally at a location that is currently utilized as an electric transmission right of way corridor for Dominion, as well as the intersection of existing transmission lines which serve the greater Charlottesville area.

Consistency with Comprehensive Plan

Natural Resources

Recognizing the value that natural resources bring to the area, the County's 2015 Comprehensive Plan identifies certain objectives regarding the protection of natural resources within the county. The following is a list of some of those objectives and a narrative on how Dominion meets the intent of those objectives.

Objective 1: "Ensure clean and abundant water resources for public health, business, healthy ecosystems, and personal enjoyment by preventing shortages and contamination."

Dominion Energy is an Annual Standards & Specifications holder for Erosion & Sedimentation control and Stormwater Management for Construction and Maintenance of Linear Electric Transmission Facilities under the authority of the Virginia Department of Environmental Quality (VDEQ). Dominion Energy is responsible for administering, implementing, and complying with the Standards and Specifications for Erosion and Sediment Control (ESC) and Stormwater management (SWM) for Electric Transmission Line Development and appurtenant facilities such as substations and switching stations. The design, review, approval, and development of projects follows the policies and procedures described in the Virginia Erosion and Sediment Control Handbook (VESCH) and under the standards and specifications. Through Dominion's Annual Standards & Specifications, the Applicant will continue to adhere to VSMP requirements to help protect and preserve water resources. Where land disturbance will occur, grading has been designed to ensure stormwater is responsibly managed to protect downstream resources according to State guidance.

Objective 2: "Protect air quality."

The Applicant is implementing this Project to improve electrical service to the local community and will work to reduce any potential emissions to the greatest extent possible to not present a negative impact to the local and regional air quality. Potential emissions associated with construction activities will be minimized by incorporating best management practices to minimize any fugitive dust emissions and combustion related emissions from temporary construction equipment (i.e., mobile equipment, portable generators, etc.). Additionally, at this time the future operation of the facility does not anticipate a need to install any permanent air emission sources that would require an air permit from the Virginia Department of Environmental Quality. Therefore, based on the measures being implemented during the construction and operational phases, the Project would not present any adverse impacts to local and region air quality.

Objective 4: "Protect the biological diversity and ecological integrity of the County in both the Rural Area and Development Areas."

The Project has been located as much as possible within an existing transmission line corridor and even within an area that has been previously disturbed by the development of homes, outbuildings, utilities, and general use. The collocation of this Project directly from its initial siting has looked to reduce impacts to biological diversity and ecological integrity of the immediacy of the Project area. Furthermore, through maintaining and even adding to existing screening and landscaping coverage at the Project site combined with the proposed use of native plants in landscaping to protect and provide habitat for native biodiversity, and to save water.

Historic, Cultural, and Scenic Resources

Objective 6: "Continue to protect and enhance scenic resources for residents and tourists."

The Applicant will continue to promote voluntary measures to protect scenic resources and minimize/prevent negative impact to neighbors by maintaining and supplementing vegetation and screening along the property boundaries. During this project preparation, the Applicant has worked with the County and adjacent neighbors to develop a vegetative screening of multiple rows of evergreen and deciduous species. This landscape and screening plan is a part of the application.

Impacts on Public Facilities & Public Infrastructure

Public Infrastructure

The Walnut Creek Switching Station will not create any additional burden on County services such as schools, roads, or other public utilities. At the conclusion of construction, visits to the site will be limited to routine operations and maintenance currently experienced at the site. Therefore, the Project will not introduce a burden to county roads or facilities. Due to there being no permanent, on-site staff for the facility, no impact to public facilities is expected.

Neighboring Parcels

Eleven other parcels border the Project Parcel, each of which are also zoned Rural Area. See table of parcels.

Table 1: Adjacent Parcels

Landowner	Parcel ID	Parcel Address	Tax Type
Dabney W & Cindy B Carter	10100-00-00-008A0	2412 Old Lynchburg Road	Regular Taxable
James L & Rachel P McLaughlin	10100-00-00-01000	2413 Old Lynchburg Road	Regular Taxable
Deepak Satheesh or Elsy Kalaparampath	10100-00-00-013C3	2046 Via Creek Drive	Regular Taxable
Larry F & Peggy M Mundy	10100-00-00-013C2	N/A	Regular Taxable
Larry F & Peggy M Mundy	10100-00-00-013C1	N/A	Regular Taxable
Carroll Douglas Arrington	10000-00-00-031C0	N/A	Regular Taxable
Carroll Douglas Arrington	10000-00-00-031A0	N/A	Regular Taxable
Loretta K Hamilton	10000-00-00-03100	2480 Old Lynchburg Road	Regular Taxable
Louise K Matthews	10000-00-00-030B0	N/A	Regular Taxable
Richard A or Teresa S Gibson	10100-00-00-010A0	2424 Old Lynchburg Road	Regular Taxable

The Project will mitigate impacts to neighboring parcels through maximizing the use of naturally occurring vegetative screening paired with the installation and maintenance of both adequate setbacks and additional vegetative buffer areas, as necessary. Due to safety and maintenance requirements, vegetation will be limited in the right-of-way under overhead lines and within proximity of the substation due to security requirements.

Visual

Recognizing the importance of scenic resources conservation, great care was taken to design the Project in a way that protects the viewshed of the neighboring properties and roadways while working with the existing topography of this Project land area. This is accomplished by adhering

to all setback requirements, maintaining mature vegetative buffering in place where available and supplementing vegetative buffering with additional native vegetation where appropriate. With infrastructure projects, there are necessary arrangements of equipment requiring strict spacing and offsets from other equipment and the perimeter fence. This too is a part of the siting of this station and the footprint that must be developed in support of this use.
The proposed transmission substation equipment to be installed will not exceed the 35-foot height restriction, measured from the base of the structure to its highest point; however, a new backbone and static pole structure for the transmission line will need to be installed as part of the new Project. This backbone and static pole will be of similar height to the existing transmission structures with an approximate height of 75 feet. There will be no signage on site, except for that required by Dominion for safety, security, or site operations.
Existing slopes, mature and supplemental vegetation will further reduce the visual impact to adjacent parcels.
Vegetative screening will adhere to the requirements set out in Chapter 18, Sec. 32.7.9.7, of the Zoning Ordinance.

Noise

Noise characteristics will be typical of an electrical substation and sound levels will be in compliance with the County's noise ordinance. The proposed switching station equipment will not emit noise.

Lighting

All lighting at the Project site will comply with all applicable sections of the Albemarle County Code of Ordinance (Zoning Ordinance) and will be kept to the minimum illumination necessary to ensure the safe operation of the facility. All lighting will be designed to prevent spillover lighting and will be arranged or shielded to reflect light away from adjoining residences and roads. A photometric plan is included within the application.

Water Resources

The Project will be designed to meet the requirements as required by VDEQ and approved under the Annual Standards and Specifications. This will ensure that stormwater will be regulated within and prior to leaving the site to ensure no adverse impacts will occur on site or downstream of the Project area. Both water quality and quantity will be considered and protected as the facility design progresses. See Appendix A for a conceptual grading and stormwater plan These conceptual plans depict the preliminary Project design and will be updated to include final equipment selection and feedback from the County.

The Applicant will continue to solicit and incorporate County Engineering feedback through the Site Plan Approval process. The Applicant, as authorized by the Virginia Stormwater Management Program ("VSMP") through their approved Annual Standards and Specifications, will, through an authorized independent third-party reviewer, coordinate the review and approval of the final stormwater management plan.
With the Project area requiring tree clearing in developing the necessary gravel pad area, establishment of additional visual vegetative buffers and healthy vegetative cover are proposed. The establishment of healthy ground cover post construction will be heavily monitored and emphasized as the first step in water quality protection. The temporary erosion and sediment control measures and the permanent stormwater Best Management Practices (BMPs) that will be implemented in accordance with VDEQ VSMP guidance will also protect water quality. Vegetation outside the Project Limits of Disturbance (LOD) will be untouched and preserved.

Hazardous Materials Statement

The Project does not pose a risk to public health due to the presence of hazardous materials as

there are no known hazardous materials stored onsite.

Impacts on Environmental Features

Critical Slopes

The Project design will not encroach on any large contiguous areas of critical slopes, as defined in Chapter 18, Article I, Section 3.1 and described in Chapter 18, Article II, Section 4.2 of the Zoning Ordinance.

Wildlife

As part of the Project development, the Applicant is reviewing multiple databases to identify the potential presence of State or Federally listed Threatened and Endangered species within the immediate surroundings of the proposed Project. As part of the Permitting process through VDEQ and the USACE further evaluations will be completed to avoid and minimize impacts to any Threatened and Endangered Species.

Based on the results of the desktop review, a comprehensive field habitat study has been conducted to determine if species identified in the State and Federal databases have potential habitat present on the Project Site. Due to the lack of any Federal Nexus, and the limited clearing, Dominion will not perform any proposed clearing within the Pup Season which is June 1 to July 30.

Cultural and Historical Resources

As part of the Project development, the Applicant has had an archaeological and architectural resources review performed with a study area of approximately 23 acres on and around the Project. The following statements are extracted from the report abstract:

> *"The architectural resources survey resulted in the identification of two (2) architectural resources greater than 50 years of age (constructed in 1973 or earlier) located within the project survey area. Both identified resources were previously recorded and updated as part of this effort. These resources include the site of a former early-twentieth school and a mid-twentieth century single-family dwelling." … "Reconnaissance-level research revealed no known significant historical associations and as such, it is recommended not eligible for listing in the NRHP. As such, the Walnut Creek Substation Project will not impact any architectural resources considered eligible for listing in the NRHP and no further consideration of architectural resources is recommended."*

> *"Archaeological survey consisted of a pedestrian reconnaissance followed by the excavation of 209 shovel tests across the project area. The survey resulted in the identification of one archaeological site dating to the early through late twentieth century. This site is a domestic scatter designated as Field Site 1. Due to the small and unexceptional nature of the assemblage, the lack of significant subsurface features, and the continuous disturbance to the site through residential use of the space into the modern day, this site does not have the potential to contribute new or significant information to history. Therefore, Field Site 1 is considered not eligible for listing in the NRHP, and no further archaeological investigations are warranted as part of the Walnut Creek Substation Project."*

Streams and Wetlands

A wetland delineation was performed by Dewberry to review for any streams and wetlands on the Project Parcel. Dewberry did not identify potentially jurisdictional wetland features within the provided study area. Data and photo documentation were collected for the preparation of the report. The Project will be developed and constructed in conformance with all applicable federal, state, and local laws and regulations, including the Chesapeake Bay Act, Clean Water Act, and VDEQ Stormwater Management Program Regulations.

Facility Considerations

Project Site Access

Access to the Project Site will occur by an existing single gravel access road off Old Lynchburg Road. Minimal impact to traffic is expected during construction. Once operational, there will be no daily staff at the Project Site, and site visits are expected to be limited to routine operations and maintenance typical of a substation.

Vegetative Buffer

Existing mature vegetation will be utilized as buffer wherever possible on the Project Site. Any needed additional vegetative screening is identified in Appendix A and will adhere to the requirements set out in Chapter 18, Sec. 32.7.9.7, of the Zoning Ordinance. Native, non-invasive species will be utilized for all installed vegetative buffering. Vegetative buffering will be maintained throughout the life of the Project.

Fencing and Security

All new facility equipment will be enclosed in a 12-foot-tall perimeter fence with a 5/8" mesh which, in addition to vegetation, aids in screening. The fencing serves to prevent unauthorized personnel from entering the Project Site and will protect the system components from damage by wildlife. Security gates will be installed to allow for ingress and egress of authorized personnel. Temporary fencing will be installed, as necessary, for safety and security during construction. Access will be limited to authorized personnel, including designated County officials. Safety and security signs will be located along the perimeter fence. Temporary instructional or safety signs will be posted during construction, as appropriate and necessary to include signage pertinent to VDOT permit requirements.

Lighting

Lighting at the Project site will comply with all applicable sections of the Albemarle County Code of Ordinance (Zoning Ordinance) and will be kept to the minimum illumination necessary to ensure the safe operation of the facility. Lighting will be designed to provide safety for employees and will be installed at the Control Enclosure as well as overhead, mounted on the new backbone structures.

Facility Permitting

Stormwater Management Plan

Understanding the need for protecting clean water sources, the Applicant, as authorized by the Virginia Stormwater Management Program ("VSMP") through their approved Annual Standards and Specifications, will, through an authorized independent third-party reviewer, coordinate the review and approval of the final stormwater management plan. The Project's conceptual Stormwater Management Plan can be viewed in Appendix A.

Erosion and Sediment Control

The Applicant will ensure strict compliance with all applicable erosion and sediment control laws and regulations. Management practices utilized on site will be designed specifically to prevent the discharge of sediment and other pollutants into nearby streams and bodies of water. The Applicant, as authorized by VDEQ through their approved Annual Standards and Specifications, will, through an authorized independent third-party reviewer, coordinate the review and approval of the erosion and sediment control plan. The Project's conceptual Erosion and Sediment Control Plan can be seen in Appendix A.

Facility Construction

Construction of the switching station Project is expected to take approximately eleven months, beginning in late 2024, and concluding in late 2025.

A Dominion construction manager will coordinate, direct, and manage all logistical and workforce aspects of construction. Personnel will park only in designated areas during construction of the facility.
On-site construction activities consist of the following main categories:

- Civil & Environmental: Temporary erosion and sediment control Best Management Practices (BMPs), permanent stormwater management BMPs, internal site expansion and road construction, construction entrances and material laydown area
- Fence: Permanent fence surrounding Project Site
- Mechanical: Foundations and equipment installation
- Electrical: Mounting of electrical equipment, trenching, and installation of conduit and wire

Materials and transmission equipment necessary to construct the Project will be manufactured off site but will be delivered to the Project Parcel by truck. Trucks delivering Project materials may be staged and unloaded on the Project Site. Major materials may be stored on site prior to installation. Other materials arriving by truck for more immediate installation include fencing, conduit, concrete, reinforced steel, wire management hardware, communication equipment, and other electrical components. Some existing gravel drive areas may be used as a temporary construction laydown and parking area while first mobilizing to the Parcel.

Attachments

Appendix A – Conceptual Site Plans