

APPALACHIAN POWER COMPANY
BEFORE THE
VIRGINIA STATE CORPORATION COMMISSION
CASE NO. PUR-2021 -00001

APPLICATION FOR APPROVAL AND CERTIFICATION OF
ELECTRICAL TRANSMISSION LINE

Central Virginia Transmission
Reliability Project

VOLUME 3 OF 4

DEQ Supplements

January 2021

**SOAPSTONE 138 kV SUBSTATION
VDEQ SUPPLEMENT**

VDEQ SUPPLEMENT

Central Virginia Transmission Reliability Project

**Component 3:
Soapstone 138-kV Substation**

Nelson County, Virginia

Prepared For:
Appalachian Power Company

Prepared by:
POWER Engineers, Inc.

December 2020

Based on consultations with the Virginia Department of Environmental Quality (VDEQ), POWER Engineers, Inc. (POWER) on behalf of Appalachian Power Company (Appalachian Power or the Company) has developed this VDEQ Supplement to facilitate review and analysis of the Soapstone Substation Component of the Central Virginia Transmission Reliability Project (CVTRP) by the VDEQ and other relevant agencies.

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1. PROJECT DESCRIPTION

Appalachian Power Company (Appalachian Power or the Company) is planning to upgrade the local electric transmission grid in five central Virginia counties: Amherst, Appomattox, Albemarle, Campbell and Nelson (“the Central Virginia Transmission Reliability Project” or “CVTRP”). The CVTRP provides a new electrical source for the region, increases reliability to customers and supports the retirement of aging equipment. The Company’s application to the Virginia State Corporation Commission (SCC), describes the overall need and necessity for the CVTRP.

The CVTRP has been broken into four components. This Virginia Department of Environmental Quality (VDEQ) supplement will focus on Component 3 or the Soapstone 138-kV Substation Component, which involves building a new 138-kV substation (the “Soapstone 138-kV Substation”) and approximately 600 feet of new 138-kV double circuit transmission line (the “Soapstone 138-kV Extension”) on a property purchased by the Company. The proposed Soapstone 138-kV Substation will replace the existing Schuyler Substation located off Salem Road in Nelson County. The Soapstone 138-kV Extension will connect the Company’s existing Reusens – Scottsville – Bremono Bluff 138-kV transmission line to the new Soapstone 138-kV Substation.

The Project Team conducted a site selection process that identified and evaluated 13 feasible sites for the proposed Soapstone 138-kV Substation and ultimately, two alternative sites were carried forward for various reasons such as size, land use compatibility, purchase availability, and potential viewshed impacts. Sites that were carried forward into the alternative analysis were crossed by the 138-kV source and would require a short transmission line extension on the same property as the proposed substation. Therefore, a separate transmission line routing process for the Soapstone Extension was not completed. The proposed location for the Soapstone 138-kV Substation on Rockfish Crossing was ultimately chosen as it minimizes impacts to the natural and human environment and is crossed by the existing 138-kV transmission line.

The Company completed purchase of an approximately 111.2-acre property in Nelson County for Component 3 in November 2019. The property consists of rolling topography with a drainage running north to south through the parcel and one residence, which was vacated after the purchase of the property. The property carries an agricultural zoning designation and utility infrastructure is a compatible use as defined by Nelson County. The Soapstone Substation pad is proposed to be at least 250 feet by 250 feet (approximately 1.5 acres) and north of the existing 138-kV right-of-way (ROW). The proposed substation is set back from Rockfish Crossing with adequate space for a vegetative buffer and visual screening.

2. ENVIRONMENTAL ANALYSIS

Prior to purchasing the property for Component 3, the Company completed onsite wetland delineations, a cultural resources reconnaissance survey, and civil grading concepts as a due diligence effort. Geotechnical borings and groundwater elevation studies are ongoing. Threatened and endangered species surveys will be completed after the state approval process, prior to construction of the substation.

On behalf of the Company, POWER solicited input from a number of state and federal environmental agencies regarding the CVTRP. Responses were received from 17 representatives of various federal, state, and local agencies, and are included in Volume 2 of the Application. POWER

also obtained relevant environmental data from field verification, online databases and other available sources.

A. Air Quality

The CVTRP does not involve the construction or expansion of any thermal emission generating sources and therefore no direct operational emissions from the Project are anticipated. During construction, emissions from heavy equipment and dust would occur, but kept at a minimum. No permanent impacts on air quality are anticipated, and temporary impacts will only last the duration of the construction phase. The Company does not expect to burn cleared material but, if burning becomes necessary, the Company will coordinate with the responsible locality to obtain permits and will comply with conditions imposed by the locality. The Company's tree-clearing methods can be found in Section II.A.7 of the SCC Response to Guidelines in Volume 1 of the Application.

B. Water Source

The Soapstone 138-kV Substation Component is located in the Rockfish River-Dutch Creek sub-watershed (Hydrologic Unit Code [HUC]12 020802031002) of the Middle James-Buffalo sub-basin (HUC8 02080203). No water source is required for substation operation. The Company requested comments on the Soapstone 138-kV Substation Component from the Virginia Department of Health's Office of Drinking Water in a letter dated January 30, 2020. The Office of Drinking Water did not respond to this request for the potential location of public groundwater wells or surface water intakes. Additionally, no response was received from the VDEQ Office of Wetland and Stream Protection.

The Project Team submitted a project review request to the Virginia Department of Conservation (VDCR), Virginia Natural Heritage Program on January 30, 2020 and a response was received on March 6, 2020 (Attachment 2.B.1 to this VDEQ Supplement). The VDCR noted the Soapstone 138-kV Substation is located within the Rockfish River Stream Conservation Unit with a biodiversity ranking of B3 or a site of high significance. The natural heritage resource associated with this unit is the Aquatic Natural Community (NP-Middle James-Buffalo Fifth Order Stream). This community is based on Virginia Commonwealth University's Interactive Stream Assessment Resource database, which provides data representing fish and macroinvertebrate assemblages, instream habitat, and stream health assessments. Impacts to this community and surrounding watersheds could include water quality degradation, water withdrawal, and spread of invasive species. To mitigate, VDCR recommends the following, where it is applicable:

- Implementation of state and federal erosion and sediment control/storm water management laws and regulations
- Establishment/enhancement of riparian buffers with native plant species
- Maintaining natural stream flow

The Virginia Marine Resources Commission (VMRC) noted in a letter dated February 24, 2020, that pursuant to Section 28.2-1200 et seq. of the Code of Virginia, they have jurisdiction over any encroachments in, on, or over the beds of the bays, ocean, rivers, streams, or creeks which are the property of the Commonwealth. Any jurisdictional impacts will be reviewed by VMRC during the Joint Permit Application process, as required. In a letter dated March 3, 2020, the VDEQ Blue Ridge

Regional Office did not indicate any water resource concerns for the CVTRP (agency responses included in Volume 2 of the Application).

C. Discharge of Cooling Waters

No discharge of cooling waters is associated with the Project.

D. Tidal Wetlands

No tidal wetlands are associated with the Project.

E. Non-tidal Wetlands Impact Consultation

POWER biologists completed a wetland and stream delineation on March 24 – 26, 2020 for the Soapstone Substation. The Survey Area is identified as an area of approximately 42 acres within the Company’s 111-acre parcel that includes the Soapstone 138-kV Substation, Soapstone 138-kV Extension, and stormwater controls. Multiple wetlands and streams were identified within the Survey Area and details of the onsite wetland and stream assessment is included as Attachment 2.E.1 of this VDEQ Supplement.

Prior to the field survey, hydrologic resource mapping including floodplains and National Wetland Inventory (NWI) data was reviewed within the Survey Area. A hand-held Trimble Global Positioning System (GPS) capable of sub-meter accuracy was used to gather data points and determine boundaries of all identified aquatic resources. Field collected resource locations, National Hydrography Dataset (NHD) streams, and the Survey Area are shown in Figure 3 of Attachment 2.E.1 in this VDEQ Supplement. Locations of wetland determination data points were selected in accordance with procedures outlined in the United States Army Corps of Engineers (USACE) *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region*. Representative photographs of the identified wetland resources were taken at the Wetland Data Point locations shown on figures included in Attachment 2.E.1 of this VDEQ Supplement.

Three wetlands and six streams were identified within the Survey Area. Details of these aquatic resources are listed in the following two tables and also located in the Attachment 2.E.1.

WETLAND ID	COWARDIN WETLAND TYPE ¹	ACREAGE WITHIN SURVEY AREA
WET-SSS-01	PEM	0.01
WET-SSS-02	PSS	0.02
WET-SSS-03	PUB/PEM/PSS	1.99
Wetlands within Survey Area Total		2.02

¹ PEM = Palustrine Emergent; PSS = Palustrine Scrub-Shrub; PUB = Palustrine Unconsolidated Bottom.

STREAM ID	FLOW REGIME	LENGTH WITHIN SURVEY AREA (FEET)
STRM-SSS-01	Intermittent	496
STRM-SSS-02	Perennial	1,078
STRM-SSS-03	Intermittent	228
STRM-SSS-04	Ephemeral	258
STRM-SSS-05	Ephemeral	136
STRM-SSS-06	Intermittent	504
Streams within Survey Area Total		2,700

No wetlands or streams were identified within the disturbance limits of the proposed Soapstone 138-kV Substation (Figure 3 of Attachment 2.E.1 to this VDEQ Supplement). Most of the wetlands and streams identified during the field assessment are located on the southern and western extents of the property and outside the anticipated disturbance limits. The Soapstone Extension is anticipated to span over one stream (STRM-SSS-02) and no impacts are anticipated. Erosion control best management practices will be applied where appropriate to minimize stormwater runoff related impacts during construction activities per requirements by the VDEQ and/or the USACE. The Company will continue to work with the VDEQ to minimize impacts to wetlands and streams on the CVTRP.

F. Solid and Hazardous Waste

A database search was conducted to identify solid and hazardous waste sites in proximity to the Soapstone 138-kV Substation Component. The database search included the USEPA’s National Priority List (NPL); the USEPA’s Superfund Enterprise Management System; the USEPA’s Resource Conservation and Recovery Act Information System (RCRA); the USEPA’s Toxics Release Inventory (TRI); the VDEQ’s Solid Waste Management Facilities; and the VDEQ’s Voluntary Remediation Program (VRP). Results from the solid and hazardous waste database search are included in Attachment 2.F.1 to this supplement.

The USEPA’s Superfund NPL online mapper identified no NPL sites in proximity to the Soapstone Substation 138-kV Component in addition to the Superfund Enterprise Management System (database last updated November 2019). The RCRA database includes information on facilities that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. Facilities are classified as large quantity generators, small quantity generators, or conditionally exempt small quantity generators depending on the amount of waste they handle. The USEPA’s RCRA database identified no RCRA facilities in the vicinity of the Soapstone Substation 138-kV Component (databased last updated June 2020). The USEPA’s TRI database includes information about toxic chemical releases and pollution prevention activities reported by industrial and federal facilities. The TRI database identified no TRI sites within 10 miles of the Soapstone Substation 138-kV Component (databased last updated September 2020). In addition, no facilities registered in the VRP database were identified in Nelson County.

Nelson County is a member of the Region 2000 Services Authority, which serves the four collections centers in the county. No collection centers in Nelson County are located within five miles of the Soapstone Substation 138-kV Component and the Region 2000 Services Authority is located 40 miles away.

Care will be taken to operate and maintain construction equipment to prevent any fuel or oil spills. Any waste created by the construction crews will be disposed of in a proper manner and recycled where appropriate and will be further detailed in the Company's stormwater pollution prevention plan, a component of the Virginia Stormwater Management Program, which will be submitted to the VDEQ. The Soapstone Substation Component is located in an open field, but the larger property is designated as an agricultural property with some forested areas and one residence on the property. Based on the information obtained from the USEPA and the VDEQ databases, it is anticipated the Soapstone 138-kV Substation Component will not impact contaminated soils or groundwater during construction. The Company will monitor soil and groundwater quality in areas of soil disturbance locations, which will be outlined in the stormwater pollution prevention plan.

G. Natural Heritage, Threatened and Endangered Species

A USFWS Information for Planning and Consultation (IPaC) report was generated to verify potential habitat occurrences of threatened and endangered species near the Soapstone 138-kV Substation Component. A one-mile search buffer was added to the Soapstone Substation 138-kV Component location and two USFWS-listed species (Northern long-eared bat and James spinymussel) that might occur were identified through the IPaC (Attachment 2.G.1 to this VDEQ Supplement).

The Project Team submitted a project review request to the VDCR, Virginia Natural Heritage Program on January 30, 2020 and a response was received on March 6, 2020 (see Attachment 2.B.1 to this VDEQ Supplement). The VDCR did not have any concerns or listed species for the Company, but recommends following the Project's maintenance practices as preventative measures to protect potential habitats of USFWS-listed species:

- Invasive species plan including invasive species inventory for the Project based on the current VDCR Invasive Species List from VDCR's website; methods for treating the invasive species.
- ROW restoration and revegetation including native species in a mix of grasses and forbs; monitoring and adaptive management plan for unsuccessful restoration efforts.

The VDCR notes any permanent tree removal by Component 3 could fragment Ecological Core(s) (C2, C3, C4, and C5) as identified in the Virginia Natural Landscape Assessment. Ecological Cores are areas of unfragmented natural cover with at least 100 acres of interior that provide habitat for a wide range of species. The cores are ranked from C1 to C5 (C5 being the least ecologically relevant) using a multi-level criterion. Habitat fragmentation can reduce biodiversity and habitat quality due to limited recolonization, increased predation, and spread invasive species. The VDCR notes the key to mitigation of fragmentation is minimization measures applied, to the extent feasible, that will preserve the natural patterns and connectivity of habitats that are key components of biodiversity (Attachment 2.B.1 to this supplement). Based on the current design of the Soapstone Substation and transmission line extension, limited tree clearing will be required, as the substation is located in a previously cleared area on the parcel.

The Project Team submitted a project review request to the Virginia Department of Wildlife Resources (VDWR) [previously the Virginia Department of Game and Inland Fisheries (VDGIF)]. The Company did not receive comments from the VDWR. A review of the VDWR’s online mapper was used to view sensitive species and resulted in three USFWS-listed species (Northern long-eared bat, James spiny mussel, and [USFWS-proposed listed] yellow lance) within a 3 mile radius of Component 3. The Soapstone 138-kV Substation Component area is not located in proximity to any potential Northern long-eared bat, little brown bat, or tri-colored bat habitat and roost tree locations according to the information obtained in VDWR’s online mapper (various survey dates). In addition, no bald eagle nests documented by The Center for Conservation Biology’s (CCB) Eagle Nest Locator were located in proximity to the proposed substation site. If found, USFWS eagle guidance recommends that a 660-foot buffer between project activities and eagle nests be maintained.

A total of nine state-listed species could occur within the Soapstone 138-kV Substation Component based on the VDWR list. The list can be found in Attachment 2.G.3 of this supplement and in the below table. The Company will coordinate with the USFWS, the VDWR, and the VDCR as appropriate to minimize impacts on these resources through the environmental permitting phase of the CVTRP.

VDWR-LISTED SPECIES WITHIN 3 MILES OF COMPONENT 3	
SPECIES NAME	STATUS
Little brown bat	Endangered
Tri-colored bat	Endangered
Brook floater	Endangered
Eastern tiger salamander	Endangered
Peregrine falcon	Threatened
Loggerhead shrike (migrant)	Threatened
Atlantic pigtoe	(Proposed) Threatened*
Appalachian grizzled skipper	(Proposed) Threatened*
Green floater	Threatened
Appalachian grizzled skipper	Threatened

* Species currently under VDWR review to be listed as “Threatened”.

H. Erosion and Sediment Control

The Company’s General Erosion and Sediment Control Specifications for the Construction and Maintenance of Electric Utility Lines are submitted annually to the VDEQ for all upcoming projects. The approved General Erosion and Sediment Control Specifications will be implemented for all transmission facility construction related to the proposed Project, including the Soapstone 138-kV Substation Component, which will require substation construction, ROW clearing, transmission structure erection, and a new substation entrance road. In addition, a site-specific erosion and sediment control plan will be prepared as required by the VDEQ.

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

Per the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (2008) or simply *Guidelines*, issued by the Virginia Department of Historic Resources (VDHR), POWER contracted Dutton + Associates to complete a Pre-Application Analysis for the Soapstone 138-kV Substation Component (see Attachment 2.I.1).

As per the Guidelines, the Area of Potential Effect is a tiered radial buffer framework, as defined by the VDHR. The buffer extends 1.5 miles for National Historic Landmarks; 1.0 mile for resources listed on the National Register of Historic Places (NRHP) and Virginia Landmarks Register maintained by the Virginia Board of Historic Resources and historic districts/battlefields that have been determined eligible for the NRHP/ Virginia Landmarks Register; and 0.5 mile used for NRHP-eligible historic properties. The Pre-Application Analysis also includes a review of known or previously surveyed archaeological sites near the proposed Soapstone 138-kV Substation Component.

Background archival research was conducted regarding surveyed properties within the buffers established by Guidelines for Component 3. Review of the VDHR VCRIS inventory records revealed a total of 32 previously recorded architectural resources are located 1.5-miles of the Soapstone 138-kV Substation Component area. Of these, there are no NHLs located within 1.5-miles of the Soapstone 138-kV Substation Component, two properties listed in the NRHP and no battlefields located within 1-mile of the Soapstone 138-kV Substation Component, and no additional properties that have been determined eligible for listing in the NRHP within 0.5-miles of the Soapstone 138-kV Substation Component. VCRIS also revealed there are no previously recorded archaeological sites within one mile of the Soapstone 138-kV Substation Component area.

The below table summarizes these results for the Soapstone 138-kV Substation Component. The Cultural Reconnaissance Survey is included as Attachment 2.I.1 to this VDEQ Supplement. There are two resources within the tiered study areas upon which a field reconnaissance was conducted. These include the NRHP-listed Southern Albemarle Rural Historic District (VDHR# 002-5045), located 0.13 mile to the component area, and the NRHP-listed Schuyler Historic District (VDHR# 062-5002), located 0.33 mile to the component area.

CONSIDERED RESOURCES WITHIN TIERED STUDY AREAS		
Radial Buffer From Component 3 (Miles)	Considered Resources	Description
0.0 to 1.5	National Historic Landmarks	None
0.0 to 1.0	NRHP-listed	Southern Albemarle Rural Historic District (VDHR# 002-5045)
		Schuyler Historic District (VDHR# 062-5002)
	Battlefields	None
	Historic Landscapes	None

CONSIDERED RESOURCES WITHIN TIERED STUDY AREAS		
Radial Buffer From Component 3 (Miles)	Considered Resources	Description
0.0 to 0.5	NRHP-eligible (determined by VDHR)	None
0.00 (within ROW)	Archaeological sites	None

The NRHP-listed Southern Albemarle Rural Historic District and Schuyler Historic District are not visible from the Soapstone 138-kV Substation Component. Field inspection and representative photographs reveal that the Soapstone 138-kV Substation Component will be completely screened from view from all publicly accessible locations throughout both historic districts by the thickly wooded and mountainous terrain that characterizes the area.; therefore, no direct impacts are anticipated due to the distance from the resource and topography. The Company will continue to work with the VDHR to minimize impacts to cultural resources as the CVTRP progresses.

J. Chesapeake Bay Preservation Areas

Construction, installation, operation, and maintenance of electric transmission lines are conditionally exempt from the Chesapeake Bay Act as stated in the exemption for public utilities, railroads, public roads, and facilities in 9 VAC 10-20-150. The Company will meet applicable conditions.

K. Wildlife Resources

As noted in Section 2.G, two federally-listed species may be found within one mile of the Soapstone Substation Component according to the IPaC. Consultation with the USFWS, the VDWR and the VDCR will be on-going as the CVTRP progresses. As required, the Company will perform the appropriate surveys to determine if protected species are present and to coordinate with the USFWS and the VDWR as appropriate to minimize impacts on these species and their habitat.

L. Recreation, Agricultural, and Forest Resources

The Soapstone 138-kV Substation Component is expected to have minimal impact on recreation, agricultural, and forest resources. The property purchased for the Soapstone 138-kV Substation and Soapstone 138-kV Extension is located on an agricultural parcel with one residence on the property, that was vacated after the purchase of the parcel. The property is a mix of forested and previously cleared areas. Based on preliminary grading concepts, approximately eight acres of land disturbance is anticipated for the construction of the substation and associated stormwater controls. The Company’s tree clearing methods use the Virginia Department of Forestry (DOF)’s BMPs for water quality. Specific sections of the BMPs that are pertinent to substation construction and transmission line clearing operations include:

- Equipment Maintenance and Litter
- Harvest Closure (rehabilitation of the ROW after construction)

- Revegetation of Disturbed Areas

The Company will utilize the above BMPs for the Project. Further discussion of substation construction, ROW clearing, rehabilitation and maintenance can be found in Section II.A.7 of the SCC Response to Guidelines in Volume 1 of the Application.

M. Use of Pesticides and Herbicides

When herbicides are used to maintain the Company's transmission ROW, they are registered with the US EPA and with the Virginia Department of Agriculture and Consumer Services. All herbicides will be used in accordance with label and manufacturer directions. Regarding herbicide applications (additionally, see Section II.A.7 of the SCC Response to Guidelines in Volume 1 of the Application):

- Herbicides will not be applied when rainfall is imminent, during rainfall, or within one day of large rain events (usually greater than one centimeter) that result in soil moisture capacity occurring above field capacity.
- Buffer zones will be maintained around streams, ponds, karst features, springs, wetlands, and water supply wells in accordance and compliance with herbicide label and manufacturer directions.
- In karst features and channelized drainage ways (perennial or intermittent) draining to a karst feature, wetland-approved herbicides shall be used in accordance with label and manufacturer directions.

ATTACHMENTS

**ATTACHMENT 2.B.1:
VDCR AGENCY LETTER RESPONSE**

Matthew J. Strickler
Secretary of Natural Resources

Clyde E. Cristman
Director



COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz
Deputy Director of
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Russell W. Baxter
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Thomas L. Smith
Deputy Director of Operations

March 6, 2020

Emily Larson
Power Engineers, Inc.
11 S. 12th Street, Suite 315
Richmond, VA 23219

Re: Central Virginia Transmission Reliability Project

Dear Ms. Larson:

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.

Amherst-Reusens 69kV and James River Substation

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.

Joshua Falls-Gladstone 138kV

According to the information currently in our files, Allens Creek Stream Conservation Unit (SCU) is located within the project area. SCUs identify stream reaches that contain aquatic natural heritage resources, including 2 miles upstream and 1 mile downstream of documented occurrences, and all tributaries within this reach. SCUs are also given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain. The Allens Creek SCU has been given a biodiversity ranking of B4, which represents a site of moderate significance. The natural heritage resource associated with this site is:

Aquatic Natural Community (NP-Middle James-Buffalo Third Order Stream) G2?/S2?/NL/NL

The documented Aquatic Natural Community is based on Virginia Commonwealth University's **INSTAR** (*Interactive Stream Assessment Resource*) database, which includes over 2,000 aquatic (stream and river) collections statewide for fish and macroinvertebrate. These data represent fish and macroinvertebrate assemblages, instream habitat, and stream health assessments. The associated Aquatic Natural Community is significant on multiple levels. First, this stream is a grade A, as per the VCU-Center for Environmental Sciences (CES), indicating its relative regional significance, considering its aquatic community composition and the present-day conditions of other streams in the region. This stream reach also holds as a "Outstanding" stream designation as per the INSTAR Virtual Stream Assessment (VSS) score. This score assesses the similarity of this

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*State Parks • Soil and Water Conservation • Outdoor Recreation Planning
Natural Heritage • Dam Safety and Floodplain Management • Land Conservation*

stream to ideal stream conditions of biology and habitat for this region. Lastly, this stream contributes to high Biological Integrity at the watershed level (6th order) based on number of native/non-native, pollution-tolerant/intolerant and rare, threatened or endangered fish and macroinvertebrate species present.

Threats to the significant Aquatic Natural Community and the surrounding watershed include water quality degradation related to point and non-point pollution, water withdrawal and introduction of non-native species. To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations, establishment/enhancement of riparian buffers with native plant species and maintaining natural stream flow.

In addition, the James River has been designated as a “Threatened and Endangered Species” Water by VDGIF for the Green floater (*Lasmigona subviridis*).

Due to the legal status of the Green floater, DCR recommends coordination with Virginia's regulatory authority for the management and protection of this species, the VDGIF, to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).

Soapstone Substation

According to the information currently in our files, the Rockfish River Stream Conservation Unit (SCU) is located within the project area. The Rockfish River SCU has been given a biodiversity ranking of B3, which represents a site of high significance. The natural heritage resource associated with this site is:

Aquatic Natural Community (NP-Middle James-Buffalo Fifth Order Stream) G2?/S2?/NL/NL

The documented Aquatic Natural Community is based on Virginia Commonwealth University's **INSTAR** (*Interactive Stream Assessment Resource*) database which includes over 2,000 aquatic (stream and river) collections statewide for fish and macroinvertebrate. These data represent fish and macroinvertebrate assemblages, instream habitat, and stream health assessments. The associated Aquatic Natural Community is significant on multiple levels. First, this stream is a grade A, as per the VCU-Center for Environmental Sciences (CES), indicating its relative regional significance, considering its aquatic community composition and the present-day conditions of other streams in the region. This stream reach also holds as a “Healthy” stream designation as per the INSTAR Virtual Stream Assessment (VSS) score. This score assesses the similarity of this stream to ideal stream conditions of biology and habitat for this region. Lastly, this stream contributes to high Biological Integrity at the watershed level (6th order) based on number of native/non-native, pollution-tolerant/intolerant and rare, threatened or endangered fish and macroinvertebrate species present.

Threats to the significant Aquatic Natural Community and the surrounding watershed include water quality degradation related to point and non-point pollution, water withdrawal and introduction of non-native species. To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations, establishment/enhancement of riparian buffers with native plant species and maintaining natural stream flow.

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 (<http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.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, robust monitoring and adaptive management plan to provide guidance if initial revegetation efforts are unsuccessful or if invasive species outbreaks occur.

If permanent tree removal is proposed, the project will fragment Ecological Core(s) (C2, C3, C4 C5) as identified in the Virginia Natural Landscape Assessment (<https://www.dcr.virginia.gov/natural-heritage/vaconvisvnl>), one of a suite of tools in Virginia ConservationVision that identify and prioritize lands for conservation and protection.

Ecological Cores are areas of unfragmented natural cover with at least 100 acres of interior 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. Cores also provide benefits in terms of open space, recreation, water quality (including drinking water protection and erosion prevention), and air quality (including carbon sequestration and oxygen production), along with the many associated economic benefits of these functions. The cores are ranked from C1 to C5 (C5 being the least ecologically relevant) using many prioritization criteria, such as the proportions of sensitive habitats of natural heritage resources they contain.

Fragmentation occurs when a large, contiguous block of natural cover is dissected by development, and other forms of permanent conversion, into one or more smaller patches.. Habitat fragmentation results in biogeographic changes that disrupt species interactions and ecosystem processes, reducing biodiversity and habitat quality due to limited recolonization, increased predation and egg parasitism, and increased invasion by weedy species.

Therefore minimizing fragmentation is a key mitigation measure that will preserve the natural patterns and connectivity of habitats that are key components of biodiversity. The deleterious effects of fragmentation can be reduced by minimizing edge in remaining fragments; by retaining natural corridors that allow movement between fragments; and by designing the intervening landscape to minimize its hostility to native wildlife (natural cover versus lawns).

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity. Please note, the Rockfish River has been designated as a scenic river in the state of Virginia and DCR recommends coordination with Lynn Crump of the DCR-Division of Planning and Recreational Resources at 804-786-5054 or Lynn.Crump@dcr.virginia.gov.

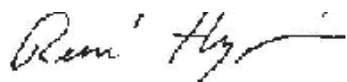
New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

A fee of \$395.00 has been assessed for the service of providing this information. Please find attached an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, DCR Finance, 600 East Main Street, 24th Floor, Richmond, VA 23219. Payment is due within thirty days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

The Virginia Department of Game and Inland Fisheries (VDGIF) 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 from <http://vafwis.org/fwis/> or contact Ernie Aschenbach at 804-367-2733 or Ernie.Aschenbach@dgif.virginia.gov.

Should you have any questions or concerns, feel free to contact me at 804-371-2708. Thank you for the opportunity to comment on this project.

Sincerely,

A handwritten signature in black ink, appearing to read "S. René Hypes". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

S. René Hypes
Natural Heritage Project Review Coordinator

Cc: Ernie Aschenbach, VDGIF
Lynn Crump, DCR-PRR

**ATTACHMENT 2.E.1:
WETLAND AND STREAM DELINEATION REPORT**



POWER ENGINEERS, INC.
11733 CHESTERDALE ROAD
CINCINNATI, OHIO 45246 USA

PHONE 513-258-7715
FAX 513-326-1550

April 29, 2020

American Electric Power
Attn: Tyler Emery
Water & Ecological Resources Services (WERS)
40 Franklin Road
Roanoke, VA 24011

Subject: Proposed Soapstone 138 kV Substation Project (BPID P17081005)
Nelson County, Virginia
Wetland Determination and Stream Assessment Letter Report

Mr. Emery,

This letter presents a summary of the results of the wetland and stream assessment conducted by POWER Engineers, Inc. (POWER) for the Appalachian Power Company's (Appalachian) proposed Soapstone 138 kilovolt (kV) Substation Project (Project) in Nelson County, Virginia. The Project is a component of the larger Central Virginia Transmission Reliability Project (CVTRP) which consists of four phases within five Virginia counties. The purpose of the CVTRP is to introduce a new 138 kV source into the area to help support the generation retirement at Breomo (Dominion) and ultimately allow Appalachian to retire approximately 30 miles of aging 46 kV and 69 kV infrastructure. The Project, together with the James River Substation Project, forms the Shipman-Schuyler phase of the CVTRP. The two new substations are replacing Appalachian's existing Shipman and Schuyler substations which will be retired. The new James River and Soapstone Substations will be served from the Reusens – Scottsville – Breomo Bluff 138 kV transmission via a new double circuit loop. The existing 138 kV source crosses both properties.

The Project consists of the construction of a new substation on a parcel currently owned by Appalachian. Activities associated with the proposed Project include clearing and grading at the site and construction of a new substation. Construction of the proposed substation is scheduled to start in April 2023, with the substation anticipated to be in-service by December 2023. An overall Project location map can be found in **Figure 1: Project Location**.

Appalachian retained POWER to determine the boundaries and limits of streams, wetlands, and other aquatic resources within the Project area. The findings and results of the on-site assessment are described below.

Methodology

The review area encompassed 41.62 acres of an approximately 100-acre parcel, where the substation and stormwater controls will be generally be located. Collectively, these areas are herein referred to as the Survey Area.

Prior to the field survey, hydrologic resource mapping including floodplains and National Wetland Inventory (NWI) data was reviewed within the Project vicinity. A map of these resources is included as **Figure 2: Floodplain and NWI Wetlands**.

POWER biologists completed a pedestrian reconnaissance of the Survey Area on March 24-26, 2020. A hand-held Trimble Global Positioning System (GPS) capable of sub-meter accuracy was used to gather data points and determine boundaries of all identified aquatic resources. Field collected resource locations, National Hydrography Dataset (NHD) streams, and the Survey Area are shown in **Figure 3: Resource Location**. Individual characteristics of each field collected resource are provided in Tables 1 and 2 of Attachment A.

Locations of wetland determination data points were selected in accordance with procedures outlined in the United States Army Corps of Engineers (USACE) *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region*. These data are presented in **Figure 3: Resource Location**. Representative photographs of the identified wetland resources were taken at the Wetland Data Point locations shown in these figures.

Delineated wetland and stream resources within the Survey Area were given an identifier based on the order of delineation in the field. For example, a wetland with the identifier WET-SSS-01 equates to WET (wetland) -SSS (project identifier, Soapstone Substation) -01 (number assigned to the first resource identified). Similarly, delineated streams were given the identifier STRM and numbered in a similar manner as wetlands.

Results

POWER biologists identified three wetlands totaling 2.02 acres within the Survey Area (shown on **Figure 3: Resource Location**). Details of these wetlands can be found in Table 1 of Attachment A. Representative photographs of these wetlands can be found in Attachment B; the USACE Wetland Determination Data Forms for these wetlands can be found in Attachment C; and the corresponding Upland Data Forms can be found in Attachment D.

As part of the field review, and to identify potential hydrological connection(s) to other Waters of the United States, POWER biologists examined the areas immediately adjacent to the delineated wetlands. Hydrological features that could convey water to or from the identified wetland might include, but may not be limited to, streams, pipes, swales, ditches, or other erosional conveyances. A brief description of any observed hydrological connections, or otherwise, is provided in the hydrology section of the USACE Wetland Determination Data Forms (Attachment C). The results of these determinations are also provided in Table 1 of Attachment A. All three wetlands were determined to be likely jurisdictional. This determination represents the onsite POWER biologists' professional opinion regarding potential jurisdiction of the delineated features under Section 404 of the Clean Water Act. It is important to note that an official determination of the limits and jurisdictional status of onsite features is under the purview of the USACE and may require an onsite inspection with USACE representatives in order to provide an official jurisdictional determination.

POWER biologists identified six streams within the Survey Area. The total length of delineated streams within the Survey Area is 2,700 linear feet (shown on **Figure 3: Resource Location**). Additional details on the streams can be found in Table 2 of Attachment A. Representative photographs of these resources can be found in Attachment B.

It is the opinion of the POWER biologists who conducted the survey that all six of the delineated stream resources have a hydrological connection to other Waters of the United States. These determinations were made after a field inspection of the areas immediately adjacent to the

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downstream termini of the streams, and a review of desktop resources. These examinations indicated that all six streams appear to have a downstream connection to a United States Geological Survey- or NHD-mapped stream. Therefore, it is POWER's professional opinion that all the identified streams are likely jurisdictional features under Section 404 of the Clean Water Act. However, as noted above regarding wetlands, an official determination of the limits of jurisdictional status on onsite features is under the purview of the USACE and may require an onsite inspection with USACE representatives in order to provide an official jurisdictional determination.

Summary and Recommendations

POWER biologists identified a total of three wetlands with a total acreage of 2.02 acres and six streams with a total length of 2,700 linear feet within the Survey Area.

It is the professional opinion of POWER that all three delineated wetland resources are likely jurisdictional, under Section 404 of the Clean Water Act. It is also the professional opinion of POWER that all six delineated stream resources are also likely jurisdictional under Section 404 of the Clean Water Act.

Erosion control best management practices are expected to be used where appropriate to minimize stormwater runoff related impacts to wetlands and streams. Additional information regarding Appalachian's efforts to avoid or minimize impacts to wetlands, streams, and other aquatic resources to the extent possible during construction of the Project will be addressed in the Project's Stormwater Pollution Prevention Plan. Any required Project notification or permit applications under Sections 401 and/or 404 of the Clean Water Act, as mandated by the Virginia Department of Environmental Quality or the USACE, will be submitted as necessary.

Sincerely,

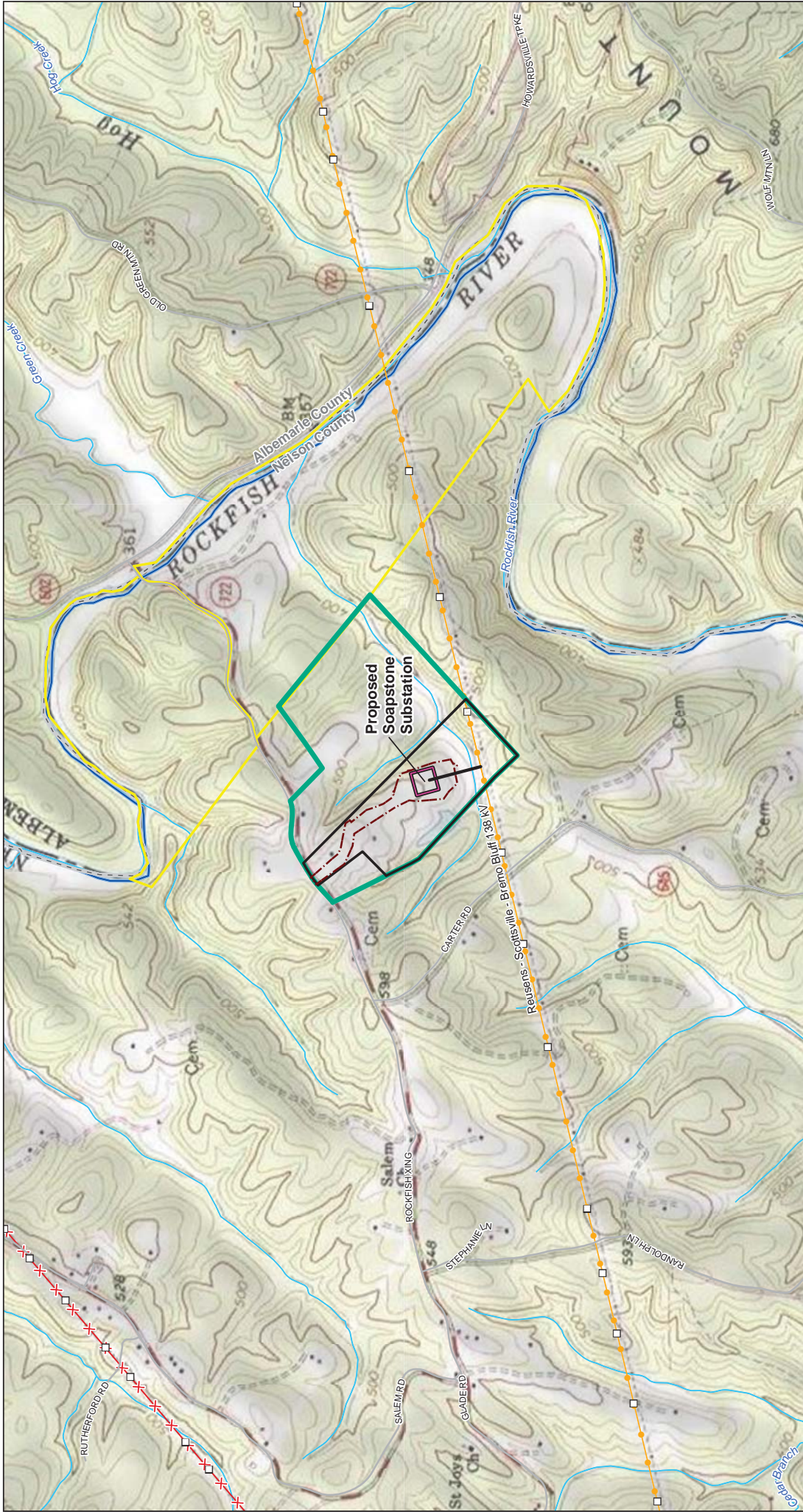


David Bell
Biologist & Project Manager

Attachments: Figure 1 – Project Location
Figure 2 – Floodplains and NWI Wetlands
Figure 3 – Resource Location
Attachment A – Delineated Wetland and Stream Tables
Attachment B – Photographs
Attachment C – Wetland Data Forms
Attachment D – Upland Data Forms

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FIGURE 1 PROJECT LOCATION



Soapstone 138 kV Substation Project
 P17081005

Figure 1: Project Location

AMERICAN ELECTRIC POWER
 POWER ENGINEERS

Date: 10/6/2019, Author: RKS, Project: 149252

NAD 1983 StatePlane Virginia South FIPS
 4502 Feet

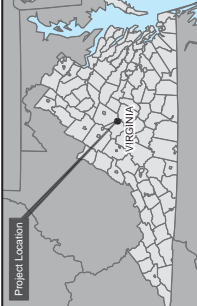
Nelson County, Virginia

0 500 1,000 1,500 2,000
 Feet

1" = 1,000'

OVERVIEW

- Survey Area
- Soapstone Parcel
- Proposed Substation Fence Boundary
- Proposed Substation Limit of Disturbance
- Soapstone 138 kV Extension
- Existing AEP Structure
- Existing AEP Transmission Line
- Stream (NHID)
- Scenic River
- Existing Line to be Retired
- Virginia Outdoors Foundation (VOF) Easement
- County Boundary
- Road



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FIGURE 2 FLOODPLAINS AND NWI WETLANDS

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FIGURE 3 RESOURCE LOCATION

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ATTACHMENT A DELINEATED WETLAND AND STREAM TABLES

TABLE 1 DELINEATED WETLANDS IDENTIFIED WITHIN THE SURVEY AREA

WETLAND ID	COWARDIN WETLAND TYPE ¹	COORDINATES OF CENTER POINT OF WETLAND		ACREAGE WITHIN SURVEY AREA	LIKELY JURISDICTIONAL STATUS ²
WET-SSS-01	PEM	37.761087	-78.688311	0.01	Jurisdictional (connected)
WET-SSS-02	PSS	37.761611	-78.690772	0.02	Jurisdictional (connected)
WET-SSS-03	PUB/PEM/PSS	37.762268	-78.691563	1.99	Jurisdictional (connected)
Project Total				2.02	

¹ PEM = Palustrine Emergent; PSS = Palustrine Scrub-Shrub; PUB = Palustrine Unconsolidated Bottom.

² Note that the official determination of the jurisdictional status of onsite features is under the purview of the USACE and may require an onsite inspection with USACE representatives in order to provide an official jurisdictional determination.

TABLE 2 DELINEATED STREAMS IDENTIFIED WITHIN THE SURVEY AREA

STREAM ID	FLOW REGIME	COORDINATES OF STREAM START WITHIN SURVEY AREA		COORDINATES OF STREAM END WITHIN SURVEY AREA		LENGTH WITHIN SURVEY AREA (FEET)	LIKELY JURISDICTIONAL STATUS ¹
STRM-SSS-01	Intermittent	37.763795	-78.693274	37.762856	-78.692180	496	Jurisdictional (connected)
STRM-SSS-02	Perennial	37.762059	-78.687673	37.761006	-78.690437	1,078	Jurisdictional (connected)
STRM-SSS-03	Intermittent	37.761401	-78.688508	37.760876	-78.688156	228	Jurisdictional (connected)
STRM-SSS-04	Ephemeral	37.760744	-78.687502	37.761052	-78.688289	258	Jurisdictional (connected)
STRM-SSS-05	Ephemeral	37.760858	-78.690002	37.761108	-78.689680	136	Jurisdictional (connected)
STRM-SSS-06	Intermittent	37.762082	-78.690801	37.761086	-78.690216	504	Jurisdictional (connected)
Project Total						2,700	

¹ Note that the official determination of the jurisdictional status of onsite features is under the purview of the USACE and may require an onsite inspection with USACE representatives in order to provide an official jurisdictional determination.

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ATTACHMENT B PHOTOGRAPHS

Photograph 1:

Wetland WET-SSS-01 (Emergent
Wetland, PEM)

Direction of View:
North

Date:
March 25, 2020



Photograph 2:

Wetland WET-SSS-02 (Scrub-Shrub
Wetland, PSS)

Direction of View:
North

Date:
March 25, 2020



Photograph 3:

Wetland WET-SSS-03A
(Unconsolidated Bottom Portion of
Wetland, PUB)

Direction of View:
North

Date:
March 25, 2020



Photograph 4:

Wetland WET-SSS-03B (Emergent
Portion of Wetland, PEM)

Direction of View:
North

Date:
March 25, 2020



Photograph 5:

Wetland WET-SSS-03C (Scrub-Shrub
Portion of Wetland, PSS)

Direction of View:
Southeast

Date:
March 26, 2020

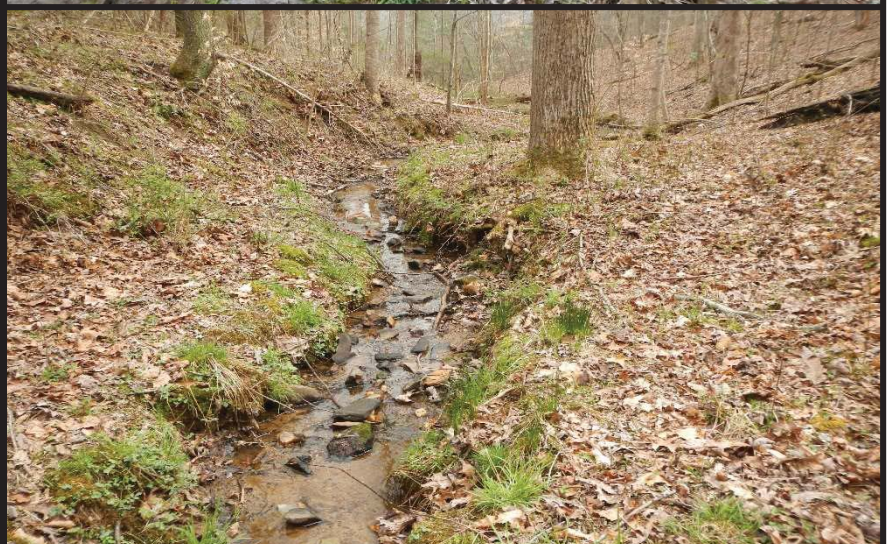


Photograph 6:

Stream STRM-SSS-01 (Intermittent
Stream)

Direction of View:
Downstream (Southeast)

Date:
March 24, 2020



Photograph 7:

Stream STRM-SSS-02 (Perennial Stream)

Direction of View:
Downstream (Southwest)

Date:
March 25, 2020



Photograph 8:

Stream STRM-SSS-03 (Intermittent Stream)

Direction of View:
Upstream (Southeast)

Date:
March 25, 2020



Photograph 9:

Stream STRM-SSS-04 (Ephemeral Stream)

Direction of View:
Upstream (Southeast)

Date:
March 25, 2020



Photograph 10:

Stream STRM-SSS-05 (Ephemeral Stream)

Direction of View:
Downstream (Northeast)

Date:
March 25, 2020



Photograph 11:

Stream STRM-SSS-06 (Intermittent Stream)

Direction of View:
Upstream (Northwest)

Date:
March 25, 2020



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ATTACHMENT C WETLAND DATA FORMS

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Soapstone Substation City/County: Nelson County Sampling Date: 2020-03-24
 Applicant/Owner: Appalachian Power Company State: Virginia Sampling Point: WET-SSS-01
 Investigator(s): Dave Bell and Eric Duenkel Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR or MLRA): P 136 Lat: 37.7611035 Long: -78.6883193 Datum: WGS 84
 Soil Map Unit Name: Fauquier loam, 25 to 50 percent slopes, very stony (18E) NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Emergent (PEM) wetland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>12</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: A direct hydrologic connection with an intermittent stream (STRM-SSS-03) was observed in the field. Stream STRM-SSS-03 flows through this wetland. This stream is likely a water of the US and Wetland WET-SSS-01 is, therefore, likely jurisdictional.	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WET-SSS-01

<u>Tree Stratum</u> (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	0	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	0	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	0	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)
4. _____	0	_____	_____	
5. _____	0	_____	_____	
6. _____	0	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<u>Sapling Stratum</u> (Plot size: <u>15 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Juniperus virginiana</u>	1	✓	FACU	Total % Cover of: _____ Multiply by: _____
2. _____	0	_____	_____	OBL species <u>30</u> x 1 = <u>30</u>
3. _____	0	_____	_____	FACW species <u>42</u> x 2 = <u>84</u>
4. _____	0	_____	_____	FAC species <u>23</u> x 3 = <u>69</u>
5. _____	0	_____	_____	FACU species <u>8</u> x 4 = <u>32</u>
6. _____	0	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
_____ = Total Cover				Column Totals: <u>103</u> (A) <u>215</u> (B)
1% _____ = Total Cover				Prevalence Index = B/A = <u>2.1</u>
50% of total cover: <u>1</u> 20% of total cover: <u>0</u>				
<u>Shrub Stratum</u> (Plot size: <u>15 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Lonicera japonica</u>	2	✓	FACU	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____	0	_____	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3. _____	0	_____	_____	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____	0	_____	_____	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	0	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	0	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_____ = Total Cover				
2% _____ = Total Cover				
50% of total cover: <u>1</u> 20% of total cover: <u>0</u>				
<u>Herb Stratum</u> (Plot size: <u>5 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Five Vegetation Strata:
1. <u>Juncus effusus</u>	40	✓	FACW	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. <u>Leersia oryzoides</u>	30	✓	OBL	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. <u>Carex sp.</u>	23	✓	FAC	Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. <u>Lonicera japonica</u>	5	_____	FACU	Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
5. <u>Impatiens capensis</u>	2	_____	FACW	Woody vine – All woody vines, regardless of height.
6. _____	0	_____	_____	
7. _____	0	_____	_____	
8. _____	0	_____	_____	
9. _____	0	_____	_____	
10. _____	0	_____	_____	
11. _____	0	_____	_____	
_____ = Total Cover				
100% _____ = Total Cover				
50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. _____	0	_____	_____	Yes <input checked="" type="checkbox"/> No _____
2. _____	0	_____	_____	
3. _____	0	_____	_____	
4. _____	0	_____	_____	
5. _____	0	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				

Remarks: It was not possible to identify the sedge (*Carex sp.*) to species level at the time of survey due winter die back, and the lack of flowering heads. However, this species was conservatively estimated to have a FAC wetland indicator status based on the hydrology/hydric soils present in the immediate vicinity, as well as the presence of other wetland vegetation in the surrounding area

SOIL

Sampling Point: WET-SSS-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 3/2	85	10YR 4/6	15	C	M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Soapstone Substation City/County: Nelson County Sampling Date: 2020-03-25
 Applicant/Owner: Appalachian Power Company State: Virginia Sampling Point: WET-SSS-02
 Investigator(s): Dave Bell and Eric Duenkel Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): P 136 Lat: 37.7615797 Long: -78.6907830 Datum: WGS 84
 Soil Map Unit Name: Fauquier loam, 25 to 50 percent slopes, very stony (18E) NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Scrub-Shrub (PSS) wetland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>12</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: A direct hydrologic connection with an intermittent stream (STRM-SSS-06) was observed in the field. Stream STRM-SSS-06 flows through this wetland. This stream is likely a water of the US and Wetland WET-SSS-02 is, therefore, likely jurisdictional.	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WET-SSS-02

<u>Tree Stratum</u> (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	0	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)
2. _____	0	_____	_____	
3. _____	0	_____	_____	
4. _____	0	_____	_____	
5. _____	0	_____	_____	
6. _____	0	_____	_____	
_____ = Total Cover				Prevalence Index worksheet:
50% of total cover: _____ 20% of total cover: _____				
<u>Sapling Stratum</u> (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Alnus serrulata</u>	50	✓	OBL	Total % Cover of: _____ Multiply by: OBL species <u>50</u> x 1 = <u>50</u> FACW species <u>35</u> x 2 = <u>70</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>25</u> x 4 = <u>100</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>145</u> (A) <u>325</u> (B) Prevalence Index = B/A = <u>2.2</u>
2. _____	0	_____	_____	
3. _____	0	_____	_____	
4. _____	0	_____	_____	
5. _____	0	_____	_____	
6. _____	0	_____	_____	
_____ = Total Cover				
50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				
<u>Shrub Stratum</u> (Plot size: <u>15 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Rosa multiflora</u>	5	✓	FACU	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	0	_____	_____	
3. _____	0	_____	_____	
4. _____	0	_____	_____	
5. _____	0	_____	_____	
6. _____	0	_____	_____	
_____ = Total Cover				
50% of total cover: <u>3</u> 20% of total cover: <u>1</u>				
<u>Herb Stratum</u> (Plot size: <u>5 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Five Vegetation Strata:
1. <u>Carex sp.</u>	30	✓	FAC	<p>Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).</p> <p>Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.</p> <p>Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.</p> <p>Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.</p> <p>Woody vine – All woody vines, regardless of height.</p>
2. <u>Juncus effusus</u>	20	✓	FACW	
3. <u>Impatiens capensis</u>	15	_____	FACW	
4. <u>Rosa multiflora</u>	10	_____	FACU	
5. <u>Dichanthelium clandestinum</u>	5	_____	FAC	
6. <u>Lonicera japonica</u>	5	_____	FACU	
7. _____	0	_____	_____	
8. _____	0	_____	_____	
9. _____	0	_____	_____	
10. _____	0	_____	_____	
11. _____	0	_____	_____	
_____ = Total Cover				
50% of total cover: <u>43</u> 20% of total cover: <u>17</u>				
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. <u>Lonicera japonica</u>	5	✓	FACU	Yes <input checked="" type="checkbox"/> No _____
2. _____	0	_____	_____	
3. _____	0	_____	_____	
4. _____	0	_____	_____	
5. _____	0	_____	_____	
_____ = Total Cover				
50% of total cover: <u>3</u> 20% of total cover: <u>1</u>				

Remarks: It was not possible to identify the sedge (Carex sp.) to species level at the time of survey due winter die back, and the lack of flowering heads. However, this species was conservatively estimated to have a FAC wetland indicator status based on the hydrology/hydric soils present in the immediate vicinity, as well as the presence of other wetland vegetation in the surrounding area.

SOIL

Sampling Point: WET-SSS-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 3	5YR 4/6	100					Silty clay loam	
3 - 16	5YR 3/1	90	5YR 3/4	10	C	M	Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Soapstone Substation City/County: Nelson County Sampling Date: 2020-03-25
 Applicant/Owner: Appalachian Power Company State: Virginia Sampling Point: WET-SSS-03A
 Investigator(s): Dave Bell and Eric Duenkel Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR or MLRA): P 136 Lat: 37.7618313 Long: -78.6910552 Datum: WGS 84
 Soil Map Unit Name: Fauquier loam, 25 to 50 percent slopes, very stony (18E) NWI classification: PUB
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Unconsolidated Bottom (PUB) wetland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>36</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	

Remarks:
 A direct hydrologic connection with two intermittent streams (STRM-SSS-01 and STRM-SSS-06) was observed in the field. Stream STRM-SSS-01 flows into this wetland and STRM-SSS-06 flows out of this wetland. These streams are both likely waters of the US and Wetland WET-SSS-03 is, therefore, likely jurisdictional.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WET-SSS-03A

<u>Tree Stratum</u> (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	0	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2. _____	0	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	0	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	0	_____	_____	
5. _____	0	_____	_____	
6. _____	0	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<u>Sapling Stratum</u> (Plot size: <u>15 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Alnus serrulata</u>	10	✓	OBL	Total % Cover of: _____ Multiply by: _____
2. <u>Salix nigra</u>	5	✓	OBL	OBL species <u>40</u> x 1 = <u>40</u>
3. _____	0	_____	_____	FACW species <u>20</u> x 2 = <u>40</u>
4. _____	0	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
5. _____	0	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
6. _____	0	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
_____ = Total Cover				Column Totals: <u>60</u> (A) <u>80</u> (B)
50% of total cover: <u>8</u> 20% of total cover: <u>3</u>				Prevalence Index = B/A = <u>1.3</u>
<u>Shrub Stratum</u> (Plot size: <u>15 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. _____	0	_____	_____	<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____	0	_____	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3. _____	0	_____	_____	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____	0	_____	_____	___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	0	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	0	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<u>Herb Stratum</u> (Plot size: <u>5 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Five Vegetation Strata:
1. <u>Typha X glauca</u>	25	✓	OBL	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. <u>Juncus effusus</u>	20	✓	FACW	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. _____	0	_____	_____	Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. _____	0	_____	_____	Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
5. _____	0	_____	_____	Woody vine – All woody vines, regardless of height.
6. _____	0	_____	_____	
7. _____	0	_____	_____	
8. _____	0	_____	_____	
9. _____	0	_____	_____	
10. _____	0	_____	_____	
11. _____	0	_____	_____	
_____ = Total Cover				
50% of total cover: <u>23</u> 20% of total cover: <u>9</u>				
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. _____	0	_____	_____	Yes <input checked="" type="checkbox"/> No _____
2. _____	0	_____	_____	
3. _____	0	_____	_____	
4. _____	0	_____	_____	
5. _____	0	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: WET-SSS-03A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	10YR 3/1	85	5YR 3/4	15	C	M	Clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Soapstone Substation City/County: Nelson County Sampling Date: 2020-03-25
 Applicant/Owner: Appalachian Power Company State: Virginia Sampling Point: WET-SSS-03B
 Investigator(s): Dave Bell and Eric Duenkel Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR or MLRA): P 136 Lat: 37.7620988 Long: -78.6908072 Datum: WGS 84
 Soil Map Unit Name: Minnieville loam, 15 to 25 percent slopes (32D) NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Emergent (PEM) wetland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>12</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	

Remarks:
 A direct hydrologic connection with two intermittent streams (STRM-SSS-01 and STRM-SSS-06) was observed in the field. Stream STRM-SSS-01 flows into this wetland and STRM-SSS-06 flows out of this wetland. These streams are both likely waters of the US and Wetland WET-SSS-03 is, therefore, likely jurisdictional.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WET-SSS-03B

<u>Tree Stratum</u> (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	0	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	0	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	0	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	0	_____	_____	
5. _____	0	_____	_____	
6. _____	0	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<u>Sapling Stratum</u> (Plot size: <u>15 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Alnus serrulata</u>	2	✓	OBL	Total % Cover of: _____ Multiply by: _____
2. _____	0	_____	_____	OBL species <u>62</u> x 1 = <u>62</u>
3. _____	0	_____	_____	FACW species <u>30</u> x 2 = <u>60</u>
4. _____	0	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
5. _____	0	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
6. _____	0	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
_____ = Total Cover				Column Totals: <u>92</u> (A) <u>122</u> (B)
2% = Total Cover				Prevalence Index = B/A = <u>1.3</u>
50% of total cover: <u>1</u> 20% of total cover: <u>0</u>				
<u>Shrub Stratum</u> (Plot size: <u>15 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. _____	0	_____	_____	<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____	0	_____	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3. _____	0	_____	_____	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____	0	_____	_____	___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	0	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	0	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<u>Herb Stratum</u> (Plot size: <u>5 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Five Vegetation Strata:
1. <u>Typha X glauca</u>	60	✓	OBL	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. <u>Scirpus cyperinus</u>	20	✓	FACW	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. <u>Ludwigia alternifolia</u>	10	_____	FACW	Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. _____	0	_____	_____	Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
5. _____	0	_____	_____	Woody vine – All woody vines, regardless of height.
6. _____	0	_____	_____	
7. _____	0	_____	_____	
8. _____	0	_____	_____	
9. _____	0	_____	_____	
10. _____	0	_____	_____	
11. _____	0	_____	_____	
_____ = Total Cover				
90% = Total Cover				
50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. _____	0	_____	_____	Yes <input checked="" type="checkbox"/> No _____
2. _____	0	_____	_____	
3. _____	0	_____	_____	
4. _____	0	_____	_____	
5. _____	0	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: WET-SSS-03B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	5Y 3/1	95	5YR 3/4	5	C	M	Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Soapstone Substation City/County: Nelson County Sampling Date: 2020-03-26
 Applicant/Owner: Appalachian Power Company State: Virginia Sampling Point: WET-SSS-03C
 Investigator(s): Dave Bell and Eric Duenkel Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR or MLRA): P 136 Lat: 37.7628873 Long: -78.6922520 Datum: WGS 84
 Soil Map Unit Name: Fauquier loam, 25 to 50 percent slopes, very stony (18E) NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Scrub-Shrub (PSS) wetland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0.5</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	

Remarks:
 A direct hydrologic connection with two intermittent streams (STRM-SSS-01 and STRM-SSS-06) was observed in the field. Stream STRM-SSS-01 flows into this wetland and STRM-SSS-06 flows out of this wetland. These streams are both likely waters of the US and Wetland WET-SSS-03 is, therefore, likely jurisdictional.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WET-SSS-03C

<u>Tree Stratum</u> (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	0	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	0	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	0	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)
4. _____	0	_____	_____	
5. _____	0	_____	_____	
6. _____	0	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<u>Sapling Stratum</u> (Plot size: <u>15 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Alnus serrulata</u>	30	✓	OBL	Total % Cover of: _____ Multiply by: _____
2. _____	0	_____	_____	OBL species <u>30</u> x 1 = <u>30</u>
3. _____	0	_____	_____	FACW species <u>40</u> x 2 = <u>80</u>
4. _____	0	_____	_____	FAC species <u>20</u> x 3 = <u>60</u>
5. _____	0	_____	_____	FACU species <u>35</u> x 4 = <u>140</u>
6. _____	0	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
_____ = Total Cover				Column Totals: <u>125</u> (A) <u>310</u> (B)
50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				Prevalence Index = B/A = <u>2.5</u>
<u>Shrub Stratum</u> (Plot size: <u>15 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Rosa multiflora</u>	20	✓	FACU	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____	0	_____	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3. _____	0	_____	_____	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____	0	_____	_____	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	0	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	0	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_____ = Total Cover				
50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				
<u>Herb Stratum</u> (Plot size: <u>5 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Five Vegetation Strata:
1. <u>Cinna arundinacea</u>	30	✓	FACW	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. <u>Carex sp.</u>	20	✓	FAC	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. <u>Impatiens capensis</u>	10	_____	FACW	Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. <u>Rosa multiflora</u>	10	_____	FACU	Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
5. _____	0	_____	_____	Woody vine – All woody vines, regardless of height.
6. _____	0	_____	_____	
7. _____	0	_____	_____	
8. _____	0	_____	_____	
9. _____	0	_____	_____	
10. _____	0	_____	_____	
11. _____	0	_____	_____	
_____ = Total Cover				
50% of total cover: <u>35</u> 20% of total cover: <u>14</u>				
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. <u>Lonicera japonica</u>	5	✓	FACU	Yes <input checked="" type="checkbox"/> No _____
2. _____	0	_____	_____	
3. _____	0	_____	_____	
4. _____	0	_____	_____	
5. _____	0	_____	_____	
_____ = Total Cover				
50% of total cover: <u>3</u> 20% of total cover: <u>1</u>				

Remarks: It was not possible to identify the sedge (*Carex sp.*) to species level at the time of survey due winter die back, and the lack of flowering heads. However, this species was conservatively estimated to have a FAC wetland indicator status based on the hydrology/hydric soils present in the immediate vicinity, as well as the presence of other wetland vegetation in the surrounding area.

SOIL

Sampling Point: WET-SSS-03C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	7.5YR 3/1	95	7.5YR 4/6	5	C	M	Silty clay loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

American Electric Power
April 29, 2020

ATTACHMENT D UPLAND DATA FORMS

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Soapstone Substation City/County: Nelson County Sampling Date: 2020-03-25
 Applicant/Owner: Appalachian Power Company State: Virginia Sampling Point: UP-SSS-01
 Investigator(s): Dave Bell and Eric Duenkel Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2
 Subregion (LRR or MLRA): P 136 Lat: 37.7611105 Long: -78.6882578 Datum: WGS 84
 Soil Map Unit Name: Fauquier loam, 25 to 50 percent slopes, very stony (18E) NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: UP-SSS-01

<p><u>Tree Stratum</u> (Plot size: <u>30 ft r</u>)</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:35%;"></th> <th style="width:15%;">Absolute % Cover</th> <th style="width:15%;">Dominant Species?</th> <th style="width:15%;">Indicator Status</th> </tr> </thead> <tbody> <tr><td>1. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>2. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>3. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>4. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>5. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>6. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td colspan="4" style="text-align:right;">_____ = Total Cover</td></tr> <tr><td colspan="4" style="text-align:center;">50% of total cover: _____ 20% of total cover: _____</td></tr> </tbody> </table> <p><u>Sapling Stratum</u> (Plot size: <u>15 ft r</u>)</p> <table style="width:100%; border-collapse: collapse;"> <tbody> <tr><td>1. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>2. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>3. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>4. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>5. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>6. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td colspan="4" style="text-align:right;">_____ = Total Cover</td></tr> <tr><td colspan="4" style="text-align:center;">50% of total cover: _____ 20% of total cover: _____</td></tr> </tbody> </table> <p><u>Shrub Stratum</u> (Plot size: <u>15 ft r</u>)</p> <table style="width:100%; border-collapse: collapse;"> <tbody> <tr><td>1. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>2. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>3. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>4. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>5. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>6. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td colspan="4" style="text-align:right;">_____ = Total Cover</td></tr> <tr><td colspan="4" style="text-align:center;">50% of total cover: _____ 20% of total cover: _____</td></tr> </tbody> </table> <p><u>Herb Stratum</u> (Plot size: <u>5 ft r</u>)</p> <table style="width:100%; border-collapse: collapse;"> <tbody> <tr><td>1. <u>Poa pratensis</u></td><td style="text-align:center;">60</td><td style="text-align:center;">✓</td><td>FACU</td></tr> <tr><td>2. <u>Poa annua</u></td><td style="text-align:center;">20</td><td style="text-align:center;">✓</td><td>FACU</td></tr> <tr><td>3. <u>Achillea millefolium</u></td><td style="text-align:center;">10</td><td>_____</td><td>FACU</td></tr> <tr><td>4. <u>Allium vineale</u></td><td style="text-align:center;">10</td><td>_____</td><td>FACU</td></tr> <tr><td>5. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>6. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>7. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>8. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>9. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>10. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td>11. _____</td><td style="text-align:center;">0</td><td>_____</td><td>_____</td></tr> <tr><td colspan="4" style="text-align:right;">_____ = Total Cover</td></tr> <tr><td colspan="4" style="text-align:center;">50% of total cover: <u>50</u> 20% of total cover: <u>20</u></td></tr> </tbody> </table> <p><u>Woody Vine Stratum</u> (Plot size: <u>30 ft r</u>)</p> <table style="width:100%; 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Indicator Status	1. _____	0	_____	_____	2. _____	0	_____	_____	3. _____	0	_____	_____	4. _____	0	_____	_____	5. _____	0	_____	_____	6. _____	0	_____	_____	_____ = Total Cover				50% of total cover: _____ 20% of total cover: _____				1. _____	0	_____	_____	2. _____	0	_____	_____	3. _____	0	_____	_____	4. _____	0	_____	_____	5. _____	0	_____	_____	6. _____	0	_____	_____	_____ = Total Cover				50% of total cover: _____ 20% of total cover: _____				1. _____	0	_____	_____	2. _____	0	_____	_____	3. _____	0	_____	_____	4. _____	0	_____	_____	5. _____	0	_____	_____	6. _____	0	_____	_____	_____ = Total Cover				50% of total cover: _____ 20% of total cover: _____				1. <u>Poa pratensis</u>	60	✓	FACU	2. <u>Poa annua</u>	20	✓	FACU	3. <u>Achillea millefolium</u>	10	_____	FACU	4. <u>Allium vineale</u>	10	_____	FACU	5. _____	0	_____	_____	6. _____	0	_____	_____	7. _____	0	_____	_____	8. _____	0	_____	_____	9. _____	0	_____	_____	10. _____	0	_____	_____	11. _____	0	_____	_____	_____ = Total Cover				50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				1. _____	0	_____	_____	2. _____	0	_____	_____	3. _____	0	_____	_____	4. _____	0	_____	_____	5. _____	0	_____	_____	_____ = Total Cover				50% of total cover: _____ 20% of total cover: _____				<p>Dominance Test worksheet:</p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>2</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)</p> <hr/> <p>Prevalence Index worksheet:</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr><td>OBL species <u>0</u></td><td>x 1 = <u>0</u></td></tr> <tr><td>FACW species <u>0</u></td><td>x 2 = <u>0</u></td></tr> <tr><td>FAC species <u>0</u></td><td>x 3 = <u>0</u></td></tr> <tr><td>FACU species <u>100</u></td><td>x 4 = <u>400</u></td></tr> <tr><td>UPL species <u>0</u></td><td>x 5 = <u>0</u></td></tr> <tr><td>Column Totals: <u>100</u> (A)</td><td><u>400</u> (B)</td></tr> </tbody> </table> <p style="text-align:right;">Prevalence Index = B/A = <u>4</u></p> <hr/> <p>Hydrophytic Vegetation Indicators:</p> <p><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><input type="checkbox"/> 2 - Dominance Test is >50%</p> <p><input type="checkbox"/> 3 - Prevalence Index is ≤3.0¹</p> <p><input type="checkbox"/> 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation¹ (Explain)</p> <p>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p> <hr/> <p>Definitions of Five Vegetation Strata:</p> <p>Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).</p> <p>Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.</p> <p>Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.</p> <p>Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.</p> <p>Woody vine – All woody vines, regardless of height.</p> <hr/> <p>Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/></p>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>400</u> (B)
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SOIL

Sampling Point: UP-SSS-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	5YR 4/6	100					Clay loam	Shovel refusal at 6"
-								
-								
-								
-								
-								
-								
-								
-								
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¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: <u>Stone</u> Depth (inches): <u>6</u>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
-------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Soapstone Substation City/County: Nelson County Sampling Date: 2020-03-25
 Applicant/Owner: Appalachian Power Company State: Virginia Sampling Point: UP-SSS-02
 Investigator(s): Dave Bell and Eric Duenkel Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 1
 Subregion (LRR or MLRA): P 136 Lat: 37.7614907 Long: -78.6907682 Datum: WGS 84
 Soil Map Unit Name: Fauquier loam, 25 to 50 percent slopes, very stony (18E) NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: UP-SSS-02

Tree Stratum (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Quercus falcata</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
2. _____	<u>0</u>		
3. _____	<u>0</u>		
4. _____	<u>0</u>		
5. _____	<u>0</u>		
6. _____	<u>0</u>		
<u>10%</u> = Total Cover			
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>			
Sapling Stratum (Plot size: <u>15 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Fagus grandifolia</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
2. _____	<u>0</u>		
3. _____	<u>0</u>		
4. _____	<u>0</u>		
5. _____	<u>0</u>		
6. _____	<u>0</u>		
<u>5%</u> = Total Cover			
50% of total cover: <u>3</u> 20% of total cover: <u>1</u>			
Shrub Stratum (Plot size: <u>15 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	<u>0</u>		
2. _____	<u>0</u>		
3. _____	<u>0</u>		
4. _____	<u>0</u>		
5. _____	<u>0</u>		
6. _____	<u>0</u>		
_____ = Total Cover			
50% of total cover: _____ 20% of total cover: _____			
Herb Stratum (Plot size: <u>5 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Andropogon virginicus</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
2. <u>Poa annua</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
3. <u>Poa pratensis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
4. <u>Trifolium pratense</u>	<u>15</u>		<u>FACU</u>
5. <u>Juniperus virginiana</u>	<u>10</u>		<u>FACU</u>
6. <u>Lonicera japonica</u>	<u>10</u>		<u>FACU</u>
7. <u>Achillea millefolium</u>	<u>5</u>		<u>FACU</u>
8. _____	<u>0</u>		
9. _____	<u>0</u>		
10. _____	<u>0</u>		
11. _____	<u>0</u>		
<u>100%</u> = Total Cover			
50% of total cover: <u>50</u> 20% of total cover: <u>20</u>			
Woody Vine Stratum (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	<u>0</u>		
2. _____	<u>0</u>		
3. _____	<u>0</u>		
4. _____	<u>0</u>		
5. _____	<u>0</u>		
_____ = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>115</u>	x 4 = <u>460</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>115</u> (A)	<u>460</u> (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: UP-SSS-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	5YR 4/6	100					Clay loam	Shovel refusal at 6"
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Stone
 Depth (inches): 6

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Soapstone Substation City/County: Nelson County Sampling Date: 2020-03-25
 Applicant/Owner: Appalachian Power Company State: Virginia Sampling Point: UP-SSS-03A/B
 Investigator(s): Dave Bell and Eric Duenkel Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Convex Slope (%): 2
 Subregion (LRR or MLRA): P 136 Lat: 37.7619258 Long: -78.6909222 Datum: WGS 84
 Soil Map Unit Name: Fauquier loam, 25 to 50 percent slopes, very stony (18E) NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: UP-SSS-03A/B

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft r</u>)				
1. <u>Pinus taeda</u>	50	✓	FAC	
2. <u>Juniperus virginiana</u>	10		FACU	
3. _____	0			
4. _____	0			
5. _____	0			
6. _____	0			
	<u>60%</u> = Total Cover			
	50% of total cover: <u>30</u>		20% of total cover: <u>12</u>	
Sapling Stratum (Plot size: <u>15 ft r</u>)				
1. <u>Fagus grandifolia</u>	5	✓	FACU	
2. <u>Pinus taeda</u>	5	✓	FAC	
3. _____	0			
4. _____	0			
5. _____	0			
6. _____	0			
	<u>10%</u> = Total Cover			
	50% of total cover: <u>5</u>		20% of total cover: <u>2</u>	
Shrub Stratum (Plot size: <u>15 ft r</u>)				
1. _____	0			
2. _____	0			
3. _____	0			
4. _____	0			
5. _____	0			
6. _____	0			
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Herb Stratum (Plot size: <u>5 ft r</u>)				
1. <u>Poa pratensis</u>	45	✓	FACU	
2. <u>Allium vineale</u>	25	✓	FACU	
3. <u>Poa annua</u>	20	✓	FACU	
4. <u>Achillea millefolium</u>	10		FACU	
5. _____	0			
6. _____	0			
7. _____	0			
8. _____	0			
9. _____	0			
10. _____	0			
11. _____	0			
	<u>100%</u> = Total Cover			
	50% of total cover: <u>50</u>		20% of total cover: <u>20</u>	
Woody Vine Stratum (Plot size: <u>30 ft r</u>)				
1. _____	0			
2. _____	0			
3. _____	0			
4. _____	0			
5. _____	0			
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Dominance Test worksheet:				
Number of Dominant Species That Are OBL, FACW, or FAC:				<u>2</u> (A)
Total Number of Dominant Species Across All Strata:				<u>6</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:				<u>33</u> (A/B)
Prevalence Index worksheet:				
Total % Cover of:		Multiply by:		
OBL species	<u>0</u>	x 1 =	<u>0</u>	
FACW species	<u>0</u>	x 2 =	<u>0</u>	
FAC species	<u>55</u>	x 3 =	<u>165</u>	
FACU species	<u>115</u>	x 4 =	<u>460</u>	
UPL species	<u>0</u>	x 5 =	<u>0</u>	
Column Totals:	<u>170</u> (A)		<u>625</u> (B)	
Prevalence Index = B/A =				<u>3.7</u>
Hydrophytic Vegetation Indicators:				
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation				
<input type="checkbox"/> 2 - Dominance Test is >50%				
<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹				
<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Five Vegetation Strata:				
Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).				
Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.				
Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.				
Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.				
Woody vine – All woody vines, regardless of height.				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: UP-SSS-03A/B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 3	5YR 4/6	100					Clay loam	Shovel refusal at 3"
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Stone
 Depth (inches): 3

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Soapstone Substation City/County: Nelson County Sampling Date: 2020-03-26
 Applicant/Owner: Appalachian Power Company State: Virginia Sampling Point: UP-SSS-03C
 Investigator(s): Dave Bell and Eric Duenkel Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 10
 Subregion (LRR or MLRA): P 136 Lat: 37.7629498 Long: -78.6922958 Datum: WGS 84
 Soil Map Unit Name: Fauquier loam, 25 to 50 percent slopes, very stony (18E) NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: UP-SSS-03C

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft r</u>)				
1. <u>Fagus grandifolia</u>	40	✓	FACU	
2. <u>Pinus taeda</u>	10		FAC	
3. <u>Carpinus caroliniana</u>	5		FAC	
4. <u>Liriodendron tulipifera</u>	5		FACU	
5. <u>Prunus serotina</u>	5		FACU	
6. <u>Quercus alba</u>	5		FACU	
	<u>70%</u> = Total Cover			
	50% of total cover: <u>35</u>		20% of total cover: <u>14</u>	
Sapling Stratum (Plot size: <u>15 ft r</u>)				
1. <u>Ilex opaca</u>	10	✓	FACU	
2. <u>Fagus grandifolia</u>	5	✓	FACU	
3. _____	0			
4. _____	0			
5. _____	0			
6. _____	0			
	<u>15%</u> = Total Cover			
	50% of total cover: <u>8</u>		20% of total cover: <u>3</u>	
Shrub Stratum (Plot size: <u>15 ft r</u>)				
1. _____	0			
2. _____	0			
3. _____	0			
4. _____	0			
5. _____	0			
6. _____	0			
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Herb Stratum (Plot size: <u>5 ft r</u>)				
1. <u>Polystichum acrostichoides</u>	10	✓	FACU	
2. <u>Lonicera japonica</u>	2		FACU	
3. <u>Thalictrum thalictroides</u>	2		FACU	
4. _____	0			
5. _____	0			
6. _____	0			
7. _____	0			
8. _____	0			
9. _____	0			
10. _____	0			
11. _____	0			
	<u>14%</u> = Total Cover			
	50% of total cover: <u>7</u>		20% of total cover: <u>3</u>	
Woody Vine Stratum (Plot size: <u>30 ft r</u>)				
1. _____	0			
2. _____	0			
3. _____	0			
4. _____	0			
5. _____	0			
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>84</u>	x 4 = <u>336</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>99</u> (A)	<u>381</u> (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: UP-SSS-03C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 3	5YR 4/6	100					Clay loam	Shovel refusal at 3"
-								
-								
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

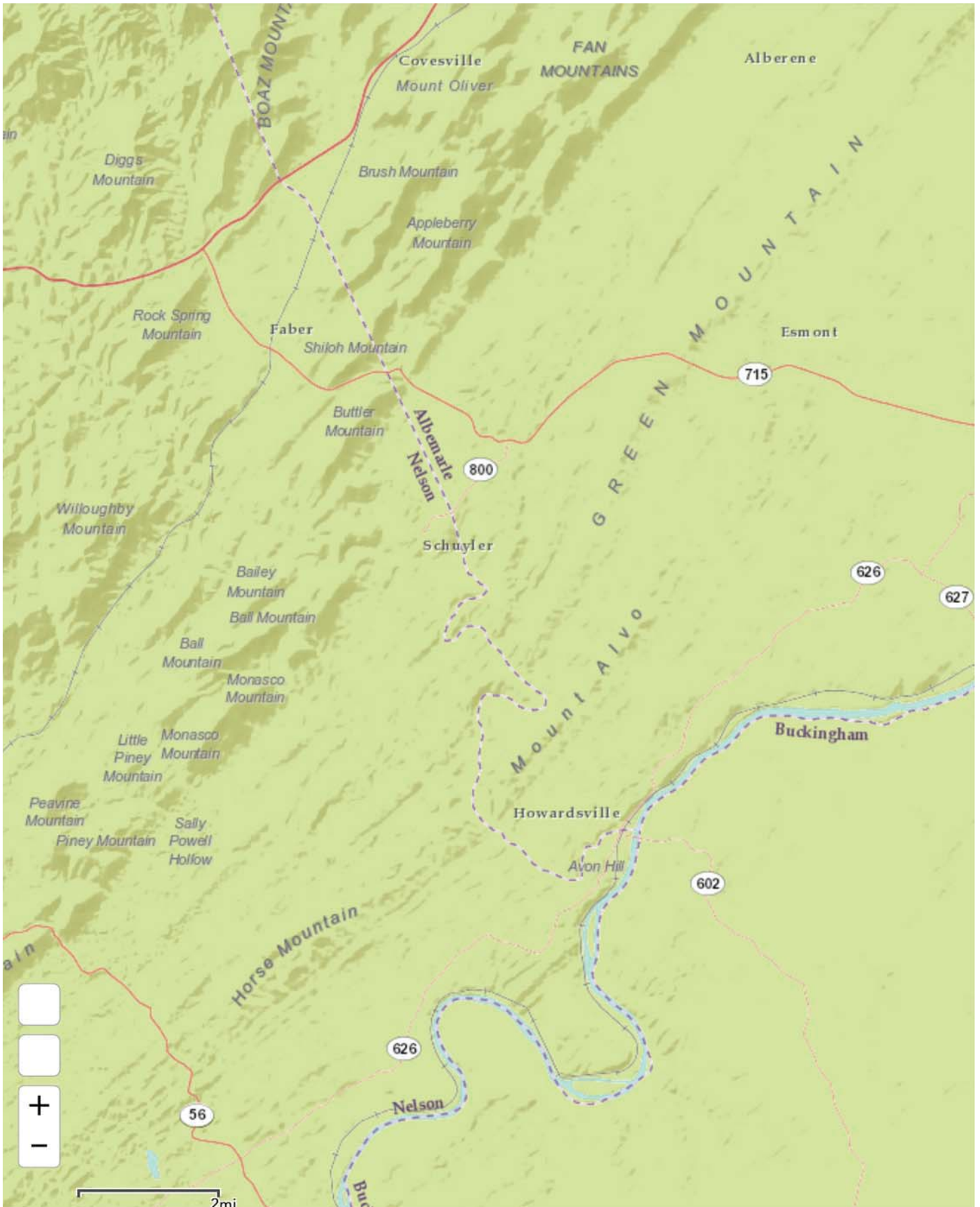
Restrictive Layer (if observed):

Type: Stone
 Depth (inches): 3

Hydric Soil Present? Yes No

Remarks:

**ATTACHMENT 2.F.1:
HAZARDOUS WASTE INFORMATION**





- **You are here:** [EPA Home](#)
- [Envirofacts](#)
- [SEMS](#)
- [Search Results](#)

Search Results

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[Other Datasets](#)

 [SEMS](#)



Consolidated facility information (from multiple EPA systems) was searched to select facilities

[<< Return](#)

Search Parameters: ZIP Code: 22969

Location Address: 913-901 Rockfish Crossing,

City Name: Schuyler

County Name: Nelson

State Abbreviation: VA

Results are based on data extracted on NOV-25-2019



- **You are here:** [EPA Home](#)
- [Envirofacts](#)
- [RCRAInfo](#)
- Search Results

Search Results

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RCRAInfo Links

- [Overview](#)
- [Search](#)
- [Model](#)
- [RCRAInfo Search User Guide](#)
- [Contact Us](#)
- [Office of Resource Conservation and Recovery Home](#)



RCRAInfo

Only RCRAInfo facility information was searched to select facilities

[<< Return](#)



Search Parameters: ZIP Code: 22969

Location Address: 1100-1138 Rockfish Crossing

City Name: Schuyler

County Name: Nelson

State Abbreviation: VA

Sites: 1 Only Active

Results are based on data extracted on JUN-01-2020

No Results found.

Total Number of Facilities Retrieved: 0

Facilities Summary - Reporting Year 2018

This screen summarizes Toxics Release Inventory data for the facilities in the area you specified.

Search for or select a location or facility to see results.



Virginia Solid Waste Planning Units

Planning Unit Name	Counties	Cities	Towns
Accomack County	Accomack		Accomac, Belle Haven, Bloxom, Chincoteague, Hallwood, Keller, Melfa, Onancock, Onley, Painter, Parksley, Saxis, Tangier, Wachapreague
Alleghany Highlands	Alleghany	Covington	Iron Gate, Clifton Forge
Amelia County	Amelia		
Amherst County	Amherst		Amherst
Arlington County	Arlington		
Augusta-Staunton-Waynesboro Region	Augusta	Staunton, Waynesboro	Craigsville
Bath County	Bath		
Bedford County	Bedford		Bedford
Botetourt County	Botetuort		Buchanan, Fincastle, Troutville
Brunswick County	Brunswick		Alberta, Brodnax, Lawrenceville
Buckingham County	Buckingham		Dillwyn
Caroline County	Caroline		Bowling Green, Port Royal
Carroll-Grayson-Galax	Carroll, Grayson,	Galax	Fries, Hillsville, Independence, Troutdale
Central Virginia WMA	Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent, Powhatan, Prince George	Richmond, Hopewell, Petersburg, Colonial Heights	Ashland
City of Alexandria		Alexandria	
City of Bristol		Bristol	
City of Danville		Danville	
City of Fairfax		Fairfax	
City of Falls Church		Falls Church	
City of Harrisonburg		Harrisonburg	
City of Manassas		Manassas	
City of Manassas Park		Manassas Park	
City of Martinsville	Henry	Martinsville	Ridgeway
City of Newport News		Newport News	
City of Roanoke		Roanoke	
City of Salem		Salem	
Craig County	Craig		New Castle
Culpeper County	Culpeper		Culpeper
Cumberland Plateau Regional WM Authority	Buchanan, Dickenson, Russell		Grundy, Clinchco, Clintwood, Haysi, Cleveland, Honaker, Lebanon
Fairfax County	Fairfax		
Fauquier County	Fauquier		Plains, Remington, Warrenton
Floyd County	Floyd		Floyd
Franklin County	Franklin		Rocky Mount, Boones Mill
Gloucester County	Gloucester		

Greater Rockingham	Rockingham		Bridgewater, Broadway, Dayton, Elkton, Grottoes, Mount Crawford, Timberville
Highland County	Highland		Monterey
King George County	King George		
Lee County	Lee		St. Charles, Jonesville, Pennington Gap
Loudoun County	Loudoun		Hamilton, Hillsboro, Leesburg, Lovettsville, Middleburg, Purcellville, Round Hill
Louisa County	Louisa		Louisa, Mineral
Lunenburg County	Lunenburg		Kenbridge, Victoria
Madison County	Madison		Madison
Montgomery Regional Solid Waste Authority	Montgomery		Blacksburg, Christiansburg
Mount Rogers Planning District	Bland, Smyth, Washington, Wythe		Abingdon, Chilhowie, Damascus, Glade Spring, Marion, Saltville, Rural Retreat, Wytheville
New River Resource Authority	Giles, Pulaski	Radford	Dublin, Glen Lyn, Pearisburg, Pembroke, Pulaski, Rich Creek, Narrows
Northampton County	Northampton		Cape Charles, Cheriton, Eastville, Exmore, Nassawadox
Northern Neck Regional Solid Waste Mgmt. Plan	Lancaster, Northumberland, Richmond, Westmoreland		Colonial Beach, Irvington, Kilmarnock, Montross, Warsaw, White Stone
Northern Shenandoah Valley SWM Region	Clarke, Frederick, Page, Shenandoah, Warren	Winchester	Berryville, Boyce, Edinburg, Front Royal, Luray, Middletown, Mount Jackson, New Market, Shenandoah, Stanley, Strasburg, Stephens City, Toms Brook, Woodstock
Nottoway County	Nottoway		Blackstone, Burkeville, Crewe
Orange County	Orange		Orange, Gordonsville
Patrick County	Patrick		Stuart
Pittsylvania County	Pittsylvania		Chatham, Hurt, Gretna
Prince Edward & Cumberland County	Cumberland, Prince Edward		Farmville
Prince William County	Prince William		Dumfries, Haymarket, Occoquan, Quantico
Rappahannock County	Rappahannock		Washington
Rappahannock Regional	Stafford	Fredericksburg	
Region 2000	Appomattox, Campbell, Nelson	Lynchburg	Altavista, Brookneal
Roanoke County	Roanoke		
Rockbridge-Lexington-Buena Vista	Rockbridge	Buena Vista, Lexington	Glasgow, Goshen
Scott County	Scott		Clinchport, Duffields, Dungannon, Gate City, Nickelsville, Weber City
Southeastern Public Service Authority (SPSA)	Isle of Wight, Southampton	Chesapeake, Franklin, Norfolk, Portsmouth, Suffolk, Virginia Beach	Boykins, Branchville, Capron, Courtland, Ivor, Newsoms, Smithfield, Windsor
Southern Crater Region	Dinwiddie, Greensville, Sussex, Surry	Emporia	Claremont, Dendron, Jarratt, McKenney, Stony Creek, Surry, Wakefield, Waverly

Southside Regional Public Service Authority (SRPSA)	Charlotte, Halifax, Mecklenburg		Charlotte Court House, Drakes Branch, Keysville, Phenix, Halifax, Scottsburg, South Boston, Virgilina, Boydton, Chase City, Clarkesville, LaCrosse, South Hill
Spotsylvania County	Spotsylvania		
Tazewell County	Tazewell		Bluefield, Cedar Bluff, Pocahontas, Richlands, Tazewell
Thomas Jefferson Planning Dist.	Albemarle, Fluvanna, Greene	Charlottesville	Columbia, Scottsville, Standardsville
Town of Herndon			Herndon
Town of Vienna			Vienna
Town of Vinton			Vinton
Virginia Peninsulas Public Service Authority (VPPSA)	Essex, James City, King & Queen, King William, Mathews, Middlesex, York	Hampton, Poquoson, Williamsburg	Tappahannock, Urbana, West Point
Wise County	Wise	Norton	Appalachia, Big Stone Gap, Coeburn, Pound, St. Paul, Wise

**ATTACHMENT 2.G.1:
USFWS IPAC REPORT**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Albemarle and Nelson counties, Virginia



Local office

Virginia Ecological Services Field Office

☎ (804) 693-6694

📅 (804) 693-9032

6669 Short Lane

Gloucester, VA 23061-4410

<http://www.fws.gov/northeast/virginiafield/>

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME

STATUS

Northern Long-eared Bat *Myotis septentrionalis*
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/9045>

Threatened

Clams

NAME

STATUS

Atlantic Pigtoe *Fusconaia masoni*
 There is **proposed** critical habitat for this species. Your location is outside the critical habitat.
<https://ecos.fws.gov/ecp/species/5164>

Proposed Threatened

James Spiny mussel *Pleurobema collina*
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/2212>

Endangered

Flowering Plants

NAME

STATUS

Small Whorled Pogonia *Isotria medeoloides*
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/1890>

Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

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

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

MIGRATORY BIRD INFORMATION IS NOT AVAILABLE AT THIS TIME

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds](#)

[guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or

minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1E](#)

[PEM1Fb](#)

[PEM1C](#)

[PEM1Ch](#)

[PEM1/SS1E](#)

[PEM1A](#)

[PEM1Fh](#)

FRESHWATER FORESTED/SHRUB WETLAND

[PFO1A](#)[PSS1C](#)[PFO1E](#)[PFO1C](#)[PFO1/SS1A](#)[PSS1E](#)[PFO1/4E](#)[PSS1/EM1C](#)[PSS1A](#)[PFO1Eh](#)[PFO1/SS1C](#)[PSS1Eh](#)[PSS1F](#)[PSS1Fh](#)

FRESHWATER POND

[PUBHh](#)[PUBHx](#)[PUSCh](#)[PUBHb](#)[PABHx](#)[PUSC](#)

RIVERINE

[R2UBH](#)[R5UBH](#)[R4SBC](#)[R2USC](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters.

Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

ATTACHMENT 2.G.3: VDWR SENSITIVE SPECIES LIST

VaFWIS Search Report Compiled on 10/7/2020, 6:52:53 PM

[Help](#)

Observations reported or potential habitat occurs within a **3 mile radius around point 37,45,48.8 -78,41,27.9**
 in **003 Albemarle County, 125 Nelson County, VA**

[View Map of Site Location](#)

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

BOVA Code	Status*	Tier**	Common Name	Scientific Name
060017	FESE	Ia	Spiny mussel, James	Parvaspina collina
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata
050020	SE	Ia	Bat, little brown	Myotis lucifugus
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus
060006	SE	Ib	Floater, brook	Alasmidonta varicosa
020052	SE	IIa	Salamander, eastern tiger	Ambystoma tigrinum
040096	ST	Ia	Falcon, peregrine	Falco peregrinus
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus
060173	FPST	Ia	Pigtoe, Atlantic	Fusconaia masoni
100155	ST	Ia	Skipper, Appalachian grizzled	Pyrgus wyandot
060081	ST	IIa	Floater, green	Lasmigona subviridis
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans
030063	CC	IIIa	Turtle, spotted	Clemmys guttata
030031	CC	IIIc	Kingsnake, scarlet	Lampropeltis elapsoides
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus
040092		Ia	Eagle, golden	Aquila chrysaetos
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera
100248		Ia	Fritillary, regal	Speyeria idalia idalia
020023		IIa	Salamander, mole	Ambystoma talpoideum
040052		IIa	Duck, American black	Anas rubripes
040320		IIa	Warbler, cerulean	Setophaga cerulea
040140		IIa	Woodcock, American	Scolopax minor
040203		IIb	Cuckoo, black-billed	Coccyzus erythrophthalmus
040105		IIb	Rail, king	Rallus elegans
040304		IIc	Warbler, Swainson's	Limnothlypis swainsonii

To view **All 534 species** [View 534](#)

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed;

FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need;
 II=VA Wildlife Action Plan - Tier II - Very High Conservation Need;
 III=VA Wildlife Action Plan - Tier III - High Conservation Need;
 IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
 Virginia Wildlife Action Plan Conservation Opportunity Ranking:

- a - On the ground management strategies/actions exist and can be feasibly implemented.;
- b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
- c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

Anadromous Fish Use Streams (1 records)

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

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE *	Highest Tier **	
P136	Rockfish river	Potential	0			Yes

Impediments to Fish Passage (3 records)

[View Map of All Fish Impediments](#)

ID	Name	River	View Map
422	RAMSAY KNOX DAM	TR-CEDAR BRANCH CREEK	Yes
426	ROCKFISH RIVER DAM	ROCKFISH RIVER	Yes
796	WALKER MILL DAM	ROCKFISH R,JAMES R	Yes

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Habitat Predicted for Aquatic WAP Tier I & II Species

N/A

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (4 records)

[View Map of All Query Results](#)
[Virginia Breeding Bird Atlas Blocks](#)

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE*	Highest Tier**	
41102	Howardsville, NE	1			Yes
41113	Schuyler, CW	1			Yes
41116	Schuyler, SE	75		III	Yes
41115	Schuyler, SW	1			Yes

Public Holdings:

N/A

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

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
003	Albemarle	428	FESE	I
125	Nelson	396	FTSE	I

USGS 7.5' Quadrangles:

Howardsville
 Schuyler

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
JM40	Rockfish River-Dutch Creek	61	ST	I
JM41	Rockfish River-Beaver Creek	59	ST	I
JM42	James River-Ballinger Creek	58	FTST	I

**ATTACHMENT 2.I.1:
VDHR PRE-APPLICATION ANALYSIS**

REPORT >

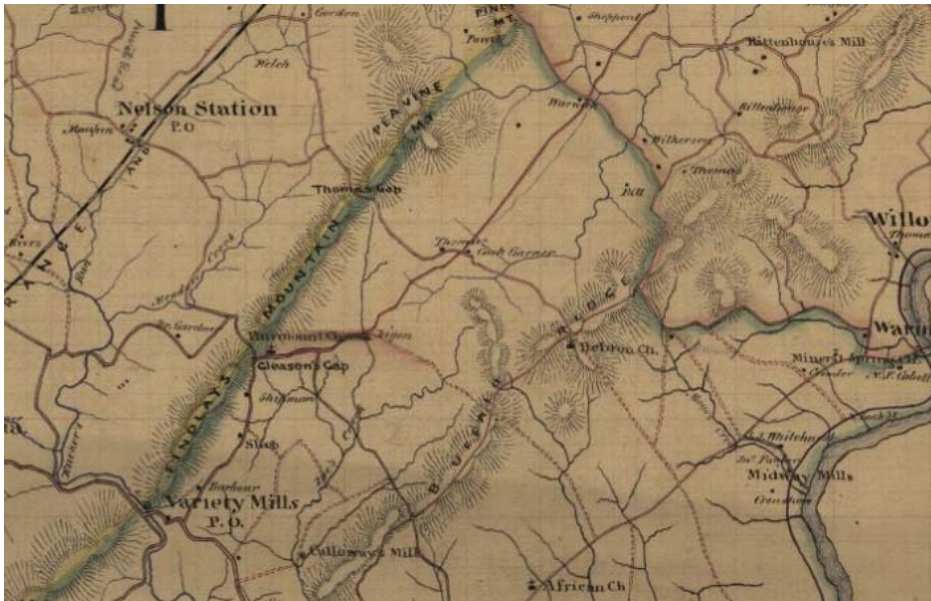
SCC Pre-Application Analysis Cultural Resources for the Soapstone 138 kV Substation

LOCATION > Nelson County, Virginia

DATE > NOVEMBER 2020

PREPARED FOR >

POWER Engineers, Inc.



PREPARED BY >

Dutton + Associates, LLC

Dutton + Associates

CULTURAL RESOURCE SURVEY, PLANNING, AND MANAGEMENT

PROJECT REVIEW # >

**SCC Pre-Application Analysis
Cultural Resources for the
Soapstone 138 kV Substation**

Nelson County, Virginia

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November 2020

ABSTRACT

Dutton + Associates, LLC (D+A) conducted a Pre-Application Analysis (Analysis) of cultural resources for the Soapstone 138 kV Substation (Component 3) in Nelson County, Virginia as part of the Central Virginia Transmission Reliability Project (CVTRP). The Analysis was performed for POWER Engineers, Inc. on behalf of Appalachian Power Company (Appalachian Power) in support of a State Corporation Commission (SCC) application. The analysis was completed in accordance with Virginia Department of Historic Resources' (VDHR) guidance titled "Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia" (January 2008).

As part of the CVTRP, Appalachian proposes to construct a new substation with a connection from the existing Reusens - Scottsville - Bremo 138 kV transmission line. The new substation will be approximately 1.5 acres and be built on a currently cleared property just to the north of the existing transmission line right-of-way (ROW). A new pond will also be built adjacent to the substation, and the site will be accessed by a new access road creating a 12.56-acre total limit of disturbance.¹ Connection of the new substation to the existing transmission line will be provided by a new monopole tap structure to be built approximately mid-span of the existing structures. Two new monopole structures will be installed to create the loop in/loop out into the substation. The existing transmission line structures in the vicinity range from 99 to 129 feet tall and will not be rebuilt or altered as part of this project. The new monopole tap structures will each be 55 feet in height for the Soapstone 138 kV Extension.

The background research conducted as part of this analysis was guided by VDHR guidance and designed to identify all previously recorded National Historic Landmarks (NHL) located within 1.5 miles of the Soapstone 138 kV Substation Component, all historic properties listed in the National Register of Historic Places (NRHP) or battlefields located within 1.0 mile of the Soapstone 138 kV Substation Component, all historic properties considered eligible for listing in the NRHP located within 0.5 mile of the Soapstone 138 kV Substation Component, and all buildings, structures, and archaeological sites located directly within the Soapstone 138 kV Substation Component. Historic properties include architectural and archaeological (terrestrial and underwater) resources, historic and cultural landscapes, battlefields, and historic districts. For each historic property within the defined tiers, a review of existing documentation and a field reconnaissance was undertaken to assess each property's significant character-defining features, as well as the character of its current setting. Following identification of historic properties, D+A assessed the potential for impacts to any identified properties as a result of the proposed project. Specific attention was given to determining whether or not construction related to the project could introduce new visual elements into the property's viewshed or directly impact the property through construction, which would either directly or indirectly alter those qualities or characteristics that qualify the historic property for listing in the NRHP.

¹ A second substation is also proposed for development within the LOD; however, that project is being sponsored by Central Virginia Electric Cooperative (CVEC) and will not be included in this SCC application.

Review of the Virginia Department of Historic Resources (VDHR) Virginia Cultural Resource Information System (VCRIS) inventory records revealed a total of 32 previously recorded architectural resources are located 1.5 miles of the Soapstone 138 kV Substation Component. Of these, there are no NHLs located within 1.5 miles of the Project area, two properties listed in the NRHP and no battlefields located within 1.0 mile of the Project area, and no additional properties that have been determined eligible for listing in the NRHP within 0.5-miles of the Project area.

The VCRIS also revealed there are no previously recorded archaeological sites within 1.0 mile of the Component 3.

With regards to architectural resources, two historic properties that are either designated an NHL, listed in, or determined eligible for listing in the NRHP are located within the defined study tiers. This includes the Schuyler Historic District and the Southern Albemarle Rural Historic District, both of which are listed in the NRHP and located within 1.0 mile of Component 3.

Field inspection and representative photographs reveal that the project will be completely screened from view from all publicly accessible locations throughout both historic districts by the thickly wooded and mountainous terrain that characterizes the area. Both districts are set over one-half mile from the Project area at their nearest locations, with most portions of the districts well beyond that. Inspection revealed that the existing 100- to 120-foot transmission line structures adjacent to the location of the Project area cannot be seen, thus the 50-foot monopole tap structures that will be the tallest component of the project will likewise not be seen. It is therefore D+A's opinion that the proposed Soapstone 138 kV Substation Project will have **no impact** on the Schuyler Historic District or the Southern Albemarle Rural Historic District.

Table of Potential impacts summary for architectural resources.

VDHR ID #	Resource Name	NRHP Status	Distance to Component 3	Impact
002-5045	Southern Albemarle Rural Historic District	NRHP-Listed	0.13 Mile	No Impact
062-5002	Schuyler Historic District	NRHP-Listed	0.33 Mile	No Impact

With regards to archaeology, there are no previously recorded sites within or immediately adjacent to the Project area. Therefore, Component 3 will pose no impact to known archaeological sites or resources.

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1. INTRODUCTION

In October 2020, Dutton + Associates, LLC (D+A) conducted a Pre-Application Analysis (Analysis) of cultural resources for the Soapstone 138 kV Substation in Nelson County, Virginia as part of the CVTRP. The analysis was performed for POWER Engineers, Inc. on behalf of Appalachian Power Company (Appalachian Power) in support of a State Corporation Commission (SCC) application. The analysis was conducted in accordance with Virginia Department of Historic Resources' (VDHR) guidance titled *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (January 2008) and Commonwealth of Virginia State Corporation Commission Division of Public Utility Regulation *Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia* (August 2017).

This analysis was performed at a level that meets the purpose and intent of VDHR and the SCC's guidance. It provides information on the presence of previously recorded National Historic Landmark (NHL) properties located within a 1.5 mile buffer area established around the Project area, properties listed on the National Register of Historic Places (NRHP), battlefields, and historic landscapes located within a 1.0 mile buffer around the Project area, properties previously determined eligible for listing in the NRHP located within a 0.5 mile buffer area around the Project area, and previously identified archaeological resources directly within the Project area. This analysis will not satisfy Section 106 identification and evaluation requirements in the event federal permits or licenses are needed; however, it can be used as a planning document to assist in making decisions under Section 106 as to whether further cultural resource identification efforts may be warranted.

This report contains a research design which describes the scope and methodology of the analysis, discussion of previously identified historic properties, and an assessment of potential impacts. D+A Senior Architectural Historian Robert J. Taylor, Jr. M.A. served as Principal Investigator and oversaw the general course of the project and supervised all aspects of the work. Copies of all notes, maps, correspondence, and historical research materials are on file at the D+A main office in Midlothian, Virginia.

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2. PROJECT DESCRIPTION

The Soapstone 138 kV Substation is Component 3 of the larger Appalachian Central Virginia Transmission Reliability Project (CVTRP) throughout the region to upgrade the power grid in Virginia by making improvements to the transmission infrastructure. The CVTRP will provide a new electrical source to the region, increase reliability to customers and support the retirement of aging infrastructure. The Soapstone 138 kV Substation Component is located on the south side of Rockfish Crossing in the Schuyler vicinity of Nelson County, Virginia (Figure 2-1).

As part of the project, Appalachian Power proposes to construct a new substation with a connection from the existing Reusens - Scottsville - Bremono 138 kV transmission line (Figure 2-2). The new substation will be approximately 1.5 acres and be built on a cleared property just to the north of the existing transmission line right-of-way (ROW) (Figure 2-3). A new pond will also be built adjacent to the substation, and the site will be accessed by a new access road creating a 12.56-acre total limit of disturbance.² Connection of the new substation to the existing transmission line will be provided by a new monopole tap structure to be built approximately mid-span of the existing structures. Two new monopole structures will be installed to create the loop in/loop out into the substation. The existing transmission line structures in the vicinity range from 99- to 129-feet tall and will not be rebuilt or altered as part of this project. The new monopole tap structures for the Soapstone 138 kV Extension will each be 55 feet in height.

² A second substation is also proposed for development within the LOD, however, that project is being sponsored by CVEC and will not be included in this SCC application.

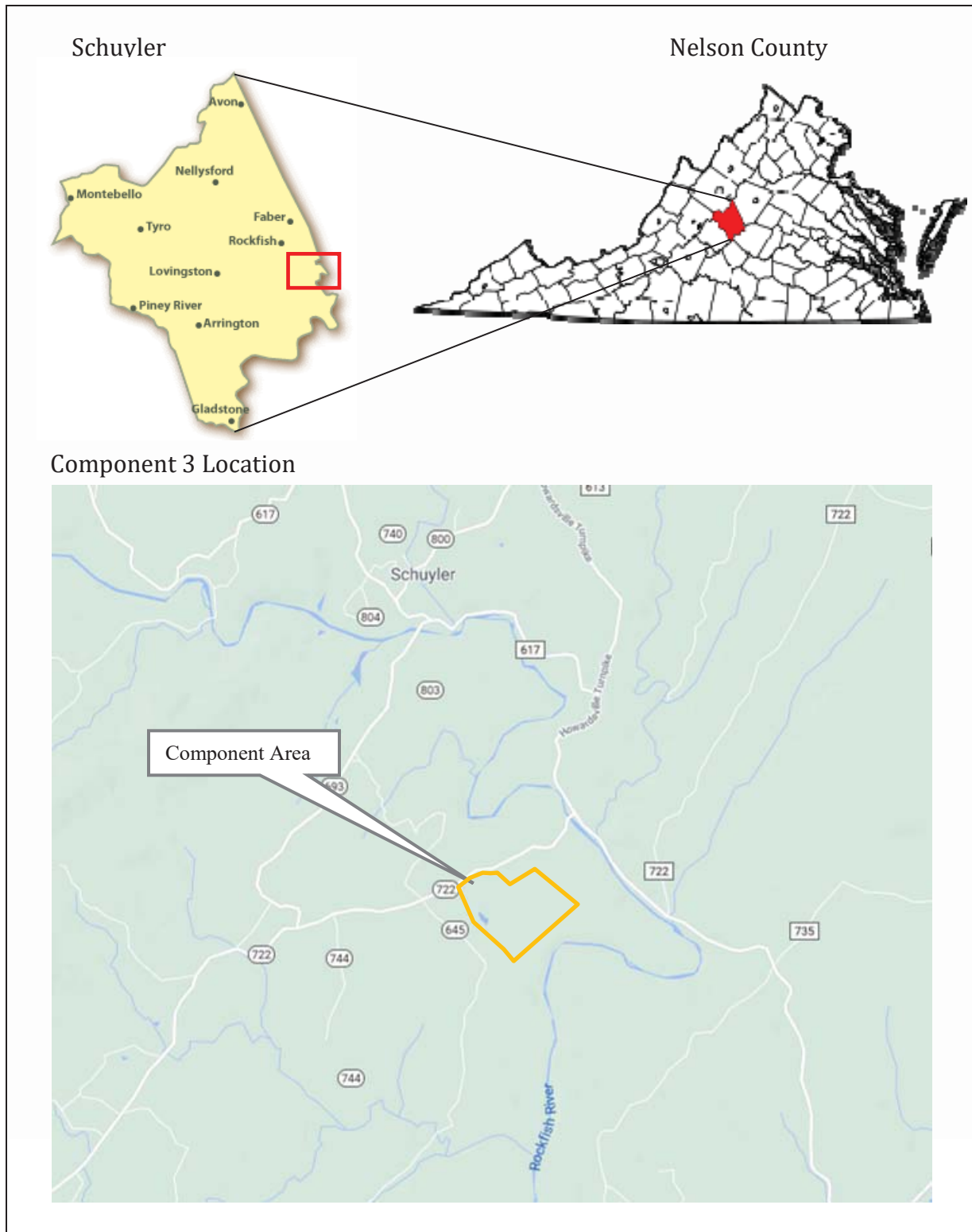


Figure 2-1: Component Area general location

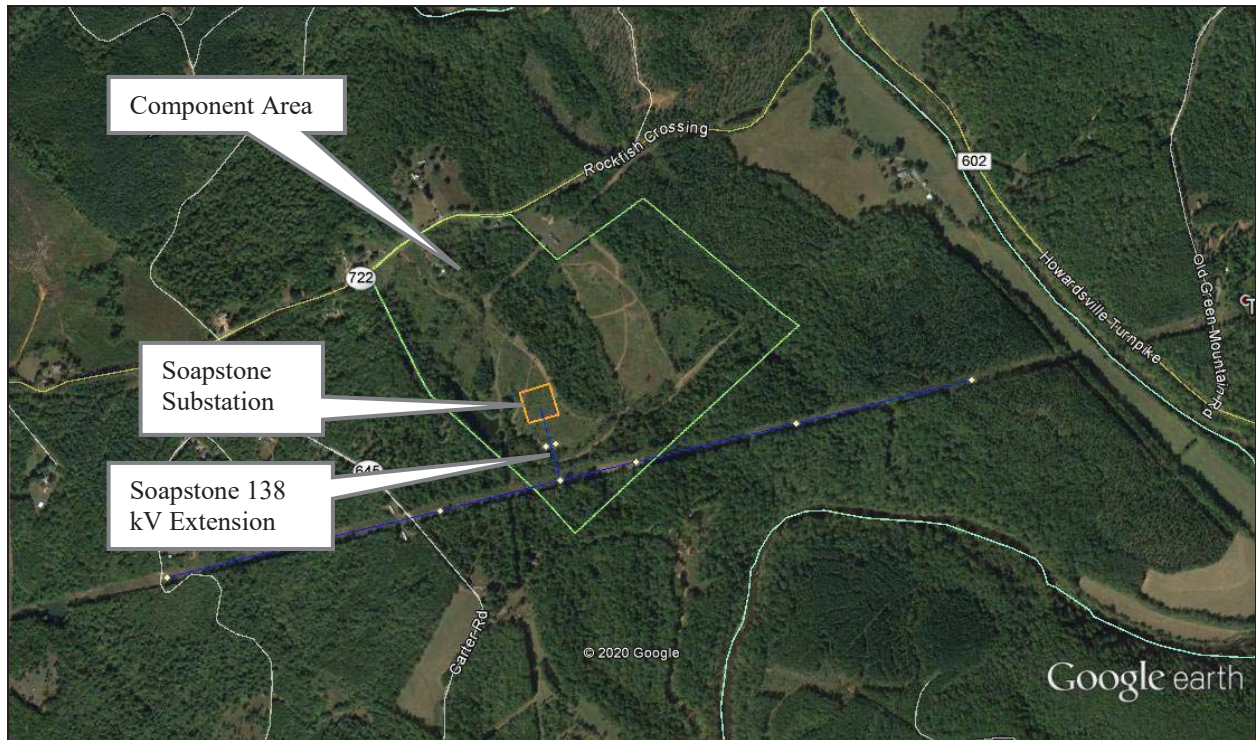


Figure 2-2: Aerial view of Component 3

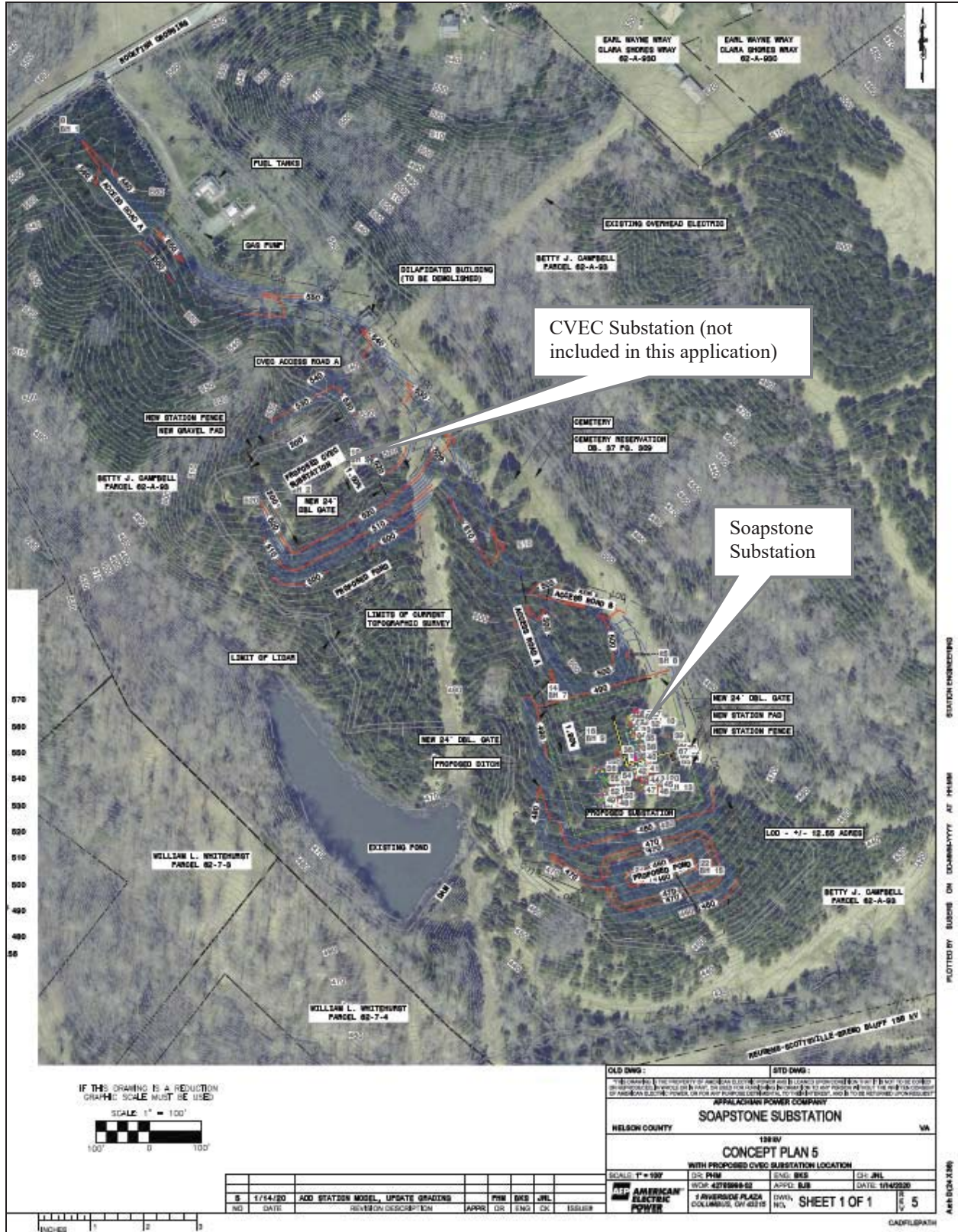


Figure 2-3: Preliminary Site Plan and schematics. Source: POWER Engineers, Inc.

3. RESEARCH DESIGN

The intent of this effort was to identify all known historic properties within the vicinity of the proposed Project area in order to assess them for potential impacts brought about by the project. Historic properties include architectural and archaeological (terrestrial and underwater) resources, historic and cultural landscapes, battlefields, and historic districts. For each previously recorded historic property, an examination of property documentation, current aerial photography, and a field reconnaissance was undertaken to assess each property's integrity of feeling, setting, and association, and to provide photo documentation of the property including views toward the proposed project. The D+A personnel who directed and conducted this survey meet the professional qualification standards of the Department of the Interior (48 FR 44738-9).

ARCHIVAL RESEARCH

In October 2020, D+A conducted archival research with the goal of identifying all previously recorded historic properties and any additional historic property locations referred to in historic documents and other archives. Background research was conducted at the VDHR and on the internet and included the following sources:

- VDHR Virginia Cultural Resource Information System (VCRIS) site files; and
- National Park Service (NPS), American Battlefield Protection Program (ABPP), maps and related documentation.

Data collection was performed according to VDHR guidance in *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (January 2008) and was organized in a multi-tier approach. As such, the effort was designed to identify all previously recorded NHL's located within 1.5 miles of the Soapstone 138 kV Substation Component, all historic properties listed in the NRHP, battlefields, and historic landscapes located within 1.0 mile of the Project area, all historic properties previously determined eligible for listing in the NRHP located within 0.5 mile of the Project area, and all properties located directly within the Project area.

FIELD RECONNAISSANCE

Field reconnaissance included visual inspection of those previously recorded historic properties listed in the NRHP located within 1.0 mile of the Project area, and all properties considered eligible for listing in the NRHP within 0.5 mile of the Project area. Visual inspection included digital photo documentation of each property's existing conditions including its setting and views toward the proposed project. Photographs were taken of primary resource elevations, general setting, and existing viewsheds. All photographs were taken from public right-of-way or where property access was granted. No subsurface archaeological testing was conducted as part of this effort.

ASSESSMENT OF POTENTIAL IMPACTS

Following identification and field inspection of historic properties, D+A assessed each resource for potential impacts brought about by the proposed project. When assessing impacts, D+A considered those qualities and characteristics that qualify the property for listing and whether the project had the potential to alter or diminish the integrity of the property and its associated significance. Specific attention was given to determining whether or not the proposed project would introduce new visual elements into a property's viewshed, which would either directly or indirectly alter those qualities or characteristics that qualify the historic property for listing in the NRHP. Identified impacts were characterized as severe (fully visible and incompatible with character-defining viewshed or setting), moderate (partially visible and incompatible with character-defining viewshed or setting), or minimal (not visible and/or not out of character with existing viewscape).

REPORT PREPARATION

The results of the archival resource, field inspection, and analysis were synthesized and summarized in a summary report accompanied by maps, illustrations, and photographs as appropriate. All research material and documentation generated by this project is on file at D+A's office in Midlothian, Virginia.

4. ARCHIVES SEARCH

This section includes a summary of efforts to identify previously known and recorded cultural resources within the tiered project buffers. It includes lists, maps, and descriptive data on all previously conducted cultural resource surveys, and previously recorded architectural resources and archaeological sites according to the VDHR archives and VCRIS database.

PREVIOUSLY SURVEYED AREAS

VDHR and VCRIS records indicate that the Project area has not been subject to previous cultural resource study, nor have any mapped Phase I cultural resource surveys been conducted within 1.0 mile of the Project area (Figure 4-1).

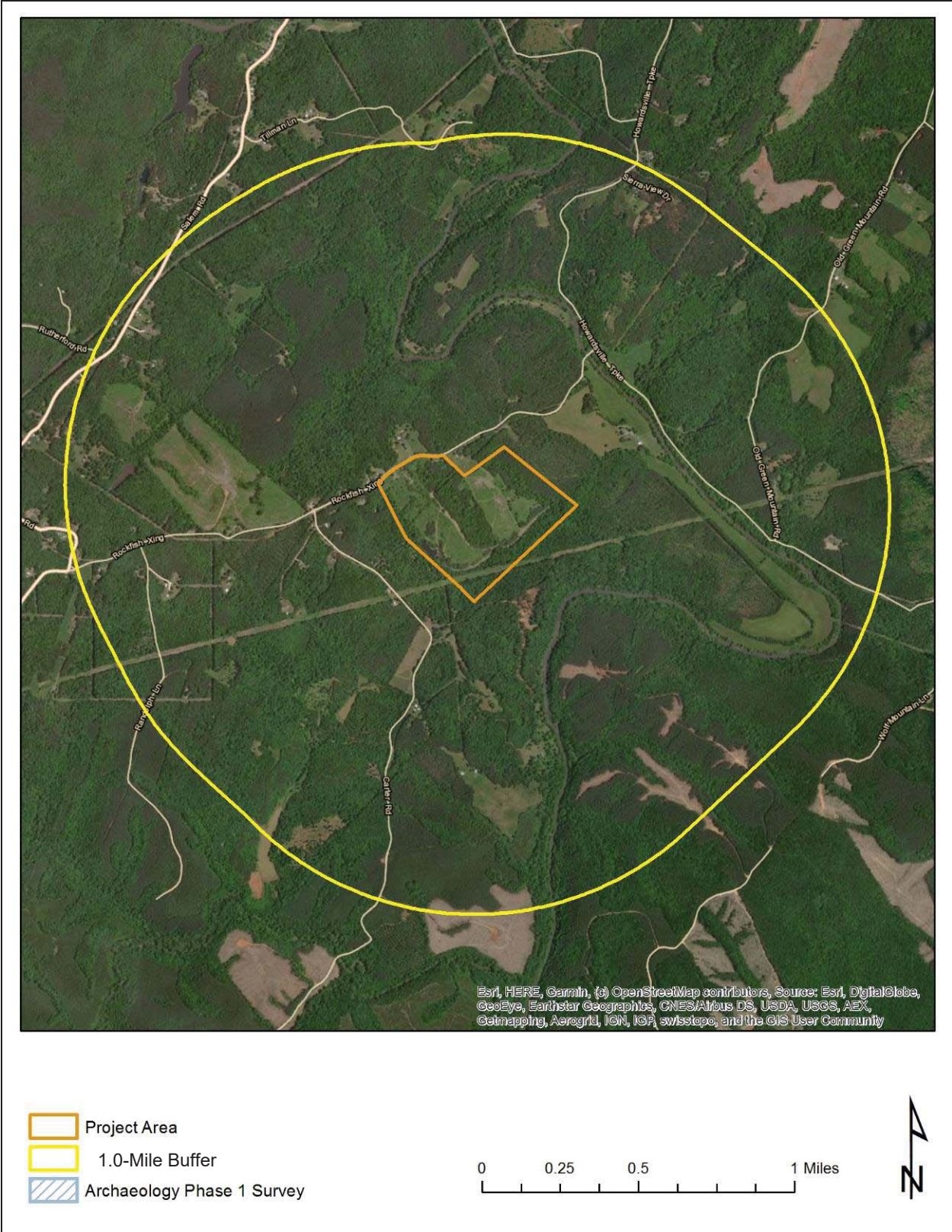


Figure 4-1: Previously conducted Phase I surveys within 1.0 mile of the Project area. Source: VCRIS

ARCHITECTURAL RESOURCES

Review of the VDHR VCRIS inventory records revealed a total of 32 previously recorded architectural resources are located 1.5 miles of the Soapstone 138 kV Substation Component. Of these, there are no NHLs located within 1.5 miles of the project, two properties listed in the NRHP and no battlefields located within 1.0 mile of the project, and no additional properties that have been determined eligible for listing in the NRHP within 0.5 mile of the project.

The two NRHP-listed properties located within 1.0 mile of the Project area are the Southern Albemarle Rural Historic District (VDHR# 002-5045) and the Schuyler Historic District (VDHR# 062-5002). The Southern Albemarle Rural Historic District is a large landscape comprised of hundreds of properties spanning both Albemarle and Nelson counties. The Schuyler Historic District is comprised of those properties within the small community of Schuyler.

Table 4-1 provides a list of all previously recorded architectural resources within 1.5 miles of the Project area and Table 4-2 lists NRHP-listed and eligible resources within their respective buffered tiers. A map of all previously recorded architectural resources within 1.5 miles of the project is included as Figure 4-2 and a map of NRHP-listed and Eligible resources is included as Figure 4-3.

Table 4-1: Previously recorded architectural resources within 1.5 miles of the Project area (bold listings denote sites determined eligible for the NRHP).

VDHR #	Resource Name/ Address	NRHP Status	Distance Tier
002-1290	House, 4539 Mount Alto Road (Function/Location), Mount Alto (Historic)	Not Evaluated	1.5 Mile
002-1534	Mt. Zion Church Site (Historic/Current)	Not Evaluated	1.5 Mile
002-5045	Jefferson-Carter Rural Historic District (Historic), Southern Albemarle Rural Historic District (NRHP Listing)	NRHP Listing, Virginia Landmarks Register (VLR) Listing	0.5 Mile
062-0074	Evans (Homer) House (Historic), House, 6044 Rockfish River Road (Function/Location), Walker, Schuyler, House (Historic)	Not Evaluated	1.5 Mile
062-0118	Dam #2 (Historic), Dam, Rockfish River (Function/Location), Walker Mill Dam (Current Name)	Not Evaluated	1.5 Mile
062-0240	Commercial Building, Salem Road at Tillman Lane (Function/Location), Tillman's Store (Historic)	Not Evaluated	1.5 Mile
062-0241	Banton House (Historic), House, 85 Tillman lane (Function/Location), House, Route 803 (Function/Location), Lester House (Historic)	Not Evaluated	1.5 Mile

VDHR #	Resource Name/ Address	NRHP Status	Distance Tier
062-0242	House, 66-58 Tillman Lane (Function/Location), Marks (Purvis) House (Historic)	Not Evaluated	1.5 Mile
062-0243	House, 145 Tillman Lane (Function/Location)	Not Evaluated	1.5 Mile
062-0244	House, 205 Tillman Lane (Function/Location), Locust Grove (Current), Tillman House (Historic)	Not Evaluated	1.5 Mile
062-0245	House, Route 693 (Function/Location), Stumptown House #1 (Descriptive)	Not Evaluated	1.5 Mile
062-0246	House, 2163 Salem Road (Function/Location), Stumptown: House, Route 693, west side (Historic)	Not Evaluated	1.5 Mile
062-0247	House, 2143 Salem Road (Function/Location), Stumptown: House, Route 693, west side (Historic)	Not Evaluated	1.5 Mile
062-0248	House, 2124 Salem Road (Function/Location), Stumptown House #4, Route 693 (Historic)	Not Evaluated	1.5 Mile
062-0249	House, 2121 Salem Road (Function/Location), Stumptown: House, Route 693, west side (Historic)	Not Evaluated	1.5 Mile
062-0250	House, 2140 Salem Road (Function/Location), Stumptown: House, Route 693, east side (Historic)	Not Evaluated	1.5 Mile
062-0251	House, 2255 Salem Road (Function/Location)	Not Evaluated	1.5 Mile
062-0252	House, 2177 Salem Road (Function/Location), Stumptown: House, Route 693, west side (Historic)	Not Evaluated	1.5 Mile
062-0253	House, 2208 Salem Road (Function/Location)	Not Evaluated	1.5 Mile
062-0255	House, 2176 Salem Road (Function/Location)	Not Evaluated	1.5 Mile
062-0256	House, 2190 Salem Road (Function/Location), Stumptown House #12, Route 693 (Historic)	Not Evaluated	1.5 Mile
062-0257	House, 2209 Salem Road (Function/Location), Stumptown: House, Route 693, west side (Historic)	Not Evaluated	1.5 Mile
062-0258	House, Salem Road (Function/Location), Stumptown: House, Route 693, west side (Historic)	Not Evaluated	1.5 Mile

VDHR #	Resource Name/ Address	NRHP Status	Distance Tier
062-0259	House, 2160 Salem Road (Function/Location), Stumptown: House, Route 693, east side (Current)	Not Evaluated	1.5 Mile
062-0260	House, 2239 Salem Road (Function/Location), Stumptown: House, Route 693, west side (Historic)	Not Evaluated	1.5 Mile
062-0261	House, 2234 Salem Road (Function/Location), Stumptown: House, Route 693, east side (Historic)	Not Evaluated	1.5 Mile
062-0262	House, 2085 Salem Road (Function/Location), Stumptown House #20, Route 693 (Historic)	Not Evaluated	1.5 Mile
062-0263	House, 2252 Salem Road (Function/Location), Stumptown: House, Route 693, west side (Historic)	Not Evaluated	1.5 Mile
062-0264	House, 2268 Salem Road (Function/Location), Stumptown House #20, Route 693 (Historic)	Not Evaluated	1.5 Mile
062-0270	Superintendent's House (Historic)	Not Evaluated	1.5 Mile
062-5002	Schuyler Historic District (Historic/Current)	NRHP Listing, VLR Listing	0.5 Mile
062-5128	Bridge #6134, Rockfish River Road (Rt 617), Ivy Creek (Function/Location)	Not Evaluated	1.5 Mile

Table 4-2: Previously recorded architectural resources within their respective tiered buffer zones for the Soapstone 138 kV Substation Component as specified in the VDHR Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia

Buffer(miles)	Considered Resources	VDHR #	Description
1.5	National Historic Landmarks	None	N/A
1.0	National Register Properties (Listed)	002-5045	Southern Albemarle Rural Historic District
		062-5002	Schuyler Historic District
	Battlefields	None	N/A
	Historic Landscapes	None	N/A
0.5	National Register-Eligible	None	N/A

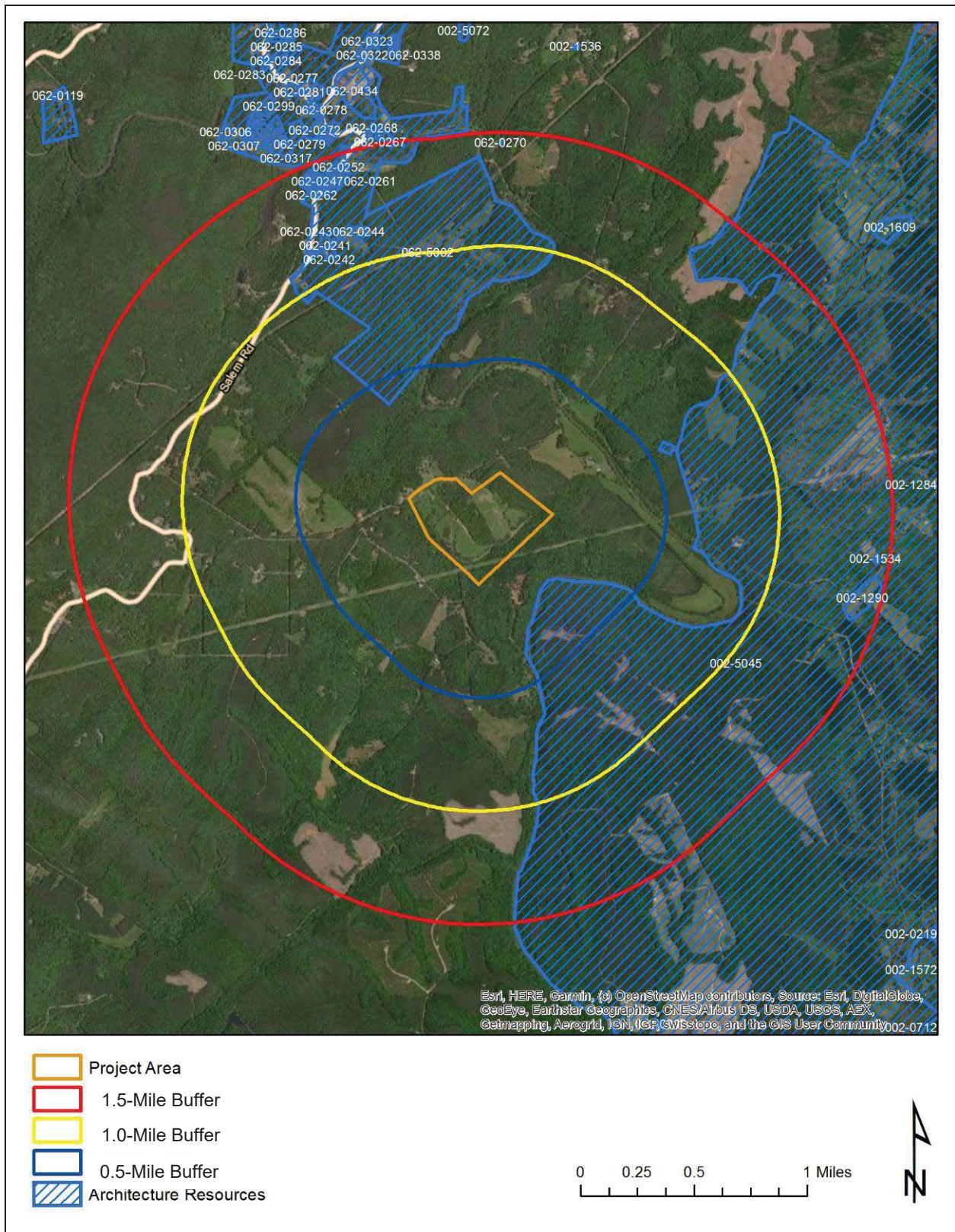


Figure 4-2: All previously identified architectural resources within 1.5 miles of the Project area. Source: VCRIS

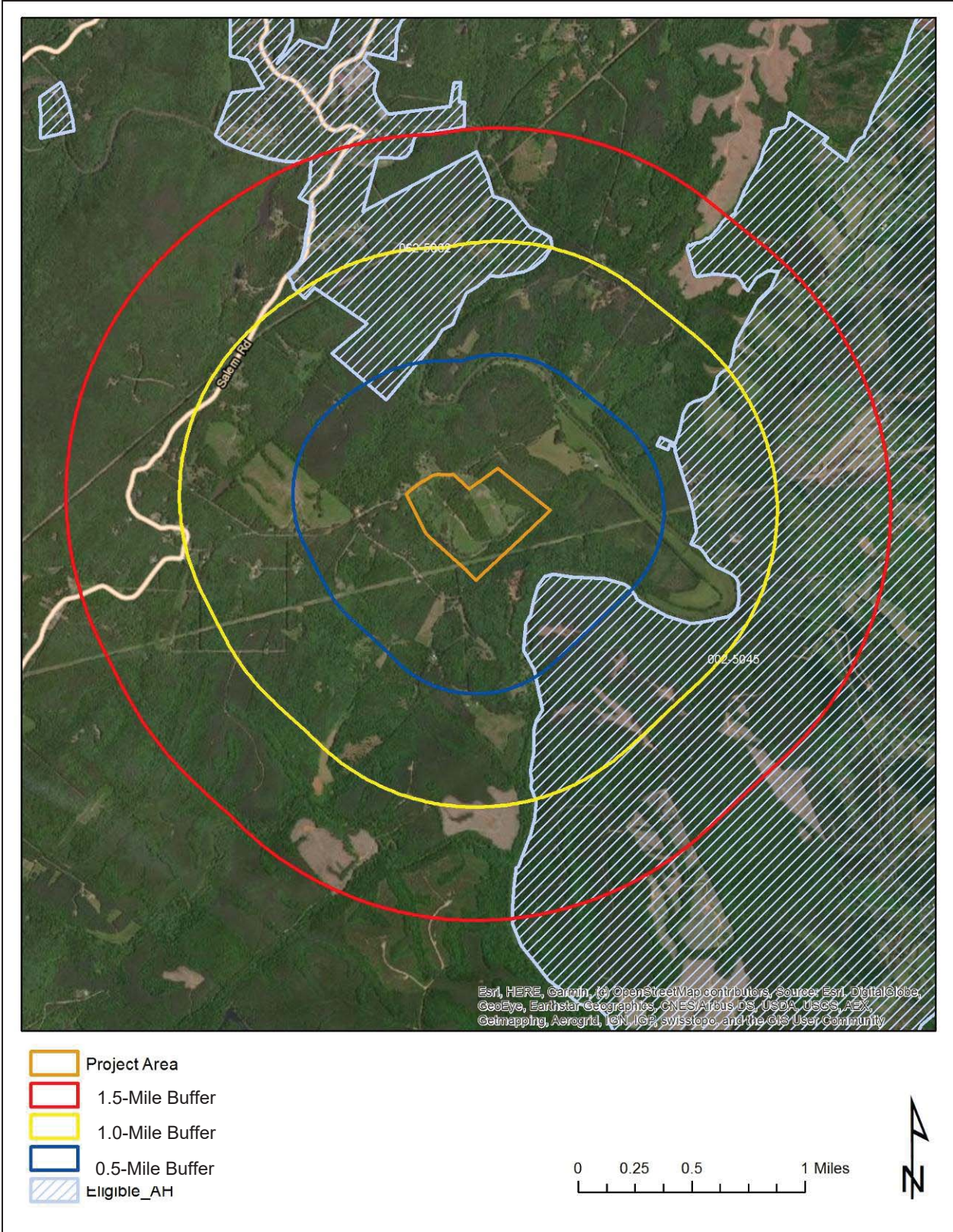


Figure 4-3: NRHP-Listed and Eligible architectural resources within 1.5 miles of the Project area. Source: VCRIS

ARCHAEOLOGICAL SITES

Review of the VDHR VCRIS records reveals there are no previously recorded archaeological sites located within 1.0 mile of the Project area as depicted in Figure 4-4.

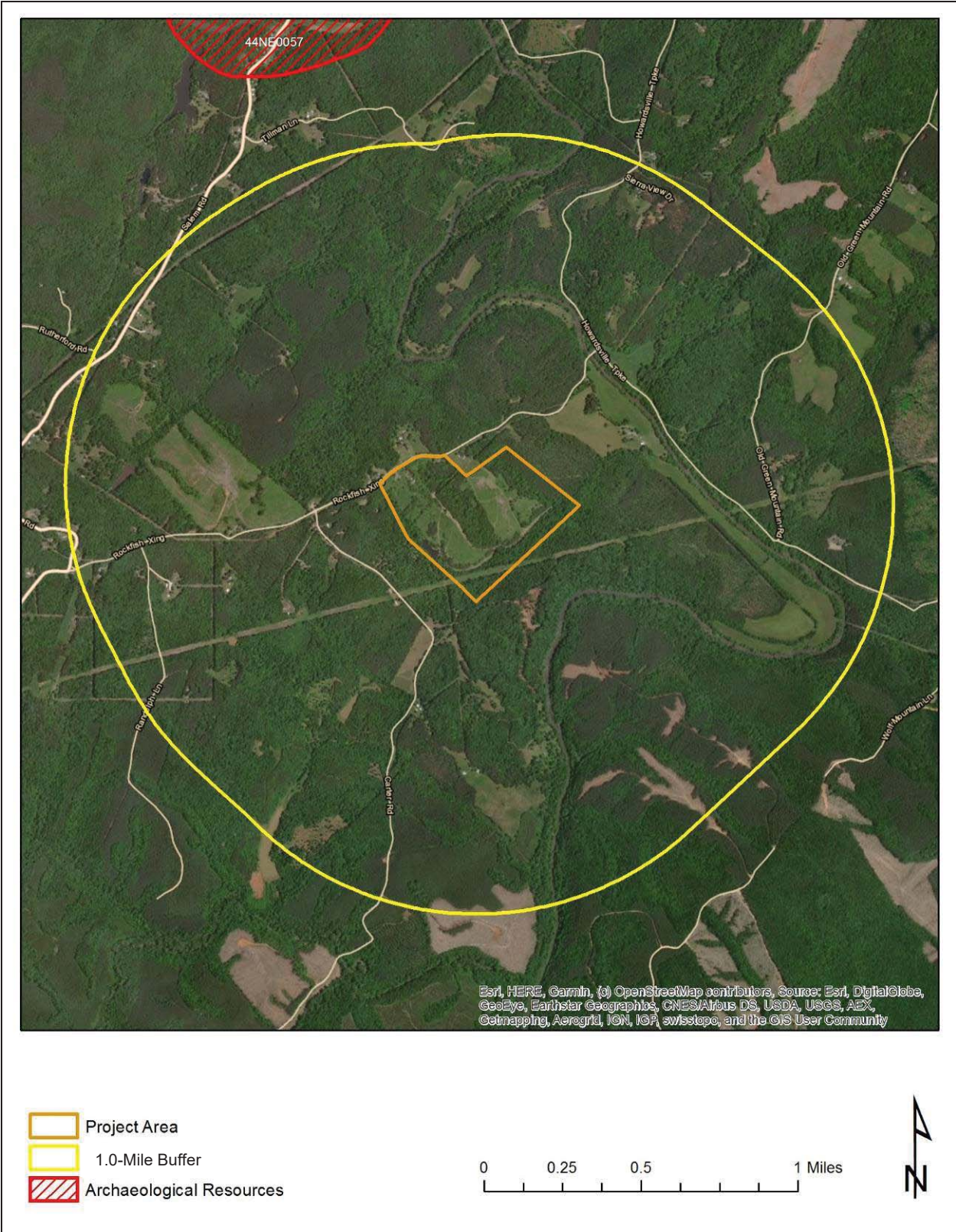


Figure 4-4: Previously recorded archaeological resources located within 1.0 mile of Project area. Source: VCRIS

NPS AMERICAN BATTLEFIELD PROTECTION PROGRAM (ABPP)

A review of the NPS ABPP records and maps prepared by the Civil War Sites Advisory Commission (CWSAC) revealed no portions of any noted battlefield are located within 1.0 mile of the Project area.

5. RESULTS OF FIELD RECONNAISSANCE

In accordance with the VDHR guidelines for assessing impacts of proposed electric transmission lines on historic resources, previously recorded historic architectural properties designated an NHL, or either listed or determined eligible for listing in the NRHP located within 1.0 mile or 0.5 mile of the project are to be field verified for existing conditions and photo documented (Table 5-1). Inspection and analysis of the setting around the resource and views towards the Project area were also assessed. The results of the field reconnaissance for each resource are organized by tier and summarized in the following pages.

Table 5-1: Previously recorded architectural resources within their respective tiered buffer zones for the Soapstone 138 kV Substation Component as specified in the VDHR Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia

Buffer(miles)	Considered Resources	VDHR #	Description
1.5	National Historic Landmarks	None	N/A
1.0	National Register Properties (Listed)	002-5045	Southern Albemarle Rural Historic District
		062-5002	Schuyler Historic District
	Battlefields	None	N/A
	Historic Landscapes	None	N/A
0.5	National Register-Eligible	None	N/A

Southern Albemarle Rural Historic District (VDHR # 002-5045)

The Southern Albemarle Rural Historic District is a massive collection of homes and properties scattered throughout Albemarle and Nelson counties, encompassing approximately 87,000 acres in Virginia's northern Piedmont region. The rural district boundaries follow the topographical spine of the Monticello, Carter, and Green mountains, an extension of the larger Southwest Mountains chain. The district is physically characterized by its Piedmont landscape, including mountainous woodlands, rolling pastures, and the low-lying floodplains of the James River, with large farms, historic villages, and crossroads communities interspersed throughout. Vast panoramic vistas, enabled by the region's extensive concentration of open space, readily testify to the district's well-preserved rural landscape. In addition, the district links the Madison-Barbour Rural Historic District, the Southwest Mountains Rural Historic District, and the Scottsville Historic District, providing an uninterrupted 143,000-acre corridor of historic resources, revealing the rich heritage of Albemarle County and the surrounding Virginia Piedmont. Despite a close proximity to the City of Charlottesville, modern intrusions are primarily limited and unobtrusive, often located along the edges of the roads on plots broken

off of larger intact tracts. The district was listed in both the Virginia Landmarks Register (VLR) and NRHP in 2007 under Criteria A, B, C, and D for its wide-ranging historical significance.

The period of significance for the Southern Albemarle Rural Historic District extends from circa 1729 to 1950, reflecting a broad and evolving range of cultural patterns including early planter's estates, small reconstruction-period African-American villages, and commercial crossroads villages. The accompanying architecture, ranging from high-style mansions to small vernacular farm buildings incorporates a wealth of building types, forms, and styles. The diversity of these resources, dating from the 18th-, 19th-, and early-20th centuries, reflects the evolving cultural patterns of the district's over 270 years of settlement and represents agricultural, commercial, and domestic interests. Dominated by large farmsteads, the district also includes several early villages, including Shadwell, Milton, and Warren, the early 20th-century communities of Esmont, Keene, Woodridge, and Simeon, and the primarily African-American communities of Rose Hill and Blenheim. In addition, several sites and structures related to the district's industrial heritage remain. Two large 19th-century merchant mills and a late 19th-century soapstone quarry survive and serve to relate the small, but important, role that raw material processing has played in the district. Similarly, the district is significant for its historic transportation-related resources. These include the surviving network of an 18th-century transportation system of roads and waterways, as well as the remains of early- and mid-19th-century canals, turnpikes, bridges, and railroads.

The boundaries of the Southern Albemarle Rural Historic District are based on a combination of natural features and other historic districts. The northern boundary of the district abuts the Southwest Mountains Rural Historic District along Route 250, and includes Shadwell and Milton. The district boundaries extend south to the James and Rockfish Rivers, located near Howardsville, and extend east to the Scottsville Historic District. The western boundary follows Route 20 and Route 717 and encompasses the village of Alberene, extending westward to the Hardware River. The eastern border extends north from Scottsville along Route 618 (Jefferson Mill Road) to Woodridge, and then follows Route 620 (Rolling Road) and Route 795 (the James Monroe Parkway) to Simeon. Milton and Shadwell are linked via Route 732.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around and within the district boundaries with emphasis on views towards the Project area. As a massive rural landscape, assessment was focused on those portions of the historic district set in proximity to the Project area, and largely within the 1.0 mile study tier. This assessment found that the Southern Albemarle Rural Historic District is located 0.13-mile from the Project area at its nearest point; however, the nearest publicly accessible location along Howardsville Turnpike is located 0.66-mile away from the Project area, and just over one mile from the location of the proposed substation. The portion of the district set closest to the Project area is sparsely developed and consists of a mostly wooded area bordering the Rockfish River. All of the development within this portion of the historic district is modern (late-twentieth century) single family homes.

Inspection from publicly accessible points in the area revealed that the landscape is thickly wooded and characterized by mountainous topography. Howardsville Turnpike is lined by wooded areas that completely screen distant views in the direction of the Project area. Old Green Mountain Road serves as a boundary to the district and inspection from along this road revealed similarly screened views with the exception of down the transmission line ROW that leads to the Project area, as well as a recently timbered parcel further uphill. Views down the transmission line corridor allow views of several transmission structures; however, the Project area is set behind a ridge bordering the south side of the Rockfish River that screens views of the structures set adjacent to the Project area, as well as the Project area itself. Views across the timbered parcel just uphill revealed similar views with a wider vantage of several existing transmission structures; however, the intervening ridge continues to screen views of the Project area beyond. Inspection was not possible from Wolf Mountain Lane on the south side of Howardsville Turnpike due to that portion of the district being all private property. Analysis of aerial photography and topography revealed that the heavily wooded and mountainous terrain there would similarly screen visibility of the Project area.

As the existing structures in the immediate vicinity of the Project area range from roughly 100 feet to 120 feet and are not visible from any publicly accessible location in the historic district, the proposed 55-foot monopole tap structures that will be the tallest feature of the project will likewise not be visible. It is therefore D+A's opinion that the proposed project will have ***no impact*** on the Southern Albemarle Rural Historic District.

Figure 5-1 illustrates the location of the Southern Albemarle Rural Historic District in relation to the Project area with viewshed buffers and photographic views towards the Project area. Photos 1 through 4 are representative photographs of the district, as well as those taken from locations within the district towards the Project area.

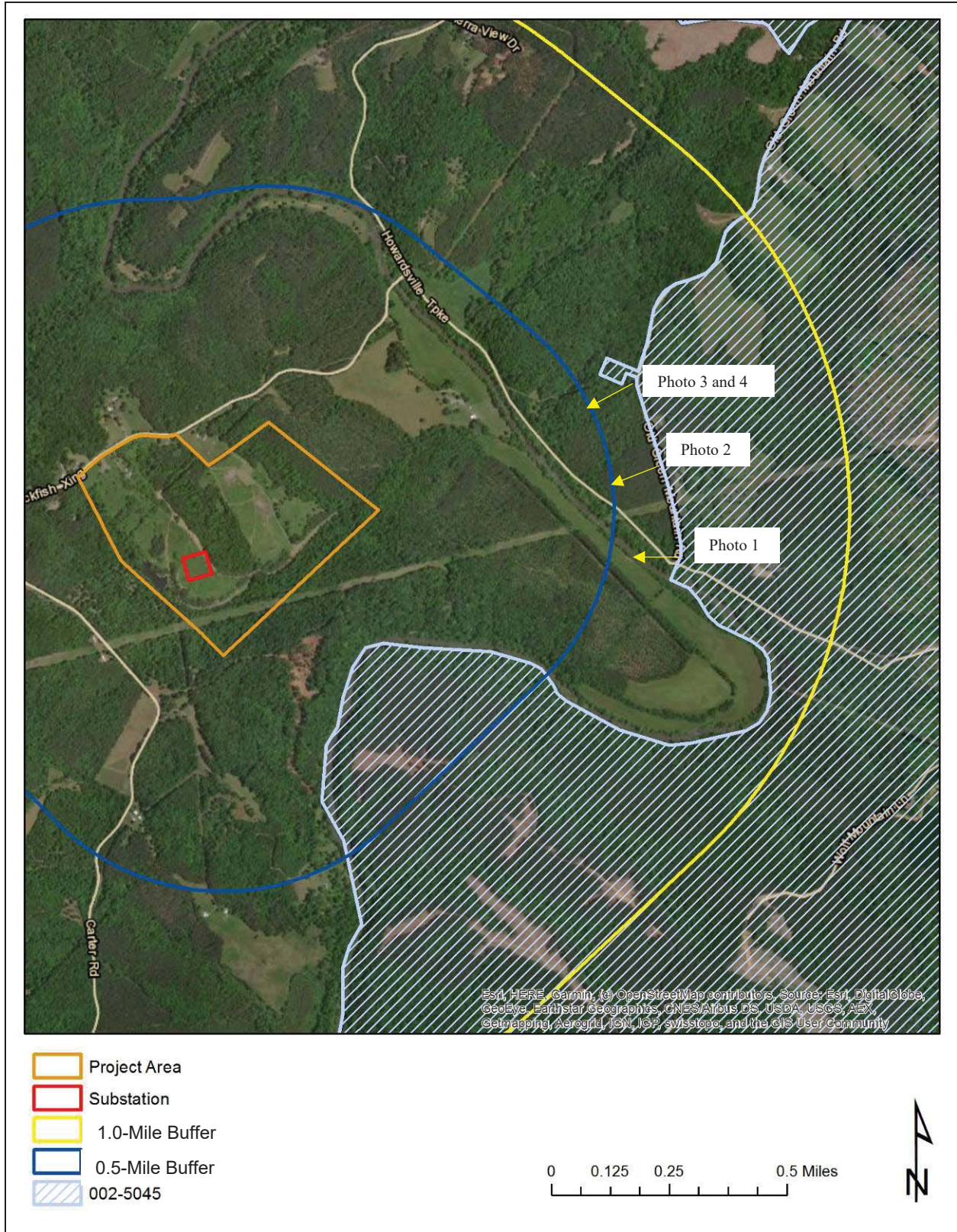


Figure 5-1: Location and direction of representative photos from the Southern Albemarle Rural Historic District. Photo locations and directions shown in yellow. Base map source: VCRIS



Photo 1: View from intersection of Howardsville Turnpike and Old Green Mountain Road towards the Component area (not visible)

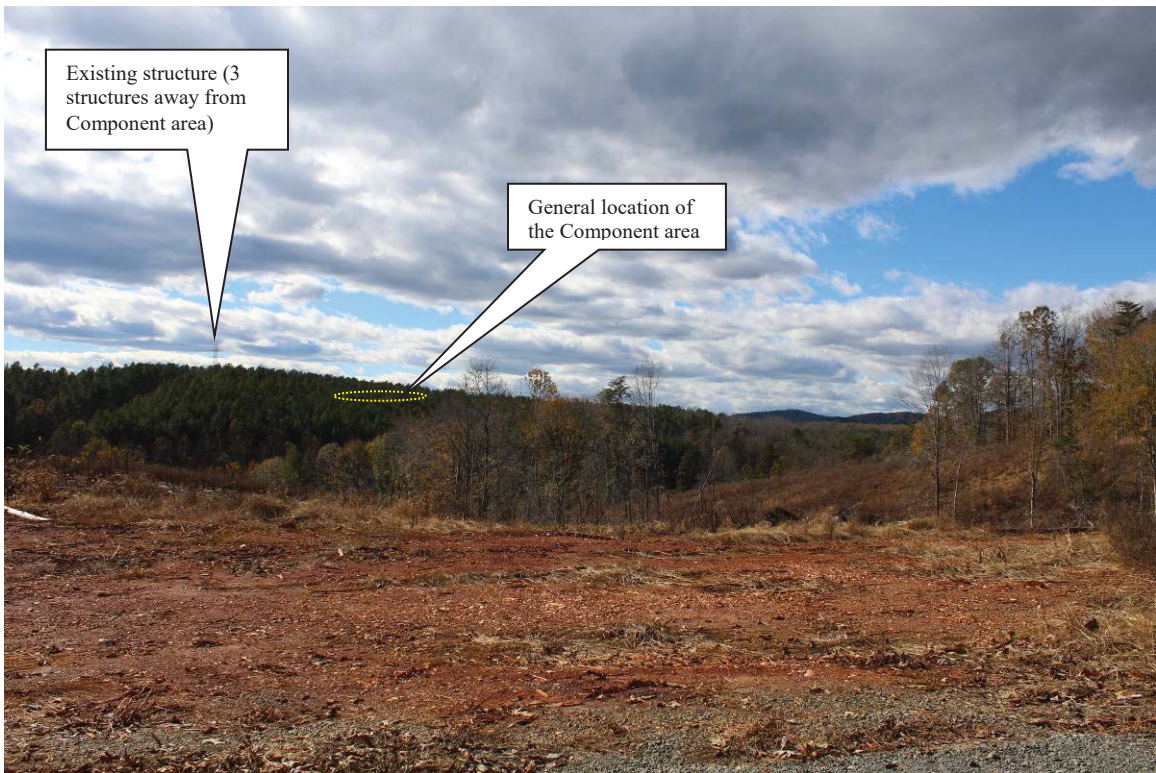


Photo 2: View from Old Green Mountain Road towards the Component area (not visible) showing existing transmission line structures

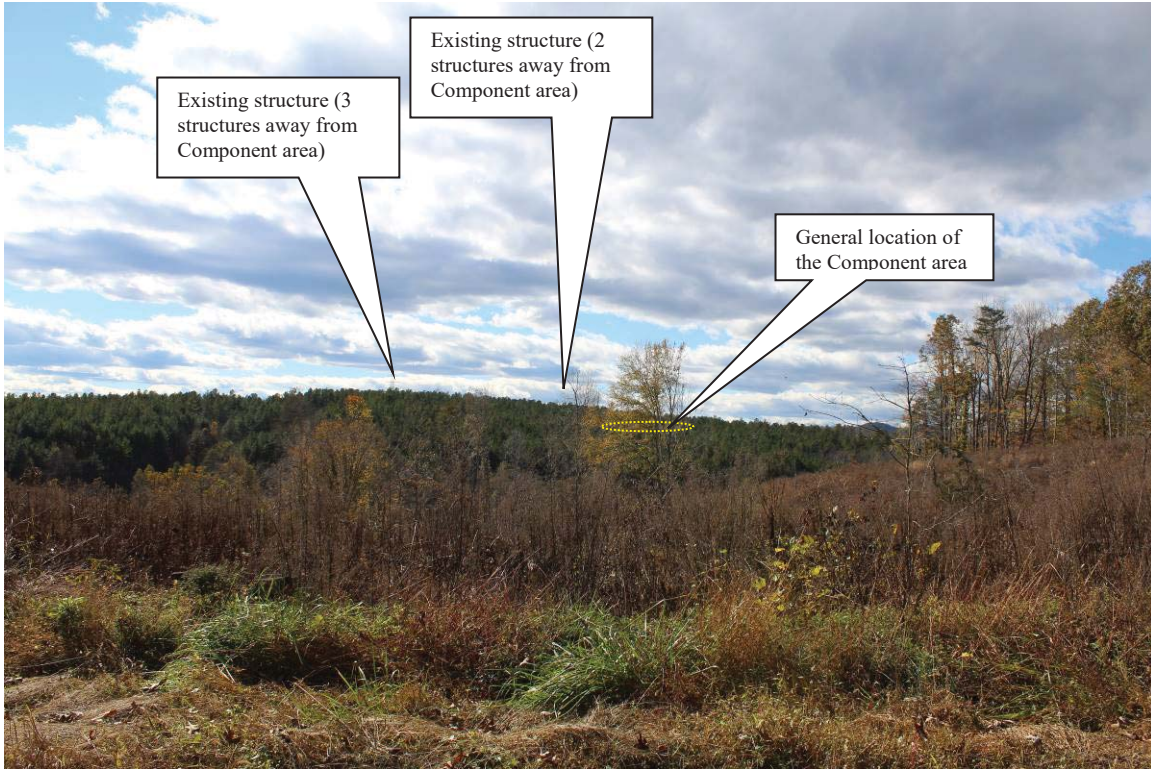


Photo 3: View from Old Green Mountain Road towards the Component area (not visible) showing existing transmission line structures

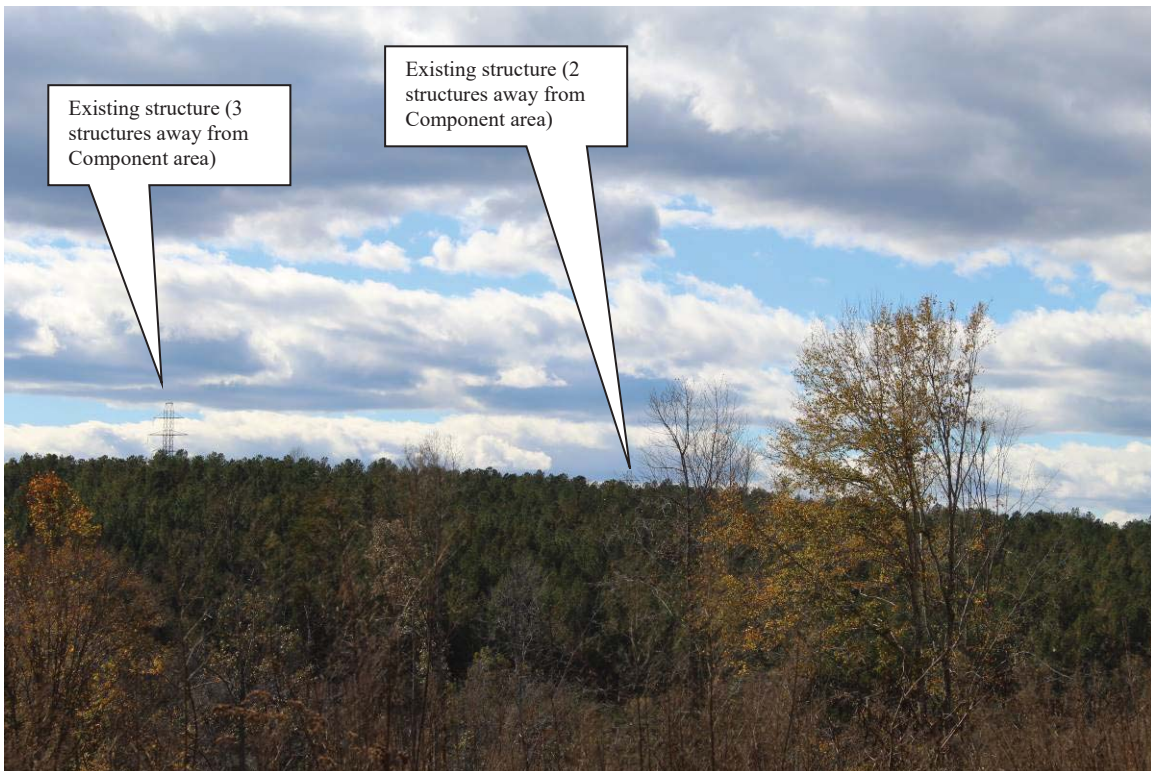


Photo 4: Detail of existing structures from Old Green Mountain Road with the Component area beyond (not visible)

Schuyler Historic District (VDHR # 062-5002)

Located on one of the world's largest soapstone veins, Schuyler initially was settled as a small, rural saw-milling community in the 1840s but developed steadily in response to the increasing boom in the quarrying and milling of soapstone that emerged in Nelson County during the 1890s. Schuyler evolved as a typical company town, and is recognized today for its early-to-mid-20th-century central mill complex and large quarries, from which small, mostly company-owned and built neighborhoods radiate. In addition to its soapstone industry-related architecture, the village includes important mid-19th-century dwellings that recall the period prior to the founding of the soapstone quarry. The Rockfish River and the James River and Kanawha Canal were also contributing factors to the village's development. The Hamner House, culturally significant as the boyhood home of Earl Hamner, Jr., popular novelist and creator of the 1970's television series "The Waltons," is located in the district. The district was listed in the VLR in 2006 and the NRHP in 2007 under Criteria A and C.

The village of Schuyler is architecturally significant as a cohesive industrial community with the majority of its dwellings representative of vernacular regional building traditions. Historically, the town was centered on the soapstone company site, which served as the village center. The "Executive Row" of dwellings overlooked the company from atop a bluff, while other neighborhoods fanned out along adjacent hilltops, often established following quarrying activity in the area. Schuyler features the central mill complex and at least six small village neighborhoods or boroughs, including Church Hill, Stumptown, Gold Mine, Allentown, Snead's Hollow, and New Town (or Riverside Drive).

The 563.9-acre Schuyler Historic District consists of 165 properties with 365 total resources including 137 single dwellings, 101 sheds, three offices, twenty-four garages, four commercial structures, two multiple dwellings, four churches, two cemeteries, three barns, three schools, thirteen privies, two guest houses, two chicken coops, three kennels, two carports, two shelters, nine trailers, and seven water-related structures, including holding tanks and a water treatment plant. Additionally, two post offices, a corncrib, one tenant house, eight ruins, a mill, a pavilion, two storage warehouses, a Quonset hut, two pump houses, a doctor's office, eight quarries, a dust processing plant, a well house, a well, a dog house, a wood shed, three power stations, a canal, a communication facility, two bridges, and two dams are located within the district boundaries, resulting in a total of 262 contributing resources and 103 noncontributing resources.

The Schuyler Historic District is located along the eastern border of Nelson County just over eighteen miles northeast of Lovingston, the county seat. Schuyler is situated along the Rockfish River at the crossroads of Schuyler Road (Rt. 800), Salem Road (Rt. 693), and Rockfish River Road (Rt. 617). The architectural, industrial, and archeological resources are located within a mountainous landscape and along both sides of the river, with additional resources located in adjacent Albemarle County.

In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around and within the district boundaries with emphasis on views towards the Project area. As a large collection of resources and areas, assessment was focused on those portions of the historic district set in proximity to the Project area, and largely within the 1.0 mile study tier. This assessment found that the Schuyler Historic District is located 0.33 miles from the Project area at its nearest point; however, it is 0.65 miles from the proposed substation site. The nearest contributing resource is 1.41 miles from the substation while the core of the Schuyler community is over 1.7 miles away. The portion of the district set closest to the Project area is undeveloped and consists of a heavily wooded and mountainous area bordering the Rockfish River. This portion of the district is private property with no publicly accessible roads.

Inspection from publicly accessible points in the area confirmed that the landscape remains thickly wooded and is characterized by steep topography. Inspection from Rockfish River Road which borders the historic district revealed that the intervening topography and vegetation completely screen distant views in the direction of the Project area. Inspection was also performed from Salem Road within the core of Schuyler company town village and the dam crossing the Rockfish River. Views from these points are well over 1.7 miles away and allowed no visibility of the Project area due to several taller intervening ridges, all of which are wooded. Views from Tillman Lane, which is the nearest publicly accessible road to the Project area, were similarly screened by intervening topography and vegetation.

As the existing transmission line on which the Project area is located, with structures that range from roughly 100 feet to 120 feet are not visible from any publicly accessible location in the historic district, the proposed 55-foot monopole tap structures for the Soapstone 138 kV Extension that will be the tallest feature of the project will likewise not be visible. It is therefore D+A's opinion that the proposed project will have *no impact* on the Schuyler Historic District.

Figure 5-2 illustrates the location of the Schuyler Historic District in relation to the Project area with viewshed buffers and photographic views towards the Project area. Photos 1 through 6 are representative photographs of the district, as well as those taken from locations within the district towards the Project area.

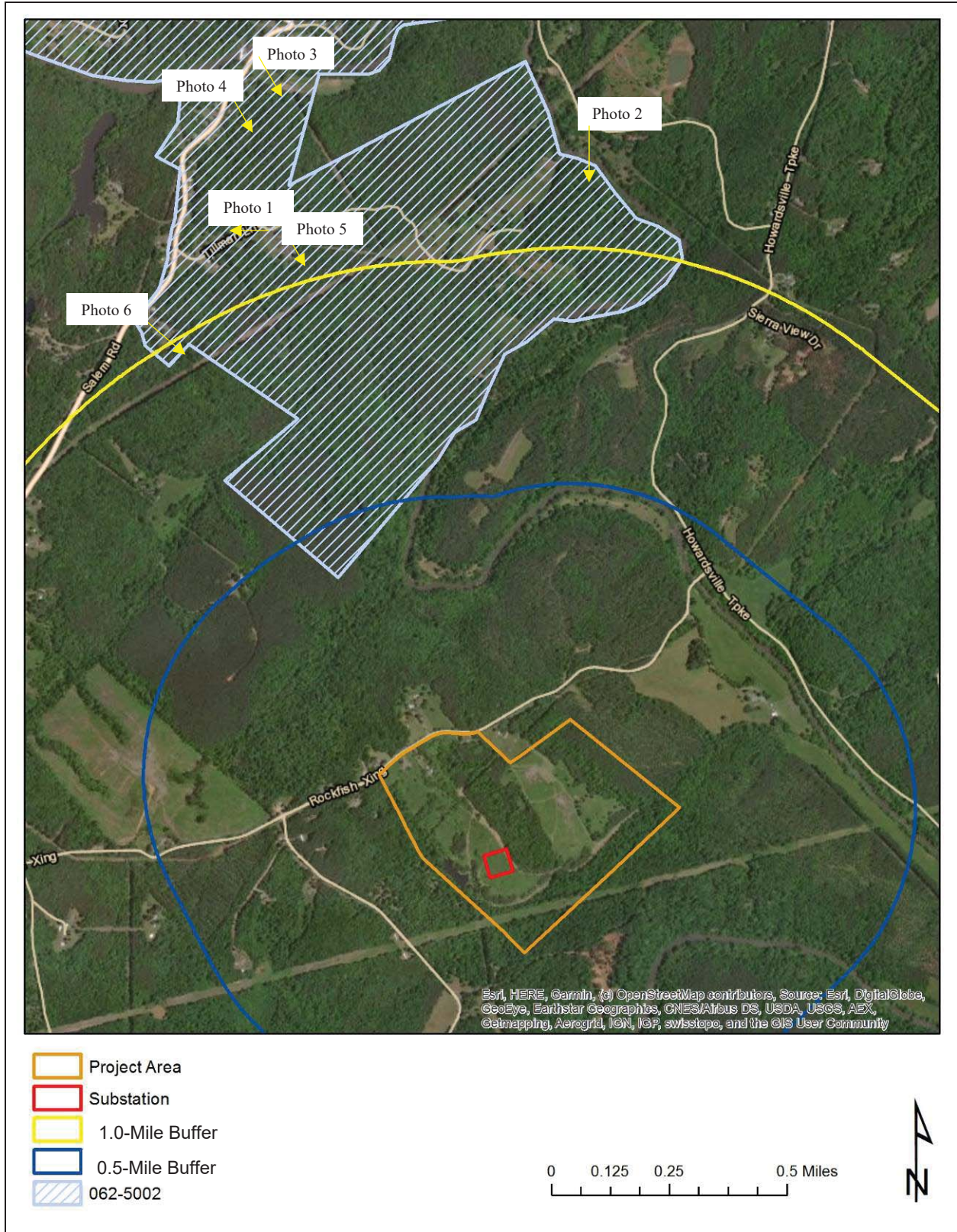


Figure 5-2: Location and direction of representative photos from the Schuyler Historic District. Photo locations and directions shown in yellow. Base map source: VCRIS



Photo 1: Representative view of the Schuyler Historic District along Tillman Lane



Photo 2: View from Rockfish River Road towards the Component area (not visible)

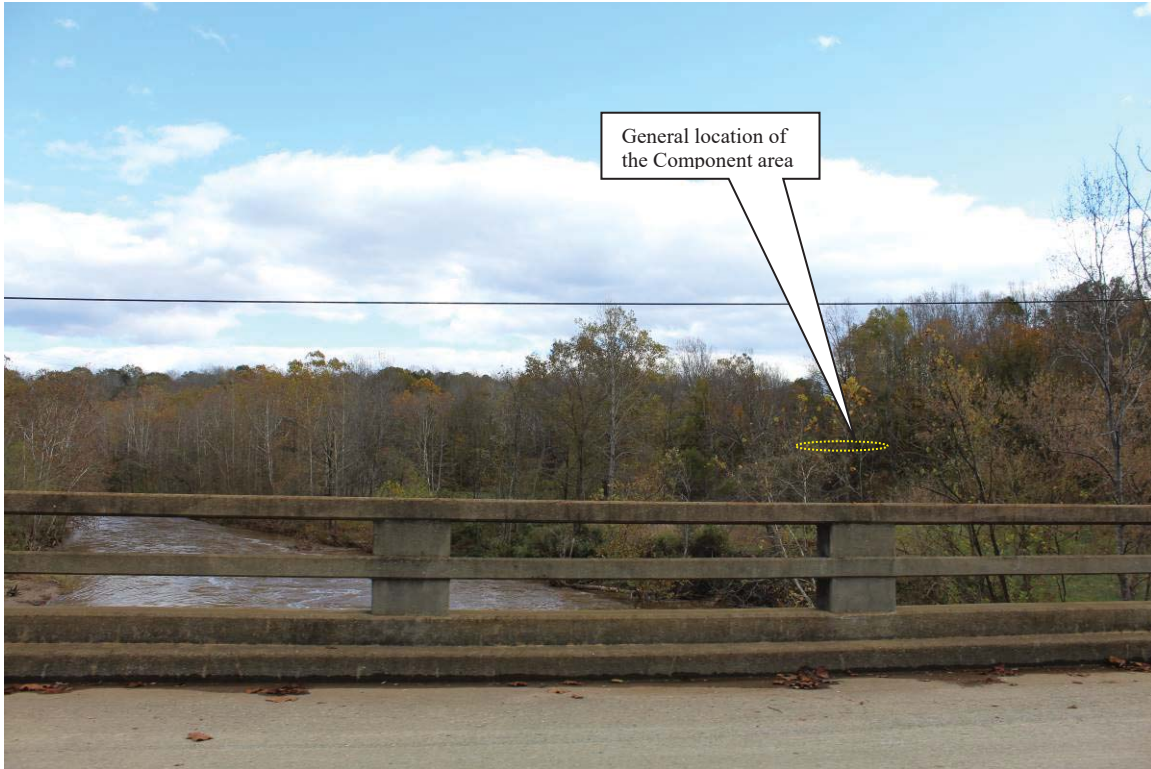


Photo 3: View from Rockfish River dam and bridge towards the Component area (not visible)



Photo 4: View from Salem Road towards the Component area (not visible)



Photo 5: View from Tillman Lane towards the Component area (not visible)

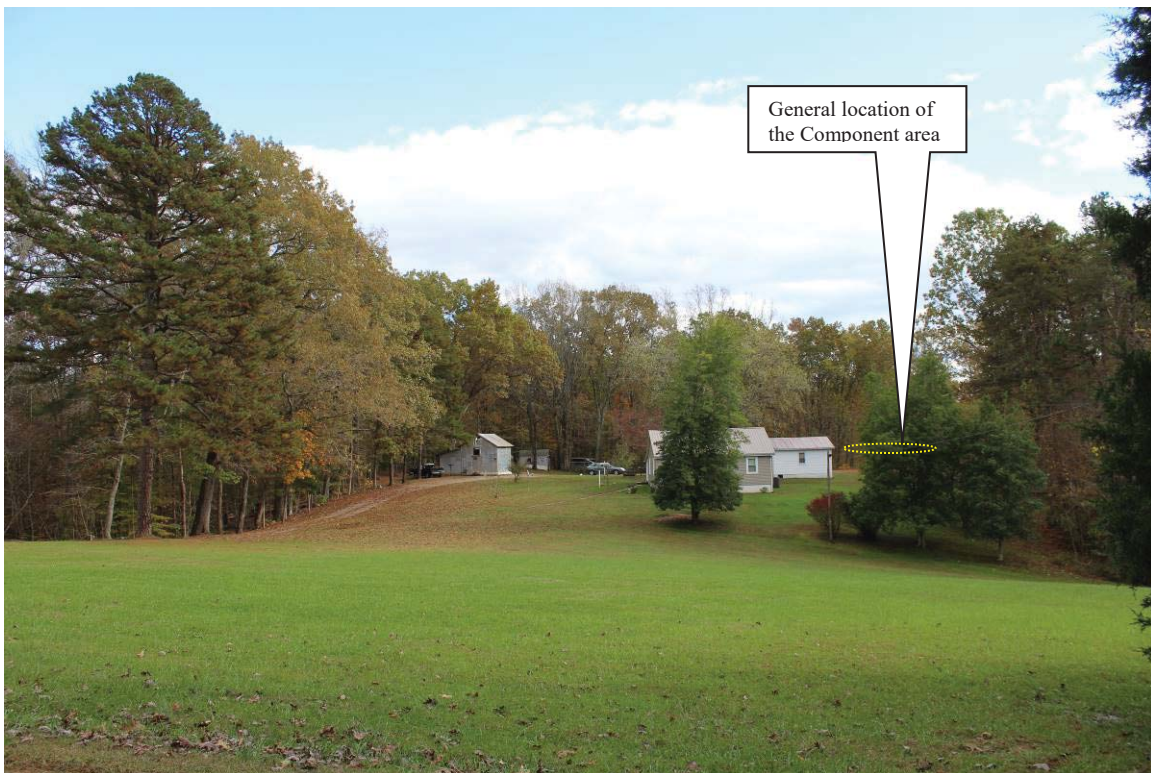


Photo 6: View from Salem Road towards the Component area (not visible)

6. SUMMARY OF POTENTIAL IMPACTS

As part of this pre-application analysis of cultural resources for the proposed Soapstone 138 kV Substation, potential impacts to previously recorded historic properties listed or considered eligible for listing in the NRHP within the VDHR-defined buffered tiers were assessed in accordance with the VDHR guidelines. For the purposes of this analysis, an impact is one that alters, either directly or indirectly, those qualities or characteristics that qualify a particular property for listing in the NRHP and does so in a manner that diminishes the integrity of a property's materials, workmanship, design, location, setting, feeling, and/or association. With respect to transmission lines, direct impacts typically are associated with ground disturbance resulting from ROW clearing and structure construction. Indirect impacts typically are associated with the introduction of new visual elements or changes to the physical features of a property's setting or viewshed. According to VDHR guidance, project impacts are characterized as such:

- **None** – Component 3 is not visible from the property
- **Minimal** – Occur within viewsheds that have existing transmission lines, locations where there will only be a minor change in tower height, and/or views that have been partially obstructed by intervening topography and vegetation.
- **Moderate** – Include viewsheds with expansive views of the transmission line, more dramatic changes in the line and tower height, and/or an overall increase in the visibility of the route from the historic properties.
- **Severe** – Occur within viewsheds that do not have existing transmission lines and where the views are primarily unobstructed, locations where there will be a dramatic increase in tower visibility due to the close proximity of the route to historic properties, and viewsheds where the visual introduction of the transmission line is a significant change in the setting of the historic properties.

With regards to architectural resources, two historic properties that are either designated an NHL, listed in, or determined eligible for listing in the NRHP are located within the defined study tiers. This includes the Schuyler Historic District and the Southern Albemarle Rural Historic District, both of which are listed in the NRHP and located within one mile of the Project area.

Field inspection and representative photographs reveal that the project will be completely screened from view from all publicly accessible locations throughout both historic districts by the thickly wooded and mountainous terrain that characterizes the area. Both districts are set over 0.5 mile from the Project area at their nearest locations, with most portions of the districts well beyond that. Inspection revealed that the existing 100- to 120-foot transmission line structures adjacent to the location of the proposed Soapstone 138 kV Substation cannot be seen; thus the new 55-foot monopole tap structures for the Soapstone 138 kV Extension inside the fence will likewise not be see. It is therefore D+A's opinion that the proposed Soapstone 138 kV Substation Component will have **no impact** Schuyler Historic District or the

Southern Albemarle Rural Historic District.

Table 6-1: Potential impacts summary for architectural resources.

VDHR ID #	Resource Name	NRHP Status	Distance to Project	Impact
002-5045	Southern Albemarle Rural Historic District	NRHP-Listed	0.13 Mile	No Impact
062-5002	Schuyler Historic District	NRHP-Listed	0.33 Mile	No Impact

With regards to archaeology, there are no previously recorded sites within or immediately adjacent to the Project area. Therefore, the Soapstone 138 kV Substation Component will pose no impact to known archaeological sites or resources.

7. REFERENCES

National Park Service

2009 “Civil War Sites Advisory Commission Report Update and Resurvey,” American Battlefield Protection Program

Virginia Department of Historic Resources

2008 *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia*

Virginia Department of Historic Resources

2016 Virginia Cultural Resource Information System (VCRIS) database and GIS server.

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