Dominion Energy®

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

Before the State Corporation Commission of Virginia

Line #249 230 kV Partial Rebuild from Carson Substation to Locks Substation

Application No. 328

Case No. PUR-2023-00168

Filed: September 27, 2023

Volume 2 of 2

BEFORE THE
STATE CORPORATION COMMISSION
OF VIRGINIA

APPLICATION OF
VIRGINIA ELECTRIC AND POWER COMPANY
FOR APPROVAL OF ELECTRIC FACILITIES

Carson-Locks 230 kV Line #249

Partial Rebuild Project

Application No. 328

DEQ Supplement

Case No. PUR-2023-00168

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Based upon consultations with the Virginia Department of Environmental Quality ("DEQ"), Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") has developed this DEQ Supplement to facilitate review and analysis of the proposed Carson-Locks 230 kV Line #249 Partial Rebuild Project ("Rebuild Project") by DEQ and other relevant agencies.

1. Project Description

In order to resolve potential criteria violations of mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards and consistent with sound engineering judgment, Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") proposes in Dinwiddie County and the City of Petersburg, Virginia, the following:

i. Wreck and rebuild, entirely within existing right-of-way or on Company-owned property, approximately 6.7 miles of 230 kV Line #249 on single-circuit weathering steel H-Frame structures between Structures #249/86 and #249/22. Proposed structures #249/22 and #69/21 will be single-circuit monopoles;

ii. Reconductor approximately 2.5 miles of 230kV Line #249 using existing transmission structures from Locks Substation to Structure #249/22;

iii. Reconductor approximately 0.13 miles of 230 kV Line #249 using existing transmission structures from Structure #249/93 to Carson Substation;

iv. Install a 0.25 mile-long temporary line, requiring the acquisition of temporary right-of-way, to install a tap span and replace the existing Chaparral terminal tap structure;

v. Install temporary facilities to allow Line #69 to temporarily operate at 230 kV to keep Chaparral Substation energized during the rebuild of Line #249;[1]

vi. Complete work at Carson and Locks Substations to support the new line rating; and

vii. Energize the existing Carson 500-230 kV Transformer #1

This project is collectively known as the Carson-Locks 230 kV Line #249 Partial Rebuild Project ("Rebuild Project").[2] The Rebuild Project is necessary to maintain

[1] To enable Line #69 to temporarily operate at 230 kV during the rebuild of Line #249, the Company intends to permanently replace three structures on Line #69 with new structures approximately 4.5 feet taller than two existing 70-foot tall structures (a height increase of approximately 6.4%) and approximately 8.0 feet taller than one existing 113.5-foot tall structure (a height increase of approximately 7.0%). As discussed in more detail in FN 2, the Company considers this work to qualify as an "ordinary extension or improvement in the usual course of business" that does not require a Certificate of Public Convenience and Necessity ("CPCN") from the State Corporation Commission of Virginia ("Commission").

[2] While required by the proposed Rebuild Project and included in the total costs of the Rebuild Project, the Company considers the work associated with Line #249 outside of Chaparral Substation, which includes the

reliable service for the Company's customers and to comply with mandatory NERC Reliability Standards. The entire Rebuild Project will be located on Company-owned property or right-of-way and no new property or right-of-way will be required.[3]

2. Environmental Analysis

The Company originally solicited comments from all relevant state and local agencies in August 2023. Copies of these letters are included as Attachment 2.1. If the DEQ Scoping Response Letter is received prior to filing, it will be included as Attachment 2.2.

As part of Dominion Energy Virginia's environmental compliance program, the Company has a comprehensive Environmental Management System Manual in place that ensures it is committed to complying with environmental laws and regulations, reducing risk, minimizing adverse environmental impacts, setting environmental goals, and achieving improvements in its environmental performance, consistent with the Company's core values.

A. Air Quality

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

The entire width of the existing transmission corridor is currently maintained for transmission line operations; however, the Rebuild Project may require some trimming of tree limbs along the existing transmission line corridor edges to

installation of temporary facilities to keep Chaparral Substation energized during the rebuild of Line #249, the reconductoring of approximately 2.6 miles of 230 kV Line #249 using existing transmission structures, and energization of the Carson 500-230 kV Transformer #1, to qualify as "ordinary extensions or improvements in the usual course of business" pursuant to § 56-265.2 A 1 of the Code of Virginia ("Va. Code") and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or CPCN from the Commission. Because the Company considers this work to be ordinary course, detailed supporting documentation has not been provided in the Appendix. Should the Commission determine that a CPCN is required for the work as described herein, the Company requests that the Commission grant such CPCN as part of its final order in this proceeding.

[3] Excluding the temporary right-of-way required for the installation of temporary facilities to keep Chaparral Substation energized, which is not being considered within this DEQ Supplement.

support construction activities.[4] The Company does not expect to burn cleared material but, if necessary, the Company will coordinate with the responsible locality to ensure all local ordinances are met. The Company's tree clearing methods are described in Section 2.L.

B. Water Source (No water source is required for transmission lines so this discussion will focus on potential waterbodies to be crossed by the proposed transmission line rebuild.)

The Rebuild Project is located within the Appomattox (Hydrologic Unit Code 02080207) and Nottoway (Hydrologic Unit Code 03010201) watersheds. The U.S. Geological Survey ("USGS") topographic quadrangle for Petersburg and Carson depict the study area as existing, cleared transmission line traversing through gently to steeply sloping terrain.

Any clearing required in the vicinity of streams will be performed by hand within 100 feet of both sides, and vegetation less than three inches in diameter will be left undisturbed.

The Company solicited comments from the Virginia Marine Resources Commission ("VMRC") regarding the proposed Rebuild Project in August 2023. Comments, if received prior to filing, will be included in Attachment 2.B.1.

Section 28.2-1203 of the Code of Virginia was recently amended by the Virginia General Assembly through the passage of House Bill 2181 ("HB 2181"), which was signed into law by Governor Glenn Youngkin, effective July 1, 2023.[5] With the passage of HB 2181 and in accordance with the Memorandum of Agreement between the VMRC and DEQ, signed on June 23, 2023, activities conducted in non-tidal waters are not required to obtain a permit issued by the VMRC provided that a Virginia Water Protection Permit ("VWP") is obtained and all requirements of the Virginia Water Resources and Wetlands Protection Program are complied with. However, when DEQ determines that a VWP individual or general permit is not required, VMRC shall continue to issue subaqueous land permits for projects that encroach under or over state-owned submerged lands in non-tidal waters in accordance with current regulations, guidance, and practices. The Company will actively monitor this regulatory change and pursue the required permits as needed for this Rebuild Project at the time of permitting. Based on the Company's review of the Rebuild Project, there are no waterways under the jurisdiction of VMRC within the Rebuild Project area.

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[4] The 0.25 mile of new temporary right-of-way needed for the construction of temporary facilities required to keep Chapparal Substation energized will also be cleared "as an ordinary extension or improvement in the usual course of business[.]"

[5] *See* Chapter 258 of the 2023 Session of the Virginia Acts of Assembly (effective July 1, 2023) available at *https://lis.virginia.gov/cgi-bin/legp604.exe?231+ful+CHAP0258*.

Based on the Company's review, no navigable waters regulated by the U.S. Army Corps of Engineers ("Corps") are present within the Rebuild Project area. If aerial crossings or impacts to waters are proposed, a Joint Permit Application ("JPA") will be submitted for review by the VMRC, DEQ, and Corps for authorization under Sections 404/401 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Discussion of this coordination is included in the non-tidal wetlands section (Section D) below.

C. Discharge of Cooling Waters

No discharge of cooling waters is associated with the Rebuild Project.

D. Tidal and Non-tidal Wetlands

No tidal wetlands were identified within the proposed Rebuild Project area.

Non-Tidal Wetlands Impact Consultation

Within the Rebuild Project Corridor, the Company delineated wetlands and other waters of the United States using the *Routine Determination Method* as outlined in the 1987 Corps of Engineers Wetland Delineation Manual and methods described in the *2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)*. The Company will submit the results of this delineation to the Corps along with a JPA during the permitting for the project. A map depicting the limits of wetlands and other waters is provided as Attachment 2.D.1. Total jurisdictional resources within the proposed Rebuild Project Corridor are provided in Table 1 and detailed in Attachment 2.D.1.

Table 1. Jurisdictional Resources within Rebuild Project Corridor

Resource	Acreage (±)
Palustrine Emergent Wetland	28.98
Palustrine Scrub-shrub Wetland	1.08
Palustrine Forested Wetland	0.00
Open water	2.06
Ephemeral Streams	0.00 (0 linear feet)
Upper Perennial Streams	0.01 (256 linear feet)
Intermittent Streams	0.02 (414 linear feet)

As with waters, if impacts to wetlands are proposed, a JPA will be submitted for review by the VMRC, DEQ, and Corps for authorization under Sections 404/401 of the Clean Water Act.

The Company solicited comments from the DEQ Office of Wetlands and Stream Protection and the Corps in August 2023. If comments are received prior to filing, they will be included as Attachment 2.D.2. DEQ recommendations among others include [that prior to commencing the Rebuild Project work, delineate all surface waters by a qualified professional; wetland and stream impacts should be avoided and minimized to the maximum extent practicable; and temporary impacts to surface waters should be restored to pre-existing conditions. Based on DEQ's review, the Rebuild Project may require a VWP individual or general permit.]

E. Floodplains

As depicted on the Federal Emergency Management Agency's ("FEMA") online Flood Insurance Rate Maps #51053C0175C (effective date 6/1/2022) and #51053C0300C (effective date 6/1/2022), the majority of the Rebuild Project area lies within Zone X, which is an area of minimal flood hazard, outside of the 100-year floodplain. The transmission corridor is crossed between structures #249/53 and #249/54 by the Arthur Swamp Tributary 2, identified as Zone A, which is within the 100-year floodplain. The Company will coordinate with the local floodplain coordinators as required.

F. Solid and Hazardous Waste

On behalf of the Company, Stantec Consulting Services Inc. ("Stantec") conducted database searches for solid and hazardous wastes and petroleum release sites within a 0.5-mile radius (the "search radius") of the proposed Rebuild Project to identify sites that may impact the proposed Rebuild Project. This report is included as Attachment 2.F.1.

Publicly available data from the U.S. Environmental Protection Agency's ("EPA") Facility Registry System was obtained, which provides information about facilities, sites, or places subject to environmental regulation or of environmental interest. Although this data set contains all sites subject to environmental regulation by the EPA or other regulatory authorities, including sites that fall under air emissions or wastewater programs, the results reported here only include those sites which fall under the EPA's hazardous waste, solid waste, remediation, and underground storage tank programs (i.e., Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), Resource Conservation and Recovery Act ("RCRA"), or brownfield sites).

In summary, a total of two RCRA sites, one solid waste site, and two petroleum release sites are located within a 0.5-mile radius of the Rebuild Project site; however, none of the sites are located within the Rebuild Project transmission corridor or are expected to affect the Rebuild Project. No EPA registered Brownfield sites or CERCLA/Superfund sites are located within 0.5 miles of the Project area.

G. Natural Heritage, Threatened and Endangered Species

On behalf of the Company, Stantec conducted online database searches for threatened and endangered species in the vicinity of the Project, including the U.S. Fish and Wildlife Service's ("USFWS") Information, Planning, and Conservation ("IPaC") system, the Virginia Department of Wildlife Resources' ("DWR") Virginia Fish and Wildlife Information Service ("VAFWIS"), the DWR Northern Long-eared Bat (NLEB) Winter Habitat and Roost Trees Map, the Virginia Department of Conservation and Recreation's ("DCR") Natural Heritage Data Explorer ("NHDE"), and the Center for Conservation Biology's ("CCB") Bald Eagle Nest Locator. The results of the database searches are included as Attachment 2.G.1, and are summarized in the table below.

Table 2. Threatened and Endangered Species within the Rebuild Project Vicinity

Species	Status	Database	Results
Northern long-eared bat *(Myotis septentrionalis)*	FE ST	USFWS, DWR	No hibernacula or maternal roost trees identified in the vicinity of the Rebuild Project.
Tricolored bat (*Perimyotis subflavus*)	PFE ST	USFWS	No hibernacula or maternal roost trees identified in the vicinity of the Rebuild Project.
Loggerhead shrike (*Lanius ludovicianus*)	ST	DCR	Identified as potentially occurring within or near the Rebuild Project area.
Atlantic pigtoe (*Fusconaia masoni*)	FT ST	DCR	Identified as potentially occurring within freshwater streams near the Rebuild Project area.
Small whorled pogonia *(Isotria medeoloides)*	FT SE	DCR	May be present within the subwatershed in acidic mixed damp woods.
New Jersey rush (*Juncus caesariensis*)	FC ST	DCR	Identified as potentially occurring within or near wetlands near the Rebuild Project area.
Sandhills bog lily (*Lilium pyrophilum*)	FC	DCR	Identified as occurring within or near wetlands near the Rebuild Project area.
Green floater (*Lasmigonia subvirdis*)	PFT ST	DWR, DCR	Identified as occurring in streams within a two-mile radius of the Rebuild Project area.
Monarch butterfly (*Danaus plexippus*)	FC	USFWS	Identified as potentially occurring within or near the Rebuild Project area.

FT: federally threatened, FE: federally endangered, C: candidate species, ST: state threatened, SE: state endangered; PFE: proposed federally threatened; PFT: proposed federally endangered

The Company submitted a Rebuild Project Review request to DCR on August 15, 2023. On August 30, 2023, the Company received correspondence from DCR that no state or federally listed species are documented within the Rebuild Project vicinity. Comments from the DCR concerning other natural heritage resources are discussed further below. Correspondence from DCR is included in Attachment 2.G.2. Additionally, the Company requested comments from the USFWS, DWR, and DCR regarding the proposed Rebuild Project in August 2023. Agency comments, if received prior to filing, will be included as Attachment 2.G.3.

Because the Company will obtain all necessary permits prior to construction, such as authorization from the Corps, coordination with the USFWS, DWR, and DCR will take place through the respective permit processes to avoid and minimize impacts to listed species.

Bats

The majority of the work will take place within existing cleared and maintained transmission line ROW where tree limbing and removal would be limited to danger trees and construction access. The Company intends to conduct any tree clearing activities outside of any required time-of-year restrictions to protect listed bat species or conduct surveys to document presence or absence of the species.

Aquatic Species

Construction access will avoid stream crossings where practical or use crane mats to span stream crossings with no in-stream work required. Erosion and sediment controls would be used as appropriate throughout the Rebuild Project. Under these conditions, impacts to listed aquatic species are not expected. Therefore, there should be no effect to the Atlantic pigtoe and green floater.

Listed Plants

Two listed plant species have been observed in the subwatershed: New Jersey rush and small whorled pogonia. New Jersey rush are generally found in the outer fringe of wetlands but were not noted by the DCR in the natural heritage review as potentially being present in the Rebuild Project vicinity. Small whorled pogonia inhabits upland mixed hardwood and hardwood stands where there are long-persistent breaks in canopy cover. Since the Rebuild Project will occur within non-forested utility ROW, no impacts to the small whorled pogonia are expected.

Bald Eagle

The nearest identified bald eagle nest is located three miles from the Rebuild Project area; therefore, the Rebuild Project is not expected to impact bald eagles.

Natural Heritage Resources

An initial project review of the DCR Natural Heritage Data Explorer identified natural heritage resources within the project area. The Company submitted the project to DCR for a more detailed review. The response from DCR, was received on August 30, 2023, and is included as Attachment 2.G.2.

DCR has identified two conservation sites and a separate occurrence of a rare plant within the Rebuild Project Area. The Oak Grove Church Powerlines Conservation site has been assigned a biodiversity rank of B4, which represents a site of moderate significance. The natural heritage resources associated with this site are red milkweed (*Asclepias rubra*) and Cuthbert's turtlehead (*Chelone cuthbertii*). Both these species have a state conservation ranking of S2, which is state imperiled.

The Lower Arthur Swamp Powerline Conservation Site has been assigned a biodiversity rank of B3, which represents a site of high significance. The natural heritage resources associated with this site are Cuthbert's turtlehead, sandhills bog lily (*Lilium pyrophilum*), small bunched beaksedge (*Rhynchospora cepalantha*

var. attenuate), Curtiss' yellow-eyed grass (*Xyris curtissii*), and red milkweed. Small bunched beaksedge and Curtiss' yellow-eyed grass have state conservation rankings of S1, which is state critically imperiled. Sandhills bog lily is also ranked S1 and is a federal species of concern.

In addition, Rafinesque's seedbox (*Ludwigia hirtella*), which has a state conservation ranking of S2, has been documented within the Rebuild Project ROW.

DCR recommends flagging or fencing the documented populations of rare plants so direct impacts can be avoided during the construction. Equipment staging, traffic, and other activities should also avoid sensitive areas. During construction, the Company can mark the locations of the documented rare plants so that impacts can be avoided to the extent practicable.

DCR's comments in response to the Company's Project Review request also recommend that the Company develop and implement and invasive species plan to be included as part of the maintenance practices for the entirety of the ROW for the Rebuild Project. Based on a discussion between the Company and DCR DNH representatives in August 2022, and again in February 2023, the Company is continuing to review its Integrated Vegetation Management Plan ("IVMP") for application to both woody and herbaceous species, based on the species list available on the DCR website. The Company continues to work to provide DCR an addendum to the IVMP, which further explains how the Company's operations and maintenance Forestry program addresses invasive species. The Company is actively compiling an addendum draft to provide to DCR for review and continued discussions. Once all discussions are complete and the addendum is final, the Company will report on the results of its communications with DCR in future transmission certificate of public convenience and necessity filings. At this time, the Company anticipates providing a draft of the addendum to DCR during the third quarter of 2023.[6]

DCR also recommends that ROW restoration and maintenance practices include appropriate vegetation using native species in a mix of grasses and forbs, robust monitoring and an adaptive management plan to provide guidance if initial

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

revegetation efforts are unsuccessful of if invasive species outbreaks occur. The Company's restoration and maintenance practices are dictated by the requirements of the DEQ Construction General Permit for the discharge of stormwater associated with construction as well as the approved Annual Standards and Specifications (See sections 2.H and 2.J). The seed mixes, which include native species, and inspection requirements are stipulated by DEQ through those approvals.

New and updated information is continually added to the DCR's Biotics database. Following the DCR-DNH SCC planning stage project review, the Company will re-submit project information with a completed information services order form and a map or submit the project on-line through the Natural Heritage Data Explorer. This review will occur during the final stage of engineering and upon any major modifications of the project during construction (i.e., deviations, permanent, or temporary, from the original study area and/or the relocation of a structure(s) into sensitive areas) for an update on natural heritage information and coordination of potential project modifications to avoid and minimize impacts to natural heritage resources.

H. Erosion and Sediment Control

The DEQ approved the Company's Annual *Standards & Specification for Erosion & Sediment Control and Stormwater Management for Construction of Linear Electric Transmission Facilities (TE VEP 8000)* in August 2019. These specifications are given to the Company's contractors and require erosion and sediment control measures to be in place before construction of the proposed Project begins and specify the requirements for rehabilitation of the transmission corridor. A copy of the current DEQ approval letter dated August 13, 2019, is provided as Attachment 2.H.1. According to the approval letter, coverage was effective through August 12, 2020. The Company submitted the renewal application on August 3, 2020, and is awaiting approval.

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

The Company solicited comments from the Virginia Department of Historic Resources ("VDHR)" in August 2023. Comments from the VDHR were received on September 22, 2023 and are included in Attachment 2.I.1. VDHR recommended the Company follow the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* to minimize impacts to historic resources. Stantec was retained by the Company to conduct a Stage I Pre-Application Analysis, which is included as Attachment 2.I.2. As detailed by VDHR guidance, consideration was given to: National Historic Landmark ("NHL") properties located within a 1.5-mile radius of the Project centerline; National Register of Historic Places ("NRHP") listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the Project centerline;

NRHP-eligible sites located within a 0.5-mile radius of the Project centerline; and archaeological sites located within the Project Corridor.

Archaeological Resources

One non-evaluated archaeological resource was identified within the transmission corridor. It is identified as Pre-Contact Camp and Battlefield Site (VDHR #44DW0127). This resource is provided in Table 3 below.

Table 3. Archaeological Resources Considered in the Stage I

DHR #	Resource Name	DHR/NRHP Status	Distance to ROW (Feet)	Impact
44DW0127	Pre-Contact Camp; Battlefield Site	Not Evaluated	0	Investigate During Archaeological Survey

Architectural Resources

The Petersburg Breakthrough Battlefield (VDHR #026-5013) is listed on the NHL and is located 7,361 feet from the closest structure. Eight (8) battlefields and the NRHP-listed Petersburg National Battlefield Park (VDHR #123-0071) are located within 1-mile of the Rebuild Project. The existing right-of-way for the Rebuild Project crosses all of these resources except for the First Battle of Weldon Railroad (VDHR #026-5023), which 1,718 feet from the closest structure. No non-battlefield resources eligible for listing on the NRHP are located within one-half mile of the Rebuild Project. The Stage I report recommends there will be minimal visual impacts to historic properties from the proposed Rebuild Project where proposed structures will be visible and no impacts to historic properties from the proposed Rebuild project when no proposed structures will be visible. The Stage I report was sent to VDHR in September 2023 for concurrence. These resources are provided in Table 4 below.

Table 4. Architectural Resources Considered in the Stage I

DHR #	Resource Name	DHR/NRHP Status	Distance to Closest Structure (Feet)	Impacts
026-0050	Reams Station Battlefield I & II	Potentially Eligible	0	Minimal
026-0132	Hatchers Run Battlefield	Eligible	0	Minimal
026-5004	Boydton Plank Road Battlefield	Eligible	0	Minimal
026-5006	Lewis's Farm Battlefield	Eligible	0	Minimal
026-5007	Peebles' Farm Battlefield	Eligible	0	Minimal

DHR #	Resource Name	DHR/NRHP Status	Distance to Closest Structure (Feet)	Impacts
026-5013	Petersburg Breakthrough Battlefield	NHL-Listed	7,361	None
123-0071	Petersburg National Battlefield[7]	NRHP-Listed	0	Minimal
123-5022	Weldon Railroad Battlefield/ Globe Tavern Battlefield	Potentially Eligible	0	Minimal
123-5023	First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield	Potentially Eligible	1,718	None
123-5026	Petersburg Battlefield III	Potentially Eligible	0	Minimal

J. Chesapeake Bay Preservation Areas

The proposed Rebuild Project is located in Dinwiddie County and the City of Petersburg. The City of Petersburg is subject to the Chesapeake Bay Preservation Act; however, construction, installation, operation, and maintenance of electric transmission lines are conditionally exempt from the Chesapeake Bay Preservation Act as stated in the exemption for public utilities, railroads, public roads, and facilities in 9 VAC 25-830-150. If DEQ provides a memorandum response prior to filing, it will be included as Attachment 2.J.1. The Company will meet any requirements and conditions as applicable and in accordance with the Dominion Energy Virginia *Standards & Specifications for Erosion & Sediment Control and Stormwater Management for Construction and Maintenance of Linear Electric Transmission Facilities* as approved by DEQ.

K. Wildlife Resources

Relevant agency databases were reviewed and requests for comments from the USWFS, DWR, and DCR, and VDACS were submitted to determine if the proposed Rebuild Project has the potential to affect any threatened or endangered species, as described in Section 2.G and included as Attachment 2.G.2. As discussed in Section 2.G and identified in Attachment 2.G.1, certain federal and state listed species were identified as potentially occurring in the Rebuild Project area. The majority of the Rebuild Project will be located within existing, maintained transmission line corridor; however, limited removal of danger trees may be necessary for work within exiting transmission ROW. Accordingly, no loss of wildlife habitat is anticipated.

[7] The NRHP boundary for the Petersburg National Battlefield extends into the Rebuild Project limits; however, the National Park Service (NPS) has since sold those parcels within the portion of the right-of-way for the Rebuild Project and NPS ownership terminates west of the right-of-way.

Based on recommendations by DWR, to the extent necessary, the Company will endeavor to adhere to the time-of-year restrictions for cutting trees and vegetations favorable to winged animals from March 15 – November 15, to the extent practicable. This includes further minimizing potential effects by avoiding trees favorable for bat maternity roosting locations and nesting bird habitat, to the extent practicable.

In addition, the Company is actively monitoring the regulatory changes and requirements associated with the NLEB and how it could potentially impact construction timing associated with TOYRs. The existing interim guidance from the USFWS for the NLEB expires on March 31, 2024. The Company is also monitoring potential regulatory changes associated with the potential listing of the Tri-colored bat. On September 14, 2022, the Tri-colored bat was proposed to be uplisted to Endangered, with an estimated announcement of a final decision within 12 months. Regulatory guidance on the Tri-colored bat will be available upon uplisting. The Company's construction window described above may require adjustment based upon the regulatory guidance and potential TOYRs associated with these two bat species.

L. Recreation, Agricultural and Forest Resources

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. There are 146.82 acres of land designated as prime farmland within the Rebuild Project Corridor. Land that does not meet the criteria for prime farmland can be considered to be "farmland of statewide importance." The criteria for defining and delineating farmland of statewide importance are determined by the Virginia Department of Agriculture and Consumer Services. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. There are 19.14 acres designated as farmland of statewide importance within the Rebuild Project area. Other areas that are not identified as having national or statewide importance can be considered to be "farmland of local importance." This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance. The City of Petersburg and Dinwiddie County have not designated farmlands of local importance.

Farming operations currently exist within the Rebuild Project's right-of-way; however, the Company utilizes timber mats to access transmission structures within agricultural fields, and pads for structure erection. These will minimize the impact to the soil to result in only a temporary impact, thereby avoiding permanent impacts to farmlands from construction access. The Company will work with landowners on final structure placement to minimize the effect on farming operations. As such, prime farmland and agricultural and forestal

districts should not be incrementally impacted by the construction of the Rebuild Project. Therefore, the Rebuild Project is not expected to affect agricultural land.

Under the Virginia Open-Space Land Act, any public body can acquire title or rights to real property to provide means of preservation of open-space land. Such conservation easements must be held for no less than five years in duration, and can be held in perpetuity. There are no current conservation easements within the Rebuild Project area. In August 2023, the Company solicited Virginia Outdoors Foundation ("VOF") and the Virginia Department of Forestry ("VDOF") for comments on the proposed Rebuild Project. VOF responded that as of August 31, 2023, there are not any existing nor proposed VOF open-space easements immediately adjacent to the Rebuild Project. Comments are included in Attachment 2.L.1.

The existing right-of-way traverses land owned by the American Battlefield Trust. The Company obtained two easements in 1931 between Structure #249/80 and Structure #249/86, which allow a 150' right of way with ability to build multiple lines, no height restrictions, no additional Company restrictions, and allowance for danger tree and encroachment clearing. The easements do not allow for underground rights. The Company understands that the American Battlefield Trust is seeking to place these two parcels under conservation easement with DHR. The Rebuild Project is not anticipated to affect these easements.

The Virginia Scenic Rivers Act seeks to identify, designate, and protect rivers and streams that possess outstanding scenic, recreational, historic, and natural characteristics of statewide significance for future generations. The Rebuild Project area contains no such identified rivers and streams nor do any exist within one mile of the Rebuild Project area.

There are no scenic byways within the Rebuild Project vicinity. Units of the Petersburg National Battlefield are in the vicinity of the Rebuild Project. Flank Road is part of Petersburg National Battlefield, west of the project area. As noted in Section 2.I, some GIS layers depict Petersburg National Battlefield extending into the Rebuild Project ROW; however, review of tax records confirms that the land owned by the National Park Service ends west of the Rebuild Project. The Poplar Grove National Cemetery, which is part of the Petersburg National Battlefield, is within one-half mile northeast of the Rebuild Project. While there are views of the existing and proposed conductors from the entrance on Vaughn Road, there are no views of the Rebuild Project from within the cemetery itself.

The entire existing ROW for the Rebuild Project is shown on the Dinwiddie Battlefield Trails map as a location for a potential trail. Since the project is a rebuild of an existing transmission line, the Rebuild Project would not be expected to interfere with any proposed trail plans by Dinwiddie County.

The existing transmission ROW is currently cleared and maintained for 230 kV transmission line operations. The Rebuild Project will not require any new

permanent ROW. Therefore, the Rebuild Project is not expected to impact forest resources.

M. Use of Pesticides and Herbicides

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

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

Additionally, as discussed above, the Company is continuing to review its IVMP for application to both woody and herbaceous species, based on the species list available on the DCR website.

The Company continues to work to provide DCR an addendum to the IVMP, which further explains how the Company's operations and maintenance Forestry program addresses invasive species. At this time, the Company anticipates providing a draft of the addendum to DCR during the third quarter of 2023.

N. Geology and Mineral Resources

According to the Division of Geology and Mineral Resources Interactive Geologic Map, the Rebuild Project is underlain by unconsolidated sediments of the Atlantic Coastal Plain. The Rebuild Project sits atop the Bacons Castle Formation which consists of gravels and sands with clays, mud, and silt.

According to the USGS topographic maps and aerial imagery, there are no active mines or stone quarries within the proposed Rebuild Project area. A search of the Virginia Department of Mines, Minerals, and Energy online map confirms there are no active or abandoned mines within the transmission line corridor. There is

one abandoned sand mine within 1-mile of the corridor. However, the mine is over 0.75 mile from the existing transmission corridor. Therefore, it is not anticipated that the Rebuild Project will result in negative impacts on the geology or mineral resources.

O. Transportation Infrastructure

The existing corridor for Line 249 crosses multiple VDOT maintained, low traffic volume roadways in Dinwiddie County including Squirrel Level Road, Flank Road, Vaughan Road, Old Stage Road, and Reams Drive. The Company plans to apply for land use permits from the Virginia Department of Transportation ("VDOT") for any aerial crossings of VDOT maintained roads and any construction entrances from the VDOT right-of-way. All permits will be obtained prior to construction. In August 2023, the Company solicited comments from VDOT regarding the proposed Rebuild Project. Comments were received on August 29, 2023. This correspondence is included in Attachment 2.O.1.

The Dinwiddie County Airport is located approximately 3.4 miles west of the Rebuild Project, Fort Lee NR 1 Heliport is located approximately 6.4 miles northeast of the Rebuild Project, and the Fort Lee AHP 3 Heliport is approximately 7.6-miles from the Rebuild Project. The design of the proposed Rebuild Project must not prevent interference with pilots' safe ingress and egress at the airport. Such hazard or impediments include interference with navigation and communication equipment and glare from materials and external lights. The Company solicited comments from the Virginia Department of Aviation ("DOAv") regarding the proposed Rebuild Project. Comments were received on August 25, 2023, and are included in Attachment 2.O.2. Due to the proximity of the Rebuild Project to Dinwiddie County Airport and information contained within the FAA Notice Criteria Tool, the Company will submit a 7460 form to the FAA to initiate airspace study to evaluate whether the project will create a hazard to navigation.

The proposed Rebuild Project crosses an abandoned railroad corridor previously part of the Seaboard Coast Line railroad, which was purchased by CSX Transportation. While the tracks and ballast have been removed, CSX Transportation still holds right-of-way on the property.

The Company will secure all necessary permits from VDOT, DOAv, FAA, and any railroads prior to construction in the respective rights-of-way.

P. Drinking Water Wells

In August 2023, the Company solicited comments on the proposed Rebuild Project from various DEQ entities. DEQ forwarded the Company's request to the Virginia Department of Health's Office of Drinking Water ("VDH-ODW"). If comments are received prior to filing, they will be included as Attachment 2.P.1.

As a general matter, water wells within 1,000 feet of the Rebuild Project may be outside of the ROW and located on private property. The Company does not have the ability or right to field mark the wells on private property. In August 2023, the Company contacted VDH-ODW to propose a method of well protection, including plotting and calling out the wells on the Rebuild Project's Erosion and Sediment Control Plan. If a response is received prior to filing, it will be included as Attachment 2.P.2.

Q. Pollution Prevention

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

Attachments

Dominion Energy Services, Inc.
120 Tredegar Street, Richmond, VA 23219
DominionEnergy.com

August 25, 2023

BY EMAIL

SCC ELECTRIC TRANSMISSION PROJECT NOTIFICATION
Project: **Dominion Energy Virginia's Proposed Carson-Locks 230 kV Line #249 Partial Rebuild Project**

To Whom it May Concern:

Dominion Energy Virginia (the "Company") is proposing to wreck and rebuild approximately 6.7 miles of 230 kV transmission Line #249 on single-circuit weathering steel H-Frame structures between structures #249/86 and #249/22 in Dinwiddie County and the City of Petersburg. The Company also proposes to reconductor approximately 2.6 miles of 230 kV Line #249 single-circuit existing transmission structures from Locks Substation to Structure #249/22. Additionally, the Company aims to install a 0.25-mile temporary transmission line to maintain energization requirements within the grid allowing for the safe installation of a tap span and replacement of the existing Chaparral terminal tap structure. Collectively this work is referred to as the "Rebuild Project."

The Rebuild Project is needed to maintain reliable service for the overall load growth in the area, and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards.

The Company is preparing to file an application for a Certificate of Public Convenience and Necessity ("CPCN") with the State Corporation Commission ("SCC"). At this time, in advance of filing an application with the Commission, the Company respectfully requests a scoping review of the Rebuild Project. Any comments or additional information you can provide would be beneficial to the Rebuild Project. Please submit comments within 30 days of the date of this letter.

While required by the proposed Rebuild Project, the Company considers the work associated with Line #249 outside of Chaparral Substation, which includes the installation of temporary facilities to keep Chaparral Substation energized during the rebuild of Line #249, as well as the reconductoring of approximately 2.6 miles of 230 kV Line #249 using existing transmission structures, to qualify as "ordinary extension or improvement in the usual course of business" pursuant to § 56-265.2 A 1 of the Code of Virginia; therefore, does not require a CPCN from the SCC.

Enclosed is a Project Overview Map and associated GIS shapefile depicting the proposed Rebuild Project, as well as its general location. Please note that the Project Overview Map and route description depicted therein are preliminary in nature and subject to final engineering. All final materials, including maps, will be available in the Company's application filing to the SCC. Please refer to the CPCN application for any updates to the Rebuild Project description. If there are any questions, please do not hesitate to contact Ginny Gills (804) 201-3635 or virginia.b.gills@dominionenergy.com.

August 25, 2023
Page 2 of 2

The Company appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Thank you,

Elizabeth “Tibby” L. Hester
Authorized Representative
Manager, Environmental Services

Enclosure: Project Overview Map

Site Data	
Project Area	181.15 Acres ±
Project Length	6.78 Miles ±
Palustrine Forested Wetlands (PFO)	0.004 Acres ±
Palustrine Scrub-Shrub Wetlands (PSS)	1.08 Acres ±
Palustrine Emergent Wetlands (PEM)	28.98 Acres ±
Upper Perennial Stream Channels (R3)	0.01 Acres ± (256 L.F. ±)
Intermittent Stream Channels (R4)	0.02 Acres ± (414 L.F. ±)
Open Waters	2.06 Acres ±

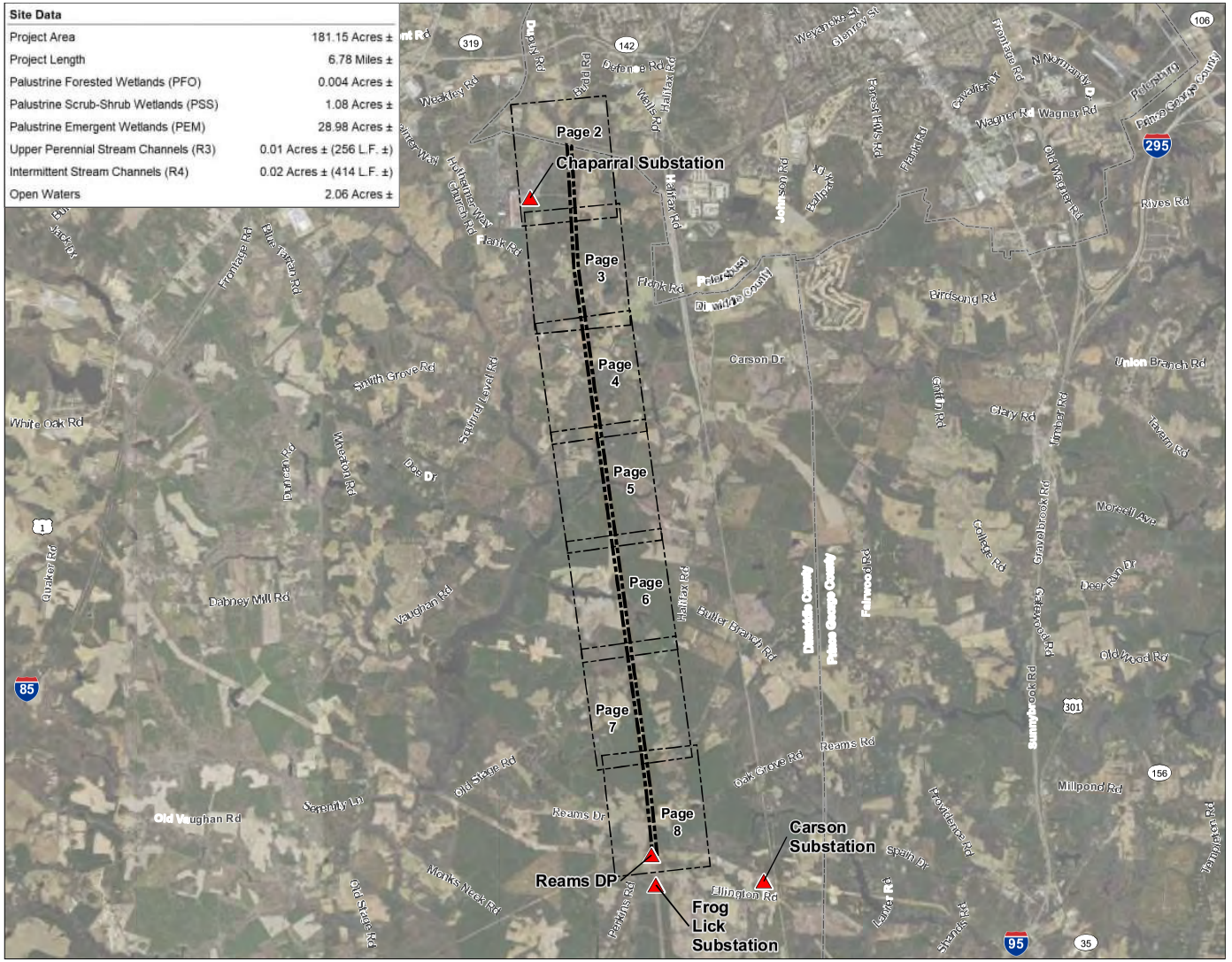

Figure No.
1

Title
Wetlands within Rebuild Project Area

Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

203401971

Project Location
Dinwiddie County and City of Petersburg, Virginia

Prepared by JPK on 2023-09-08
TR by xxx on xxxx-xx-xx
IR by xxx on xxxx-xx-xx

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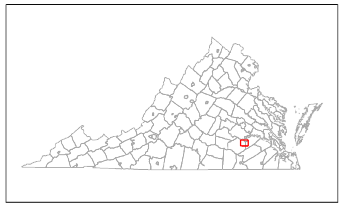
- Substation / DP
- Rebuild Project Limits
- Page Index



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, US Census Bureau, VDOT
3. Orthoimagery © VGIN

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Dominion Energy

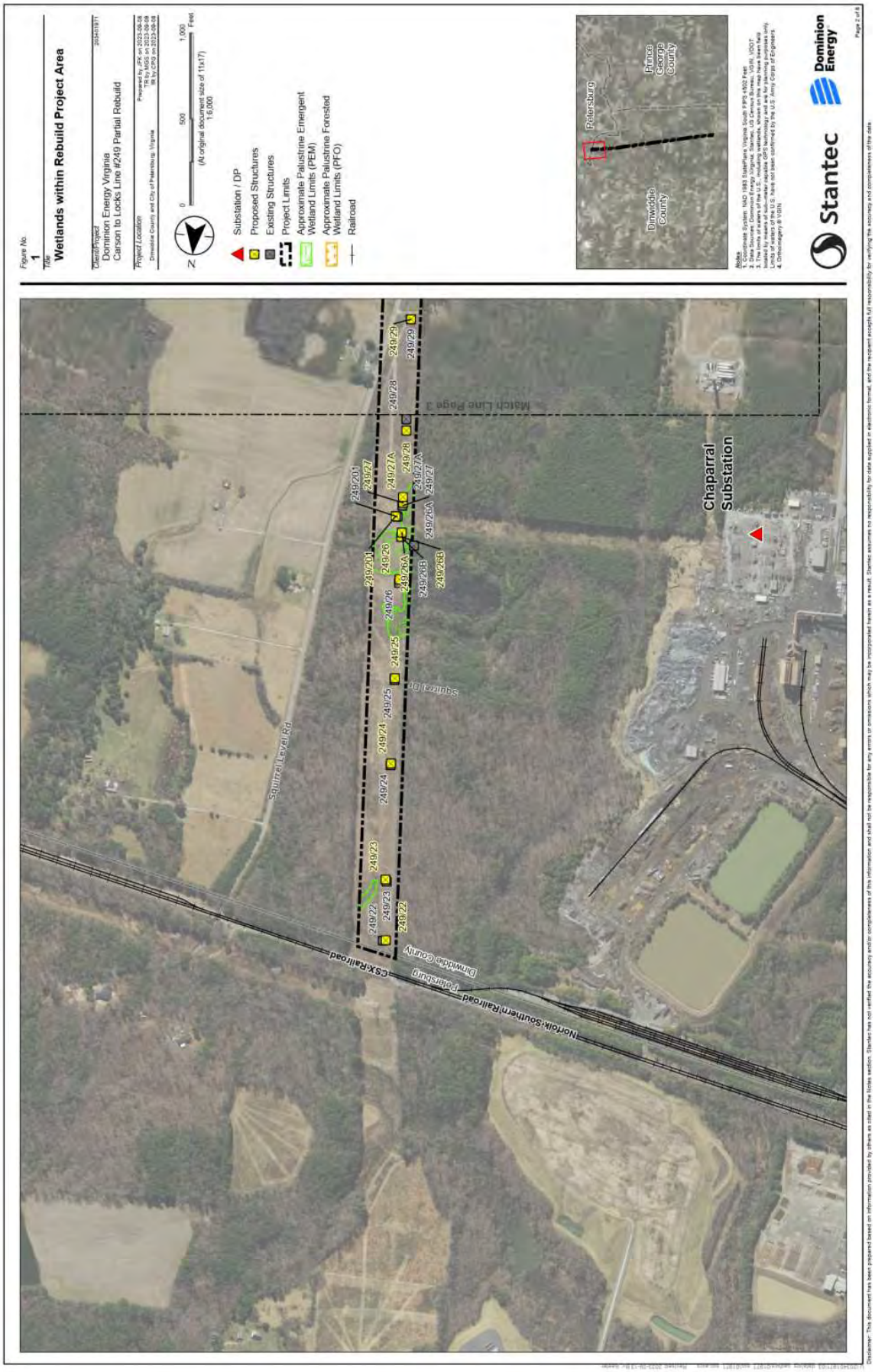
Figure No.
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Title
Wetlands within Rebuild Project Area
Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild
Project Location
Dinwiddie County and City of Petersburg, Virginia
Substation / DP
Proposed Structures
Existing Structures
Project Limits
Approximate Palustrine Emergent Wetland Limits (PEM)
Approximate Palustrine Forested Wetland Limits (PFO)
Railroad
Chaparral Substation
Squirrel Level Rd
Norfolk Southern Railroad
CSX Railroad
Petersburg
Dinwiddie County
Prince George County
Match Line Page 3
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Dominion Energy

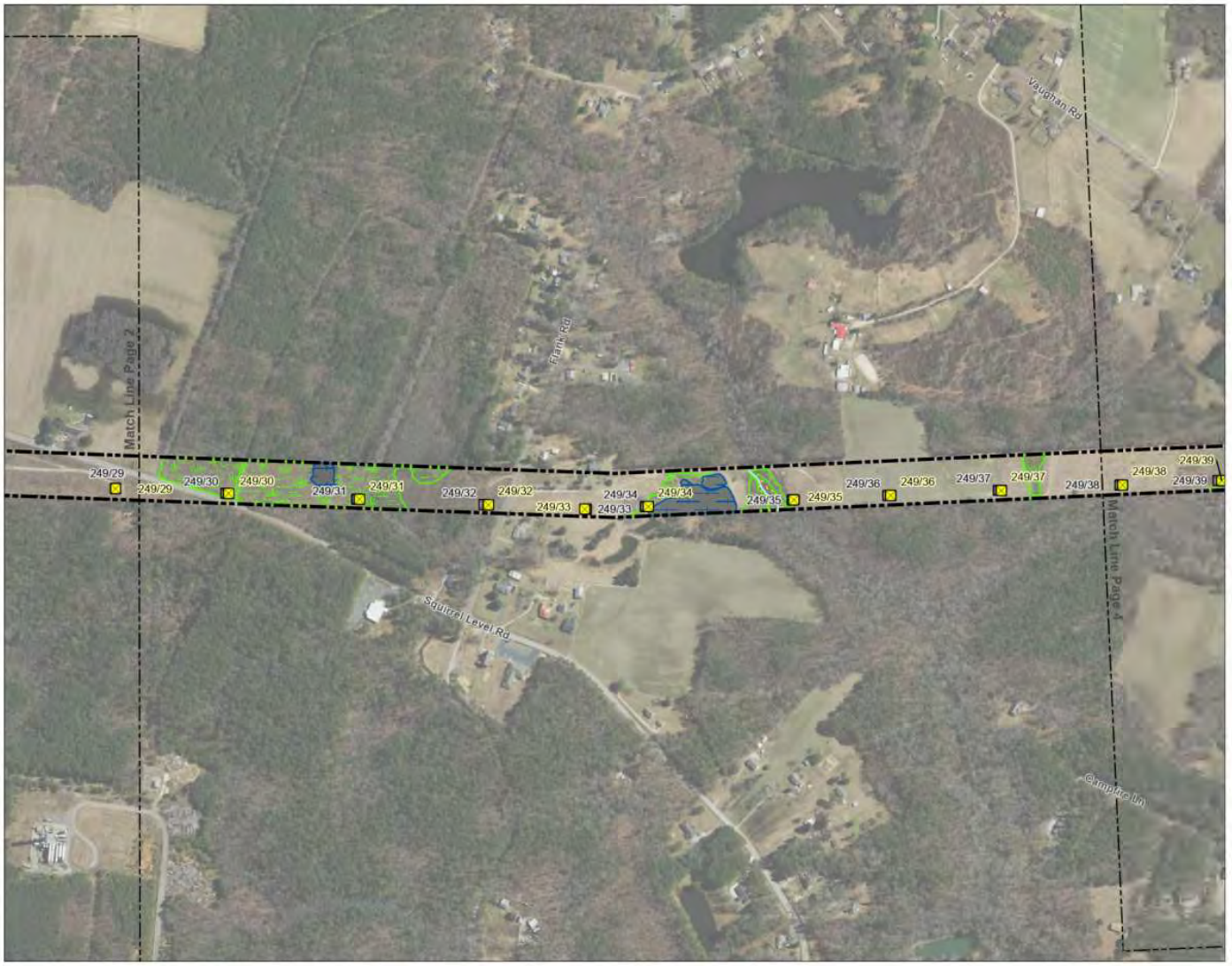

Figure No.
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Wetlands within Rebuild Project Area

Client/Project 203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

Project Location
Dinwiddie County and City of Petersburg, Virginia

Prepared by JFK on 2023-09-08
TR by MGS on 2023-09-08
IR by CPG on 2023-09-08

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- Proposed Structures
- Existing Structures
- Project Limits
- Approximate Palustrine Emergent Wetland Limits (PEM)
- Approximate Palustrine Scrub-Shrub Limits (PSS)
- Approximate Open Water Limits (PUB)
- Approximate Upper Perennial Stream Channel Limits (R3)

Notes
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4. Orthoimagery © VGIN

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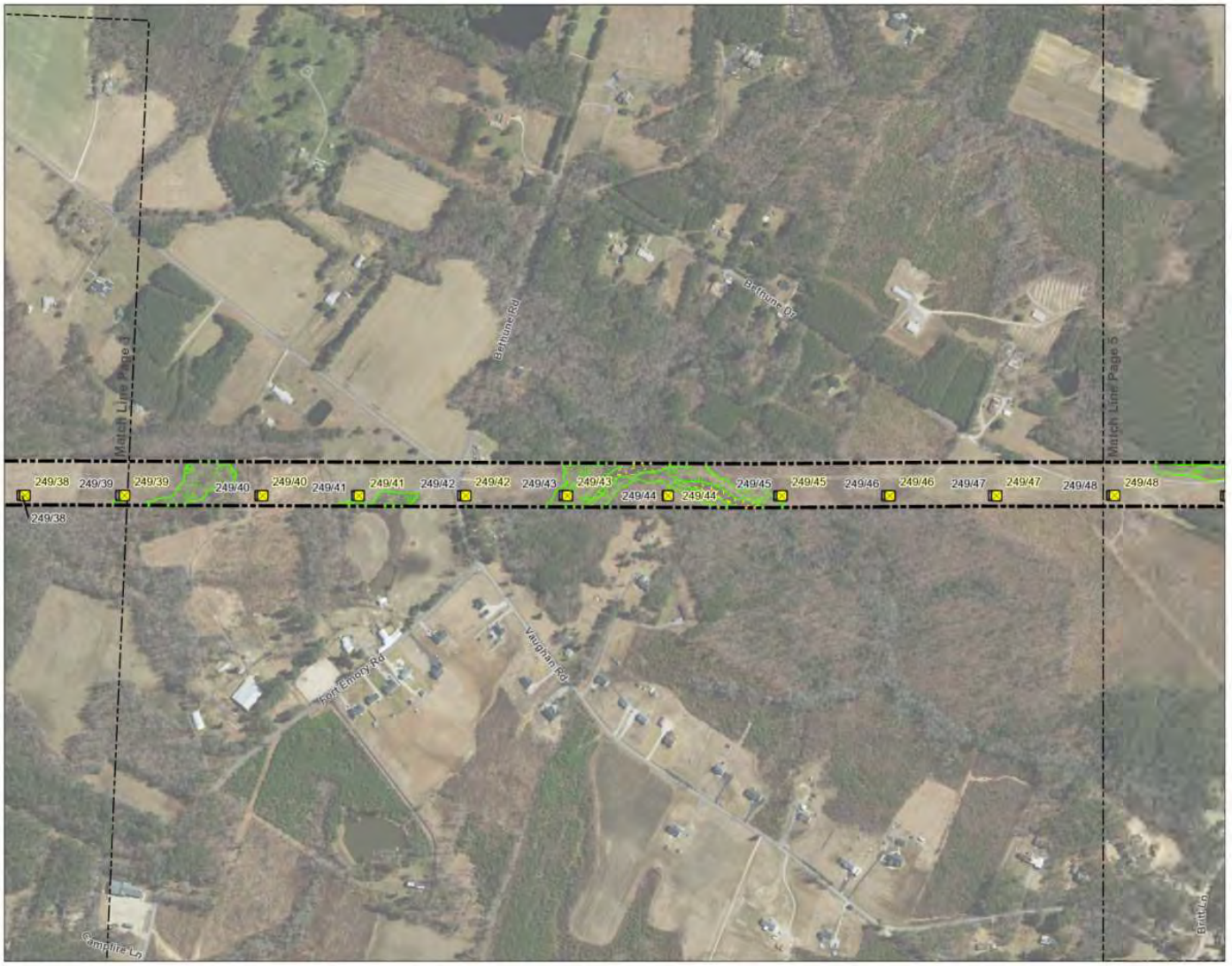
Dominion Energy



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Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

203401971

Project Location
Dinwiddie County and City of Petersburg, Virginia

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- Proposed Structures
- Existing Structures
- Project Limits
- Approximate Palustrine Emergent Wetland Limits (PEM)
- Approximate Palustrine Forested Wetland Limits (PFO)
- Approximate Palustrine Scrub-Shrub Limits (PSS)

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Figure No.
1

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Wetlands within Rebuild Project Area

Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

203401971

Project Location
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- Existing Structures
- Project Limits
- Approximate Palustrine Emergent Wetland Limits (PEM)
- Approximate Intermittent Stream Channel Limits (R4)

Notes
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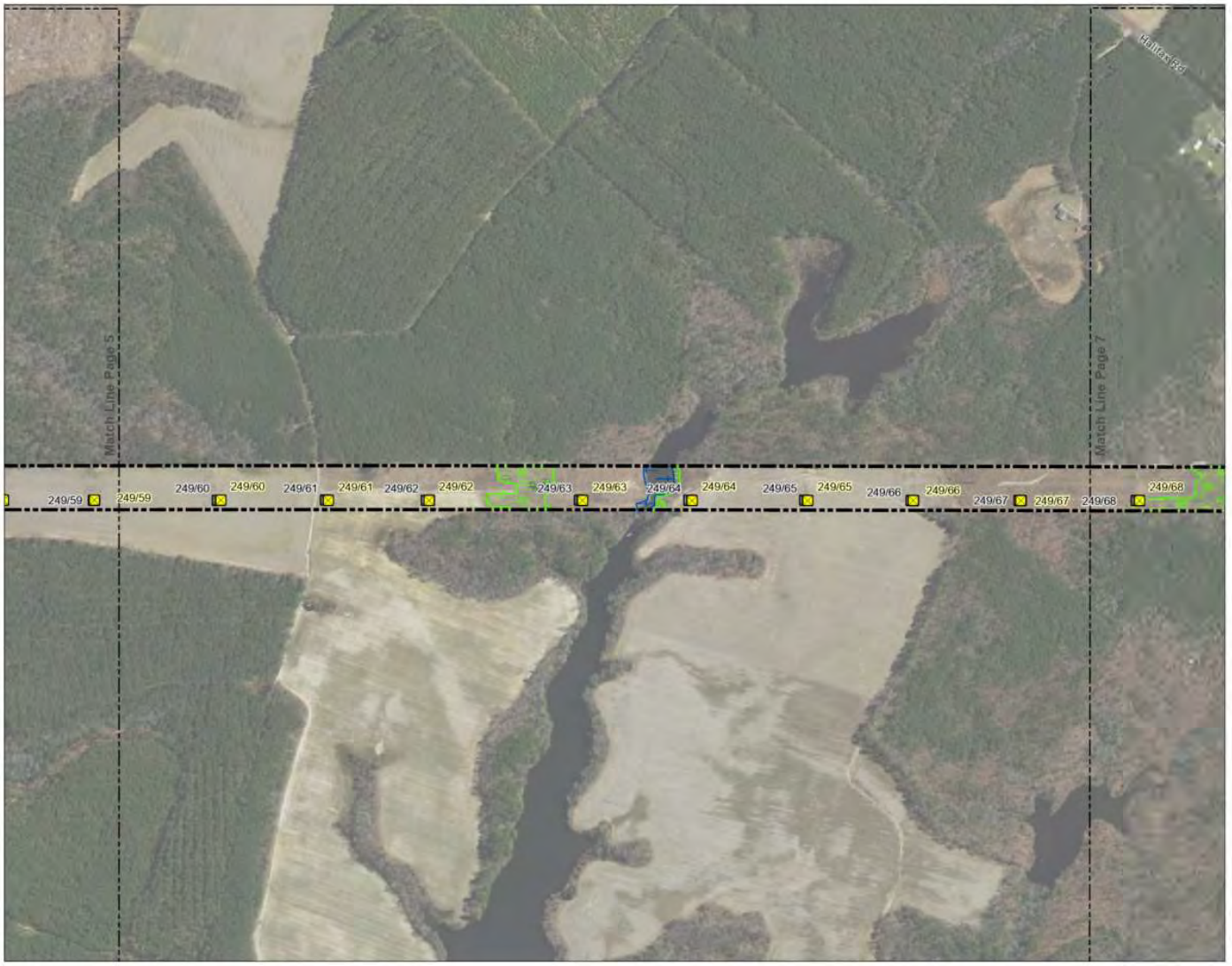

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- Proposed Structures
- Existing Structures
- Project Limits
- Approximate Palustrine Emergent Wetland Limits (PEM)
- Approximate Open Water Limits (PUB)

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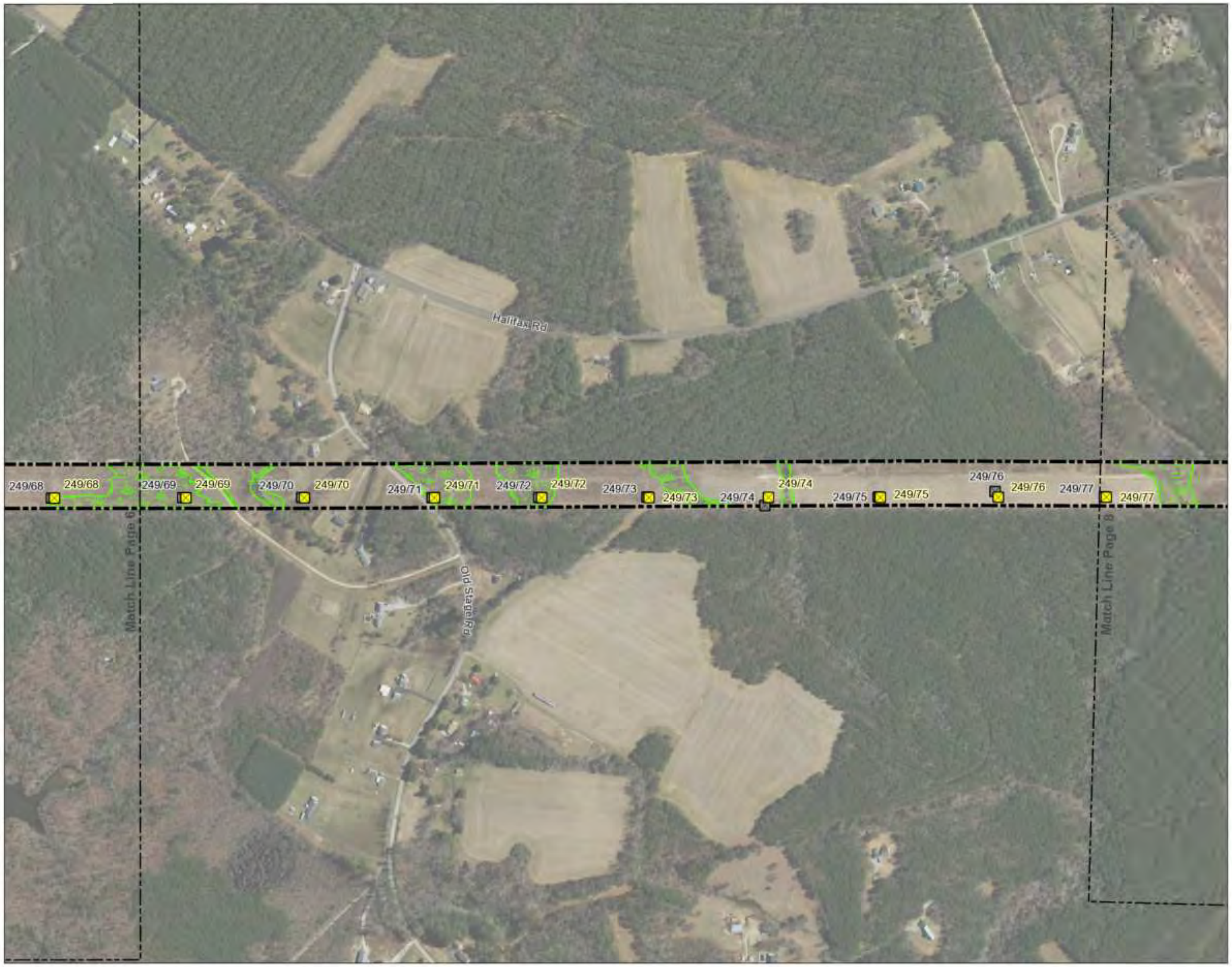

Figure No.
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Wetlands within Rebuild Project Area

Client/Project 203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

Project Location
Dinwiddie County and City of Petersburg, Virginia

Prepared by JFK on 2023-09-08
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- Proposed Structures
- Existing Structures
- Project Limits
- Approximate Palustrine Emergent Wetland Limits (PEM)

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Figure No.
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Title
Wetlands within Rebuild Project Area

Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

203401971

Project Location
Dinwiddie County and City of Petersburg, Virginia

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- Substation / DP
- Proposed Structures
- Existing Structure to Remain
- Existing Structures
- Project Limits
- Approximate Palustrine Emergent Wetland Limits (PEM)

Notes
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Memo

To:	Virginia Gills Dominion Energy 120 Tredegar Street Richmond, VA 23219	From:	Corey Gray Stantec Consulting Services, Inc. 5209 Center Street Williamsburg, VA 23188
File:	203401971	Date:	September 7, 2023

Reference: Carson to Locks 230 kV Transmission Line, Dinwiddie County and City of Petersburg, VA: Solid & Hazardous Waste Search

Stantec conducted database searches for solid and hazardous wastes and petroleum release sites within a 0.5-mile radius of the proposed 230 kV Transmission Line #249 Rebuild project. The project begins at the Reams Delivery Point in Dinwiddie County, Virginia and extends north for 6.7-miles, terminating just north of the City of Petersburg, Virginia border and south of Norfolk Southern Railroad Grade. The project will take place within the existing cleared and maintained transmission line right-of-way (ROW). The project involves the replacement of 230 kV weathering steel transmission towers.

Stantec obtained publicly available data from the Environmental Protection Agency (EPA) Facility Registry System (FRS), which provides information about facilities, sites, or places subject to environmental regulation or of environmental interest. Although this data set includes all sites subject to environmental regulation by the EPA or other state authority, such as sites that fall under air emissions or wastewater programs, the results reported here only include those sites which fall under the EPA's hazardous waste, solid waste, remediation, and underground storage tank programs. These sites include Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)/Superfund; Resource Conservation and Recovery Act (RCRA); and brownfield sites. Per this database, there are two registered RCRA sites present within a 0.5-mile radius of the project (Table 1). One site is inactive, and the other one is an active site.

The Virginia Department of Environmental Quality (DEQ) records were also searched for the presence of solid waste management facilities, Voluntary Remediation Program sites, and petroleum releases within 0.5 mile of the proposed project. One solid waste permit site (Table 2) is located approximately 2593 linear feet, respectively, from the project area. They are outside of the ROW, and the systems associated with the permit are either closed or undesignated. A total of 2 petroleum release sites were identified within the search radius, with the closest site (PC Number 19943453) located approximately 552 linear feet from the project area. Additionally, none of the identified petroleum release sites identified within 0.5 mile of the proposed project intersect with the project ROW and no case remains open. Dominion Energy has a procedure in place to handle petroleum contaminated soil, if encountered; however, as all the release sites are located outside of the project area, none of the petroleum release sites are expected to have an impact on the proposed project.

In summary, a total of two petroleum release sites, one solid waste permit site, and two RCRA sites are located within a 0.5-mile radius of the project area. No EPA registered brownfield sites, or CERCLA/Superfund sites are located within 0.5 mile of the project area.

Table 1. RCRA sites identified by the EPA as occurring within 0.5-mile of the 230 kV Transmission Line #249 Rebuild project.

Site Name	Permit Number	Interest Type	Location	Latitude	Longitude	Status	Proximity to Centerline (feet)
F W Baird General Contractor	VAD988223210	RCRA	Dinwiddie County	37.093913	-77.42547	Active	260
Reams Grocery Inc	VAD988213237	RCRA	Dinwiddie County	37.09378	-77.42456	Inactive	260

Table 2. Solid waste sites identified by the DEQ as occurring within 0.5-mile of the 230 kV Transmission Line #249 Rebuild project.

Site Name	Permit Number	Interest Type	Location	Latitude	Longitude	Status	Proximity to Centerline (feet)
Peter's Point Business Park	900000002670	Solid Waste Permit	City of Petersburg	37.194170	-77.441951	--	2593

Reference: **Carson to Locks 230 kV Transmission Line, Dinwiddie County and City of Petersburg, VA: Solid & Hazardous Waste Search**

Table 3. Petroleum releases identified by the DEQ as occurring within 0.5 mile of the 230 kV Transmission Line #249 Rebuild project.

Site Name	PC Number	Location	Latitude	Longitude	Status	Type of Release	Federally Registered Tank?	Proximity to Centerline (feet)
FJS Convenient Store Former	19921799	City of Petersburg	37.11412834	-77.42431109	Closed	Confirmed	Y	1065
Petersburg National Battlefield	19943453	Prince George County	37.09400905	-77.42693087	Closed	Confirmed	N	552

Stantec

Memo

If you have any questions regarding the details presented in this report, please feel free to contact me at your convenience.

Stantec Consulting Services Inc.

Corey Gray
Principal, Senior Environmental Scientist
Phone: 757-220-6869
Corey.Gray@stantec.com

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032

In Reply Refer To:
Project Code: 2023-0115150
Project Name: Carson to Locks SCC

August 10, 2023

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

To Whom It May Concern:

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

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

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

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

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

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

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

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

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this

letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds

OFFICIAL SPECIES LIST

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

This species list is provided by:

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

PROJECT SUMMARY

Project Code: 2023-0115150
Project Name: Carson to Locks SCC
Project Type: Transmission Line - Maintenance/Modification - Above Ground
Project Description: Rebuild of a 230 kV Transmission Line between Dinwiddie County and the City of Petersburg, VA.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.1382019,-77.43186798440868,14z

Counties: Dinwiddie and Petersburg counties, Virginia

ENDANGERED SPECIES ACT SPECIES

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

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

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

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

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

MAMMALS

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

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

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

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

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

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

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

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.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Kestrel *Falco sparverius paulus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Aug 31
Brown-headed Nuthatch *Sitta pusilla* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jul 15
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Kentucky Warbler *Oporornis formosus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prairie Warbler *Dendroica discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project

activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

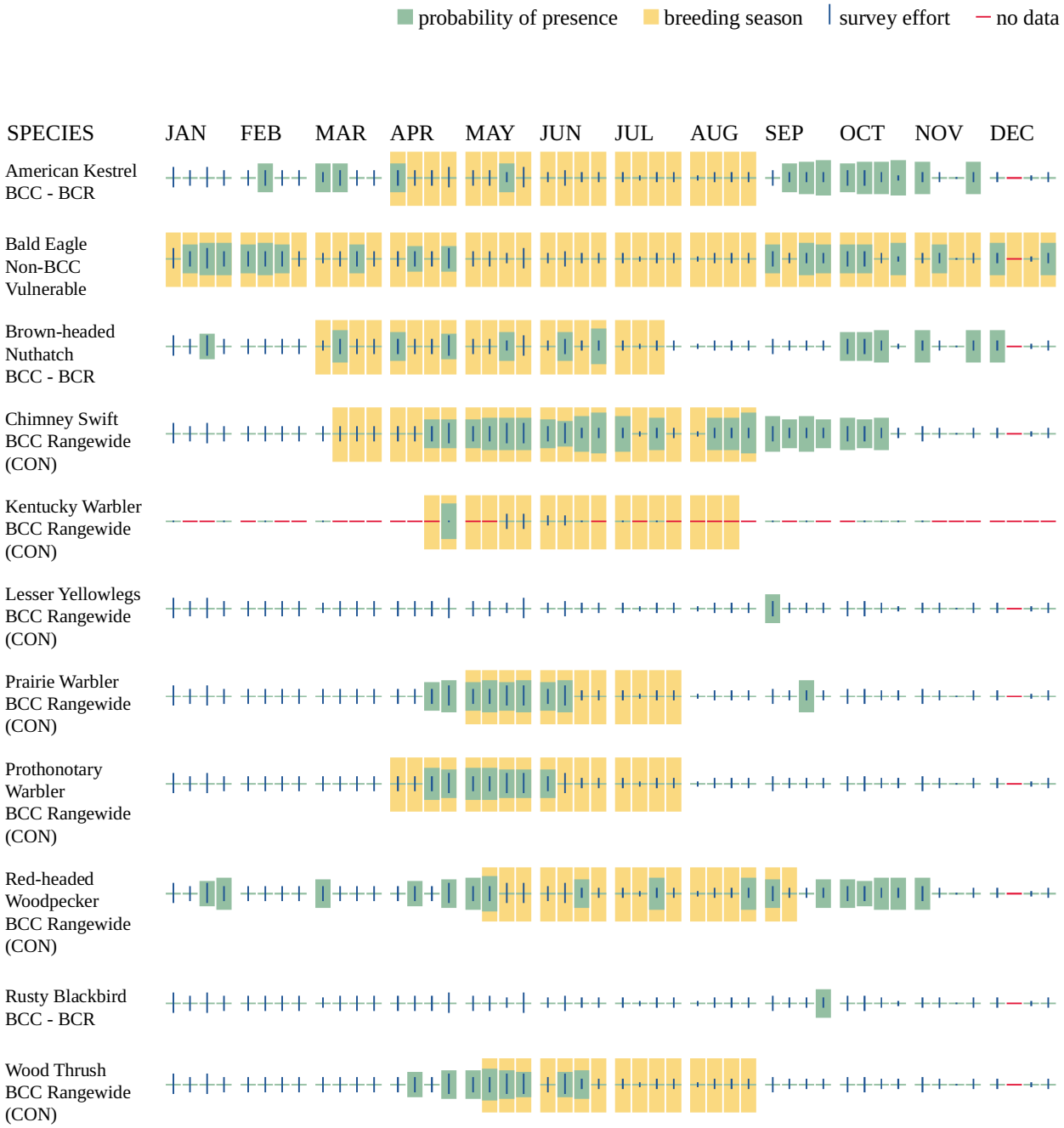
1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

MIGRATORY BIRDS FAQ

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 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 list of migratory birds that potentially occur 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 Rapid Avian Information Locator (RAIL) 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 or migrating in my 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 query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. 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.

IPAC USER CONTACT INFORMATION

Agency: Stantec
Name: Bethany Mizelle
Address: 1011 Boulder Springs Drive
Address Line 2: Suite 225
City: Richmond
State: VA
Zip: 23225
Email bethany.mizelle@stantec.com
Phone: 5406045087

VaFWIS Initial Project Assessment Report Compiled on 8/10/2023, 10:19:42 AM

Known or likely to occur within a **2 mile buffer around polygon; center 37,08,23.5 -77,25,56.2** in **053 Dinwiddie County, 149 Prince George County, 730 Petersburg City, VA**

View Map of Site Location

524 Known or Likely Species ordered by Status Concern for Conservation (displaying first 29) (29 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
040228	FESE	Ia	Woodpecker, red-cockaded	Picoides borealis		BOVA
050022	FEST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon		Habitat
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA
010214	FESE	IIa	Logperch, Roanoke	Percina rex		BOVA,Habitat
040110	FTSE	Ia	Rail, eastern black	Laterallus jamaicensis jamaicensis		BOVA
060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni		BOVA
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata		BOVA
010347	SE	Ia	Sunfish, blackbanded	Enneacanthus chaetodon		BOVA,Habitat
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050034	SE	Ia	Bat, Rafinesque's eastern big-eared	Corynorhinus rafinesquii macrotis		BOVA
050027	FPSE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040385	ST	Ia	Sparrow, Bachman's	Peucaea aestivalis		BOVA
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
100079	FC	IIIa	Butterfly, monarch	Danaus plexippus		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA
010174		Ia	Bass, Roanoke	Ambloplites cavifrons		BOVA,Habitat
010077		Ia	Shiner, bridle	Notropis bifrenatus		BOVA
020002		IIa	Treefrog, barking	Hyla gratiosa		BOVA
040052		IIa	Duck, American black	Anas rubripes		BOVA
040029		IIa	Heron, little blue	Egretta caerulea caerulea		BOVA
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA
040140		IIa	Woodcock, American	Scolopax minor		BOVA

060071		IIa	Lampmussel, yellow	Lampsilis cariosa		BOVA
040203		IIb	Cuckoo, black-billed	Coccyzus erythropthalmus		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA

To view **All 524 species** View 524

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

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

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams

N/A

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Habitat Predicted for Aquatic WAP Tier I & II Species (10 Reaches)

View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species

Stream Name	Tier Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
Arthur Swamp (03010201)	FESE	010174		Ia	Bass, Roanoke	Ambloplites cavifrons	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
		010347	SE	Ia	Sunfish, blackbanded	Enneacanthus chaetodon	
Arthur Swamp (03010201)	FESE	010214	FESE	IIa	Logperch, Roanoke	Percina rex	Yes
		010347	SE	Ia	Sunfish, blackbanded	Enneacanthus chaetodon	
Arthur Swamp (03010201)	FESE	010214	FESE	IIa	Logperch, Roanoke	Percina rex	Yes
Blackwater River (03010202)	SE	010347	SE	Ia	Sunfish, blackbanded	Enneacanthus chaetodon	Yes
Jones Hole Swamp (03010201)	SE	010347	SE	Ia	Sunfish, blackbanded	Enneacanthus chaetodon	Yes
Reedy Branch (03010201)	SE	010347	SE	Ia	Sunfish, blackbanded	Enneacanthus chaetodon	Yes
Rowanty Creek (03010201)	FESE	010174		Ia	Bass, Roanoke	Ambloplites cavifrons	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
		010347	SE	Ia	Sunfish, blackbanded	Enneacanthus chaetodon	
		060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	
Rowanty Creek (03010201)	FESE	010174		Ia	Bass, Roanoke	Ambloplites cavifrons	Yes
		010214	FESE	IIa	Logperch, Roanoke	Percina rex	
		010347	SE	Ia	Sunfish, blackbanded	Enneacanthus chaetodon	
tributary (03010201)	SE	010347	SE	Ia	Sunfish, blackbanded	Enneacanthus chaetodon	Yes
Warwick Swamp (03010202)	SE	010347	SE	Ia	Sunfish, blackbanded	Enneacanthus chaetodon	Yes
Warwick Swamp (03010202)	SE	010347	SE	Ia	Sunfish, blackbanded	Enneacanthus chaetodon	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Public Holdings: (1 names)

Name	Agency	Level
Petersburg National Battlefield	National Park Service	Federal

Compiled on 8/10/2023, 10:19:42 AM I1520030.0 report=IPA searchType= P dist= 3218 poi= 37,08,23.5 -77,25,56.2 siteDD= 37.1871666 -77.4381387;37.1804444 -77.4378887;37.1803888 -77.4439998;37.1809444 -77.4439998;37.1809166 -77.4455832;37.1794722 -77.4455554;37.1793333 -77.4439165;37.1799722 -77.4439721;37.1798333 -77.4378054;37.1702222 -77.4373887;37.1341944 -77.4316110;37.0886111 -77.4249165;37.0904166 -77.4241387;37.1296666 -77.4300832;37.1707222 -77.4364721;37.1874444 -77.4373887;

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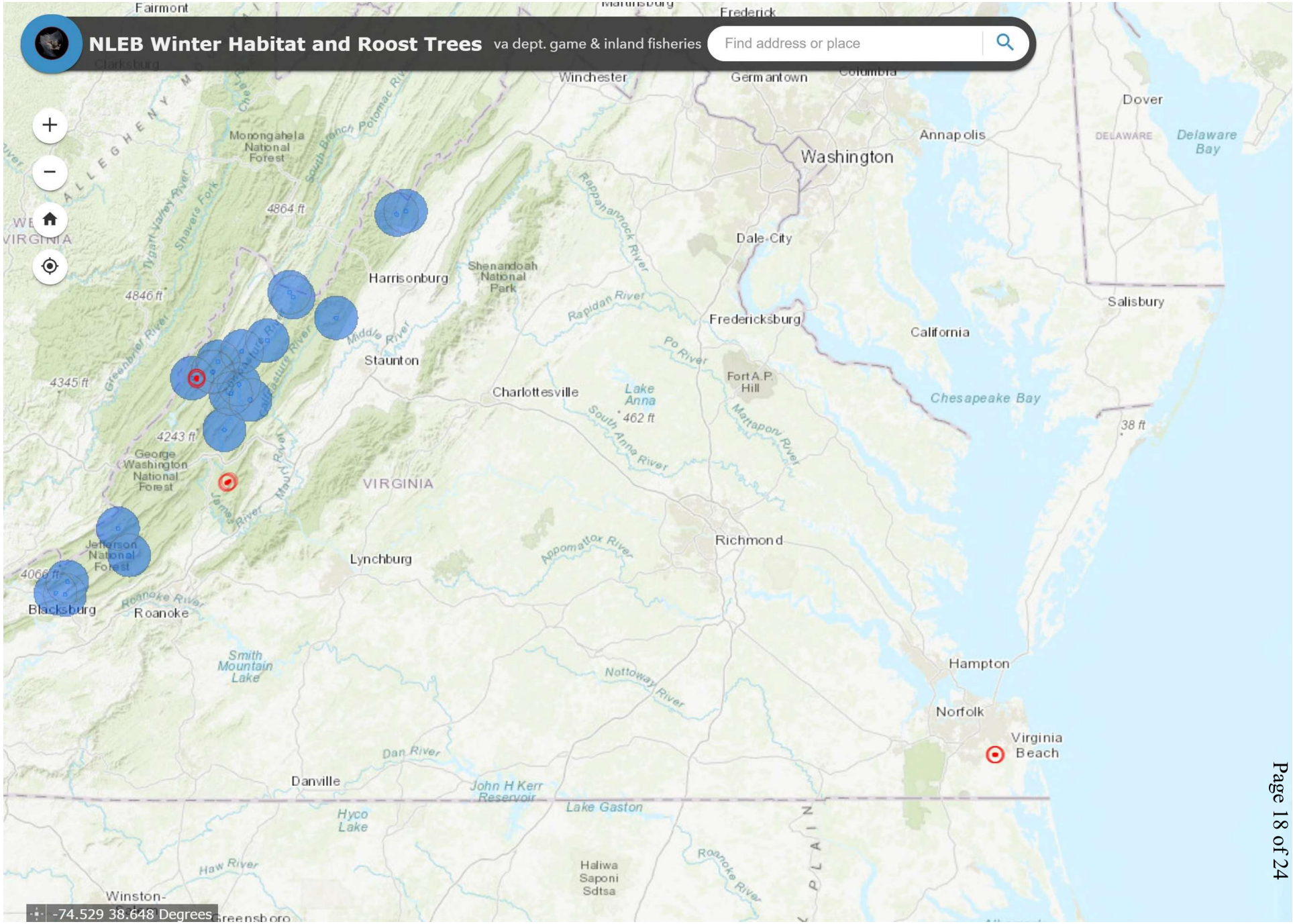

NLEB Winter Habitat and Roost Trees
va dept. game & inland fisheries
Find address or place
Fairmont
Clarksburg
Winchester
Frederick
Germantown
Columbia
Dover
Annapolis
DELAWARE
Delaware Bay
Washington
Monongahela National Forest
South Branch Potomac River
Tygart Valley River
Shavers Fork
4864 ft
Rappahannock River
Dale City
Harrisonburg
Shenandoah National Park
4846 ft
Rapidan River
Salisbury
Fredericksburg
California
Greenbrier River
Middle River
Staunton
Po River
Fort A.P. Hill
4345 ft
Charlottesville
Lake Anna
462 ft
Chesapeake Bay
38 ft
South Anna River
Mattaponi River
4243 ft
George Washington National Forest
New River
VIRGINIA
James River
Jefferson National Forest
Richmond
Appomattox River
Lynchburg
4066 ft
Blacksburg
Roanoke
Roanoke River
Smith Mountain Lake
Hampton
Nottoway River
Norfolk
Virginia Beach
Dan River
Danville
John H Kerr Reservoir
Lake Gaston
Hyco Lake
Haw River
Haliwa Saponi Sdtsa
Roanoke River
Winston-
-74.529 38.648 Degrees

Natural Heritage Resources

Your Criteria

Taxonomic Group: Select All

Watershed (8 digit HUC): 02080207 - Appomattox River

Subwatershed (12 digit HUC): JA40 - Appomattox River-Oldtown Creek

Search Run: 8/10/2023 10:43:09 AM

Result Summary

Total Species returned: 24

Total Communities returned: 4

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Appomattox								
Appomattox River-Oldtown Creek AQUATIC NATURAL COMMUNITY								
SC-Appomattox Second Order Stream	SC-Appomattox Second Order Stream	*SC-Appomattox Second Order Stream*	G1G2	S1S2	None	None	1	Y
BIRDS								
Loggerhead Shrike	Lanius ludovicianus	Lanius ludovicianus	G4	S1B,S2N	None	LT	41	Y
BIVALVIA (MUSSELS)								
Atlantic Pigtoe	Fusconaia masoni	Fusconaia masoni	G1	S2	LT	LT	30	Y
Yellow Lampmussel	Lampsilis cariosa	Lampsilis cariosa	G3G4	S2	None	None	29	Y
Green Floater	Lasmigona subviridis	Lasmigona subviridis	G3	S2	None	LT	67	Y
TERRESTRIAL NATURAL COMMUNITY								
Coastal Plain / Outer Piedmont Acidic Seepage Swamp	Acer rubrum - Nyssa sylvatica - Magnolia virginiana / Viburnum nudum / Osmundastrum cinnamomeum - Lorinseria areolata	Acer rubrum - Nyssa sylvatica - Magnolia virginiana / Viburnum nudum / Osmundastrum cinnamomeum - Lorinseria areolata	G3?	S3	None	None	39	N

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
	Forest	Forest						
Freshwater Tidal Hardwood Swamp	Nyssa biflora - Fraxinus profunda - (Fraxinus pennsylvanica) / Ilex verticillata / Persicaria arifolia Tidal Forest	Nyssa biflora - Fraxinus profunda - (Fraxinus pennsylvanica) / Ilex verticillata / Persicaria arifolia Tidal Forest	G3	S3	None	None	6	Y
Tidal Freshwater Marsh (Wild Rice - Mixed Forbs Type)	Zizania aquatica - Pontederia cordata - Peltandra virginica - Persicaria punctata Tidal Herbaceous Vegetation	Zizania aquatica - Pontederia cordata - Peltandra virginica - Persicaria punctata Tidal Herbaceous Vegetation	G4?	S4?	None	None	9	Y
VASCULAR PLANTS								
Mohr's bluestem	Andropogon mohrii	Andropogon mohrii	G4?	SH	None	None	2	Y
Red Milkweed	Asclepias rubra	Asclepias rubra	G4G5	S2	None	None	30	Y
American bluehearts	Buchnera americana	Buchnera americana	G5?	S1S2	None	None	20	Y
Tuberosus Grass-pink	Calopogon tuberosus var. tuberosus	Calopogon tuberosus var. tuberosus	G5T5	S1S2	None	None	17	Y
Virginia Thistle	Cirsium virginianum	Cirsium virginianum	G3	S2	None	None	23	Y
Large spreading pogonia	Cleistesiopsis divaricata	Cleistesiopsis divaricata	G4	S1	None	None	17	Y
Toothache Grass	Ctenium aromaticum	Ctenium aromaticum	G5	S1	None	None	5	Y
Blood panic grass	Dichanthelium consanguineum	Dichanthelium consanguineum	G5	S1S2	None	None	15	Y
Rough-hair panic grass	Dichanthelium strigosum var. strigosum	Dichanthelium strigosum var. strigosum	G5T5	SH	None	None	2	Y
Ten-angled pipewort	Eriocaulon decangulare var. decangulare	Eriocaulon decangulare var. decangulare	G5T5?	S2	None	None	19	Y
Small Whorled Pogonia	Isotria medeoloides	Isotria medeoloides	G2G3	S2	LT	LE	66	Y
Common bog-buttons	Lachnocaulon anceps	Lachnocaulon anceps	G5	S1	None	None	18	Y
Mountain Hairgrass	Leptoloma cognatum	Leptoloma cognatum	G5T5	S1	None	None	6	Y
Fringed meadow beauty	Rhexia petiolata	Rhexia petiolata	G5?	S1	None	None	11	Y
Yellow Pitcher plant	Sarracenia flava	Sarracenia flava	G5?	S1	None	None	21	N
Purple pitcher plant	Sarracenia purpurea	Sarracenia purpurea	G5	S2	None	None	40	Y
Freshwater Cordgrass	Spartina pectinata	Spartina pectinata	G5	S2	None	None	20	N
Eaton's Ladies'-tresses	Spiranthes eatonii	Spiranthes eatonii	G3Q	S1	None	None	3	Y
Small-leaved meadow-rue	Thalictrum macrostylum	Thalictrum macrostylum	G3G4	S1	None	None	7	Y
Coastal false	Triantha racemosa	Triantha racemosa	G5	SH	None	None	4	Y

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
asphodel								

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an information request.

To Contribute information on locations of natural heritage resources, please fill out and submit a rare species sighting form.

Natural Heritage Resources

Your Criteria

Taxonomic Group: Select All

Watershed (8 digit HUC): 03010201 - Nottoway River

Subwatershed (12 digit HUC): CU26 - Hatcher Run

Search Run: 8/10/2023 10:46:13 AM

Result Summary

Total Species returned: 25

Total Communities returned: 2

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Nottoway								
Hatcher Run								
AQUATIC NATURAL COMMUNITY								
SC-Nottoway First Order Stream	SC-Nottoway First Order Stream	*SC-Nottoway First Order Stream*	G2G3	S2S3	None	None	9	N
TERRESTRIAL NATURAL COMMUNITY								
Coastal Plain / Outer Piedmont Acidic Seepage Swamp	Acer rubrum - Nyssa sylvatica - Magnolia virginiana / Viburnum nudum / Osmundastrum cinnamomeum - Lorinseria areolata Forest	Acer rubrum - Nyssa sylvatica - Magnolia virginiana / Viburnum nudum / Osmundastrum cinnamomeum - Lorinseria areolata Forest	G3?	S3	None	None	39	N
VASCULAR PLANTS								
Red Milkweed	Asclepias rubra	Asclepias rubra	G4G5	S2	None	None	30	N
American bluehearts	Buchnera americana	Buchnera americana	G5?	S1S2	None	None	20	N
Pine barren sandreed	Calamovilfa brevipilis	Calamovilfa brevipilis	G4	S1	None	None	9	N
Cuthbert's	Chelone cuthbertii	Chelone cuthbertii	G3	S2	None	None	34	N

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Turtlehead								
Virginia Thistle	Cirsium virginianum	Cirsium virginianum	G3	S2	None	None	23	N
Toothache Grass	Ctenium aromaticum	Ctenium aromaticum	G5	S1	None	None	5	N
Blood panic grass	Dichanthelium consanguineum	Dichanthelium consanguineum	G5	S1S2	None	None	15	N
Rough-hair panic grass	Dichanthelium strigosum var. strigosum	Dichanthelium strigosum var. strigosum	G5T5	SH	None	None	2	Y
Ten-angled pipewort	Eriocaulon decangulare var. decangulare	Eriocaulon decangulare var. decangulare	G5T5?	S2	None	None	19	N
Short-leaf sneezeweed	Helenium brevifolium	Helenium brevifolium	G4	S2	None	None	15	N
New Jersey Rush	Juncus caesariensis	Juncus caesariensis	G2G3	S2	SOC	LT	13	Y
Common bog-buttons	Lachnocaulon anceps	Lachnocaulon anceps	G5	S1	None	None	18	Y
sandhills bog lily	Lilium pyrophilum	Lilium pyrophilum	G2	S1	SOC	None	9	N
Rafinesque's seedbox	Ludwigia hirtella	Ludwigia hirtella	G5	S2	None	None	22	N
Slender Rattlesnake-root	Nabalus autumnalis	Nabalus autumnalis	G4G5	S1	None	None	10	N
Early Paspalum	Paspalum praecox	Paspalum praecox	G4	S1	None	None	4	N
Small white fringed orchid	Platanthera blephariglottis	Platanthera blephariglottis	G5	S2	None	None	14	N
Small bunched beaksedge	Rhynchospora cephalantha var. attenuata	Rhynchospora cephalantha var. attenuata	G5T3?	S1	None	None	7	N
Slender Marsh-pink	Sabatia campanulata	Sabatia campanulata	G5	S2	None	None	21	N
Yellow Pitcher plant	Sarracenia flava	Sarracenia flava	G5?	S1	None	None	21	N
Purple pitcher plant	Sarracenia purpurea	Sarracenia purpurea	G5	S2	None	None	40	N
Hairy nutrush	Scleria ciliata var. ciliata	Scleria ciliata var. ciliata	G5TNR	S1	None	None	12	N
Slender Nutrush	Scleria minor	Scleria minor	G4	S2	None	None	25	N
Curtiss' yellow-eyed grass	Xyris curtissii	Xyris curtissii	G5T5	S1	None	None	5	N
Large Death-camas	Zigadenus glaberrimus	Zigadenus glaberrimus	G5	S1	None	None	9	N

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an information request.

To Contribute information on locations of natural heritage resources, please fill out and submit a rare species sighting form.

CCB Mapping Portal

Layers: VA Eagle Nest Locator

Map Center [longitude, latitude]: [-77.41035461425781, 37.15484413775931]

Map Link:
https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&zoom=12&lat=37.15484413775931&lng=-77.41035461425781&legend=legend_tab_7c321b7e-e523-11e4-aaa0-0e0c41326911&base=World+Imagery+%28ESRI%29

Report Generated On: 03/31/2023

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

August 30, 2023

Corey Gray
Stantec Consulting Services, Inc.
5209 Center Street
Williamsburg, VA 23188

Re: 203401971, Carson to Locks 230kV Line 249 Rebuild Project

Dear Mr. Gray:

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

According to the information in our files, the Oak Grove Church Powerlines Conservation Site and the Lower Arthur Swamp Powerline Conservation Site are located within the project area, including a 100 foot buffer (Figure 1). Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant.

The Oak Grove Church Powerlines Conservation Site (Figure 2) has been assigned a biodiversity rank of B4, which represents a site of moderate significance. The natural heritage resources associated with this site are:

Asclepias rubra	Red milkweed	G4G5/S2/NL/NL
Chelone cuthbertii	Cuthbert's turtlehead	G3/S2/NL/NL

The Lower Arthur Swamp Powerline Conservation Site (Figure 3) has been assigned a biodiversity rank of B3, which represents a site of high significance. The natural heritage resources associated with this site are:

Chelone cuthbertii	Cuthbert's turtlehead	G3/S2/NL/NL
Lilium pyrophilum	Sandhills bog lily	G2/S1/SOC/NL
Rhynchospora cephalantha var. attenuata	Small bunched beaksedge	G5T3?/S1/NL/NL
Xyris curtissii	Curtiss' yellow-eyed grass	G5T5/S1/NL/NL
Asclepias rubra	Red milkweed	G4G5/S2/NL/NL

In addition, Rafinesque's seedbox (*Ludwigia hirtella*, G5/S2/NL/NL) has been documented within the powerline right-of-way (ROW) (Figure 3).

To minimize adverse impacts to the documented natural heritage resources within the powerline ROW as shown in Figures 2 and 3, DCR provides the following recommendations:

Flagging or fencing the documented populations of rare plants so that direct impacts can be avoided during the transmission line rebuild.
Avoidance of equipment staging, vehicular traffic and other activities within these sensitive areas.
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.
ROW restoration and maintenance practices planned include appropriate revegetation using native species in a mix of grasses and forbs, robust monitoring and an adaptive management plan to provide guidance if initial revegetation efforts are unsuccessful or if invasive species outbreaks occur.

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

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

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

A fee of $450.00 has been assessed for the service of providing this information. Please find attached an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, DCR Finance, 600 East Main Street, 24th Floor, Richmond, VA 23219. Payment is due within thirty days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

The Virginia Department of Wildlife Resources (VDWR) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed https://services.dwr.virginia.gov/fwis/ or contact Amy Martin at 804-367-2211 or amy.martin@dwr.virginia.gov.

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

Sincerely,

Tyler Meader
Natural Heritage Locality Liaison

Figure 1. Overview Map

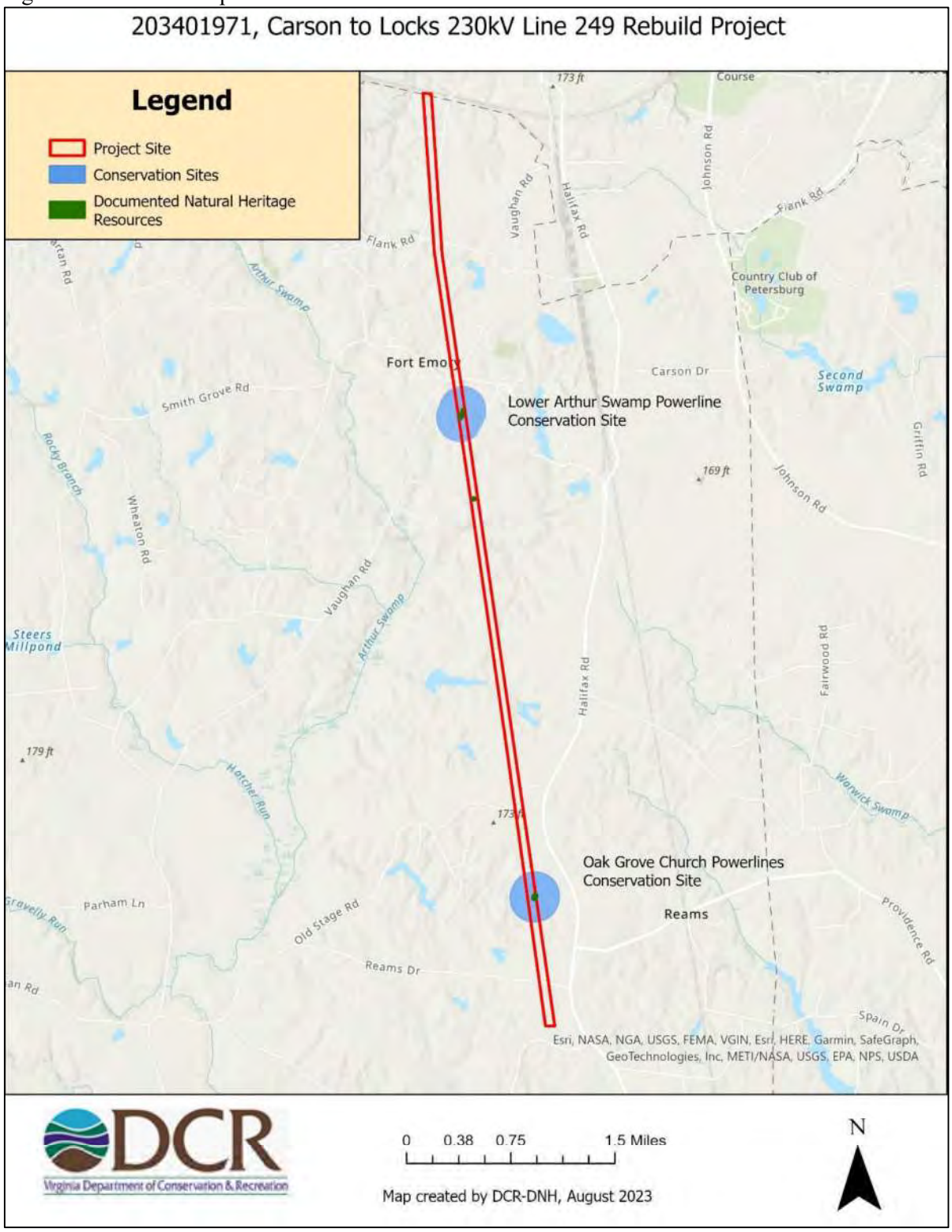


Figure 2. Oak Grove Church Powerline Conservation Site and Documented Natural Heritage Resources

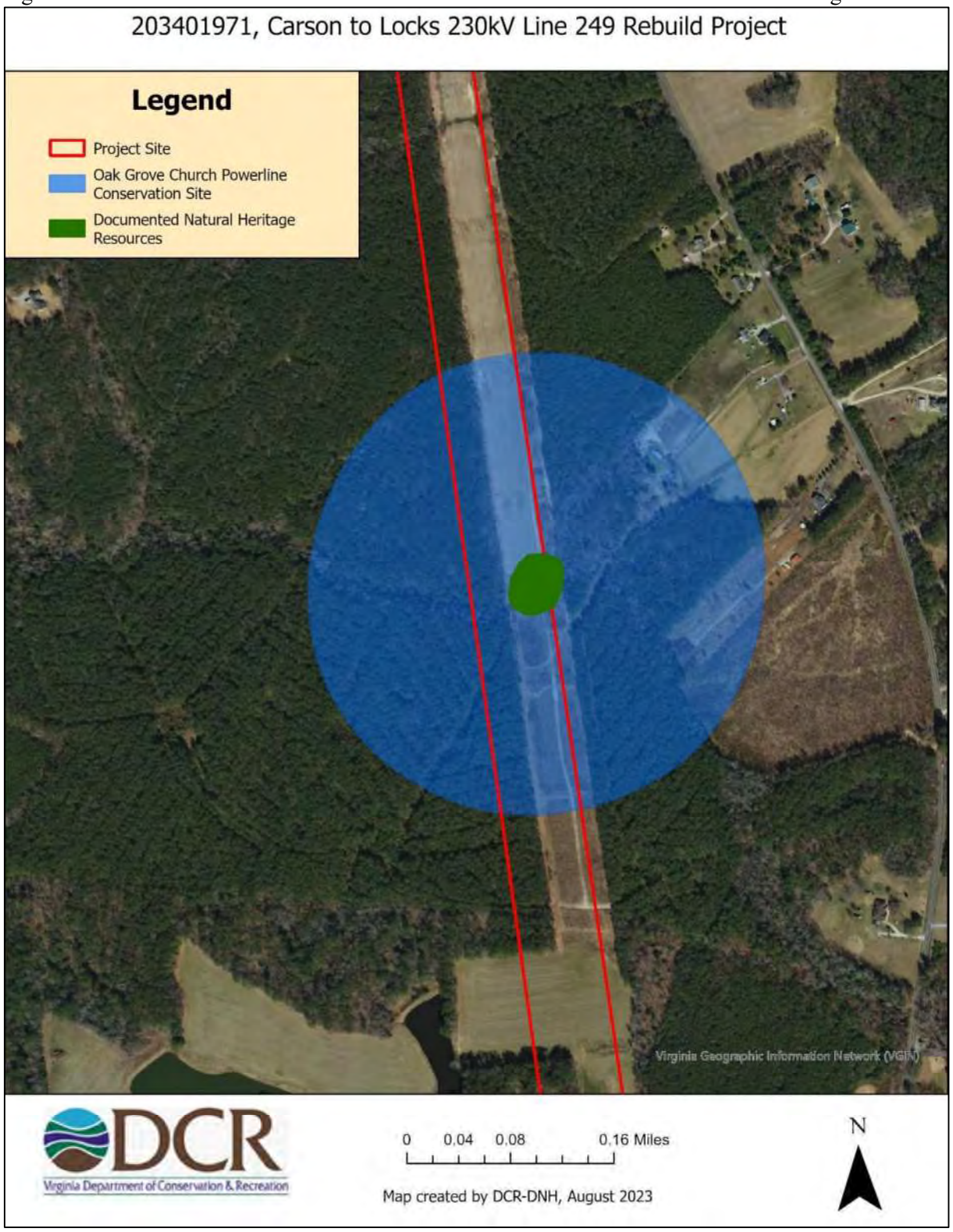
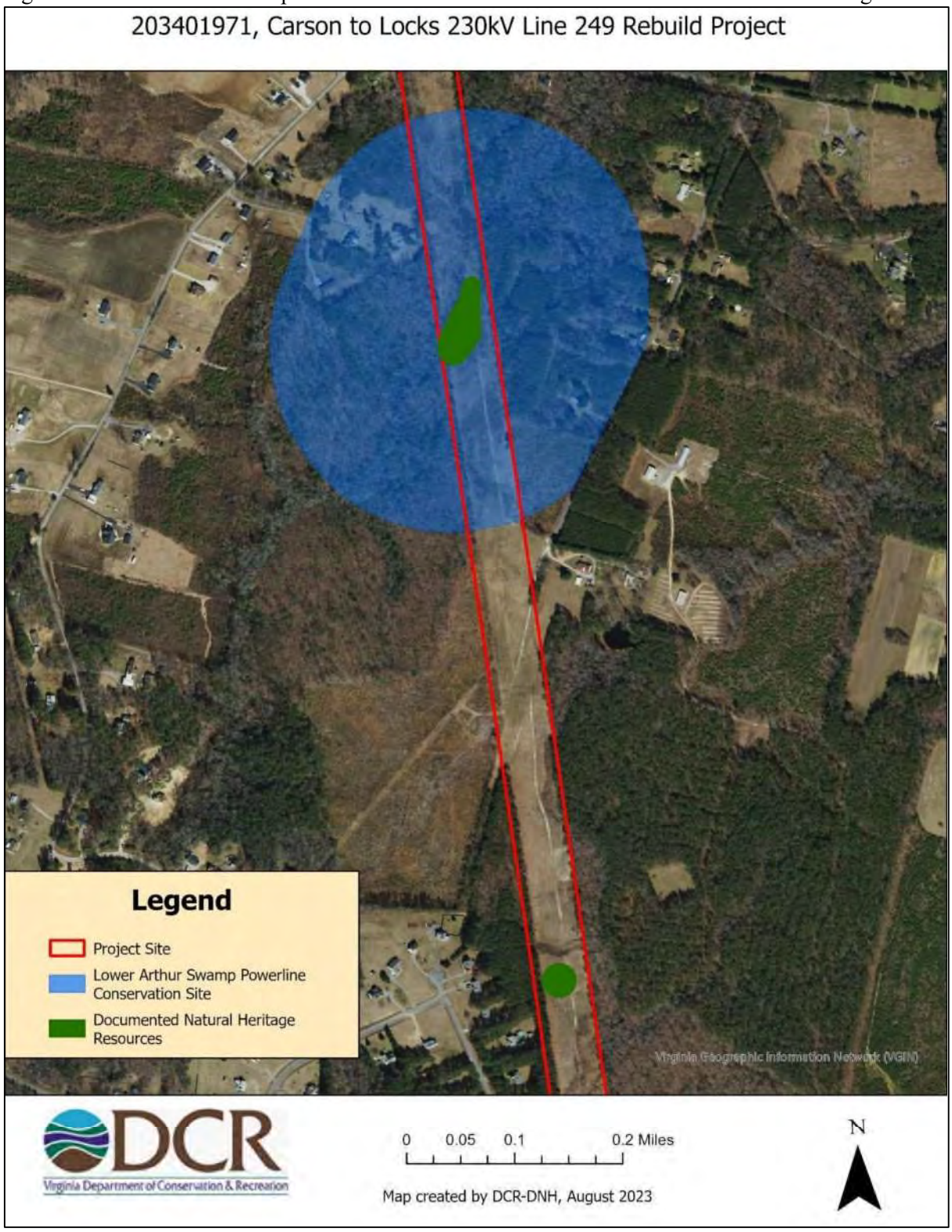


Figure 3. Lower Arthur Swamp Powerline Conservation Site and Documented Natural Heritage Resources



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

August 13, 2019

Mr. Jason E. Williams
Director Environmental Services
Dominion Energy
5000 Dominion Boulevard
Glen Allen, VA 23060

Transmitted electronically: jason.e.william@dominionenergy.com

Subject: Dominion Energy (Electric Transmission) – Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management (AS&S for ESC and SWM)

Dear Mr. Williams:

The Virginia Department of Environmental Quality ("DEQ") hereby approves the Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management for Dominion Energy (Electric Transmission) dated "May 29, 2019". This coverage is effective from August 13, 2019 to August 12, 2020.

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

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

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

2. The following information must be submitted to DEQ for each project at least two weeks in advance of the commencement of regulated land-disturbing activities. Notifications shall be sent by email to: StandardsandSpecs@deq.virginia.gov
   - i: Project name or project number;
   - ii: Project location (including nearest intersection, latitude and longitude, access point);
   - iii: On-site project manager name and contact info;
   - iv: Responsible Land Disturber (RLD) name and contact info;
   - v: Project description;

vi: Acreage of disturbance for project;
vii: Project start and finish date; and
viii: Any variances/exceptions/waivers associated with this project.

3. Project tracking of all regulated land disturbing activities (LDA) must be submitted to the DEQ on a bi-annual basis. Project tracking records shall contain the same information as required in the two week e-notifications for each regulated LDA.
4. Erosion & Sediment Control and Stormwater Management plan review and approval must be conducted by DEQ-Certified plan reviewers and documented in writing.

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

Thank you very much for your submission and continued efforts to conserve and protect Virginia's precious natural resources.

Sincerely,

Jaime B. Robb

Jaime B. Robb, Manager
Office of Stormwater Management

Cc: Amelia Boschen, *Amelia.h.boschen@dominionenergy.com*
Elizabeth Hester, *Elizabeth.l.hester@dominionenergy.com*
Stacey Ellis, *Stacey.t.ellis@dominionenergy.com*

Case Decision Information:
As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.

STAGE I PRE-APPLICATION ANALYSIS FOR THE PROPOSED DOMINION ENERGY VIRGINIA LINE CARSON TO LOCKS 230kV PARTIAL REBUILD PROJECT, CITY OF PETERSBURG AND DINWIDDIE COUNTY, VIRGINIA

September 21, 2023

Prepared for:

Dominion Energy Virginia
Attention: Blair Parks
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
(804) 658-7316

Prepared by:

Sandra DeChard
Senior Architectural Historian

and

Brynn Stewart
Senior Principal Investigator

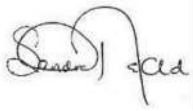
Stantec Consulting Services Inc.
1011 Boulder Springs Drive, Suite 225,
Richmond VA 23225-4951
(804) 267-3474

Sign-off Sheet

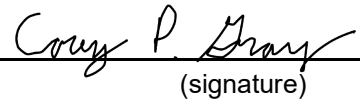
The conclusions in the Report are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from the Client and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided to applicable authorities having jurisdiction and others for whom the Client is responsible, Stantec does not warrant the services to any third party. The report may not be relied upon by any other party without the express written consent of Stantec, which may be withheld at Stantec's discretion.

Prepared by  _____
(signature)
Sandra DeChard, Senior Architectural Historian

Reviewed by  _____
(signature)
Brynn Stewart, Senior Principal Investigator

Approved by  _____
(signature)
Corey Gray, Senior Environmental Scientist

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Executive Summary

Stantec Consulting Services Inc. (Stantec) was retained by Dominion Energy Virginia (Dominion Energy) to conduct a Stage I Pre-Application Analysis for the proposed Carson-Locks 230 kV Line #249 Partial Rebuild Project (Rebuild Project) in Dinwiddie County and the City of Petersburg, Virginia. The project proposed by Dominion Energy is necessary in order to maintain the structural integrity and reliability of its transmission system and to comply with mandatory North American Electric Reliability Corporation (NERC) Reliability Standards. The project will be conducted within an existing right-of-way (ROW) and consists of approximately 6.7 miles of existing 230 kV transmission line. The Rebuild Project will require the wreck and rebuild of 67 existing transmission structures and the addition of two new structures between structures #249/22 and #249/201. The existing structures are predominantly single circuit 230 kV wood H-frame structures or weathering steel H-frame structures. Dominion Energy proposes to replace the current structures with mainly 230 kV single circuit weathering steel H-frames. All proposed structure heights and locations provided in this report are based upon preliminary engineering and are subject to final design.

Background research for the Stage I Pre-Application Analysis was conducted in August 2023 by Stantec staff. The preliminary background research and the field study was conducted pursuant to the *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 [DHR] 2008) for proposed transmission line improvements. As detailed by DHR guidance, consideration was given to National Historic Landmark (NHL) properties located within a 1.5-mile radius of the project centerline; National Register of Historic Places (NRHP)-listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible sites located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project ROW. Ten previously surveyed architectural resources were identified for inclusion in the Stage I analysis. One previously recorded archaeological resource within the existing ROW was also identified during this phase of the project.

Recommendations

Architectural Resources

One NHL architectural resource was located within a 1.5-mile radius of the Rebuild Project centerline. One NRHP-listed resource, the Petersburg National Battlefield (DHR #123-0071), four NRHP eligible and four NRHP potentially eligible battlefields were within 1.0 mile of the centerline. Seven of the resources cross the corridor: the Reams Station Battlefield (DHR #026-0050), Hatcher's Run Battlefield (DHR #026-0132), Boydton Plank Road Battlefield (DHR #026-5004), Lewis's Farm Battlefield (DHR #026-5006), Peebles' Farm Battlefield (DHR #026-5007), Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022), and Petersburg Battlefield III (DHR #123-5026). As the study was completed prior to filing a SCC application, all digital images were taken from public ROW and/or Dominion Energy easements.

Based on preliminary proposed structure heights, the proposed Line #249 Rebuild Project would increase the average height of the structures by 6.6 feet with a maximum height increase of 15.5

feet. Based on the analysis of the proposed structures, it is recommended that the Rebuild Project would have No Visual Impact to the Petersburg Breakthrough Battlefield (DHR #026-5013) and the First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023). The proposed Rebuild Project, based on the findings, would have a Minimal Visual Impact to the Reams Station Battlefield I & II (DHR #026-0050), Hatcher's Run Battlefield (DHR #026-0132), Boydton Plank Battlefield (DHR 026-5004), Lewis's Farm Battlefield (DHR #026-5006), Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Battlefield (DHR #123-0071), Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022), and Petersburg Battlefield III (DHR #123-5026).

Previously Recorded Architectural Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to Closest Structure (Feet)	Impacts
026-0050	Reams Station Battlefield I & II	Potentially Eligible	0	Minimal
026-0132	Hatchers Run Battlefield	Eligible	0	Minimal
026-5004	Boydton Plank Road Battlefield	Eligible	0	Minimal
026-5006	Lewis's Farm Battlefield	Eligible	0	Minimal
026-5007	Peebles' Farm Battlefield	Eligible	0	Minimal
026-5013	Petersburg Breakthrough Battlefield	NHL-Listed	7,361	None
123-0071	Petersburg National Battlefield	NRHP-Listed	583	Minimal
123-5022	Weldon Railroad Battlefield/ Globe Tavern Battlefield	Potentially Eligible	0	Minimal
123-5023	First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield	Potentially Eligible	1,718	None
123-5026	Petersburg Battlefield III	Potentially Eligible	0	Minimal

Archaeological Resources

One previously recorded archaeological resource was identified within the Rebuild Project ROW. The site (Site 44DW0127) comprises a Pre-Contact camp as well as a Civil War battlefield site. Currently, the resource has not been evaluated for NRHP eligibility by DHR. ***It is recommended that archaeological***

sites located within the ROW be investigated and evaluated as appropriate during future investigations.

Previously Recorded Archaeological Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to ROW (Feet)	Impact
44DW0127	Pre-Contact Camp; Battlefield Site	Not Evaluated	0	Investigate During Archaeological Survey

Abbreviations

ABPP	American Battlefield Protection Program
DEM	Digital Elevation Model
DHR	Virginia Department of Historic Resources
Dominion Energy	Dominion Energy Virginia
DP	Delivery Point
DSM	Digital Surface Model
kV	Kilovolt
NERC	North American Electric Reliability Corporation
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
ROW	Right-of-Way
SCC	State Corporation Commission
Stantec	Stantec Consulting Services, Inc.
USDI	United States Department of the Interior
V-CRIS	Virginia Cultural Resources Information System
VLR	Virginia Landmarks Register

1.0 INTRODUCTION

1.1 OVERVIEW

Stantec Consulting Services Inc. (Stantec) was retained by Dominion Energy Virginia (Dominion Energy) to conduct a Stage I Pre-Application Analysis for the proposed Carson-Locks 230 kV Line #249 Partial Rebuild Project (Rebuild Project) in Dinwiddie County and the City of Petersburg, Virginia. The project proposed by Dominion Energy is necessary in order to maintain the structural integrity and reliability of its transmission system and to comply with mandatory North American Electric Reliability Corporation (NERC) Reliability Standards. The project will be conducted within an existing right-of-way (ROW) and consists of approximately 6.7 miles of existing 230 kV transmission line. The Rebuild Project will require the wreck and rebuild of 67 existing transmission structures and the addition of two new structures between structures #249/22 and #249/201[1]. The existing structures are predominantly single circuit 230 kV wood H-frame structures or weathering steel H-frame structures. Dominion Energy proposes to replace the current structures with mainly 230 kV single circuit weathering steel H-frames. All proposed structure heights and locations provided in this report are based upon preliminary engineering and are subject to final design (Table 1).

Table 1 Proposed Structure Heights for the Rebuild Project[2]

Structure No.	Height (Feet) Existing	Height (Feet) Proposed	Approximate Change in Height (Feet)	Existing/Proposed Structure Type**
249/22	113.5	121.5	8	GSLT/ WSM
249/23	69.0	72.5	3.5	WSHF/WSHF
249/24	56.5	65.5	9	WHF/WSHF
249/25	60.4	61.0	0.6	WSHF/WSHF
249/26	68.8	61.7	-7.1	WSHF/WSHF
249/26B	N/A	40.7	N/A	None/GS
249/26A	68.8	76.9	8.1	WSHF/WSHF
249/27	68.7	76.8	8.1	WSHF/WSHF
249/27A	N/A	40.7	N/A	None/GS
249/28	61.0	66.4	5.4	WHF/WSHF
249/29	65.5	70.0	4.5	WHF/WSHF
249/30	70.0	74.5	4.5	WHF/WSHF
249/31	65.5	79.0	13.5	WHF/WSHF

[1] The project will also include reconductoring of existing structures, the rebuild of a few 115 kV structures, and the installation of a 0.25 temporary transmission line. As described in the application to the State Corporation Commission (SCC), this work is not expected to require approval from the SCC and is therefore not included in this Stage I Pre-Application Analysis.
[2] Structure heights do include foundation reveal. Proposed heights based on preliminary engineering and are subject to change during the final design.

STAGE I PRE-APPLICATION ANALYSIS FOR THE PROPOSED DOMINION ENERGY VIRGINIA LINE CARSON TO LOCKS 230KV PARTIAL REBUILD PROJECT, CITY OF PETERSBURG AND DINWIDDIE COUNTY, VIRGINIA

Structure No.	Height (Feet) Existing	Height (Feet) Proposed	Approximate Change in Height (Feet)	Existing/Proposed Structure Type**
249/32	61.0	65.5	4.5	WHF/WSHF
249/33	61.0	56.5	-4.5	WHF/WSHF
249/34	63.5	79.0	15.5	WHF/WSHF
249/35	74.5	88.0	13.5	WHF/WSHF
249/36	56.5	65.5	9	WHF/WSHF
249/37	56.5	65.5	9	WHF/WSHF
249/38	56.5	70.0	13.5	WHF/WSHF
249/39	56.5	70.0	13.5	WHF/WSHF
249/40	56.5	65.5	9	WHF/WSHF
249/41	56.5	65.5	9	WHF/WSHF
249/42	52.0	56.5	4.5	WHF/WSHF
249/43	55.5	70.0	14.5	WHF/WSHF
249/44	55.5	70.0	14.5	WHF/WSHF
249/45	60.0	65.5	5.5	WHF/WSHF
249/46	65.5	70.0	4.5	WHF/WSHF
249/47	61.5	66.6	5.1	WHF/WSHF
249/48	56.5	65.5	9	WHF/WSHF
249/49	56.5	70.0	13.5	WHF/WSHF
249/50	56.5	61.0	4.5	WHF/WSHF
249/51	54.8	65.5	10.7	WHF/WSHF
249/51A	52.0	61.0	9	WSHF/WSHF
249/52	64.0	79.0	15	WHF/WSHF
249/53	78.0	88.0	10	WHF/WSHF
249/54	61.0	70.0	9	WHF/WSHF
249/55	56.5	61.0	4.5	WHF/WSHF
249/56	61.0	65.5	4.5	WHF/WSHF
249/57	56.5	65.5	9	WHF/WSHF
249/58	56.5	61.0	4.5	WHF/WSHF
249/59	70.0	70.0	0	WHF/WSHF
249/60	70.0	70.0	0	WHF/WSHF
249/61	56.5	61.0	4.5	WHF/WSHF
249/62	61.0	74.5	13.5	WHF/WSHF
249/63	65.5	74.5	9	WHF/WSHF
249/64	62.5	65.5	3	WHF/WSHF
249/65	56.5	61.0	4.5	WHF/WSHF
249/66	64.5	66.6	2.1	WSHF/WSHF
249/67	65.5	65.5	0	WHF/WSHF

Structure No.	Height (Feet) Existing	Height (Feet) Proposed	Approximate Change in Height (Feet)	Existing/Proposed Structure Type**
249/68	61.5	74.5	13	WHF/WSHF
249/69	61.5	70.0	7.5	WHF/WSHF
249/70	61.5	70.0	7.5	WHF/WSHF
249/71	61.0	74.5	13.5	WHF/WSHF
249/72	61.0	70.0	9	WHF/WSHF
249/73	64.5	70.0	5.5	WSHF/WSHF
249/74	64.5	70.0	5.5	WSHF/WSHF
249/75	65.5	70.0	4.5	WSHF/WSHF
249/76	66.3	70.0	3.7	WSHF/WSHF
249/77	71.0	70.0	-1	WSHF/WSHF
249/78	70.7	70.0	-0.7	WSHF/WSHF
249/79	65.5	65.5	0	WSHF/WSHF
249/80	60.5	65.5	5	WSHF/WSHF
249/81	56.5	56.3	-0.2	WSHF/WSHF
249/82	56.5	70.0	3.5	WHF/WSHF
249/83	61.0	74.5	13.5	WHF/WSHF
249/84	61.0	70.0	9	WHF/WSHF
249/85	61.0	70.0	9	WSHF/WSHF
249/201	34.0	31.5	-2.5	W3P/WS3P
Minimum	**34**	**56.5**	**-7.1**	N/A
Maximum	**113.5**	**121.5**	**15.5**	N/A
Average Height	**62**	**68***	**6.6**	N/A

*Average includes two new self-supporting switch structures.
**WSHF – Weathering steel H-frame; WHF – Wood H-frame; WSM – Weathering steel monopole; GS – Galvanized switch; GSLT – Galvanized steel lattice tower; W3P – Wood 3-pole; WS3P – Weathering steel 3-pole.

1.2 STAGE I PRE-APPLICATION ANALYSIS

The *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 [DHR] 2008) were developed by the DHR to assist the State Corporation Commission (SCC) and their applicants to address and minimize potential impacts to historic resources associated with the construction of large-scale transmission lines and associated facilities. In consideration to the general project design, as described above, and other elements associated with the proposed undertaking, including current ROW conditions within the proposed project area, Stantec designed the present study to identify all previously recorded architectural and archaeological resources requiring inclusion in a formal Stage I Pre-Application Analysis, as defined by the 2008 *Guidelines*.

As detailed by DHR guidance, consideration was given to National Historic Landmarks (NHL) properties located within a 1.5-mile radius of the project centerline; National Register of Historic Places (NRHP)-

listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible sites located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project ROW. This document includes a viewshed analysis to address potential visual impacts to the five resources considered during the Stage I study.

This Stage I Pre-Application Analysis project was directed by Senior Environmental Scientist Corey Gray and the report authored by Senior Architectural Historian Sandra DeChard. Ms. DeChard oversaw the visual effects survey conducted by Architectural Historian Technician Olivia McCarty. Ms. McCarty photographed the resource viewsheds and Audrey Cropp prepared the photo simulations (Appendix C). Visual modeling and support graphics were prepared by GIS Coordinator, Melissa Sanderson.

Figure No.
1

Title
Project Location Map

Client/Project 203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

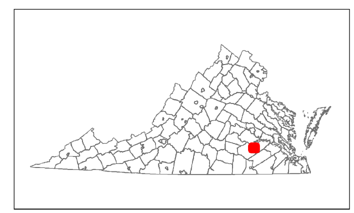
Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 4,000 8,000 Feet
(At original document size of 11x17)
1:48,000

Project Area



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, U.S. Census Bureau
3. Topographic map © USGS 30X60 Minute Series Topographic Map

Stantec

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2.0 BACKGROUND RESEARCH

As part of the Stage I Pre-Application Analysis effort, DHR guidance recommends a four-tier study area strategy to be considered for each alternative alignment for the proposed undertaking (Table 2). Per this guidance consideration was given to: NHL properties located within a 1.5-mile radius of the project centerline; NRHP-listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible resources located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project ROW.

Table 2 Study Areas as Defined by DHR Guidelines for Transmission Lines

Radial Buffer (in miles)	Considered Resources
1.5	National Historic Landmarks
1.0	Above Resources and: National Register Properties (listed), Battlefields, Historic Landscapes (e.g., Rural HD)
0.5	Above Resources and: National Register-eligible (as determined by DHR)
0.0 (Within ROW)	Above Resources and Archaeological Sites

The background research included a review of the DHR archives and of data collected from the DHR's Virginia Cultural Resource Information System (V-CRIS) database using the most current data as provided by the DHR. The DHR files of archaeological sites and historic structures were examined and information was retrieved on all archaeological sites located up to a 0.5-mile radius of the project area and all previously recorded architectural resources up to a 1.5-mile radius of the project. ESRI ArcGIS Online aerial photography of current conditions was examined for the entire project area. Photographs of the viewshed of each of the architectural resources under consideration were taken from the public ROW.

2.1 RESULTS OF THE BACKGROUND RESEARCH

2.1.1 Architectural Resources

One NHL architectural resource was located within a 1.5-mile radius of the Rebuild Project centerline. One NRHP-listed resource, the Petersburg National Battlefield (DHR #123-0071), four NRHP eligible and four NRHP potentially eligible battlefields were within 1.0 mile of the centerline. Seven of the resources cross the corridor: the Reams Station Battlefield (DHR #026-0050), Hatcher's Run Battlefield (DHR #026-0132), Boydton Plank Road Battlefield (DHR #026-5004), Lewis's Farm Battlefield (DHR #026-5006), Peebles' Farm Battlefield (DHR #026-5007), Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022), and Petersburg Battlefield III (DHR #123-5026). As the study was completed prior to filing a SCC application, all digital images were taken from public ROW and/or Dominion Energy easements. See Table 3 for a listing of the architectural resources within the project area.

Table 3 Previously Recorded Architectural Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to Closest Structure (Feet)
026-0050	Reams Station Battlefield I & II	Potentially Eligible	0
026-0132	Hatchers Run Battlefield	Eligible	0
026-5004	Boydton Plank Road Battlefield	Eligible	0
026-5006	Lewis's Farm Battlefield	Eligible	0
026-5007	Peeble's Farm Battlefield	Eligible	0
026-5013	Petersburg Breakthrough Battlefield	NHL-Listed	7,361
123-0071	Petersburg National Battlefield	NRHP-Listed	583
123-5022	Weldon Railroad Battlefield/Globe Tavern Battlefield	Potentially Eligible	0
123-5023	First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield	Potentially Eligible	1,718
123-5026	Petersburg Battlefield III	Potentially Eligible	0

2.1.2 Archaeological Resources

One previously recorded archaeological resource was identified within the Rebuild Project ROW. The site (Site 44DW0127) comprises a Pre-Contact camp as well as a Civil War battlefield site. Currently, the resource has not been evaluated for NRHP eligibility by DHR (Appendix D; Table 4).

Table 4 Previously Recorded Archaeological Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to ROW (Feet)
44DW0127	Pre-Contact Camp; Battlefield Site	Not Evaluated	0

3.0 STAGE I PRE-APPLICATION ANALYSIS RESULTS

3.1 VISUAL EFFECTS METHODOLOGY

Fieldwork for the proposed transmission line project was undertaken by Architectural Historian Technician Olivia McCarty on June 20 to 23, 2023. The fieldwork for the assessment entailed photographing the resources requiring viewshed analysis according to the Stage I Pre-Application guidelines and examining the potential views from the resources towards the proposed transmission line improvements. As the fieldwork was conducted prior to a formal SCC application submittal, all photographs were taken from public ROW locations with aerial photography utilized to supplement the analysis of project visibility and potential visual effects. As the proposed line is a rebuild of an existing transmission line and the proposed new line will be located within the existing alignment, the existing line was utilized to assist with the assessment of potential visual effects.

A detailed viewshed was modeled for the existing and proposed structures. This analysis required the creation of two datasets, a digital elevation model (DEM) which provided base ground elevations, and a digital surface model (DSM) which provided overall elevations for features on the terrain, such as trees and buildings. Using the existing structure heights and preliminary proposed structure heights provided by Dominion Energy, two viewshed analyses were run using these datasets to determine where the existing and proposed structures are or will be visible in the landscape surrounding the proposed transmission line improvements. The visibility is illustrated by three color shadings:

Orange - where both existing and proposed structures are/will be visible,

Burgundy - where the existing structures are visible, but the proposed structures will not be, and

Blue - where the existing structures are not visible, but the proposed structures will be.

3.2 BATTLEFIELDS CONSIDERED

All 10 resources under consideration are battlefields. One NHL battlefield, the Petersburg Breakthrough Battlefield (DHR #026-5013) is located within 1.5 miles of the Rebuild Project centerline. The remaining nine are located within 1.0 mile of the Rebuild Project centerline (Table 5). Under DHR guidelines, these resources meet the criteria for consideration for visual effects. The resources are further described below along with a discussion and recommendation of potential effects as a result of the project.

Table 5 Battlefield Resources Considered within the Stage I Pre-Application Process

DHR #	Resource Name	Total Acreage of ABPP-Defined Battlefield	Acreage of ABPP-Defined Battlefield within 1.0-Mile	Acreage of Core Area within 1.0 Mile	Acreage of PotNR Area within 1.0 Mile
026-0050	Reams Station Battlefield I & II	10,673	5,023	2,711	5,023
026-0132	Hatchers Run Battlefield	11,881	764	0	234
026-5004	Boydton Plank Road Battlefield	8,219	1,018	0	1,018
026-5006	Lewis's Farm Battlefield	3,445	391	0	0
026-5007	Peeble's Farm Battlefield	5,221	3,476	1,420	1,905
026-5013*	Petersburg Breakthrough Battlefield	426	22	N/A	N/A
123-0071**	Petersburg National Battlefield	1,553	74	N/A	N/A
123-5022	Weldon Railroad Battlefield/ Globe Tavern Battlefield	4,506	1,998	908	1,227
123-5023	First Battle of Weldon Railroad/ Jerusalem Plank Road Battlefield	6,389	682	211	87
123-5026	Petersburg Battlefield III	20,519	2,923	908	1,958

*Resource is an NHL property and located within the 1.5-mile radius of the project centerline. An ABPP boundary was not utilized for this resource nor were Core or PotNR areas defined.
**Resource is a NRHP-listed NPS property and comprises five individual sites. No ABPP boundary was utilized.

For the assessment of battlefield resources, Stantec took into consideration the guidance and recommendations of the American Battlefield Protection Program (ABPP)'s 2009 assessment of Virginia's Civil War period resources and subsequent updates. In 2009, the ABPP revised the 1992 Civil War Sites Advisory Commission (CWSAC) boundaries for Virginia, and many of the battlefields were greatly expanded in size. For battlefields, the ABPP defined Study Areas, Potential National Register (PotNR) Areas, and Core Areas for each battlefield resource. The larger Study Area contains all resources known to relate or contribute to the battlefield event, such as where troops maneuvered and deployed immediately before or after combat, and where they fought during combat. Within the Study Area are Core Areas, which denote the actual fighting areas located within the larger battlefield. In addition, the ABPP defined PotNR boundaries for each battlefield. The PotNR boundary represents the ABPP's assessment of a Study Area's current integrity. The PotNR Area may include all or some of the Study Area or all or some of the Core Area associated with a battlefield engagement. The PotNR boundary does not constitute a formal determination of eligibility by the Keeper of the NRHP; however, it is a recommendation of potential eligibility by the ABPP and/or DHR. The ABPP boundaries utilized in the viewshed mapping for each battlefield resource were extracted from VCRIS.

Many of the Civil War battlefields within the study area overlap significantly, particularly in the location of roads. Therefore, many of the photograph locations are shared by multiple resources.

3.2.1 Reams Station Battlefield I & II (DHR #026-0050)

The Reams Station Battle took place on August 25, 1864, with 9,500 Confederate forces commanded by General A. P. Hill pitted against 9,000 Union troops under General Winfield S. Hancock. During the battle, Confederate troops attempted to recapture the Weldon Railroad which had been lost four days earlier. Although the Confederate forces were able to defeat Union troops, the Confederate soldiers were forced to fall back to Petersburg. During the battle, the Confederate casualties totaled 814 soldiers, while casualties on the Union side amounted to 2,747. In 2020, DHR determined the battlefield to be potentially eligible for listing in the NRHP (DHR Site Files; American Battlefield Trust 2023a).

Approximately 5,023 acres of the 10,673-acre battlefield resource (Table 5) is located within 1.0 mile of the project centerline and consists of the ABPP-defined Study, PotNR, and Core areas. The PotNR Area encompasses the whole of the Study Area within 1.0 miles of the Rebuild Project centerline. Additionally, approximately 2,711 acres of the Core Area is within 1.0 mile. The Study, PotNR, and Core areas also extend beyond 1.0 mile to the west, east, and southeast (Figure 6; Appendix B). The Reams Station Battlefield I & II also overlaps with the following battlefields:

Boydton Plank Road Battlefield (DHR #026-5004)

3.2.1.1 Visual Effect Assessment

The Reams Station Battlefield I & II, located within 1.0 mile of the Rebuild Project at the southern end of the Rebuild Project, comprises a relatively level landscape with areas of open agricultural fields and large sections of woods. Under current conditions, the existing transmission line structures in the vicinity of the resource (Structures #249/68 through #249/201), are approximately 34 feet to 71 feet. Structure #249/71 and #249/83 through #249/85 were visible just above the trees from Photo Locations 3, 4, and 7 but not visible from Photo Location 2 (Figures 2-5).

Based upon preliminary design, proposed replacement structures closest to the historic resource (Structures #249/68 through #249/201) will have heights of approximately 31.5 feet to 74.5 feet with an increase of 4 and 13 feet. Structure #249/79 will not change in height, and Structures #249/77, #249/78, #249/81, and #249/201 will decrease in height by 1 to 2.5 feet. Viewshed modeling and the photosimulations indicate that the proposed structures will be visible from the resource in open agricultural fields and minimally above the existing height of the trees. Additionally, the proposed rebuild structures will be similar in height or lower to the adjacent, existing transmission line in the corridor (Figure 6; Appendix C; OP8 and OP9). Based on the fieldwork, the proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the***

proposed Rebuild Project would have a Minimal Visual Impact on the Reams Station Battlefield I & II (DHR #026-0050).

Figure 2 View from Reams Station Battlefield I & II (DHR #026-0050) Looking Northwest from Photo Location 3/OP8. The Existing Transmission Line is Visible.

Figure 3 View from Reams Station Battlefield I & II (DHR #026-0050) and Boydton Plank Road Battlefield (DHR #026-5004) Looking West from Photo Location 2. The Existing Transmission Line is not Visible.

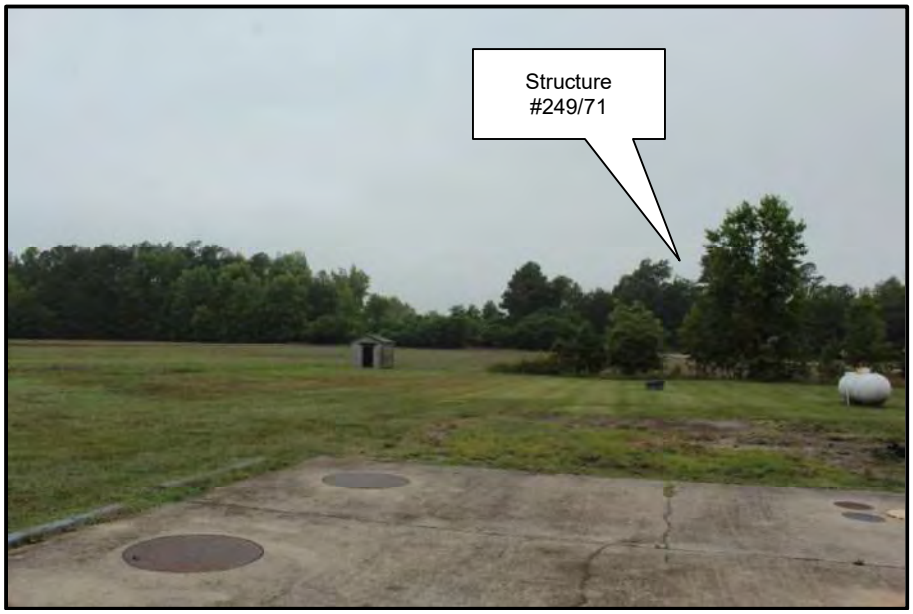
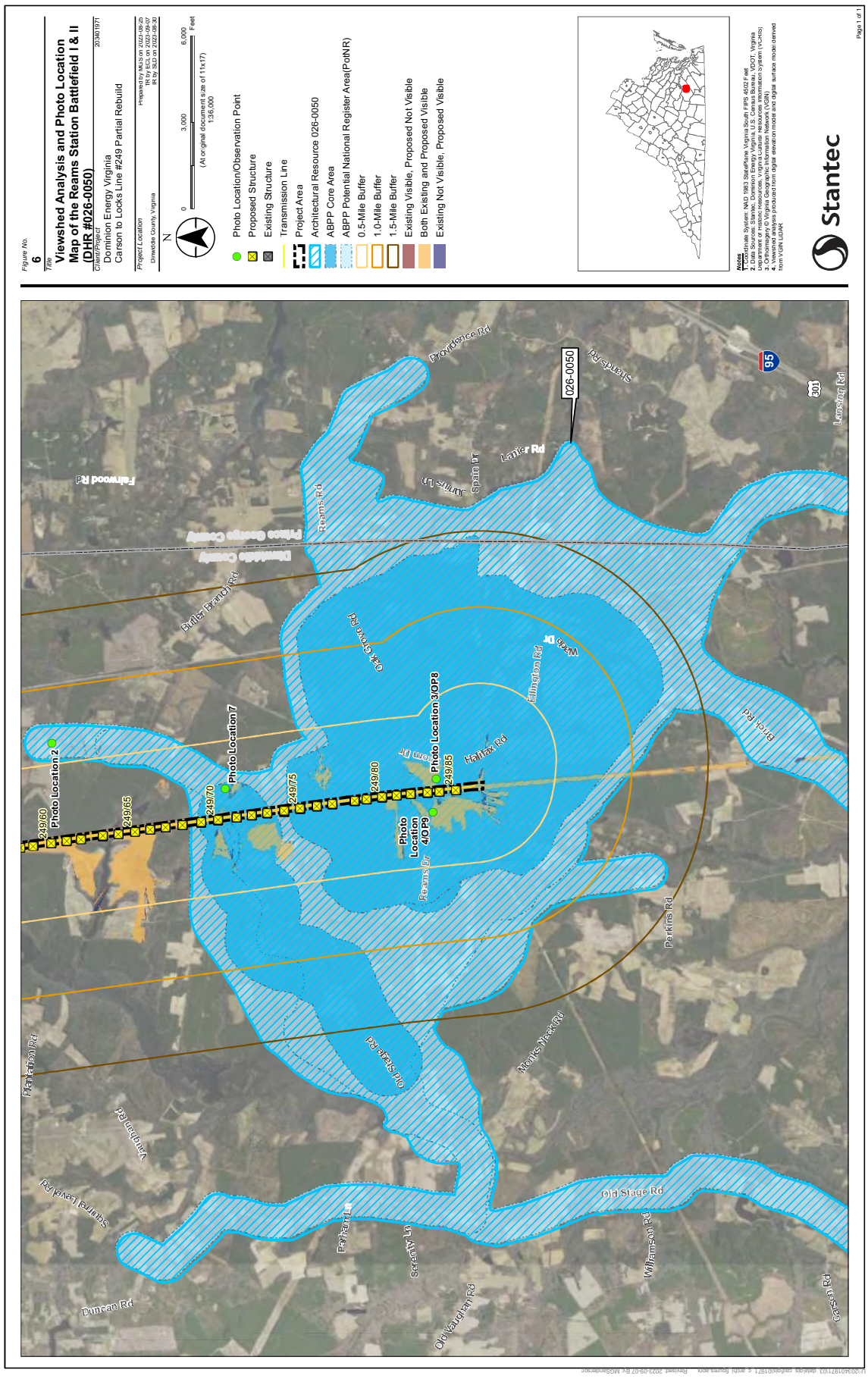


Figure 4 View from Reams Station Battlefield I & II (DHR #026-0050) and Boydton Plank Road Battlefield (DHR #026-5004) Looking West from Photo Location 7. The Existing Transmission Line is Visible.

Figure 5 View from Reams Station Battlefield I & II (DHR #026-0050) Looking Southeast from Photo Location 4/OP9. The Existing Transmission Line is Visible (500 kV Transmission Line is not Part of the Rebuild Project).



3.2.2 Hatcher's Run Battlefield (DHR #026-0132)

The Hatcher's Run Battle took place between February 5-7, 1865, with 13,835 Confederate forces commanded by Major General John B. Gordon pitted against 34,517 Union troops under Major General Gouverneur K. Warren. Warren's Fifth Corps, in conjunction with Brigadier General David Gregg's calvary, was situated on Vaughan Road with the intent of blocking Confederate forces. The Union's Second Corps, under the command of Major General Andrew A. Humphreys, arrived to protect Warren's flank. Efforts by Confederate forces to gain territory near Armstrong's Mill were repulsed and Union troops were replenished during the night and made a renewed attempt at advancement the following day. While both Warren and Gregg's forces were attacked by Confederate troops under the command of Brigadier General John Pegram, who was killed during the battle, Union forces were not able to advance. Though Confederate troops were vastly outnumbered, the battle ended in a stalemate. The battle resulted in 1,000 Confederate and 1,539 Union casualties. In 2020, the battlefield was determined eligible for listing in the NRHP by DHR (DHR Site Files; American Battlefield Trust 2023b).

Approximately 764 acres of the 11,881-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline and also crosses the transmission line corridor and consists of the ABPP-defined Study Area and approximately 234 acres of the PotNR Area. A majority of the PotNR Area as well as the Core Area of the battlefield are located outside the 1.0-mile radius of the project centerline to the northeast and southwest Figure 12; (Appendix B). The Hatcher's Run Battlefield also overlaps with the following battlefields:

Boydton Plank Road Battlefield (DHR #026-5004)
Peebles' Farm Battlefield (DHR #026-5007)
Petersburg National Battlefield (DHR #123-0071)
Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)

3.2.2.1 Visual Effect Assessment

The Hatcher's Run Battlefield, within 1.0 mile of the Rebuild Project, comprises a relatively level landscape with areas of open agricultural fields and large sections of woods. Under current conditions, the existing transmission line structures in the vicinity of the resource (Structures #249/26 through and #249/59), are approximately 52 feet to 74.5 feet. The area where the battlefield crosses the transmission line corridor between Structure #249/40 and #249/44 were visible from Photo Locations 13, 16, 24, and 26 but not visible from Photo Location 15 (Figures 7-11).

Based upon preliminary design, proposed replacement structures closest to the historic resource (Structures #249/26 through #249/59) will have heights of approximately 40.7 feet to 88 feet with an increase of 4.5 to 15.5 feet. Structure #249/59 will not change in height, and Structures #249/26 and #249/33 will decrease in height by 4.5 and 7.1 feet, respectively. Viewshed modeling and the photosimulations indicate that the proposed structures will be visible from the resource in open agricultural fields adjacent to and where the resource crosses the transmission line. Additionally, the proposed rebuild structures will be similar in height or lower to the adjacent, existing transmission line in

the corridor (Figure 12; Appendix C; OP2 and OP4). Based on the fieldwork, the proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the proposed Rebuild Project would have a Minimal Visual Impact on the Hatcher's Run Battlefield (DHR #026-0132).***

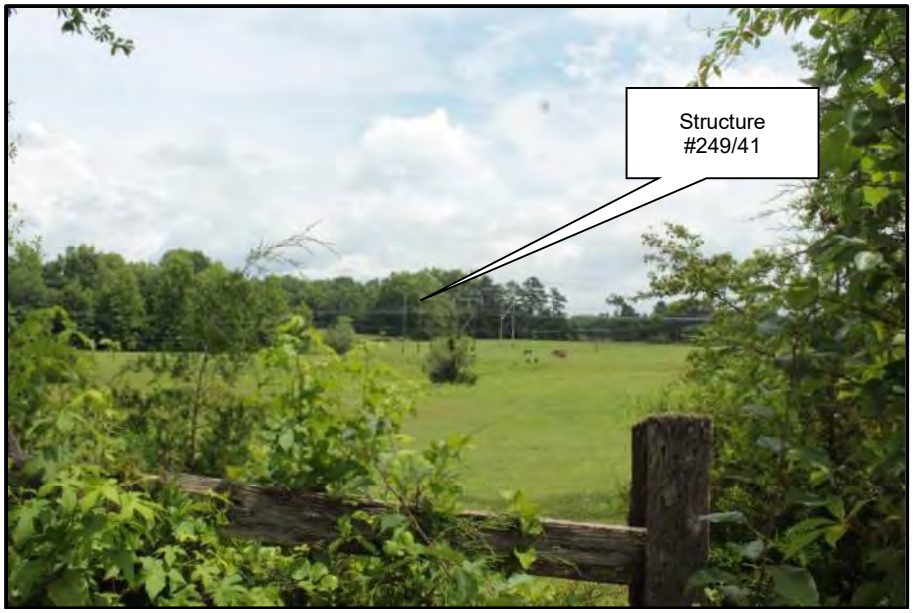


Figure 7 View from Hatcher's Run Battlefield (DHR #026-0132), Peebles' Farm Battlefield (DHR #026-5007), and Weldon Railroad Battlefield (DHR #123-5022) Looking Northeast from Photo Location 13. The Existing Transmission Line is Visible.

Figure 8 View from Hatcher's Run Battlefield (DHR #026-0132) and Boydton Plank Road Battlefield (DHR #026-5004) Looking East from Photo Location 15. The Existing Transmission Line is not Visible.

Figure 9 View from Hatcher's Run Battlefield (DHR #026-0132, Peebles' Farm Battlefield (DHR #026-5007), Weldon Railroad Battlefield (DHR #123-5022), First Battle of Weldon Railroad (DHR #123-5023), and Petersburg Battlefield III (DHR #123-5026) Looking West from Photo Location 16. The Existing Transmission Line is not Visible.

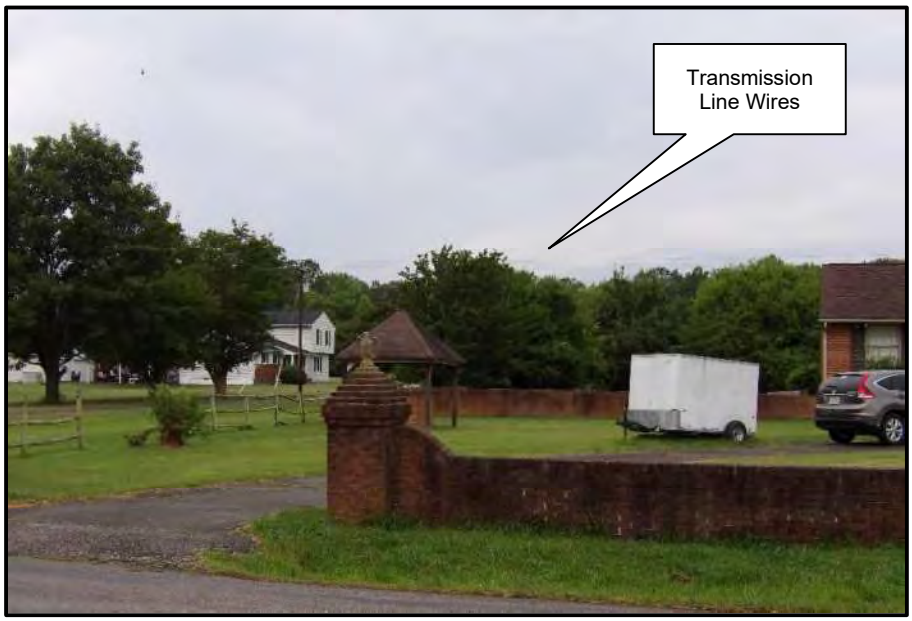


Figure 10 View from Hatcher's Run Battlefield (DHR #026-0132), Peebles' Farm Battlefield (DHR #026-5007), Weldon Railroad Battlefield (DHR #123-5022), and Petersburg National Battlefield (DHR #123-0071) Looking Southwest from Photo Location 24/OP2. The Existing Transmission Line Wires are Visible.

Figure 11 View from Hatcher's Run Battlefield (DHR #026-0132), Peebles' Farm Battlefield (DHR #026-5007), and Weldon Railroad Battlefield (DHR #123-5022) Looking Northwest from Photo Location 26/OP4. The Existing Transmission Line is Visible.

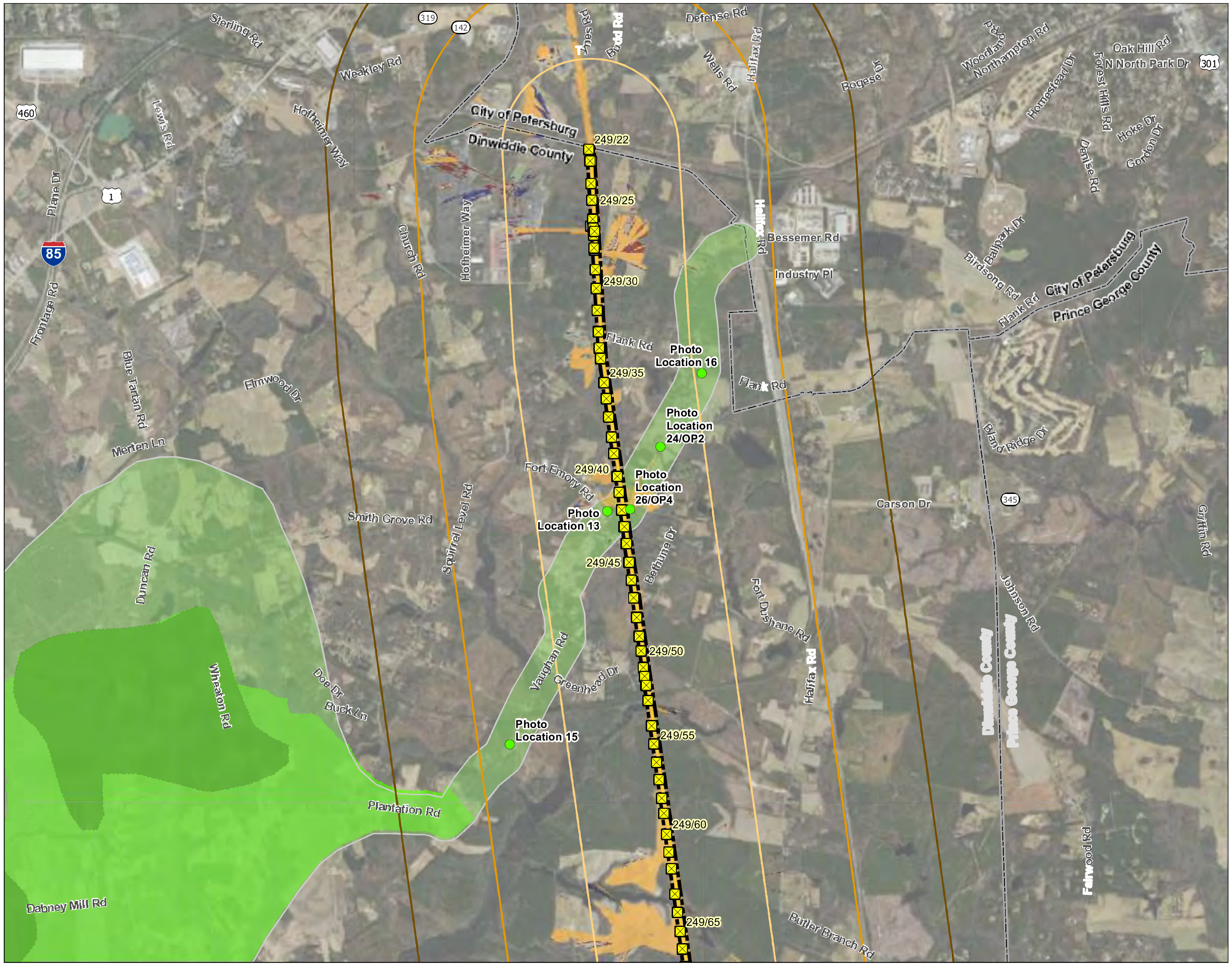


Figure No.
12

Title
Viewshed Analysis and Photo Location Map of the Hatcher's Run Battlefield (DHR #026-0132)

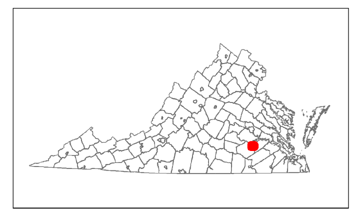
Client/Project
203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N
0 3,000 6,000 Feet
(At original document size of 11x17)
1:36,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 026-0132
- ABPP Core Area
- ABPP Potential National Register Area(PotNR)
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.3 Boydton Plank Road Battlefield (DHR #026-5004)

The Boydton Plank Road Battle took place on October 27 and 28, 1864, with a total of 30,000 soldiers on both sides. Union forces, commanded by Major General Winfield Scott Hancock as well as Brigadier General David Gregg's calvary, attempted to cut off the supply lines of the South Side Railroad and take Boydton Plank and Petersburg Plank roads. The Confederate forces, under the command of Major General Henry Heth and the calvary division of Major General Wade Hampton, were able to retain their position, but during the battle, Union forces earned a strategic victory prior to settling in their winter encampment. In 2020, the battlefield was determined eligible for listing in the NRHP by DHR (DHR Site Files; American Battlefield Trust 2023c).

Approximately 1,018 acres of the 8,219-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline and consists of the ABPP-defined Study and PotNR areas (Appendix B). The portion of the battlefield within 1.0 mile also follows sections of Old Stage and Halifax roads as well as a section of Butler's Branch and Vaughan roads and includes the troop movement routes to the west of the transmission line corridor between Structure #249/53 and #249/62. Additionally, the battlefield crosses the transmission line corridor and extends to the west beyond 1.0-mile from the Rebuild Project centerline. A majority of the PotNR Area as well as the entirety of the Core Area of the battlefield are located outside the 1.0-mile radius of the project centerline (Figure 17; Appendix B). The Boydton Plank Road Battlefield also overlaps with the following battlefields:

Reams Station Battlefield I & II (DHR #026-0050)
Lewis's Farm Battlefield (DHR #026-5006)
Peebles' Farm Battlefield (DHR #026-5007)
Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)

3.2.3.1 Visual Effect Assessment

The landscape within the portion of the battlefield within 1.0-mile of the Rebuild Project comprises mostly densely wood areas with some open agricultural fields and mid-to late twentieth century residential development. Under current conditions, the existing transmission line structures, which range in height from approximately 52 to 78 feet (Structures #249/49 through #249/63 and #249/69 through #249/73) within and in the vicinity of the resource are visible where the line transverses through areas of open landscape, mainly the area between Structure #249/55 through Structure #249/63 (Photo Locations 1 and 7; Figures 4 and 13; OP5). The existing line was not visible from Photo Locations 2, 8, 12, 14, and 15 due to the dense forest between the point of survey and the transmission line corridor (Figures 3, 8, 14, 15, and 16).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/49 through #249/63 and #249/69 through #249/73) will have heights ranging from approximately 61 to 88 feet with a maximum increase of 13.5 feet (Structure #249/49, #249/62, and #249/71). Viewshed modeling indicates that the proposed structures would be visible from the resource where the line traverses through open landscape within the battlefield in areas where it is already visible

(Figure 16). The photosimulation also indicates that proposed Structures #249/55 through #249/63 would also be visible (Appendix C; OP5) but will be similar in height to the adjacent, existing transmission line in the corridor. Based on the fieldwork, the proposed structure heights, photosimulation, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the proposed Rebuild Project would have a Minimal Visual Impact on the Boydton Plank Road Battlefield*** (***DHR #026-5004).***

Figure 13 View of Boydton Plank Battlefield (DHR #026-5004) and Lewis's Farm Battlefield (DHR #026-5006) Looking Northeast from Photo Location 1/OP5. The Existing Transmission Line is Visible.

Figure 14 View from Boydton Plank Road Battlefield (DHR #026-5004), Lewis's Farm Battlefield (DHR #026-5006), Peebles' Farm Battlefield (DHR #026-5007), and Weldon Railroad Battlefield (DHR #123-5022) Looking Northwest from Photo Location 8. The Existing Transmission Line is not Visible.

Figure 15 View of Boydton Plank Battlefield (DHR #026-5004), Peebles' Farm Battlefield (DHR #026-5007), and Petersburg Battlefield III (DHR #123-5026) Looking East from Photo Location 12. The Existing Transmission Line is not Visible.

Figure 16 View Boydton Plank Battlefield (DHR #026-5004) Looking East from Photo Location 14. The Existing Transmission Line is not Visible.

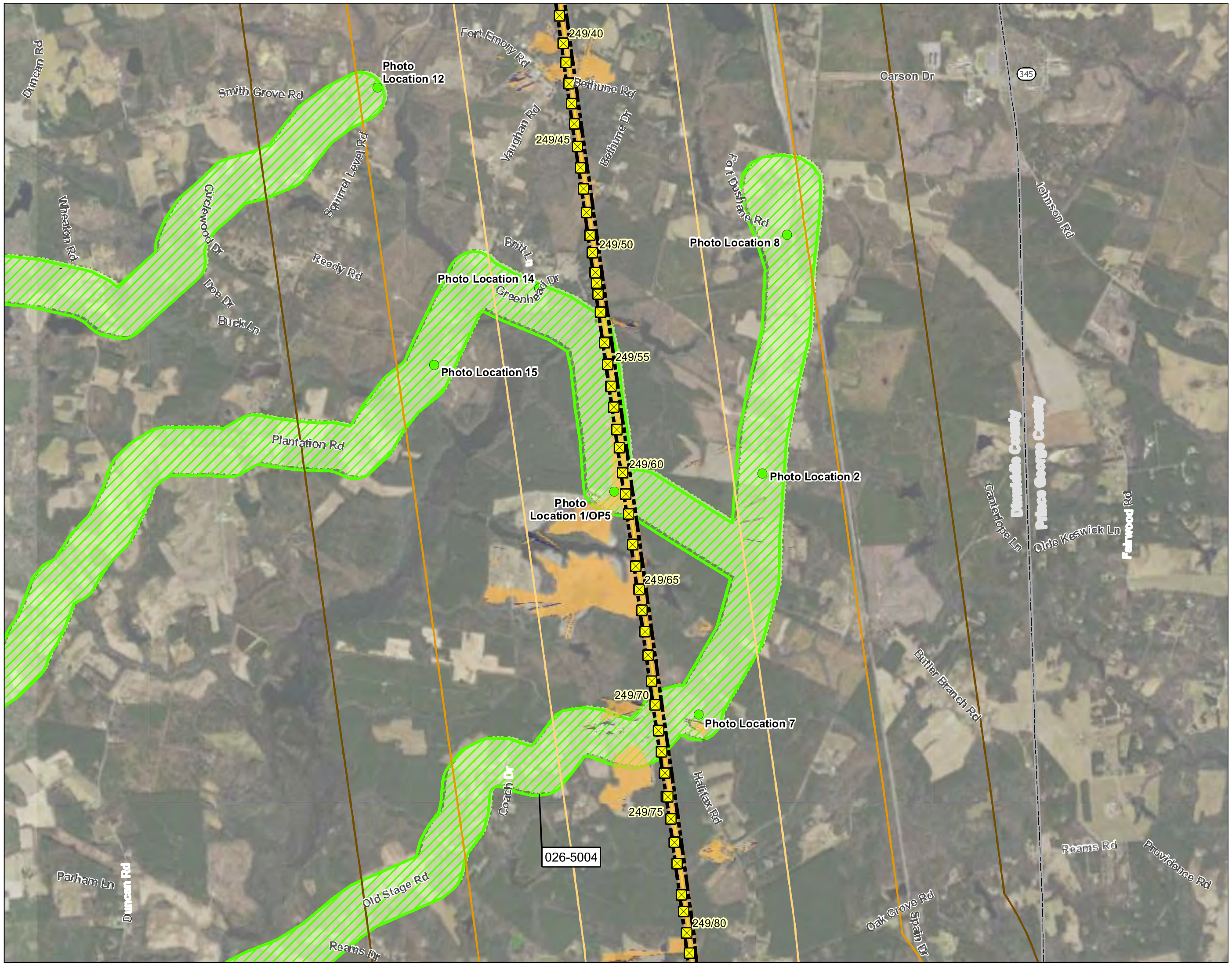


Figure No.
17

Title
Viewshed Analysis and Photo Location Map of the Boydton Plank Road Battlefield (DHR #026-5004)

Client/Project
203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

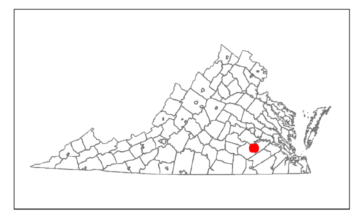
Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 2,500 5,000 Feet
(At original document size of 11x17)
1:30,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 026-5004
- ABPP Potential National Register Area(PotNR)
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.4 Lewis's Farm Battlefield (DHR #026-5006)

The Lewis's Farm Battle took place on March 29, 1865. During the spring offensive, Union troops under the command of General Philip Sheridan along with the Union Army's calvary marched towards Dinwiddie Courthouse in an attempt to dismantle the right flank of Confederate defensive forces. The Fifth Corps, commended by Major General Gouverneur K. Warren, encountered formidable opposition along Quaker Road in the vicinity of Gravelly Run at Lewis Farm by Major General Bushrod Johnson's Confederate troops. The battle forced Confederate troops back to White Oak Road with Union forces establishing trenches along Boydton Plank Road. The battle was a Union victory with casualties totaling 380 for the Union side and 370 on the Confederate side. In 2006, the battlefield was determined eligible for listing in the NRHP by DHR (DHR Site Files; NPS 2015; Searles 2023).

Approximately 391 acres of the 3,445-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline and consists of the ABPP-defined Study Area (Appendix B). The battlefield encompasses sections of Squirrel Level and Halifax roads and follows a troop movement route from the west and crossing the transmission line corridor between Structure #249/59 and #249/63. The PotNR and Core areas of the resource are located outside the 1.0-mile radius of the project centerline. The Lewis's Farm Battlefield also overlaps with the following battlefields:

Boydton Plank Road Battlefield (DHR #026-5004)
Peebles' Farm Battlefield (DHR #026-5007)
Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)
First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023)
Petersburg Battlefield III (DHR #123-5026)

3.2.4.1 Visual Effect Assessment

The landscape within the portion of the battlefield 1.0-mile from the Rebuild Project comprises mostly densely wood areas with some open agricultural fields. Under current conditions, the existing transmission line structures, which range in height from approximately 52 to 78 feet (Structures #249/35 through #249/63) within and in the vicinity of the resource are visible where the line transverses through areas of open landscape, mainly the area between Structure #249/55 through Structure #249/63 (Photo Location 1; Figure 13; OP5). The existing line was not visible from Photo Location 8 due to the dense forest between the point of survey and the transmission line corridor (Figure 14).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/35 through #249/63) will have heights ranging from approximately 56.5 to 88 feet with a maximum increase of 14.5 feet (Structure #249/43 and #249/44). Structure #249/59, #249/60 and #249/67 will not change in height. Viewshed modeling indicates that the proposed structures would be visible from the resource where the line traverses through open landscape within the battlefield in areas where it is already visible (Figure 18; Appendix C; OP5). The photosimulation also indicates that proposed Structures #249/55 through #249/63 would also be visible (Appendix C; OP5) but will be similar in height to the adjacent, existing transmission line in the corridor. Based on the fieldwork, the proposed

structure heights, photosimulation, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the proposed Rebuild Project would have a Minimal Visual Impact on the Lewis's Farm Battlefield*** (***DHR #026-5006).***

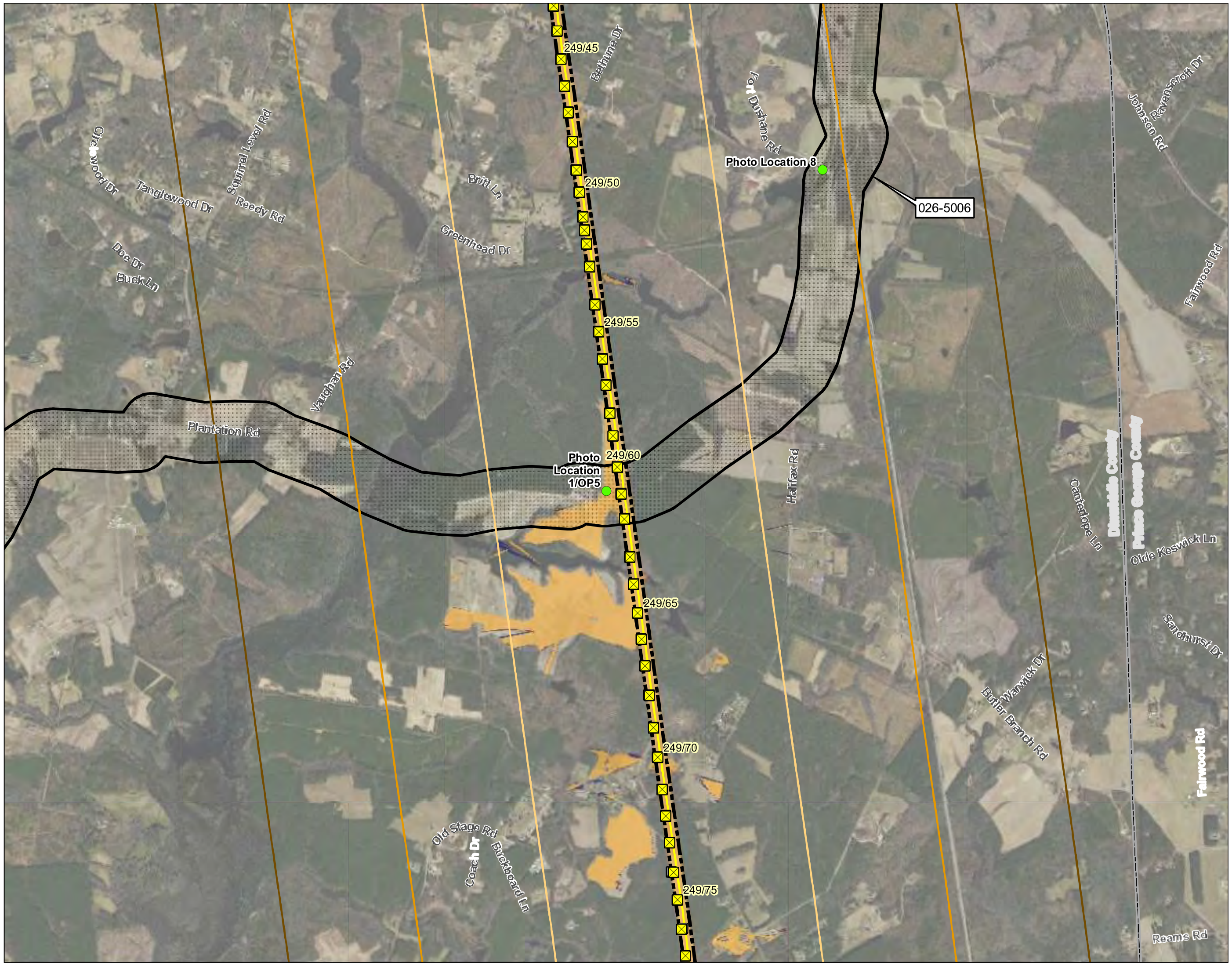


Figure No.
18

Title
Viewshed Analysis and Photo Location Map of the Lewis's Farm Battlefield (DHR #026-5006)

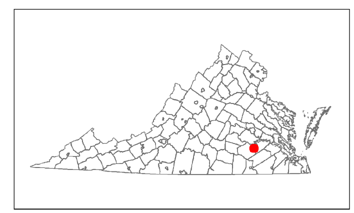
Client/Project 203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N
0 2,000 4,000 Feet
(At original document size of 11x17)
1:24,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 026-5006
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.5 Peebles' Farm Battlefield (DHR #026-5007)

The Battle of Peeble's Farm took place between September 30 and October 2, 1864, with 10,000 Confederate forces commanded by General Robert E. Lee pitted against 29,000 Union troops under Lieutenant General Ulysses S. Grant. Divisions from Major General John G. Parke Ninth Corps and two Fifth Corps divisions under Major General Gouverneur K. Warren as well as the army's calvary division commanded by Brigadier General David M. Gregg left Fort Wadsworth on the 30th and arrived at Squirrel Level and Vaughan roads to attack Fort Archer. Although Confederate reinforcements arrived and slowed the advancement of Union troops, Union forces were able to take Fort MacRae, located near Peebles Farm. The battle ended with a Union victory. During the battle, the Confederate side experienced 1,240 casualties, while casualties on the Union side amounted to 2,900. In 2007, the battlefield was determined eligible for listing in the NRHP by DHR (DHR Site Files; American Battlefield Trust 2023d).

Approximately 3,476 acres of the 5,221-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline and consists of the ABPP-defined Study, PotNR, and Core areas (Appendix B). The portion of the battlefield within 1.0 mile encompasses sections of Squirrel Level and Vaughan roads and Bethune Drive as well as parallels a portion of Halifax Road to the west of the resource's boundary. The PotNR Area comprises approximately 1,905 acres while approximately 1,420 acres of the Core Area is within 1.0-mile of the Rebuild Project. The battlefield extends to the west beyond the 1.0-mile radius of the Rebuild Project centerline. The Peebles' Farm Battlefield also overlaps with the following battlefields:

Boydton Plank Road Battlefield (DHR #026-5004)
Lewis's Farm Battlefield (DHR #026-5006)
Petersburg National Battlefield (DHR #123-0071)
Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)
First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023)
Petersburg Battlefield III (DHR #123-5026)

3.2.5.1 Visual Effect Assessment

The landscape within the portion of the battlefield 1.0-mile from the Rebuild Project comprises mostly densely wood areas with some open agricultural fields. Areas of residential and industrial development have occurred in the northwestern section of the battlefield. Under current conditions, the existing transmission line structures, which range in height from approximately 52 to 74.5 feet (Structures #249/23 through #249/48) within and in the vicinity of the resource are visible where the line transverses through areas of open landscape (Photo Location 13, 20, 24 [wires only] and 26; Figures 7, 10 [wires only], 11, and 21). The existing line was not visible from Photo Locations 11, 12, 16, 19, 23, and 25 due to the dense forest between the point of survey and the transmission line corridor (Figures 9,19, 20, 22, and 23).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/23 through #249/48) will have heights ranging from approximately 40.7 to 88 feet with a maximum increase of 15.5 feet (Structure #249/34). Structure #249/26 and #249/33 will decrease in height by 7.1 and 4.5 feet, respectively. Viewshed modeling indicates that the proposed structures would

be visible from the resource where the line traverses through open landscape within the battlefield in areas where it is already visible. Areas of additional visibility, where the existing structures were not visible, are located within the northern area of the battlefield just inside the 1.0-mile radius (Figure 24). Photosimulations indicate that proposed structures would not be visible from three of the four Observation Points considered (OP1-OP3). OP4 indicated that the structures will be visible but will be lower in height than the existing structures (Appendix C). Based on the fieldwork, the proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the proposed Rebuild Project would have a Minimal Visual Impact on the Peebles' Farm Battlefield*** (***DHR #026-5007).***

Figure 19 View from Peebles' Farm Battlefield (DHR #026-5007), Petersburg Battlefield III (DHR #123-5026), and Petersburg National Battlefield (DHR #123-0071) Looking East from Photo Location 11. The Existing Transmission Line is not Visible.

Figure 20 View from Peebles' Farm Battlefield (DHR #026-5007) and Petersburg Battlefield III (DHR #123-5026) Looking West from Photo Location 19. The Existing Transmission Line is not Visible (Transmission Line Depicted in Photo is not Part of the Rebuild Project).

Figure 21 View from Peebles' Farm Battlefield (DHR #026-5007) and Petersburg Battlefield III (DHR #123-5026) Looking Northwest from Photo Location 20. The Existing Transmission Line is Visible.

Figure 22 View from Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Battlefield (DHR #123-0071), and Petersburg Battlefield III (DHR #123-5026), Looking Southeast from Photo Location 23/OP1. The Existing Transmission Line is not Visible.

Figure 23 View from Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Battlefield (DHR #123-0071), Weldon Railroad Battlefield (DHR #123-5022), and First Battle of Weldon Railroad (DHR #123-5023) Looking Southwest from Photo Location 25/OP3. The Existing Transmission Line is not Visible.

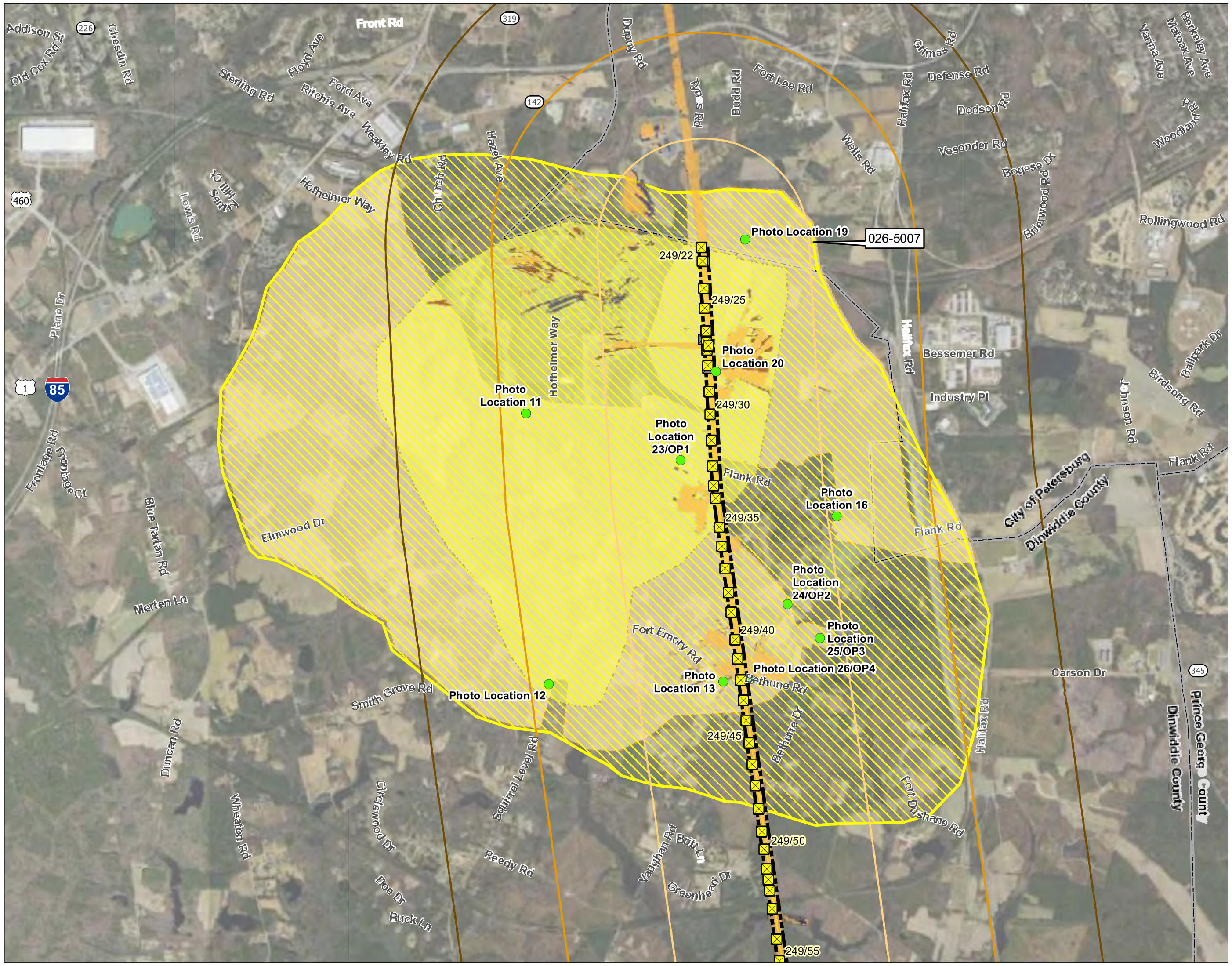


Figure No.
24

Title
Viewshed Analysis and Photo Location Map of the Peebles' Farm Battlefield (DHR #026-5007)

Client/Project 203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

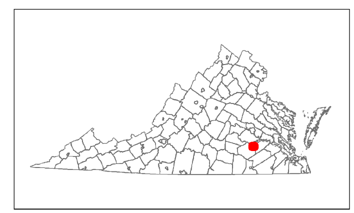
Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 2,500 5,000 Feet
(At original document size of 11x17)
1:30,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 026-5007
- ABPP Core Area
- ABPP Potential National Register Area(PotNR)
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.6 Petersburg Breakthrough Battlefield (DHR #026-5013)

The Petersburg Breakthrough Battle took place on April 2, 1865, with 20,000 Confederate forces commended by General Robert E. Lee pitted against and vastly outnumbered by 63,000 Union troops under Lieutenant General Ulysses S. Grant. During the early hours of the 2nd, the Sixth Corps commanded by Major General Horatio G. Wright, breached Lieutenant General A. P. Hill's Confederate line killing Hill in the process. The Confederate troops were forced to pull back to Fort Gregg and Fort Whitworth. Additional Union troops comprising of Major General John Gibbon's Twenty Fourth Corps and the United States Colored Troops under the command of Brigadier General William Birney joined the siege. The battle ended with the fall of Petersburg and a Union victory. During the battle, the Confederate side experienced 4,250 casualties, while casualties on the Union side amounted to 3,500. In 2006, the Petersburg Breakthrough Battlefield was listed as an NHL (DHR Site Files; American Battlefield Trust 2023e).

Approximately 22 acres of the NHL 426-acre battlefield resource (Table 5) are located within 1.5 mile of the project centerline (Figure 24; Appendix B). The Petersburg Breakthrough Battlefield also overlaps with the following battlefields:

Peebles' Farm Battlefield (DHR #026-5007) – Portion of Battlefield is Outside 1.0 Mile
Petersburg Battlefield III (DHR #123-5026) – Portion of Battlefield is Outside 1.0 Mile

3.2.6.1 Visual Effect Assessment

The Petersburg Breakthrough Battlefield within 1.5 miles of Rebuild Project centerline comprises a relatively level landscape with open fields and dense woods (Appendix B). The battlefield is bounded by some modern commercial and mid-to late twentieth century residential development but remains relatively rural. Under current conditions, the existing transmission line structures, which range in height from approximately 56.5 to 113.5 feet in the vicinity of the resource (Structures #249/22 through #249/32), are not visible (Figure 25).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/22 through #249/32) will have heights ranging from approximately 40.7 to 121.5 feet with a maximum increase of 13.5 feet (Structure #249/31). Additionally, Structure #249/26 will decrease in height 7.1 feet. Viewshed modeling indicates the proposed Rebuild Project will not be visible from the resource (Figure 26). Based on the fieldwork, the proposed structure heights, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures, the distance to the transmission line, and the tree cover and surrounding built environment, the Rebuild Project would not be visible from the battlefield. It is therefore recommended that the proposed Rebuild Project would have a No Visual Impact on the Petersburg Breakthrough Battlefield (DHR #026-5013).***

Figure 25 View from Petersburg Breakthrough Battlefield (DHR #026-5013) Looking East from Photo Location 9. The Existing Transmission Line is not Visible.

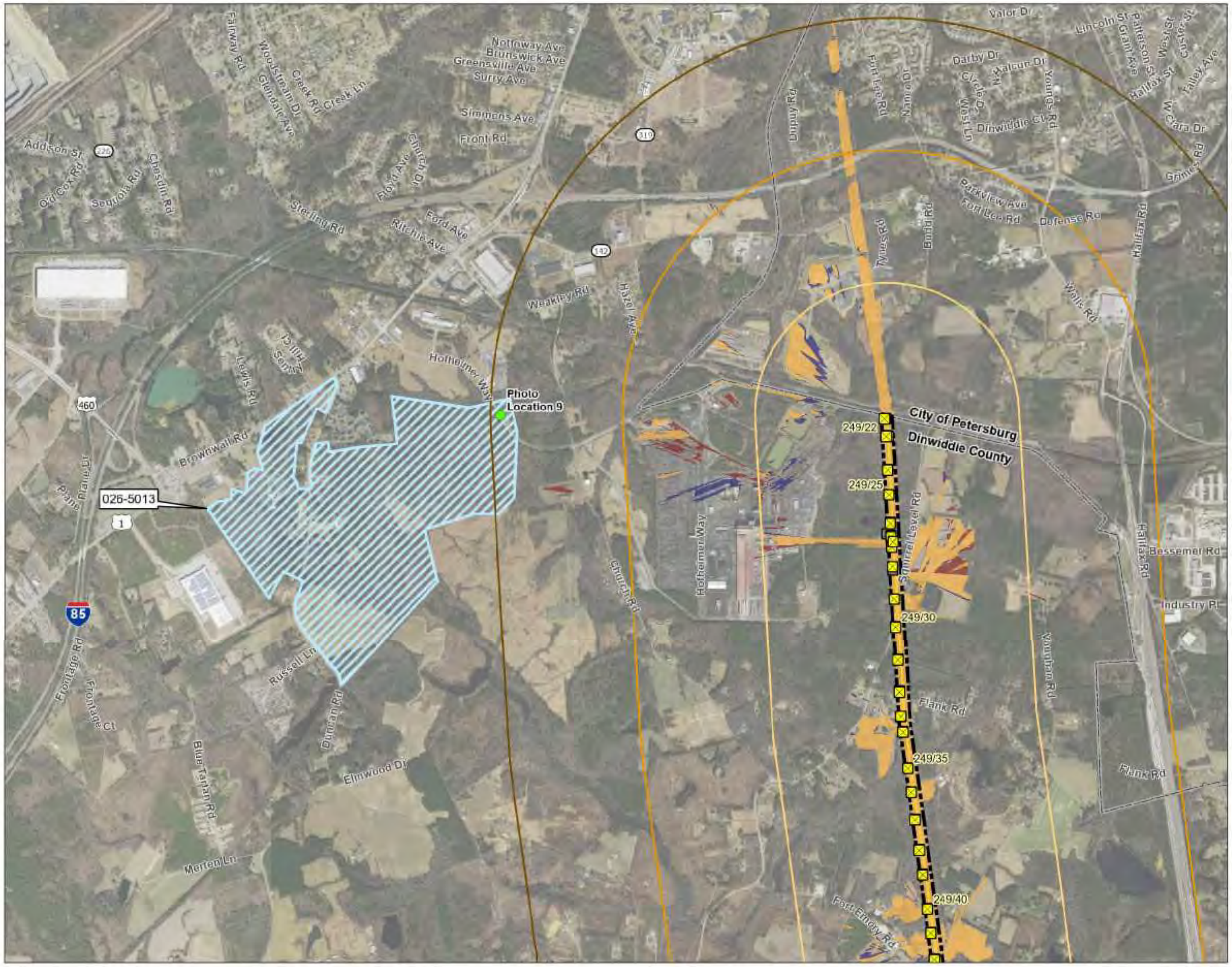


Figure No.
26

Title
Viewshed Analysis and Photo Location Map of Petersburg Breakthrough Battlefield (DHR #026-5013)

Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

203401971

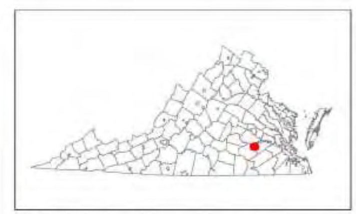
Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 2,000 4,000 Feet
(At original document size of 11x17)
1:24,000

- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- 026-5013
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.7 Petersburg National Battlefield (DHR #123-0071)

The Petersburg National Battlefield comprises 10 separate areas which were integral in the Petersburg Campaign during 1864 and 1865. The resource encompasses the remains of earthworks and other structures and features that were part of the fighting between Union and Confederate forces and the capture of the city of Petersburg in the final days of the Civil War. While the park, as a whole, does not reflect a specific battle, it commemorates those who fought and died in the Siege of Petersburg. A week after the culmination of the battle and the Union victory, General Lee surrendered at Appomattox. The Petersburg National Battlefield was listed on the NRHP in 1966; however, no formal nomination form was prepared (DHR Site Files).

Approximately 74 acres of the 1,553-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline. Five of the 10 areas comprising the NRHP-listed battlefield were in the vicinity of the Rebuild Project with three areas located within 1.0-miles of the Rebuild Project's centerline. The battlefield within 1.0 mile of the Rebuild Project comprises three distinct areas and includes forts Fisher and Urmston and Poplar Grove Cemetery (Figure 28; Appendix B). Although the boundary of the portion of the resource encompassing forts Fisher and Urmston, as mapped in V-CRIS, is depicted as crossing the transmission line corridor, the NPS no longer owns the section to the east of Squirrel Level Road. The battlefield comprising Petersburg National Battlefield also overlaps with the following battlefields:

Peebles' Farm Battlefield (DHR #026-5007)
Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)
First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023)

3.2.7.1 Visual Effect Assessment

The landscape surrounding the battlefield resources comprises mostly densely wood areas with some open agricultural fields and sparce mid-twentieth century residential development. Tree lines are present within the resources themselves. Under current conditions, the existing transmission line structures, which range in height from approximately 52 to 70 feet (Structures #249/30 through #249/33 and #249/37 through #249/42) in the vicinity of the resource were not visible except for Photo Location 24 taken at the entrance to Poplar Grove Cemetery looking west across Vaughan Road. In this direction only the transmission line wires were visible (Figure 10; Photo Location 24). The existing line was not visible from Photo Locations 11, 21, 23, and 25 due to the dense forest between the point of survey and the transmission line corridor (Figures 19, 22, 23, and 27).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/30 through #249/33 and #249/37 through #249/42) will have heights ranging from approximately 56.5 to 79 feet with a maximum increase of 13.5 feet (Structure #249/31, #249/38, and #249/39). Structure #249/33 will decrease in height by 4.5 feet. Viewshed modeling indicates that the proposed structures would be visible where the line crosses the resource. The resource will experience additional visibility from several areas where the existing line was not visible (Photo Location 21; Figure 28). Photosimulations indicate that proposed structure would not be visible from four Observation Points

considered for the resource (Appendix C; OP1- OP3, and OP6). Based on the fieldwork, the proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing, surrounding landscape of the battlefield areas. It is therefore recommended that the proposed Rebuild Project would have a Minimal Visual Impact on Petersburg National Battlefield*** (***DHR #123-0071).***

Figure 27 View from Petersburg National Battlefield (DHR #123-0071) and Petersburg Battlefield III (DHR #123-5026) Looking Southeast from Photo Location 21/OP6. The Existing Transmission Line is not Visible.

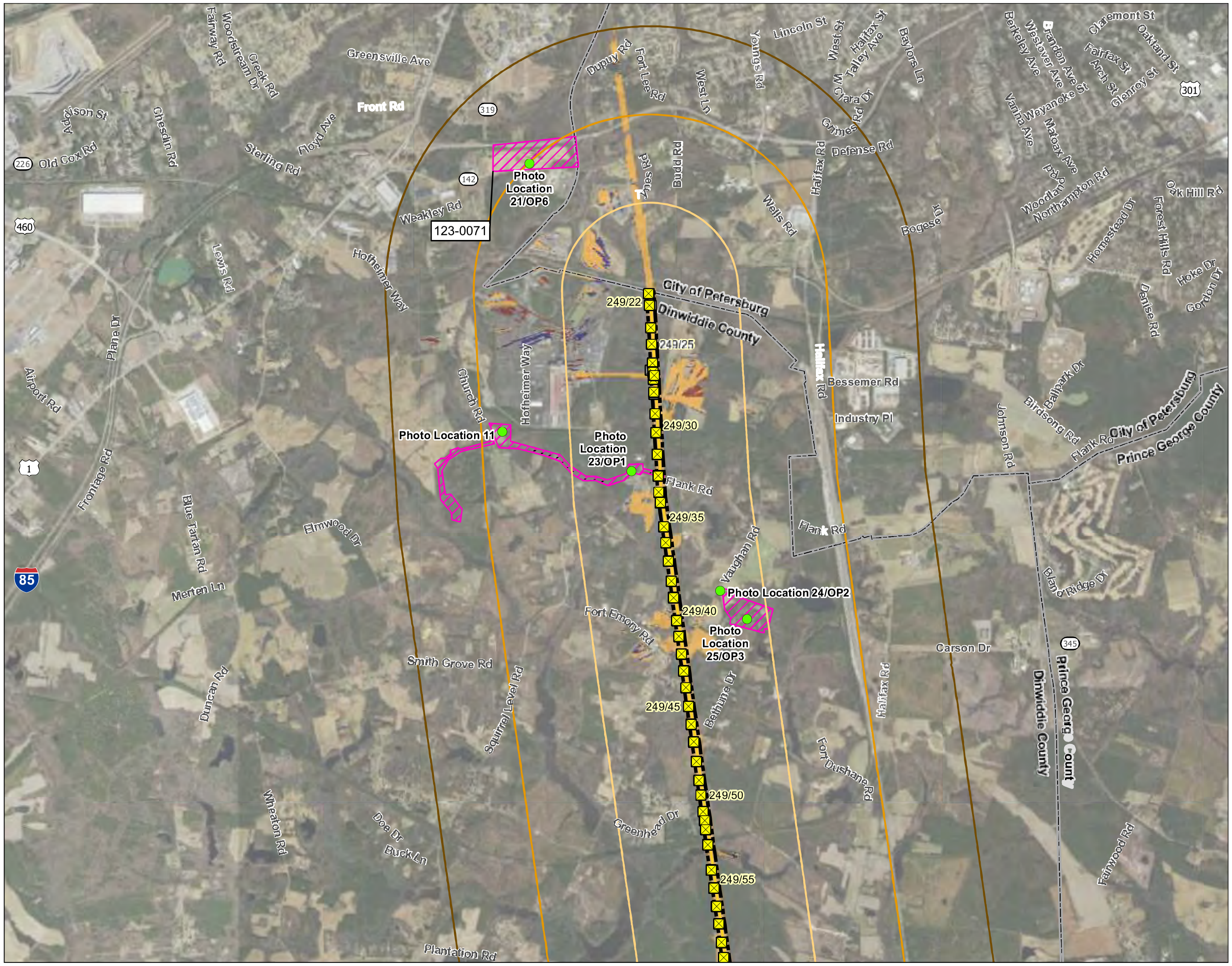

Figure No.
27

Title
Viewshed Analysis and Photo Location Map of the Petersburg National Battlefield (DHR #123-0071)

Client/Project
203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 3,000 6,000 Feet
(At original document size of 11x17)
1:36,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 123-0071
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.8 Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)

The Weldon Railroad Battle/Globe Tavern Battlefield took place on August 18 through 21, 1864. The battle was a second attempt at capturing the rail line after Union forces failed in June. General Gouverneur K. Warren's Fifth Corps was sent by General Grant on the 18th to destroy and hold the section of the Weldon Railroad. At 9am that morning Union troops began removing tracks, moving northward until they were met with Confederate fire near the Vaughan and Halifax roads intersection. While Union forces quickly dispersed the small band of troops, they were met with three brigades under the command of Confederate General Henry Heth. After the first day of fighting, Union troops continued to hold the section of railroad but were faced with more intense combat the following day and were attacked on the 19th and again on the 21st by General William Mahone. However, on the 21st, Mahone, operating under faulty intelligence, attacked the Union line head on instead of General Warren's left flank as intended. Confederate forces suffered extensive losses as a result. The battle was a Union victory leaving between 1,600 and 2,300 Confederate and 4,279 Union casualties. In 2015, the battlefield was determined potentially eligible for listing in the NRHP by DHR (DHR Site Files; Greene 2023).

Approximately 1,998 acres of the 4,506-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline and consists of the ABPP-defined Study, PotNR, and Core areas of the battlefield and also encompasses portions of Halifax, Vaughan, and Flank roads (Figure 31; Appendix B). The PotNR area of the battlefield is within 1.0-miles of the centerline comprises 1,227 acres with approximately 908 acres of the Core Area. The battlefield extends to the east beyond 1.0 miles of the Rebuild Project. The Weldon Railroad Battlefield/Globe Tavern Battlefield also overlaps with the following battlefields:

Boydton Plank Road Battlefield (DHR #026-5004)
Lewis's Farm Battlefield (DHR #026-5006)
Peebles' Farm Battlefield (DHR #026-5007)
Petersburg National Battlefield (DHR #123-0071)
First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023)
Petersburg Battlefield III (DHR #123-5026)

3.2.8.1 Visual Effect Assessment

The landscape within the battlefield comprises mainly dense wooded areas and open fields with some sparce mid-to late twentieth century development. Under current conditions, the existing transmission line structures, which range in height from approximately 52 to 78 feet (Structures #249/23 through #249/53) within and in the vicinity of the resource are visible where the line transverses through areas of open landscape and where the resource crosses the transmission line corridor (Photo Locations 13, 24, and 26; Figures 7, 10 [wires only], and 11). The existing line was not visible from Photo Locations 8, 16, 18, 22, and 25 due to the dense forest between the point of survey and the transmission line corridor (Figures 9, 14, 22, 23, 29, and 30).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/23 through #249/53) will have heights ranging from approximately 40.7 to 88 feet with a maximum increase of 15.5 feet (Structure #249/34). Structure #249/26 and #249/33 will decrease in height by 7.1 and 4.5 feet, respectively. Viewshed modeling indicates that the proposed structures would be visible from the resource where the line traverses through open landscape within the battlefield in the far western area of the resource adjacent to or in the immediate vicinity of the transmission line (Figure 31). Photosimulations indicate that proposed structure would not be visible from the three of the four Observation Points considered (Appendix C; OP2, OP3, and OP7) but would be visible from OP4. Based on the fieldwork, the proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the proposed Rebuild Project would have a Minimal Visual Impact on the Weldon Railroad Battlefield/Globe Tavern Battlefield*** (***DHR #123-5022).***

Figure 29 View from Weldon Railroad Battlefield (DHR #123-5022) and Petersburg Battlefield III (DHR #123-5026) Looking West from Photo Location 18. The Existing Transmission Line is not Visible.

Figure 30 View from Weldon Railroad Battlefield (DHR #123-5022), First Battle of Weldon Railroad (DHR #123-5023), and Petersburg Battlefield III (DHR #123-5026) Looking West from Photo Location 22/OP7. The Existing Transmission Line is not Visible.

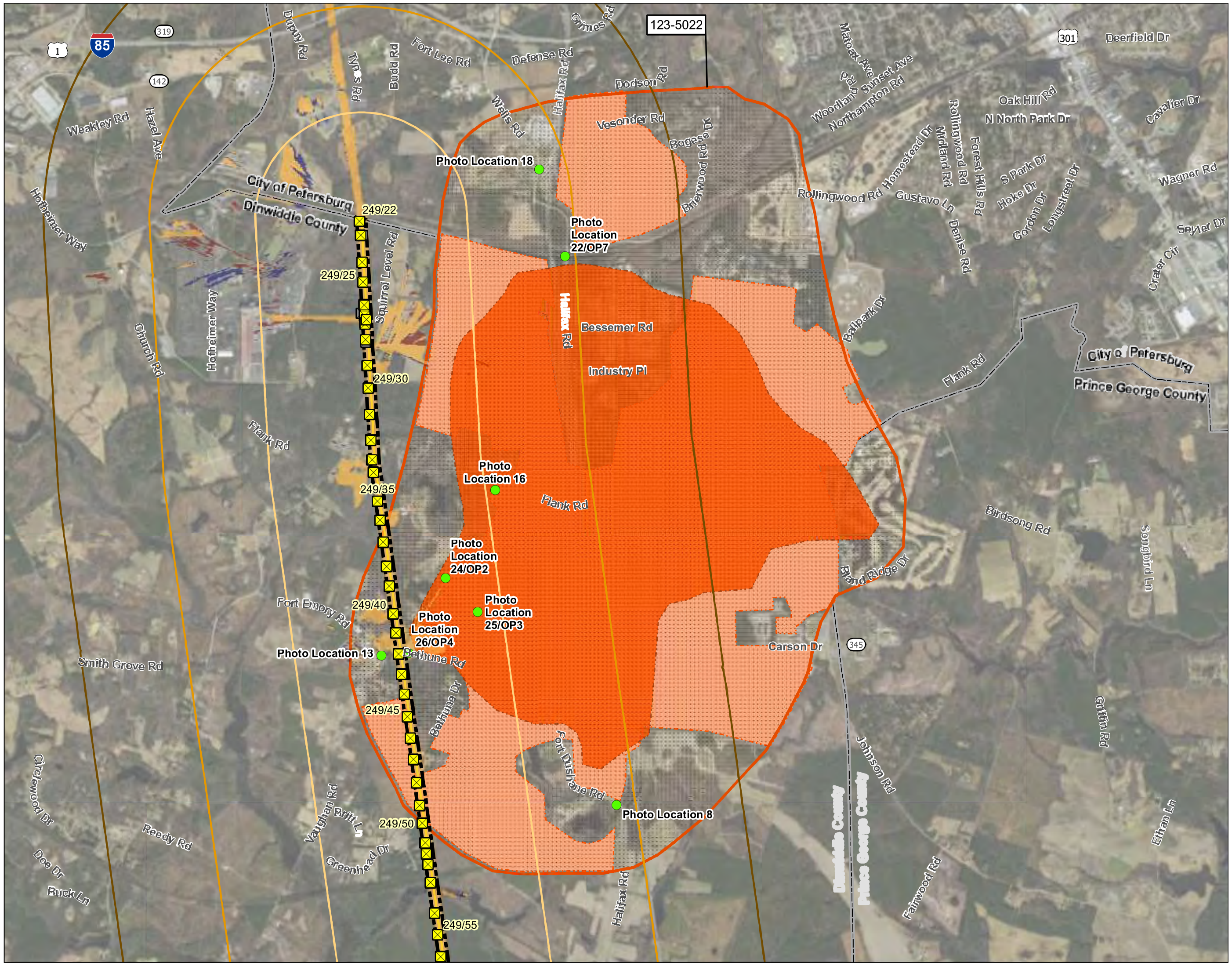


Figure No.
31

Title
Viewshed Analysis and Photo Location Map of the Weldon Railroad Battlefield/ Globe Tavern Battlefield (DHR #123-5022)

Client/Project 203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

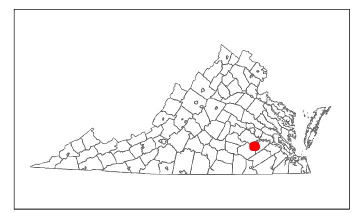
Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 2,500 5,000 Feet
(At original document size of 11x17)
1:30,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 123-5022
- ABPP Core Area
- ABPP Potential National Register Area(PotNR)
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

3.2.9 First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #5023)

The First Battle of Weldon Railroad/Jerusalem Plank Road took place on June 21 through 23, 1864. The battle would be General Grant's first attempt at severing the Weldon Railroad line. On June 21, General George Meade's Second and Sixth Corps were ordered to cross Jerusalem Plank Road and move north to sabotage the Weldon Railroad line. Union troops; however, were met with strong Confederate resistance and as a result the two Corps were separated. The following day, troops under the command of Confederate Brigadier General William Mahone, went through the Union line and attacked the Second Corps at its rear. The following day, however, Union troops were able to regain the lost ground. With Major General Horatio Wright's refusal to further engage the Confederate forces, General Meade called off the attack. The battle was inconclusive; however, the Union side suffered almost 3,000 casualties in contrast to only 600 for the Confederates. In 2015, the battlefield was determined potentially eligible for listing in the NRHP by DHR (DHR Site Files; Searles 2022).

Approximately 682 acres of the 6,389-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline and consists of the ABPP-defined Study, PotNR, and Core areas (Figure 32; Appendix B). The portion of the battlefield within 1.0 mile also encompasses sections of Halifax, Vaughan, and Flank roads. An 87-acre area of the PotNR area of the battlefield and approximately 211 acres of the Core Area are located within 1.0-mile of the Rebuild Project. A majority of the battlefield area, including the PotNR and Core areas, is located to the east outside the 1.0-mile radius. The First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield also overlaps with the following battlefields:

Lewis's Farm Battlefield (DHR #026-5006)
Peebles' Farm Battlefield (DHR #026-5007)
Petersburg National Battlefield (DHR #123-0071)
Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)
Petersburg Battlefield III (DHR #123-5026)

3.2.9.1 Visual Effect Assessment

The landscape within the battlefield comprises areas of dense woods and open fields with some mid-to late twentieth century residential and commercial development within large areas of the resource. Under current conditions, the existing transmission line structures, which range in height from approximately 52 to 74.5 feet (Structures #249/23 through #249/46) in the vicinity of the resource were not visible due to dense forested areas between the resource and the transmission line corridor (Photo Locations 16, 22, and 25; Figures 9, 23, and 30).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/23 through #249/46) will have heights ranging from approximately 40.7 to 88 feet with a maximum increase of 15.5 feet (Structure #249/34). Structure #249/33 will decrease in height by 4.5 feet. Viewshed modeling and photosimulations conducted for the resource indicates that the proposed structures would not be visible (Figure 32; Appendix C; OP3 and OP7). Based on the fieldwork, the

proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the proposed Rebuild Project would have No Visual Impact on the First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023).***

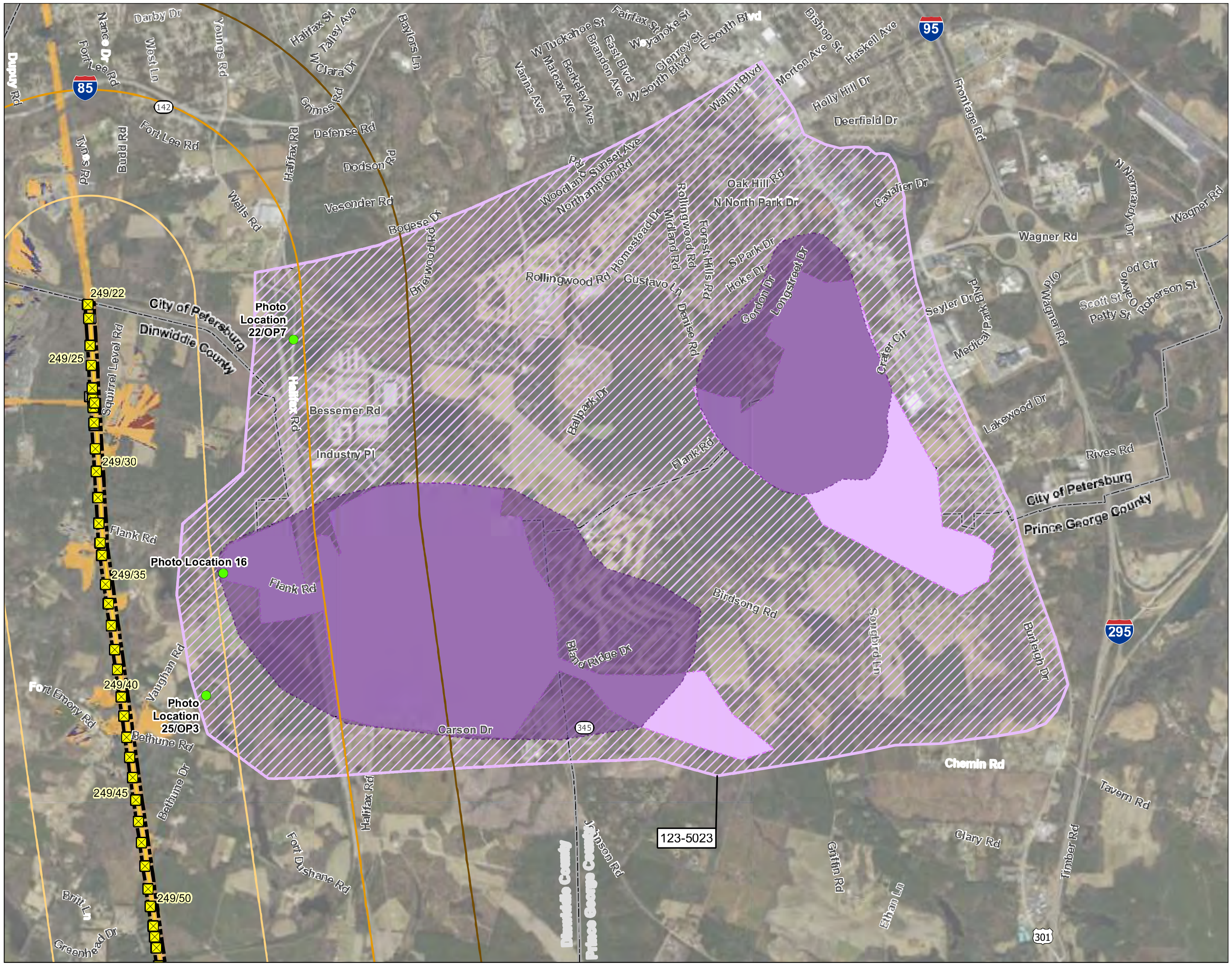


Figure No.
32

Title

Viewshed Analysis and Photo Location Map of the First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023)

Client/Project 203401971

Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

Project Location
Dinwiddie County, Virginia

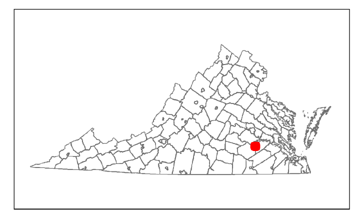
Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 2,500 5,000 Feet

(At original document size of 11x17)
1:30,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 123-5023
- ABPP Core Area
- ABPP Potential National Register Area(PotNR)
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.10 Petersburg Battlefield III (DHR #123-5026)

The third battle of Petersburg took place the day after the Union victory at Five Forks on April 1, 1865. The attack on Confederate forces took place on April 2nd along several points along the Petersburg line beginning in the area of Fort Gregg-Fort Fisher. Although, Confederate soldiers were able to repel Union troops at several points along the line, Union troops were successful at breaking though the Confederate defensive lines. As a result, Confederate troops were forced to retreat from Petersburg at the end of the day's battle. Union troops captured Fort Gregg and Fort Whitworth as well as the western end of the Confederate defensive line at the Crow House Redoubt. As a result of the battle, Lieutenant A. P. Hill was killed, and General Lee ordered the evacuation of Petersburg and Richmond handing a decisive victory to the Union. In 2015, Due to the significance of the battle, the Petersburg Battlefield III was determined potentially eligible for listing in the NRHP by DHR (DHR Site Files).

Approximately 2,923 acres of the 20,519-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline and consists of the ABPP-defined Study, PotNR, and Core areas (Figure 33; Appendix B). The resource crosses the transmission line corridor and also encompasses sections of Squirrel Level, Halifax, Flank, and Vaughan roads. The PotNR area of the battlefield within 1.0-miles of the centerline comprises approximately 1,958 acres. The Core Area within 1.0-mile totals approximately 908 acres. A majority battlefield is located to the east and west as well as extends to the north outside the 1.0-mile radius of the project centerline. The Petersburg Battlefield III also overlaps with the following battlefields:

Lewis's Farm Battlefield (DHR #026-5006)
Peebles' Farm Battlefield (DHR #026-5007)
Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)
First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023)

3.2.10.1 Visual Effect Assessment

The landscape within the portion of the battlefield 1.0-mile from the Rebuild Project comprises mostly densely wood areas with some open agricultural fields and areas of sparce residential and industrial development. Under current conditions, the existing transmission line structures, which range in height from approximately 52 to 113.5 feet (Structures #249/22 through #249/45) within and in the vicinity of the resource are visible where the line transverses through areas of open landscape adjacent to the transmission line (Photo Location 20; Figure 21). The existing line was not visible from Photo Locations 11, 12, 16, 18, 19, 21, 22, and 23 due to the dense forest between the point of survey and the transmission line corridor (Figures 9, 15, 19, 20, 22, 27, 29, and 30).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/22 through #249/45) will have heights ranging from approximately 40.7 to 121.5 feet with a maximum increase of 15.5 feet (Structure #249/34). Structure #249/26 and #249/33 will decrease in height by 7.1 and 4.5 feet, respectively. Viewshed modeling indicates that the proposed structures would be visible from the resource where the line traverses through open landscape within the battlefield

in areas where it is already visible. Additional visibility of the proposed structures from the resource is anticipated in areas to the north, northwest, and west where the existing line was not visible. However, the larger areas where the proposed structures will be visible appear to be parcels recently cleared for modern development (Figure 33). Photosimulations indicate that proposed structures would not be visible from the three Observation Points considered (Appendix C; OP1, OP6, and OP7). Based on the fieldwork, the proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the proposed Rebuild Project would have a Minimal Visual Impact on the Petersburg Battlefield III*** (***DHR #123-5026).***

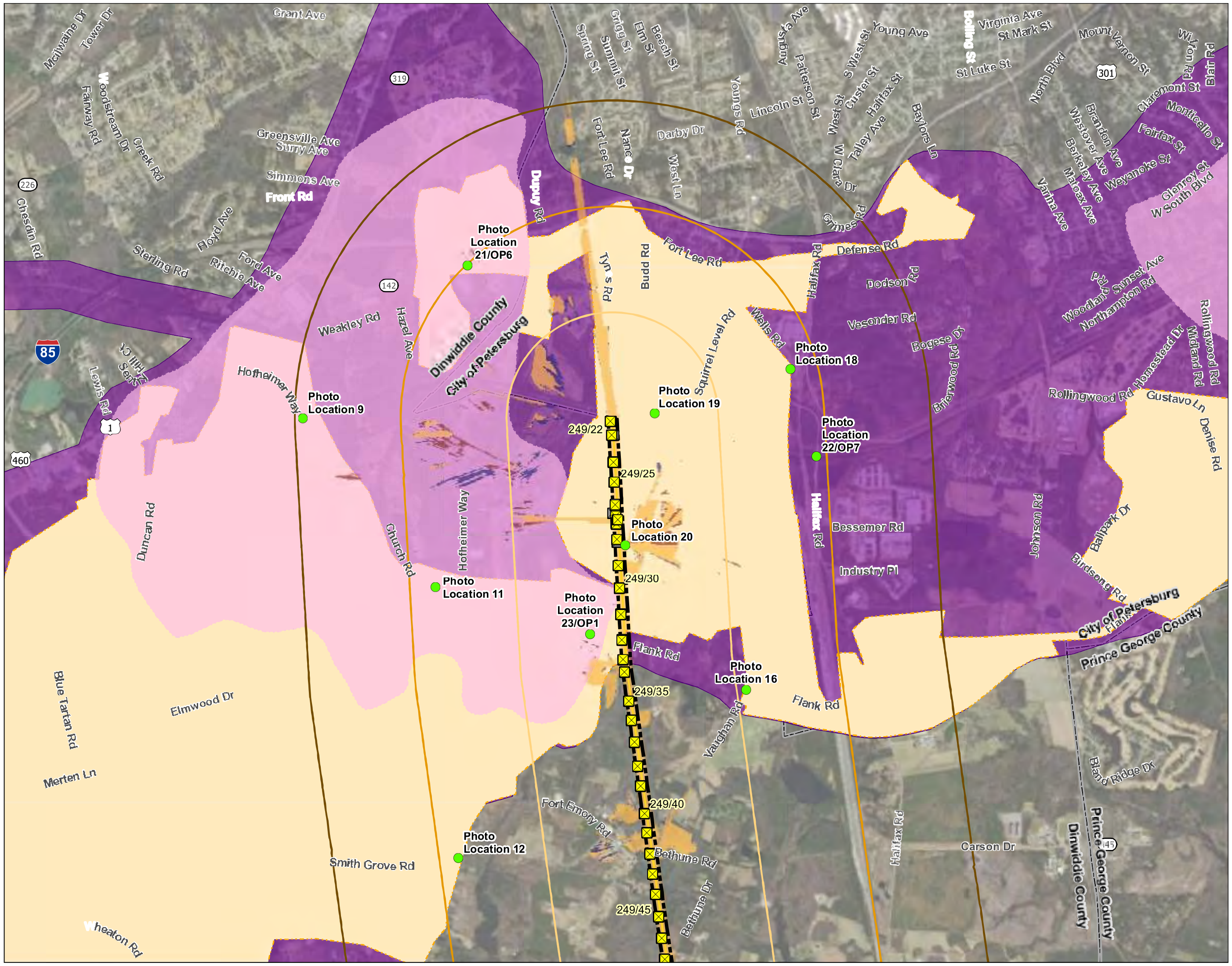


Figure No.
33

Title
Viewshed Analysis and Photo Location Map of Petersburg Battlefield III (DHR #123-5026)

Client/Project 203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

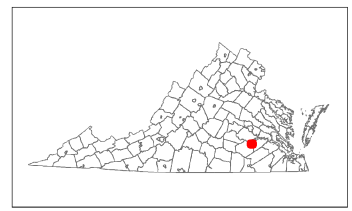
Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 2,500 5,000 Feet
(At original document size of 11x17)
1:30,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 123-5026
- ABPP Core Area
- ABPP Potential National Register Area(PotNR)
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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4.0 RECOMMENDATIONS AND CONCLUSIONS

4.1 OVERVIEW

Stantec was retained by Dominion Energy to conduct a Stage I Pre-Application Analysis for the proposed Carson-Locks 230 kV Line #249 Partial Rebuild Project in Dinwiddie County and the City of Petersburg, Virginia. The project proposed by Dominion Energy is necessary in order to maintain the structural integrity and reliability of its transmission system and to comply with mandatory NERC Reliability Standards. The project will be conducted within an existing ROW and consists of approximately 6.7 miles of existing 230 kV transmission line. The Rebuild Project will require the wreck and rebuild of 67 existing transmission structures and the addition of two new structures between structures #249/22 and #249/86. The existing structures are predominantly single circuit 230 kV wood H-frame structures or weathering steel H-frame structures. Dominion Energy proposes to replace the current structures with mainly 230 kV single circuit weathering steel H-frames. All proposed structure heights and locations provided in this report are based upon preliminary engineering and are subject to final design.

4.1.1 Recommendations - Architectural Resources

One NHL architectural resource was located within a 1.5-mile radius of the Rebuild Project centerline. One NRHP-listed resource, the Petersburg National Battlefield (DHR #123-0071). Four NRHP eligible and four NRHP potentially eligible battlefields were within 1.0 mile of the centerline. Seven of the resources cross the corridor: the Reams Station Battlefield (DHR #026-0050), Hatcher's Run Battlefield (DHR #026-0132), Boydton Plank Road Battlefield (DHR #026-5004), Lewis's Farm Battlefield (DHR #026-5006), Peebles' Farm Battlefield (DHR #026-5007), Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022), and Petersburg Battlefield III (DHR #123-5026). Table 6 details the recommendations for the project.

Based on preliminary proposed structure heights, the proposed Line #249 Rebuild Project would increase the average height of the structures by 6.6 feet with a maximum height increase of 15.5 feet. Based on the analysis of the proposed structures, it is recommended that the Rebuild Project would have No Visual Impact to the Petersburg Breakthrough Battlefield (DHR #026-5013) and the First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023). The proposed Rebuild Project, based on the findings, would have a Minimal Visual Impact to the Reams Station Battlefield I & II (DHR #026-0050), Hatcher's Run Battlefield (DHR #026-0132), Boydton Plank Battlefield (DHR 026-5004), Lewis's Farm Battlefield (DHR #026-5006), Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Battlefield (DHR #123-0071), Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022), and Petersburg Battlefield III (DHR #123-5026).

Table 6 Previously Recorded Architectural Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to Closest Raised Structure (Feet)	Impacts
026-0050	Reams Station Battlefield I & II	Potentially Eligible	0	Minimal
026-0132	Hatchers Run Battlefield	Eligible	0	Minimal
026-5004	Boydton Plank Road Battlefield	Eligible	0	Minimal
026-5006	Lewis's Farm Battlefield	Eligible	0	Minimal
026-5007	Peebles' Farm Battlefield	Eligible	0	Minimal
026-5013	Petersburg Breakthrough Battlefield	NHL-Listed	7,361	None
123-0071	Petersburg National Battlefield	NRHP-Listed	583	Minimal
123-5022	Weldon Railroad Battlefield/ Globe Tavern Battlefield	Potentially Eligible	0	Minimal
123-5023	First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield	Potentially Eligible	1,718	None
123-5026	Petersburg Battlefield III	Potentially Eligible	0	Minimal

4.1.2 Recommendations - Archaeological Resources

One previously recorded archaeological resource was identified within the Rebuild Project ROW. The site (Site 44DW0127) comprises a Pre-Contact camp as well as a Civil War battlefield site. Currently, the resource has not been evaluated for NRHP eligibility by DHR. ***It is recommended that archaeological site located within the ROW be investigated and evaluated as appropriate during future investigations*** (Appendix D; Table 7).

Table 7 Previously Recorded Archaeological Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to ROW (Feet)	Impact
44DW0127	Pre-Contact Camp; Battlefield Site	Not Evaluated	0	Investigate During Archaeological Survey

5.0 REFERENCES

Advisory Council for Historic Preservation (ACHP)

2000 *36 CFR 800: Part 800- Protection of Historic and Cultural Properties*. Federal Register, September 2, Washington, D.C.

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2023a "Reams Station: Second Battle of Reams Station." Available at: https://www.battlefields.org/learn/civil-war/battles/reams-station, Accessed 7 August 2023.

2023b "Hatcher's Run." Available at: https://www.battlefields.org/learn/civil-war/battles/hatchers-run, Accessed 7 August 2023.

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2023e "Petersburg Breakthrough: The Fall of Petersburg." Available at: https://www.battlefields.org/learn/civil-war/battles/petersburg-breakthrough, Accessed 7 August 2023.

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United States Department of the Interior (Interagency Resources Division)

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1983 *Department of the Interior, Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines.* Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C.

1991 How to Apply the National Register Criteria of Evaluation. *National Register Bulletin 15.* Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C.

Virginia Department of Historic Resources (DHR)

1997 *Historic Context Guidelines for Preparing Cultural Resource Survey Reports.* DHR, Richmond.

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

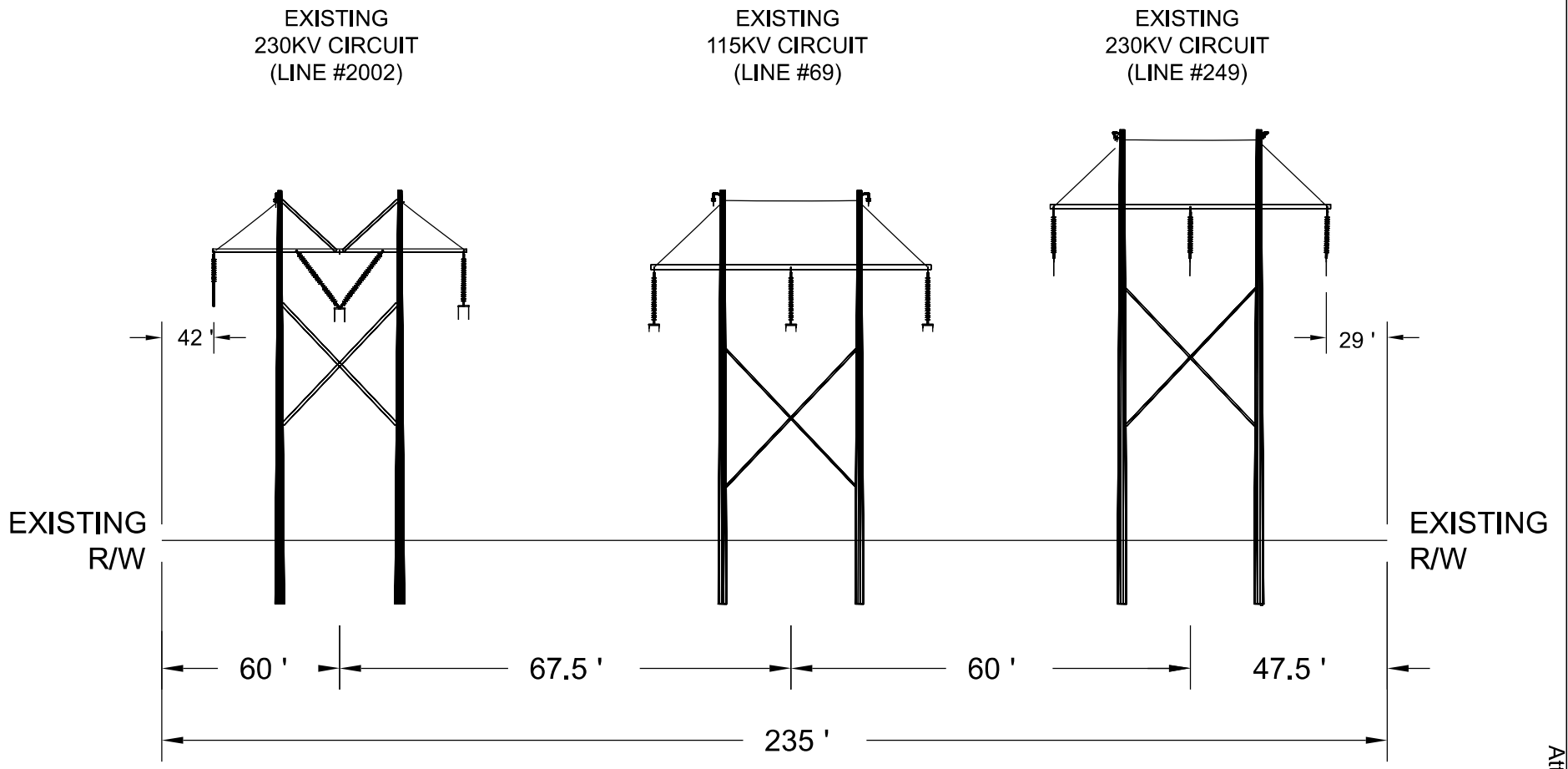
2017 *Guidelines for Historic Resources Survey in Virginia.* DHR, Richmond.

2023 DHR Archive Files.

Appendix A

A.1 STRUCTURE DETAILS

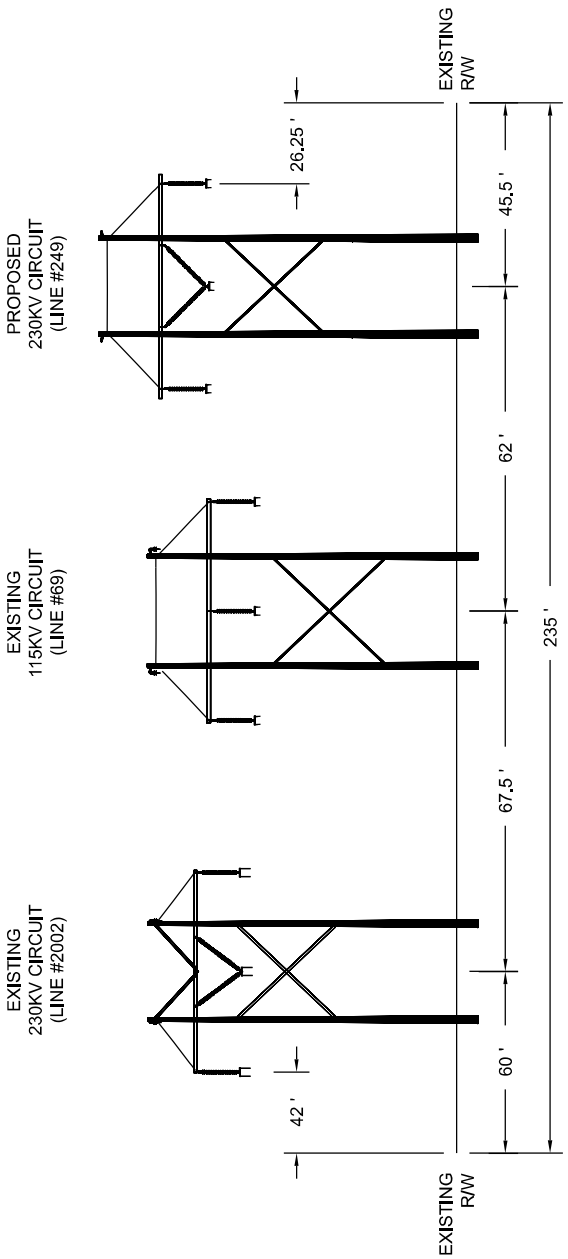
STRUCTURE 249/23 - STRUCTURE 249/85
EXISTING CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING TOWARD CARSON SUBSTATION.

NOTES:
1. Existing structure shown with approximate average height of 62' (line 249) and does not include foundation reveal.
2. Approximate average height is measured from the groundline at structure centerline.

STRUCTURE 249/23 - STRUCTURE 249/85
PROPOSED CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING TOWARD CARSON SUBSTATION.

NOTES:
1. Proposed structure shown with approximate average height of 68' and does not include foundation reveal.
2. Approximate average height is measured from the groundline at structure centerline.
3. Information contained on drawing is to be considered preliminary in nature and subject to changed based on final design.

Appendix B

B.1 ARCHITECTURAL RESOURCE MAPS

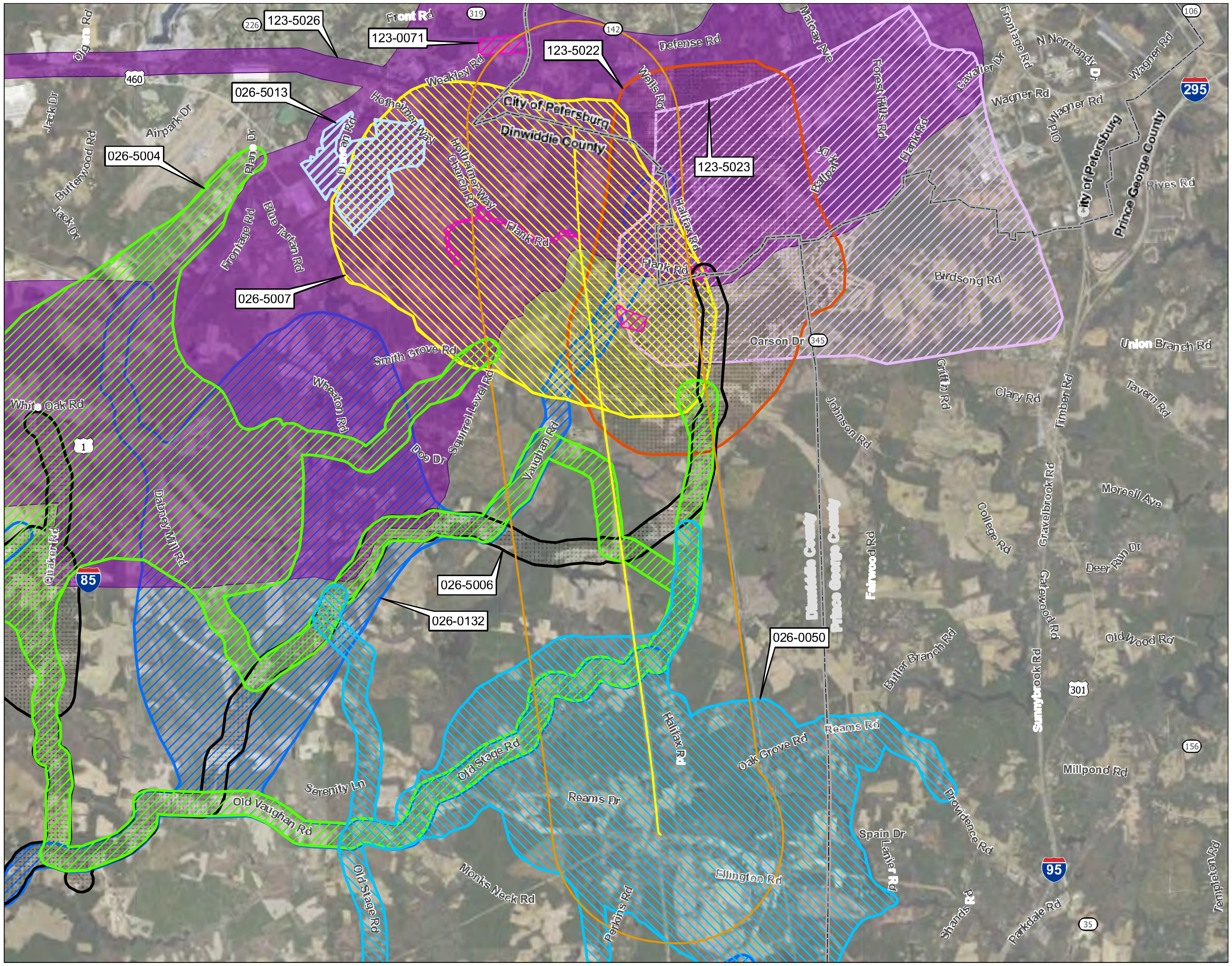


Figure No.
Appendix B

Title
Architectural Resources Map

Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

203401971

Project Location
Dinwiddie County, Virginia

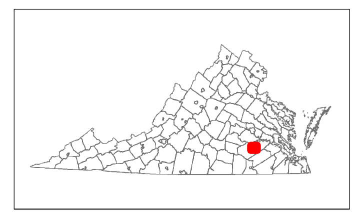
Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 5,000 10,000 Feet
(At original document size of 11x17)
1:60,000

- Project Area
- Transmission Line
- 1.0-Mile Buffer

Architectural Resource
- 026-0050
- 026-0132
- 026-5004
- 026-5006
- 026-5007
- 026-5013
- 123-0071
- 123-5022
- 123-5023
- 123-5026



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)

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Page 1 of 1

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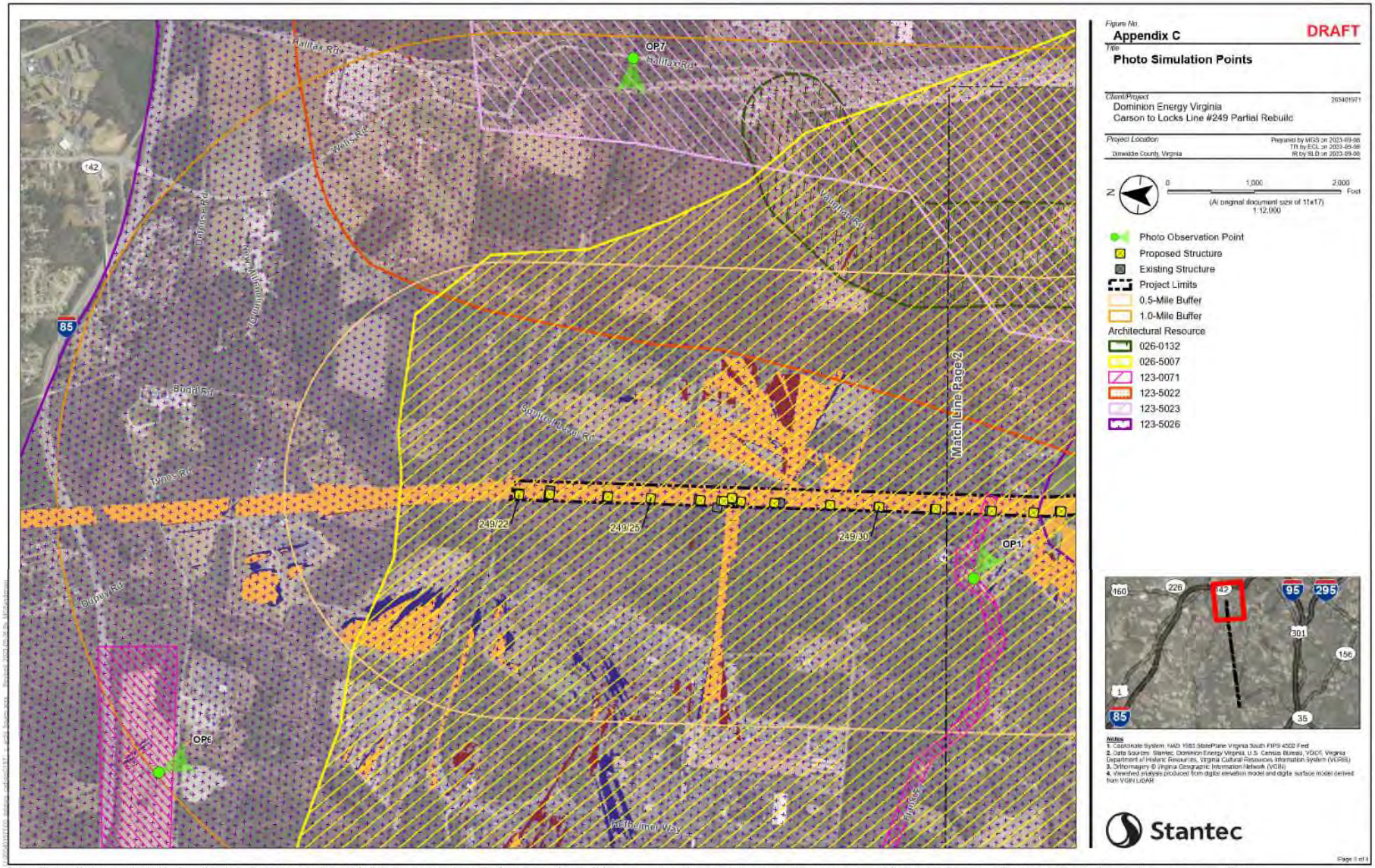
APPENDIX C

C.1 PHOTOSIMULATIONS



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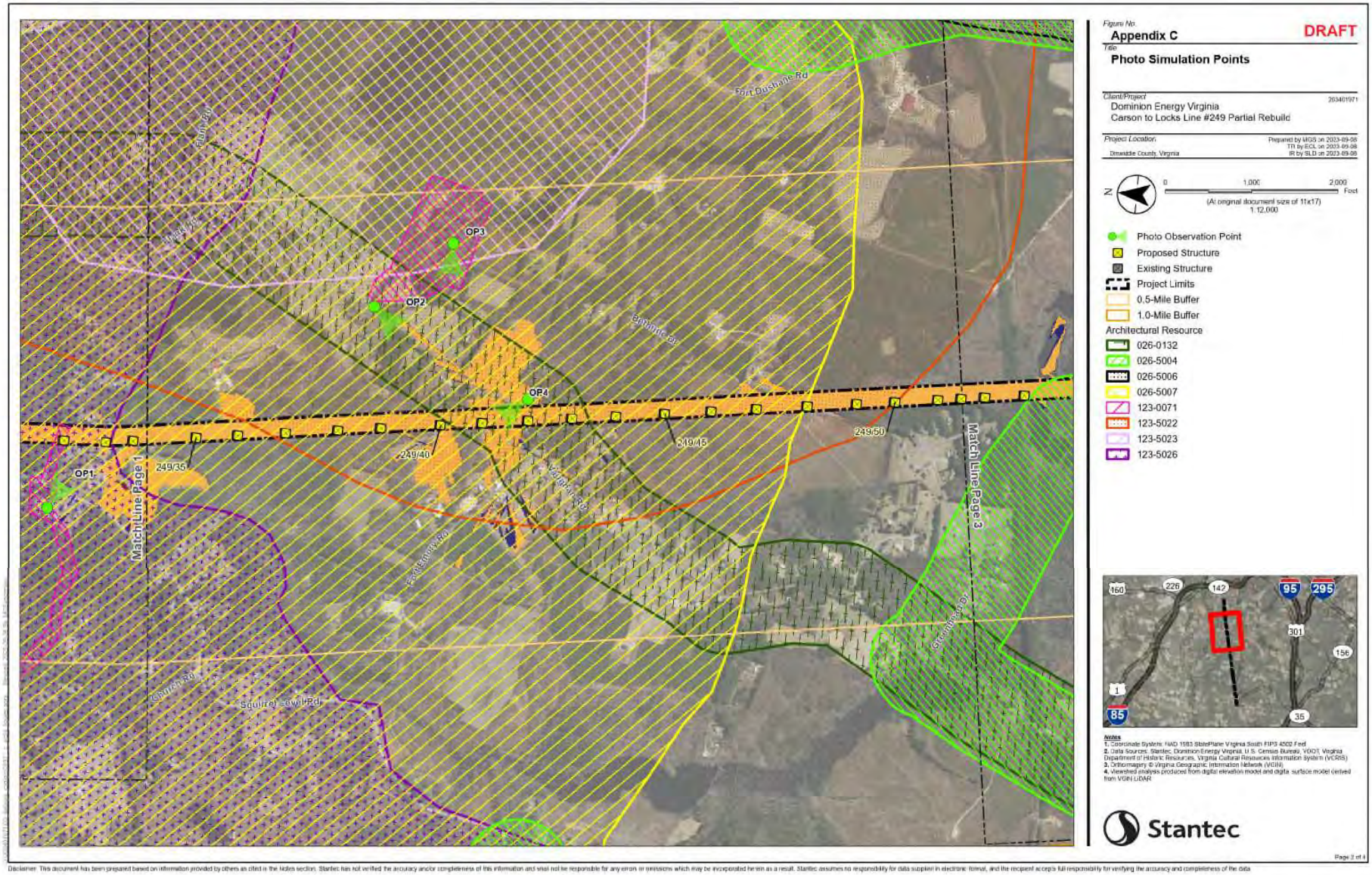

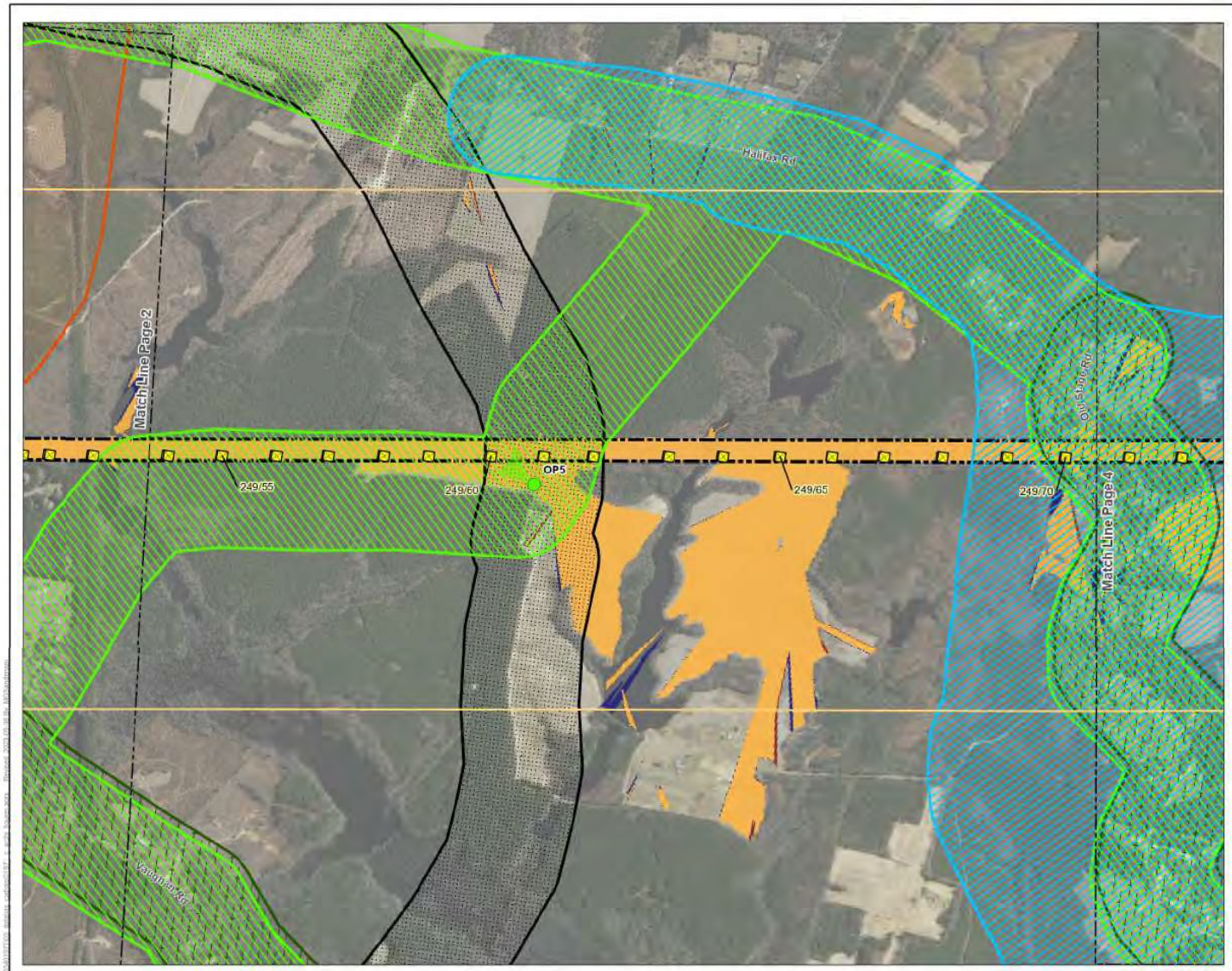

Figure No.
Appendix C

DRAFT

Title
Photo Simulation Points

Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

283401971

Project Location:
Dinwiddie County, Virginia

Prepared by MGS on 2023-09-06
TR by ECL on 2023-09-06
IR by SLD on 2023-09-06

N

0 1,000 2,000 Feet
(At original document size of 11x17)
1:12,000

- Photo Observation Point
- Proposed Structure
- Existing Structure
- Project Limits
- 0.5-Mile Buffer
- 1.0-Mile Buffer

Architectural Resource
- 026-0050
- 026-0132
- 026-5004
- 026-5006
- 123-5022

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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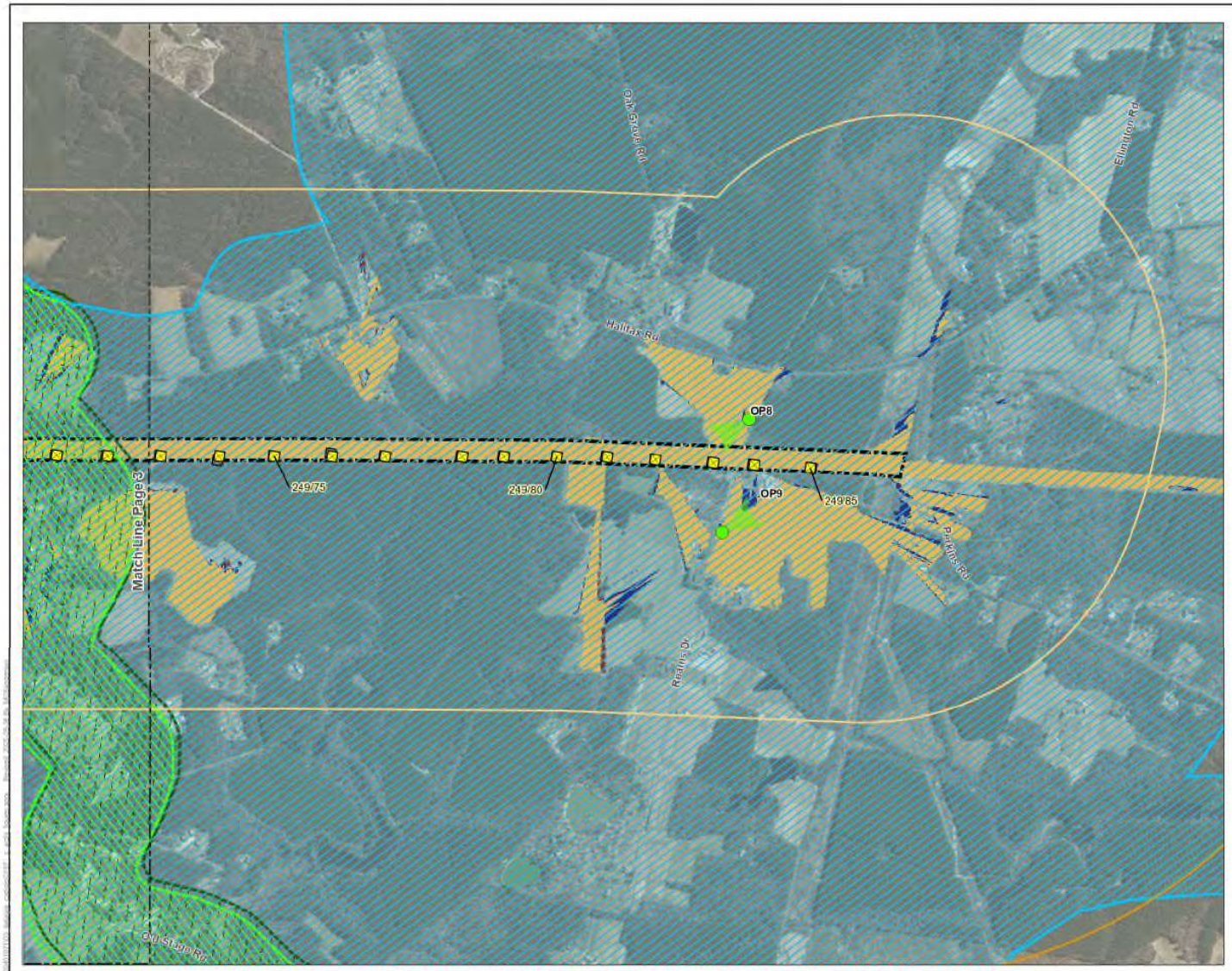

Figure No.
Appendix C

DRAFT

Title
Photo Simulation Points

Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

265401971

Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-09-08
TR by ECL on 2023-09-08
IR by SLD on 2023-09-08

N

0 1,000 2,000 Foot

(At original document size of 11x17)
1:12,000

- Photo Observation Point
- Proposed Structure
- Existing Structure
- Project Limits
- 0.5-Mile Buffer
- 1.0-Mile Buffer

Architectural Resource
- 026-0050
- 026-0132
- 026-5004

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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Page 4 of 4

Photograph provided by Stantec

OP 1 Existing (Not Visible)

Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Military Park (DHR # 123-0071) & Petersburg Battlefield III (DHR # 123-5026)

Stantec Dominion Energy

Photograph provided by Stantec

OP 1 Proposed (Not Visible)

Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Military Park (DHR # 123-0071) & Petersburg Battlefield III (DHR # 123-5026)

Stantec Dominion Energy

OP02 – EXISTING

Photograph provided by Stantec

OP 2 Existing

Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Military Park (DHR # 123-0071), Blick's Station Battlefield(DHR # 123-5022) & Hatcher's Run Battlefield(DHR # 026-0132)

Stantec Dominion Energy

Photograph provided by Stantec

OP 2 Proposed

Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Military Park (DHR # 123-0071), Blick's Station Battlefield(DHR # 123-5022) & Hatcher's Run Battlefield(DHR # 026-0132)

Stantec Dominion Energy

OP03 – EXISTING

Photograph provided by Stantec

OP 3 Existing (Not Visible)

Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Military Park (DHR # 123-0071), Blick's Station Battlefield (DHR # 123-5022) & First Battle of Weldon Railroad (DHR # 123-5023)

Stantec Dominion Energy

Photograph provided by Stantec

OP 3 Proposed (Not Visible)

Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Military Park (DHR # 123-0071), Blick's Station Battlefield (DHR # 123-5022) & First Battle of Weldon Railroad (DHR # 123-5023)

Stantec Dominion Energy

Photograph provided by Stantec

OP 4 Existing

Peebles' Farm Battlefield (DHR #026-5007), Blick's Station Battlefield (DHR # 123-5022) &
Hatcher's Run Battlefield (DHR # 026-0132)

Stantec Dominion Energy

Photograph provided by Stantec

OP 4 Proposed

Peebles' Farm Battlefield (DHR #026-5007), Blick's Station Battlefield (DHR # 123-5022) & Hatcher's Run Battlefield (DHR # 026-0132)

Stantec Dominion Energy

OP05 – EXISTING

Photograph provided by Stantec

OP 5 Existing

Boydton Plank Road Battlefield (DHR # 026-5004) & Lewis's Farm Battlefield (DHR # 026-5006)

Stantec Dominion Energy

Photograph provided by Stantec

OP 5 Proposed

Boydton Plank Road Battlefield (DHR # 026-5004) & Lewis's Farm Battlefield (DHR # 026-5006)

Stantec Dominion Energy

OP06 – EXISTING

Photograph provided by Stantec

OP 6 Existing (Not Visible)

Petersburg National Military Park (DHR # 123-0071)& Petersburg Battlefield III (DHR # 123-5026)

Stantec Dominion Energy

OP06 – Proposed

Photograph provided by Stantec

OP 6 Proposed (Not Visible)
Petersburg National Military Park (DHR # 123-0071)& Petersburg Battlefield III (DHR # 123-5026)

Stantec Dominion Energy

Photograph provided by Stantec

OP 7 Existing (Not Visible)

Petersburg Battlefield III (DHR # 123-5026) & First Battle of Weldon Railroad (DHR # 123-5023)

Stantec Dominion Energy

Photograph provided by Stantec

OP 7 Proposed (Not Visible)

Petersburg Battlefield III (DHR # 123-5026) & First Battle of Weldon Railroad (DHR # 123-5023)

Stantec Dominion Energy

OP08 – EXISTING

Photograph provided by Stantec

OP 8 Existing
Reams Station Battlefield (I & II) (DHR # 026-0050)

Stantec Dominion Energy

OP08 – Proposed

Photograph provided by Stantec

OP 8 Proposed
Reams Station Battlefield (I & II) (DHR # 026-0050)

Stantec Dominion Energy

OP09 – EXISTING

Photograph provided by Stantec

OP 9 Existing
Reams Station Battlefield (I & II) (DHR # 026-0050)

Stantec Dominion Energy

OP09 – Proposed

Photograph provided by Stantec

OP 9 Proposed
Reams Station Battlefield (I & II) (DHR # 026-0050)

Stantec Dominion Energy

APPENDIX D

D.1 ARCHAEOLOGICAL RESOURCE MAPS

Figure No.

Appendix D

Title

Archaeological Resources Map

Client/Project 203401971

Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

Project Location

Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 4,000 8,000 Feet

(At original document size of 11x17)
1:48,000

Project Area

Archaeological Site

Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, U.S. Census Bureau, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Topographic map © USGS 30X60 Minute Series Topographic Map

Stantec

STAGE I PRE-APPLICATION ANALYSIS FOR THE PROPOSED DOMINION ENERGY VIRGINIA LINE CARSON TO LOCKS 230kV PARTIAL REBUILD PROJECT, CITY OF PETERSBURG AND DINWIDDIE COUNTY, VIRGINIA

September 21, 2023

Prepared for:

Dominion Energy Virginia
Attention: Blair Parks
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
(804) 658-7316

Prepared by:

Sandra DeChard
Senior Architectural Historian

and

Brynn Stewart
Senior Principal Investigator

Stantec Consulting Services Inc.
1011 Boulder Springs Drive, Suite 225,
Richmond VA 23225-4951
(804) 267-3474

Sign-off Sheet

The conclusions in the Report are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

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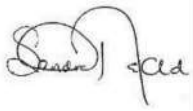
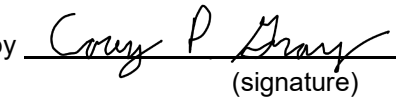
Prepared by  _____
(signature)
Sandra DeChard, Senior Architectural Historian

Reviewed by  _____
(signature)
Brynn Stewart, Senior Principal Investigator

Approved by  _____
(signature)
Corey Gray, Senior Environmental Scientist

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LIST OF FIGURES

LIST OF APPENDICES

Executive Summary

Stantec Consulting Services Inc. (Stantec) was retained by Dominion Energy Virginia (Dominion Energy) to conduct a Stage I Pre-Application Analysis for the proposed Carson-Locks 230 kV Line #249 Partial Rebuild Project (Rebuild Project) in Dinwiddie County and the City of Petersburg, Virginia. The project proposed by Dominion Energy is necessary in order to maintain the structural integrity and reliability of its transmission system and to comply with mandatory North American Electric Reliability Corporation (NERC) Reliability Standards. The project will be conducted within an existing right-of-way (ROW) and consists of approximately 6.7 miles of existing 230 kV transmission line. The Rebuild Project will require the wreck and rebuild of 67 existing transmission structures and the addition of two new structures between structures #249/22 and #249/201. The existing structures are predominantly single circuit 230 kV wood H-frame structures or weathering steel H-frame structures. Dominion Energy proposes to replace the current structures with mainly 230 kV single circuit weathering steel H-frames. All proposed structure heights and locations provided in this report are based upon preliminary engineering and are subject to final design.

Background research for the Stage I Pre-Application Analysis was conducted in August 2023 by Stantec staff. The preliminary background research and the field study was conducted pursuant to the *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 [DHR] 2008) for proposed transmission line improvements. As detailed by DHR guidance, consideration was given to National Historic Landmark (NHL) properties located within a 1.5-mile radius of the project centerline; National Register of Historic Places (NRHP)-listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible sites located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project ROW. Ten previously surveyed architectural resources were identified for inclusion in the Stage I analysis. One previously recorded archaeological resource within the existing ROW was also identified during this phase of the project.

Recommendations

Architectural Resources

One NHL architectural resource was located within a 1.5-mile radius of the Rebuild Project centerline. One NRHP-listed resource, the Petersburg National Battlefield (DHR #123-0071), four NRHP eligible and four NRHP potentially eligible battlefields were within 1.0 mile of the centerline. Seven of the resources cross the corridor: the Reams Station Battlefield (DHR #026-0050), Hatcher's Run Battlefield (DHR #026-0132), Boydton Plank Road Battlefield (DHR #026-5004), Lewis's Farm Battlefield (DHR #026-5006), Peebles' Farm Battlefield (DHR #026-5007), Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022), and Petersburg Battlefield III (DHR #123-5026). As the study was completed prior to filing a SCC application, all digital images were taken from public ROW and/or Dominion Energy easements.

Based on preliminary proposed structure heights, the proposed Line #249 Rebuild Project would increase the average height of the structures by 6.6 feet with a maximum height increase of 15.5

feet. Based on the analysis of the proposed structures, it is recommended that the Rebuild Project would have No Visual Impact to the Petersburg Breakthrough Battlefield (DHR #026-5013) and the First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023). The proposed Rebuild Project, based on the findings, would have a Minimal Visual Impact to the Reams Station Battlefield I & II (DHR #026-0050), Hatcher's Run Battlefield (DHR #026-0132), Boydton Plank Battlefield (DHR 026-5004), Lewis's Farm Battlefield (DHR #026-5006), Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Battlefield (DHR #123-0071), Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022), and Petersburg Battlefield III (DHR #123-5026).

Previously Recorded Architectural Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to Closest Structure (Feet)	Impacts
026-0050	Reams Station Battlefield I & II	Potentially Eligible	0	Minimal
026-0132	Hatchers Run Battlefield	Eligible	0	Minimal
026-5004	Boydton Plank Road Battlefield	Eligible	0	Minimal
026-5006	Lewis's Farm Battlefield	Eligible	0	Minimal
026-5007	Peebles' Farm Battlefield	Eligible	0	Minimal
026-5013	Petersburg Breakthrough Battlefield	NHL-Listed	7,361	None
123-0071	Petersburg National Battlefield	NRHP-Listed	583	Minimal
123-5022	Weldon Railroad Battlefield/ Globe Tavern Battlefield	Potentially Eligible	0	Minimal
123-5023	First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield	Potentially Eligible	1,718	None
123-5026	Petersburg Battlefield III	Potentially Eligible	0	Minimal

Archaeological Resources

One previously recorded archaeological resource was identified within the Rebuild Project ROW. The site (Site 44DW0127) comprises a Pre-Contact camp as well as a Civil War battlefield site. Currently, the resource has not been evaluated for NRHP eligibility by DHR. ***It is recommended that archaeological***

sites located within the ROW be investigated and evaluated as appropriate during future investigations.

Previously Recorded Archaeological Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to ROW (Feet)	Impact
44DW0127	Pre-Contact Camp; Battlefield Site	Not Evaluated	0	Investigate During Archaeological Survey

Abbreviations

ABPP	American Battlefield Protection Program
DEM	Digital Elevation Model
DHR	Virginia Department of Historic Resources
Dominion Energy	Dominion Energy Virginia
DP	Delivery Point
DSM	Digital Surface Model
kV	Kilovolt
NERC	North American Electric Reliability Corporation
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
ROW	Right-of-Way
SCC	State Corporation Commission
Stantec	Stantec Consulting Services, Inc.
USDI	United States Department of the Interior
V-CRIS	Virginia Cultural Resources Information System
VLR	Virginia Landmarks Register

1.0 INTRODUCTION

1.1 OVERVIEW

Stantec Consulting Services Inc. (Stantec) was retained by Dominion Energy Virginia (Dominion Energy) to conduct a Stage I Pre-Application Analysis for the proposed Carson-Locks 230 kV Line #249 Partial Rebuild Project (Rebuild Project) in Dinwiddie County and the City of Petersburg, Virginia. The project proposed by Dominion Energy is necessary in order to maintain the structural integrity and reliability of its transmission system and to comply with mandatory North American Electric Reliability Corporation (NERC) Reliability Standards. The project will be conducted within an existing right-of-way (ROW) and consists of approximately 6.7 miles of existing 230 kV transmission line. The Rebuild Project will require the wreck and rebuild of 67 existing transmission structures and the addition of two new structures between structures #249/22 and #249/201[1]. The existing structures are predominantly single circuit 230 kV wood H-frame structures or weathering steel H-frame structures. Dominion Energy proposes to replace the current structures with mainly 230 kV single circuit weathering steel H-frames. All proposed structure heights and locations provided in this report are based upon preliminary engineering and are subject to final design (Table 1).

Table 1 Proposed Structure Heights for the Rebuild Project[2]

Structure No.	Height (Feet) Existing	Height (Feet) Proposed	Approximate Change in Height (Feet)	Existing/Proposed Structure Type**
249/22	113.5	121.5	8	GSLT/ WSM
249/23	69.0	72.5	3.5	WSHF/WSHF
249/24	56.5	65.5	9	WHF/WSHF
249/25	60.4	61.0	0.6	WSHF/WSHF
249/26	68.8	61.7	-7.1	WSHF/WSHF
249/26B	N/A	40.7	N/A	None/GS
249/26A	68.8	76.9	8.1	WSHF/WSHF
249/27	68.7	76.8	8.1	WSHF/WSHF
249/27A	N/A	40.7	N/A	None/GS
249/28	61.0	66.4	5.4	WHF/WSHF
249/29	65.5	70.0	4.5	WHF/WSHF
249/30	70.0	74.5	4.5	WHF/WSHF
249/31	65.5	79.0	13.5	WHF/WSHF

[1] The project will also include reconductoring of existing structures, the rebuild of a few 115 kV structures, and the installation of a 0.25 temporary transmission line. As described in the application to the State Corporation Commission (SCC), this work is not expected to require approval from the SCC and is therefore not included in this Stage I Pre-Application Analysis.

[2] Structure heights do include foundation reveal. Proposed heights based on preliminary engineering and are subject to change during the final design.

STAGE I PRE-APPLICATION ANALYSIS FOR THE PROPOSED DOMINION ENERGY VIRGINIA LINE CARSON TO LOCKS 230KV PARTIAL REBUILD PROJECT, CITY OF PETERSBURG AND DINWIDDIE COUNTY, VIRGINIA

Structure No.	Height (Feet) Existing	Height (Feet) Proposed	Approximate Change in Height (Feet)	Existing/Proposed Structure Type**
249/32	61.0	65.5	4.5	WHF/WSHF
249/33	61.0	56.5	-4.5	WHF/WSHF
249/34	63.5	79.0	15.5	WHF/WSHF
249/35	74.5	88.0	13.5	WHF/WSHF
249/36	56.5	65.5	9	WHF/WSHF
249/37	56.5	65.5	9	WHF/WSHF
249/38	56.5	70.0	13.5	WHF/WSHF
249/39	56.5	70.0	13.5	WHF/WSHF
249/40	56.5	65.5	9	WHF/WSHF
249/41	56.5	65.5	9	WHF/WSHF
249/42	52.0	56.5	4.5	WHF/WSHF
249/43	55.5	70.0	14.5	WHF/WSHF
249/44	55.5	70.0	14.5	WHF/WSHF
249/45	60.0	65.5	5.5	WHF/WSHF
249/46	65.5	70.0	4.5	WHF/WSHF
249/47	61.5	66.6	5.1	WHF/WSHF
249/48	56.5	65.5	9	WHF/WSHF
249/49	56.5	70.0	13.5	WHF/WSHF
249/50	56.5	61.0	4.5	WHF/WSHF
249/51	54.8	65.5	10.7	WHF/WSHF
249/51A	52.0	61.0	9	WSHF/WSHF
249/52	64.0	79.0	15	WHF/WSHF
249/53	78.0	88.0	10	WHF/WSHF
249/54	61.0	70.0	9	WHF/WSHF
249/55	56.5	61.0	4.5	WHF/WSHF
249/56	61.0	65.5	4.5	WHF/WSHF
249/57	56.5	65.5	9	WHF/WSHF
249/58	56.5	61.0	4.5	WHF/WSHF
249/59	70.0	70.0	0	WHF/WSHF
249/60	70.0	70.0	0	WHF/WSHF
249/61	56.5	61.0	4.5	WHF/WSHF
249/62	61.0	74.5	13.5	WHF/WSHF
249/63	65.5	74.5	9	WHF/WSHF
249/64	62.5	65.5	3	WHF/WSHF
249/65	56.5	61.0	4.5	WHF/WSHF
249/66	64.5	66.6	2.1	WSHF/WSHF
249/67	65.5	65.5	0	WHF/WSHF

Structure No.	Height (Feet) Existing	Height (Feet) Proposed	Approximate Change in Height (Feet)	Existing/Proposed Structure Type**
249/68	61.5	74.5	13	WHF/WSHF
249/69	61.5	70.0	7.5	WHF/WSHF
249/70	61.5	70.0	7.5	WHF/WSHF
249/71	61.0	74.5	13.5	WHF/WSHF
249/72	61.0	70.0	9	WHF/WSHF
249/73	64.5	70.0	5.5	WSHF/WSHF
249/74	64.5	70.0	5.5	WSHF/WSHF
249/75	65.5	70.0	4.5	WSHF/WSHF
249/76	66.3	70.0	3.7	WSHF/WSHF
249/77	71.0	70.0	-1	WSHF/WSHF
249/78	70.7	70.0	-0.7	WSHF/WSHF
249/79	65.5	65.5	0	WSHF/WSHF
249/80	60.5	65.5	5	WSHF/WSHF
249/81	56.5	56.3	-0.2	WSHF/WSHF
249/82	56.5	70.0	3.5	WHF/WSHF
249/83	61.0	74.5	13.5	WHF/WSHF
249/84	61.0	70.0	9	WHF/WSHF
249/85	61.0	70.0	9	WSHF/WSHF
249/201	34.0	31.5	-2.5	W3P/WS3P
Minimum	**34**	**56.5**	**-7.1**	N/A
Maximum	**113.5**	**121.5**	**15.5**	N/A
Average Height	**62**	**68***	**6.6**	N/A

*Average includes two new self-supporting switch structures.
**WSHF – Weathering steel H-frame; WHF – Wood H-frame; WSM – Weathering steel monopole; GS – Galvanized switch; GSLT – Galvanized steel lattice tower; W3P – Wood 3-pole; WS3P – Weathering steel 3-pole.

1.2 STAGE I PRE-APPLICATION ANALYSIS

The *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 [DHR] 2008) were developed by the DHR to assist the State Corporation Commission (SCC) and their applicants to address and minimize potential impacts to historic resources associated with the construction of large-scale transmission lines and associated facilities. In consideration to the general project design, as described above, and other elements associated with the proposed undertaking, including current ROW conditions within the proposed project area, Stantec designed the present study to identify all previously recorded architectural and archaeological resources requiring inclusion in a formal Stage I Pre-Application Analysis, as defined by the 2008 *Guidelines*.

As detailed by DHR guidance, consideration was given to National Historic Landmarks (NHL) properties located within a 1.5-mile radius of the project centerline; National Register of Historic Places (NRHP)-

listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible sites located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project ROW. This document includes a viewshed analysis to address potential visual impacts to the five resources considered during the Stage I study.

This Stage I Pre-Application Analysis project was directed by Senior Environmental Scientist Corey Gray and the report authored by Senior Architectural Historian Sandra DeChard. Ms. DeChard oversaw the visual effects survey conducted by Architectural Historian Technician Olivia McCarty. Ms. McCarty photographed the resource viewsheds and Audrey Cropp prepared the photo simulations (Appendix C). Visual modeling and support graphics were prepared by GIS Coordinator, Melissa Sanderson.

Figure No.
1

Title
Project Location Map

Client/Project 203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

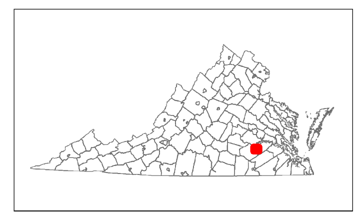
Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 4,000 8,000 Feet
(At original document size of 11x17)
1:48,000

Project Area



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, U.S. Census Bureau
3. Topographic map © USGS 30X60 Minute Series Topographic Map

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Page 1 of 1

2.0 BACKGROUND RESEARCH

As part of the Stage I Pre-Application Analysis effort, DHR guidance recommends a four-tier study area strategy to be considered for each alternative alignment for the proposed undertaking (Table 2). Per this guidance consideration was given to: NHL properties located within a 1.5-mile radius of the project centerline; NRHP-listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible resources located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project ROW.

Table 2 Study Areas as Defined by DHR Guidelines for Transmission Lines

Radial Buffer (in miles)	Considered Resources
1.5	National Historic Landmarks
1.0	Above Resources and: National Register Properties (listed), Battlefields, Historic Landscapes (e.g., Rural HD)
0.5	Above Resources and: National Register-eligible (as determined by DHR)
0.0 (Within ROW)	Above Resources and Archaeological Sites

The background research included a review of the DHR archives and of data collected from the DHR's Virginia Cultural Resource Information System (V-CRIS) database using the most current data as provided by the DHR. The DHR files of archaeological sites and historic structures were examined and information was retrieved on all archaeological sites located up to a 0.5-mile radius of the project area and all previously recorded architectural resources up to a 1.5-mile radius of the project. ESRI ArcGIS Online aerial photography of current conditions was examined for the entire project area. Photographs of the viewshed of each of the architectural resources under consideration were taken from the public ROW.

2.1 RESULTS OF THE BACKGROUND RESEARCH

2.1.1 Architectural Resources

One NHL architectural resource was located within a 1.5-mile radius of the Rebuild Project centerline. One NRHP-listed resource, the Petersburg National Battlefield (DHR #123-0071), four NRHP eligible and four NRHP potentially eligible battlefields were within 1.0 mile of the centerline. Seven of the resources cross the corridor: the Reams Station Battlefield (DHR #026-0050), Hatcher's Run Battlefield (DHR #026-0132), Boydton Plank Road Battlefield (DHR #026-5004), Lewis's Farm Battlefield (DHR #026-5006), Peebles' Farm Battlefield (DHR #026-5007), Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022), and Petersburg Battlefield III (DHR #123-5026). As the study was completed prior to filing a SCC application, all digital images were taken from public ROW and/or Dominion Energy easements. See Table 3 for a listing of the architectural resources within the project area.

Table 3 Previously Recorded Architectural Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to Closest Structure (Feet)
026-0050	Reams Station Battlefield I & II	Potentially Eligible	0
026-0132	Hatchers Run Battlefield	Eligible	0
026-5004	Boydton Plank Road Battlefield	Eligible	0
026-5006	Lewis's Farm Battlefield	Eligible	0
026-5007	Peeble's Farm Battlefield	Eligible	0
026-5013	Petersburg Breakthrough Battlefield	NHL-Listed	7,361
123-0071	Petersburg National Battlefield	NRHP-Listed	583
123-5022	Weldon Railroad Battlefield/Globe Tavern Battlefield	Potentially Eligible	0
123-5023	First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield	Potentially Eligible	1,718
123-5026	Petersburg Battlefield III	Potentially Eligible	0

2.1.2 Archaeological Resources

One previously recorded archaeological resource was identified within the Rebuild Project ROW. The site (Site 44DW0127) comprises a Pre-Contact camp as well as a Civil War battlefield site. Currently, the resource has not been evaluated for NRHP eligibility by DHR (Appendix D; Table 4).

Table 4 Previously Recorded Archaeological Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to ROW (Feet)
44DW0127	Pre-Contact Camp; Battlefield Site	Not Evaluated	0

3.0 STAGE I PRE-APPLICATION ANALYSIS RESULTS

3.1 VISUAL EFFECTS METHODOLOGY

Fieldwork for the proposed transmission line project was undertaken by Architectural Historian Technician Olivia McCarty on June 20 to 23, 2023. The fieldwork for the assessment entailed photographing the resources requiring viewshed analysis according to the Stage I Pre-Application guidelines and examining the potential views from the resources towards the proposed transmission line improvements. As the fieldwork was conducted prior to a formal SCC application submittal, all photographs were taken from public ROW locations with aerial photography utilized to supplement the analysis of project visibility and potential visual effects. As the proposed line is a rebuild of an existing transmission line and the proposed new line will be located within the existing alignment, the existing line was utilized to assist with the assessment of potential visual effects.

A detailed viewshed was modeled for the existing and proposed structures. This analysis required the creation of two datasets, a digital elevation model (DEM) which provided base ground elevations, and a digital surface model (DSM) which provided overall elevations for features on the terrain, such as trees and buildings. Using the existing structure heights and preliminary proposed structure heights provided by Dominion Energy, two viewshed analyses were run using these datasets to determine where the existing and proposed structures are or will be visible in the landscape surrounding the proposed transmission line improvements. The visibility is illustrated by three color shadings:

Orange - where both existing and proposed structures are/will be visible,

Burgundy - where the existing structures are visible, but the proposed structures will not be, and

Blue - where the existing structures are not visible, but the proposed structures will be.

3.2 BATTLEFIELDS CONSIDERED

All 10 resources under consideration are battlefields. One NHL battlefield, the Petersburg Breakthrough Battlefield (DHR #026-5013) is located within 1.5 miles of the Rebuild Project centerline. The remaining nine are located within 1.0 mile of the Rebuild Project centerline (Table 5). Under DHR guidelines, these resources meet the criteria for consideration for visual effects. The resources are further described below along with a discussion and recommendation of potential effects as a result of the project.

Table 5 Battlefield Resources Considered within the Stage I Pre-Application Process

DHR #	Resource Name	Total Acreage of ABPP-Defined Battlefield	Acreage of ABPP-Defined Battlefield within 1.0-Mile	Acreage of Core Area within 1.0 Mile	Acreage of PotNR Area within 1.0 Mile
026-0050	Reams Station Battlefield I & II	10,673	5,023	2,711	5,023
026-0132	Hatchers Run Battlefield	11,881	764	0	234
026-5004	Boydton Plank Road Battlefield	8,219	1,018	0	1,018
026-5006	Lewis's Farm Battlefield	3,445	391	0	0
026-5007	Peeble's Farm Battlefield	5,221	3,476	1,420	1,905
026-5013*	Petersburg Breakthrough Battlefield	426	22	N/A	N/A
123-0071**	Petersburg National Battlefield	1,553	74	N/A	N/A
123-5022	Weldon Railroad Battlefield/ Globe Tavern Battlefield	4,506	1,998	908	1,227
123-5023	First Battle of Weldon Railroad/ Jerusalem Plank Road Battlefield	6,389	682	211	87
123-5026	Petersburg Battlefield III	20,519	2,923	908	1,958

*Resource is an NHL property and located within the 1.5-mile radius of the project centerline. An ABPP boundary was not utilized for this resource nor were Core or PotNR areas defined.
**Resource is a NRHP-listed NPS property and comprises five individual sites. No ABPP boundary was utilized.

For the assessment of battlefield resources, Stantec took into consideration the guidance and recommendations of the American Battlefield Protection Program (ABPP)'s 2009 assessment of Virginia's Civil War period resources and subsequent updates. In 2009, the ABPP revised the 1992 Civil War Sites Advisory Commission (CWSAC) boundaries for Virginia, and many of the battlefields were greatly expanded in size. For battlefields, the ABPP defined Study Areas, Potential National Register (PotNR) Areas, and Core Areas for each battlefield resource. The larger Study Area contains all resources known to relate or contribute to the battlefield event, such as where troops maneuvered and deployed immediately before or after combat, and where they fought during combat. Within the Study Area are Core Areas, which denote the actual fighting areas located within the larger battlefield. In addition, the ABPP defined PotNR boundaries for each battlefield. The PotNR boundary represents the ABPP's assessment of a Study Area's current integrity. The PotNR Area may include all or some of the Study Area or all or some of the Core Area associated with a battlefield engagement. The PotNR boundary does not constitute a formal determination of eligibility by the Keeper of the NRHP; however, it is a recommendation of potential eligibility by the ABPP and/or DHR. The ABPP boundaries utilized in the viewshed mapping for each battlefield resource were extracted from VCRIS.

Many of the Civil War battlefields within the study area overlap significantly, particularly in the location of roads. Therefore, many of the photograph locations are shared by multiple resources.

3.2.1 Reams Station Battlefield I & II (DHR #026-0050)

The Reams Station Battle took place on August 25, 1864, with 9,500 Confederate forces commanded by General A. P. Hill pitted against 9,000 Union troops under General Winfield S. Hancock. During the battle, Confederate troops attempted to recapture the Weldon Railroad which had been lost four days earlier. Although the Confederate forces were able to defeat Union troops, the Confederate soldiers were forced to fall back to Petersburg. During the battle, the Confederate casualties totaled 814 soldiers, while casualties on the Union side amounted to 2,747. In 2020, DHR determined the battlefield to be potentially eligible for listing in the NRHP (DHR Site Files; American Battlefield Trust 2023a).

Approximately 5,023 acres of the 10,673-acre battlefield resource (Table 5) is located within 1.0 mile of the project centerline and consists of the ABPP-defined Study, PotNR, and Core areas. The PotNR Area encompasses the whole of the Study Area within 1.0 miles of the Rebuild Project centerline. Additionally, approximately 2,711 acres of the Core Area is within 1.0 mile. The Study, PotNR, and Core areas also extend beyond 1.0 mile to the west, east, and southeast (Figure 6; Appendix B). The Reams Station Battlefield I & II also overlaps with the following battlefields:

Boydton Plank Road Battlefield (DHR #026-5004)

3.2.1.1 Visual Effect Assessment

The Reams Station Battlefield I & II, located within 1.0 mile of the Rebuild Project at the southern end of the Rebuild Project, comprises a relatively level landscape with areas of open agricultural fields and large sections of woods. Under current conditions, the existing transmission line structures in the vicinity of the resource (Structures #249/68 through #249/201), are approximately 34 feet to 71 feet. Structure #249/71 and #249/83 through #249/85 were visible just above the trees from Photo Locations 3, 4, and 7 but not visible from Photo Location 2 (Figures 2-5).

Based upon preliminary design, proposed replacement structures closest to the historic resource (Structures #249/68 through #249/201) will have heights of approximately 31.5 feet to 74.5 feet with an increase of 4 and 13 feet. Structure #249/79 will not change in height, and Structures #249/77, #249/78, #249/81, and #249/201 will decrease in height by 1 to 2.5 feet. Viewshed modeling and the photosimulations indicate that the proposed structures will be visible from the resource in open agricultural fields and minimally above the existing height of the trees. Additionally, the proposed rebuild structures will be similar in height or lower to the adjacent, existing transmission line in the corridor (Figure 6; Appendix C; OP8 and OP9). Based on the fieldwork, the proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the***

proposed Rebuild Project would have a Minimal Visual Impact on the Reams Station Battlefield I & II (DHR #026-0050).

Figure 2 View from Reams Station Battlefield I & II (DHR #026-0050) Looking Northwest from Photo Location 3/OP8. The Existing Transmission Line is Visible.

Figure 3 View from Reams Station Battlefield I & II (DHR #026-0050) and Boydton Plank Road Battlefield (DHR #026-5004) Looking West from Photo Location 2. The Existing Transmission Line is not Visible.

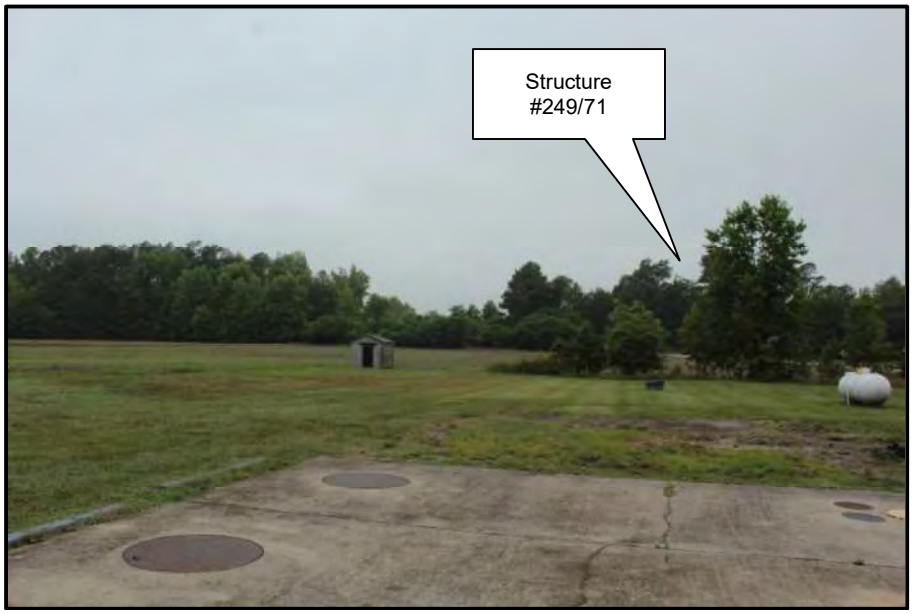


Figure 4 View from Reams Station Battlefield I & II (DHR #026-0050) and Boydton Plank Road Battlefield (DHR #026-5004) Looking West from Photo Location 7. The Existing Transmission Line is Visible.

Figure 5 View from Reams Station Battlefield I & II (DHR #026-0050) Looking Southeast from Photo Location 4/OP9. The Existing Transmission Line is Visible (500 kV Transmission Line is not Part of the Rebuild Project).

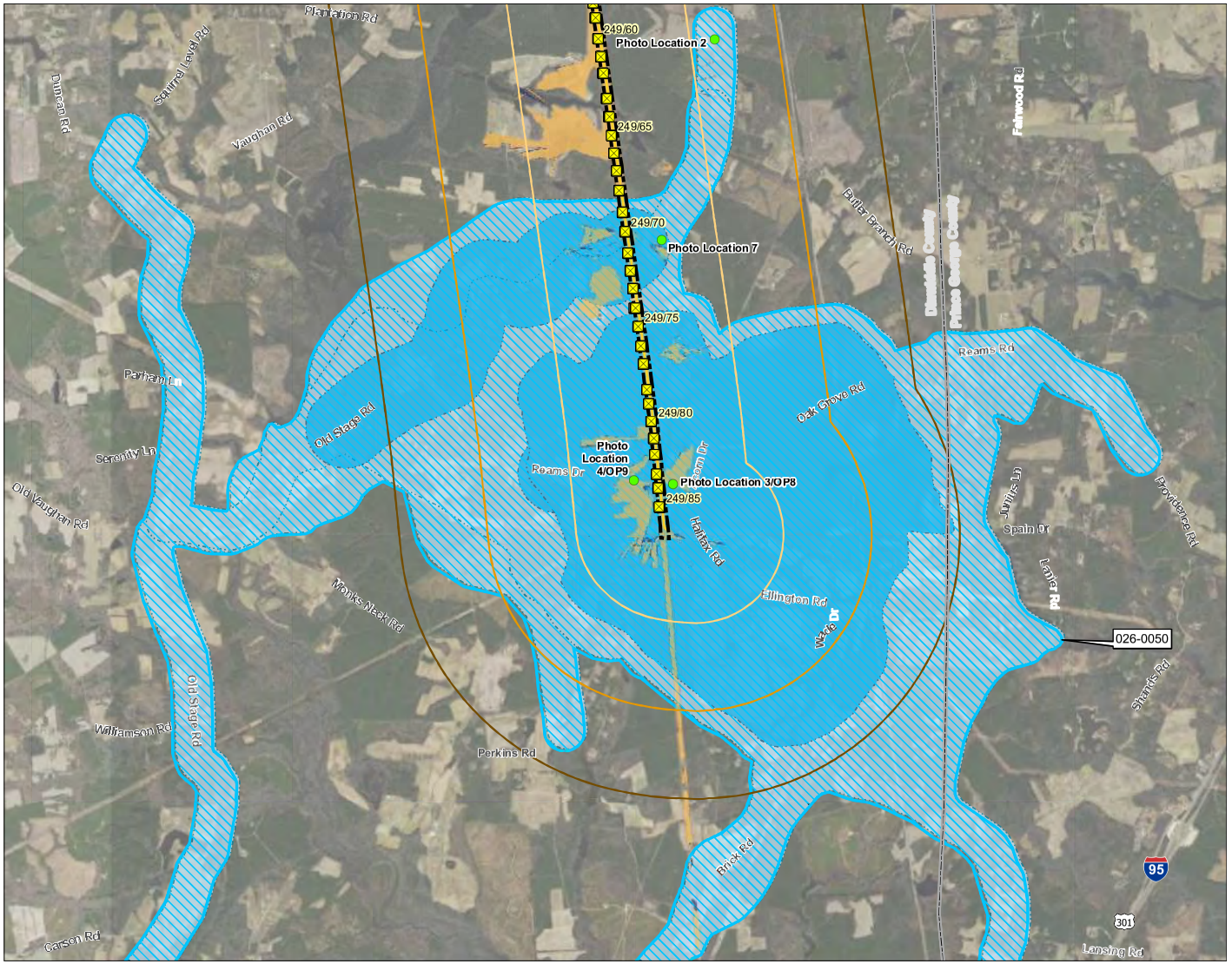


Figure No.

6

Title

Viewshed Analysis and Photo Location Map of the Reams Station Battlefield I & II (DHR #026-0050)

Client/Project 203401971

Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

Project Location

Dinwiddie County, Virginia

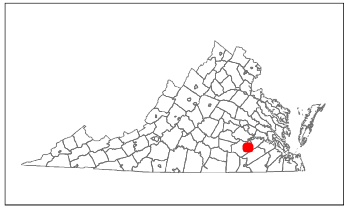
Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 3,000 6,000 Feet

(At original document size of 11x17)
1:36,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 026-0050
- ABPP Core Area
- ABPP Potential National Register Area(PotNR)
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.2 Hatcher's Run Battlefield (DHR #026-0132)

The Hatcher's Run Battle took place between February 5-7, 1865, with 13,835 Confederate forces commanded by Major General John B. Gordon pitted against 34,517 Union troops under Major General Gouverneur K. Warren. Warren's Fifth Corps, in conjunction with Brigadier General David Gregg's calvary, was situated on Vaughan Road with the intent of blocking Confederate forces. The Union's Second Corps, under the command of Major General Andrew A. Humphreys, arrived to protect Warren's flank. Efforts by Confederate forces to gain territory near Armstrong's Mill were repulsed and Union troops were replenished during the night and made a renewed attempt at advancement the following day. While both Warren and Gregg's forces were attacked by Confederate troops under the command of Brigadier General John Pegram, who was killed during the battle, Union forces were not able to advance. Though Confederate troops were vastly outnumbered, the battle ended in a stalemate. The battle resulted in 1,000 Confederate and 1,539 Union casualties. In 2020, the battlefield was determined eligible for listing in the NRHP by DHR (DHR Site Files; American Battlefield Trust 2023b).

Approximately 764 acres of the 11,881-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline and also crosses the transmission line corridor and consists of the ABPP-defined Study Area and approximately 234 acres of the PotNR Area. A majority of the PotNR Area as well as the Core Area of the battlefield are located outside the 1.0-mile radius of the project centerline to the northeast and southwest Figure 12; (Appendix B). The Hatcher's Run Battlefield also overlaps with the following battlefields:

Boydton Plank Road Battlefield (DHR #026-5004)
Peebles' Farm Battlefield (DHR #026-5007)
Petersburg National Battlefield (DHR #123-0071)
Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)

3.2.2.1 Visual Effect Assessment

The Hatcher's Run Battlefield, within 1.0 mile of the Rebuild Project, comprises a relatively level landscape with areas of open agricultural fields and large sections of woods. Under current conditions, the existing transmission line structures in the vicinity of the resource (Structures #249/26 through and #249/59), are approximately 52 feet to 74.5 feet. The area where the battlefield crosses the transmission line corridor between Structure #249/40 and #249/44 were visible from Photo Locations 13, 16, 24, and 26 but not visible from Photo Location 15 (Figures 7-11).

Based upon preliminary design, proposed replacement structures closest to the historic resource (Structures #249/26 through #249/59) will have heights of approximately 40.7 feet to 88 feet with an increase of 4.5 to 15.5 feet. Structure #249/59 will not change in height, and Structures #249/26 and #249/33 will decrease in height by 4.5 and 7.1 feet, respectively. Viewshed modeling and the photosimulations indicate that the proposed structures will be visible from the resource in open agricultural fields adjacent to and where the resource crosses the transmission line. Additionally, the proposed rebuild structures will be similar in height or lower to the adjacent, existing transmission line in

the corridor (Figure 12; Appendix C; OP2 and OP4). Based on the fieldwork, the proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the proposed Rebuild Project would have a Minimal Visual Impact on the Hatcher's Run Battlefield (DHR #026-0132).***

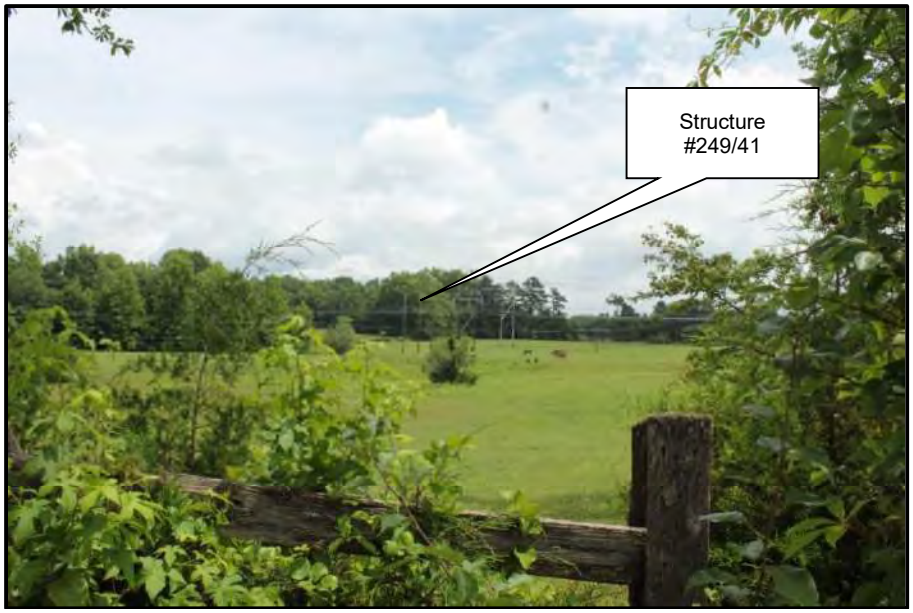


Figure 7 View from Hatcher's Run Battlefield (DHR #026-0132), Peebles' Farm Battlefield (DHR #026-5007), and Weldon Railroad Battlefield (DHR #123-5022) Looking Northeast from Photo Location 13. The Existing Transmission Line is Visible.

Figure 8 View from Hatcher's Run Battlefield (DHR #026-0132) and Boydton Plank Road Battlefield (DHR #026-5004) Looking East from Photo Location 15. The Existing Transmission Line is not Visible.

Figure 9 View from Hatcher's Run Battlefield (DHR #026-0132, Peebles' Farm Battlefield (DHR #026-5007), Weldon Railroad Battlefield (DHR #123-5022), First Battle of Weldon Railroad (DHR #123-5023), and Petersburg Battlefield III (DHR #123-5026) Looking West from Photo Location 16. The Existing Transmission Line is not Visible.

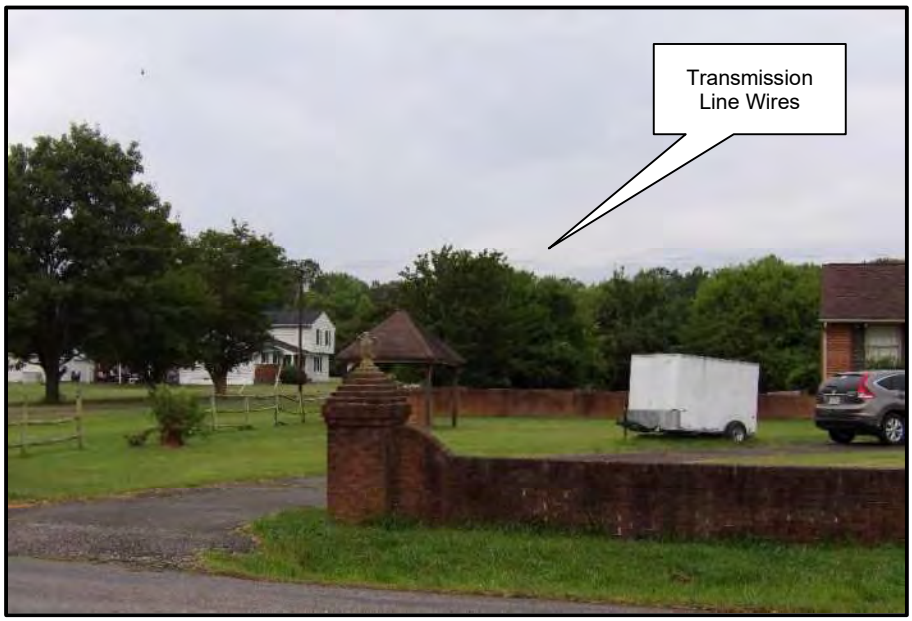


Figure 10 View from Hatcher's Run Battlefield (DHR #026-0132), Peebles' Farm Battlefield (DHR #026-5007), Weldon Railroad Battlefield (DHR #123-5022), and Petersburg National Battlefield (DHR #123-0071) Looking Southwest from Photo Location 24/OP2. The Existing Transmission Line Wires are Visible.

Figure 11 View from Hatcher's Run Battlefield (DHR #026-0132), Peebles' Farm Battlefield (DHR #026-5007), and Weldon Railroad Battlefield (DHR #123-5022) Looking Northwest from Photo Location 26/OP4. The Existing Transmission Line is Visible.

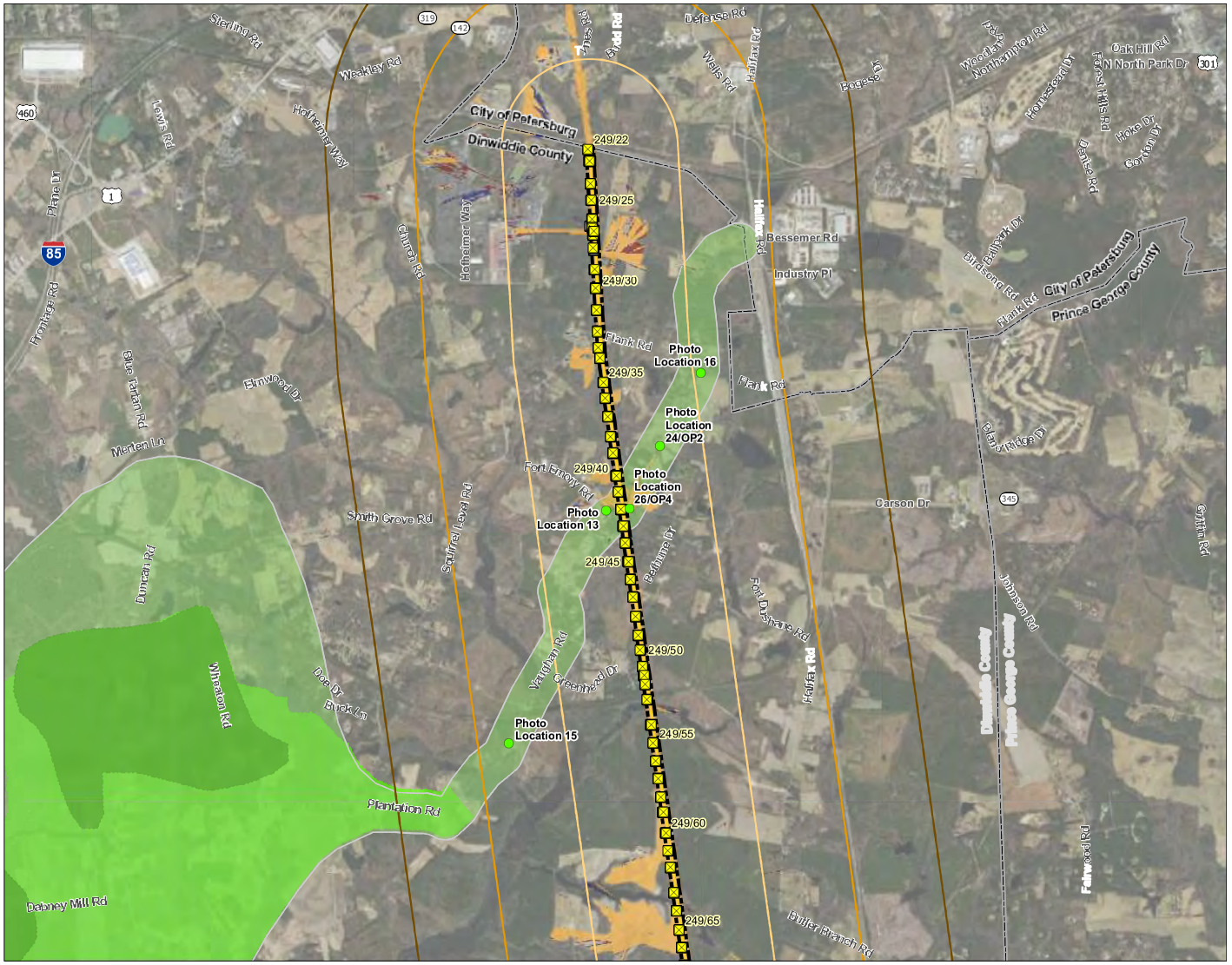


Figure No.
12

Title
Viewshed Analysis and Photo Location Map of the Hatcher's Run Battlefield (DHR #026-0132)

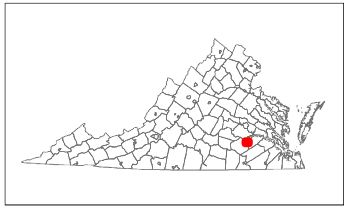
Client/Project 20340197
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N
0 3,000 6,000 Feet
(At original document size of 11x17)
1:36,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 026-0132
- ABPP Core Area
- ABPP Potential National Register Area(PotNR)
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.3 Boydton Plank Road Battlefield (DHR #026-5004)

The Boydton Plank Road Battle took place on October 27 and 28, 1864, with a total of 30,000 soldiers on both sides. Union forces, commanded by Major General Winfield Scott Hancock as well as Brigadier General David Gregg's calvary, attempted to cut off the supply lines of the South Side Railroad and take Boydton Plank and Petersburg Plank roads. The Confederate forces, under the command of Major General Henry Heth and the calvary division of Major General Wade Hampton, were able to retain their position, but during the battle, Union forces earned a strategic victory prior to settling in their winter encampment. In 2020, the battlefield was determined eligible for listing in the NRHP by DHR (DHR Site Files; American Battlefield Trust 2023c).

Approximately 1,018 acres of the 8,219-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline and consists of the ABPP-defined Study and PotNR areas (Appendix B). The portion of the battlefield within 1.0 mile also follows sections of Old Stage and Halifax roads as well as a section of Butler's Branch and Vaughan roads and includes the troop movement routes to the west of the transmission line corridor between Structure #249/53 and #249/62. Additionally, the battlefield crosses the transmission line corridor and extends to the west beyond 1.0-mile from the Rebuild Project centerline. A majority of the PotNR Area as well as the entirety of the Core Area of the battlefield are located outside the 1.0-mile radius of the project centerline (Figure 17; Appendix B). The Boydton Plank Road Battlefield also overlaps with the following battlefields:

Reams Station Battlefield I & II (DHR #026-0050)
Lewis's Farm Battlefield (DHR #026-5006)
Peebles' Farm Battlefield (DHR #026-5007)
Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)

3.2.3.1 Visual Effect Assessment

The landscape within the portion of the battlefield within 1.0-mile of the Rebuild Project comprises mostly densely wood areas with some open agricultural fields and mid-to late twentieth century residential development. Under current conditions, the existing transmission line structures, which range in height from approximately 52 to 78 feet (Structures #249/49 through #249/63 and #249/69 through #249/73) within and in the vicinity of the resource are visible where the line transverses through areas of open landscape, mainly the area between Structure #249/55 through Structure #249/63 (Photo Locations 1 and 7; Figures 4 and 13; OP5). The existing line was not visible from Photo Locations 2, 8, 12, 14, and 15 due to the dense forest between the point of survey and the transmission line corridor (Figures 3, 8, 14, 15, and 16).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/49 through #249/63 and #249/69 through #249/73) will have heights ranging from approximately 61 to 88 feet with a maximum increase of 13.5 feet (Structure #249/49, #249/62, and #249/71). Viewshed modeling indicates that the proposed structures would be visible from the resource where the line traverses through open landscape within the battlefield in areas where it is already visible

(Figure 16). The photosimulation also indicates that proposed Structures #249/55 through #249/63 would also be visible (Appendix C; OP5) but will be similar in height to the adjacent, existing transmission line in the corridor. Based on the fieldwork, the proposed structure heights, photosimulation, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the proposed Rebuild Project would have a Minimal Visual Impact on the Boydton Plank Road Battlefield*** (***DHR #026-5004).***

Figure 13 View of Boydton Plank Battlefield (DHR #026-5004) and Lewis's Farm Battlefield (DHR #026-5006) Looking Northeast from Photo Location 1/OP5. The Existing Transmission Line is Visible.

Figure 14 View from Boydton Plank Road Battlefield (DHR #026-5004), Lewis's Farm Battlefield (DHR #026-5006), Peebles' Farm Battlefield (DHR #026-5007), and Weldon Railroad Battlefield (DHR #123-5022) Looking Northwest from Photo Location 8. The Existing Transmission Line is not Visible.

Figure 15 View of Boydton Plank Battlefield (DHR #026-5004), Peebles' Farm Battlefield (DHR #026-5007), and Petersburg Battlefield III (DHR #123-5026) Looking East from Photo Location 12. The Existing Transmission Line is not Visible.

Figure 16 View Boydton Plank Battlefield (DHR #026-5004) Looking East from Photo Location 14. The Existing Transmission Line is not Visible.

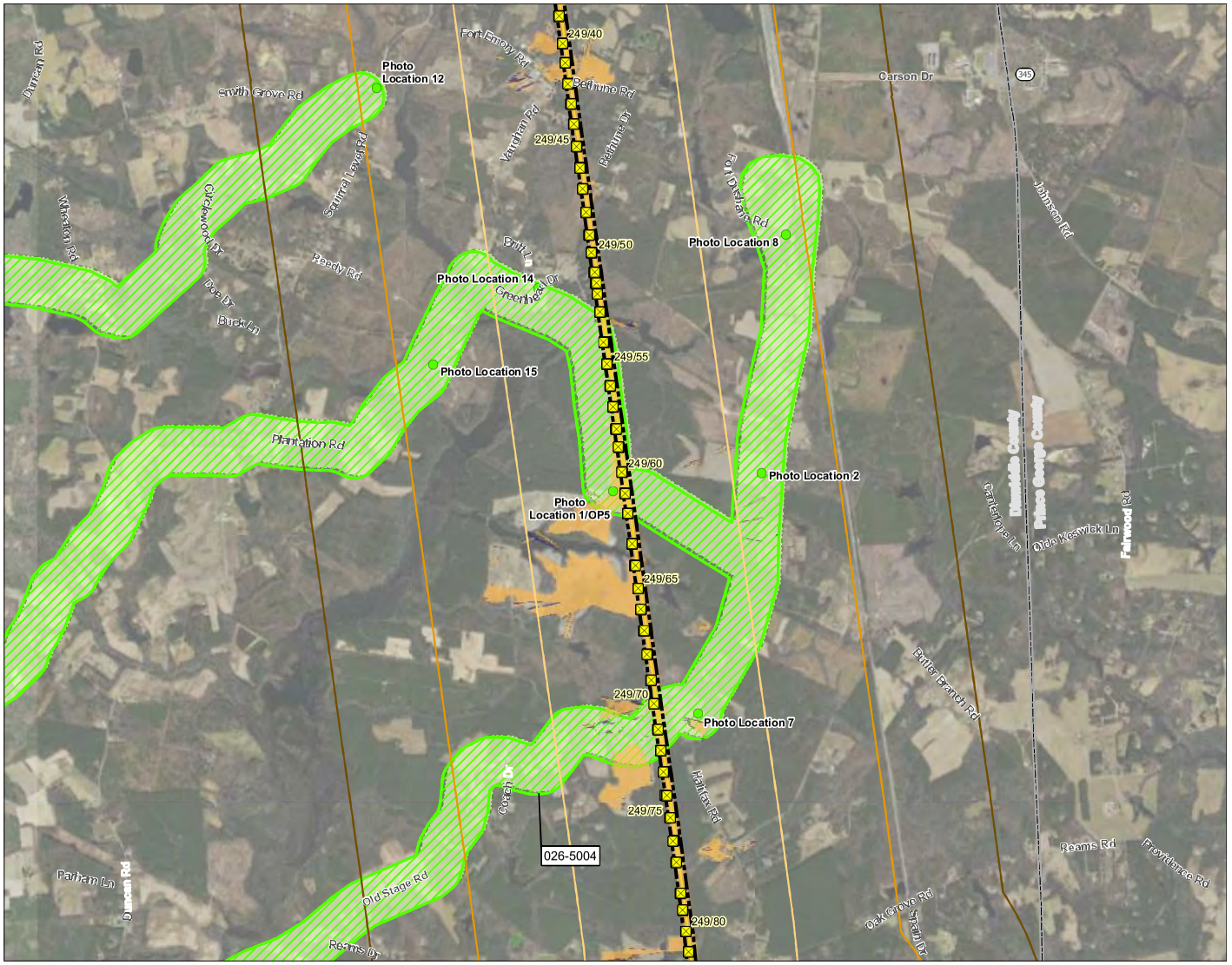


Figure No.
17

Title
Viewshed Analysis and Photo Location Map of the Boydton Plank Road Battlefield (DHR #026-5004)

Client/Project 20340197
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

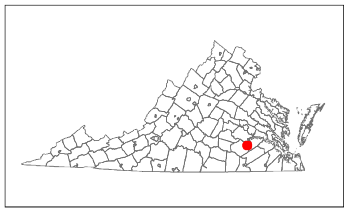
Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 2,500 5,000 Feet
(At original document size of 11x17)
1:30,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 026-5004
- ABPP Potential National Register Area(PotNR)
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.4 Lewis's Farm Battlefield (DHR #026-5006)

The Lewis's Farm Battle took place on March 29, 1865. During the spring offensive, Union troops under the command of General Philip Sheridan along with the Union Army's calvary marched towards Dinwiddie Courthouse in an attempt to dismantle the right flank of Confederate defensive forces. The Fifth Corps, commended by Major General Gouverneur K. Warren, encountered formidable opposition along Quaker Road in the vicinity of Gravelly Run at Lewis Farm by Major General Bushrod Johnson's Confederate troops. The battle forced Confederate troops back to White Oak Road with Union forces establishing trenches along Boydton Plank Road. The battle was a Union victory with casualties totaling 380 for the Union side and 370 on the Confederate side. In 2006, the battlefield was determined eligible for listing in the NRHP by DHR (DHR Site Files; NPS 2015; Searles 2023).

Approximately 391 acres of the 3,445-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline and consists of the ABPP-defined Study Area (Appendix B). The battlefield encompasses sections of Squirrel Level and Halifax roads and follows a troop movement route from the west and crossing the transmission line corridor between Structure #249/59 and #249/63. The PotNR and Core areas of the resource are located outside the 1.0-mile radius of the project centerline. The Lewis's Farm Battlefield also overlaps with the following battlefields:

Boydton Plank Road Battlefield (DHR #026-5004)
Peebles' Farm Battlefield (DHR #026-5007)
Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)
First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023)
Petersburg Battlefield III (DHR #123-5026)

3.2.4.1 Visual Effect Assessment

The landscape within the portion of the battlefield 1.0-mile from the Rebuild Project comprises mostly densely wood areas with some open agricultural fields. Under current conditions, the existing transmission line structures, which range in height from approximately 52 to 78 feet (Structures #249/35 through #249/63) within and in the vicinity of the resource are visible where the line transverses through areas of open landscape, mainly the area between Structure #249/55 through Structure #249/63 (Photo Location 1; Figure 13; OP5). The existing line was not visible from Photo Location 8 due to the dense forest between the point of survey and the transmission line corridor (Figure 14).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/35 through #249/63) will have heights ranging from approximately 56.5 to 88 feet with a maximum increase of 14.5 feet (Structure #249/43 and #249/44). Structure #249/59, #249/60 and #249/67 will not change in height. Viewshed modeling indicates that the proposed structures would be visible from the resource where the line traverses through open landscape within the battlefield in areas where it is already visible (Figure 18; Appendix C; OP5). The photosimulation also indicates that proposed Structures #249/55 through #249/63 would also be visible (Appendix C; OP5) but will be similar in height to the adjacent, existing transmission line in the corridor. Based on the fieldwork, the proposed

structure heights, photosimulation, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the proposed Rebuild Project would have a Minimal Visual Impact on the Lewis's Farm Battlefield*** (***DHR #026-5006).***

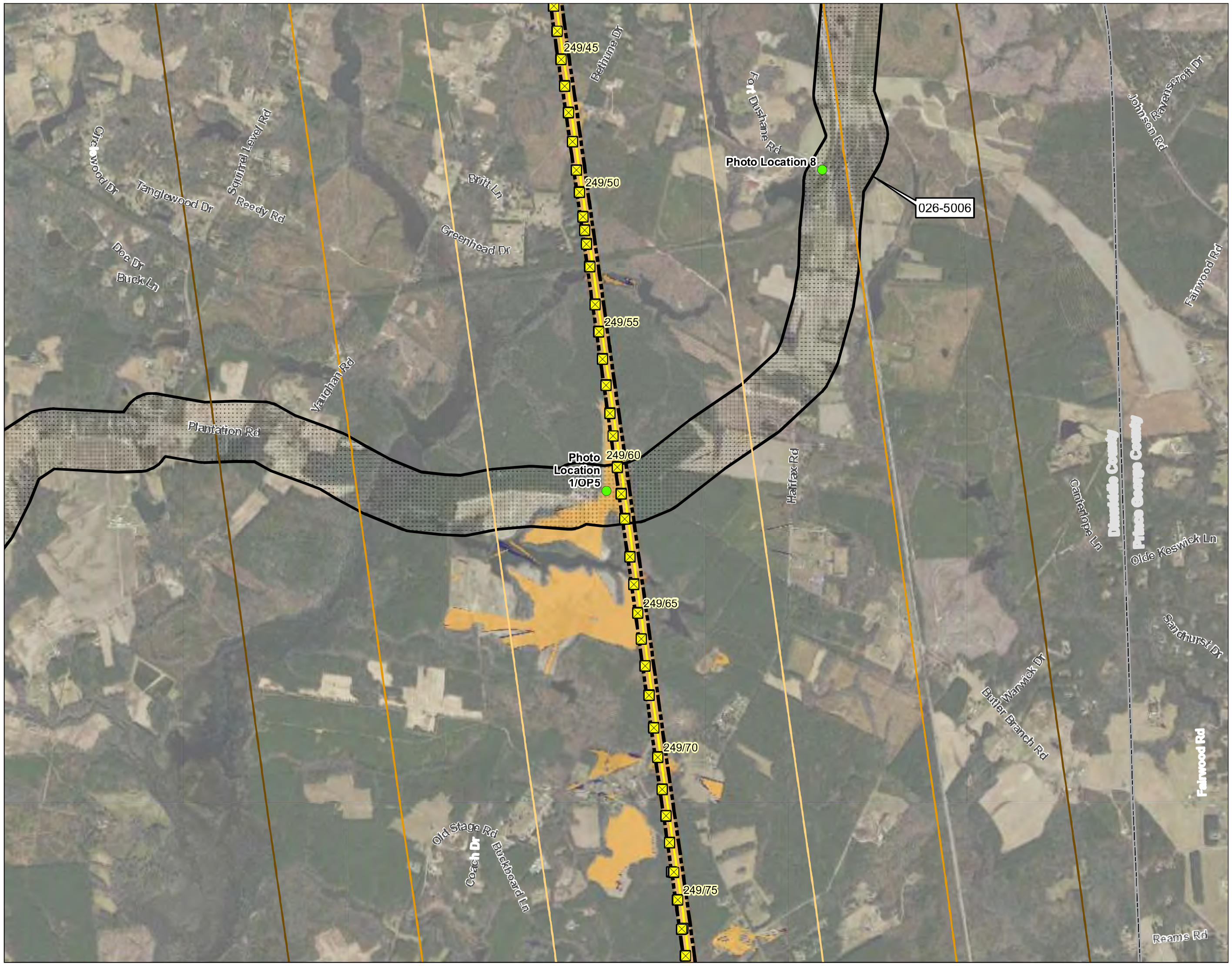


Figure No.
18

Title
Viewshed Analysis and Photo Location Map of the Lewis's Farm Battlefield (DHR #026-5006)

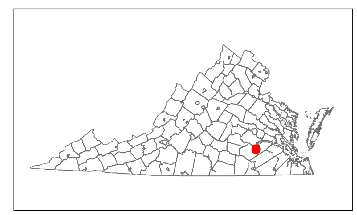
Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild
203401971

Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N
0 2,000 4,000 Feet
(At original document size of 11x17)
1:24,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 026-5006
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.5 Peebles' Farm Battlefield (DHR #026-5007)

The Battle of Peeble's Farm took place between September 30 and October 2, 1864, with 10,000 Confederate forces commanded by General Robert E. Lee pitted against 29,000 Union troops under Lieutenant General Ulysses S. Grant. Divisions from Major General John G. Parke Ninth Corps and two Fifth Corps divisions under Major General Gouverneur K. Warren as well as the army's calvary division commanded by Brigadier General David M. Gregg left Fort Wadsworth on the 30th and arrived at Squirrel Level and Vaughan roads to attack Fort Archer. Although Confederate reinforcements arrived and slowed the advancement of Union troops, Union forces were able to take Fort MacRae, located near Peebles Farm. The battle ended with a Union victory. During the battle, the Confederate side experienced 1,240 casualties, while casualties on the Union side amounted to 2,900. In 2007, the battlefield was determined eligible for listing in the NRHP by DHR (DHR Site Files; American Battlefield Trust 2023d).

Approximately 3,476 acres of the 5,221-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline and consists of the ABPP-defined Study, PotNR, and Core areas (Appendix B). The portion of the battlefield within 1.0 mile encompasses sections of Squirrel Level and Vaughan roads and Bethune Drive as well as parallels a portion of Halifax Road to the west of the resource's boundary. The PotNR Area comprises approximately 1,905 acres while approximately 1,420 acres of the Core Area is within 1.0-mile of the Rebuild Project. The battlefield extends to the west beyond the 1.0-mile radius of the Rebuild Project centerline. The Peebles' Farm Battlefield also overlaps with the following battlefields:

Boydton Plank Road Battlefield (DHR #026-5004)
Lewis's Farm Battlefield (DHR #026-5006)
Petersburg National Battlefield (DHR #123-0071)
Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)
First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023)
Petersburg Battlefield III (DHR #123-5026)

3.2.5.1 Visual Effect Assessment

The landscape within the portion of the battlefield 1.0-mile from the Rebuild Project comprises mostly densely wood areas with some open agricultural fields. Areas of residential and industrial development have occurred in the northwestern section of the battlefield. Under current conditions, the existing transmission line structures, which range in height from approximately 52 to 74.5 feet (Structures #249/23 through #249/48) within and in the vicinity of the resource are visible where the line transverses through areas of open landscape (Photo Location 13, 20, 24 [wires only] and 26; Figures 7, 10 [wires only], 11, and 21). The existing line was not visible from Photo Locations 11, 12, 16, 19, 23, and 25 due to the dense forest between the point of survey and the transmission line corridor (Figures 9,19, 20, 22, and 23).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/23 through #249/48) will have heights ranging from approximately 40.7 to 88 feet with a maximum increase of 15.5 feet (Structure #249/34). Structure #249/26 and #249/33 will decrease in height by 7.1 and 4.5 feet, respectively. Viewshed modeling indicates that the proposed structures would

be visible from the resource where the line traverses through open landscape within the battlefield in areas where it is already visible. Areas of additional visibility, where the existing structures were not visible, are located within the northern area of the battlefield just inside the 1.0-mile radius (Figure 24). Photosimulations indicate that proposed structures would not be visible from three of the four Observation Points considered (OP1-OP3). OP4 indicated that the structures will be visible but will be lower in height than the existing structures (Appendix C). Based on the fieldwork, the proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the proposed Rebuild Project would have a Minimal Visual Impact on the Peebles' Farm Battlefield*** (***DHR #026-5007).***

Figure 19 View from Peebles' Farm Battlefield (DHR #026-5007), Petersburg Battlefield III (DHR #123-5026), and Petersburg National Battlefield (DHR #123-0071) Looking East from Photo Location 11. The Existing Transmission Line is not Visible.

Figure 20 View from Peebles' Farm Battlefield (DHR #026-5007) and Petersburg Battlefield III (DHR #123-5026) Looking West from Photo Location 19. The Existing Transmission Line is not Visible (Transmission Line Depicted in Photo is not Part of the Rebuild Project).

Figure 21 View from Peebles' Farm Battlefield (DHR #026-5007) and Petersburg Battlefield III (DHR #123-5026) Looking Northwest from Photo Location 20. The Existing Transmission Line is Visible.

Figure 22 View from Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Battlefield (DHR #123-0071), and Petersburg Battlefield III (DHR #123-5026), Looking Southeast from Photo Location 23/OP1. The Existing Transmission Line is not Visible.

Figure 23 View from Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Battlefield (DHR #123-0071), Weldon Railroad Battlefield (DHR #123-5022), and First Battle of Weldon Railroad (DHR #123-5023) Looking Southwest from Photo Location 25/OP3. The Existing Transmission Line is not Visible.

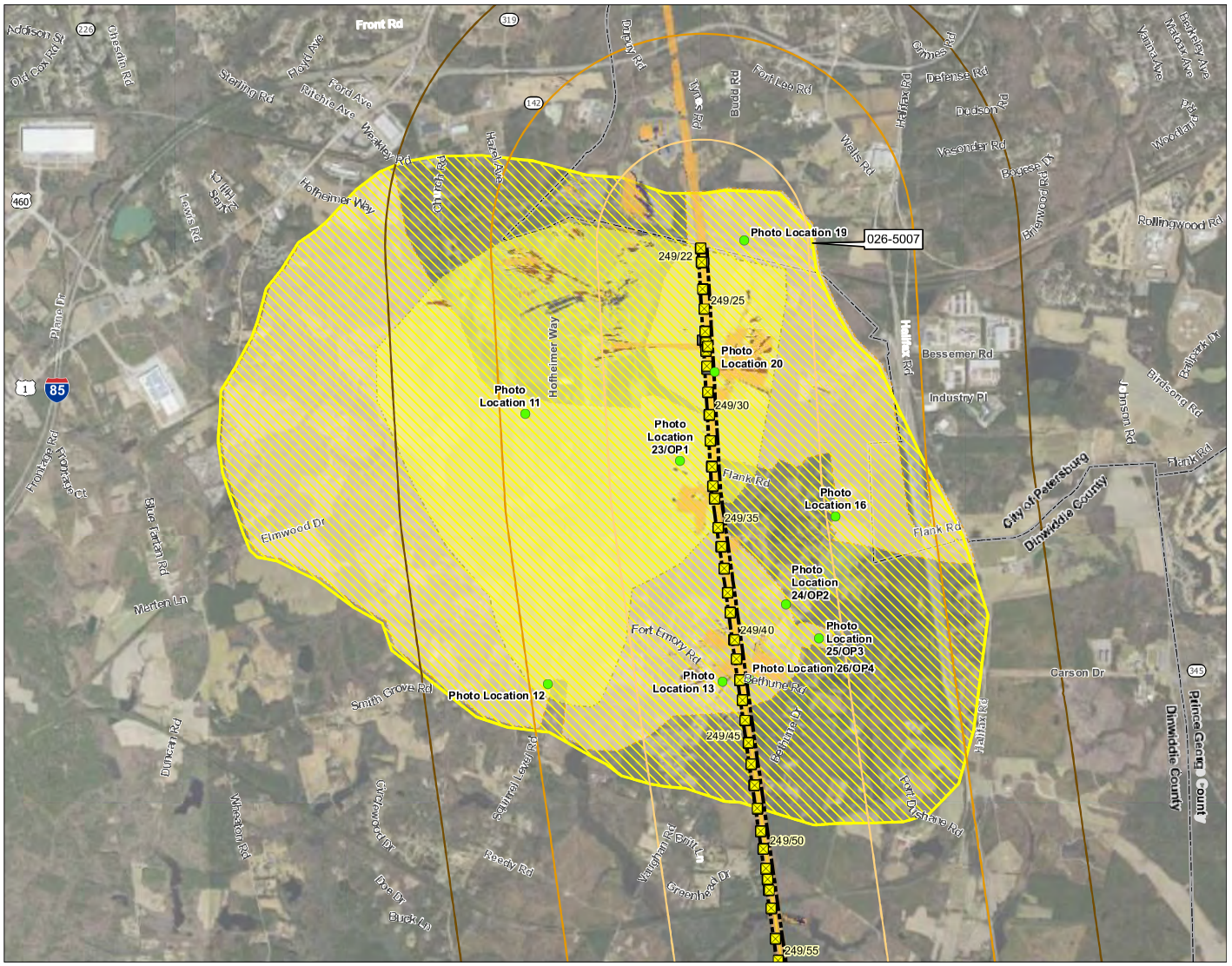


Figure No.
24

Title
Viewshed Analysis and Photo Location Map of the Peebles' Farm Battlefield (DHR #026-5007)

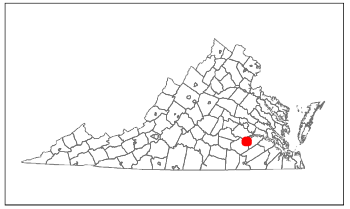
Client/Project 203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N
0 2,500 5,000 Feet
(At original document size of 11x17)
1:30,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 026-5007
- ABPP Core Area
- ABPP Potential National Register Area(PotNR)
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.6 Petersburg Breakthrough Battlefield (DHR #026-5013)

The Petersburg Breakthrough Battle took place on April 2, 1865, with 20,000 Confederate forces commended by General Robert E. Lee pitted against and vastly outnumbered by 63,000 Union troops under Lieutenant General Ulysses S. Grant. During the early hours of the 2nd, the Sixth Corps commanded by Major General Horatio G. Wright, breached Lieutenant General A. P. Hill's Confederate line killing Hill in the process. The Confederate troops were forced to pull back to Fort Gregg and Fort Whitworth. Additional Union troops comprising of Major General John Gibbon's Twenty Fourth Corps and the United States Colored Troops under the command of Brigadier General William Birney joined the siege. The battle ended with the fall of Petersburg and a Union victory. During the battle, the Confederate side experienced 4,250 casualties, while casualties on the Union side amounted to 3,500. In 2006, the Petersburg Breakthrough Battlefield was listed as an NHL (DHR Site Files; American Battlefield Trust 2023e).

Approximately 22 acres of the NHL 426-acre battlefield resource (Table 5) are located within 1.5 mile of the project centerline (Figure 24; Appendix B). The Petersburg Breakthrough Battlefield also overlaps with the following battlefields:

Peebles' Farm Battlefield (DHR #026-5007) – Portion of Battlefield is Outside 1.0 Mile
Petersburg Battlefield III (DHR #123-5026) – Portion of Battlefield is Outside 1.0 Mile

3.2.6.1 Visual Effect Assessment

The Petersburg Breakthrough Battlefield within 1.5 miles of Rebuild Project centerline comprises a relatively level landscape with open fields and dense woods (Appendix B). The battlefield is bounded by some modern commercial and mid-to late twentieth century residential development but remains relatively rural. Under current conditions, the existing transmission line structures, which range in height from approximately 56.5 to 113.5 feet in the vicinity of the resource (Structures #249/22 through #249/32), are not visible (Figure 25).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/22 through #249/32) will have heights ranging from approximately 40.7 to 121.5 feet with a maximum increase of 13.5 feet (Structure #249/31). Additionally, Structure #249/26 will decrease in height 7.1 feet. Viewshed modeling indicates the proposed Rebuild Project will not be visible from the resource (Figure 26). Based on the fieldwork, the proposed structure heights, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures, the distance to the transmission line, and the tree cover and surrounding built environment, the Rebuild Project would not be visible from the battlefield. It is therefore recommended that the proposed Rebuild Project would have a No Visual Impact on the Petersburg Breakthrough Battlefield (DHR #026-5013).***

Figure 25 View from Petersburg Breakthrough Battlefield (DHR #026-5013) Looking East from Photo Location 9. The Existing Transmission Line is not Visible.

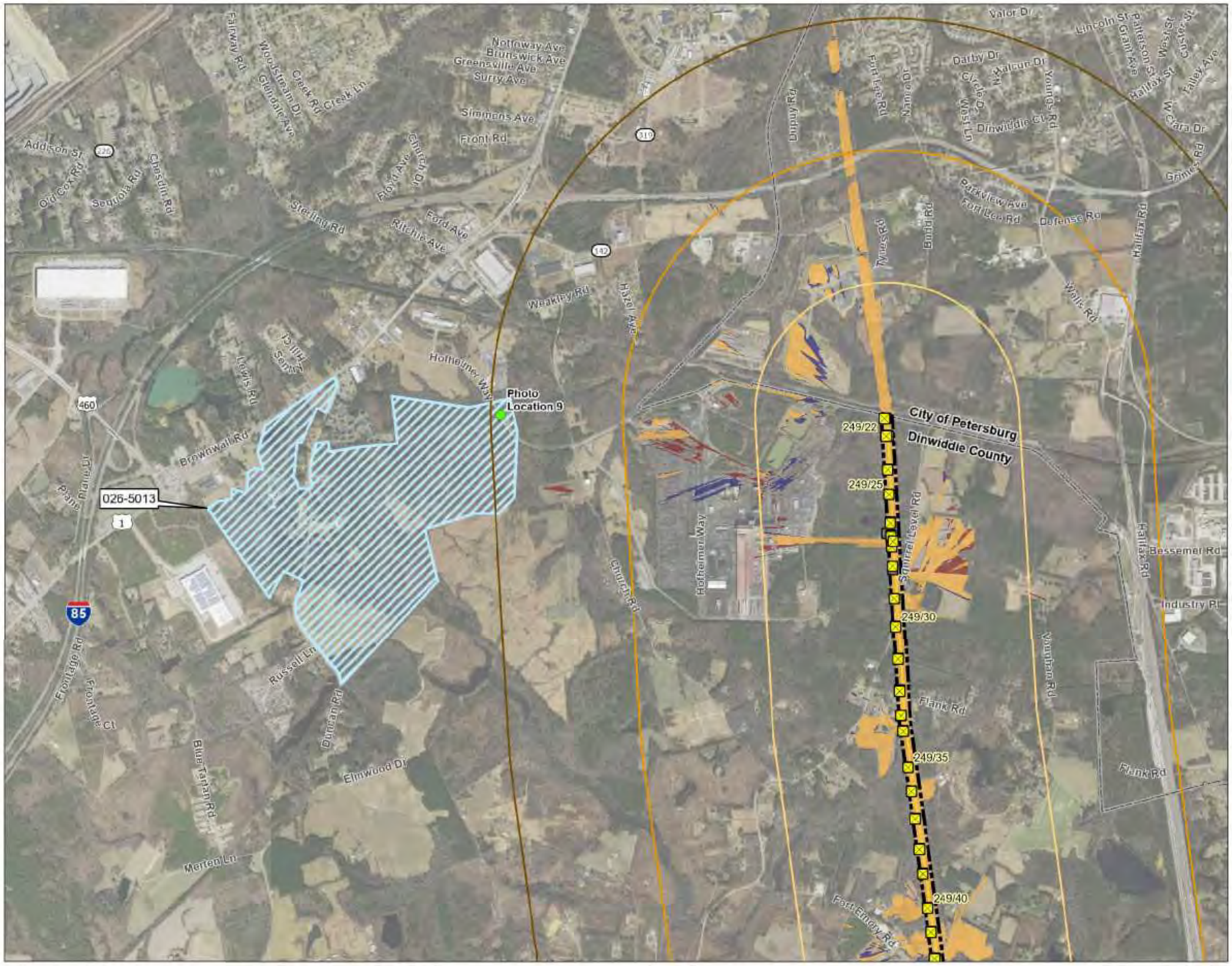


Figure No.
26

Title
Viewshed Analysis and Photo Location Map of Petersburg Breakthrough Battlefield (DHR #026-5013)

Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

203401971

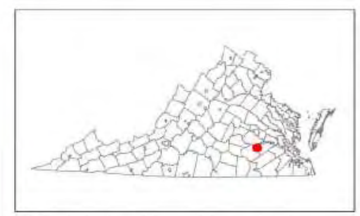
Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 2,000 4,000 Feet
(At original document size of 11x17)
1:24,000

- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- 026-5013
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.7 Petersburg National Battlefield (DHR #123-0071)

The Petersburg National Battlefield comprises 10 separate areas which were integral in the Petersburg Campaign during 1864 and 1865. The resource encompasses the remains of earthworks and other structures and features that were part of the fighting between Union and Confederate forces and the capture of the city of Petersburg in the final days of the Civil War. While the park, as a whole, does not reflect a specific battle, it commemorates those who fought and died in the Siege of Petersburg. A week after the culmination of the battle and the Union victory, General Lee surrendered at Appomattox. The Petersburg National Battlefield was listed on the NRHP in 1966; however, no formal nomination form was prepared (DHR Site Files).

Approximately 74 acres of the 1,553-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline. Five of the 10 areas comprising the NRHP-listed battlefield were in the vicinity of the Rebuild Project with three areas located within 1.0-miles of the Rebuild Project's centerline. The battlefield within 1.0 mile of the Rebuild Project comprises three distinct areas and includes forts Fisher and Urmston and Poplar Grove Cemetery (Figure 28; Appendix B). Although the boundary of the portion of the resource encompassing forts Fisher and Urmston, as mapped in V-CRIS, is depicted as crossing the transmission line corridor, the NPS no longer owns the section to the east of Squirrel Level Road. The battlefield comprising Petersburg National Battlefield also overlaps with the following battlefields:

Peebles' Farm Battlefield (DHR #026-5007)
Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)
First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023)

3.2.7.1 Visual Effect Assessment

The landscape surrounding the battlefield resources comprises mostly densely wood areas with some open agricultural fields and sparce mid-twentieth century residential development. Tree lines are present within the resources themselves. Under current conditions, the existing transmission line structures, which range in height from approximately 52 to 70 feet (Structures #249/30 through #249/33 and #249/37 through #249/42) in the vicinity of the resource were not visible except for Photo Location 24 taken at the entrance to Poplar Grove Cemetery looking west across Vaughan Road. In this direction only the transmission line wires were visible (Figure 10; Photo Location 24). The existing line was not visible from Photo Locations 11, 21, 23, and 25 due to the dense forest between the point of survey and the transmission line corridor (Figures 19, 22, 23, and 27).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/30 through #249/33 and #249/37 through #249/42) will have heights ranging from approximately 56.5 to 79 feet with a maximum increase of 13.5 feet (Structure #249/31, #249/38, and #249/39). Structure #249/33 will decrease in height by 4.5 feet. Viewshed modeling indicates that the proposed structures would be visible where the line crosses the resource. The resource will experience additional visibility from several areas where the existing line was not visible (Photo Location 21; Figure 28). Photosimulations indicate that proposed structure would not be visible from four Observation Points

considered for the resource (Appendix C; OP1- OP3, and OP6). Based on the fieldwork, the proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing, surrounding landscape of the battlefield areas. It is therefore recommended that the proposed Rebuild Project would have a Minimal Visual Impact on Petersburg National Battlefield*** (***DHR #123-0071).***

Figure 27 View from Petersburg National Battlefield (DHR #123-0071) and Petersburg Battlefield III (DHR #123-5026) Looking Southeast from Photo Location 21/OP6. The Existing Transmission Line is not Visible.

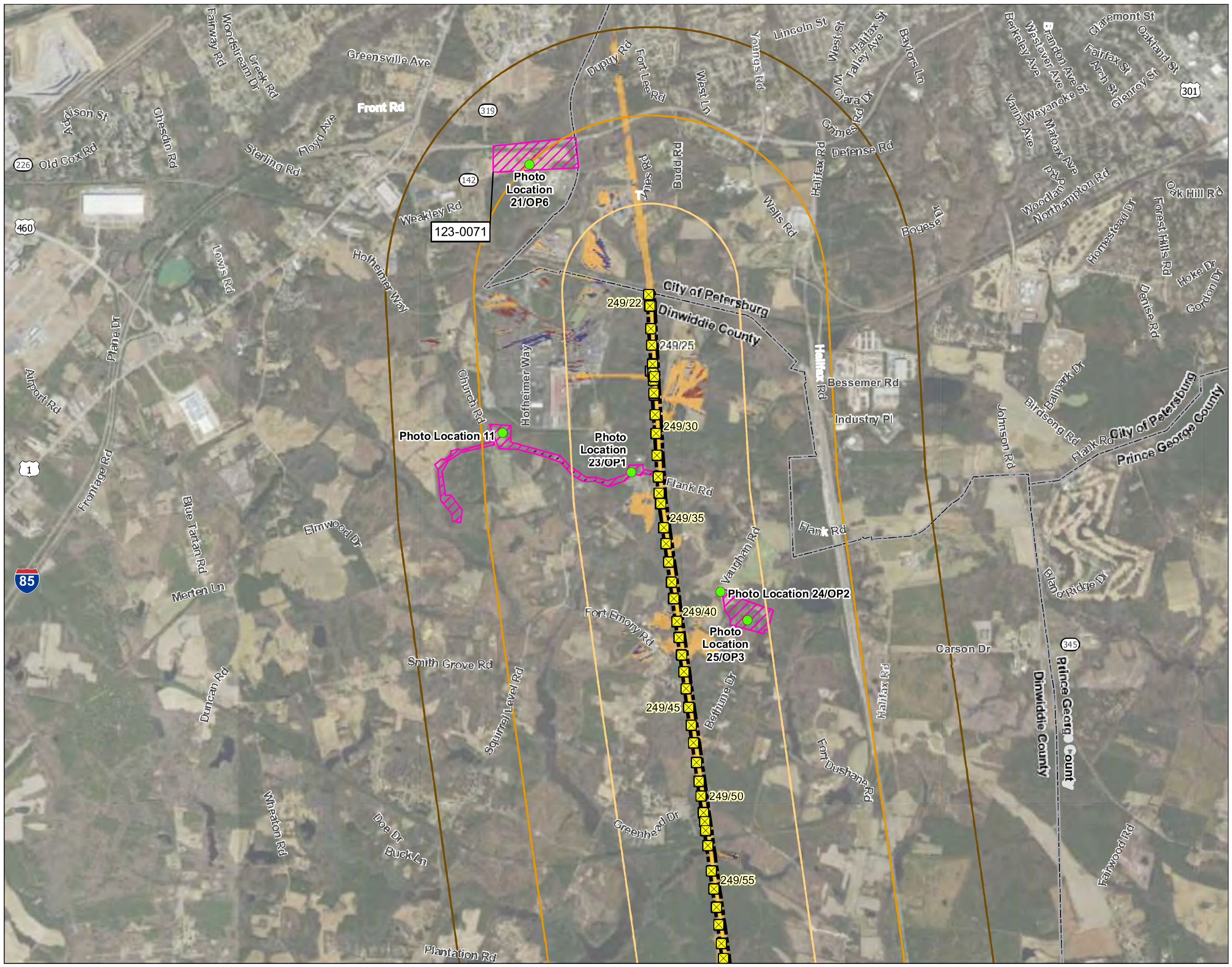


Figure No.
27

Title
Viewshed Analysis and Photo Location Map of the Petersburg National Battlefield (DHR #123-0071)

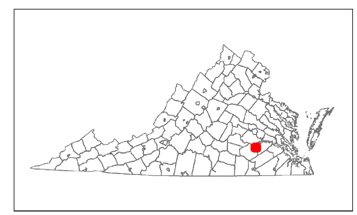
Client/Project
203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N
0 3,000 6,000 Feet
(At original document size of 11x17)
1:36,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 123-0071
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.8 Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)

The Weldon Railroad Battle/Globe Tavern Battlefield took place on August 18 through 21, 1864. The battle was a second attempt at capturing the rail line after Union forces failed in June. General Gouverneur K. Warren's Fifth Corps was sent by General Grant on the 18th to destroy and hold the section of the Weldon Railroad. At 9am that morning Union troops began removing tracks, moving northward until they were met with Confederate fire near the Vaughan and Halifax roads intersection. While Union forces quickly dispersed the small band of troops, they were met with three brigades under the command of Confederate General Henry Heth. After the first day of fighting, Union troops continued to hold the section of railroad but were faced with more intense combat the following day and were attacked on the 19th and again on the 21st by General William Mahone. However, on the 21st, Mahone, operating under faulty intelligence, attacked the Union line head on instead of General Warren's left flank as intended. Confederate forces suffered extensive losses as a result. The battle was a Union victory leaving between 1,600 and 2,300 Confederate and 4,279 Union casualties. In 2015, the battlefield was determined potentially eligible for listing in the NRHP by DHR (DHR Site Files; Greene 2023).

Approximately 1,998 acres of the 4,506-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline and consists of the ABPP-defined Study, PotNR, and Core areas of the battlefield and also encompasses portions of Halifax, Vaughan, and Flank roads (Figure 31; Appendix B). The PotNR area of the battlefield is within 1.0-miles of the centerline comprises 1,227 acres with approximately 908 acres of the Core Area. The battlefield extends to the east beyond 1.0 miles of the Rebuild Project. The Weldon Railroad Battlefield/Globe Tavern Battlefield also overlaps with the following battlefields:

Boydton Plank Road Battlefield (DHR #026-5004)
Lewis's Farm Battlefield (DHR #026-5006)
Peebles' Farm Battlefield (DHR #026-5007)
Petersburg National Battlefield (DHR #123-0071)
First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023)
Petersburg Battlefield III (DHR #123-5026)

3.2.8.1 Visual Effect Assessment

The landscape within the battlefield comprises mainly dense wooded areas and open fields with some sparce mid-to late twentieth century development. Under current conditions, the existing transmission line structures, which range in height from approximately 52 to 78 feet (Structures #249/23 through #249/53) within and in the vicinity of the resource are visible where the line transverses through areas of open landscape and where the resource crosses the transmission line corridor (Photo Locations 13, 24, and 26; Figures 7, 10 [wires only], and 11). The existing line was not visible from Photo Locations 8, 16, 18, 22, and 25 due to the dense forest between the point of survey and the transmission line corridor (Figures 9, 14, 22, 23, 29, and 30).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/23 through #249/53) will have heights ranging from approximately 40.7 to 88 feet with a maximum increase of 15.5 feet (Structure #249/34). Structure #249/26 and #249/33 will decrease in height by 7.1 and 4.5 feet, respectively. Viewshed modeling indicates that the proposed structures would be visible from the resource where the line traverses through open landscape within the battlefield in the far western area of the resource adjacent to or in the immediate vicinity of the transmission line (Figure 31). Photosimulations indicate that proposed structure would not be visible from the three of the four Observation Points considered (Appendix C; OP2, OP3, and OP7) but would be visible from OP4. Based on the fieldwork, the proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the proposed Rebuild Project would have a Minimal Visual Impact on the Weldon Railroad Battlefield/Globe Tavern Battlefield*** (***DHR #123-5022).***

Figure 29 View from Weldon Railroad Battlefield (DHR #123-5022) and Petersburg Battlefield III (DHR #123-5026) Looking West from Photo Location 18. The Existing Transmission Line is not Visible.

Figure 30 View from Weldon Railroad Battlefield (DHR #123-5022), First Battle of Weldon Railroad (DHR #123-5023), and Petersburg Battlefield III (DHR #123-5026) Looking West from Photo Location 22/OP7. The Existing Transmission Line is not Visible.

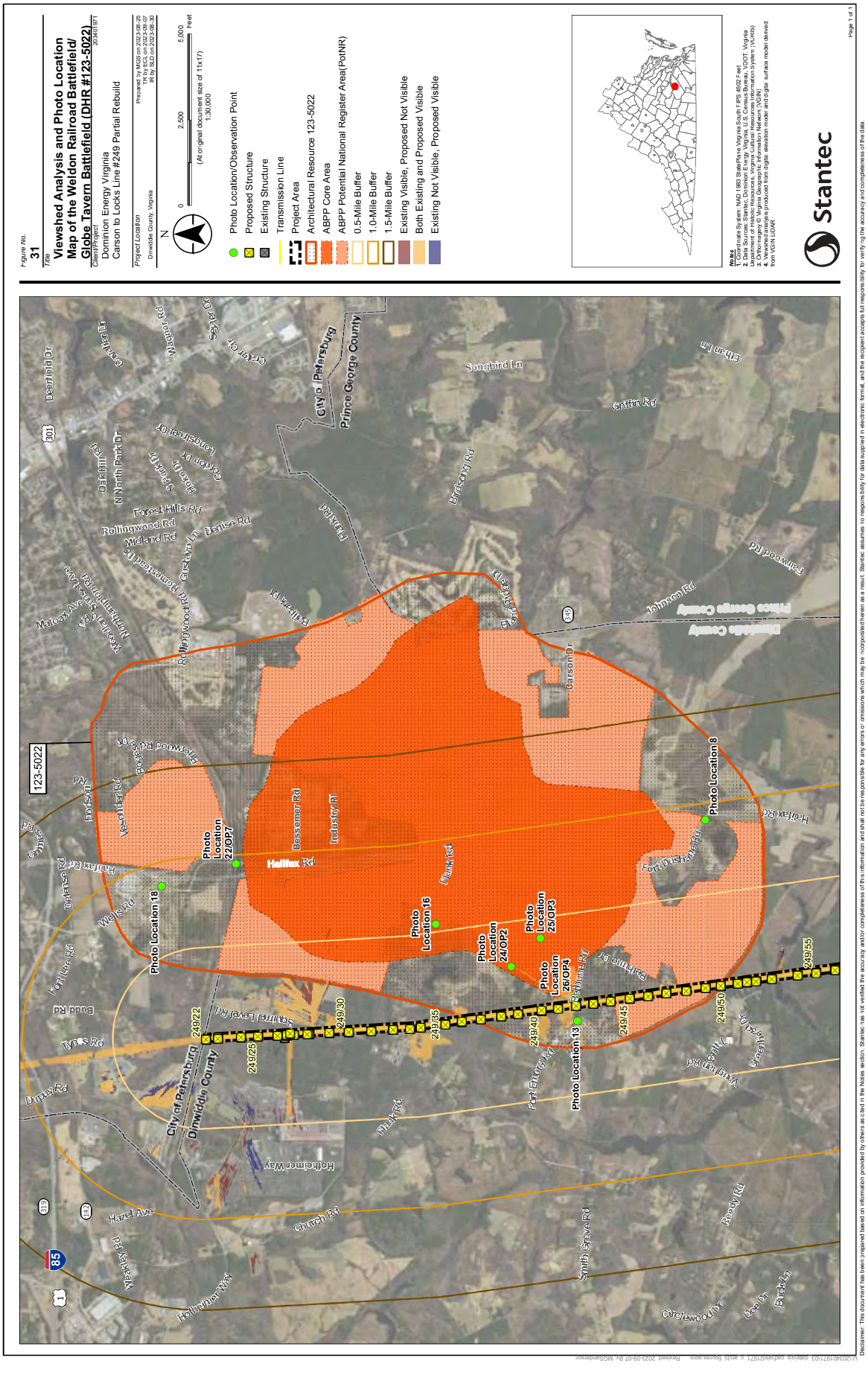
Figure No.
31
Title
Viewshed Analysis and Photo Location Map of the Weldon Railroad Battlefield/ Globe Tavern Battlefield (DHR #123-5022)
Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild
Project Location
Dinwiddie County, Virginia
Prepared by MGS on 2023-08-25
IR by ECL on 2023-09-07
IR by SLD on 2023-08-30
0
2,500
5,000
Feet
(At original document size of 11x17)
1:30,000
N
Photo Location/Observation Point
Proposed Structure
Existing Structure
Transmission Line
Project Area
Architectural Resource 123-5022
ABPP Core Area
ABPP Potential National Register Area(PotNR)
0.5-Mile Buffer
1.0-Mile Buffer
1.5-Mile Buffer
Existing Visible, Proposed Not Visible
Both Existing and Proposed Visible
Existing Not Visible, Proposed Visible
Notes:
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Geographic Information Network (VGIN)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR
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Page 1 of 1
Halifax Rd
Photo Location 22/OP7
Photo Location 18
Photo Location 16
Photo Location 24/OP2
Photo Location 25/OP3
Photo Location 26/OP4
Photo Location 13
Photo Location 8
123-5022
City of Petersburg
Dinwiddie County
Prince George County
249/22
249/25
249/30
249/35
249/40
249/45
249/50
249/55
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3.2.9 First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #5023)

The First Battle of Weldon Railroad/Jerusalem Plank Road took place on June 21 through 23, 1864. The battle would be General Grant's first attempt at severing the Weldon Railroad line. On June 21, General George Meade's Second and Sixth Corps were ordered to cross Jerusalem Plank Road and move north to sabotage the Weldon Railroad line. Union troops; however, were met with strong Confederate resistance and as a result the two Corps were separated. The following day, troops under the command of Confederate Brigadier General William Mahone, went through the Union line and attacked the Second Corps at its rear. The following day, however, Union troops were able to regain the lost ground. With Major General Horatio Wright's refusal to further engage the Confederate forces, General Meade called off the attack. The battle was inconclusive; however, the Union side suffered almost 3,000 casualties in contrast to only 600 for the Confederates. In 2015, the battlefield was determined potentially eligible for listing in the NRHP by DHR (DHR Site Files; Searles 2022).

Approximately 682 acres of the 6,389-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline and consists of the ABPP-defined Study, PotNR, and Core areas (Figure 32; Appendix B). The portion of the battlefield within 1.0 mile also encompasses sections of Halifax, Vaughan, and Flank roads. An 87-acre area of the PotNR area of the battlefield and approximately 211 acres of the Core Area are located within 1.0-mile of the Rebuild Project. A majority of the battlefield area, including the PotNR and Core areas, is located to the east outside the 1.0-mile radius. The First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield also overlaps with the following battlefields:

Lewis's Farm Battlefield (DHR #026-5006)
Peebles' Farm Battlefield (DHR #026-5007)
Petersburg National Battlefield (DHR #123-0071)
Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)
Petersburg Battlefield III (DHR #123-5026)

3.2.9.1 Visual Effect Assessment

The landscape within the battlefield comprises areas of dense woods and open fields with some mid-to late twentieth century residential and commercial development within large areas of the resource. Under current conditions, the existing transmission line structures, which range in height from approximately 52 to 74.5 feet (Structures #249/23 through #249/46) in the vicinity of the resource were not visible due to dense forested areas between the resource and the transmission line corridor (Photo Locations 16, 22, and 25; Figures 9, 23, and 30).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/23 through #249/46) will have heights ranging from approximately 40.7 to 88 feet with a maximum increase of 15.5 feet (Structure #249/34). Structure #249/33 will decrease in height by 4.5 feet. Viewshed modeling and photosimulations conducted for the resource indicates that the proposed structures would not be visible (Figure 32; Appendix C; OP3 and OP7). Based on the fieldwork, the

proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the proposed Rebuild Project would have No Visual Impact on the First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023).***

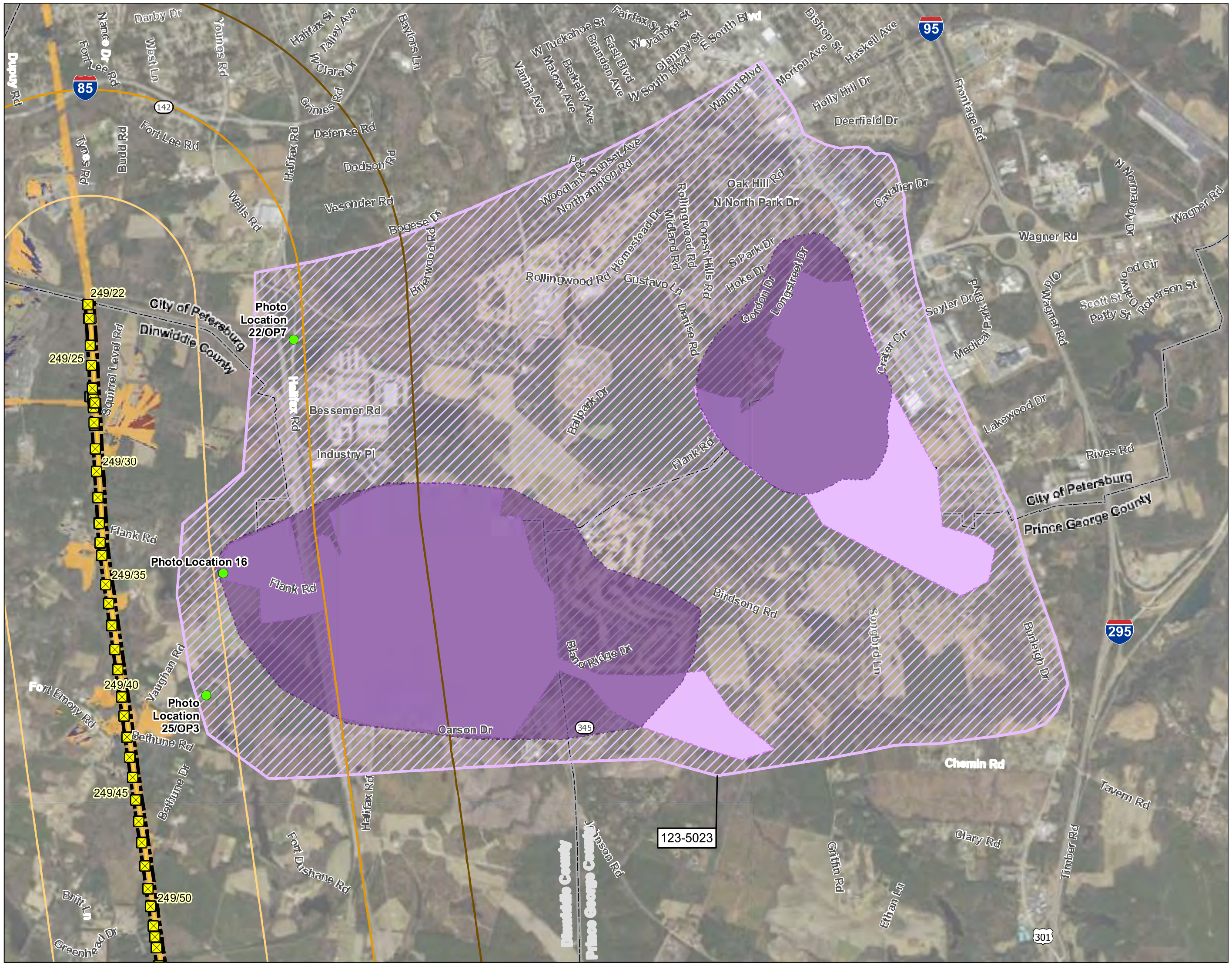

Figure No.
32

Title
Viewshed Analysis and Photo Location Map of the First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023)

Client/Project 203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

N

0 2,500 5,000 Feet
(At original document size of 11x17)
1:30,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 123-5023
- ABPP Core Area
- ABPP Potential National Register Area(PotNR)
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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3.2.10 Petersburg Battlefield III (DHR #123-5026)

The third battle of Petersburg took place the day after the Union victory at Five Forks on April 1, 1865. The attack on Confederate forces took place on April 2nd along several points along the Petersburg line beginning in the area of Fort Gregg-Fort Fisher. Although, Confederate soldiers were able to repel Union troops at several points along the line, Union troops were successful at breaking though the Confederate defensive lines. As a result, Confederate troops were forced to retreat from Petersburg at the end of the day's battle. Union troops captured Fort Gregg and Fort Whitworth as well as the western end of the Confederate defensive line at the Crow House Redoubt. As a result of the battle, Lieutenant A. P. Hill was killed, and General Lee ordered the evacuation of Petersburg and Richmond handing a decisive victory to the Union. In 2015, Due to the significance of the battle, the Petersburg Battlefield III was determined potentially eligible for listing in the NRHP by DHR (DHR Site Files).

Approximately 2,923 acres of the 20,519-acre battlefield resource (Table 5) are located within 1.0 mile of the project centerline and consists of the ABPP-defined Study, PotNR, and Core areas (Figure 33; Appendix B). The resource crosses the transmission line corridor and also encompasses sections of Squirrel Level, Halifax, Flank, and Vaughan roads. The PotNR area of the battlefield within 1.0-miles of the centerline comprises approximately 1,958 acres. The Core Area within 1.0-mile totals approximately 908 acres. A majority battlefield is located to the east and west as well as extends to the north outside the 1.0-mile radius of the project centerline. The Petersburg Battlefield III also overlaps with the following battlefields:

Lewis's Farm Battlefield (DHR #026-5006)
Peebles' Farm Battlefield (DHR #026-5007)
Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022)
First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023)

3.2.10.1 Visual Effect Assessment

The landscape within the portion of the battlefield 1.0-mile from the Rebuild Project comprises mostly densely wood areas with some open agricultural fields and areas of sparce residential and industrial development. Under current conditions, the existing transmission line structures, which range in height from approximately 52 to 113.5 feet (Structures #249/22 through #249/45) within and in the vicinity of the resource are visible where the line transverses through areas of open landscape adjacent to the transmission line (Photo Location 20; Figure 21). The existing line was not visible from Photo Locations 11, 12, 16, 18, 19, 21, 22, and 23 due to the dense forest between the point of survey and the transmission line corridor (Figures 9, 15, 19, 20, 22, 27, 29, and 30).

Based upon preliminary design, the proposed replacement structures in the vicinity of the resource (Structures #249/22 through #249/45) will have heights ranging from approximately 40.7 to 121.5 feet with a maximum increase of 15.5 feet (Structure #249/34). Structure #249/26 and #249/33 will decrease in height by 7.1 and 4.5 feet, respectively. Viewshed modeling indicates that the proposed structures would be visible from the resource where the line traverses through open landscape within the battlefield

in areas where it is already visible. Additional visibility of the proposed structures from the resource is anticipated in areas to the north, northwest, and west where the existing line was not visible. However, the larger areas where the proposed structures will be visible appear to be parcels recently cleared for modern development (Figure 33). Photosimulations indicate that proposed structures would not be visible from the three Observation Points considered (Appendix C; OP1, OP6, and OP7). Based on the fieldwork, the proposed structure heights, photosimulations, and the viewshed modeling, ***it is anticipated, that due to the limited change in height of the proposed structures and the existing tree cover, the Rebuild Project would not significantly alter the existing landscape of the battlefield. It is therefore recommended that the proposed Rebuild Project would have a Minimal Visual Impact on the Petersburg Battlefield III*** (***DHR #123-5026).***

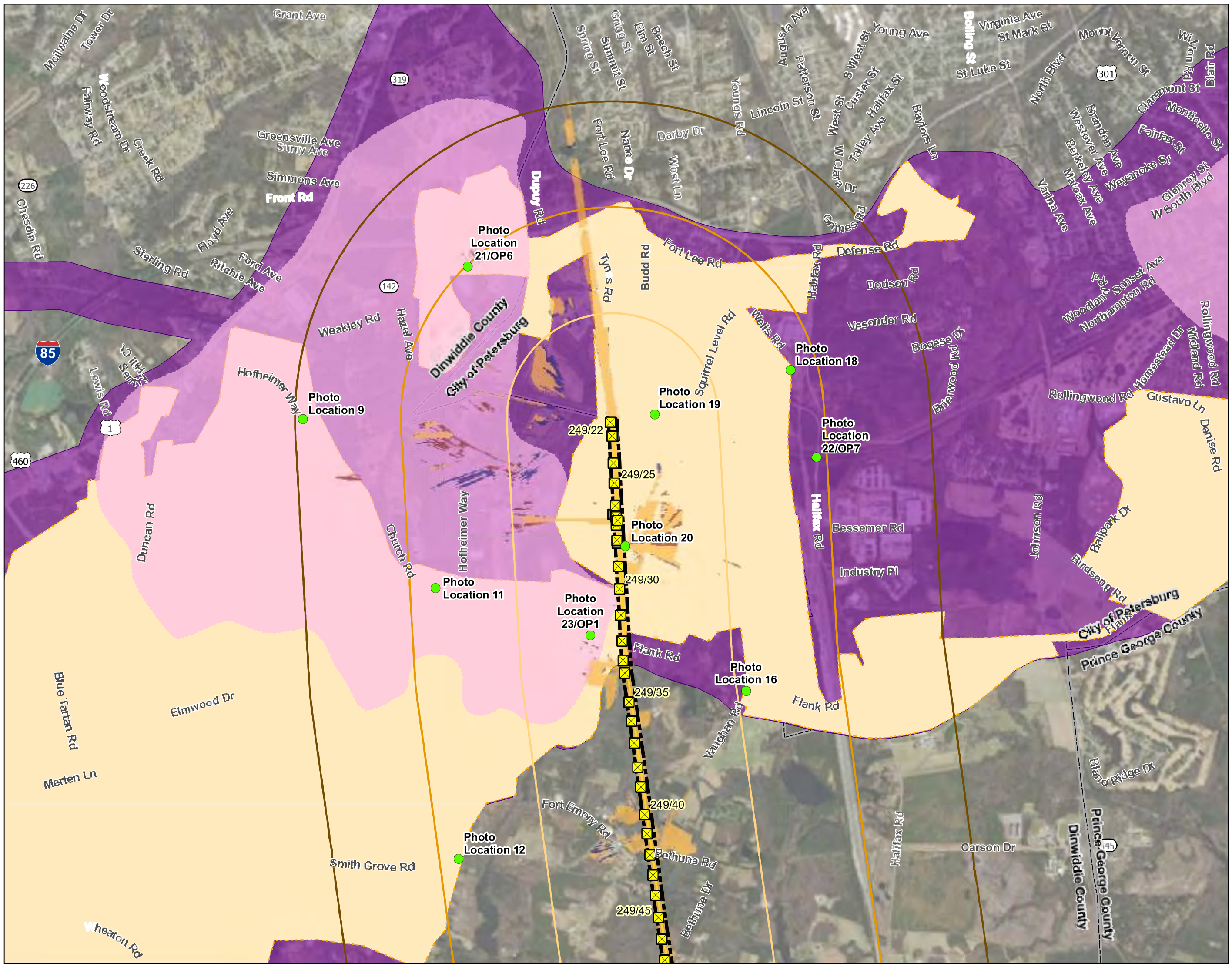


Figure No.
33

Title
Viewshed Analysis and Photo Location Map of Petersburg Battlefield III (DHR #123-5026)

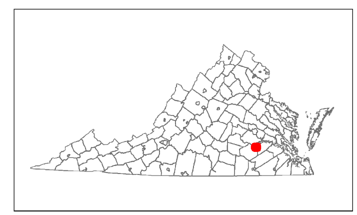
Client/Project 203401971
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30

0 2,500 5,000 Feet
(At original document size of 11x17)
1:30,000

- Photo Location/Observation Point
- Proposed Structure
- Existing Structure
- Transmission Line
- Project Area
- Architectural Resource 123-5026
- ABPP Core Area
- ABPP Potential National Register Area(PotNR)
- 0.5-Mile Buffer
- 1.0-Mile Buffer
- 1.5-Mile Buffer
- Existing Visible, Proposed Not Visible
- Both Existing and Proposed Visible
- Existing Not Visible, Proposed Visible



Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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4.0 RECOMMENDATIONS AND CONCLUSIONS

4.1 OVERVIEW

Stantec was retained by Dominion Energy to conduct a Stage I Pre-Application Analysis for the proposed Carson-Locks 230 kV Line #249 Partial Rebuild Project in Dinwiddie County and the City of Petersburg, Virginia. The project proposed by Dominion Energy is necessary in order to maintain the structural integrity and reliability of its transmission system and to comply with mandatory NERC Reliability Standards. The project will be conducted within an existing ROW and consists of approximately 6.7 miles of existing 230 kV transmission line. The Rebuild Project will require the wreck and rebuild of 67 existing transmission structures and the addition of two new structures between structures #249/22 and #249/86. The existing structures are predominantly single circuit 230 kV wood H-frame structures or weathering steel H-frame structures. Dominion Energy proposes to replace the current structures with mainly 230 kV single circuit weathering steel H-frames. All proposed structure heights and locations provided in this report are based upon preliminary engineering and are subject to final design.

4.1.1 Recommendations - Architectural Resources

One NHL architectural resource was located within a 1.5-mile radius of the Rebuild Project centerline. One NRHP-listed resource, the Petersburg National Battlefield (DHR #123-0071). Four NRHP eligible and four NRHP potentially eligible battlefields were within 1.0 mile of the centerline. Seven of the resources cross the corridor: the Reams Station Battlefield (DHR #026-0050), Hatcher's Run Battlefield (DHR #026-0132), Boydton Plank Road Battlefield (DHR #026-5004), Lewis's Farm Battlefield (DHR #026-5006), Peebles' Farm Battlefield (DHR #026-5007), Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022), and Petersburg Battlefield III (DHR #123-5026). Table 6 details the recommendations for the project.

Based on preliminary proposed structure heights, the proposed Line #249 Rebuild Project would increase the average height of the structures by 6.6 feet with a maximum height increase of 15.5 feet. Based on the analysis of the proposed structures, it is recommended that the Rebuild Project would have No Visual Impact to the Petersburg Breakthrough Battlefield (DHR #026-5013) and the First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield (DHR #123-5023). The proposed Rebuild Project, based on the findings, would have a Minimal Visual Impact to the Reams Station Battlefield I & II (DHR #026-0050), Hatcher's Run Battlefield (DHR #026-0132), Boydton Plank Battlefield (DHR 026-5004), Lewis's Farm Battlefield (DHR #026-5006), Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Battlefield (DHR #123-0071), Weldon Railroad Battlefield/Globe Tavern Battlefield (DHR #123-5022), and Petersburg Battlefield III (DHR #123-5026).

Table 6 Previously Recorded Architectural Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to Closest Raised Structure (Feet)	Impacts
026-0050	Reams Station Battlefield I & II	Potentially Eligible	0	Minimal
026-0132	Hatchers Run Battlefield	Eligible	0	Minimal
026-5004	Boydton Plank Road Battlefield	Eligible	0	Minimal
026-5006	Lewis's Farm Battlefield	Eligible	0	Minimal
026-5007	Peebles' Farm Battlefield	Eligible	0	Minimal
026-5013	Petersburg Breakthrough Battlefield	NHL-Listed	7,361	None
123-0071	Petersburg National Battlefield	NRHP-Listed	583	Minimal
123-5022	Weldon Railroad Battlefield/ Globe Tavern Battlefield	Potentially Eligible	0	Minimal
123-5023	First Battle of Weldon Railroad/Jerusalem Plank Road Battlefield	Potentially Eligible	1,718	None
123-5026	Petersburg Battlefield III	Potentially Eligible	0	Minimal

4.1.2 Recommendations - Archaeological Resources

One previously recorded archaeological resource was identified within the Rebuild Project ROW. The site (Site 44DW0127) comprises a Pre-Contact camp as well as a Civil War battlefield site. Currently, the resource has not been evaluated for NRHP eligibility by DHR. ***It is recommended that archaeological site located within the ROW be investigated and evaluated as appropriate during future investigations*** (Appendix D; Table 7).

Table 7 Previously Recorded Archaeological Resources Considered under the Stage I Pre-Application Guidelines

DHR #	Resource Name	DHR/NRHP Status	Distance to ROW (Feet)	Impact
44DW0127	Pre-Contact Camp; Battlefield Site	Not Evaluated	0	Investigate During Archaeological Survey

5.0 REFERENCES

Advisory Council for Historic Preservation (ACHP)

2000 *36 CFR 800: Part 800- Protection of Historic and Cultural Properties*. Federal Register, September 2, Washington, D.C.

American Battlefield Trust

2023a "Reams Station: Second Battle of Reams Station." Available at: https://www.battlefields.org/learn/civil-war/battles/reams-station, Accessed 7 August 2023.

2023b "Hatcher's Run." Available at: https://www.battlefields.org/learn/civil-war/battles/hatchers-run, Accessed 7 August 2023.

2023c "Boydton Plank Road." Available at: https://www.battlefields.org/visit/battlefields/boydton-plank-road, Accessed 7 August 2023.

2023d "Peebles Farm." Available at: https://www.battlefields.org/learn/civil-war/battles/peebles-farm, Accessed 7 August 2023.

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2022 "Battle of Jerusalem Plank Road, June 21-23, 1864." *American History Central*. Available at: https://www.americanhistorycentral.com/entries/battle-of-jerusalem-plank-road/, Accessed 7 August 2023.

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1991 How to Apply the National Register Criteria of Evaluation. *National Register Bulletin 15.* Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C.

Virginia Department of Historic Resources (DHR)

1997 *Historic Context Guidelines for Preparing Cultural Resource Survey Reports.* DHR, Richmond.

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

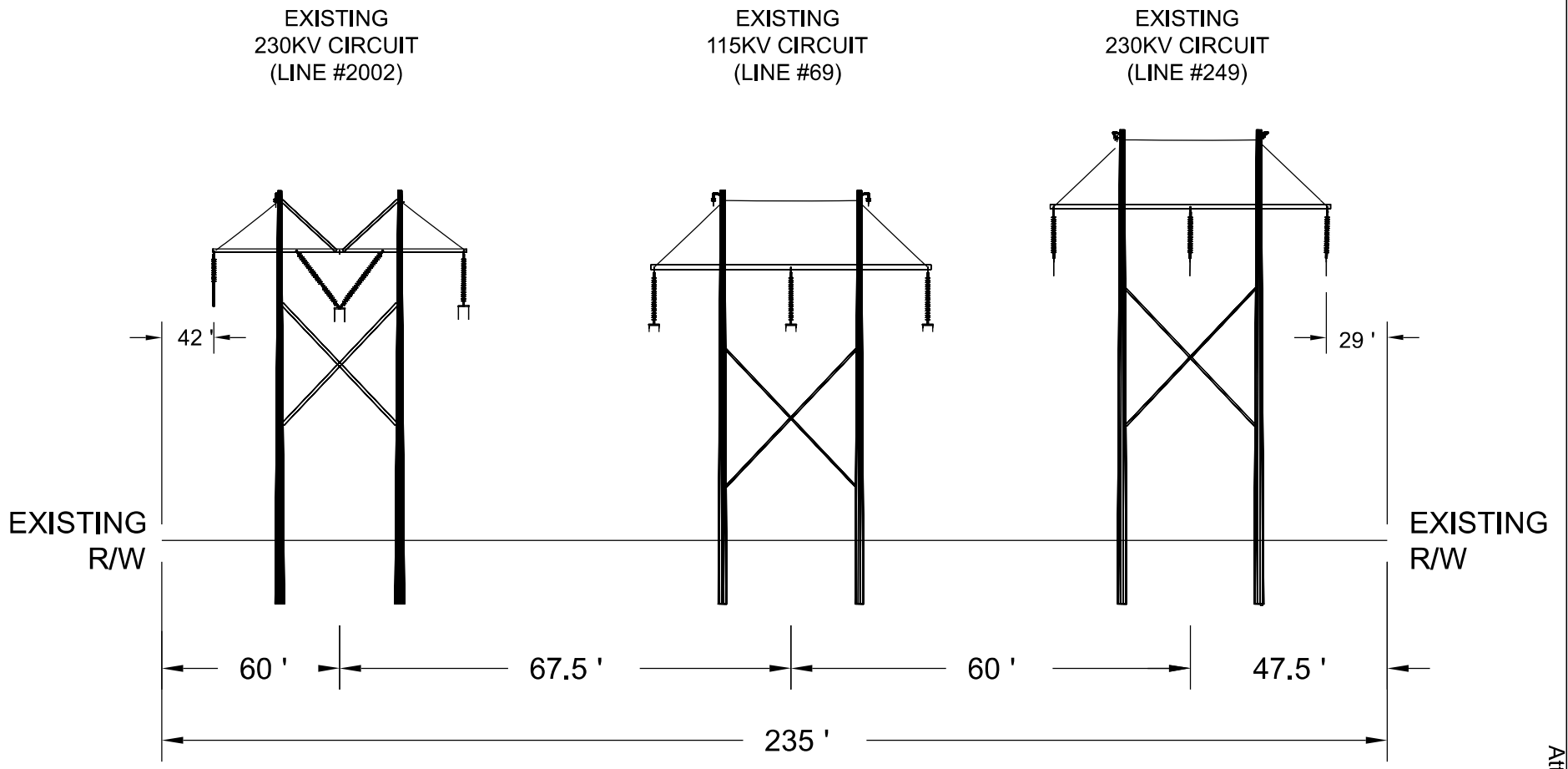
2017 *Guidelines for Historic Resources Survey in Virginia.* DHR, Richmond.

2023 DHR Archive Files.

Appendix A

A.1 STRUCTURE DETAILS

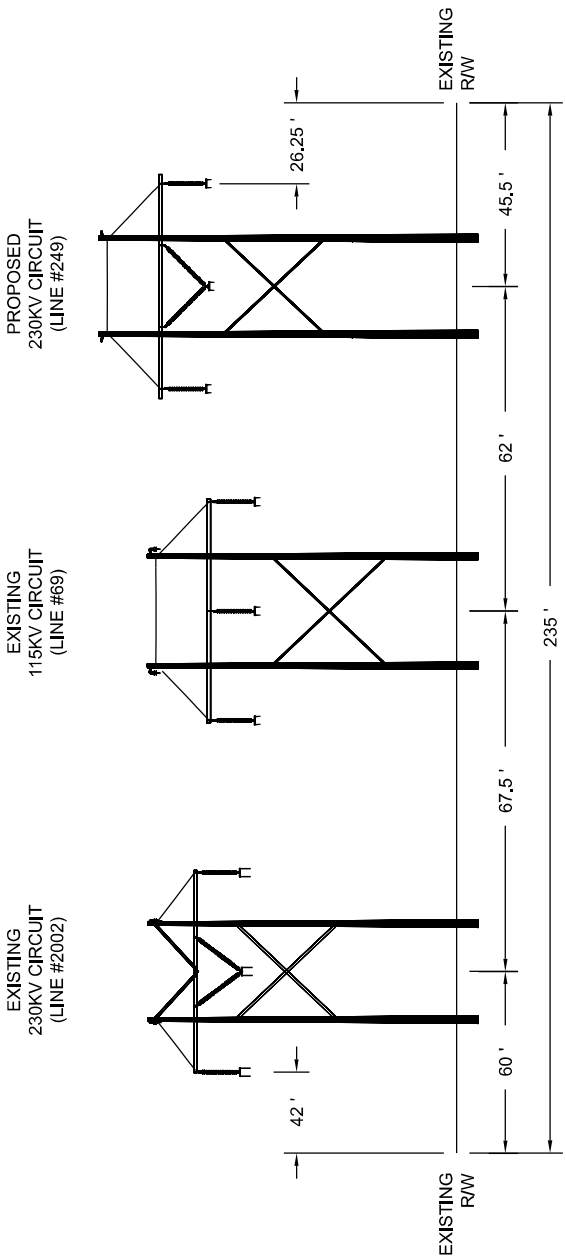
STRUCTURE 249/23 - STRUCTURE 249/85
EXISTING CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING TOWARD CARSON SUBSTATION.

NOTES:
1. Existing structure shown with approximate average height of 62' (line 249) and does not include foundation reveal.
2. Approximate average height is measured from the groundline at structure centerline.

STRUCTURE 249/23 - STRUCTURE 249/85
PROPOSED CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING TOWARD CARSON SUBSTATION.

NOTES:
1. Proposed structure shown with approximate average height of 68' and does not include foundation reveal.
2. Approximate average height is measured from the groundline at structure centerline.
3. Information contained on drawing is to be considered preliminary in nature and subject to changed based on final design.

Appendix B

B.1 ARCHITECTURAL RESOURCE MAPS

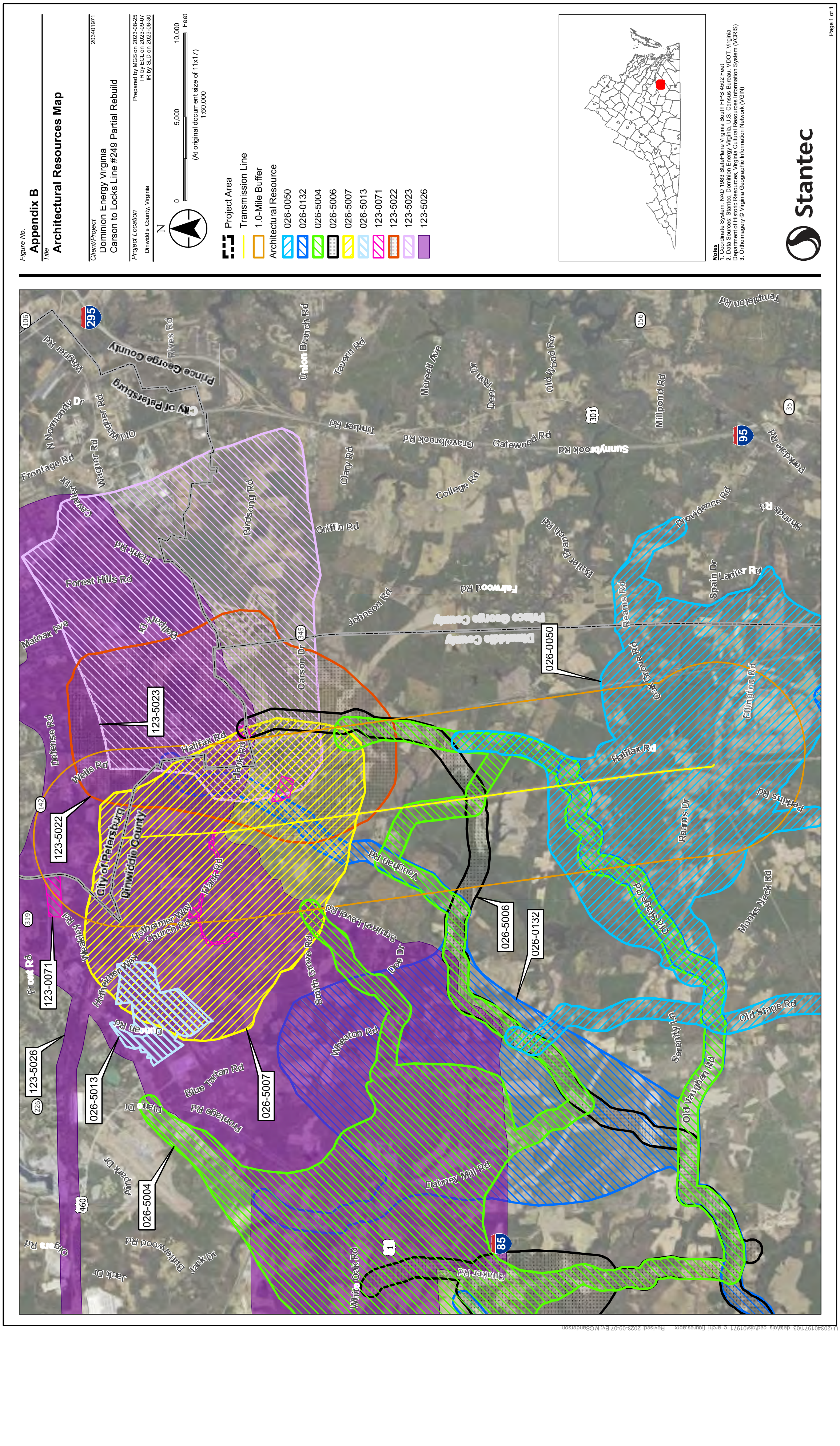


Figure No.
Appendix B
Title
Architectural Resources Map
Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild
203401971
Project Location
Dinwiddie County, Virginia
Prepared by MGS on 2023-08-25
TR by ECL on 2023-09-07
IR by SLD on 2023-08-30
0
5,000
10,000
Feet
(At original document size of 11x17)
1:60,000
Project Area
Transmission Line
1.0-Mile Buffer
Architectural Resource
026-0050
026-0132
026-5004
026-5006
026-5007
026-5013
123-0071
123-5022
123-5023
123-5026
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
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City of Petersburg
Dinwiddie County
Prince George County
Halifax Rd
Carson Dr
Old Stage Rd
Old Vaughan Rd
Dabney Mill Rd
Boydton Plank Rd
Wheaton Rd
Smith Grove Rd
Squirrel Level Rd
Vaughan Rd
Reams Dr
Monks Neck Rd
Sunnybrook Rd
Birdsong Rd
Forest Hills Rd
Johnson Rd
Fairwood Rd
College Rd
Providence Rd
Templeton Rd
Quaker Rd
White Oak Rd
Airport Dr
Butterwood Rd
Jack Dr
Frontage Rd
Wagner Rd
Union Branch Rd
Timber Rd
Millpond Rd
Perkins Rd
Ellington Rd

APPENDIX C

C.1 PHOTOSIMULATIONS

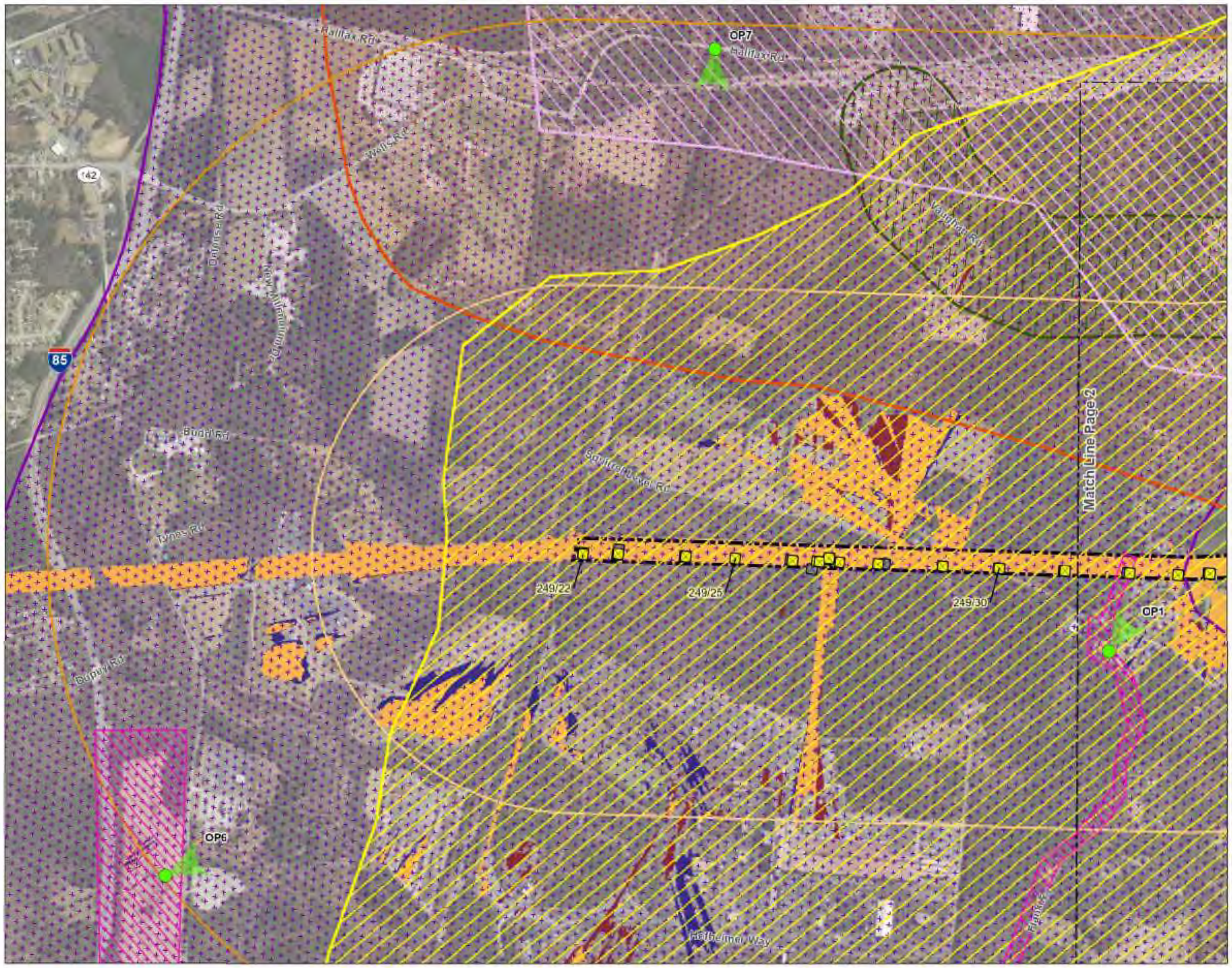

Figure No.
Appendix C
DRAFT

Title
Photo Simulation Points

Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild
203401971

Project Location
Dinwiddie County, Virginia
Prepared by MGS on 2023-09-08
TR by ECL on 2023-09-08
IR by SLD on 2023-09-08

N
0 1,000 2,000 Feet
(At original document size of 11x17)
1:12,000

- Photo Observation Point
- Proposed Structure
- Existing Structure
- Project Limits
- 0.5-Mile Buffer
- 1.0-Mile Buffer

Architectural Resource
- 026-0132
- 026-5007
- 123-0071
- 123-5022
- 123-5023
- 123-5026

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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Page 3 of 4

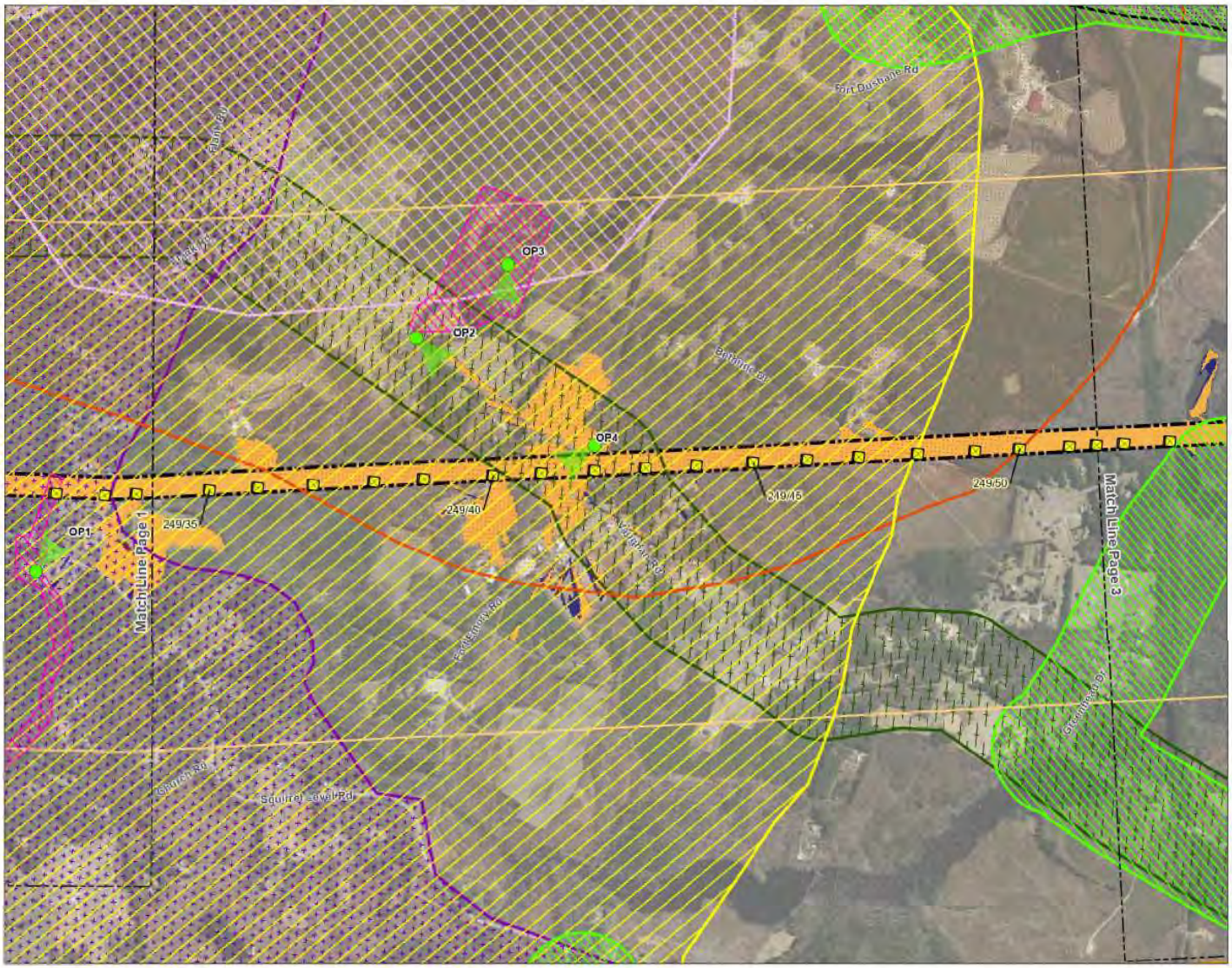

Figure No.
Appendix C

DRAFT

Title
Photo Simulation Points

Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

263401971

Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-09-08
TR by ECL on 2023-09-08
IR by SLD on 2023-09-08

N

0 1,000 2,000 Feet
(At original document size of 11x17)
1:12,000

- Photo Observation Point
- Proposed Structure
- Existing Structure
- Project Limits
- 0.5-Mile Buffer
- 1.0-Mile Buffer

Architectural Resource
- 026-0132
- 026-5004
- 026-5006
- 026-5007
- 123-0071
- 123-5022
- 123-5023
- 123-5026

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthomapery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

Stantec

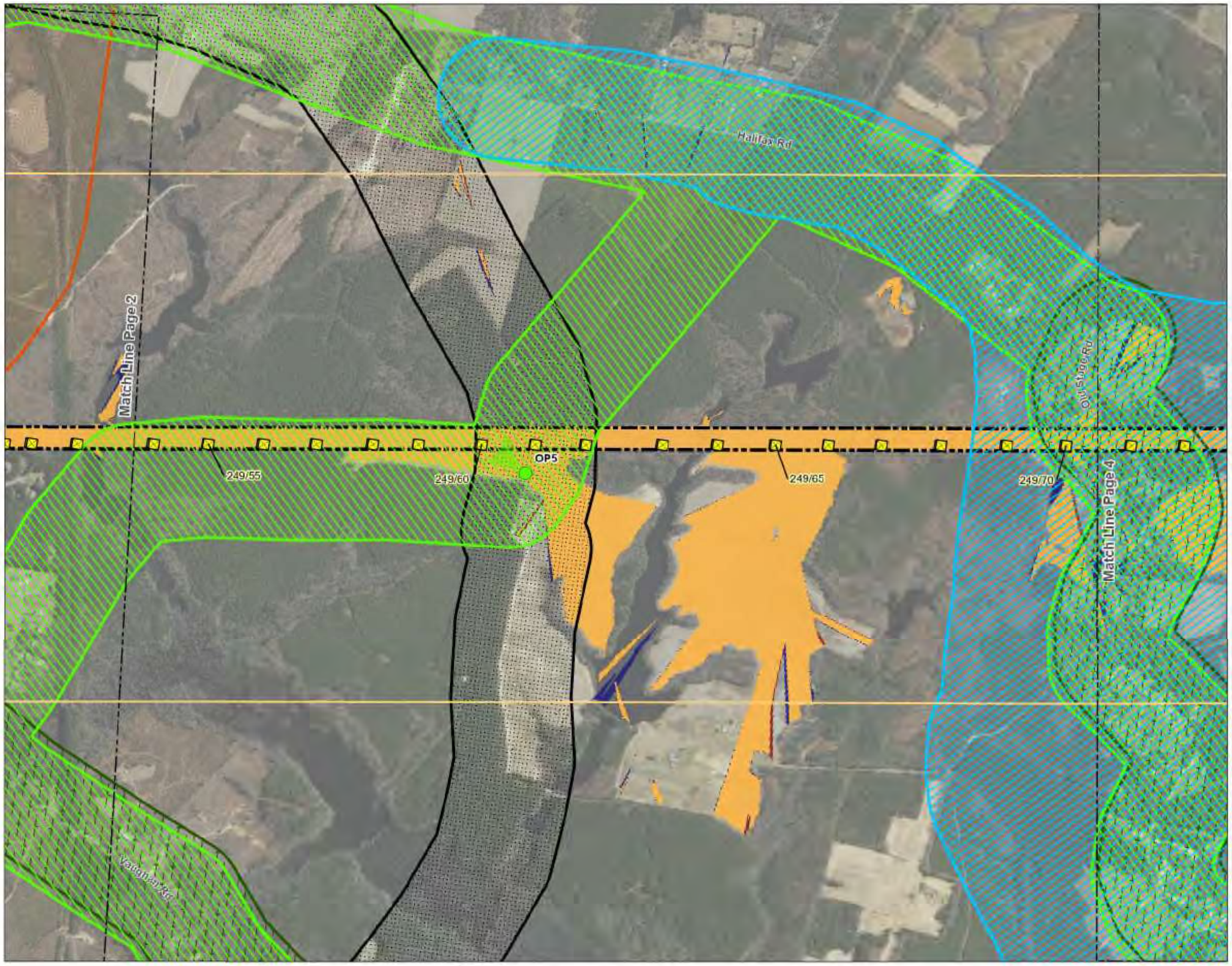

Figure No.
Appendix C **DRAFT**

Title
Photo Simulation Points

Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild
203401971

Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-09-08
TR by ECL on 2023-09-08
IR by SLD on 2023-09-08

(At original document size of 11x17)
1:12,000

- Photo Observation Point
- Proposed Structure
- Existing Structure
- Project Limits
- 0.5-Mile Buffer
- 1.0-Mile Buffer

Architectural Resource
- 026-0050
- 026-0132
- 026-5004
- 026-5006
- 123-5022

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

Stantec

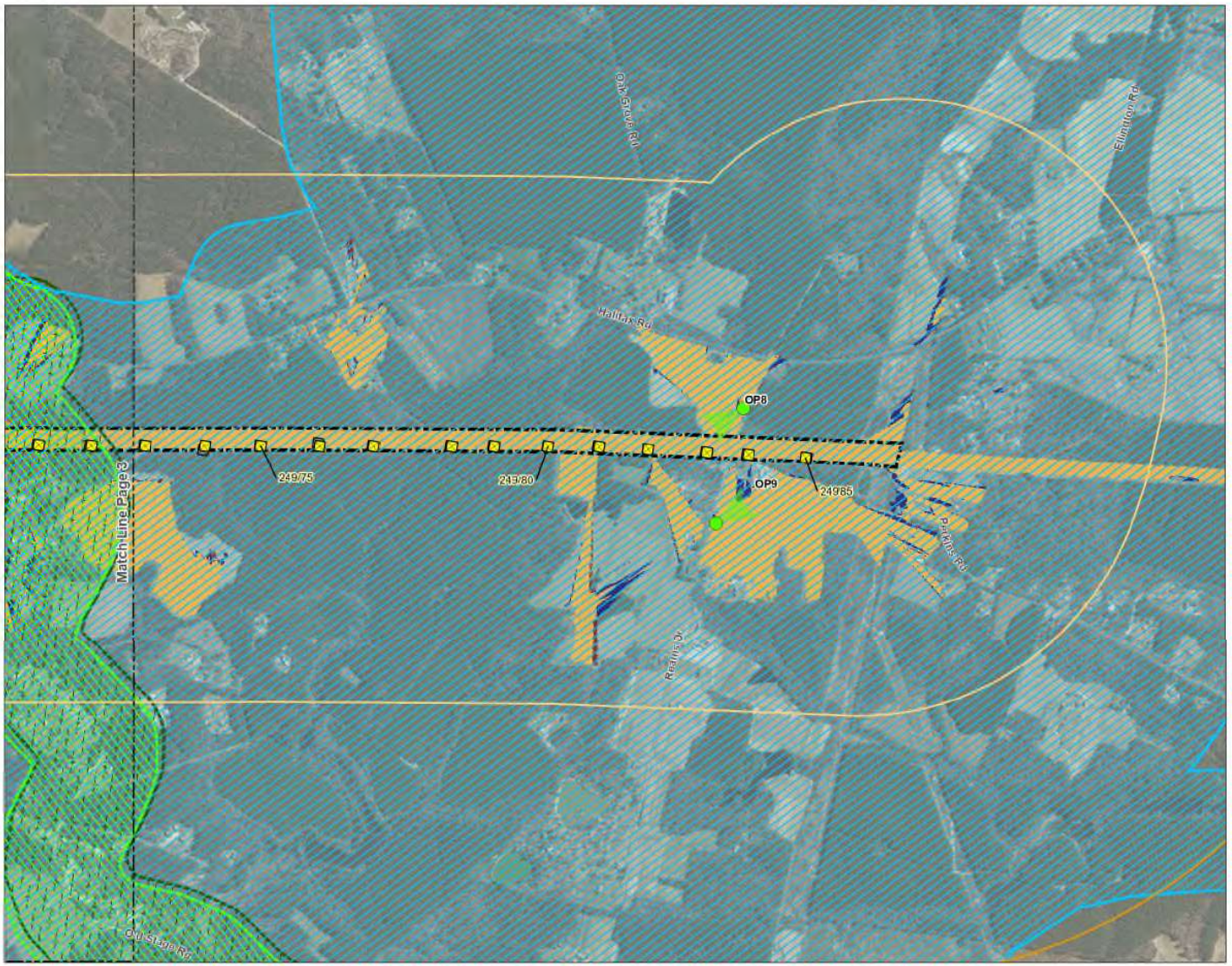

Figure No.
Appendix C

DRAFT

Title
Photo Simulation Points

Client/Project
Dominion Energy Virginia
Carson to Locks Line #249 Partial Rebuild

263401971

Project Location
Dinwiddie County, Virginia

Prepared by MGS on 2023-09-08
TR by ECL on 2023-09-08
IR by SLD on 2023-09-08

N

0 1,000 2,000 Feet
(At original document size of 11x17)
1:12,000

- Photo Observation Point
- Proposed Structure
- Existing Structure
- Project Limits
- 0.5-Mile Buffer
- 1.0-Mile Buffer

Architectural Resource
- 026-0050
- 026-0132
- 026-5004

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Stantec, Dominion Energy Virginia, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR

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Page 4 of 4

Photograph provided by Stantec

OP 1 Existing (Not Visible)

Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Military Park (DHR # 123-0071) & Petersburg Battlefield III (DHR # 123-5026)

Stantec Dominion Energy

Photograph provided by Stantec

OP 1 Proposed (Not Visible)

Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Military Park (DHR # 123-0071) & Petersburg Battlefield III (DHR # 123-5026)

Stantec Dominion Energy

OP02 – EXISTING

Photograph provided by Stantec

OP 2 Existing

Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Military Park (DHR # 123-0071), Blick's Station Battlefield(DHR # 123-5022) & Hatcher's Run Battlefield(DHR # 026-0132)

Stantec Dominion Energy

Photograph provided by Stantec

OP 2 Proposed

Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Military Park (DHR # 123-0071), Blick's Station Battlefield(DHR # 123-5022) & Hatcher's Run Battlefield(DHR # 026-0132)

Stantec Dominion Energy

OP03 – EXISTING

Photograph provided by Stantec

OP 3 Existing (Not Visible)

Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Military Park (DHR # 123-0071), Blick's Station Battlefield (DHR # 123-5022) & First Battle of Weldon Railroad (DHR # 123-5023)

Stantec Dominion Energy

Photograph provided by Stantec

OP 3 Proposed (Not Visible)

Peebles' Farm Battlefield (DHR #026-5007), Petersburg National Military Park (DHR # 123-0071), Blick's Station Battlefield (DHR # 123-5022) & First Battle of Weldon Railroad (DHR # 123-5023)

Stantec Dominion Energy

Photograph provided by Stantec

OP 4 Existing

Peebles' Farm Battlefield (DHR #026-5007), Blick's Station Battlefield (DHR # 123-5022) &
Hatcher's Run Battlefield (DHR # 026-0132)

Stantec Dominion Energy

Photograph provided by Stantec

OP 4 Proposed

Peebles' Farm Battlefield (DHR #026-5007), Blick's Station Battlefield (DHR # 123-5022) & Hatcher's Run Battlefield (DHR # 026-0132)

Stantec Dominion Energy

OP05 – EXISTING

Photograph provided by Stantec

OP 5 Existing

Boydton Plank Road Battlefield (DHR # 026-5004) & Lewis's Farm Battlefield (DHR # 026-5006)

Stantec Dominion Energy

Photograph provided by Stantec

OP 5 Proposed

Boydton Plank Road Battlefield (DHR # 026-5004) & Lewis's Farm Battlefield (DHR # 026-5006)

Stantec Dominion Energy

OP06 – EXISTING

Photograph provided by Stantec

OP 6 Existing (Not Visible)

Petersburg National Military Park (DHR # 123-0071)& Petersburg Battlefield III (DHR # 123-5026)

Stantec Dominion Energy

OP06 – Proposed

Photograph provided by Stantec

OP 6 Proposed (Not Visible)

Petersburg National Military Park (DHR # 123-0071)& Petersburg Battlefield III (DHR # 123-5026)

Stantec Dominion Energy

Photograph provided by Stantec

OP 7 Existing (Not Visible)

Petersburg Battlefield III (DHR # 123-5026) & First Battle of Weldon Railroad (DHR # 123-5023)

Stantec Dominion Energy

Photograph provided by Stantec

OP 7 Proposed (Not Visible)

Petersburg Battlefield III (DHR # 123-5026) & First Battle of Weldon Railroad (DHR # 123-5023)

Stantec Dominion Energy

OP08 – EXISTING

Photograph provided by Stantec

OP 8 Existing

Reams Station Battlefield (I & II) (DHR # 026-0050)

Stantec Dominion Energy

OP08 – Proposed

Photograph provided by Stantec

OP 8 Proposed

Reams Station Battlefield (I & II) (DHR # 026-0050)

Stantec Dominion Energy

OP09 – EXISTING

Photograph provided by Stantec

OP 9 Existing

Reams Station Battlefield (I & II) (DHR # 026-0050)

Stantec Dominion Energy

OP09 – Proposed

Photograph provided by Stantec

OP 9 Proposed

Reams Station Battlefield (I & II) (DHR # 026-0050)

Stantec Dominion Energy

APPENDIX D

D.1 ARCHAEOLOGICAL RESOURCE MAPS*

FOR THE PURPOSES OF THE SCC FILING, LOCATION DATA RELATED TO ARCHAEOLOGICAL RESOURCES HAVE BEEN REDACTED BUT HAVE BEEN INCLUDED IN THE STAGE 1 PRE-APPLICATION ANALYSIS SUBMITTED TO VDHR.

From: blair.parks@dominionenergy.com
To: andy.flavin@troutman.com; Tim.mchugh@troutman.com; abbey.thornhill@troutman.com
Cc: Gray, Corey
Subject: FW: Dominion Energy Request for Comments - Line 249 Carson to Locks Partial Rebuild
Date: Friday, September 1, 2023 7:53:28 AM
Attachments: image001.png

VOF's response

From: ImpactReview <impactreview@vof.org>
Sent: Thursday, August 31, 2023 4:41 PM
To: Blair Parks (Services - 6) <blair.parks@dominionenergy.com>
Subject: [EXTERNAL] RE: Dominion Energy Request for Comments - Line 249 Carson to Locks Partial Rebuild

Hi Blair,

The Virginia Outdoors Foundation has reviewed the project referenced below. As of August 31, 2023, there are not any existing nor proposed VOF open-space easements immediately adjacent to the project.

Please contact VOF again for further review if the project area changes or if this project does not begin within 24 months. Thank you for considering conservation easements.

Best,
Baron

Baron Lin (*he/they*)
GIS Specialist
Virginia Outdoors Foundation
cell: 540-935-3163
other work #: 844-863-9800, ext. 355
email: blin@vof.org

From: blair.parks@dominionenergy.com <blair.parks@dominionenergy.com>
Sent: Thursday, August 24, 2023 4:15:32 PM
To: Martha Little <mlittle@vof.org>
Subject: Dominion Energy Request for Comments - Line 249 Carson to Locks Partial Rebuild

Alert: This email originated from outside VOF

Ms. Little,

Please find the attached letter and overview map notifying you of the proposed partial transmission line rebuild project in Chesterfield County, Virginia.

Please contact me with any questions.

Respectfully,

Blair Parks
Siting and Permitting Specialist
Electric Transmission

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

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From: blair.parks@dominionenergy.com
To: andy.flavin@troutman.com; Tim.mchugh@troutman.com; abbey.thornhill@troutman.com
Cc: Gray, Corey; Virginia.B.Gills@dominionenergy.com
Subject: FW: Dominion Energy Request for Comments - Line 249 Carson to Locks Partial Rebuild
Date: Tuesday, August 29, 2023 11:08:17 AM
Attachments: image002.png
image003.png
image001.png

VDOT's response to comment request is below!

From: Hinson, Paul (VDOT) <Paul.Hinson@vdot.virginia.gov>
Sent: Tuesday, August 29, 2023 11:05 AM
To: Blair Parks (Services - 6) <blair.parks@dominionenergy.com>
Cc: Smith, Crystal (VDOT) <Crystal.Smith@VDOT.Virginia.gov>; Ellis, Lezlie (VDOT) <Lezlie.Ellis@VDOT.Virginia.gov>; Joseph, Harley E.,PE (VDOT) <Harley.Joseph@vdot.virginia.gov>
Subject: [EXTERNAL] Dominion Energy Request for Comments - Line 249 Carson to Locks Partial Rebuild

Ms. Parks,

VDOT has reviewed the information contained in your preliminary application package and offers the following information:

- The proposed project includes work within Dinwiddie County and the City of Petersburg. VDOT issues permits for work on state maintained roadways in Dinwiddie County, but not the City of Petersburg. Permits will be needed from VDOT and the City of Petersburg for the proposed project.
- The project will involve a crossing of I-85. Limited access permit requests involve extra review and may take additional time for approvals. Please plan accordingly.
- A VDOT land use permit will be required to construct entrances from state maintained right-of-way (ROW), cross roadways with utility lines, install new utilities within state maintained ROW, or setup traffic controls within the ROW.
- VDOT has reviewed the proposed/existing powerline routing and has identified no particular issues or concerns along the proposed route.
- VDOT has no objection to the proposed project.

Please let me know if you need anything else from VDOT to continue with your project.

Paul F. Hinson, P.E.
Assistant Resident Engineer/Land Use
Virginia Department of Transportation
804-863-4012
804-874-9309 (M)

paul.hinson@vdot.virginia.gov

From: Totten, Dale P.E. (VDOT) <Dale.Totten@VDOT.Virginia.gov>
Sent: Thursday, August 24, 2023 5:08 PM
To: Smith, Crystal (VDOT) <Crystal.Smith@VDOT.Virginia.gov>; Hinson, Paul (VDOT) <Paul.Hinson@vdot.virginia.gov>
Cc: blair.parks@dominionenergy.com (blair.parks@dominionenergy.com) <blair.parks@dominionenergy.com>; Ellis, Lezlie (VDOT) <Lezlie.Ellis@VDOT.Virginia.gov>; Joseph, Harley E.,PE (VDOT) <Harley.Joseph@vdot.virginia.gov>
Subject: Fw: Dominion Energy Request for Comments - Line 249 Carson to Locks Partial Rebuild

Crystal & Paul -

Please the attached request from Dominion Energy. Please make contact with Dominion and provide the applicable response on behalf of the department. I have copied Harley Joseph and Lezlie Ellis for their awareness. I have also included Blair Parks of Dominion on this communication for awareness purposes.

If any discussion is needed, please let me know. Have a great evening.

Dale

Dale R. Totten, PE

District Engineer / Richmond District

Virginia Department of Transportation

804-609-5288

Dale.Totten@VDOT.Virginia.gov

From: blair.parks@dominionenergy.com <blair.parks@dominionenergy.com>
Sent: Thursday, August 24, 2023 4:15 PM
To: Totten, Dale P.E. (VDOT) <Dale.Totten@VDOT.Virginia.gov>
Subject: Dominion Energy Request for Comments - Line 249 Carson to Locks Partial Rebuild

Mr. Totten,

Please find the attached letter, overview map, and GIS Shapefile notifying you of the proposed partial transmission line rebuild project in the City of Petersburg and Dinwiddie County, Virginia.

Please contact me with any questions.

Respectfully,

Blair Parks
Siting and Permitting Specialist
Electric Transmission

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

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From: blair.parks@dominionenergy.com
To: andy.flavin@troutman.com; Tim.mchugh@troutman.com; abbey.thornhill@troutman.com
Cc: Gray, Corey; Virginia.B.Gills@dominionenergy.com
Subject: FW: Dominion Energy Request for Comments - Line 249 Carson to Locks Partial Rebuild
Date: Monday, August 28, 2023 7:42:30 AM
Attachments: image001.png

VDoAV's response is below.

From: Denny, S. Scott (DOAV) <Scott.Denny@doav.virginia.gov>
Sent: Friday, August 25, 2023 10:40 AM
To: Blair Parks (Services - 6) <blair.parks@dominionenergy.com>
Subject: [EXTERNAL] Re: Dominion Energy Request for Comments - Line 249 Carson to Locks Partial Rebuild

Ms. Parks:

Thank you for allowing the Department to offer comment on the proposed Line 249 Rebuild Project. Following our review staff has determined that a portion of the project is within 20,000 linear feet pf the Dinwiddie County Airport. Therefore, the project sponsor must submit a 7460 form to the FAA in order to initiate an airspace study to determine if the project will create a hazard to air navigation.

Provided the FAA issues a "Determination of No Hazard", the Department has no objection to the project as it has been presented. If you have any questions regarding this matter, please contact me at (804) 236-3638.

Sincerely,

S. Scott Denny
Senior Aviation Planner
Virginia Department of Aviation

From: blair.parks@dominionenergy.com <blair.parks@dominionenergy.com>
Sent: Thursday, August 24, 2023 4:15 PM
To: Denny, S. Scott (DOAV) <Scott.Denny@doav.virginia.gov>
Subject: Dominion Energy Request for Comments - Line 249 Carson to Locks Partial Rebuild

Mr. Denny,

Please find the attached letter and overview map notifying you of the proposed partial transmission line rebuild project in Chesterfield County, Virginia.

Please contact me with any questions.

Respectfully,

Blair Parks
Siting and Permitting Specialist
Electric Transmission

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

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