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August 10, 2023

**BY ELECTRONIC FILING**

Hon. Bernard J. Logan, Clerk  
State Corporation Commission  
Tyler Building, 1st Floor  
1300 East Main Street  
Richmond, VA 23219

**Re: Application of Virginia Electric and Power Company for Approval and Certification of Electric Transmission Facilities: Line #235 230 kV Rebuild from Clover Substation to Structure #235/310 – Case No. PUR-2023-00141.**

Dear Mr. Logan:

Please find enclosed for electronic filing in the above-captioned proceeding the application for approval of electric facilities on behalf of Virginia Electric and Power Company (the “Company”). This filing contains the Application, Appendix, Direct Testimony, and DEQ Supplement, including attachments.

As indicated in Section II.A.12.b of the Appendix, electronic copies of the Virginia Department of Transportation “General Highway Map” for Halifax, Charlotte, and Mecklenburg Counties, as well as the digital geographic information system (“GIS”) map required by Va. Code § 56-46.1, which is Attachment II.A.2 to the Appendix, were provided via an e-room to the Commission’s Division of Public Utility Regulation.

If you have any questions or need further information, please feel free to contact us.

Sincerely,

Andrew J. Flavin



Timothy L. McHugh



Enclosures

cc: William H. Chambliss, Esq.  
Mr. David Essah (without enclosures)  
Mr. Neil Joshipura (without enclosures)  
Mr. Michael A. Cizenski (without enclosures)  
David J. DePippo, Esq.  
Annie C. Larson, Esq.  
Viktoriia De Las Casas, Esq.  
John B. Sample, Esq.  
Kadeisha A. West, Esq.



**Dominion  
Energy®**

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

Before the State Corporation  
Commission of Virginia

Line #235 230 kV Rebuild from  
Clover Substation to Structure  
#235/310

Application No. 327

Case No. PUR-2023-00141

Filed: August 10, 2023

Volume 1 of 2



COMMONWEALTH OF VIRGINIA  
BEFORE THE  
STATE CORPORATION COMMISSION

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

Line #235 230 kV Rebuild from Clover Substation to  
Structure #235/310

Application No. 327

Case No. PUR-2023-00141

Filed: August 10, 2023

COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION

|                                            |   |                         |
|--------------------------------------------|---|-------------------------|
| APPLICATION OF                             | ) |                         |
|                                            | ) |                         |
| VIRGINIA ELECTRIC AND POWER                | ) | Case No. PUR-2023-00141 |
| COMPANY                                    | ) |                         |
|                                            | ) |                         |
| For approval and certification of electric | ) |                         |
| transmission facilities: Line #235 230 kV  | ) |                         |
| Rebuild from Clover Substation to          | ) |                         |
| Structure #235/310                         | ) |                         |

**APPLICATION OF VIRGINIA ELECTRIC AND POWER COMPANY  
FOR APPROVAL AND CERTIFICATION OF  
ELECTRIC TRANSMISSION FACILITIES:  
LINE #235 230 KV REBUILD FROM CLOVER SUBSTATION TO  
STRUCTURE #235/310**

Pursuant to § 56-46.1 of the Code of Virginia (“Va. Code”) and the Utility Facilities Act, Va. Code §§ 56-265.1 *et seq.*, Virginia Electric and Power Company (“Dominion Energy Virginia” or the “Company”), by counsel, files with the State Corporation Commission of Virginia (the “Commission”) this application for approval and certification of electric transmission facilities (the “Application”). In support of its Application, Dominion Energy Virginia respectfully shows as follows:

1. Dominion Energy Virginia is a public service corporation organized under the laws of the Commonwealth of Virginia furnishing electric service to the public within its Virginia service territory. The Company also furnishes electric service to the public in portions of North Carolina. Dominion Energy Virginia's electric system—consisting of facilities for the generation, transmission, and distribution of electric energy—is interconnected with the electric systems of neighboring utilities and is a part of the interconnected network of electric systems serving the

continental United States. By reason of its operation in two states and its interconnections with other utilities, the Company is engaged in interstate commerce.

2. In order to perform its legal duty to furnish adequate and reliable electric service, Dominion Energy Virginia must, from time to time, replace existing transmission facilities or construct new transmission facilities in its system.

3. In this Application, in order to resolve potential criteria violations of mandatory North American Electric Reliability Corporation (“NERC”) Reliability Standards and consistent with sound engineering judgment, the Company proposes the following rebuild project located within existing right-of-way or on Company-owned property in Halifax, Mecklenburg, and Charlotte Counties in Virginia:

- Rebuild approximately 16 miles of the 230 kV Line currently numbered<sup>1</sup> as Line #235 between Clover Substation and Structure #235/310 using higher capacity conductor to achieve an expected summer emergency rating of 1573 MVA, and renumber the rebuilt the 16-mile line segment to Line #2226; and
- Complete work at Clover Substation to support the new line rating

(the “Rebuild Project”).

4. The proposed Rebuild Project is necessary to comply with mandatory NERC Reliability Standards and to maintain reliable service to accommodate overall growth in the area. The Rebuild Project is needed to resolve overloading issues PJM identified as part of the 2026 Do No Harm Generator Deliverability analysis. The loss of Line #556 (Clover-Rawlings) leads to overloading of Line #235 from Clover to Easters at 101%. The line rating is limited by existing ACAR conductors, which have a summer minimum rating of 608 MVA.

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<sup>1</sup> In Case No. PUR-2021-00137, the Company proposed to cut and renumber a segment of Line #235 between Clover Substation and Structure #235/310 to Line #2226. The Commission issued a Final Order approving this (and other) work on February 22, 2022. The Company anticipates that this segment will be cut and renumbered by June 1, 2024. Throughout the Appendix, the Company refers to Line #235 by its current number, Line #235. Some of the Attachments to the Appendix, particularly those prepared for and submitted to PJM, refer to Line #235 by its future number, Line #2226.

5. The total length of the existing right-of-way and Company-owned property to be used for the Rebuild Project is approximately 16 miles. Because the existing right-of-way and Company-owned property are adequate to construct the proposed Rebuild Project, no new rights-of-way are necessary. Given the availability of existing rights-of-way, the statutory preference to use existing rights-of-way, and the additional costs and environmental impacts that would be associated with the acquisition and construction of new rights-of-way, the Company did not consider any alternate routes requiring new rights-of-way for the Rebuild Project.

6. The desired in-service date for the Rebuild Project is June 30, 2026. The Company estimates it will take approximately 14 months for detailed engineering, materials, procurement, permitting, and construction after a final order from the Commission. Accordingly, to support this estimated pre-construction activity timeline and construction plan, the Company respectfully requests a final order by May 31, 2024. Should the Commission issue a final order by May 31, 2024, the Company estimates that construction should begin on April 1, 2025, and be completed by June 30, 2026. This construction timeline will enable the Company to meet the targeted in-service date for the Rebuild Project. This schedule is contingent upon obtaining the necessary permits and outages. Dates may need to be adjusted based on permitting delays or design modifications to comply with additional agency requirements identified during the permitting application process, as well as the ability to schedule outages or unpredictable delays due to labor shortages and/or materials/supply issues based on other extensive project work ongoing in the vicinity of the Rebuild Project. In addition, the Company is actively monitoring the regulatory changes and requirements associated with the Northern long-eared bat (“NLEB”) and how it could potentially impact construction timing associated with time of year restrictions (“TOYRs”). The existing interim guidance from the U.S. Fish and Wildlife Service (“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 listed as endangered, with an estimated announcement of a final decision within 12 months. Regulatory guidance on the Tri-colored bat will be available upon listing. The Company's construction window described above may require adjustment based upon the regulatory guidance and potential TOYRs associated with these two bat species.

7. The total estimated conceptual cost of the Rebuild Project is approximately \$33.8 million (in 2023 dollars), which includes approximately \$33.7 million for transmission-related work, and approximately \$120,000 for substation-related work (in 2023 dollars).

8. The proposed Rebuild Project will afford the best means of meeting the continuing need for reliable service while reasonably minimizing adverse impact on the scenic, environmental, and historic assets of the area.

9. Based on consultations with the Virginia Department of Environmental Quality ("DEQ"), the Company has developed a supplement ("DEQ Supplement") containing information designed to facilitate review and analysis of the proposed facilities by the DEQ and other relevant agencies. The DEQ Supplement is attached to this Application.

10. Based on the Company's experience, the advice of consultants, and a review of published studies by experts in the field, the Company believes that there is no causal link to harmful health or safety effects from electric and magnetic fields generated by the Company's existing or proposed facilities. Section IV of the Appendix provides further details on Dominion Energy Virginia's consideration of the health aspects of electric and magnetic fields.

11. Section V of the Appendix provides a proposed route description for public notice purposes and a list of federal, state, and local agencies and officials that the Company has notified or will notify about the Application.

12. In addition to the information provided in the Appendix and the DEQ Supplement, this Application is supported by the pre-filed direct testimony of Company Witnesses Ramtin Khalili, Chloe A. Genova, Antoaneta Yanev, and Christianna McDonald filed with this Application.

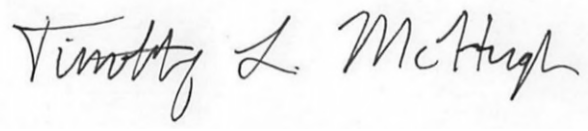
13. Because this Application seeks approval to rebuild an existing line entirely within existing right-of-way or Company-owned property, the Company respectfully requests, in the interest of judicial economy, that the Commission issue an Order for Notice and Comment setting forth a procedural schedule in this proceeding without a scheduled evidentiary hearing, but with an opportunity for interested persons to request an evidentiary hearing if the issues raised cannot be addressed adequately without a hearing. An Order for Notice and Comment will still allow the Company, Commission Staff, and any interested parties that join the proceeding to develop a complete record without prejudice, as Commission Staff or any party may file with the Commission a request for hearing.

WHEREFORE, Dominion Energy Virginia respectfully requests that the Commission:

- a) direct that notice of this Application be given as required by Va. Code § 56-46.1;
- b) approve pursuant to Va. Code § 56-46.1 the construction of the Rebuild Project;
- and,
- c) grant a certificate of public convenience and necessity for the Rebuild Project under the Utility Facilities Act, Va. Code §§ 56-265.1, *et seq.*, by May 31, 2024, if possible.

**VIRGINIA ELECTRIC AND POWER COMPANY**

By: 



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August 10, 2023

COMMONWEALTH OF VIRGINIA  
BEFORE THE  
STATE CORPORATION COMMISSION

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

Line #235 230 kV Rebuild from Clover Substation to  
Structure #235/310

Application No. 327

Appendix

Containing Information in Response to  
“Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia”

Case No. PUR-2023-00141

Filed: August 10, 2023



## TABLE OF CONTENTS

|                                                                                  |            |
|----------------------------------------------------------------------------------|------------|
| <b>EXECUTIVE SUMMARY .....</b>                                                   | <b>i</b>   |
| <b>I. NECESSITY FOR THE PROPOSED PROJECT .....</b>                               | <b>1</b>   |
| <b>II. DESCRIPTION OF THE PROPOSED PROJECT .....</b>                             | <b>32</b>  |
| <b>III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES .....</b> | <b>132</b> |
| <b>IV. HEALTH ASPECTS OF ELECTROMAGNETIC FIELDS (“EMF”) .....</b>                | <b>200</b> |
| <b>V. NOTICE .....</b>                                                           | <b>223</b> |

## EXECUTIVE SUMMARY

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 the following rebuild project located within existing right-of-way or on Company-owned property in Halifax, Mecklenburg, and Charlotte Counties in Virginia:

- (i) Rebuild approximately 16 miles of the 230 kV Line currently numbered<sup>1</sup> as Line #235 between Clover Substation and Structure #235/310 using higher capacity conductor to achieve an expected summer emergency rating of 1573 MVA, and renumber the rebuilt the 16-mile line segment to Line #2226; and
- (ii) Complete work at Clover Substation to support the new line rating

(the “Rebuild Project”).

In summary, the proposed Rebuild Project is necessary to comply with mandatory NERC Reliability Standards and to maintain reliable service to accommodate overall growth in the area. The Rebuild Project is needed to resolve overloading issues PJM identified as part of the 2026 Do No Harm Generator Deliverability analysis. The loss of Line #556 (Clover-Rawlings) leads to overloading of Line #235 from Clover to Easters at 101%. The line rating is limited by existing ACAR conductors, which have a summer minimum rating of 608 MVA.

The total length of the existing right-of-way and Company-owned property to be used for the Rebuild Project is approximately 16 miles. Because the existing right-of-way and Company-owned property are adequate to construct the proposed Rebuild Project, no new rights-of-way are necessary. Given the availability of existing rights-of-way, the statutory preference to use existing rights-of-way, and the additional costs and environmental impacts that would be associated with the acquisition and construction of new rights-of-way, the Company did not consider any alternate routes requiring new rights-of-way for the Rebuild Project.

The total estimated conceptual cost of the Rebuild Project is approximately \$33.8 million (in 2023 dollars), which includes approximately \$33.7 million for transmission-related work, and approximately \$120,000 for substation-related work (in 2023 dollars).

The desired in-service date for the Rebuild Project is June 30, 2026. The Company estimates it will take approximately 14 months for detailed engineering, materials, procurement, permitting, and construction after a final order from the Commission. Accordingly, to support this estimated pre-construction activity timeline and construction plan, the Company respectfully requests a final

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<sup>1</sup> In Case No. PUR-2021-00137, the Company proposed to cut and renumber a segment of Line #235 between Clover Substation and Structure #235/310 to Line #2226. The Commission issued a Final Order approving this (and other) work on February 22, 2022. The Company anticipates that this segment will be cut and renumbered by June 1, 2024. Throughout this Appendix, the Company refers to Line #235 by its current number, Line #235. Some of the Attachments to this Appendix, particularly those prepared for and submitted to PJM, refer to Line #235 by its future number, Line #2226.

order by May 31, 2024. Should the Commission issue a final order by May 31, 2024, the Company estimates that construction should begin on April 1, 2025, and be completed by June 30, 2026. This construction timeline will enable the Company to meet the targeted in-service date for the Rebuild Project.

This schedule is contingent upon obtaining the necessary permits and outages, the latter of which may be particularly challenging due to the amount of new load growth, rebuilds, and new builds scheduled to occur in this load area. This schedule is also contingent upon the Company's ability to negotiate for easements with property owners along the approved route without the need for additional litigation. Dates may need to be adjusted based on permitting delays or design modifications to comply with additional agency requirements identified during the permitting application process, as well as the ability to schedule outages, and unpredictable delays due labor shortages or materials/supply issues. In addition, the Company is actively monitoring the regulatory changes and requirements associated with the Northern long-eared bat ("NLEB") and how it could potentially impact construction timing associated with time of year restrictions ("TOYRs"). The existing interim guidance from the U.S. Fish and Wildlife Service ("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 listed as endangered, with an estimated announcement of a final decision within 12 months. Regulatory guidance on the Tri-colored bat will be available upon listing. The Company's construction window described above may require adjustment based upon the regulatory guidance and potential TOYRs associated with these two bat species.

## **I. NECESSITY FOR THE PROPOSED PROJECT**

- A. State the primary justification for the proposed project (for example, the most critical contingency violation including the first year and season in which the violation occurs). In addition, identify each transmission planning standard(s) (of the Applicant, regional transmission organization (“RTO”), or North American Electric Reliability Corporation) projected to be violated absent construction of the facility.**

Response: The proposed Rebuild Project is necessary to comply with mandatory NERC Reliability Standards and to maintain reliable service to accommodate overall growth in the area. See Attachment I.A.1 for an overview map of the Rebuild Project.

Dominion Energy Virginia’s transmission system is responsible for providing transmission service: (i) for redelivery to the Company’s retail customers; (ii) to Appalachian Power Company, Old Dominion Electric Cooperative, Northern Virginia Electric Cooperative, Central Virginia Electric Cooperative, and Virginia Municipal Electric Association for redelivery to their retail customers in Virginia; and, (iii) to North Carolina Electric Membership Corporation and North Carolina Eastern Municipal Power Agency for redelivery to their retail customers in North Carolina (collectively, the “Dominion Energy Zone” or the “Dom Zone”). The Company needs to be able to maintain the overall, long-term reliability of its transmission system as its customers require more power in the future.

Dominion Energy Virginia is part of PJM Interconnection, LLC (“PJM”), the regional transmission organization that provides service to a large portion of the eastern United States. PJM currently is responsible for ensuring the reliability of, and coordinating the movement of, electricity through all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia. This service area has a population of approximately 65 million and on August 2, 2006, set a record high of 166,929 megawatts (“MW”) for summer peak demand, of which Dominion Energy Virginia’s load portion was approximately 19,256 MW serving 2.4 million customers. On August 9, 2022, the Company set a record high of 21,156 MW for summer peak demand. On December 24, 2022, the Company set a winter and all-time record demand of 22,189 MW. Based on the 2023 PJM load forecast, the Dominion Energy Zone is expected to grow with average growth rates of 5.0% summer and 4.8% winter over the next 10 years compared to the PJM average of 0.8% and 1.0% over the same period for the summer and winter, respectively.

Dominion Energy Virginia is also part of the Eastern Interconnection transmission grid, meaning its transmission system is interconnected, directly or indirectly, with all of the other transmission systems in the United States and Canada between the Rocky Mountains and the Atlantic Coast, except for Quebec and most of Texas.

All of the transmission systems in the Eastern Interconnection are dependent on each other for moving bulk power through the transmission system and for reliability support. Dominion Energy Virginia's service to its customers is extremely reliant on a robust and reliable regional transmission system.

NERC has been designated by the Federal Energy Regulatory Commission ("FERC") as the electric reliability organization for the United States. Accordingly, NERC requires that the planning authority and transmission planner develop planning criteria to ensure compliance with NERC Reliability Standards. Mandatory NERC Reliability Standards require that a transmission owner ("TO") develop facility interconnection requirements that identify load and generation interconnection minimum requirements for a TO's transmission system, as well as the TO's reliability criteria.<sup>2</sup>

Federally mandated NERC Reliability Standards constitute minimum criteria with which all public utilities must comply as components of the interstate electric transmission system. Moreover, the Energy Policy Act of 2005 mandates that electric utilities follow these NERC Reliability Standards and imposes fines for noncompliance of approximately \$1.3 million per day per violation.

PJM's Regional Transmission Expansion Plan ("RTEP") is the culmination of an annual transmission planning process, approved by FERC, which includes extensive analysis of the electric transmission system to determine any needed improvements.<sup>3</sup> PJM's annual RTEP is based on the effective criteria in place at the time of the analyses, including applicable standards and criteria of NERC, PJM, and local reliability planning criteria, among others.<sup>4</sup> Projects identified through the RTEP process are developed by the TO in coordination with PJM, and are presented at the Transmission Expansion Advisory Committee ("TEAC") meetings prior to inclusion in the RTEP that is then presented for approval by the PJM Board of Managers (the "PJM Board"). PJM's generation deliverability test for reliability analysis ensures the transmission system is capable of delivering the aggregate system generating capacity at peak load with all firm transmission service modeled. Generation deliverability is a critical system condition test that is part of the PJM reliability standards and, thus, also is required to be satisfied by NERC Reliability

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<sup>2</sup> See FAC-001-3 (R1, R3) (effective April 1, 2021), which can be found at <https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/parallel-generation/facility-interconnection-requirements-signed.pdf>.

<sup>3</sup> PJM Manual 14B (effective July 1, 2021) focuses on the RTEP process and can be found at <https://www.pjm.com/-/media/documents/manuals/m14b.ashx>.

<sup>4</sup> See PJM Manual 14B, Attachment D: PJM Reliability Planning Criteria.

<sup>5</sup> See Case No. PUR-2021-00137, *Application of Virginia Electric and Power Company for Approval and Certification of Electric Transmission Facilities: Line #235 Extension and Cloud 230 kV Switching Station and Related Projects*, Final Order (Feb. 22, 2022).

Standards.

Outcomes of the RTEP process include three types of transmission system upgrades or projects: (i) baseline upgrades are those that resolve a system reliability criteria violation, which can include planning criteria from NERC, Reliability-First Corporation, SERC Reliability Corporation, PJM, and TOs; (ii) network upgrades are new or upgraded facilities required primarily to eliminate reliability criteria violations caused by proposed generation, merchant transmission, or long-term firm transmission service requests; (iii) supplemental projects are projects initiated by the TO in order to interconnect new customer load, address degraded equipment performance, improve operational flexibility and efficiency, and increase infrastructure resilience. While supplemental projects are included in the RTEP, and the PJM Board administers stakeholder review of supplemental projects as part of the RTEP process, the PJM Board does not actually approve such projects.

As supported by Section I.J and discussed below, this Rebuild Project is classified as a supplemental project initiated to address overloading issues identified as part of PJM's 2026 Do No Harm ("DNH") Generator Deliverability analysis. The following supplemental project number has been assigned to this Rebuild Project: s2602.2. See Section I.J for a discussion of the PJM process as it relates to the Rebuild Project.

### **Need for the Project**

The Rebuild Project is located in the Company's Southside Load Area, which encompasses the Company's transmission facilities located in all or part of Halifax, Charlotte, and Mecklenburg Counties. Specifically, the Rebuild Project area is within Halifax, Charlotte, and Mecklenburg Counties, in the transmission corridor leaving Clover Substation to Structure #235/310 (near Chase City Substation), which is approximately 16 miles.

Data center load has grown significantly in the Southside area in recent years, especially in Mecklenburg County. On February 22, 2022, the Commission issued the Company a Certificate of Public Convenience and Necessity ("CPCN") to perform work on Line #235 and associated infrastructure to accommodate data center growth in Mecklenburg County.<sup>5</sup> Please see the Attachment I.A.2 for the existing system one-line diagram, and Attachment I.A.3 for the future system's one-line diagram.

The Rebuild Project is needed to resolve overloading issues on the 230 kV Line #235, to be renumbered to Line #2226, from Clover Substation to Structure #235/310 identified during PJM's 2026 DNH Generator Deliverability analysis.

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<sup>5</sup> See Case No. PUR-2021-00137, *Application of Virginia Electric and Power Company for Approval and Certification of Electric Transmission Facilities: Line #235 Extension and Cloud 230 kV Switching Station and Related Projects*, Final Order (Feb. 22, 2022).

Attachment I.A.4 shows the results of PJM's analysis, which shows that 230 kV Line #235 (Clover – Easters) overloads at around 101% when the 500 kV Line #556 (Clover – Rawlings) is modeled as out of service, which violates NERC reliability criteria.

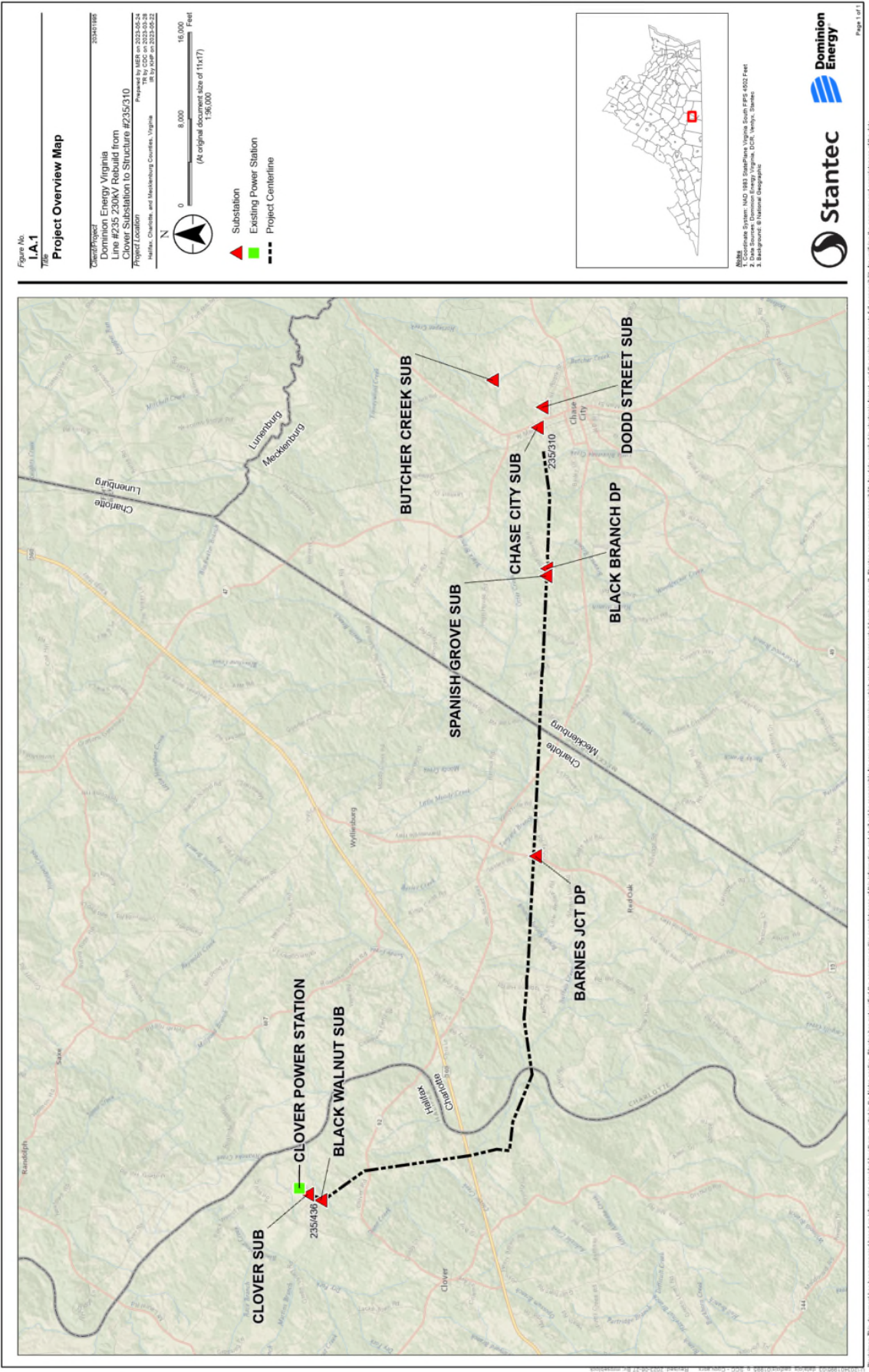
The existing line rating is limited by existing ACAR conductor, which has a minimum summer emergency rating of 608 MVA. The Rebuild Project will rebuild approximately 16 miles between Clover Substation and Structure #235/310 of 230 kV Line #235 using higher capacity conductor and associated substation equipment to achieve an expected summer emergency rating of 1573 MVA.

This Rebuild Project was presented at the November 30, 2021, PJM Transmission Expansion Advisory Committee (“TEAC”) meeting. See Attachment I.A.5 for relevant slides presented at the TEAC meeting. As noted in the Problem Statement of the slides presented at the TEAC meetings, a DNH Generator Deliverability analysis identified overloading issues on 230kV Line #235.<sup>6</sup> The potential violations are caused by previously presented Supplemental Projects DOM-2021-0009 and DOM-2021-0010 in the Dominion Zone, which comprise the above-referenced expansion work on Line #235 approved by the Commission in Case No. PUR-2021-00137. See Attachment I.A.6 for more information on the relevant projects presented at the TEAC meeting.

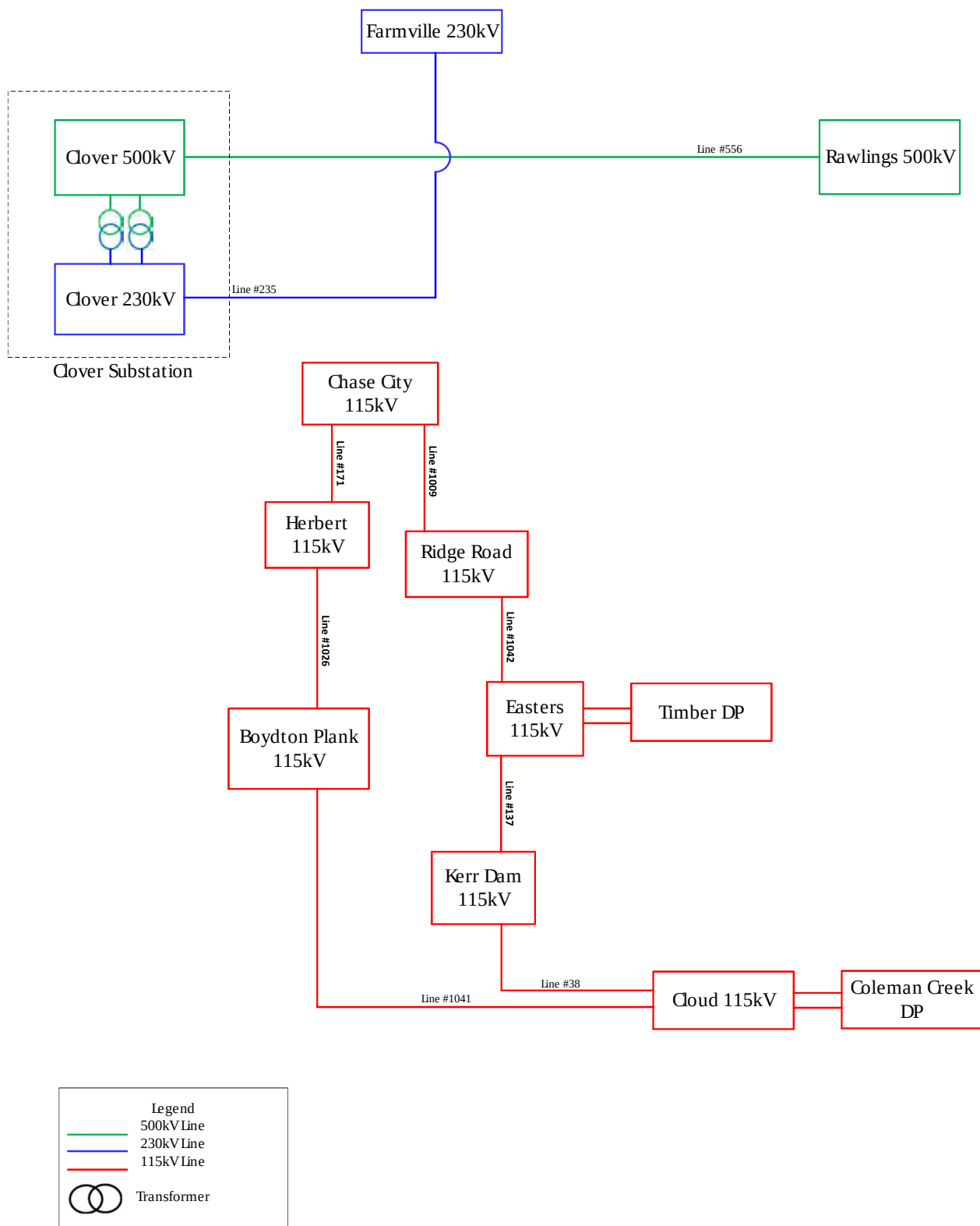
In summary, the proposed Rebuild Project is necessary to comply with mandatory NERC Reliability Standards and the Company's planning criteria and to maintain reliable service to accommodate overall growth in the Company's Southside Load Area.

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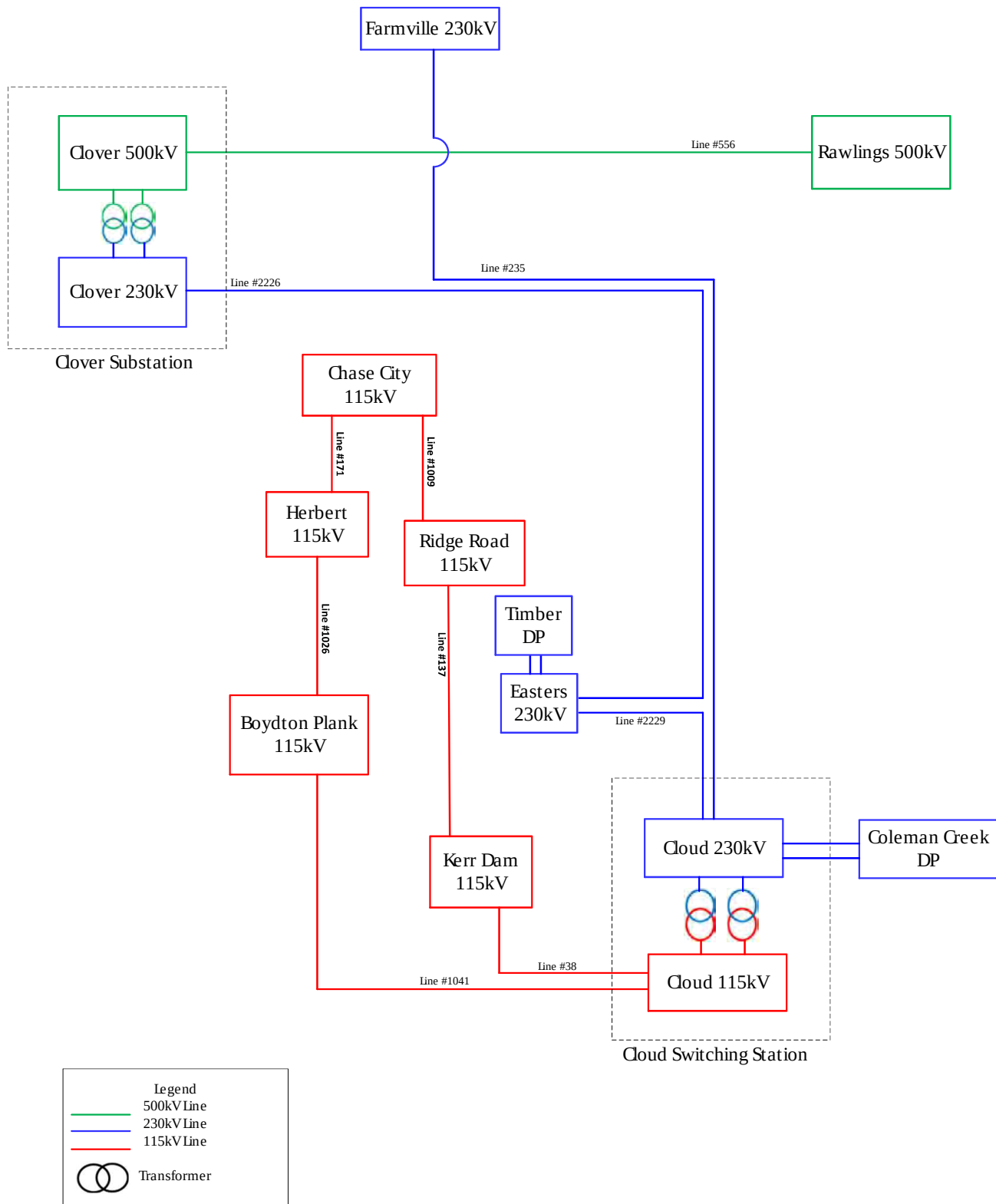
<sup>6</sup> Please Note that Attachment I.A.5 refers to Line #235 by its future number (Line #2226). See FN 2 to this Appendix for additional details regarding renumbering of Line #235.







All referenced boxes are substations, with the exception of Cloud Switching Station and Easters Switching Station.  
All 115kV lines are double circuit lines.



All referenced boxes are substations, with the exception of Cloud Switching Station and Easters Switching Station.  
All 115kV lines are double circuit lines.

| Monitored Facility |     |                 |                  |  |  |  |  |  |  | Final AC | Final AC  | Final AC  |
|--------------------|-----|-----------------|------------------|--|--|--|--|--|--|----------|-----------|-----------|
|                    |     |                 |                  |  |  |  |  |  |  | AC       | %Loadin g | %Loadin g |
|                    |     |                 |                  |  |  |  |  |  |  | g        | [Pre] g   | [Post] g  |
|                    |     |                 |                  |  |  |  |  |  |  | (MVA)    | (MVA)     | (MVA)     |
|                    |     |                 |                  |  |  |  |  |  |  | OP       | Single    | Single    |
| 314686 6CLOVER     | 230 | 313786 6EASTERS | DVP_P1-2: LN 556 |  |  |  |  |  |  | 699      | 101.52    | 101.59    |
| 314686 6CLOVER     | 230 | 313786 6EASTERS | DVP_P1-2: LN 556 |  |  |  |  |  |  | 699      | 100.93    | 101       |
|                    |     |                 |                  |  |  |  |  |  |  |          |           | 0.07      |
|                    |     |                 |                  |  |  |  |  |  |  |          |           | 0.07      |

| Monitored Facility |                           | Fr Bus | Fr Name | To Bus | To Name  | Cont Name        | ContType | Rate B (MVA) | Rate C (MVA) | Final AC %LD | AC Final Flow |
|--------------------|---------------------------|--------|---------|--------|----------|------------------|----------|--------------|--------------|--------------|---------------|
| 314686 6CLOVER     | 230 313786 6EASTERS 230 1 | 314686 | 6CLOVER | 313786 | 6EASTERS | DVP_P1-2: LN 556 | OP       | 608          | 699          | 101.59       | 580.6         |
| 314686 6CLOVER     | 230 313786 6EASTERS 230 1 | 314686 | 6CLOVER | 313786 | 6EASTERS | DVP_P1-2: LN 556 | Single   | 608          | 699          | 101          | 577.2         |

# Dominion Supplemental Projects

Transmission Expansion Advisory  
Committee  
November 30, 2021

# Dominion Transmission Zone: Supplemental Do No Harm Analysis

**Need Number:** DOM-2021-0009-DNH & DOM-2021-0010-DNH  
**Meeting Date:** 11/30/2021  
**Process Stage:** Solutions Meeting 11/30/2021  
**Supplemental Project Driver:** Do No Harm Analysis

**Specific Assumption Reference:**

Customer load request will be evaluated per Dominion’s Facility Interconnections Requirements Document & Dominion’s Transmission Planning Criteria.

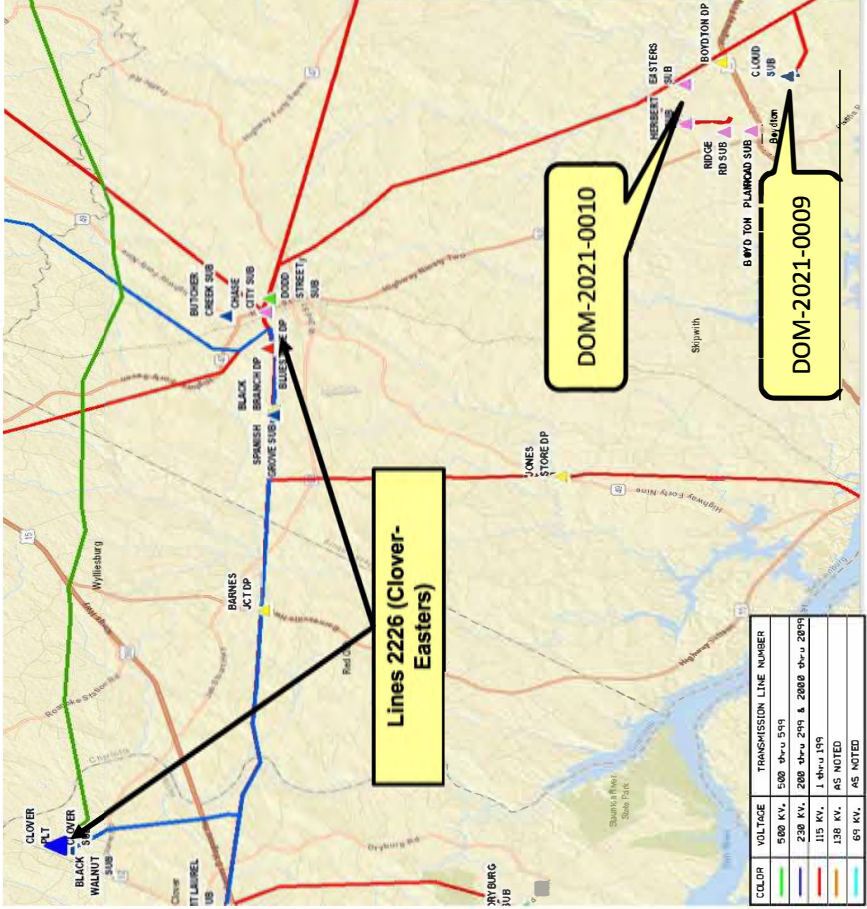
**Problem Statement:**

PJM has identified a N-1 Generator Deliverability contingency scenario that results in overload of Line 2226 (Clover to Easters) in the 2021 Do-No-Harm analysis.

The loss of Line 556 (Clover – Rawlings) under contingency DVP-P1-2: Line 566 creates overload on:

- Line 2226 (Clover to Easters)

The violations are caused by previously presented Supplemental Projects DOM-2021-0009 and DOM-2021-0010 in the Dominion Zone.



# Dominion Transmission Zone: Supplemental Do No Harm Analysis

**Need Number:** DOM-2021-0009-DNH & DOM-2021-0010-DNH

**Meeting Date:** 11/30/2021

**Process Stage:** Solutions Meeting 11/30/2021

## **Proposed Solution :**

Rebuild approximately 16 miles between Clover Sub and structure #235/310 of 230kV Line 2226 using a higher capacity conductor and associated substation equipment to achieve an expected rating of 1572 MVA.

## **TO Alternatives Considered :**

No feasible alternatives

**Estimated cost:** \$ 34.0 M

**Projected In-service Date:** 06/30/2026

**Project Status:** Conceptual

**Model:** 2025 RTEP



# Dominion Supplemental Projects

Transmission Expansion Advisory  
Committee  
February 9, 2021

# Dominion Transmission Zone: Supplemental Customer Load Request

**Need Number:** DOM-2021-0009

**Process Stage:** Need Meeting 02/09/2021

**Project Driver:** Customer Service

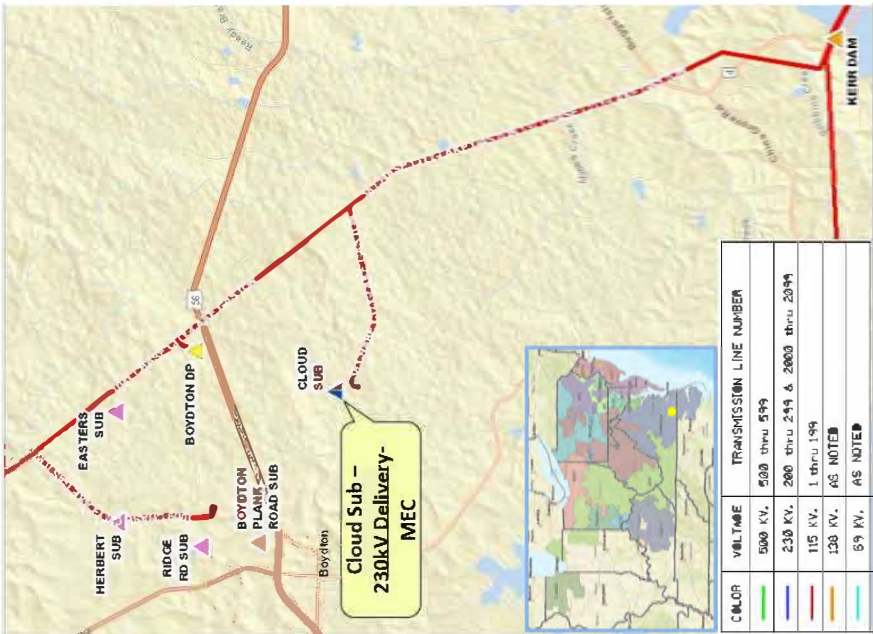
**Specific Assumption References:**

Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

**Problem Statement:**

ODEC has submitted a request with an updated load projection on behalf of Mecklenburg Electric Coop (MEC) for a delivery point (Cloud Sub - Coleman Creek DP) at Boydton, VA, to support a datacenter campus with a total load in excess of 100 MW. The customer requests service by June 1, 2024.

|                         |                     |
|-------------------------|---------------------|
| Initial In-Service Load | Projected 2026 Load |
| Summer: 91.0 MW         | Summer: 156.0 MW    |





# Dominion Transmission Zone: Supplemental Customer Load Request

**Need Number:** DOM-2021-0010

**Process Stage:** Need Meeting 02/09/2021

**Project Driver:** Customer Service

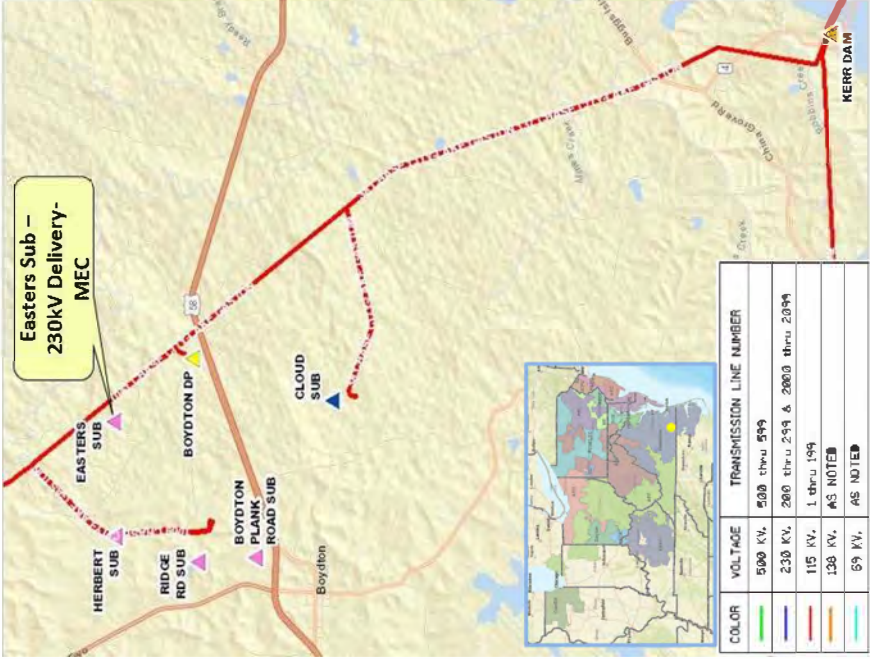
**Specific Assumption References:**

Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

**Problem Statement:**

ODEC has submitted a request on behalf of Mecklenburg Electric Coop (MEC) for a new delivery point (Easters Sub – Timber DP) at Boydton, VA, to support a new datacenter campus with a total load in excess of 100 MW. The customer requests service by November 1, 2021.

|                         |                     |
|-------------------------|---------------------|
| Initial In-Service Load | Projected 2026 Load |
| Winter: 12.0 MW         | Summer: 123.0 MW    |



## **I. NECESSITY FOR THE PROPOSED PROJECT**

- B. Detail the engineering justifications for the proposed project (for example, provide narrative to support whether the proposed project is necessary to upgrade or replace an existing facility, to significantly increase system reliability, to connect a new generating station to the Applicant's system, etc.). Describe any known future project(s), including but not limited to generation, transmission, delivery point or retail customer projects, that require the proposed project to be constructed. Verify that the planning studies used to justify the need for the proposed project considered all other generation and transmission facilities impacting the affected load area, including generation and transmission facilities that have not yet been placed into service. Provide a list of those facilities that are not yet in service.**

Response: [1] Engineering Justification for the Project

See Section I.A of the Appendix.

[2] Known Future Projects

There are no known future projects that require the Rebuild Project to be constructed. The Rebuild Project is required to resolve the potential NERC criteria violations described in Section I.A of the Appendix.

[3] Planning Studies

The planning studies run by PJM for the DNH Generator Deliverability Analysis used the most recent (at that time) RTEP case, with all the known projects applied. The reliability studies conducted for this Rebuild Project and the study results are described in Section I.A.

[4] Facilities List

See Attachments I.A.2 and I.A.3 for existing and future transmission facilities that were included in the planning studies and PJM's DNH Generator Deliverability analysis but have not yet been placed into service.

## **I. NECESSITY FOR THE PROPOSED PROJECT**

- C. Describe the present system and detail how the proposed project will effectively satisfy present and projected future electrical load demand requirements. Provide pertinent load growth data (at least five years of historical summer and winter peak demands and ten years of projected summer and winter peak loads where applicable). Provide all assumptions inherent within the projected data and describe why the existing system cannot adequately serve the needs of the Applicant (if that is the case). Indicate the date by which the existing system is projected to be inadequate.**

Response: Attachment I.G.1 shows the portion of the Company's transmission system in the area of the Rebuild Project. Existing Line #235 is part of the Company's 230 kV network, which supports the delivery of electric generation to retail and wholesale customers. These lines support the network in the Southside Virginia area.

The Company's Clover Substation, located in Halifax County, has two generating units with a net capacity of 878 MW. These units are connected to the Clover 230 kV Substation that serves Line #235 (Clover – Farmville) and Line #2068 (Clover – Sedge Hill).

The tables in Attachment I.C.1 provide five years of historical system peak loads for the Company's Southside Load Area. The tables in Attachment I.C.1 also provide the anticipated summer and winter peak loads from 2023 to 2032 for this area. The projected loads in Attachment I.C.1 represent the Company's forecasted peaks based on actual load and the PJM 2023 Load Forecast and demonstrate stable load demand in the area. Over the period from 2023 to 2032, the summer peak electrical demand for this area is projected to vary between approximately 904 MW to 2076 MW, and the winter peak electrical demand for this area is projected to vary between approximately 997 MW to 2062 MW. For projected load ramps for two major data center loads at the future Easters 230 kV and Cloud 230 kV substations, please refer to Case No. PUR-2021-00137.

As discussed in Section I.A., the Rebuild Project is needed to resolve overloading issues on 230 kV Line #235 between Clover Substation and existing Structure #235/310. These overloading issues were identified in the PJM 2026 DNH Generator Deliverability analysis. The line rating is limited by existing ACAR conductors, which have a minimum summer emergency rating of 608 MVA. The Rebuild Project will rebuild Line #235 between Clover Substation and Structure #235/310 to a minimum summer emergency rating of 1573 MVA.

Completing the Rebuild Project will support Dominion Energy Virginia's continued reliable electric service to retail and wholesale customers and will support overall growth and system generation capability in the area.

|                | Historical Summer Area Peak Load (MW) |      |      |      |      |
|----------------|---------------------------------------|------|------|------|------|
| Year           | 2018                                  | 2019 | 2020 | 2021 | 2022 |
| Southside Area | 642                                   | 633  | 654  | 666  | 776  |

|                | Projected Summer Area Peak Load (MW) |      |      |      |      |      |      |      |      |      |
|----------------|--------------------------------------|------|------|------|------|------|------|------|------|------|
| Year           | 2023                                 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 |
| Southside Area | 904                                  | 961  | 1045 | 1167 | 1320 | 1503 | 1745 | 1916 | 2007 | 2076 |

|                | Historical Winter Area Peak Load (MW) |      |      |      |      |
|----------------|---------------------------------------|------|------|------|------|
| Year           | 2018                                  | 2019 | 2020 | 2021 | 2022 |
| Southside Area | 842                                   | 783  | 714  | 681  | 838  |

|                | Projected Winter Area Peak Load (MW) |         |         |         |         |         |         |         |         |         |
|----------------|--------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Year           | 2023/24                              | 2024/25 | 2025/26 | 2026/27 | 2027/28 | 2028/29 | 2029/30 | 2030/31 | 2031/32 | 2032/33 |
| Southside Area | 1038                                 | 1122    | 1183    | 1271    | 1416    | 1611    | 1847    | 1940    | 2062    | 2149    |

## **I. NECESSITY FOR THE PROPOSED PROJECT**

- D. If power flow modeling indicates that the existing system is, or will at some future time be, inadequate under certain contingency situations, provide a list of all these contingencies and the associated violations. Describe the critical contingencies including the affected elements and the year and season when the violation(s) is first noted in the planning studies. Provide the applicable computer screenshots of single-line diagrams from power flow simulations depicting the circuits and substations experiencing thermal overloads and voltage violations during the critical contingencies described above.**

Response: See Section I.A, including Attachment I.A.4. As discussed in Section I.A, PJM performed a DNH Generator Deliverability study with 500 kV Line #556 (Clover – Rawlings) modeled as out of service. The power flow model used was the most updated PJM RTEP DNH case. The study identified an overload on the 230 kV Line #235 from Clover Substation to Easters Substation. See Attachment I.A.4, Tables 1 and 2, for Generation Deliverability study results. The monitored facility (Line #235) and contingency element (Line #556) are highlighted in Table 1. Table 1 shows the Line #235 overload results as identified by PJM. PJM's results have been verified in a separate study by the Company and equivalent results are shown in Table 2.

## I. NECESSITY FOR THE PROPOSED PROJECT

### E. Describe the feasible project alternatives, if any, considered for meeting the identified need including any associated studies conducted by the Applicant or analysis provided to the RTO. Explain why each alternative was rejected.

Response: Feasible Project Alternatives

There are no feasible project alternatives to the Rebuild Project.

#### Analysis of Demand-Side Resources

Pursuant to the Commission's November 26, 2013, Order entered in Case No. PUE-2012-00029, and its November 1, 2018, Final Order entered in Case No. PUR-2018-00075 ("2018 Final Order"), the Company is required to provide analysis of demand-side resources ("DSM") incorporated into the Company's planning studies. DSM is the broad term that includes both energy efficiency ("EE") and demand response ("DR"). In this case, PJM and the Company have identified a need for the proposed Rebuild Project in order to comply with mandatory NERC Reliability Standards, while maintaining the overall long-term reliability of its transmission system. Notwithstanding, when performing an analysis based on PJM's 50/50 load forecast, there is no adjustment in load for DR programs because PJM only dispatches DR when the system is under stress (*i.e.*, a system emergency). Accordingly, while existing DSM is considered to the extent the load forecast accounts for it, DR that has been bid previously into PJM's capacity market is not a factor in this particular application because of the identified need for the Project. Based on these considerations, the evaluation of the Project demonstrated that despite accounting for DSM consistent with PJM's methods, the Project is necessary.

Incremental DSM also will not absolve the need for the Rebuild Project. As reflected in Attachment I.C.1, the peak load area for this Rebuild Project's (historic and projected) ranges from approximately 633 MW to 904 MW in the summer, an increase of 50% over the period of 2019 to 2023. The peak load area ranges from approximately 783 MW to 1038 MW in the winter between 2019 and 2023. Moreover, the Company anticipates high data center load growth in the Southside Load Area.<sup>7</sup> By way of comparison, statewide, the Company achieved demand savings of 264.8 MW (net) / 404.8 MW (gross) from its DSM Programs in 2022.

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<sup>7</sup> See Attachment I.C.1 to the Company's Application in Case No. PUR-2021-00137 for the anticipated load ramps for two large Mecklenburg County data centers.

## **I. NECESSITY FOR THE PROPOSED PROJECT**

- F. Describe any lines or facilities that will be removed, replaced, or taken out of service upon completion of the proposed project, including the number of circuits and normal and emergency ratings of the facilities.**

Response: The Rebuild Project includes the removal and replacement of existing facilities on existing Line #235, as described below. There will be no lines permanently taken out of service as part of the proposed Rebuild Project.

The proposed Rebuild Project includes the removal of 126 single circuit 230kV structures, which are primarily wood H-frame structures. These existing structures will be replaced with 125 weathering steel H-frame structures and one weathering steel three-pole structure.

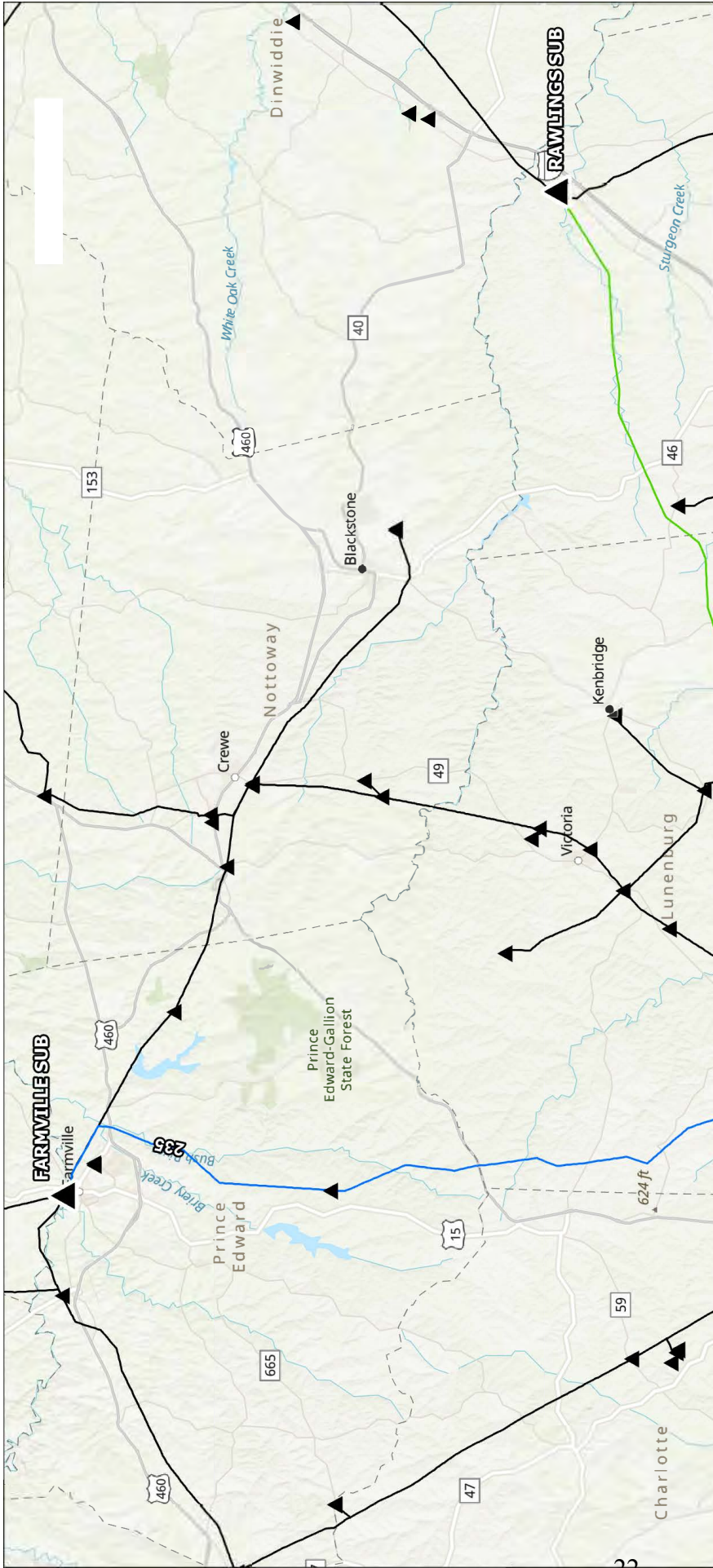
This existing section of Line #235 between Clover Substation and Structure #235/310 is primarily twin-bundled 545.6 ACAR conductor and will be replaced with twin-bundled 768.2 ACSS/TW type conductor. The existing 545.6 ACAR conductor has a normal/emergency transfer capability of 608 MVA. The two (2) 3#6 ALWD shield wires will be replaced with two (2) DNO11410 OPGW shield wires.

**I. NECESSITY FOR THE PROPOSED PROJECT**

- G. Provide a system map, in color and of suitable scale, showing the location and voltage of the Applicant's transmission lines, substations, generating facilities, etc., that would affect or be affected by the new transmission line and are relevant to the necessity for the proposed line. Clearly label on this map all points referenced in the necessity statement.**

Response: See Attachments I.G.1 and I.G.2.





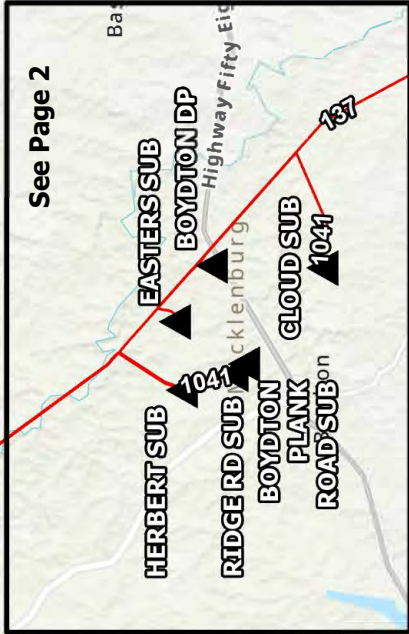
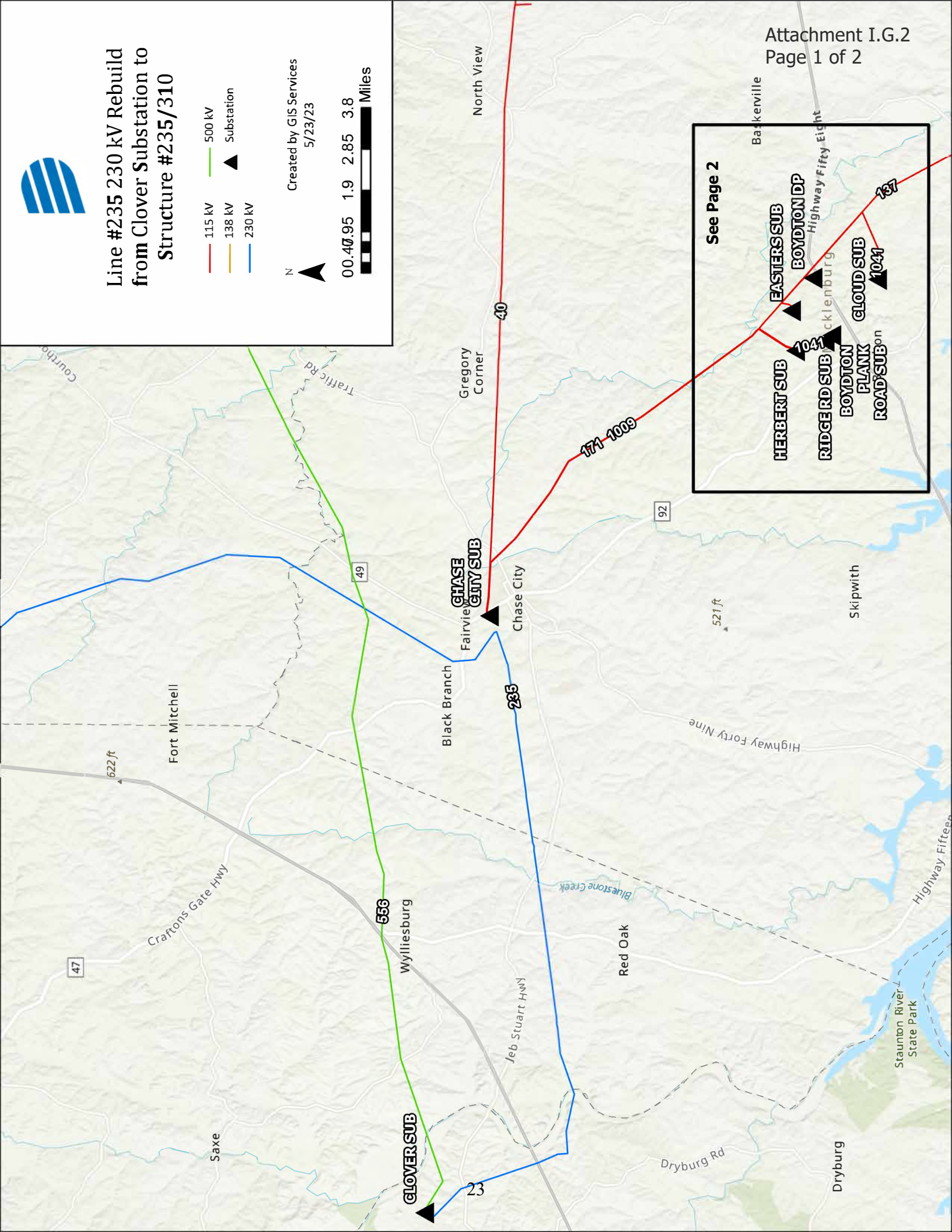
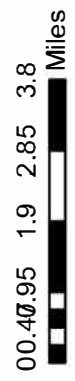




# Line #235 230 kV Rebuild from Clover Substation to Structure #235/310

- 115 kV
- 138 kV
- 230 kV
- 500 kV
- Substation

Created by GIS Services  
5/23/23



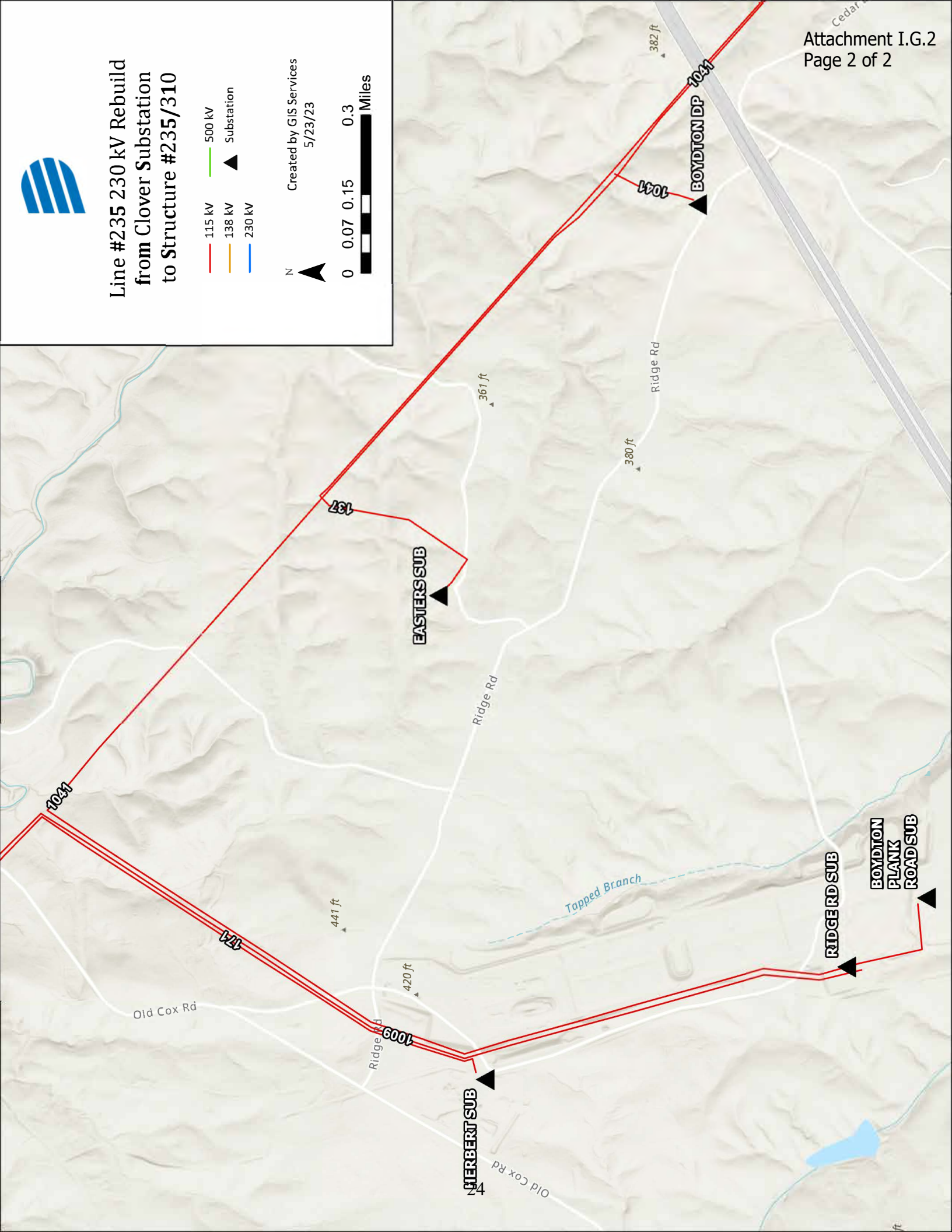


Line #235 230 kV Rebuild  
from Clover Substation  
to Structure #235/310

- 115 kV
- 138 kV
- 230 kV
- 500 kV
- Substation

Created by GIS Services  
5/23/23

0 0.07 0.15 0.3 Miles



**I. NECESSITY FOR THE PROPOSED PROJECT**

**H. Provide the desired in-service date of the proposed project and the estimated construction time.**

Response: The desired in-service date for the proposed Rebuild Project is June 30, 2026.

The Company estimates that it will take approximately 14 months for detailed engineering, materials procurement, permitting, real estate, and construction after a final order from the Commission. Accordingly, to support this estimated construction timeline and construction plan, the Company respectfully requests a final order by May 31, 2024. Should the Commission issue a final order by May 31, 2024, the Company estimates that construction should begin by April 1, 2025, and be completed by June 30, 2026. This construction timeline will enable the Company to meet the targeted in-service date for the Rebuild Project.

This schedule is contingent upon obtaining the necessary permits and outages. Dates may need to be adjusted based on permitting delays or design modifications to comply with additional agency requirements identified during the permitting application process, as well as the ability to schedule outages or unpredictable delays due to labor shortages and/or materials/supply issues based on other extensive project work ongoing in the vicinity of the Rebuild Project. In addition, the Company is actively monitoring the regulatory changes and requirements associated with the Northern long-eared bat (“NLEB”) and how it could potentially impact construction timing associated with time of year restrictions (“TOYRs”). The existing interim guidance from the U.S. Fish and Wildlife Service (“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 listed as endangered, with an estimated announcement of a final decision within 12 months. Regulatory guidance on the Tri-colored bat will be available upon up-listing. The Company’s construction window described above may require adjustment based upon the regulatory guidance and potential TOYRs associated with these two bat species.



**I. NECESSITY FOR THE PROPOSED PROJECT**

- I. Provide the estimated total cost of the project as well as total transmission-related costs and total substation-related costs. Provide the total estimated cost for each feasible alternative considered. Identify and describe the cost classification (e.g. “conceptual cost,” “detailed cost,” etc.) for each cost provided.**

Response: The total estimated conceptual cost of the Rebuild Project is approximately \$33.8 million (in 2023 dollars), which includes approximately \$33.7 million for transmission-related work, and approximately \$120,000 for substation-related work (in 2023 dollars).

**I. NECESSITY FOR THE PROPOSED PROJECT**

- J. If the proposed project has been approved by the RTO, provide the line number, regional transmission expansion plan number, cost responsibility assignments, and cost allocation methodology. State whether the proposed project is considered to be a baseline or supplemental project.**

Response: The Rebuild Project was initially presented at the November 30, 2021, PJM Transmission Expansion Advisory Committee (“TEAC”) meeting as a supplemental project with the following number: s2602.2. See Attachment I.A.6. and Sections I.A and I.E.

The Rebuild Project is presently 100% cost allocated to the DOM Zone.

**I. NECESSITY FOR THE PROPOSED PROJECT**

- K. If the need for the proposed project is due in part to reliability issues and the proposed project is a rebuild of an existing transmission line(s), provide five years of outage history for the line(s), including for each outage the cause, duration and number of customers affected. Include a summary of the average annual number and duration of outages. Provide the average annual number and duration of outages on all Applicant circuits of the same voltage, as well as the total number of such circuits. In addition to outage history, provide five years of maintenance history on the line(s) to be rebuilt including a description of the work performed as well as the cost to complete the maintenance. Describe any system work already undertaken to address this outage history.**

Response: Not applicable. The need for the Rebuild Project is not driven by outage history, but rather by the need to prevent potential overloading. See Sections I.A and I.C.

**I. NECESSITY FOR THE PROPOSED PROJECT**

- L. If the need for the proposed project is due in part to deterioration of structures and associated equipment, provide representative photographs and inspection records detailing their condition.**

Response: Not applicable. See Sections I.A and I.C.



**I. NECESSITY FOR THE PROPOSED PROJECT**

**M. In addition to the other information required by these guidelines, applications for approval to construct facilities and transmission lines interconnecting a Non-Utility Generator (“NUG”) and a utility shall include the following information:**

- 1. The full name of the NUG as it appears in its contract with the utility and the dates of initial contract and any amendments;**
- 2. A description of the arrangements for financing the facilities, including information on the allocation of costs between the utility and the NUG;**
- 3. a. For Qualifying Facilities (“QFs”) certificated by Federal Energy Regulatory Commission (“FERC”) order, provide the QF or docket number, the dates of all certification or recertification orders, and the citation to FERC Reports, if available;**  
**b. For self-certificated QFs, provide a copy of the notice filed with FERC;**
- 4. Provide the project number and project name used by FERC in licensing hydroelectric projects; also provide the dates of all orders and citations to FERC Reports, if available; and**
- 5. If the name provided in 1 above differs from the name provided in 3 above, give a full explanation.**

Response: Not applicable.

**I. NECESSITY FOR THE PROPOSED PROJECT**

- N. Describe the proposed and existing generating sources, distribution circuits or load centers planned to be served by all new substations, switching stations and other ground facilities associated with the proposed project.**

Response: Not applicable.

## **II. DESCRIPTION OF THE PROPOSED PROJECT**

### **A. Right-of-way (“ROW”)**

#### **1. Provide the length of the proposed corridor and viable alternatives.**

Response: The total length of the Rebuild Project is approximately 16 miles from the Clover Substation to Structure #235/310 of existing 230kV Line #235. No alternative routes are proposed for the Rebuild Project. See Section II.A.9 of the Appendix for an explanation of the Company’s route selection process.

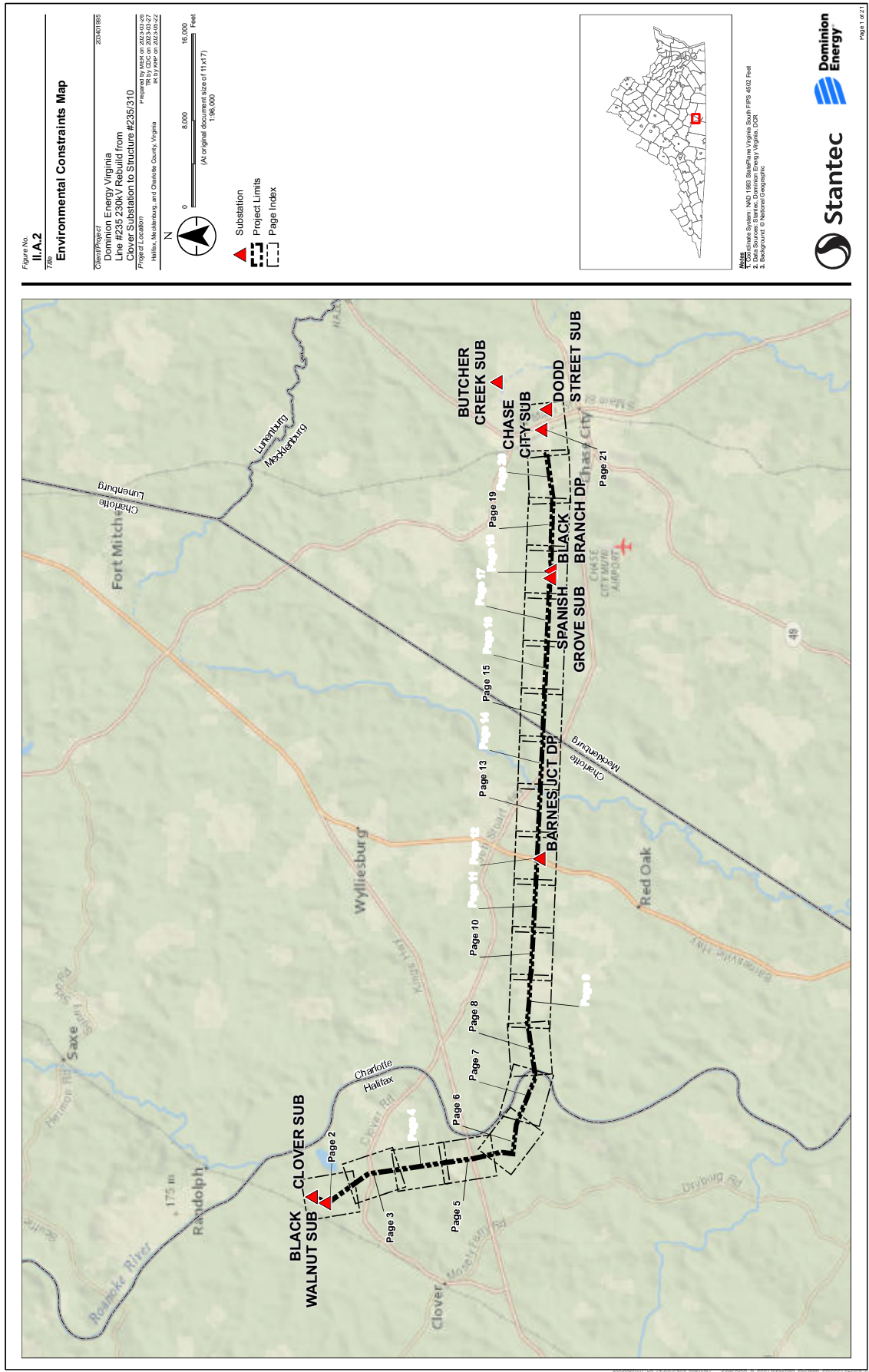
## II. DESCRIPTION OF THE PROPOSED PROJECT

### A. Right-of-way (“ROW”)

2. **Provide color maps of suitable scale (including both general location mapping and more detailed GIS-based constraints mapping) showing the route of the proposed line and its relation to: the facilities of other public utilities that could influence the route selection, highways, streets, parks and recreational areas, scenic and historic areas, open space and conservation easements, schools, convalescent centers, churches, hospitals, burial grounds/cemeteries, airports and other notable structures close to the proposed project. Indicate the existing linear utility facilities that the line is proposed to parallel, such as electric transmission lines, natural gas transmission lines, pipelines, highways, and railroads. Indicate any existing transmission ROW sections that are to be quitclaimed or otherwise relinquished. Additionally, identify the manner in which the Applicant will make available to interested persons, including state and local governmental entities, the digital GIS shape file for the route of the proposed line.**

Response: See Attachment II.A.2, which includes existing linear utilities paralleled by the existing transmission line corridor. The Rebuild Project is located within existing transmission line right-of-way, which collocates and parallels Lines #33, #36, #1027, #1050, #2068, and #2204. No portion of the right-of-way is proposed to be quitclaimed or relinquished.

The Company will make a digital Geographic Information Systems (“GIS”) shapefile available to interested persons upon request to counsel for the Company.





- 
- A map showing the study area. A red square indicates the study site. A black line connects the study site to Chase City. A distance marker of 175 m is shown along the line. The map includes a network of roads and water bodies.



Disclaimer: The document has been prepared based on information provided by others as cited in the Notes section. Statwac 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. Statwac assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.



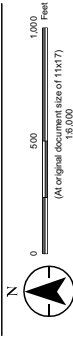




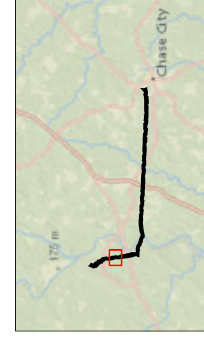
Figure No.  
II.A.2

**Environmental Constraints Map**

Client/Project  
Dominion Energy Virginia  
Project Name  
Line #235 200kV Rebuild from  
Cover Substation to Structure #235/310  
Project Location  
Harrison, Middleburg, and Charlotte County, Virginia  
Prepared by MDC on 2023.03.27  
Revised by MDC on 2023.03.27  
2023.03.27 10:00 AM



- Existing Structures
- Project Limits
- Approximate PEM/PSS Wetland - Medium Probability
- Approximate PEM/PSS Wetland - Low Probability
- Approximate Stream
- Conservation Lands
- Conservation Easement
- Section 408 Resource
- Existing Dominion Transmission Line #235
- Existing Dominion Transmission Line #2204



**NOTES:**  
1. This map was prepared using data provided by the Virginia Department of Transportation (VDOT) and the Virginia Department of Conservation and Forestry (VDCF).  
2. Data Source: Stantec, Dominion Energy Virginia, VDOT, USGS, VDCF, and other sources.  
3. The map shows the proposed transmission line route and the environmental constraints. The route is marked with a pink dashed line and green dots. The environmental constraints are shown with various hatched patterns.  
4. The map is a plan view and does not show the vertical alignment of the transmission line.  
5. The map is a preliminary design and is subject to change. The final design will be based on the results of the environmental impact study and the engineering design.  
6. The map is a representation of the current conditions and does not guarantee the accuracy of the data. The user should verify the accuracy and completeness of the data.

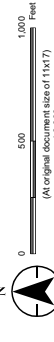




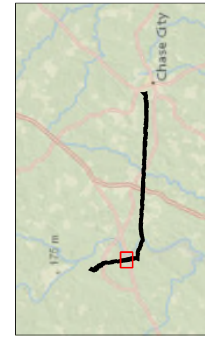
Figure No.  
II.A.2

# Environmental Constraints Map

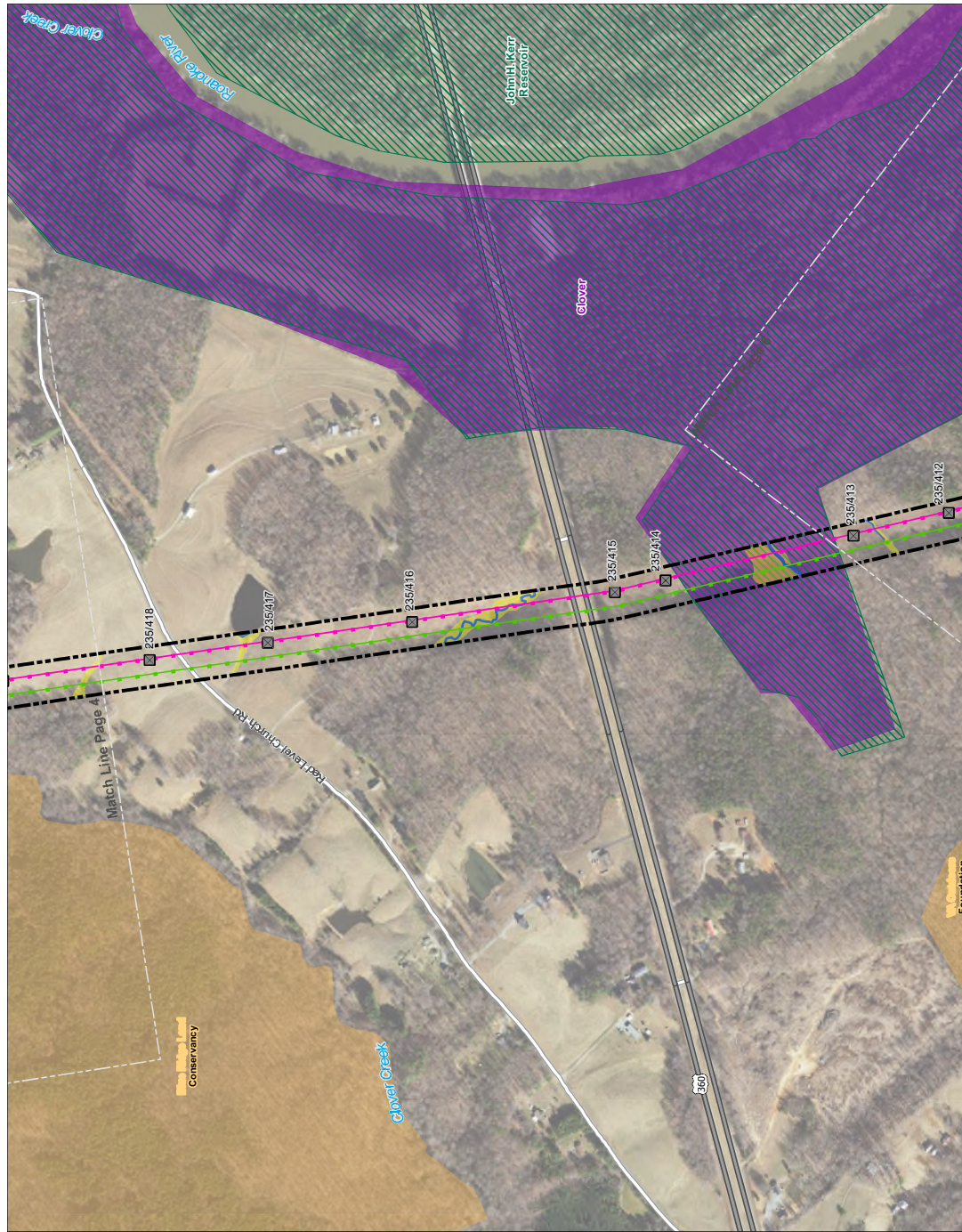
Client/Project  
Dominion Energy Virginia  
Line #235 20kV Rebuild from  
Clover Substation to Structure #235/310  
Project Location  
Harrison, Middleburg, and Charlotte County, Virginia  
Prepared By: MACE on 2023-03-27  
Revised By: MACE on 2023-03-27  
2023-03-27 10:00 AM



- Existing Structures
- Project Limits
- Approximate PEM/PSS Wetland - Low Probability
- Approximate Open Water
- Approximate Stream
- Conservation Lands
- Conservation Easement
- Section 408 Resource
- Existing Dominion Transmission Line #235
- Existing Dominion Transmission Line #2204



MADE BY: Stantec, Inc. 10000 Guilford Road, Suite 100, Guilford, NC 27433  
 2. Data Sources: Stantec, Inc. 10000 Guilford Road, Suite 100, Guilford, NC 27433  
 3. Data Sources: Stantec, Inc. 10000 Guilford Road, Suite 100, Guilford, NC 27433  
 4. Data Sources: Stantec, Inc. 10000 Guilford Road, Suite 100, Guilford, NC 27433  
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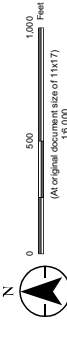


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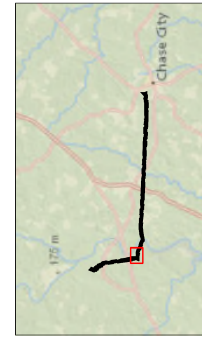


*TM0*  
**Environmental Constraints Map**

Client/Project  
Dominion Energy Virginia  
Line #235 230kV Rebuild from  
Clover Substation to Structure #235/310  
Project Location  
Halla, Mecklenburg, and Charlotte County, Virginia  
Prepared by MEK on 202-03-26  
TR by CDC on 202-03-27  
EC by KJP on 202-04-27  
202-011995



- | Existing Structures | Project Limits | Previously Confirmed Palustrine Emergent Wetland Limits (PEM) | Approximate PEMPSS Wetland - High Probability | Approximate PEMPSS Wetland - Medium Probability | Approximate PEMPSS Wetland - Low Probability | Approximate Stream | Conservation Lands | Archaeological Resources | Conservation Easement | Section 408 Resource | Existing Dominion Transmission Line #235 | Existing Dominion Transmission Line #433 | Existing Dominion Transmission Line #2204 |
|---------------------|----------------|---------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------|----------------------------------------------|--------------------|--------------------|--------------------------|-----------------------|----------------------|------------------------------------------|------------------------------------------|-------------------------------------------|
|                     |                |                                                               |                                               |                                                 |                                              |                    |                    |                          |                       |                      |                                          |                                          |                                           |

[illegible]

Page 18 of 21

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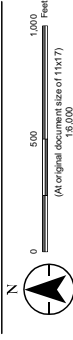


Figure No.  
II.A.2

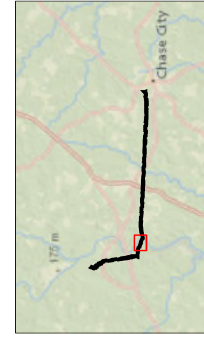
# Environmental Constraints Map

Client/Project  
Dominion Energy Virginia  
Line #235 20kV Rebuild from  
Cover Substation to Structure #235/310  
Project Location  
Harrison, Middleburg, and Charlotte County, Virginia  
Prepared by MDC on 2023-03-27  
R1 by CDC on 2023-03-27  
235/310 to 235/310

20240109



- Existing Structures
- Project Limits
- Previously Confirmed Pasture
- Emergent Wetland Limits (PEM)
- Previously Confirmed Intermittent Stream Channel Limits (R4)
- Previously Confirmed Ephemeral Stream Channel Limits (R6)
- Approximate PEWPSS Wetland - High Probability
- Approximate PEWPSS Wetland - Medium Probability
- Approximate Stream
- Conservation Lands
- Archaeological Resources
- Conservation Easement
- Section 408 Resource
- Existing Dominion Transmission Line #235
- Existing Dominion Transmission Line #43



NOTES:  
1. This map was prepared using data provided by the Virginia Department of Transportation (VDOT) and the Virginia Department of Conservation and Forestry (VDCF).  
2. Data Source: Stantec, Dominion Energy Virginia, VDOT, USGS, and other sources. Stantec requests data provided by VDOT and VDCF to be used for the purpose of this map only. Stantec does not warrant the accuracy or completeness of the data provided by VDOT and VDCF.  
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6. The map is not to be used for any purpose other than the one for which it was prepared.



Page 7 of 11



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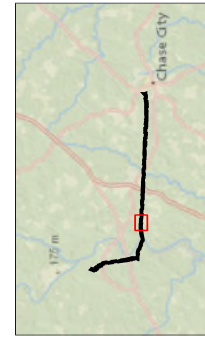
Figure No.  
II.A.2

**Environmental Constraints Map**

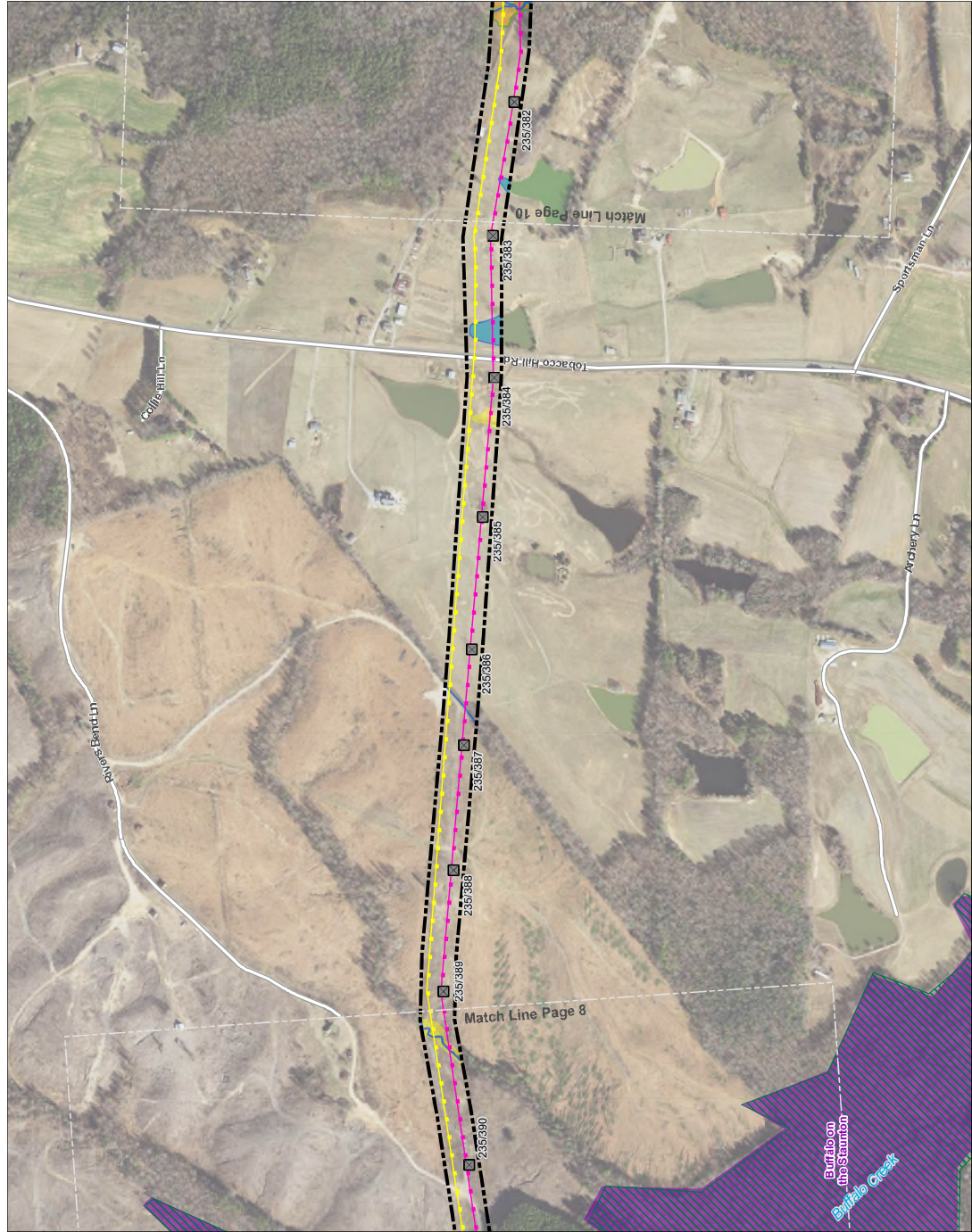
Client/Project  
Dominion Energy Virginia  
Line #235 20kV Rebuild from  
Cover Substation to Structure #235/310  
Project Location  
Harrison, Middleburg, and Charlotte County, Virginia  
Prepared by M&E on 2023.03.09  
Rt by CDE on 2023.03.27  
235/310 to 235/320



- Existing Structures
- Project Limits
- Approximate PEWPSS Wetland - Medium Probability
- Approximate PEWPSS Wetland - Low Probability
- Approximate Open Water
- Approximate Stream
- Conservation Easement
- Section 408 Resource
- Existing Dominion Transmission Line #235
- Existing Dominion Transmission Line #33



NOTES:  
1. This map was prepared using the following data sources:  
2. Data Source: Stantec, Dominion Energy Virginia, USGS, and other public domain data.  
3. Data Source: Stantec, Dominion Energy Virginia, USGS, and other public domain data.  
4. Data Source: Stantec, Dominion Energy Virginia, USGS, and other public domain data.  
5. Data Source: Stantec, Dominion Energy Virginia, USGS, and other public domain data.  
6. Data Source: Stantec, Dominion Energy Virginia, USGS, and other public domain data.  
7. Data Source: Stantec, Dominion Energy Virginia, USGS, and other public domain data.  
8. Data Source: Stantec, Dominion Energy Virginia, USGS, and other public domain data.  
9. Data Source: Stantec, Dominion Energy Virginia, USGS, and other public domain data.  
10. Data Source: Stantec, Dominion Energy Virginia, USGS, and other public domain data.



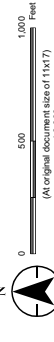
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Figure No.  
II.A.2

# Environmental Constraints Map

Client/Project  
Dominion Energy Virginia  
Lower Peninsula  
Line #235 20kV Rebuild from  
Cover Substation to Structure #235/310  
Project Location  
Halifax, Middleburg, and Charlotte County, Virginia  
Prepared By: MACE on 2023-03-27  
Revised By: MACE on 2023-03-27  
2023-03-27 10:47:17 AM



- Existing Structures
- Project Limits
- Approximate PEIWPSS Wetland - High Probability
- Approximate PEIWPSS Wetland - Medium Probability
- Approximate PEIWPSS Wetland - Low Probability
- Approximate Open Water
- Approximate Stream
- Gas Line
- Existing Dominion Transmission Line #235
- Existing Dominion Transmission Line #33



NOTE:  
1. This map was prepared using data provided by the Virginia Department of Transportation (VDOT) and the Virginia Department of Forestry (VDOF). The data was provided to Stantec by Dominion Energy Virginia (DEV) on 2023-03-27.  
2. Data Source: Stantec, Dominion Energy Virginia (DEV), USGS, ESRI, and other sources. The data was provided to Stantec by Dominion Energy Virginia (DEV) on 2023-03-27.  
3. The map shows the project limits and environmental constraints. The project limits are shown in black. The environmental constraints are shown in various colors: green for high probability wetlands, yellow for medium probability wetlands, and blue for low probability wetlands. The map also shows the existing Dominion Transmission Line #235 and #33, and the gas line.  
4. The map was prepared using data provided by the Virginia Department of Transportation (VDOT) and the Virginia Department of Forestry (VDOF). The data was provided to Stantec by Dominion Energy Virginia (DEV) on 2023-03-27.  
5. The map shows the project limits and environmental constraints. The project limits are shown in black. The environmental constraints are shown in various colors: green for high probability wetlands, yellow for medium probability wetlands, and blue for low probability wetlands. The map also shows the existing Dominion Transmission Line #235 and #33, and the gas line.

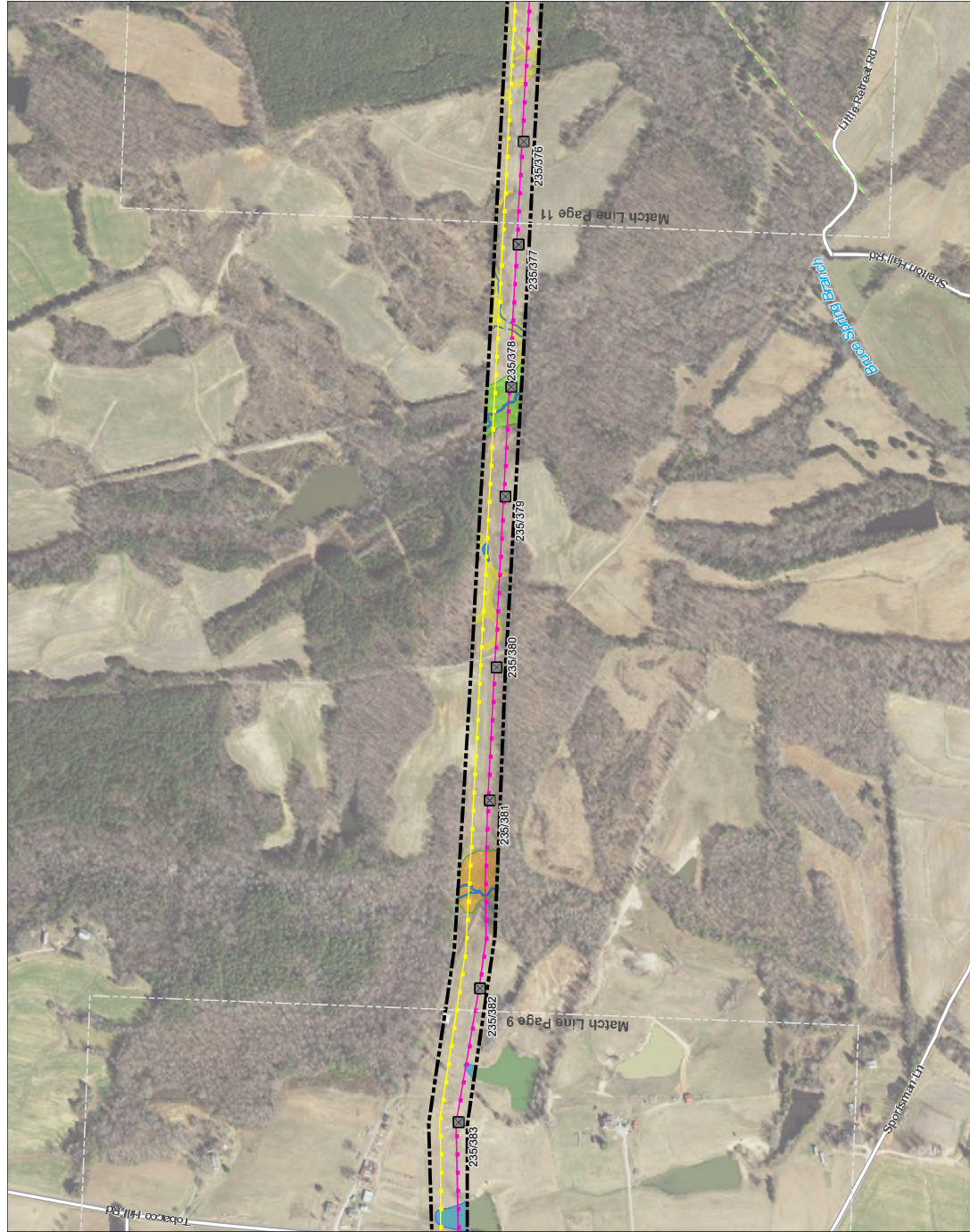
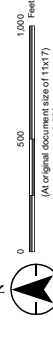




Figure No.  
II.A.2

# Environmental Constraints Map

Client/Project  
Dominion Energy Virginia  
Utility  
Line #235 20kV Rebuild from  
Cover Substation to Structure #235/310  
Project Location  
Harrison, Middleburg, and Charlotte County, Virginia  
Prepared By MACE on 2023-03-27  
Revised by CDC on 2023-03-27  
2023-03-27 10:00 AM



- Existing Structures
- Project Limits
- Approximate PEM/PSS Wetland - High Probability
- Approximate PEM/PSS Wetland - Low Probability
- Approximate Stream
- Gas Line
- Existing Dominion Transmission Line #235
- Existing Dominion Transmission Line #433



MADE: This map was created using the following data sources:  
1. Data Source: Stantec, Charlotte County, Virginia, DOG US EA, 2023. Stantec requests data provided by Virginia Department of Transportation (VDOT) and other agencies to be used as reference and not for construction. Stantec is not responsible for the accuracy of the data provided by these agencies.  
2. Data Source: Stantec, Charlotte County, Virginia, DOG US EA, 2023. Stantec requests data provided by Virginia Department of Transportation (VDOT) and other agencies to be used as reference and not for construction. Stantec is not responsible for the accuracy of the data provided by these agencies.  
3. Data Source: Stantec, Charlotte County, Virginia, DOG US EA, 2023. Stantec requests data provided by Virginia Department of Transportation (VDOT) and other agencies to be used as reference and not for construction. Stantec is not responsible for the accuracy of the data provided by these agencies.  
4. Data Source: Stantec, Charlotte County, Virginia, DOG US EA, 2023. Stantec requests data provided by Virginia Department of Transportation (VDOT) and other agencies to be used as reference and not for construction. Stantec is not responsible for the accuracy of the data provided by these agencies.  
5. Data Source: Stantec, Charlotte County, Virginia, DOG US EA, 2023. Stantec requests data provided by Virginia Department of Transportation (VDOT) and other agencies to be used as reference and not for construction. Stantec is not responsible for the accuracy of the data provided by these agencies.  
6. Data Source: Stantec, Charlotte County, Virginia, DOG US EA, 2023. Stantec requests data provided by Virginia Department of Transportation (VDOT) and other agencies to be used as reference and not for construction. Stantec is not responsible for the accuracy of the data provided by these agencies.  
7. Data Source: Stantec, Charlotte County, Virginia, DOG US EA, 2023. Stantec requests data provided by Virginia Department of Transportation (VDOT) and other agencies to be used as reference and not for construction. Stantec is not responsible for the accuracy of the data provided by these agencies.  
8. Data Source: Stantec, Charlotte County, Virginia, DOG US EA, 2023. Stantec requests data provided by Virginia Department of Transportation (VDOT) and other agencies to be used as reference and not for construction. Stantec is not responsible for the accuracy of the data provided by these agencies.  
9. Data Source: Stantec, Charlotte County, Virginia, DOG US EA, 2023. Stantec requests data provided by Virginia Department of Transportation (VDOT) and other agencies to be used as reference and not for construction. Stantec is not responsible for the accuracy of the data provided by these agencies.  
10. Data Source: Stantec, Charlotte County, Virginia, DOG US EA, 2023. Stantec requests data provided by Virginia Department of Transportation (VDOT) and other agencies to be used as reference and not for construction. Stantec is not responsible for the accuracy of the data provided by these agencies.

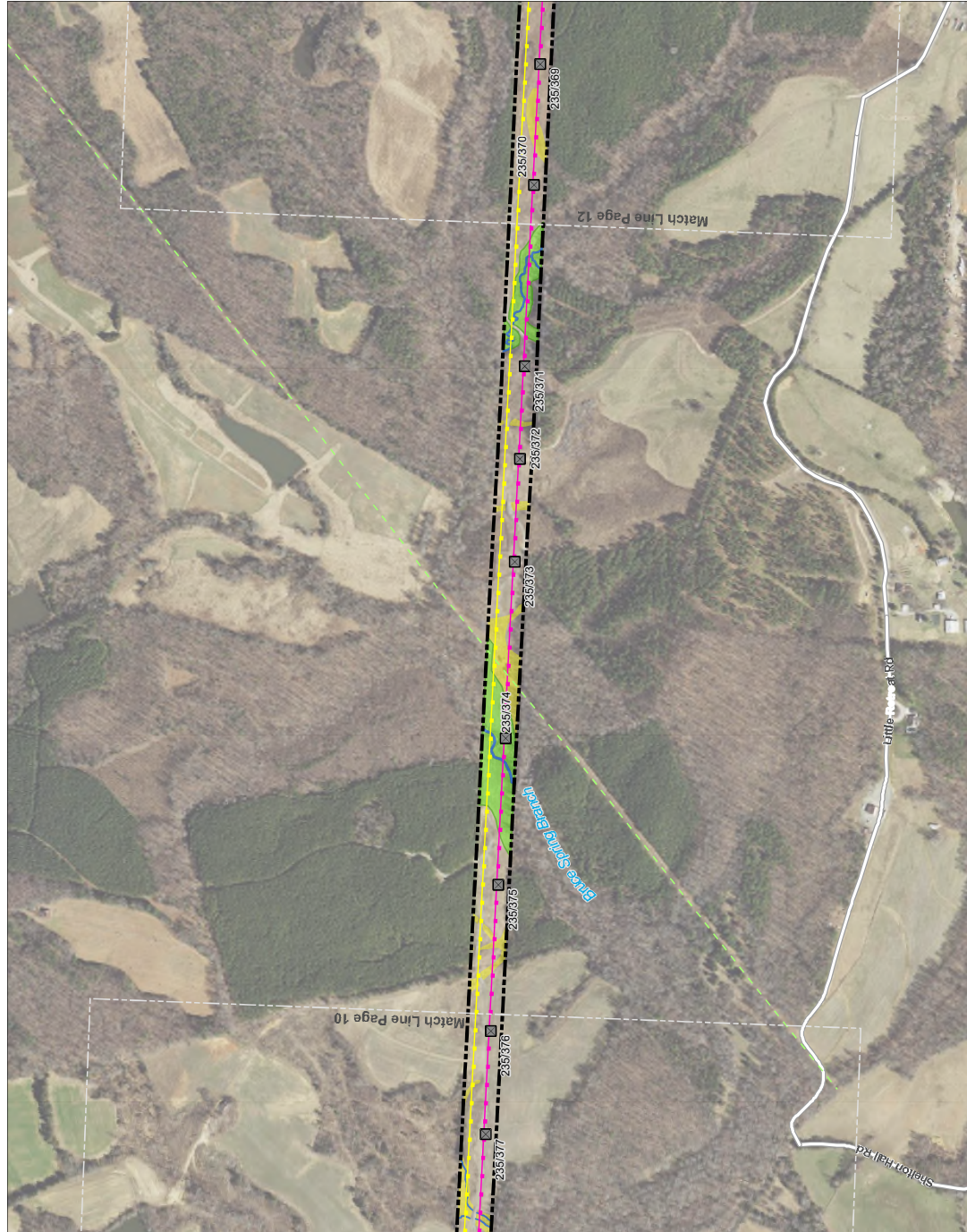


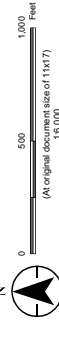


Figure No.  
II.A.2

Title  
**Environmental Constraints Map**

Client/Project  
Dominion Energy Virginia  
Project Name  
Line #235 20kV Rebuild from  
Cover Substation to Structure #235/310  
Project Location  
Harrison, Loudoun, and Fairfax County, Virginia  
Prepared By  
MARC on 2023-03-27  
Reviewed By  
JES on 2023-03-27

20240109



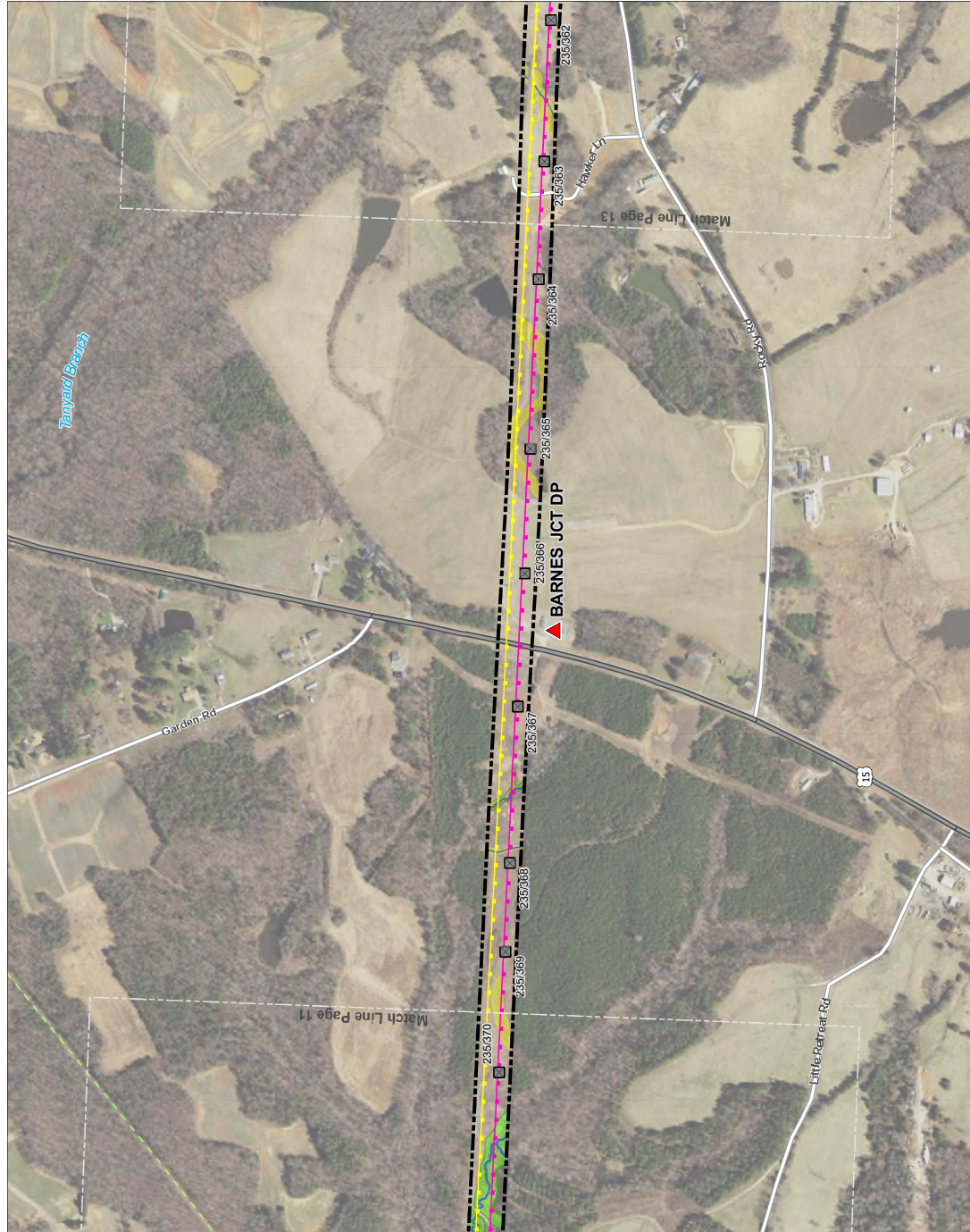
- Substation
- Existing Structures
- Project Limits
- Approximate PEMPSS Wetland - High Probability
- Approximate PEMPSS Wetland - Medium Probability
- Approximate PEMPSS Wetland - Low Probability
- Approximate Open Water
- Approximate Stream
- Gas Line
- Existing Dominion Transmission Line
- #235
- Existing Dominion Transmission Line
- #433



NOTES:  
1. This map was prepared using data provided by the Virginia Department of Transportation (VDOT) and the Virginia Department of Forestry (VDOF).  
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Page 12 of 21

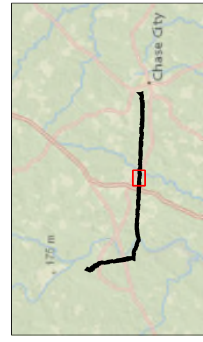


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Environmental Constraints Map

- | Existing Structures                                                               | Project Limits                                                                    | Approximate PEWPPSS Wetland - High Probability                                    | Approximate PEWPPSS Wetland - Medium Probability                                  | Approximate PEWPPSS Wetland - Low Probability                                     | Approximate Open Water                                                            | Approximate Stream                                                                | Existing Dominion Transmission Line #235                                          | Existing Dominion Transmission Line #43                                           |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |

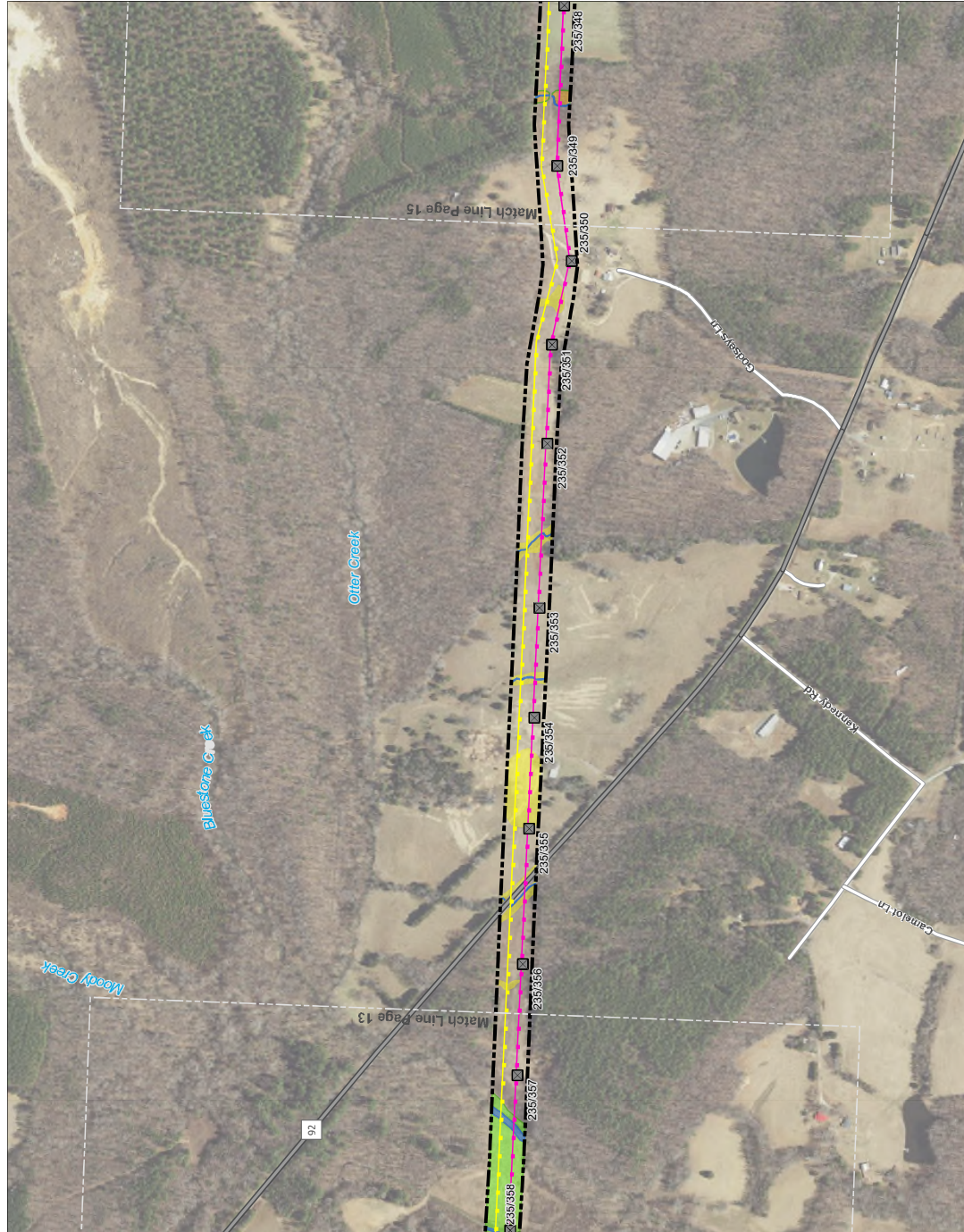
[illegible]



- 
- A map of the study area showing the location of the study site (red box) relative to Chase City and 175 m.



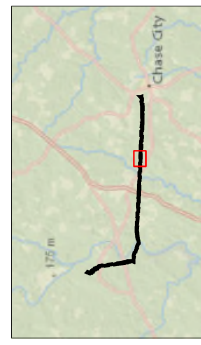
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Environmental Constraints Map

- 
- College/University, School  
 Existing Structures  
 Project Limits  
 Approximate PEMPPS Wetland - High Probability  
 Approximate PEMPPS Wetland - Medium Probability  
 Approximate PEMPPS Wetland - Low Probability  
 Approximate Open Water  
 Approximate Stream  
 Conservation Lands  
 Existing Dominion Transmission Line #235  
 Existing Dominion Transmission Line #33



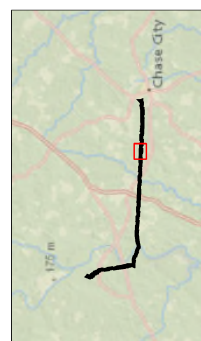
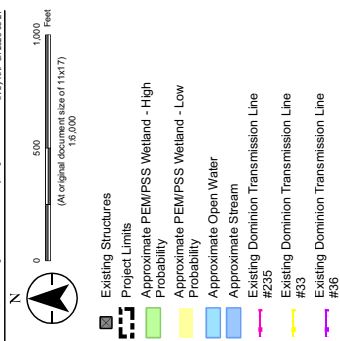
**Acknowledgments**





## Environmental Constraints Map

|                                                                                                     |                                                                                       |
|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Client/Project                                                                                      | 203-401993                                                                            |
| Dominion Energy Virginia<br>Line #235 230kV Rebuild from<br>Clover Substation to Structure #235/310 |                                                                                       |
| Project Location                                                                                    | Prepared by MEK on 2023-03-26<br>TR by CDC on 2023-03-27<br>Int by kyle on 2023-06-27 |
| Harris, Mecklenburg, and Charlotte County, Virginia                                                 |                                                                                       |



**Address:** U.S. Census Bureau, 445 North Capitol Street, NE, Washington, DC 20540-6002, USA  
**Telephone:** 202-452-4822  
**Fax:** 202-452-4822  
**E-mail:** [maria.hernandez@hhs.gov](mailto:maria.hernandez@hhs.gov)  
**Web site:** <http://www.hhs.gov/ashpr/themes/pubs/2007/pub07002.htm>



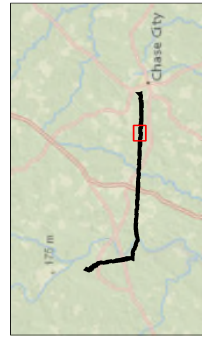
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Environmental Constraints Map

- 
- Existing Structures  
Project Limits  
Approximate PEMPS Wetland - Low Probability  
Approximate Stream  
Existing Dominion Transmission Line #235  
Existing Dominion Transmission Line #33  
Existing Dominion Transmission Line #36



**Notes**

1. Coordinate System: NAD 83; ScaleFoot: Virginia State FIPS 402 Feet
2. Data Sources: Stennis, Dominion Energy, Virginia, DOR, USA, ESRI, Historic resource data provided by Virginia Department of Historic Resources, Virginia Geographic Information System (VGIS). Only archaeological resources within the ROW, archaeological resources not listed on NHP and not listed within one (1) mile within 0.5 mile of the roadway are shown.
3. National Wetlands Inventory (NWI) data was derived from a data set provided within one (1) mile of the roadway.
4. Wetland and riparian areas were identified using USFWS National Wetlands Database (NWD).
5. The limits of previously disturbed and confirmed wetlands and surface waters are indicated as indicated. These include NAD-2011-2020 and NAD-2020-2040. At remaining limits of potential wetlands and surface waters have been identified using designating agency techniques and have not been confirmed of field or design and are for planning purposes only.
6. A QGIS-based Virginia Geographic Information Network (VGIN) and Background map were used.

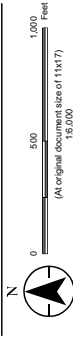




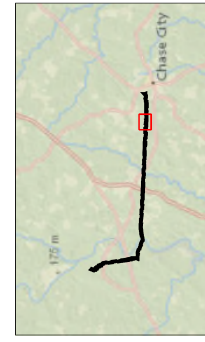
Figure No.  
II.A.2

# Environmental Constraints Map

Client/Project  
Dominion Energy Virginia  
Line #235 280KV Rebuild from  
Cover Substation to Structure #235/310  
Project Location  
Halifax, Mecklenburg, and Charlotte County, Virginia  
Prepared by MDC on 2023-03-27  
Revised by MDC on 2023-03-27  
2023-03-27 10:00 AM



- Substation
- Existing Structures
- Project Limits
- Previously Confirmed Palustrine
- Emergent Wetland Limits (PEM)
- Approximate PEM/PSS Wetland -
- Medium Probability
- Approximate PEM/PSS Wetland - Low
- Probability
- Approximate Open Water
- Approximate Stream
- Existing Dominion Transmission Line
- #235
- Existing Dominion Transmission Line
- #33
- Existing Dominion Transmission Line
- #36
- Existing Dominion Transmission Line
- #1050



NOTES:  
1. This map was prepared using the following data sources:  
2. Data Source: Stantec, Charlotte Energy, Virginia, DOI, US EPA, USGS, etc. (as requested data provided by Virginia Department of Environmental Quality, and other sources as needed).  
3. The map shows the proposed project location and the environmental constraints identified. The map is not a guarantee of the accuracy of the information shown. The map is for informational purposes only. The map is not to be used for any other purpose without the written consent of Stantec.  
4. The map is not a guarantee of the accuracy of the information shown. The map is for informational purposes only. The map is not to be used for any other purpose without the written consent of Stantec.  
5. The map is not a guarantee of the accuracy of the information shown. The map is for informational purposes only. The map is not to be used for any other purpose without the written consent of Stantec.  
6. The map is not a guarantee of the accuracy of the information shown. The map is for informational purposes only. The map is not to be used for any other purpose without the written consent of Stantec.









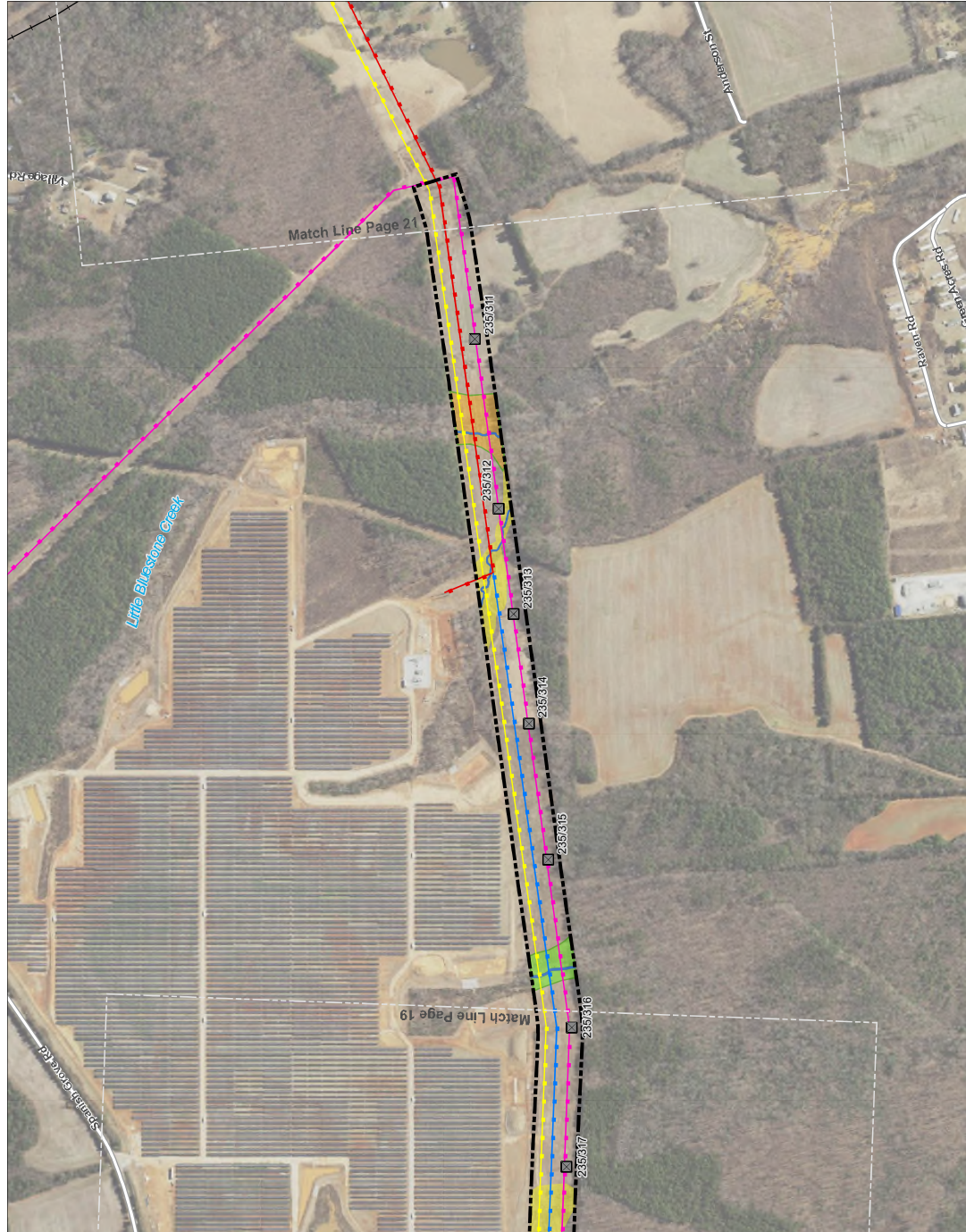
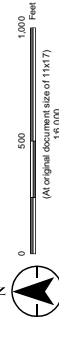




Figure No.  
II.A.2

# Environmental Constraints Map

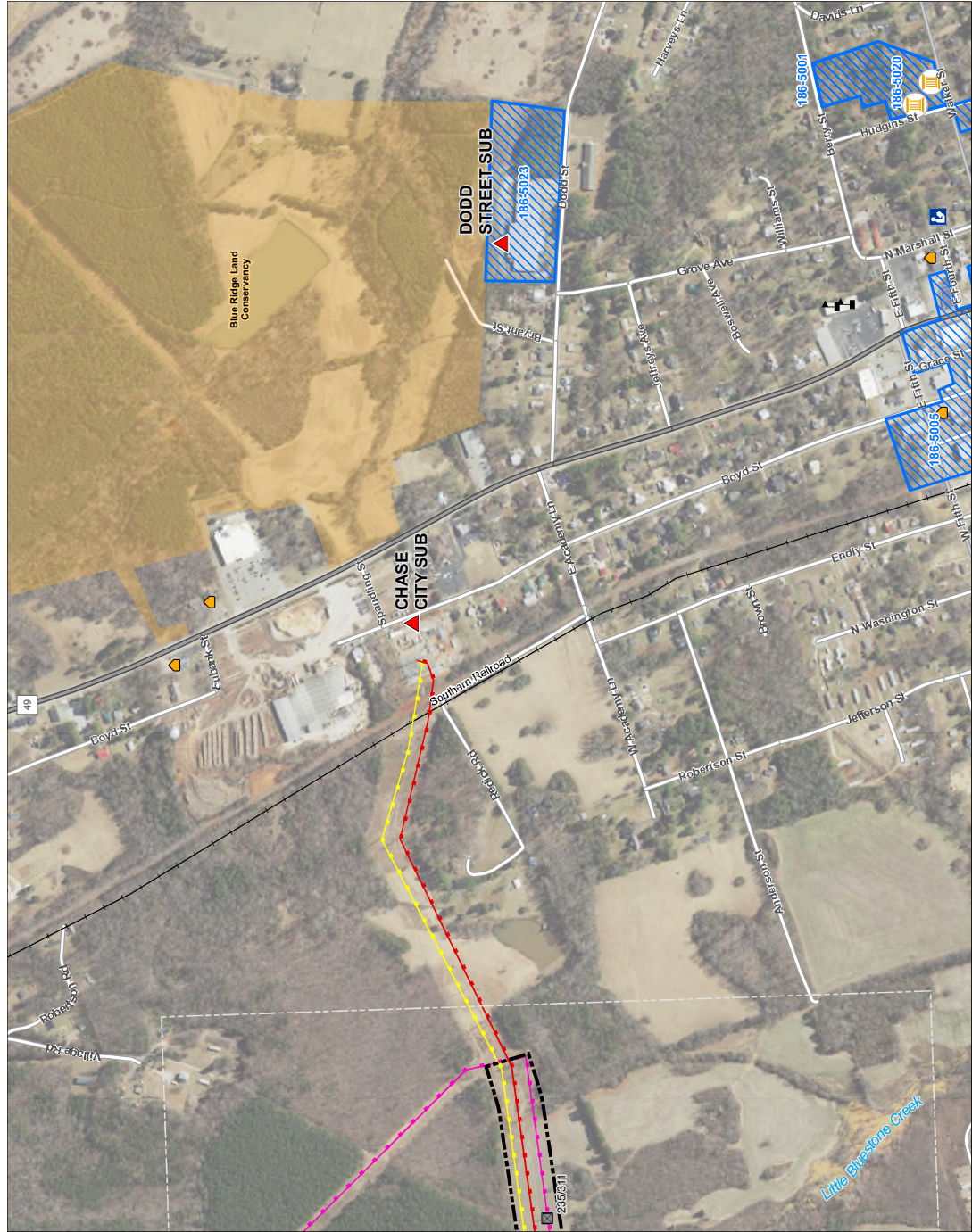
Client/Project  
Dominion Energy Virginia  
Utility  
Line #235 280kV Rebuild from  
Cover Substation to Structure #235/310  
Project Location  
Halifax, Mecklenburg, and Charlotte County, Virginia  
Prepared by M&E on 2023-03-27  
By: CDE on 2023-03-27  
2023-03-27 10:47:23 AM



- Substation
- College/University, School
- Library
- Museum
- Place of Worship
- Existing Structures
- Project Limits
- Conservation Lands
- Architectural Resource
- Railroad
- Existing Dominion Transmission Lines
- 10277/0530 are Collocated
- Existing Dominion Transmission Line
- #235
- Existing Dominion Transmission Line
- #533



Notes:  
1. This map was prepared using data provided by the Virginia Department of Transportation (VDOT) and the Virginia Department of Historic Resources (VDHR).  
2. Data Source: Stantec, Dominion Energy Virginia, USGS, ESRI, and other sources.  
3. The map shows the proposed project location and existing infrastructure.  
4. The map is for informational purposes only and does not constitute a contract.  
5. The map is subject to change without notice.  
6. The map is not to be used for any other purpose without the written consent of Stantec.



## **II. DESCRIPTION OF THE PROPOSED PROJECT**

### **A. Right-of-way (“ROW”)**

- 3. Provide a separate color map of a suitable scale showing all the Applicant’s transmission line ROWs, either existing or proposed, in the vicinity of the proposed project.**

Response: See Attachments I.G.1 and I.G.2.

## **II. DESCRIPTION OF THE PROPOSED PROJECT**

### **A. Right-of-way (“ROW”)**

- 4. To the extent the proposed route is not entirely within existing ROW, explain why existing ROW cannot adequately service the needs of the Applicant.**

Response: Not applicable. The Rebuild Project is located within existing rights-of-way or on Company-owned property, and no additional rights-of-way are needed.

## **II. DESCRIPTION OF THE PROPOSED PROJECT**

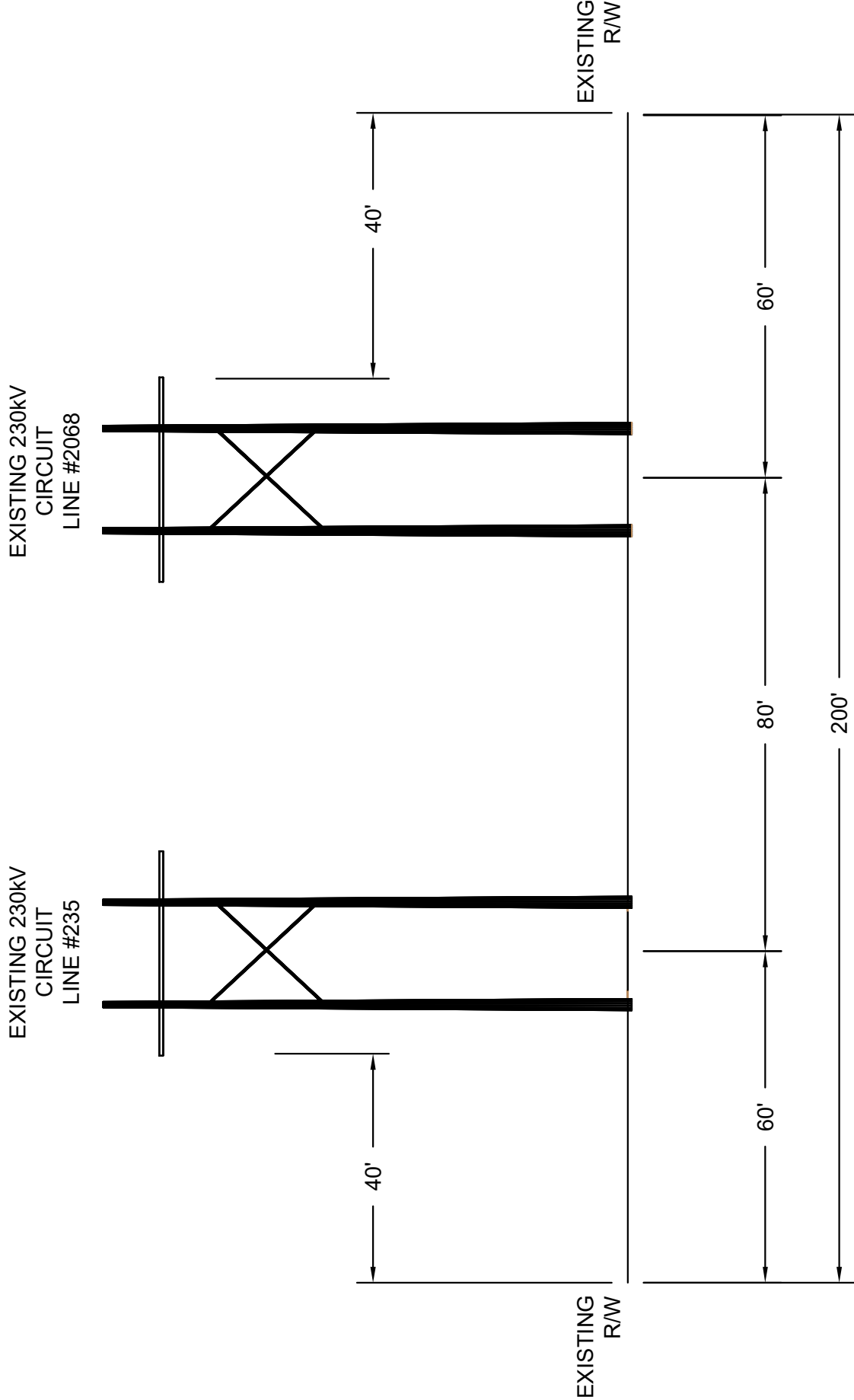
### **A. Right-of-way (“ROW”)**

- 5. Provide drawings of the ROW cross section showing typical transmission line structure placements referenced to the edge of the ROW. These drawings should include:**
  - a. ROW width for each cross section drawing;**
  - b. Lateral distance between the conductors and edge of ROW;**
  - c. Existing utility facilities on the ROW; and**
  - d. For lines being rebuilt in existing ROW, provide all of the above (i) as it currently exists, and (ii) as it will exist at the conclusion of the proposed project.**

Response: See Attachments II.A.5.i through II.A.5.viii.

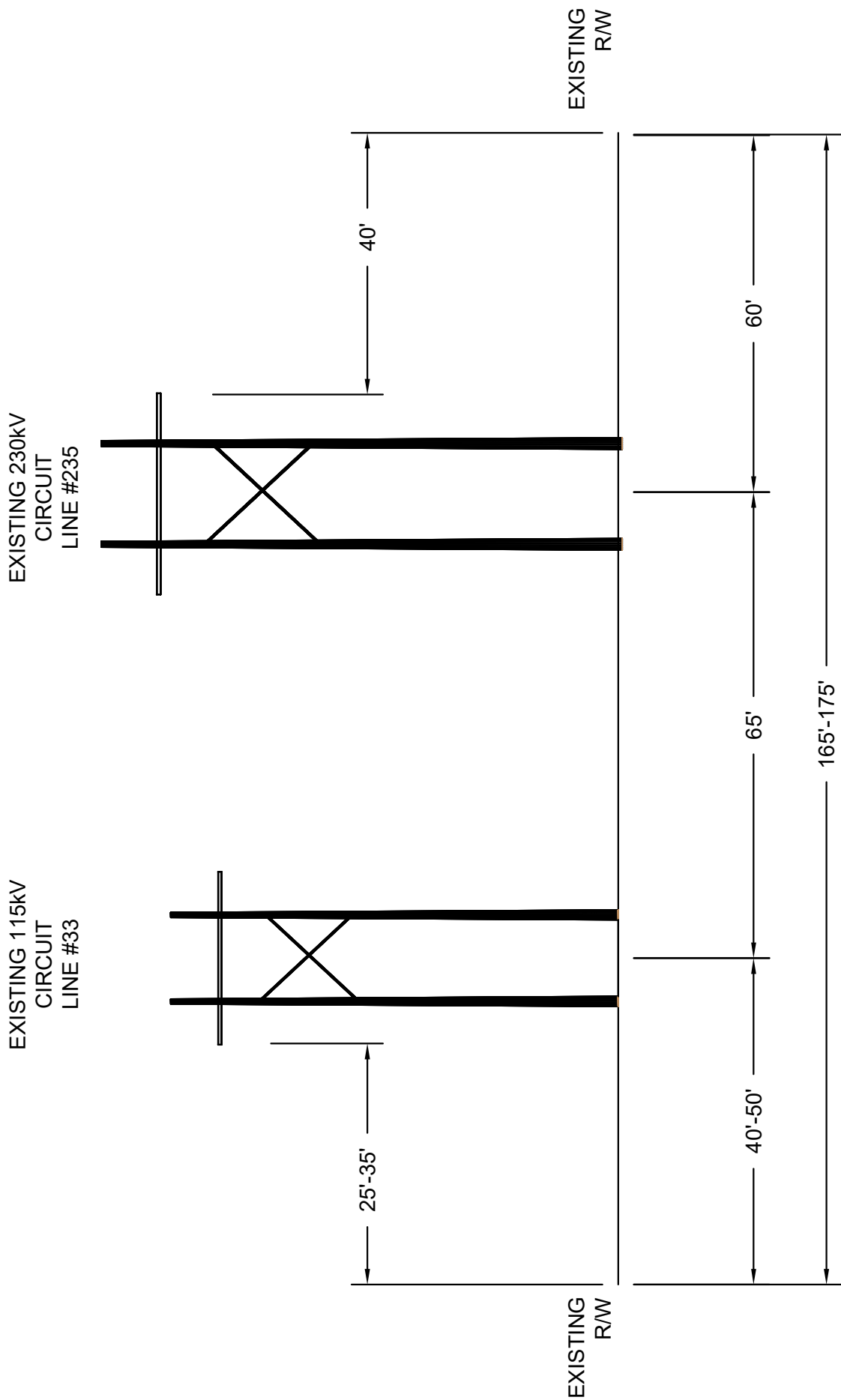


LINE #2068, 2068/386-2068/409  
LINE #235, 235/431-235/408A  
EXISTING CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING TOWARD CHASE CITY  
NOTE: INFORMATION CONTAINED ON DRAWING IS CONSIDERED PRELIMINARY IN NATURE AND SUBJECT TO CHANGE BASED ON FINAL DESIGN

LINE #33, 33/519-33/589  
LINE #235, 235/408A-235/341  
EXISTING CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING TOWARD CHASE CITY  
 NOTE: INFORMATION CONTAINED ON DRAWING IS CONSIDERED PRELIMINARY IN NATURE AND SUBJECT TO CHANGE BASED ON FINAL DESIGN

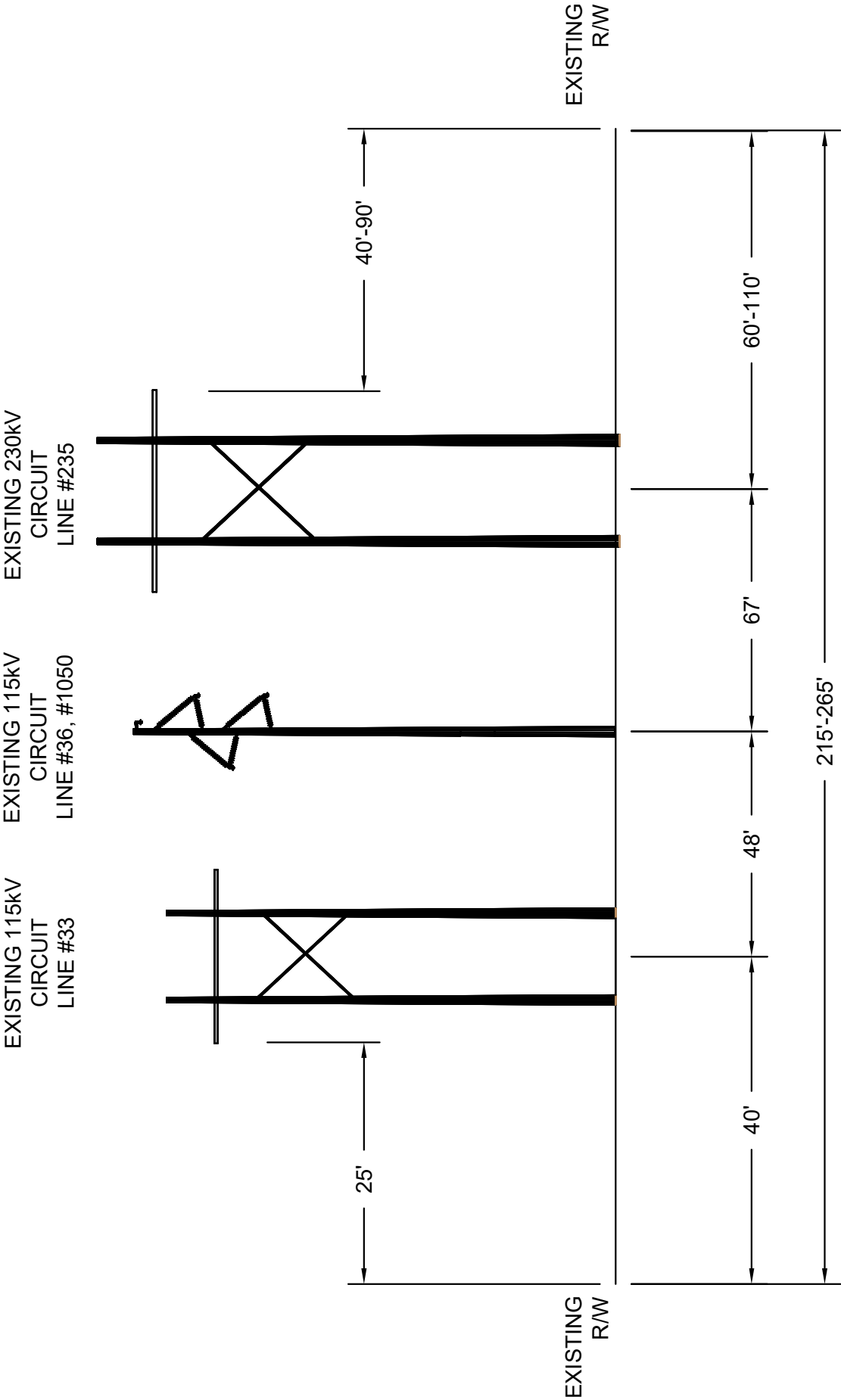
LINE #33, 33/590-33/619

LINE #36, 36/1062-33/1040

LINE #1050, 1050/1039-1050/1013

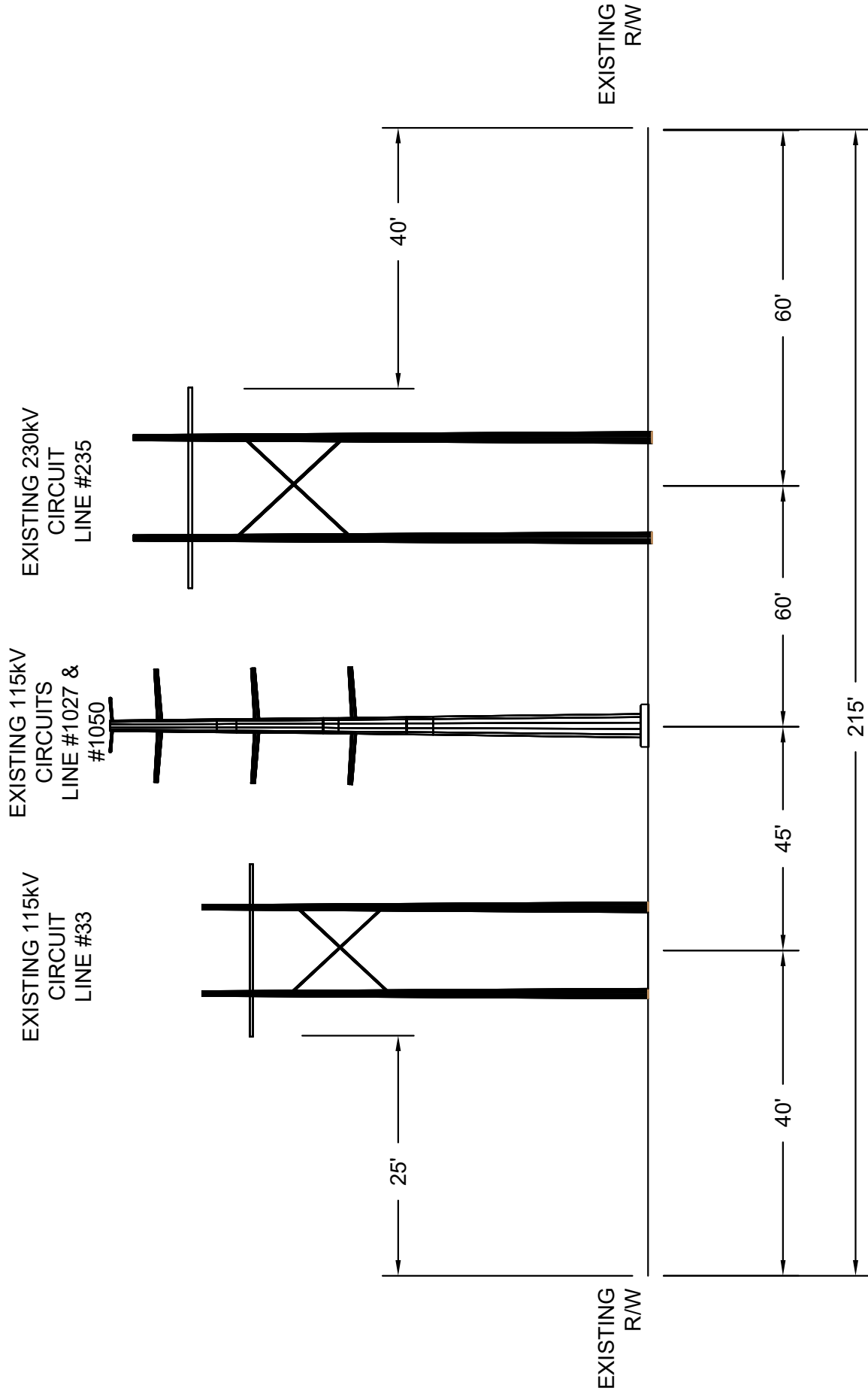
LINE #235, 235/340-235/313

EXISTING CONFIGURATION



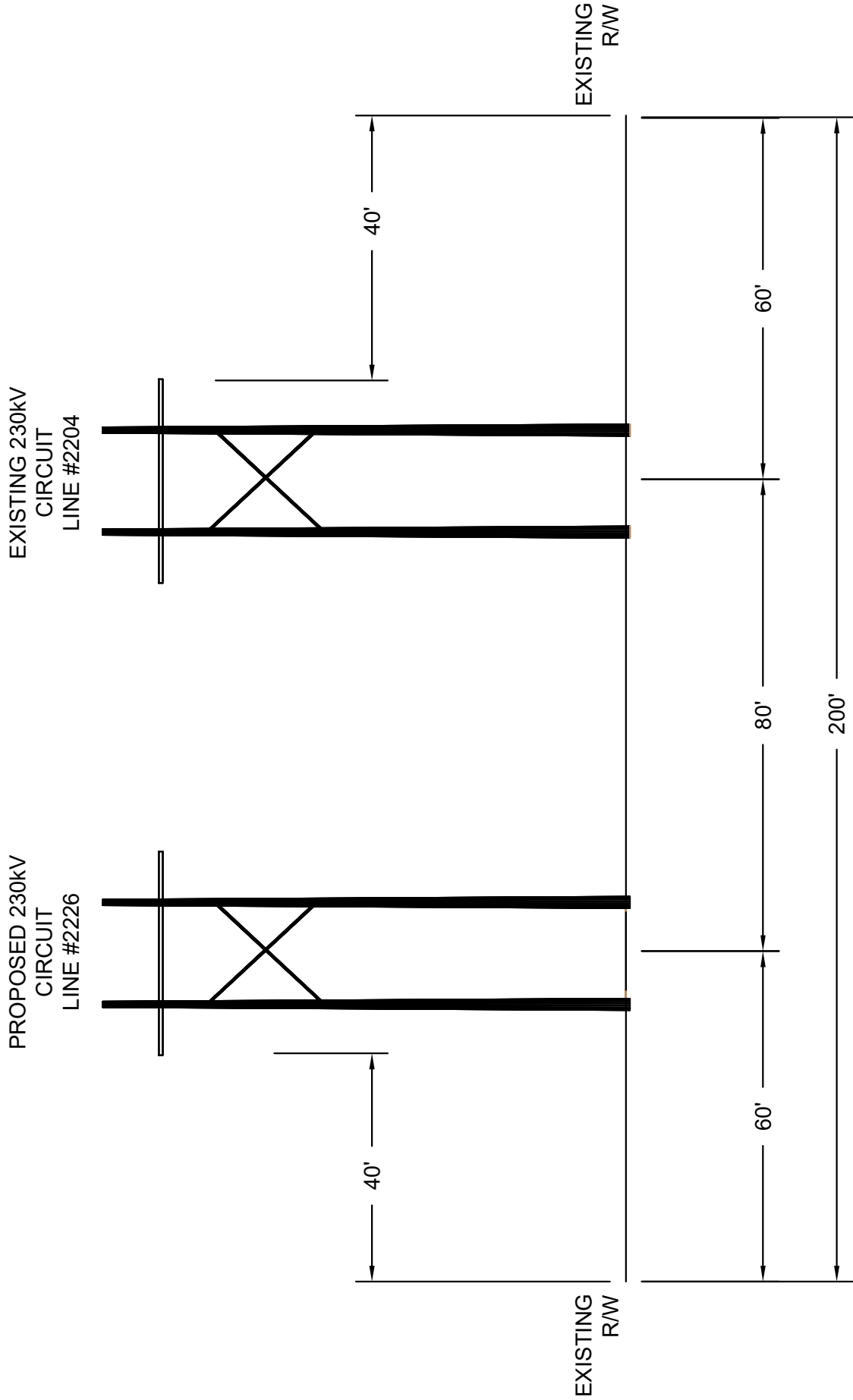
LINE #33, 33/620-33/623  
LINE #1050, 1050/1012-1050/1008  
LINE #1027, 1027/1012-1027/1008  
LINE #235, 235/312-235/310

EXISTING CONFIGURATION





LINE #2204, 2204/386-2204/409  
LINE #2226, 2226/431-2226/408A  
PROPOSED CONFIGURATION



62

Attachment II.A.5.v

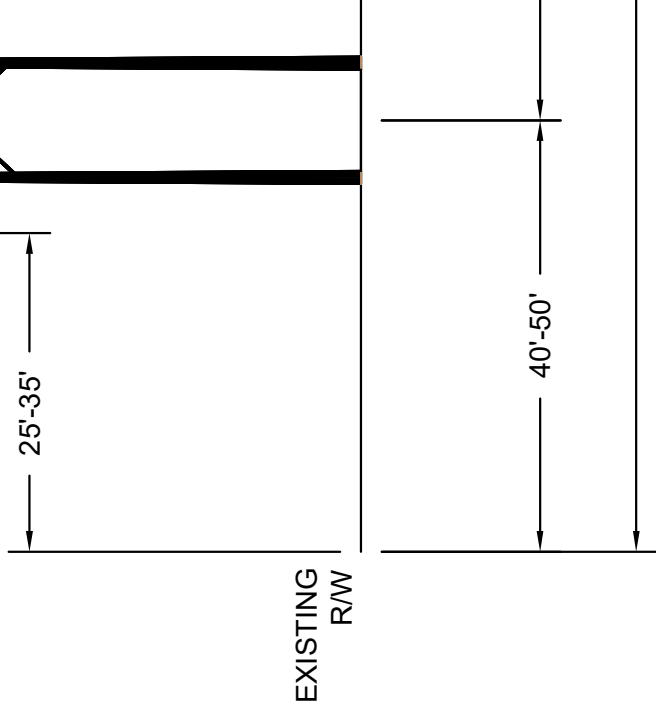
TYPICAL RIGHT OF WAY LOOKING TOWARD CHASE CITY

NOTE: INFORMATION CONTAINED ON DRAWING IS CONSIDERED PRELIMINARY IN NATURE AND SUBJECT TO CHANGE BASED ON FINAL DESIGN

LINE #33, 33/519-33/589  
LINE #2226, 2226/409-2226/341  
PROPOSED CONFIGURATION

EXISTING 115kV  
CIRCUIT  
LINE #33

PROPOSED 230kV  
CIRCUIT  
LINE #2226



EXISTING  
R/W

EXISTING  
R/W

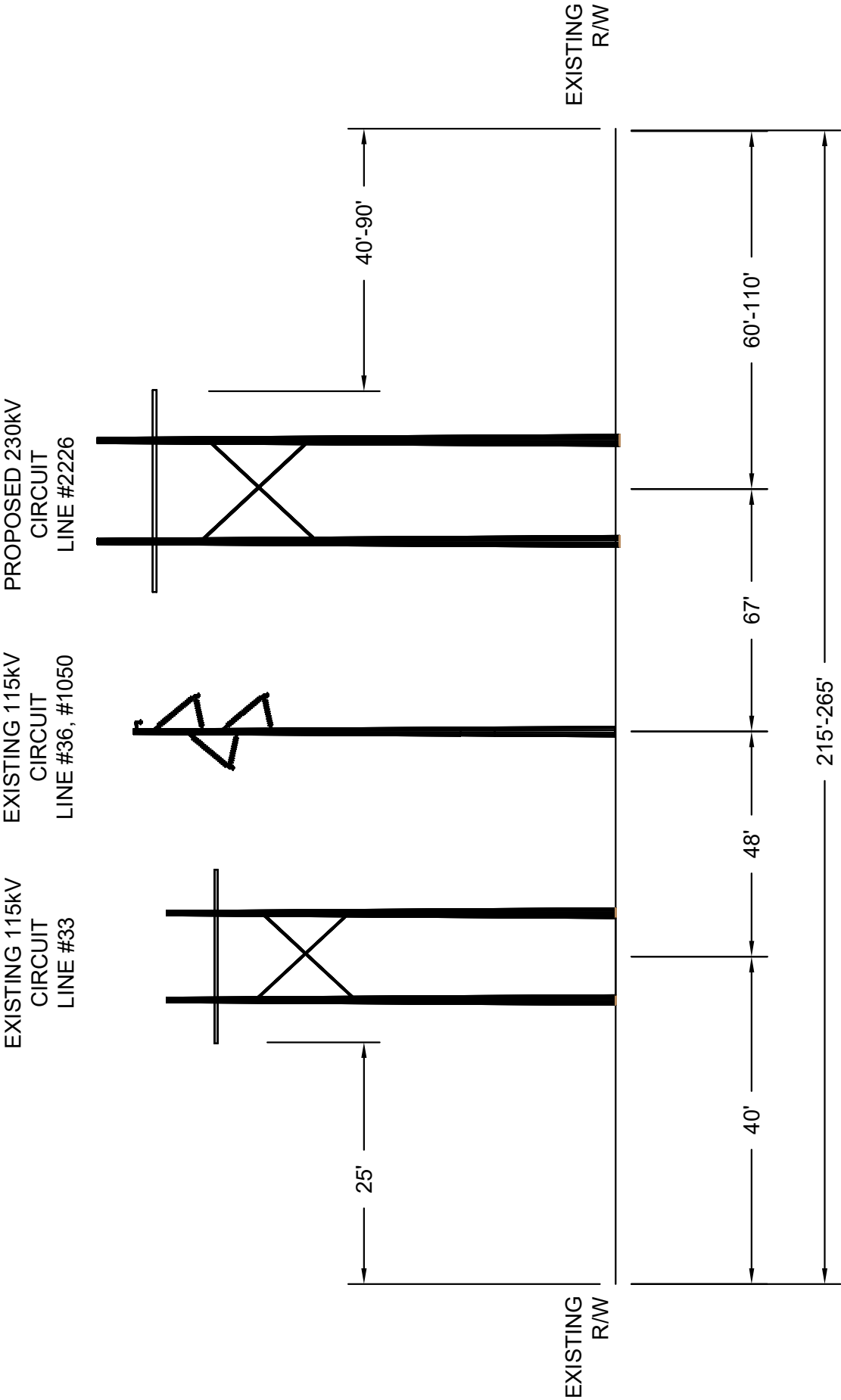
LINE #33, 33/590-33/619

LINE #36, 36/1062-33/1040

LINE #1050, 1050/1039-1050/1013

LINE #2226, 2226/340-2226/313

PROPOSED CONFIGURATION



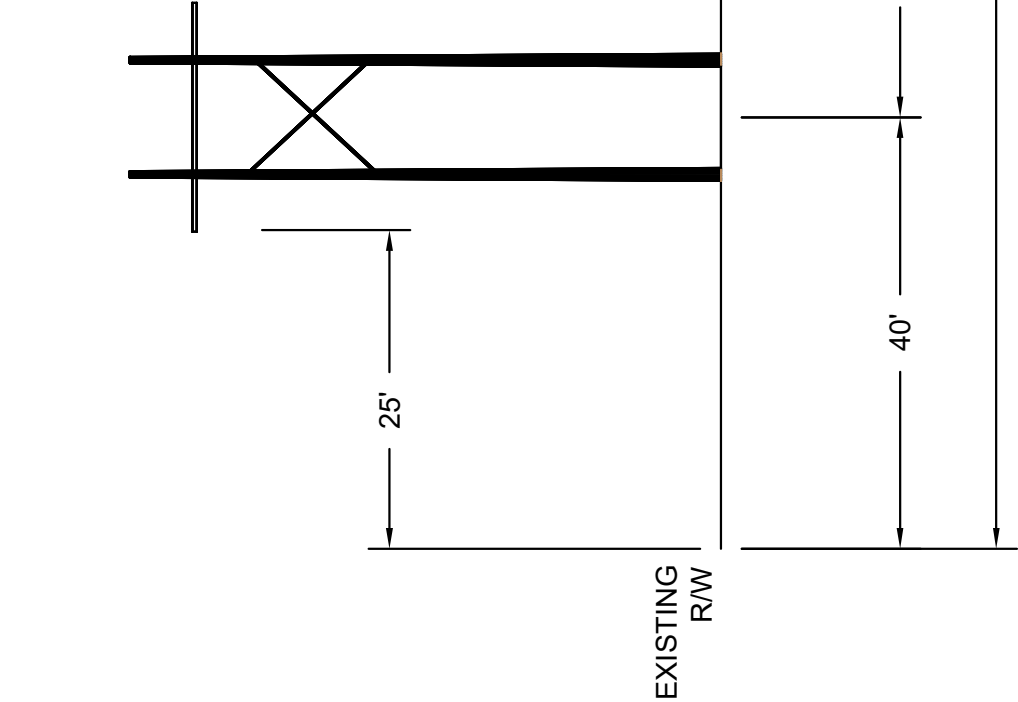
LINE #33, 33/620-33/623  
LINE #1050, 1050/1012-1050/1008  
LINE #1027, 1027/1012-1027/1008  
LINE #2226, 2226/312-2226/310

**PROPOSED CONFIGURATION**

EXISTING 115kV  
 CIRCUIT  
 LINE #33

EXISTING 115kV  
 CIRCUITS  
 LINE #1027 &  
 #1050

PROPOSED 230kV  
 CIRCUIT  
 LINE #2226





## **II. DESCRIPTION OF THE PROPOSED PROJECT**

### **A. Right-of-way (“ROW”)**

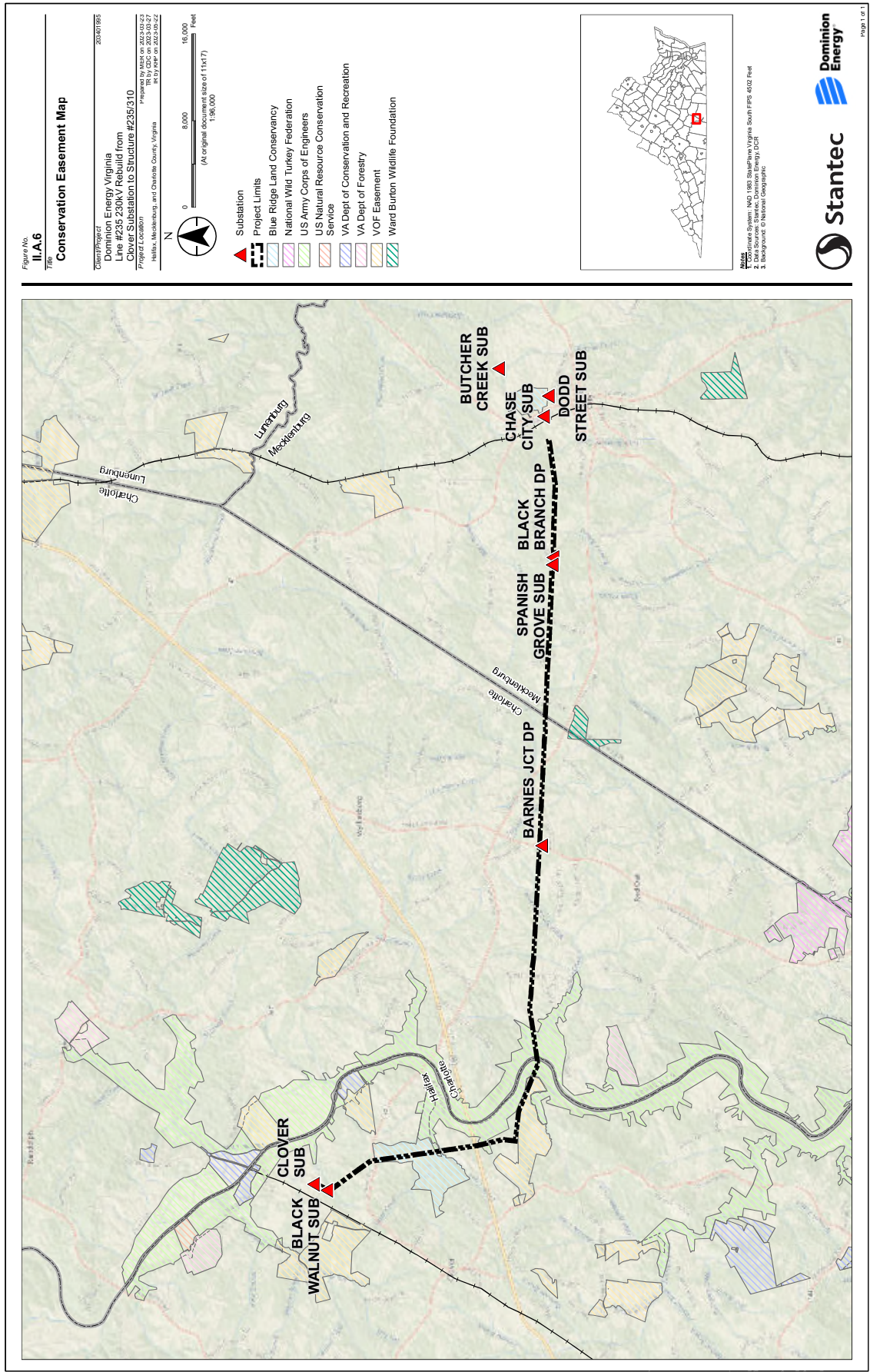
#### **6. Detail what portions of the ROW are subject to existing easements and over what portions new easements will be needed.**

Response: The Company obtained most of its easements along the existing right-of-way of the Project corridor in 1925 and 1974. The Company does not anticipate that new easements will be required, as the Rebuild Project is within existing rights-of-way or on Company-owned property.

The existing line intersects the following easements held by others but established after the Company obtained easements:

- For approximately 0.8 miles, the existing right-of-way intersects a Virginia Outdoors Foundation easement (HAL-VOF-4047) established in 2015; and
- For 1.16 miles, the existing right-of-way intersects a Blue Ridge Land Conservancy easement established in 2020.

Additionally, the existing right-of-way extends through 0.77 miles of the John H. Kerr Reservoir lands, managed by the U.S. Army Corps of Engineers (“Corps”), which was established prior to the Company’s construction of Line #235. Of this 0.77 miles, 0.48 miles has been designated by the Corps as the Buffalo on the Staunton Federal Wildlife Management Area. The existing right-of-way crosses the easements and facilities as depicted in Attachment II.A.6.



## II. DESCRIPTION OF THE PROPOSED PROJECT

### A. Right-of-way (“ROW”)

#### 7. **Detail the proposed ROW clearing methods to be used and the ROW restoration and maintenance practices planned for the proposed project.**

Response: The existing transmission line corridor, which varies from 165 to 265 feet, is currently cleared and maintained for operation of the existing transmission facilities.

Trimming of tree limbs along the edge of the right-of-way may be conducted to support construction activities for the Rebuild Project. For any such minimal clearing, trees will be cut to no more than three inches above ground level. Trees located outside of the right-of-way that are tall enough to potentially impact the transmission facilities, commonly referred to as “danger trees,” may also need to be cut. Danger trees will be cut to be no more than three inches above ground level, limbed, and will remain where felled. No grubbing of roots or stumps will occur. Debris that is adjacent to homes will be disposed of by chipping or removal. In other areas, debris may be mulched or chipped as practicable. Danger tree removal will be accomplished by hand or from equipment placed on mats in wetland areas and within 100 feet of streams, if applicable. Care will be taken not to leave debris in streams or wetland areas that may cause an impediment to the flow of water. No mulching will occur in wetlands. Erosion control devices will be used on an ongoing basis, as appropriate, during all clearing and construction activities.

Erosion control will be maintained and temporary stabilization for all soil-disturbing activities will be used until the right-of-way has been restored. Upon completion of the Rebuild Project, the Company will restore the right-of-way utilizing site rehabilitation procedures outlined in the Company’s General Erosion and Sedimentation Control Specifications for the Construction and Maintenance of Electric Transmission Lines that was approved by the Virginia Department of Environmental Quality (“DEQ”). Time of year and weather conditions may affect when permanent stabilization takes place.

Limited clearing or limbing may be required to accommodate construction access. Any clearing will be done in accordance with the Company’s Integrated Vegetation Management Plan (“IVMP”) practice with no grubbing of roots or stump materials. The remainder of the existing right-of-way is currently cleared and maintained.

The right-of-way will continue to be maintained on a regular cycle to prevent interruptions to electric service and provide ready access to the right-of-way in order to patrol and make emergency repairs. Periodic maintenance to control woody growth will consist of hand cutting, machine mowing and herbicide application.

Based on recommendations by the Virginia Department of Wildlife Resources (“DWR”), the Company will endeavor to adhere to the TOYRs for cutting trees and vegetation 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.



## **II. DESCRIPTION OF THE PROPOSED PROJECT**

### **A. Right-of-way (“ROW”)**

#### **8. Indicate the permitted uses of the proposed ROW by the easement landowner and the Applicant.**

Response: Any non-transmission use will be permitted that:

- Is in accordance with the terms of the easement agreement for the right-of-way;
- Is consistent with the safe maintenance and operation of the transmission lines;
- Will not restrict future line design flexibility; and
- Will not permanently interfere with future construction.

Subject to the terms of the easement, examples of typical permitted uses include but are not limited to:

- Agriculture;
- Hiking Trails;
- Fences;
- Perpendicular Road Crossings;
- Perpendicular Utility Crossings;
- Residential Driveways; and
- Wildlife / Pollinator Habitat.

## II. DESCRIPTION OF THE PROPOSED PROJECT

### A. Right-of-way (“ROW”)

9. **Describe the Applicant’s route selection procedures. Detail the feasible alternative routes considered. For each such route, provide the estimated cost and identify and describe the cost classification (e.g. “conceptual cost,” “detailed cost,” etc.). Describe the Applicant’s efforts in considering these feasible alternatives. Detail why the proposed route was selected and other feasible alternatives were rejected. In the event that the proposed route crosses, or one of the feasible routes was rejected in part due to the need to cross, land managed by federal, state, or local agencies or conservation easements or open space easements qualifying under §§ 10.1-1009 – 1016 or §§ 10.1-1700 – 1705 of the Code (or a comparable prior or subsequent provision of the Code), describe the Applicant’s efforts to secure the necessary ROW.**

Response: The Company’s route selection for transmission line rebuild projects begins with a review of the existing right-of-way. This approach generally minimizes impacts on the natural and human environments. This approach also is consistent with FERC Guideline #1 (included as Attachment 1 to Staff’s guidelines on transmission projects that require a CPCN), which states that existing rights-of-way should be given priority when adding new transmission facilities, and §§ 56-46.1 and 56-529 of the Code of Virginia, which promote the use of existing rights-of-way for new transmission facilities.

Because the existing right-of-way and Company-owned property are adequate to construct the Rebuild Project, no new right-of-way is necessary. Given no need for new right of way, the availability of existing right-of-way and the statutory preference given to the use of existing rights-of-way, and because additional costs and environmental impacts would be associated with the acquisition of and construction on new right-of-way, the Company did not consider any alternate routes requiring new right-of-way for this Rebuild Project.

The existing right-of-way crosses the easements and facilities listed in Section II.A.6 and as depicted on Attachment II.A.6.

## II. DESCRIPTION OF THE PROPOSED PROJECT

### A. Right-of-way (“ROW”)

- 10. Describe the Applicant’s construction plans for the project, including how the Applicant will minimize service disruption to the affected load area. Include requested and approved line outage schedules for affected lines as appropriate.**

Response: No service to customers will be interrupted during the construction of this Rebuild Project, as the Company has the ability to switch all load to alternate sources. Assuming a final order by May 31, 2024, as requested in Section I.H, the Company’s current plan is to start construction on April 1, 2025, and to complete construction of the Rebuild Project by June 30, 2026. Dates may need to be adjusted based on permitting delays or design modifications to comply with additional agency requirements identified during the permitting application process.

The Company plans to take the following sequential outages for the Rebuild Project:

- New structure erection, installation of conductor, and removal of existing structures: late Spring 2025 through Summer 2026.
- When the Rebuild Project crosses over top of radial transmission lines, temporary cables will be used to maintain service.
- No additional outages will be necessary for foundation installations on engineered structures. The Company will perform this work during the same outages required for structure erection, conductor installation, and removal of existing structures.

It is customary for PJM to not grant approval of the outages until shortly before the outages are expected to occur (up until one week prior) and, therefore, they may be subject to change.

## **II. DESCRIPTION OF THE PROPOSED PROJECT**

### **A. Right-of-way (“ROW”)**

#### **11. Indicate how the construction of this transmission line follows the provisions discussed in Attachment 1 of these Guidelines.**

Response: The FERC Guidelines, included as Attachment 1 to Staff’s guidelines on transmission projects that require a CPCN, are a tool routinely used by the Company in routing its transmission line projects.

The Company utilized Guideline #1 (existing rights-of-way should be given priority when adding additional facilities) by siting the proposed Rebuild Project with an existing transmission corridor.

By utilizing the existing transmission corridor, the proposed Rebuild Project will minimize impact to any site listed on the National Register of Historic Places (“NRHP”). Thus, the Rebuild Project is consistent with Guideline #2 (where practical, rights-of-way should avoid sites listed on the National Register of Historic Places). In any event, the Company will coordinate with the Virginia Department of Historic Resources (“VDHR”) regarding its plans prior to engineering and construction of the Rebuild Project to avoid or minimize impacts. See Section III.A for a discussion of the Stage I Pre-Application Analysis prepared by Stantec, which is included with the DEQ Supplement as Attachment 2.I.2. The Company will coordinate with the VDHR through review of the Stage I Pre-Application Analysis regarding these initial findings.

The Company has communicated with a number of local, state, and federal agencies prior to filing this application consistent with Guideline #4 (where government land is involved the applicant should contact the agencies early in the planning process). See Section III.B and III.J of this Appendix, and the DEQ Supplement.

The Company follows construction methods in the Guidelines on a site-specific basis for typical construction projects (Guidelines #8, #10, #11, #15, #16, #18, and #22).

The Company also utilizes recommended Guidelines in clearing right-of-way, constructing facilities, and maintaining rights-of-way after construction. Moreover, secondary uses of rights-of-way that are consistent with the safe maintenance and operation of facilities are permitted, as noted in Section II.A.8.

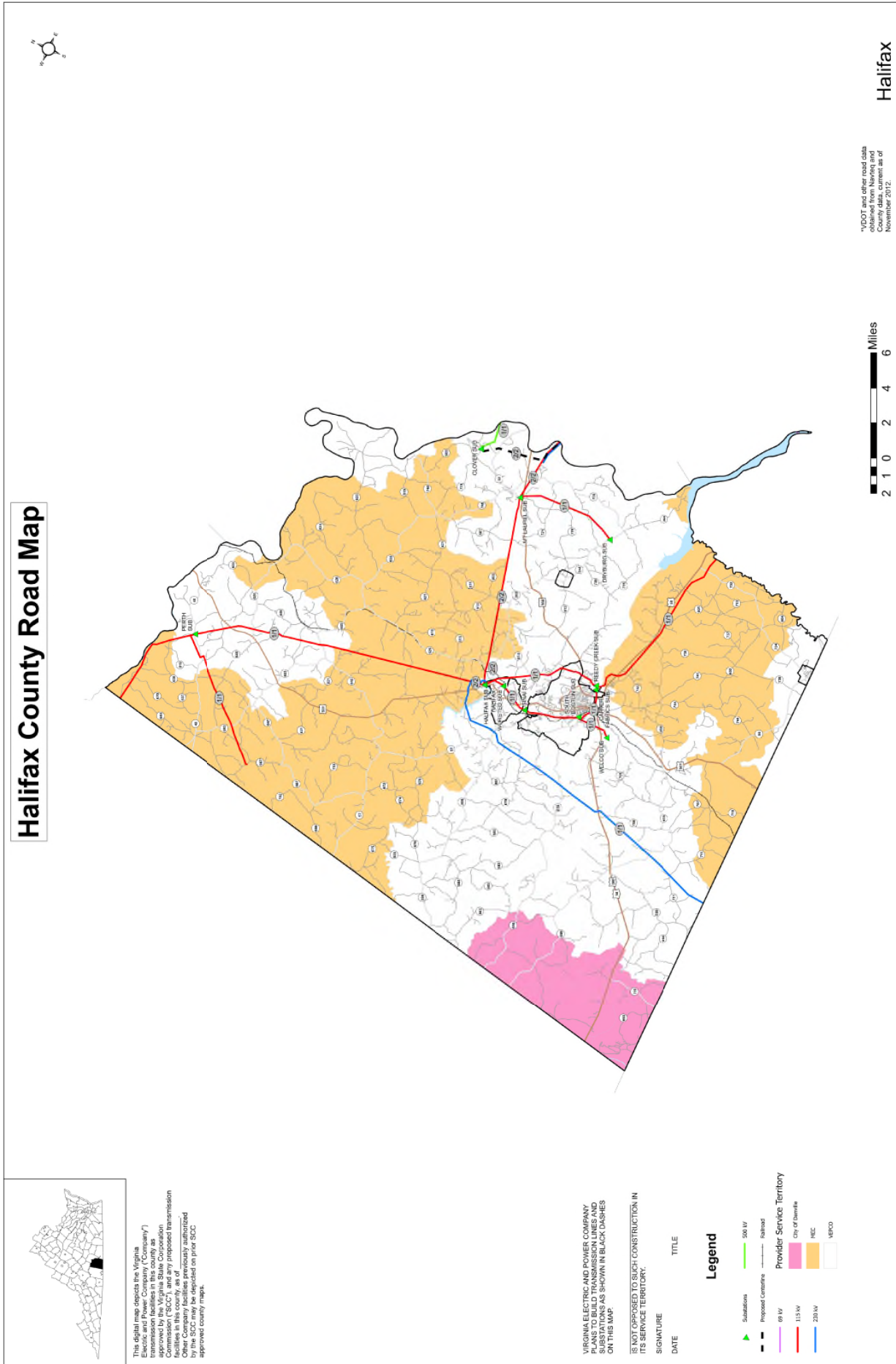


## II. DESCRIPTION OF THE PROPOSED PROJECT

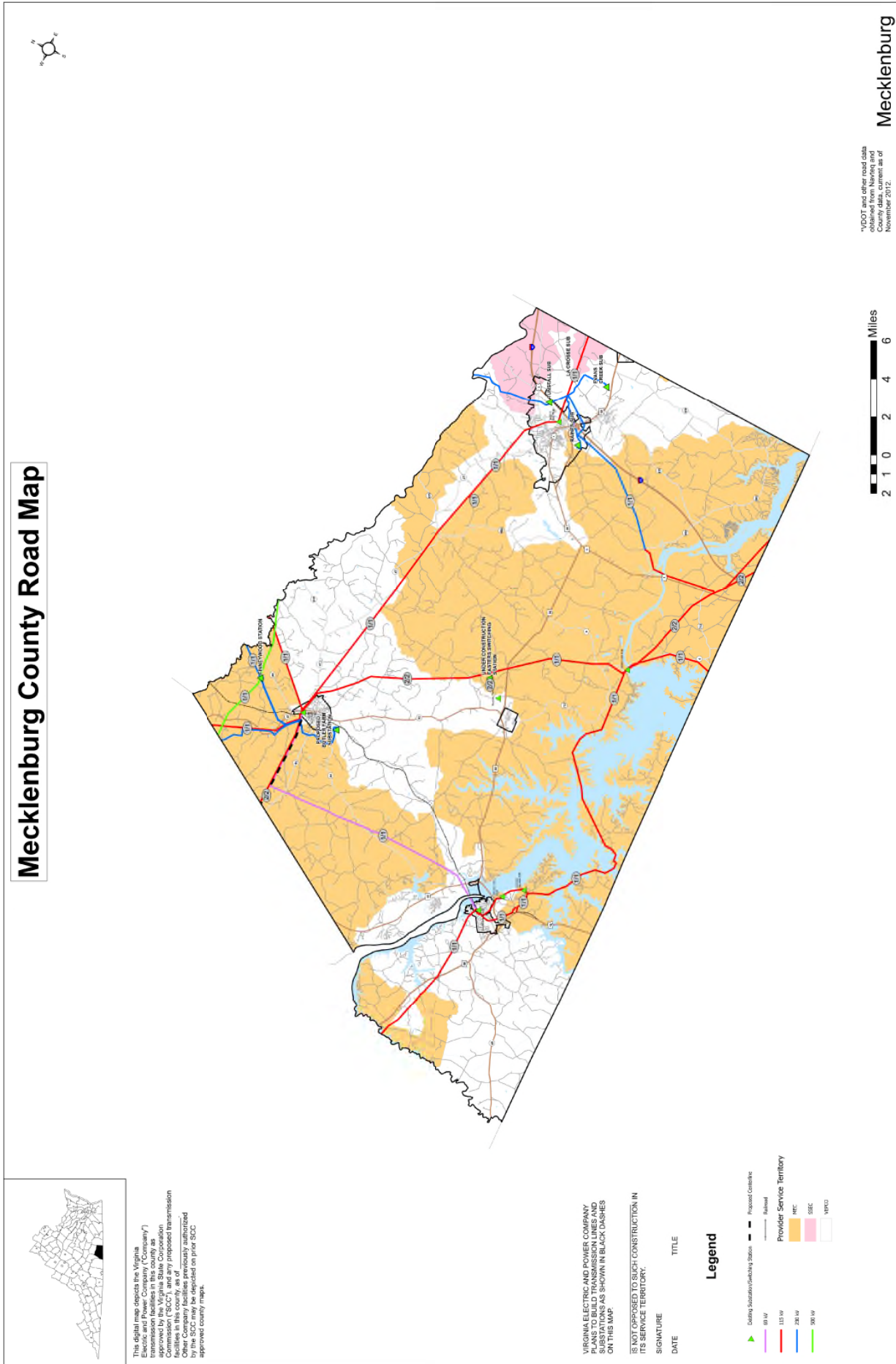
### A. Right-of-way (“ROW”)

12. a. **Detail counties and localities through which the line will pass. If any portion of the line will be located outside of the Applicant’s certificated service area: (1) identify each electric utility affected; (2) state whether any affected electric utility objects to such construction; and (3) identify the length of line(s) proposed to be located in the service area of an electric utility other than the Applicant; and**
- b. **Provide three (3) color copies of the Virginia Department of Transportation “General Highway Map” for each county and city through which the line will pass. On the maps show the proposed line and all previously approved and certificated facilities of the Applicant. Also, where the line will be located outside of the Applicant’s certificated service area, show the boundaries between the Applicant and each affected electric utility. On each map where the proposed line would be outside of the Applicant’s certificated service area, the map must include a signature of an appropriate representative of the affected electric utility indicating that the affected utility is not opposed to the proposed construction within its service area.**

- Response:
- a. The proposed Rebuild Project traverses Halifax County for approximately 5.2 miles, Mecklenburg County for approximately 4.8 miles, and Charlotte County for approximately 6.0 miles for a total of approximately 16 miles and is located entirely within the Company’s service territory.
  - b. An electronic version of the Virginia Department of Transportation (“VDOT”) “General Highway Map” for Halifax, Mecklenburg, and Charlotte Counties has been marked as required and filed with the Application. Reduced copies of the maps are provided as Attachment II.A.12.b.1 (Halifax County), Attachment II.A.12.b.2 (Charlotte County), and Attachment II.A.12.b.3 (Mecklenburg County).









## **II. DESCRIPTION OF THE PROPOSED PROJECT**

### **B. Line Design and Operational Features**

- 1. Detail the number of circuits and their design voltage, initial operational voltage, any anticipated voltage upgrade, and transfer capabilities.**

Response: The portion of Line #235 that will be rebuilt and renumbered to Line #2226 will be designed and operated at 230 kV and will have a summer/winter transfer capability of 1573 MVA. No voltage upgrades are anticipated.

## **II. DESCRIPTION OF THE PROPOSED PROJECT**

### **B. Line Design and Operational Features**

- 2. Detail the number, size(s), type(s), coating and typical configurations of conductors. Provide the rationale for the type(s) of conductor(s) to be used.**

Response: The single circuit 230 kV Line #235 will have three-phase twin-bundled 768.2 ACSS (20/7) conductors with two fiber optic shield wires. The twin-bundled 768.2 ACSS (20/7) conductors and fiber optic shield wires are a Company standard for new 230 kV construction.

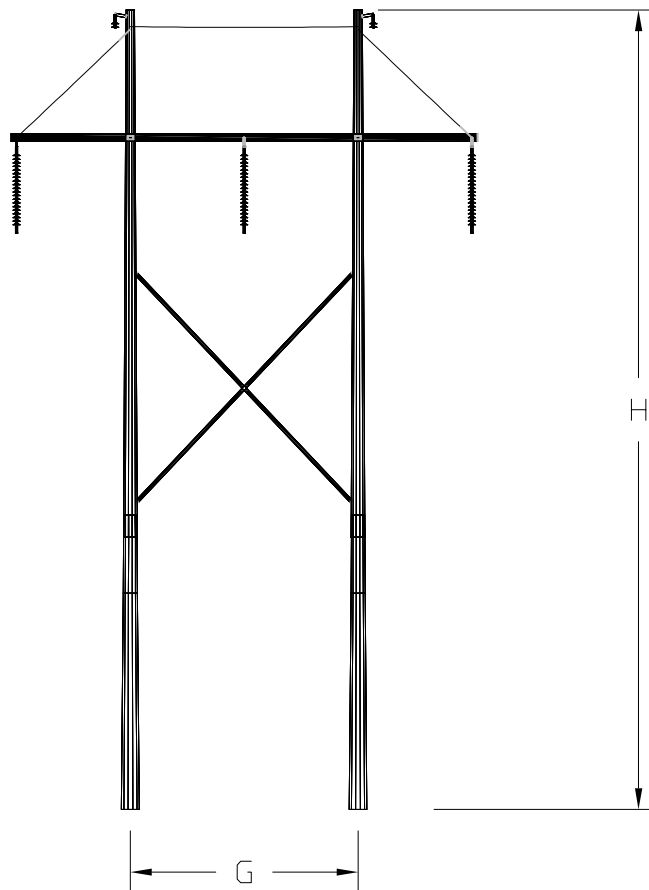
## **II. DESCRIPTION OF THE PROPOSED PROJECT**

### **B. Line Design and Operational Features**

- 3. With regard to the proposed supporting structures over each portion of the ROW for the preferred route, provide diagrams (including foundation reveal) and descriptions of all the structure types, to include:**
  - a. mapping that identifies each portion of the preferred route;**
  - b. the rationale for the selection of the structure type;**
  - c. the number of each type of structure and the length of each portion of the ROW;**
  - d. the structure material and rationale for the selection of such material;**
  - e. the foundation material;**
  - f. the average width at cross arms;**
  - g. the average width at the base;**
  - h. the maximum, minimum and average structure heights;**
  - i. the average span length; and**
  - j. the minimum conductor-to-ground clearances under maximum operating conditions.**

Response: See Attachments II.B.3.i-iii.

## LINE #235 230KV REBUILD, CLOVER - STRUCTURE #235/310

230kV SC H-FRAME DOM POLE SUSPENSION STRUCTURE

|                                   |                                                                                 |
|-----------------------------------|---------------------------------------------------------------------------------|
| A. MAPPING OF THE ROUTE:          | N/A                                                                             |
| B. RATIONALE FOR STRUCTURE TYPE:  | TO MATCH EXISTING STRUCTURE TYPE                                                |
| C. LENGTH OF R/W (STRUCTURE QTY): | 16 MILES (100 STRUCTURES)                                                       |
| D. STRUCTURE MATERIAL:            | WEATHERING STEEL                                                                |
| RATIONALE FOR MATERIAL:           | WEATHERING STEEL WAS SELECTED SINCE OUR STANDARD DOM POLES ARE WEATHERING STEEL |
| E. FOUNDATION MATERIAL:           | N/A, DIRECT EMBED                                                               |
| AVERAGE FOUNDATION REVEAL:        | N/A, DIRECT EMBED                                                               |
| F. AVERAGE WIDTH AT CROSS ARM:    | 42'                                                                             |
| G. AVERAGE WIDTH AT BASE:         | 20.5' BETWEEN POLES, 36' DIAMETER FOUNDATION (SEE NOTE 3)                       |
| H. MINIMUM STRUCTURE HEIGHT:      | 64'                                                                             |
| MAXIMUM STRUCTURE HEIGHT:         | 98'                                                                             |
| AVERAGE STRUCTURE HEIGHT:         | 76'                                                                             |
| I. AVERAGE SPAN LENGTH (RANGE):   | 657' (392'-1063') (SEE NOTE 4)                                                  |
| J. MINIMUM CONDUCTOR-TO-GROUND:   | 22.5' (AT MAXIMUM OPERATING TEMPERATURE)                                        |

NOTES:1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL DESIGN.

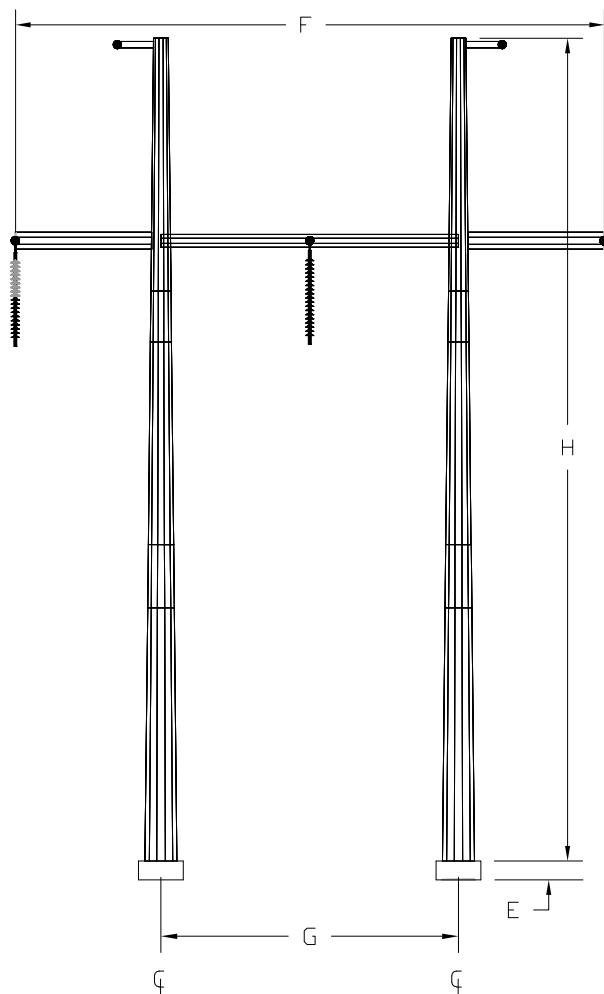
2. A 36 INCH DIAMETER IS A MAXIMUM WIDTH AT EACH POLE BASE WHICH ACCOUNTS FOR A PIPE PILE.

3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE AND ARE DEPICTED AS HEIGHT ABOVE GROUND.

4. THE SPAN ASSOCIATED WITH EACH STRUCTURE IS THE AHEAD SPAN.



## LINE #235 230KV REBUILD, CLOVER - STRUCTURE #235/310

230kV SC H-FRAME ENGINEERED DDE STRUCTURE

- |                                   |                                                                                 |
|-----------------------------------|---------------------------------------------------------------------------------|
| A. MAPPING OF THE ROUTE:          | N/A                                                                             |
| B. RATIONALE FOR STRUCTURE TYPE:  | TO MATCH EXISTING STRUCTURE TYPE                                                |
| C. LENGTH OF R/W (STRUCTURE QTY): | 16 MILES (25 STRUCTURES)                                                        |
| D. STRUCTURE MATERIAL:            | WEATHERING STEEL                                                                |
| RATIONALE FOR MATERIAL:           | WEATHERING STEEL WAS SELECTED SINCE OUR STANDARD DOM POLES ARE WEATHERING STEEL |
| E. FOUNDATION MATERIAL:           | CONCRETE                                                                        |
| AVERAGE FOUNDATION REVEAL:        | SEE NOTE 2                                                                      |
| F. AVERAGE WIDTH AT CROSS ARM:    | 48'                                                                             |
| G. AVERAGE WIDTH AT BASE:         | 23.5' BETWEEN POLES (SEE NOTE 2)                                                |
| H. MINIMUM STRUCTURE HEIGHT:      | 55'                                                                             |
| MAXIMUM STRUCTURE HEIGHT:         | 85'                                                                             |
| AVERAGE STRUCTURE HEIGHT:         | 75'                                                                             |
| I. AVERAGE SPAN LENGTH (RANGE):   | 698' (359'-1172') (SEE NOTE 4)                                                  |
| J. MINIMUM CONDUCTOR-TO-GROUND:   | 22.5' (AT MAXIMUM OPERATING TEMPERATURE)                                        |

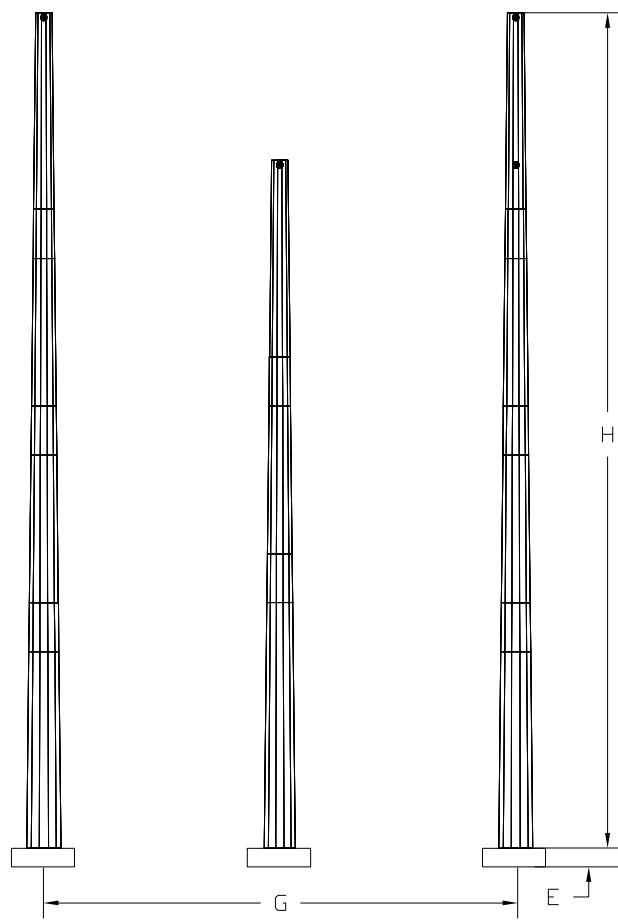
NOTES: 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL DESIGN.

2. A MINIMUM FOUNDATION REVEAL SHALL BE 1.5 FEET. FOUNDATION DIAMETER SHALL BE BASED ON FINAL ENGINEERING.

3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE AND DO NOT INCLUDE FOUNDATION REVEAL.

4. THE SPAN ASSOCIATED WITH EACH STRUCTURE IS THE AHEAD SPAN.

## LINE #235 230KV REBUILD, CLOVER - STRUCTURE #235/310

230kV SC 3-POLE DDE STRUCTURE

- |                                   |                                                                                 |
|-----------------------------------|---------------------------------------------------------------------------------|
| A. MAPPING OF THE ROUTE:          | N/A                                                                             |
| B. RATIONALE FOR STRUCTURE TYPE:  | TO ACCOMMODATE A HEAVY ANGLE IN THE ROW                                         |
| C. LENGTH OF R/W (STRUCTURE QTY): | 16 MILES (1 STRUCTURE)                                                          |
| D. STRUCTURE MATERIAL:            | WEATHERING STEEL                                                                |
| RATIONALE FOR MATERIAL:           | WEATHERING STEEL WAS SELECTED SINCE OUR STANDARD DOM POLES ARE WEATHERING STEEL |
| E. FOUNDATION MATERIAL:           | CONCRETE                                                                        |
| AVERAGE FOUNDATION REVEAL:        | SEE NOTE 2                                                                      |
| F. AVERAGE WIDTH AT CROSS ARM:    | N/A                                                                             |
| G. AVERAGE WIDTH AT BASE:         | 48' (SEE NOTE 2)                                                                |
| H. MINIMUM STRUCTURE HEIGHT:      | 85'                                                                             |
| MAXIMUM STRUCTURE HEIGHT:         | 85'                                                                             |
| AVERAGE STRUCTURE HEIGHT:         | 85'                                                                             |
| I. AVERAGE SPAN LENGTH (RANGE):   | 461' (461'-461') (SEE NOTE 4)                                                   |
| J. MINIMUM CONDUCTOR-TO-GROUND:   | 22.5' (AT MAXIMUM OPERATING TEMPERATURE)                                        |

NOTES: 1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL DESIGN.

2. A MINIMUM FOUNDATION REVEAL SHALL BE 1.5 FEET. FOUNDATION DIAMETER SHALL BE BASED ON FINAL ENGINEERING.

3. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE AND DO NOT INCLUDE FOUNDATION REVEAL.

4. THE SPAN ASSOCIATED WITH EACH STRUCTURE IS THE AHEAD SPAN.

**II. DESCRIPTION OF THE PROPOSED PROJECT**

**B. Line Design and Operational Features**

- 4. With regard to the proposed supporting structures for all feasible alternate routes, provide the maximum, minimum and average structure heights with respect to the whole route.**

Response: Not applicable.

## II. DESCRIPTION OF THE PROPOSED PROJECT

### B. Line Design and Operational Features

5. For lines being rebuilt, provide mapping showing existing and proposed structure heights for each individual structure within the ROW, as proposed in the application.

Response: See Attachment II.B.5 for structure mapping.

See the table below for the existing and proposed heights of permanent structures related to the Rebuild Project. The proposed approximate structure heights are from the conceptual design created to estimate the cost of the Rebuild Project and are subject to change based on final engineering design. The approximate structure heights are above ground level (“AGL”) (i.e., they are inclusive of foundation reveal).

| Structure Number | Existing Structure Height (FT) | Proposed Structure Height (FT) | Attachment II.B.3 Structure Type |
|------------------|--------------------------------|--------------------------------|----------------------------------|
| 311              | 65.5                           | 62                             | II.B.3.ii                        |
| 312              | 74.5                           | 84                             | II.B.3.i                         |
| 313              | 74.5                           | 83                             | II.B.3.i                         |
| 314              | 70                             | 79                             | II.B.3.i                         |
| 315              | 70                             | 80                             | II.B.3.i                         |
| 316              | 65.5                           | 72                             | II.B.3.ii                        |
| 317              | 70                             | 79                             | II.B.3.i                         |
| 318              | 65.5                           | 79                             | II.B.3.i                         |
| 319              | 56.5                           | 66                             | II.B.3.i                         |
| 320              | 61                             | 70                             | II.B.3.i                         |
| 321              | 61                             | 70                             | II.B.3.i                         |
| 322              | 65.5                           | 75                             | II.B.3.i                         |
| 323              | 61                             | 69                             | II.B.3.i                         |
| 324              | 56.5                           | 70                             | II.B.3.i                         |
| 325              | 74.5                           | 87                             | II.B.3.ii                        |
| 326              | 74.5                           | 77                             | II.B.3.ii                        |
| 327              | 61                             | 70                             | II.B.3.i                         |
| 328              | 61                             | 76                             | II.B.3.ii                        |
| 329              | 70                             | 75                             | II.B.3.i                         |
| 330              | 70                             | 74                             | II.B.3.i                         |
| 331              | 65.5                           | 79                             | II.B.3.i                         |
| 332              | 70                             | 79                             | II.B.3.i                         |
| 333              | 65.5                           | 79                             | II.B.3.i                         |
| 334              | 74.5                           | 75                             | II.B.3.i                         |
| 335              | 74.5                           | 83                             | II.B.3.i                         |
| 336              | 70                             | 79                             | II.B.3.i                         |
| 337              | 65.5                           | 79                             | II.B.3.i                         |

|     |      |    |           |
|-----|------|----|-----------|
| 338 | 65.5 | 79 | II.B.3.i  |
| 339 | 70   | 79 | II.B.3.i  |
| 340 | 79   | 70 | II.B.3.i  |
| 341 | 65.5 | 75 | II.B.3.ii |
| 342 | 65.5 | 75 | II.B.3.i  |
| 343 | 65.5 | 74 | II.B.3.i  |
| 344 | 61   | 75 | II.B.3.i  |
| 345 | 65.5 | 78 | II.B.3.i  |
| 346 | 65.5 | 75 | II.B.3.i  |
| 347 | 74.5 | 78 | II.B.3.i  |
| 348 | 65.5 | 75 | II.B.3.i  |
| 349 | 56.5 | 68 | II.B.3.ii |
| 350 | 56.5 | 67 | II.B.3.ii |
| 351 | 61   | 77 | II.B.3.ii |
| 352 | 61   | 70 | II.B.3.i  |
| 353 | 65.5 | 75 | II.B.3.i  |
| 354 | 61   | 70 | II.B.3.i  |
| 355 | 52   | 70 | II.B.3.i  |
| 356 | 61   | 70 | II.B.3.i  |
| 357 | 56.5 | 71 | II.B.3.i  |
| 358 | 61   | 82 | II.B.3.ii |
| 359 | 61   | 70 | II.B.3.i  |
| 360 | 65.5 | 71 | II.B.3.i  |
| 361 | 65.5 | 79 | II.B.3.i  |
| 362 | 74.5 | 73 | II.B.3.i  |
| 363 | 65.5 | 70 | II.B.3.i  |
| 364 | 56.5 | 73 | II.B.3.i  |
| 365 | 65.5 | 79 | II.B.3.i  |
| 366 | 65.5 | 68 | II.B.3.i  |
| 367 | 61   | 70 | II.B.3.i  |
| 368 | 65.5 | 88 | II.B.3.i  |
| 369 | 61   | 91 | II.B.3.i  |
| 370 | 52   | 67 | II.B.3.i  |
| 371 | 56.5 | 69 | II.B.3.i  |
| 372 | 47.5 | 78 | II.B.3.i  |
| 373 | 56.5 | 87 | II.B.3.i  |
| 374 | 65.5 | 72 | II.B.3.ii |
| 375 | 61   | 70 | II.B.3.i  |
| 376 | 61   | 69 | II.B.3.i  |
| 377 | 61   | 70 | II.B.3.i  |
| 378 | 65.5 | 70 | II.B.3.i  |
| 379 | 65.5 | 87 | II.B.3.ii |
| 380 | 70   | 70 | II.B.3.i  |
| 381 | 61   | 83 | II.B.3.i  |



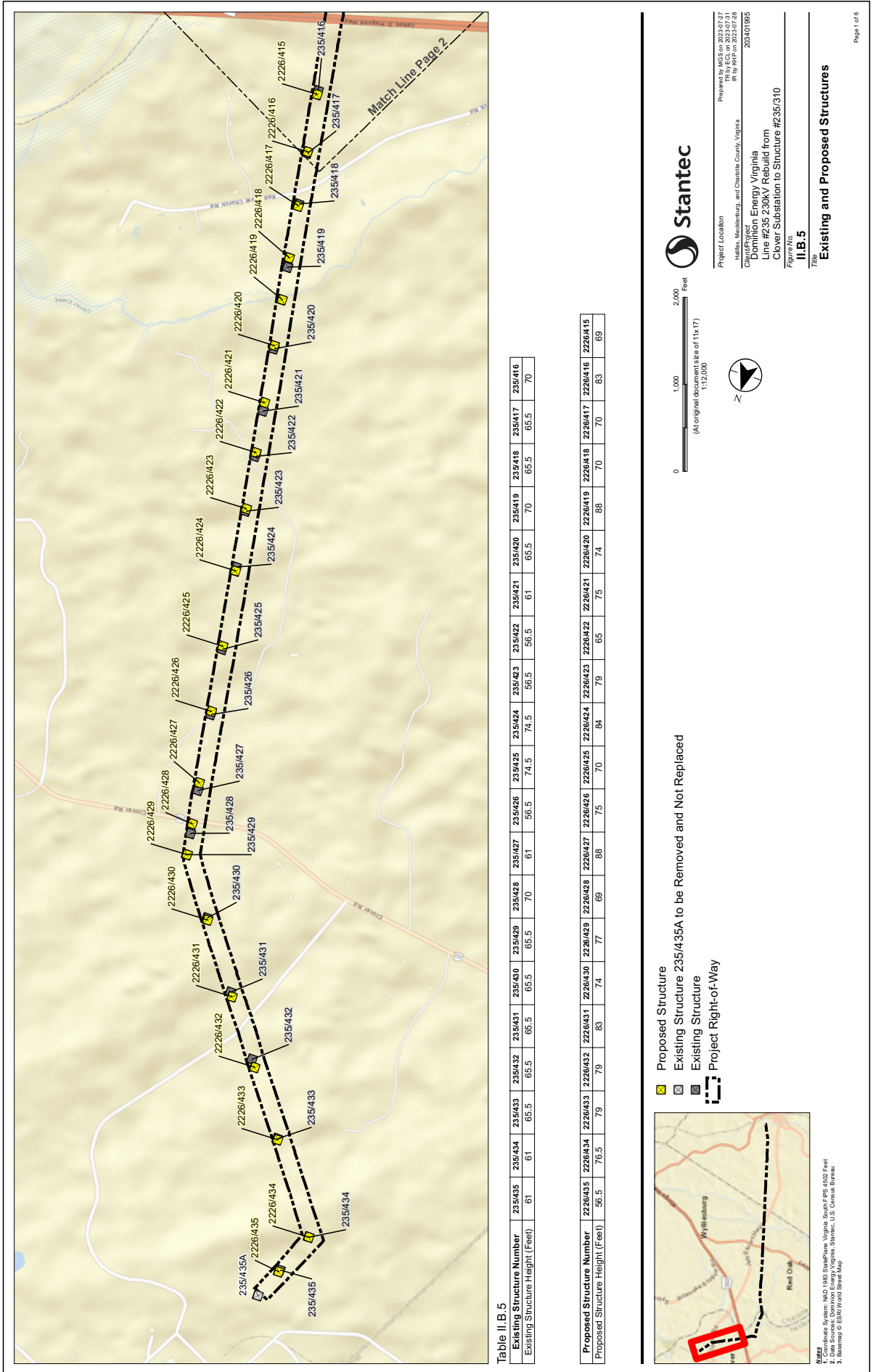
|      |      |     |            |
|------|------|-----|------------|
| 382  | 70   | 84  | II.B.3.i   |
| 383  | 65.5 | 78  | II.B.3.ii  |
| 384  | 65.5 | 67  | II.B.3.ii  |
| 385  | 56.5 | 77  | II.B.3.ii  |
| 386  | 56.5 | 70  | II.B.3.i   |
| 387  | 56.5 | 66  | II.B.3.i   |
| 388  | 61   | 65  | II.B.3.i   |
| 389  | 65.5 | 70  | II.B.3.i   |
| 390  | 61   | 77  | II.B.3.ii  |
| 391  | 56.5 | 82  | II.B.3.i   |
| 392  | 47.5 | 70  | II.B.3.i   |
| 393  | 47.5 | 71  | II.B.3.i   |
| 394  | 56.5 | 64  | II.B.3.i   |
| 395  | 65.5 | 70  | II.B.3.i   |
| 396  | 65.5 | 77  | II.B.3.i   |
| 397  | 65.5 | 88  | II.B.3.i   |
| 398  | 52   | 87  | II.B.3.ii  |
| 399  | 52   | 77  | II.B.3.ii  |
| 400  | 61   | 70  | II.B.3.ii  |
| 401  | 61   | 79  | II.B.3.i   |
| 401A | **   | 84  | II.B.3.i   |
| 402  | 65.5 | 70  | II.B.3.i   |
| 403  | 61   | 98  | II.B.3.i   |
| 404  | 56.5 | 77  | II.B.3.ii  |
| 405  | 52   | 70  | II.B.3.i   |
| 406  | 61   | 94  | II.B.3.i   |
| 407  | 65.5 | 79  | II.B.3.i   |
| 408  | 70   | 70  | II.B.3.i   |
| 408A | 70   | *** | II.B.3.ii  |
| 409  | **   | 89  | II.B.3.iii |
| 410  | 70   | 74  | II.B.3.ii  |
| 411  | 61   | 77  | II.B.3.ii  |
| 412  | 52   | 69  | II.B.3.i   |
| 413  | 61   | 83  | II.B.3.i   |
| 414  | 65.5 | 89  | II.B.3.ii  |
| 415  | 65.5 | 69  | II.B.3.i   |
| 416  | 70   | 83  | II.B.3.i   |
| 417  | 65.5 | 70  | II.B.3.i   |
| 418  | 65.5 | 70  | II.B.3.i   |
| 419  | 70   | 88  | II.B.3.i   |
| 420  | 65.5 | 74  | II.B.3.i   |
| 421  | 61   | 75  | II.B.3.i   |
| 422  | 56.5 | 65  | II.B.3.i   |
| 423  | 56.5 | 79  | II.B.3.i   |

|         |      |      |           |
|---------|------|------|-----------|
| 424     | 74.5 | 84   | II.B.3.i  |
| 425     | 74.5 | 70   | II.B.3.i  |
| 426     | 56.5 | 75   | II.B.3.i  |
| 427     | 61   | 88   | II.B.3.i  |
| 428     | 70   | 69   | II.B.3.i  |
| 429     | 65.5 | 77   | II.B.3.ii |
| 430     | 65.5 | 74   | II.B.3.i  |
| 431     | 65.5 | 83   | II.B.3.i  |
| 432     | 65.5 | 79   | *         |
| 433     | 65.5 | 79   | *         |
| 434     | 61   | 76.5 | *         |
| 435     | 61   | 56.5 | *         |
| 435A    | 74.5 | ***  | *         |
| Minimum | 47.5 | 56.5 | N/A       |
| Maximum | 79   | 98   | N/A       |
| Average | 63.6 | 75.6 | N/A       |

\* Proposed structures are located on Company-Owned property and therefore are not included in Attachments II.A.5 and II.B.3.

\*\* Proposed structures will be added as part of the Rebuild Project.

\*\*\* Proposed structures will be removed as part of the Rebuild Project.



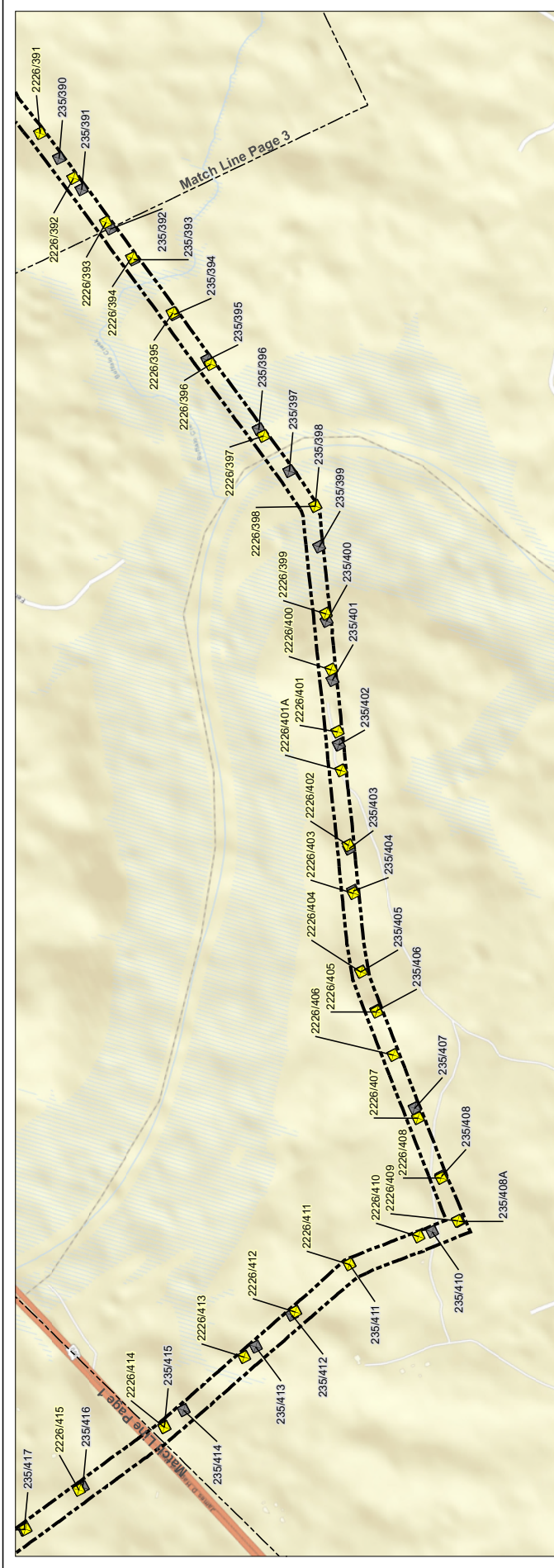


Table II.B.5

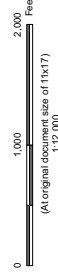
| Existing Structure Number        | 235/417 | 235/416 | 235/415 | 235/414 | 235/413 | 235/412 | 235/411 | 235/410 | 235/409 | 235/408 | 235/407 | 235/406 | 235/405 | 235/404 | 235/403 | 235/402 | 235/401 | 235/400 | 235/399 | 235/398 | 235/397 | 235/396 | 235/395 | 235/394 | 235/393 | 235/392 | 235/391 | 235/390 |
|----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Existing Structure Height (Feet) | 65.5    | 70      | 65.5    | 65.5    | 61      | 52      | 61      | 70      | 70      | 70      | 70      | 65.5    | 61      | 52      | 56.5    | 61      | 65.5    | 61      | 61      | 52      | 52      | 65.5    | 65.5    | 65.5    | 47.5    | 47.5    | 56.5    | 61      |

| Proposed Structure Number        | 2226/416 | 2226/415 | 2226/414 | 2226/413 | 2226/412 | 2226/411 | 2226/410 | 2226/409 | 2226/408 | 2226/407 | 2226/406 | 2226/405 | 2226/404 | 2226/403 | 2226/402 | 2226/401A | 2226/401 | 2226/400 | 2226/399 | 2226/398 | 2226/397 | 2226/396 | 2226/395 | 2226/394 | 2226/393 | 2226/392 | 2226/391 | 2226/390 |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Proposed Structure Height (Feet) | 83       | 69       | 83       | 69       | 77       | 74       | 89       | 70       | 70       | 79       | 94       | 70       | 77       | 98       | 70       | 84        | 79       | 70       | 77       | 87       | 88       | 77       | 70       | 64       | 71       | 70       | 82       |          |

- Proposed Structure
- Existing Structure
- Project Right-of-Way



Notes:  
 1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet  
 2. Data Source: Aerial Imagery, Stantec, U.S. Census Bureau  
 3. Boundary: © ESRI World Street Map



Project Location  
 Prepared by MGS on 03/25/27  
 Date of Revision: 03/25/27  
 By: KHP on 03/25/27  
 203401895

Client/Project  
 Dominion Energy Virginia  
 Line #235 230kV Rebuild from  
 Clover Substation to Structure #235/310

Figure No.

II.B.5

Title

Existing and Proposed Structures



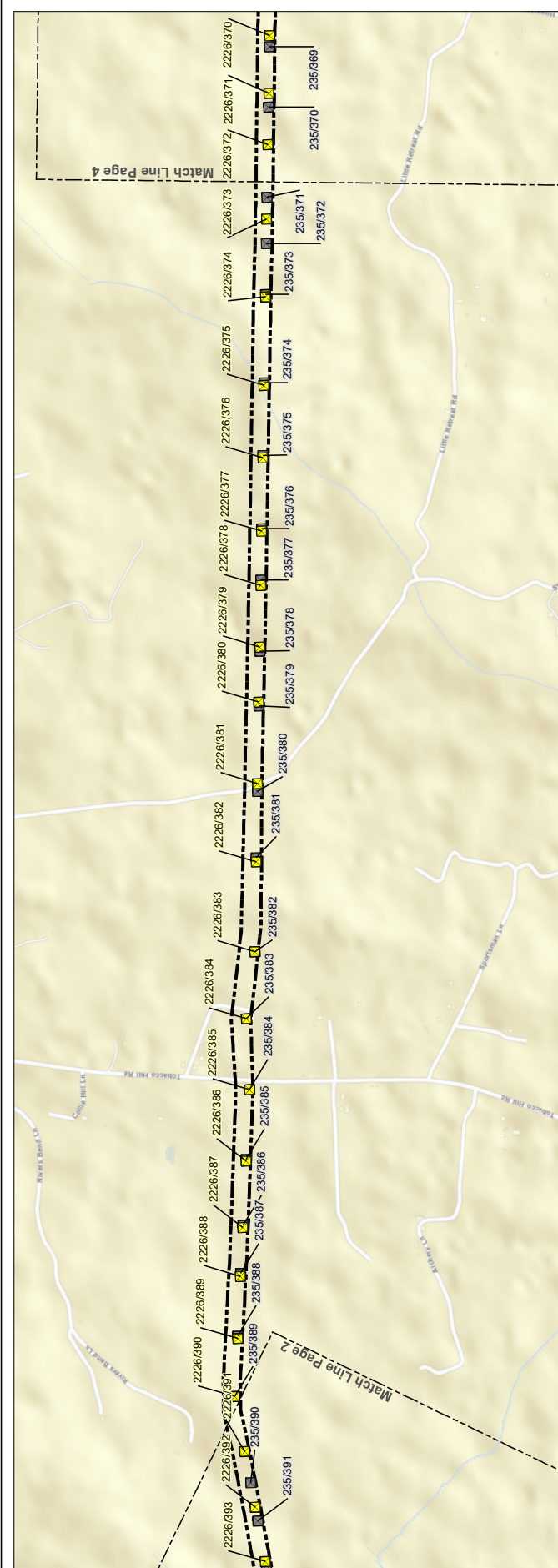


Table II.B.5

| Existing Structure Number        | 235/391 | 235/392 | 235/393 | 2226/392 | 2226/391 | 2226/390 | 2226/389 | 2226/388 | 2226/387 | 2226/386 | 2226/385 | 2226/384 | 235/383 | 235/382 | 235/381 | 235/379 | 235/378 | 235/377 | 235/376 | 235/375 | 235/374 | 235/373 | 235/372 | 235/370 | 235/369 |
|----------------------------------|---------|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Existing Structure Height (Feet) | 56.5    | 47.5    | 71      | 70       | 82       | 77       | 70       | 65       | 66       | 70       | 77       | 67       | 78      | 84      | 83      | 70      | 87      | 70      | 69      | 70      | 72      | 87      | 78      | 69      | 67      |

| Proposed Structure Number        | 2226/393 | 2226/392 | 2226/391 | 2226/390 | 2226/389 | 2226/388 | 2226/387 | 2226/386 | 2226/385 | 2226/384 | 2226/383 | 2226/382 | 2226/381 | 2226/379 | 2226/378 | 2226/377 | 2226/376 | 2226/375 | 2226/374 | 2226/373 | 2226/372 | 2226/371 | 235/370 | 235/369 |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|---------|
| Proposed Structure Height (Feet) | 71       | 70       | 82       | 77       | 70       | 65       | 66       | 70       | 77       | 67       | 78       | 84       | 83       | 70       | 87       | 70       | 69       | 70       | 72       | 87       | 78       | 69       | 67      | 61      |

- Proposed Structure
- Existing Structure
- Project Right-of-Way



Notes:  
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4602 Feet  
2. Data Source: Esri, DeLorme, Garmin, Stantec, U.S. Census Bureau  
3. Base Map: © Esri World Street Map



Project Location  
Harris, Montgomery and Charles County, Virginia  
Client/Project  
Dominion Energy Virginia  
Line #235 230kV Rebuild from  
Clover Substation to Structure #235/310  
Figure No.  
II.B.5  
Title  
Existing and Proposed Structures



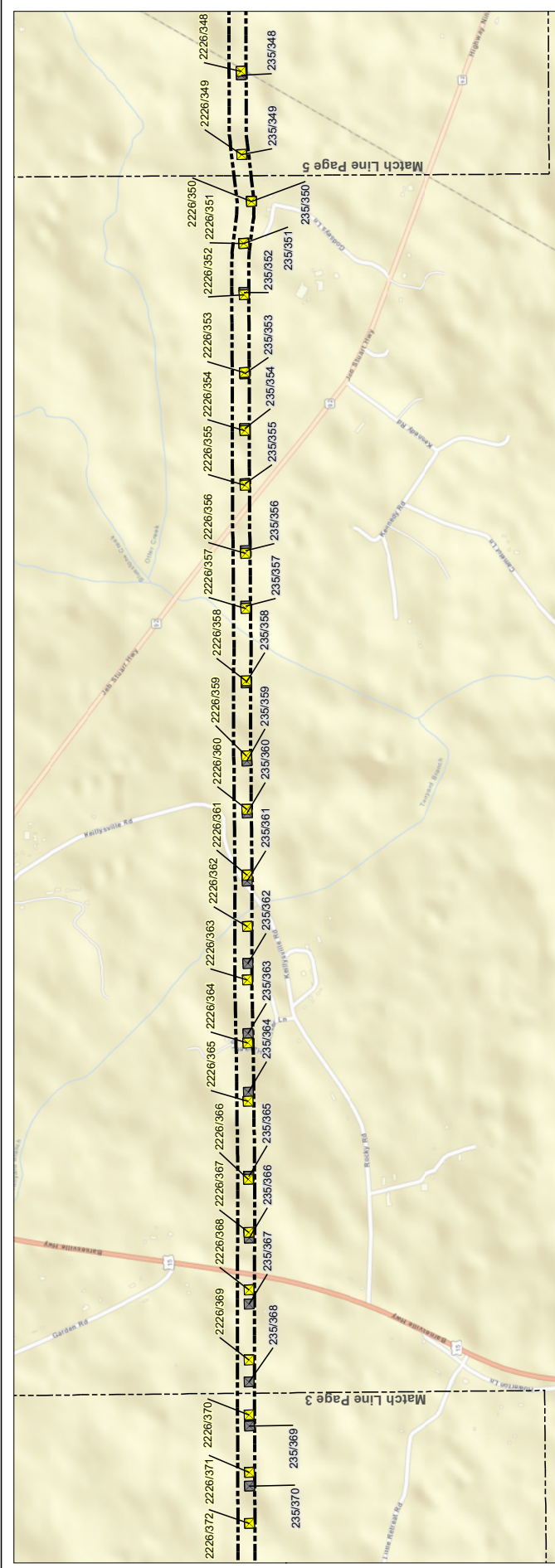


Table II.B.5

| Existing Structure Number        | 235/370 | 235/369 | 235/368 | 235/367 | 235/366 | 235/365 | 235/364 | 235/363 | 235/362 | 235/361 | 235/360 | 235/359 | 235/358 | 235/357 | 235/356 | 235/355 | 235/354 | 235/353 | 235/352 | 235/351 | 235/350 | 235/349 | 235/348 |
|----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Existing Structure Height (Feet) | 52      | 61      | 65.5    | 61      | 65.5    | 65.5    | 56.5    | 65.5    | 74.5    | 65.5    | 61      | 61      | 56.5    | 61      | 52      | 61      | 61      | 65.5    | 61      | 61      | 56.5    | 56.5    | 65.5    |

| Proposed Structure Number        | 2226/372 | 2226/371 | 2226/370 | 2226/369 | 2226/368 | 2226/367 | 2226/366 | 2226/365 | 2226/364 | 2226/363 | 2226/362 | 2226/361 | 2226/360 | 2226/359 | 2226/358 | 2226/357 | 2226/356 | 2226/355 | 2226/354 | 2226/353 | 2226/352 | 2226/351 | 2226/350 | 2226/349 | 2226/348 |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Proposed Structure Height (Feet) | 78       | 69       | 67       | 91       | 88       | 70       | 68       | 79       | 73       | 70       | 73       | 79       | 71       | 70       | 82       | 71       | 70       | 70       | 70       | 75       | 70       | 77       | 67       | 68       | 75       |

- Proposed Structure
- Existing Structure
- Project Right-of-Way



Notes:  
 1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4602 Feet  
 2. Data Source: Esri, DeLorme, Garmin, Stantec, U.S. Census Bureau  
 3. Basemap: © Esri World Street Map



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



Project Location  
 Halifax, Mecklenburg and Charlotte County, Virginia  
 Client/Project  
 Dominion Energy Virginia  
 Line #235 230kV Rebuild from  
 Clover Substation to Structure #235/310  
 Figure No.  
 II.B.5

## Existing and Proposed Structures

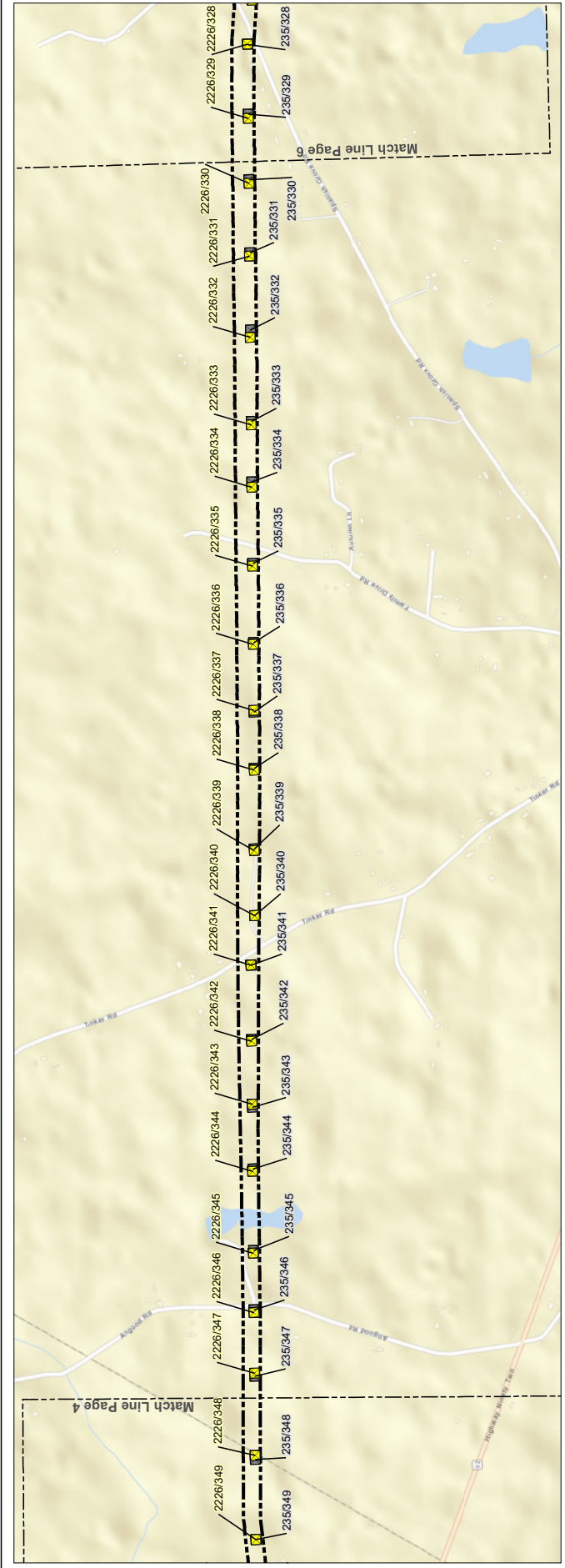


Table II.B.5

| Existing Structure Number        | 235/349 | 235/348 | 235/347 | 235/346 | 235/345 | 235/344 | 235/343 | 235/342 | 235/341 | 235/340 | 235/339 | 235/338 | 235/337 | 235/336 | 235/335 | 235/334 | 235/333 | 235/332 | 235/331 | 235/330 | 235/329 | 235/328 |
|----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Existing Structure Height (Feet) | 56.5    | 65.5    | 74.5    | 65.5    | 65.5    | 61      | 65.5    | 65.5    | 65.5    | 79      | 70      | 65.5    | 65.5    | 70      | 74.5    | 74.5    | 65.5    | 70      | 65.5    | 70      | 70      | 61      |

| Proposed Structure Number        | 2226/349 | 2226/348 | 2226/347 | 2226/346 | 2226/345 | 2226/344 | 2226/343 | 2226/342 | 2226/341 | 2226/340 | 2226/339 | 2226/338 | 2226/337 | 2226/336 | 2226/335 | 2226/334 | 2226/333 | 2226/332 | 2226/331 | 2226/330 | 2226/329 | 2226/328 |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Proposed Structure Height (Feet) | 68       | 75       | 78       | 75       | 78       | 75       | 74       | 75       | 75       | 70       | 79       | 79       | 79       | 79       | 83       | 75       | 79       | 79       | 79       | 74       | 75       | 76       |

- Proposed Structure
- Existing Structure
- Project Right-of-Way



Notes:  
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet  
2. Data Source: Esri, DeLorme, Garmin, Stantec, U.S. Census Bureau  
3. Boundary: © Esri World Street Map

Project Location  
Halefax, Mecklenburg and Charlotte Counties, Virginia

Client/Project  
Dominion Energy Virginia  
Line #235 230kV Rebuild from  
Clover Substation to Structure #235/310

Figure No.  
II.B.5

Title  
Existing and Proposed Structures

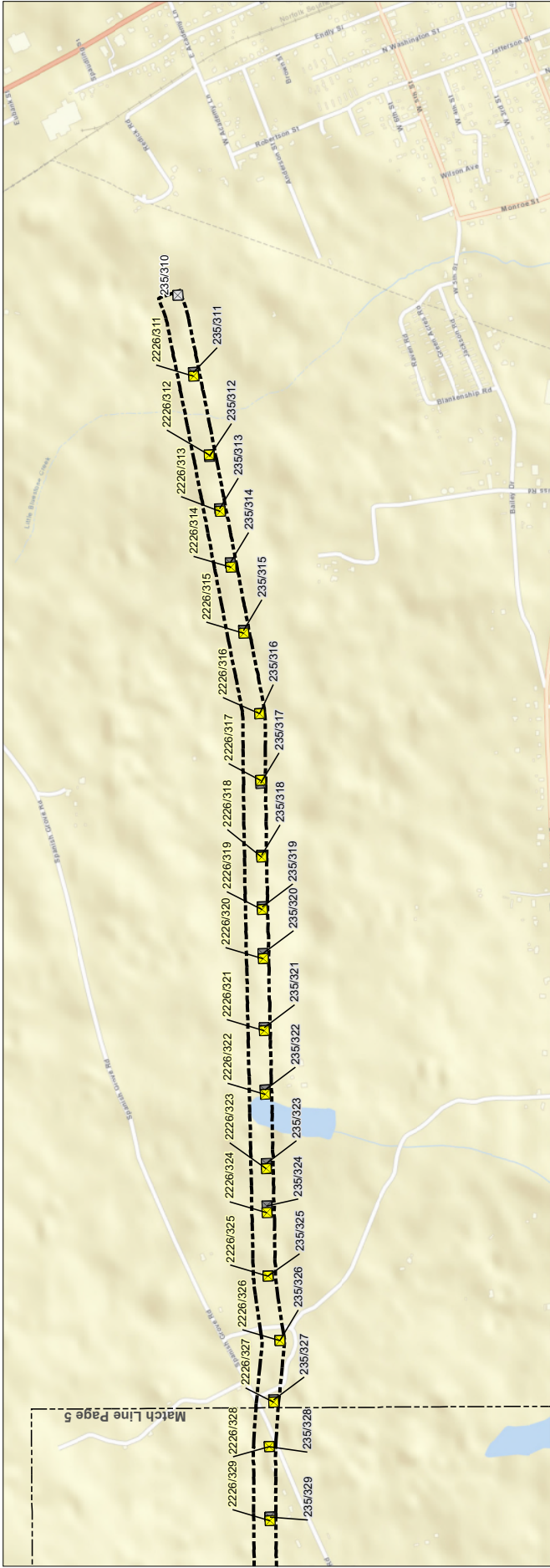


Table II.B.5

| Existing Structure Number        | 235/329 | 2226/328 | 235/327 | 2226/326 | 235/325 | 2226/324 | 235/323 | 2226/322 | 235/321 | 235/320 | 2226/319 | 235/318 | 2226/317 | 235/316 | 2226/315 | 235/314 | 2226/313 | 235/312 | 2226/311 |
|----------------------------------|---------|----------|---------|----------|---------|----------|---------|----------|---------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|
| Existing Structure Height (Feet) | 70      | 61       | 61      | 74.5     | 74.5    | 56.5     | 61      | 65.5     | 61      | 61      | 56.5     | 65.5    | 70       | 65.5    | 70       | 70      | 74.5     | 74.5    | 65.5     |

| Proposed Structure Number        | 2226/329 | 2226/328 | 2226/327 | 2226/326 | 2226/325 | 2226/324 | 2226/323 | 2226/322 | 2226/321 | 2226/320 | 2226/319 | 2226/318 | 2226/317 | 2226/316 | 2226/315 | 2226/314 | 2226/313 | 2226/312 | 2226/311 |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Proposed Structure Height (Feet) | 75       | 76       | 70       | 77       | 87       | 70       | 69       | 75       | 70       | 70       | 66       | 79       | 79       | 72       | 80       | 79       | 83       | 84       | 62       |

- Proposed Structure
- Existing Structure
- Project Right-of-Way



Notes:  
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet  
2. Data Source: Esri, DeLorme, Garmin, IGN, Intermap, Inc., Swire, U.S. Census Bureau  
3. Base Map: © Esri World Street Map



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



Project Location  
Harrisburg, Pennsylvania and Chester County, Virginia  
Client/Project  
Dominion Energy Virginia  
Line #235 230kV Rebuild from  
Clover Substation to Structure #235/310

203401895

Figure No.  
II.B.5

Title  
Existing and Proposed Structures

## II. DESCRIPTION OF THE PROPOSED PROJECT

### B. Line Design and Operational Features

6. **Provide photographs for typical existing facilities to be removed, comparable photographs or representations for proposed structures, and visual simulations showing the appearance of all planned transmission structures at identified historic locations within one mile of the proposed centerline and in key locations identified by the Applicant.**

Response: (a) *Photographs for typical existing facilities to be removed.*

See Attachments II.B.6.iv for representative photographs of typical existing structures.

(b) *Comparable photographs or representations for proposed structures.*

See Attachments II.B.6.i-iii, for representative photographs of the proposed structures for the Project.

(c) *Visual simulations showing the appearance of all planned transmission structures at identified historic locations within one mile of the proposed centerline and in key locations.*

Visual simulations showing the appearance of the proposed transmission structures are provided for identified historic properties where expected to be visible. These simulations were created using GIS modeling to depict whether the existing and proposed structures are or will be visible from historic properties. Attachment II.B.6.v includes maps illustrating the photo simulation locations, as well as photographs of existing structures and simulations of the proposed structures from selected key observation points (“OPs”). The table below identifies the historic properties evaluated.

| VDHR #   | Resource Name                                         | OP | Comments                                                                                                                             |
|----------|-------------------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------|
| 019-5190 | Staunton River Bridge Battlefield                     | 1  | Visibility of lines above trees from OP 1. Visibility of a single structure from recent clearing associated with a separate project. |
| 041-0006 | Black Walnut, Black Walnut Road                       | 2  | No visibility of the Rebuild Project.                                                                                                |
| 186-0002 | Chase City High School/ Maple Manor Apartments        | 3  | No visibility of the Rebuild Project.                                                                                                |
| 186-5005 | Chase City Warehouse and Commercial Historic District | 4  | No visibility of the Rebuild Project.                                                                                                |



| <b>VDHR #</b> | <b>Resource Name</b>                                      | <b>OP</b> | <b>Comments</b>                       |
|---------------|-----------------------------------------------------------|-----------|---------------------------------------|
| 186-5020      | MacCallum More and Hudgins House Historic District        | 5         | No visibility of the Rebuild Project. |
| 186-5001      | MacCallum More/Hudgins House Historic District            | 6         | No visibility of the Rebuild Project. |
| 186-5002      | Armory, Chase City Armory (Historic/Current)              | 7         | No visibility of the Rebuild Project. |
| 058-5252      | House, 28984 Highway 49 (Function/Location)               | 8         | No visibility of the Rebuild Project. |
| 186-0003      | Keel Hall (Current)                                       | 9         | No visibility of the Rebuild Project. |
| 186-0004      | Dr. Dodd House (Historic), Scott-Chisholm House (Current) | 10        | No visibility of the Rebuild Project. |









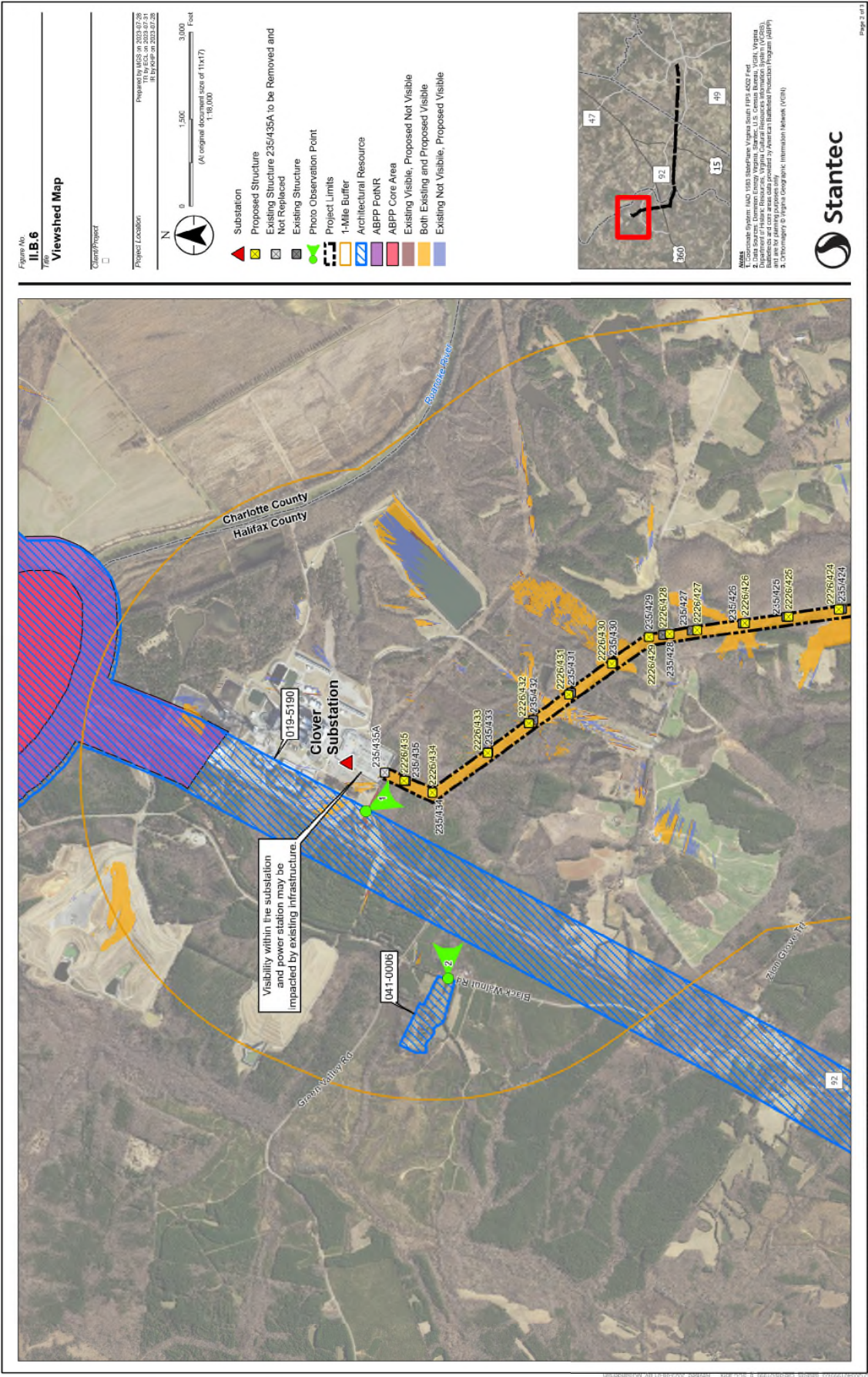














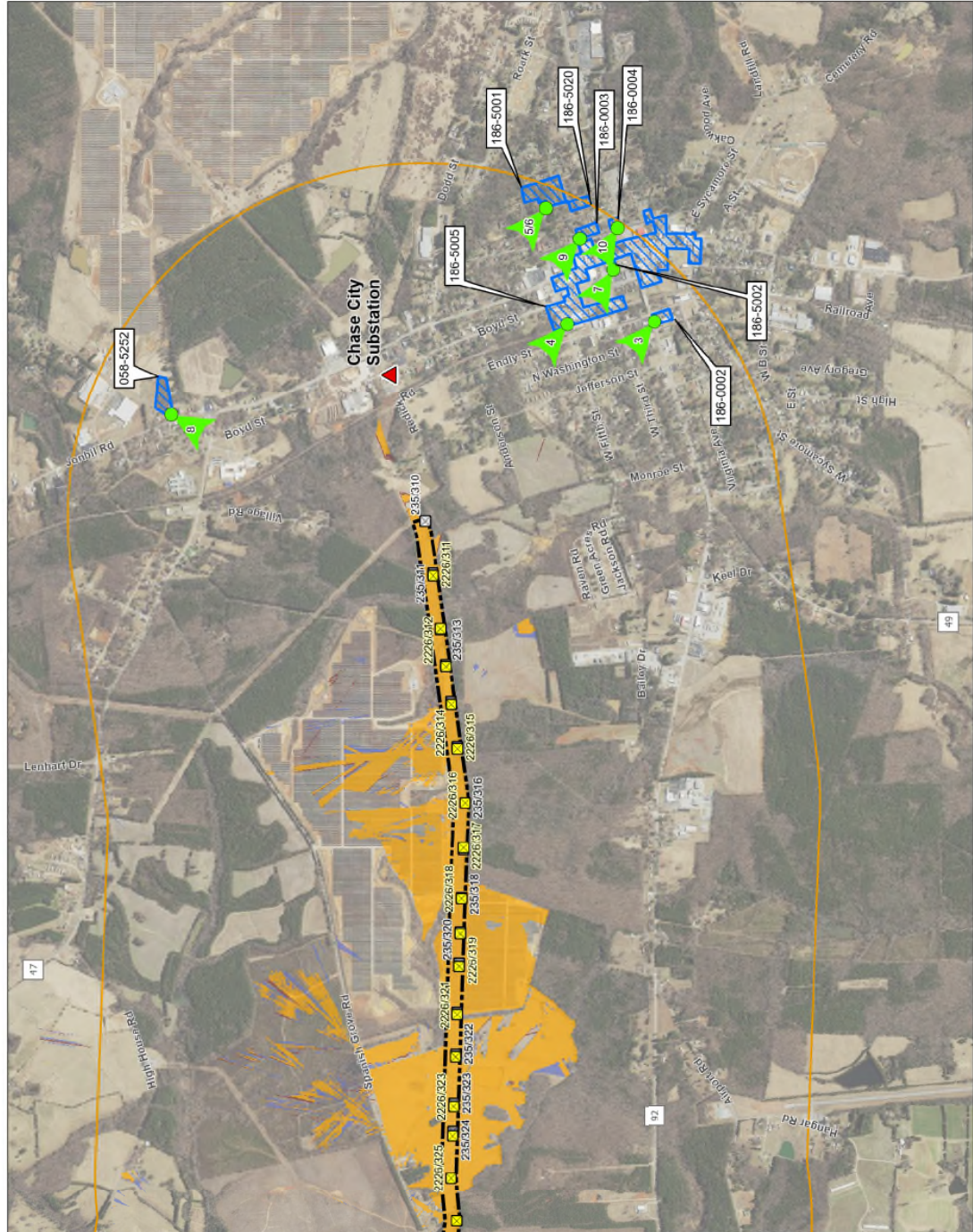
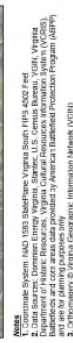


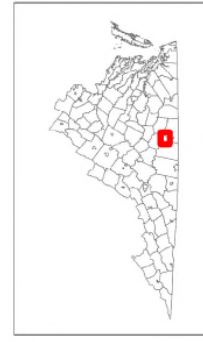


Figure No  
11B.6

Title  
Viewshed Map

Client/Project  
Dominion Energy Virginia  
Project Name  
Chase City Substation Rebuild from Clover Substation to  
Stations 186-50001 through 186-50005  
Prepared for MDOT on 2023.07.28  
Project Location  
T1 to E03, or 2023.07.31  
Haitia, Charlotte, and Mecklenburg Counties, Virginia  
Scale  
0 8,000 16,000  
Foot  
(At original document size of 11x17)

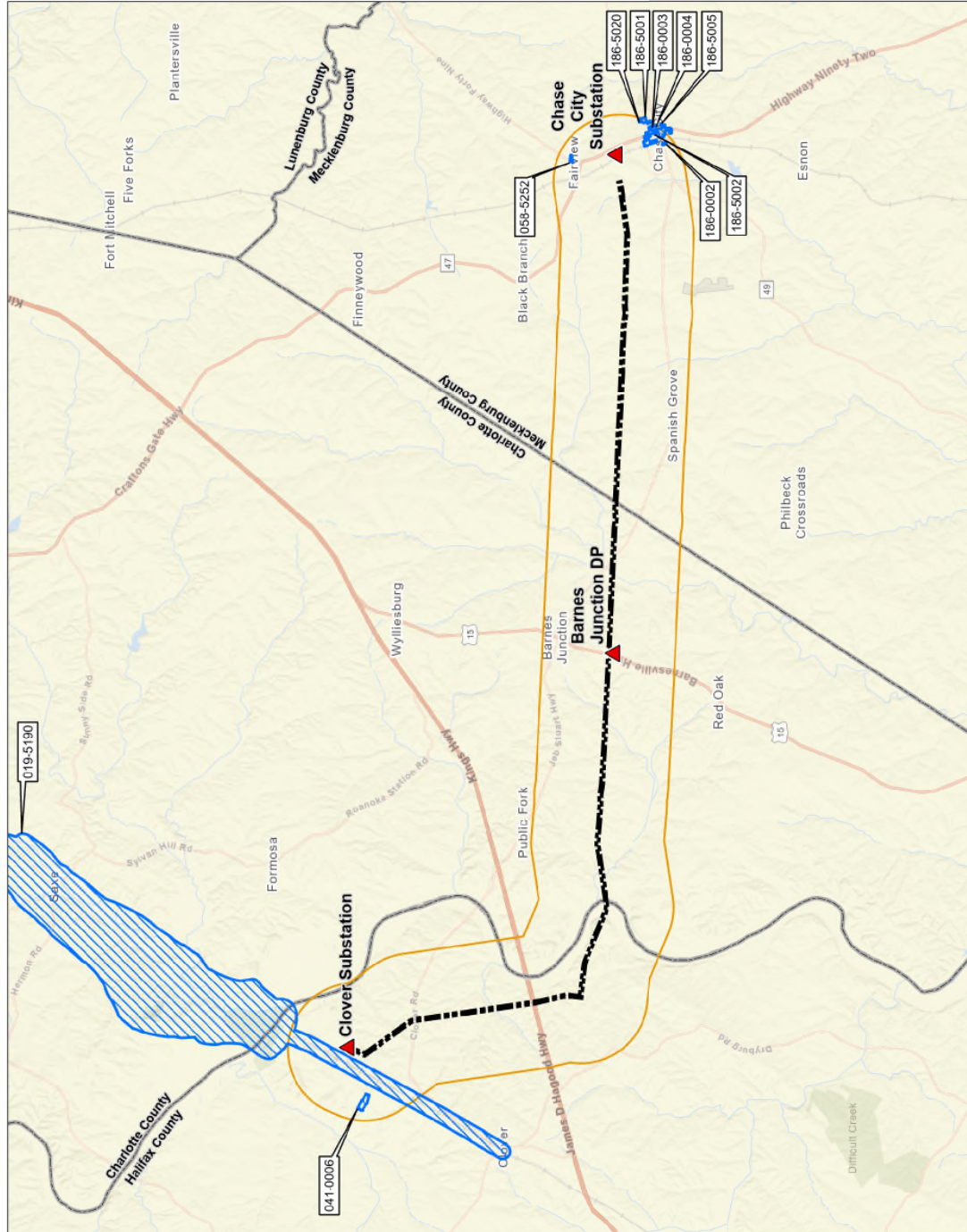
- Substation
- Project Limits
- Surveyed Architectural Resource
- 1.0-Mile Buffer



NOTES  
1. Coordinate System: NAD 1983 StatePlane Virginia State Plane 4002 Feet  
2. Data Source: Surveyed Architectural Resource  
3. Data Source: Surveyed Architectural Resource  
4. Data Source: Surveyed Architectural Resource  
5. Data Source: Surveyed Architectural Resource



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# OP01 –



Photograph provided by Stantec

OP 1 Existing



OP01 –



simulation provided by Stantec

OP 1 Overlay



OP01 –



Photograph provided by Stantec

OP 1 Proposed



OP02 —



Photograph provided by Stantec

OP 2 Existing



OP02—



Photograph provided by Stantec

OP 2 Overlay



OP02 --



Simulation by Stantec

OP 2 Proposed



OP03 -



Photograph provided by Stantec

OP 3 Existing

OP03 –



Photograph provided by Stantec

OP 3 Overlay





OP03 –



Simulation by Stantec

OP 3 Proposed



OP04 –



Photograph provided by Stantec

OP 4 Existing



OP04 –



Photograph provided by Stantec

OP 4 Overlay



OP04 –



Simulation provided by Stantec

OP 4 Proposed



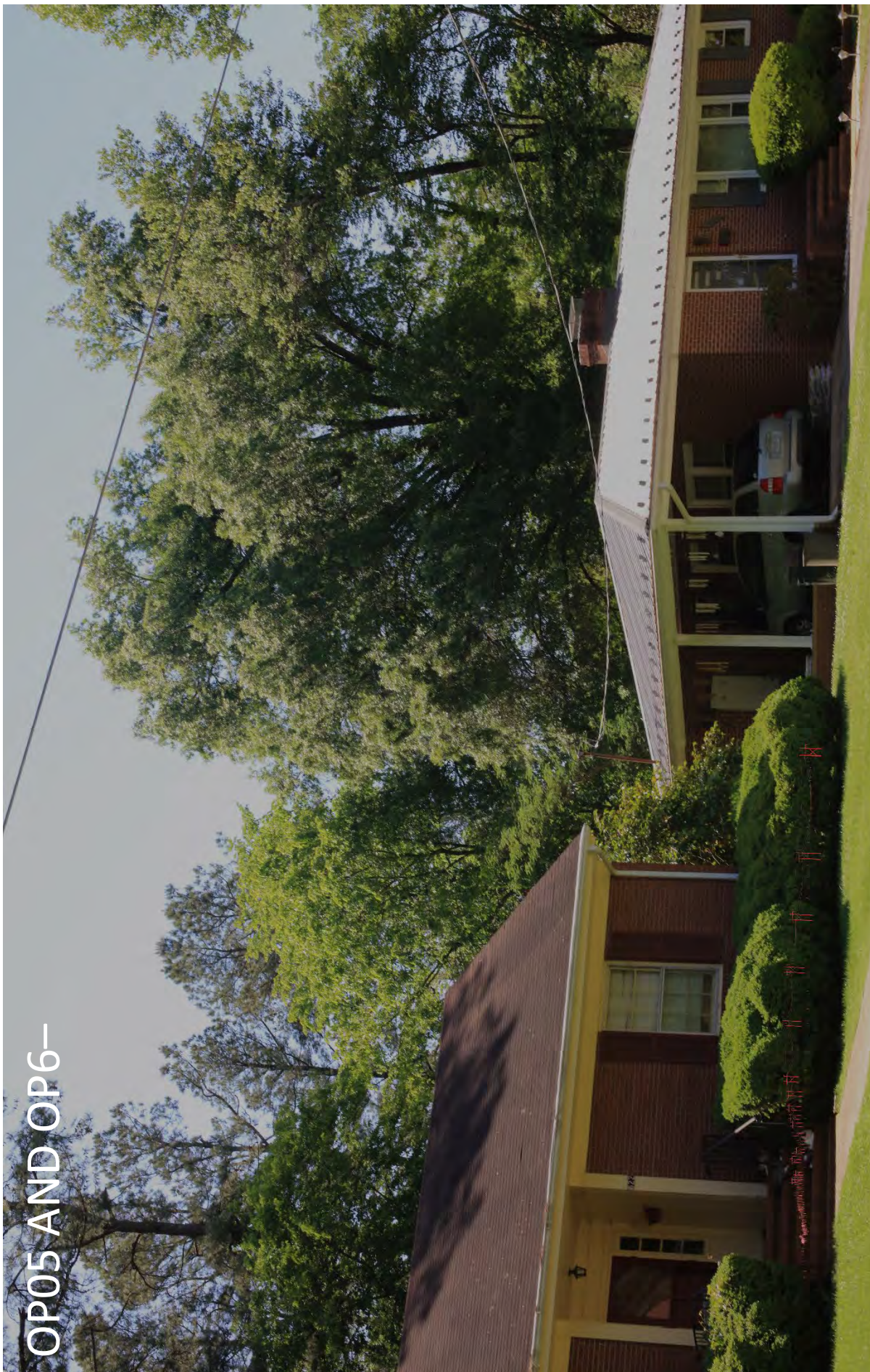


Photograph provided by Stantec

OP05 AND OP6--



## OP05 AND OP6--



Photograph provided by Stantec



# OP05 AND OP6--



Simulation provided by Stantec



OP07 –



Photograph provided by Stantec

OP 7 Existing



OP07 –



Simulation provided by Stantec

OP 7 Overlay

OP07 –



Photograph provided by Stanlec

OP 7 Proposed



OP08 –



Photograph provided by Stantec

OP 8 Existing



OP08 –



Photograph provided by Stantec

OP 8 Overlay





Simulation by Stantec

OP 8 Proposed

OP08 -



OP09 –



Photograph provided by Stantec

OP 9 Existing





Photograph provided by Stantec

OP 9 Overlay





Simulation by Stantec

OP 9 Proposed





OP010 –

Photograph provided by Stanlec

OP 10 Existing





OP010 –

Photograph provided by Stantec

OP 10 Overlay





Simulation provided by Stantec

OP 10 Proposed

OP010 -

## **II. DESCRIPTION OF THE PROPOSED PROJECT**

- C. Describe and furnish plan drawings of all new substations, switching stations, and other ground facilities associated with the proposed project. Include size, acreage, and bus configurations. Describe substation expansion capability and plans. Provide one-line diagrams for each.**

Response: There are no new substations. Nor are any of the impacted substations being expanded. The Rebuild Project will require the following substation work:

At Clover Substation, the Company will upgrade Line #235 risers to 4000A.



### **III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES**

- A. Describe the character of the area that will be traversed by this line, including land use, wetlands, etc. Provide the number of dwellings within 500 feet, 250 feet and 100 feet of the centerline, and within the ROW for each route considered. Provide the estimated amount of farmland and forestland within the ROW that the proposed project would impact.**

Response: **Land Use**

The proposed Rebuild Project traverses approximately 5.2 miles through Halifax County, 6.0 miles through Charlotte County, and 4.8 miles through Mecklenburg County. The Rebuild Project begins at Clover Substation in Halifax County and ends west of the Chase City Substation at Structure #235/310 in Mecklenburg County, without crossing the boundaries of Chase City. The Rebuild Project's total length is approximately 16 miles. The portion of the route within Halifax County crosses primarily forested land and the route is collocated with existing transmission lines. When the route crosses the Staunton River, it enters Charlotte County. The portion of the route within Charlotte County crosses primarily forested and agricultural land, with scattered low density residential areas, and is mostly collocated with existing transmission lines. After crossing into Mecklenburg County, the route continues across primarily agricultural, forested, and low-density residential areas. The route ends on the west side of Chase City, passing through low density residential, forested, and agricultural lands, as well as a utility scale solar development.

#### **Farmlands/Forests**

According to the Natural Resources Conservation Service Data ("NRCS"), within the right-of-way there are approximately 137.4 acres of prime farmland and 158.3 areas of farmland of statewide importance. The right-of-way has been in use since 1974 and no portion of the existing right-of-way is currently forested. The transmission line right-of-way is regularly maintained to keep vegetation at the scrub-shrub level for the safe operation of the existing facilities, and the right-of-way can continue to be used for crop production and pasture. Therefore, it is not expected that the Rebuild Project will permanently impact farmland or forests. Prime farmlands within the Rebuild Project right-of-way are depicted in Attachment III.A.1. Section 2.L of the DEQ Supplement discusses in detail the anticipated impacts of the Rebuild Project on recreational, agricultural, and forest resources.

#### **Wetlands**

The proposed Rebuild Project is located within the Middle Roanoke watershed, Hydrologic Unit Code 03010102. According to the U.S. Geological Survey ("USGS") topographic quadrangles for Clover, VA (2022), Wylliesburg, VA

(2022), and Chase City, VA (2022), the existing transmission line corridor crosses Clover Creek, the Staunton River, Buffalo Creek, Bruce Spring Branch, Tanyard Branch, and Moody Creek as well as numerous other unnamed perennial and intermittent waterways.

Within the Rebuild Project corridor, the Company performed an off-site analysis of wetlands and other potential jurisdictional water resources using current and historic aerial imagery, topographic quadrangles, U.S. Fish and Wildlife Service (“USFWS”) National Wetland Inventory (“NWI”), and the Natural Resources Conservation Service (“NRCS”) Soil Survey. The study determined the approximate locations and extents of potential jurisdictional water resources. Detailed delineations of jurisdictional water resources were performed on separate, unrelated projects whose boundaries overlap with the Rebuild Project. Approximate wetlands and other surface waters within the proposed Rebuild Project corridor are provided in Attachment 2.D.1 to the DEQ Supplement and are discussed in Section 2.D of the DEQ Supplement.

Prior to construction, the Company will conduct a detailed delineation of wetlands and other jurisdictional water resources 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 conduct the delineation using the latest guidance provided by the Corps and EPA, and coordinate with DEQ if needed.

Work related to the Rebuild Project may be conducted in areas where the U.S. Army Corps of Engineers-managed civil works projects are located. The Company will obtain any necessary permits to impact jurisdictional resources and/or authorized USACE civil works projects.

## **Historic Features**

In accordance with the *Guidelines for Assessing Impacts of Proposed Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia (2008)*, a Stage I Pre-Application Analysis (“Stage 1 Analysis”) was conducted by Stantec Consulting Services Inc. This report was submitted to the VDHR on August 2, 2023, and is included as Attachment 2.I.2 to the DEQ Supplement. Section 2.I of the DEQ Supplement discusses in detail the anticipated impacts of the Rebuild Project on archeological, historic, scenic, cultural, and architectural resources.

For all segments of the Rebuild Project, the background archival research identified no National Historic Landmarks (“NHLs”) within the 1.5-mile radius; four NRHP-listed resources and one battlefield within the 1-mile radius; and no NRHP-listed resources, one battlefield, and no NRHP-eligible resources within the 0.5-mile radius.

## Threatened and Endangered Species

Online database searches for threatened and endangered species in the vicinity of the Rebuild Project, including the USFWS Information, Planning, and Conservation (“IPaC”) system, the Virginia Department of Wildlife Resources (“DWR”) Virginia Fish and Wildlife Information Service (“VAFWIS”), Virginia Department of Conservation and Recreation (“DCR”), Natural Heritage Data Explorer (“NHDE”), and the Center for Conservation Biology (“CCB”) Bald Eagle Nest Locator, were conducted, which identified federal- and state-listed species that have the potential to occur within the vicinity of the Rebuild Project right-of-way. These results are identified in the included Attachment 2.G.1 to the DEQ Supplement. The Company intends to reasonably minimize any impact on these resources and coordinate with pertinent agencies, as appropriate.

## Dwellings

According to a review of the most recent aerial imagery available in Google Earth and Halifax County, Charlotte County, and Mecklenburg County GIS data, there are 20 dwellings within 500 feet of the centerline of the Rebuild Project, seven dwellings within 250 feet of the centerline of the Rebuild Project, and one dwelling within 100 feet of the centerline of the Rebuild Project. No dwellings are located within the existing right-of-way. The table below provides details on the dwellings in the vicinity of the Rebuild Project by County.

| County      | Dwellings Within 500<br>FT of Centerline | Dwellings Within 250<br>FT of Centerline | Dwellings Within 100<br>FT of Centerline |
|-------------|------------------------------------------|------------------------------------------|------------------------------------------|
| Halifax     | 3                                        | 0                                        | 0                                        |
| Charlotte   | 6                                        | 5                                        | 1                                        |
| Mecklenburg | 11                                       | 2                                        | 0                                        |



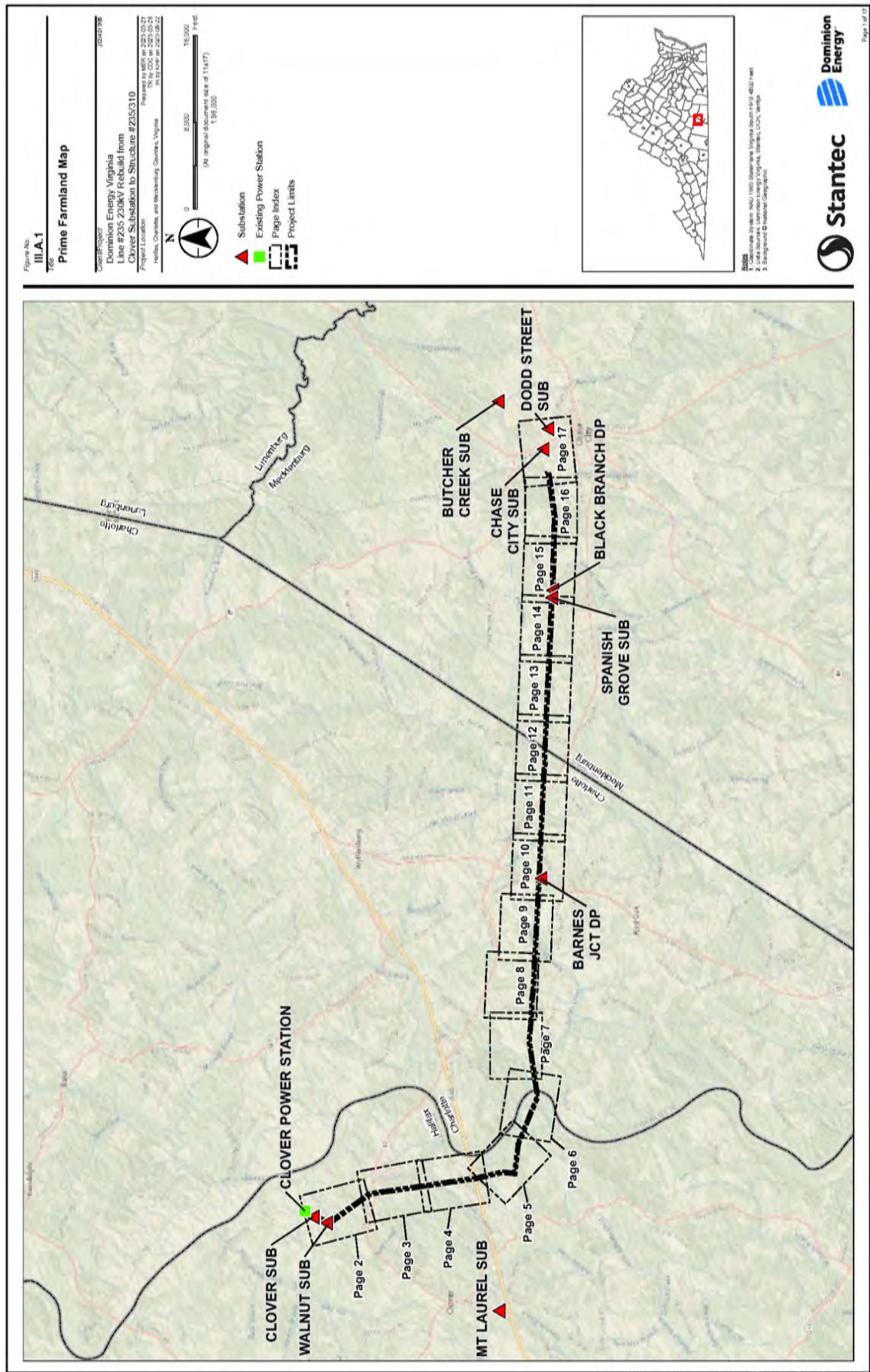


Figure No.  
III.A.1

# Prime Farmland Map

Client/Project: Dominion Energy Virginia  
 Location: Loudoun County, Virginia  
 Project: 2025-2026  
 Project Substation to Structure #2353310  
 Presented to: MEIS on 02/25/2025  
 By: the CDS on 02/25/2025  
 Project Location: Loudoun County, Virginia



- Substation
- Existing Power Station
- All Areas are Prime Farmland (137.44 Acres ±)
- Farmland of Statewide Importance (159.25 Acres ±)
- Railroad



Notes:  
 1. This map was prepared using aerial photography and other data provided by the client.  
 2. Data is current as of the date of the map.  
 3. This map is for informational purposes only and does not constitute a warranty.  
 4. The client is responsible for verifying the accuracy and completeness of the data.

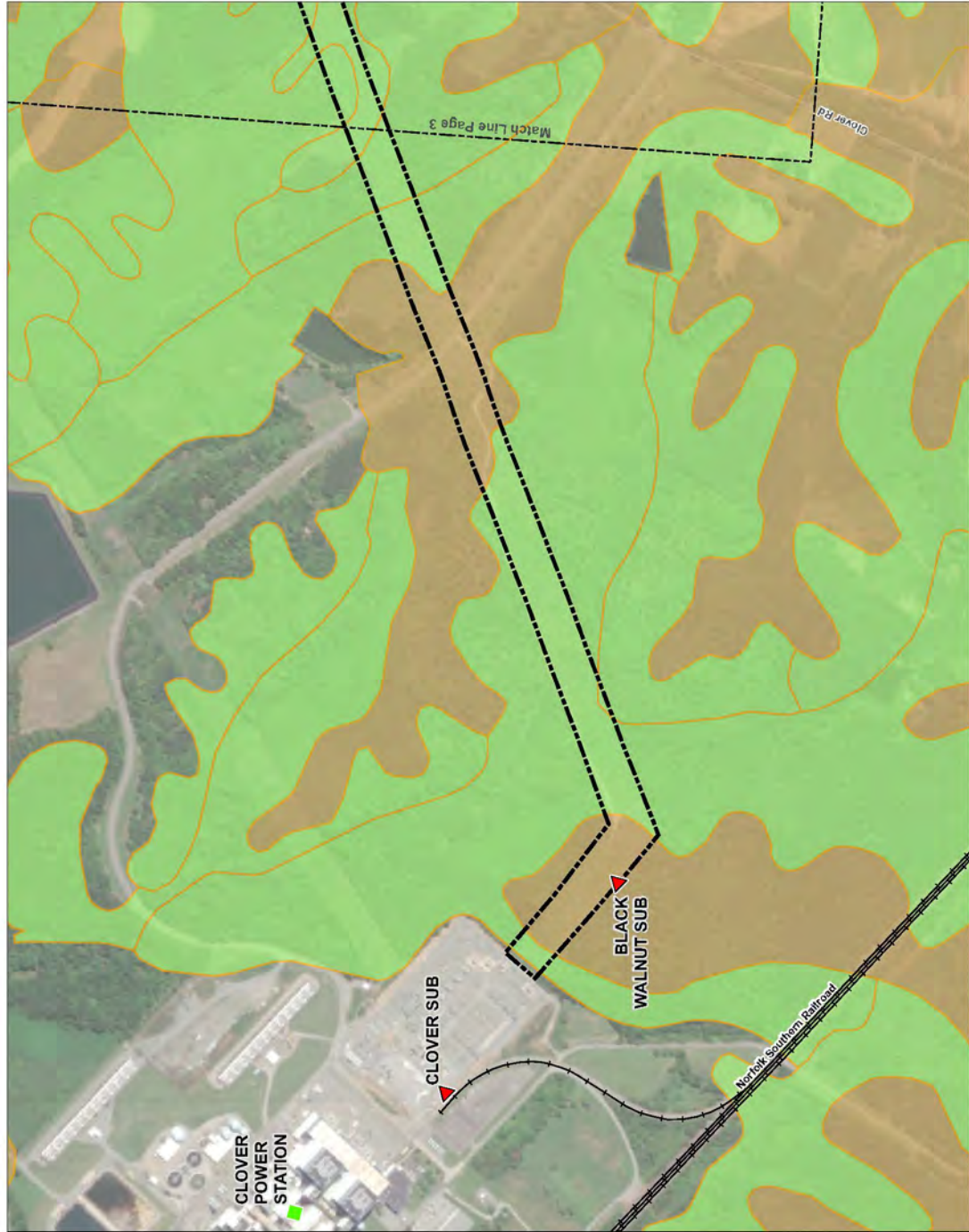




Figure No.  
III.A.1

# Prime Farmland Map

Client/Project: Dominion Energy Virginia  
 Location: Shenandoah County, Virginia  
 License #23520967 received from  
 Owner Substation to Structures #2353310  
 Project Location:  
 Shenandoah County, Virginia  
 Referred to MGS on 02/25/2021  
 Referred to MGS on 02/25/2021  
 02/25/2021 to 02/25/2021



- All Areas are Prime Farmland (137.44 Acres ±)
- Farmland of Statewide Importance (158.25 Acres ±)



Notes:  
 1. This map was prepared using the following data:  
 2. Data provided by Dominion Energy Virginia, Shenandoah County, Virginia  
 3. Data provided by the Virginia Department of Agriculture and Forestry (VDARF)  
 4. Data provided by the Virginia Department of Transportation (VDOT)  
 5. Data provided by the Virginia Department of Conservation and Forestry (VDCF)





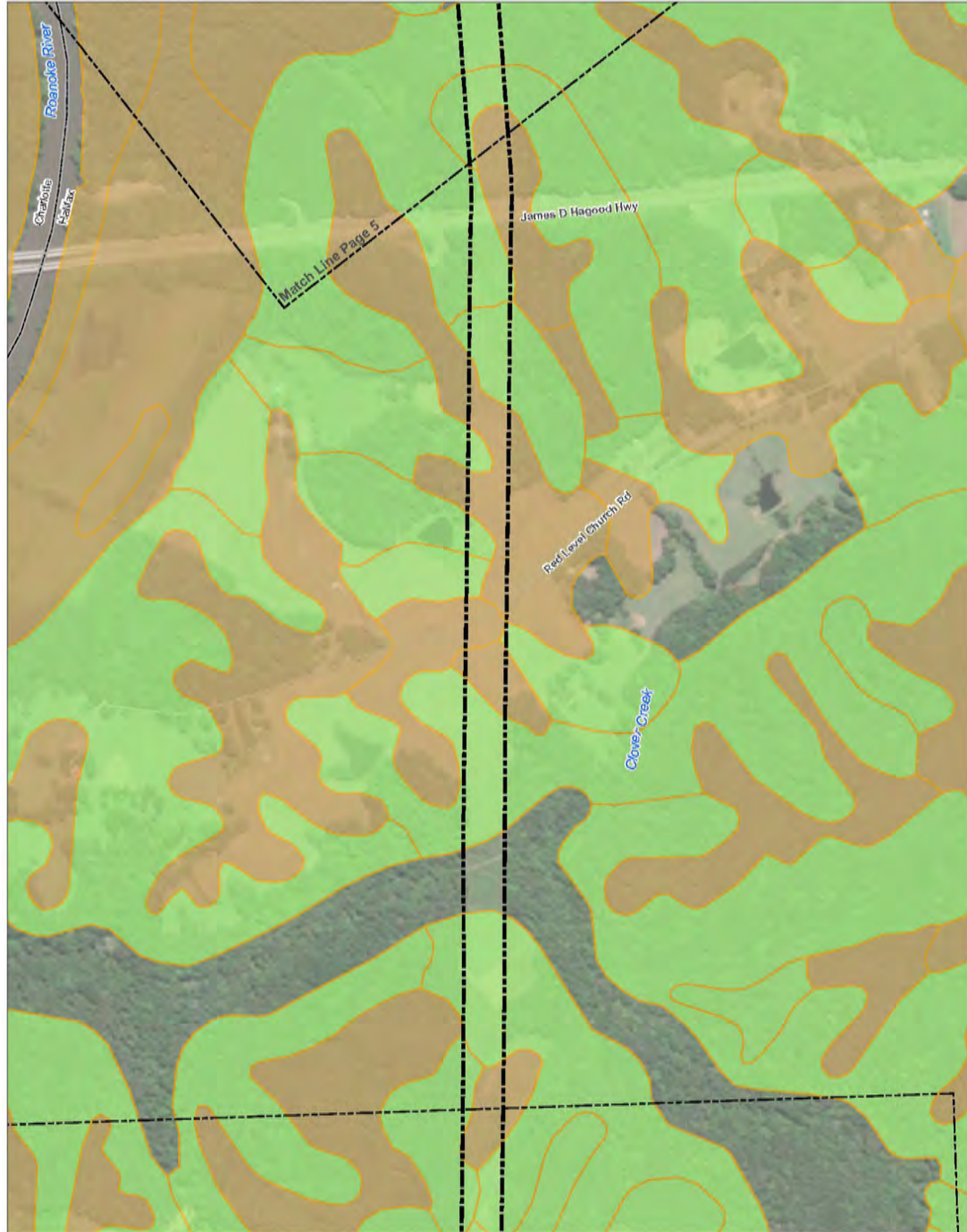
Figure No. III.A.1  
T66

# Prime Farmland Map

Client/Project: Dominion Energy Virginia  
 Location: Loudoun County, Virginia  
 License #23520967 (reissued from  
 Over Substation to Structure #2353310)  
 Project Location: Referenced to MGS on 2/22/2027  
 Referenced to MGS on 2/22/2027  
 2/22/2027 to 2/22/2027  
 2/22/2027 to 2/22/2027



- All Areas are Prime Farmland (137.44 Acres ±)
- Farmland of Statewide Importance (158.25 Acres ±)



20250227  
 1. This map was prepared by Stantec for Dominion Energy Virginia. It is not to be used for any other purpose without the written consent of Stantec.  
 2. This map was prepared by Stantec for Dominion Energy Virginia. It is not to be used for any other purpose without the written consent of Stantec.  
 3. This map was prepared by Stantec for Dominion Energy Virginia. It is not to be used for any other purpose without the written consent of Stantec.  
 4. This map was prepared by Stantec for Dominion Energy Virginia. It is not to be used for any other purpose without the written consent of Stantec.

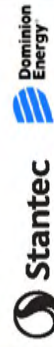


Figure No.  
III.A.1

# Prime Farmland Map

Client/Project: Dominion Energy Virginia  
 Location: Loudoun County, Virginia  
 Project: 200KV Reliability  
 Project Substation to Structure #235310  
 Project Location: Loudoun County, Virginia  
 Prepared by: M&E on 03/23/2022  
 By: R. C. C. on 03/23/2022  
 03/23/2022 03/23/2022



- All Areas are Prime Farmland (137.44 Acres ±)
- Farmland of Statewide Importance (159.25 Acres ±)



Notes:  
 1. This map was prepared using aerial photography and field data.  
 2. Data sources: USGS National Wetlands Inventory, USDA Web Soil Survey, and other sources.  
 3. This map is for informational purposes only and does not constitute a warranty.

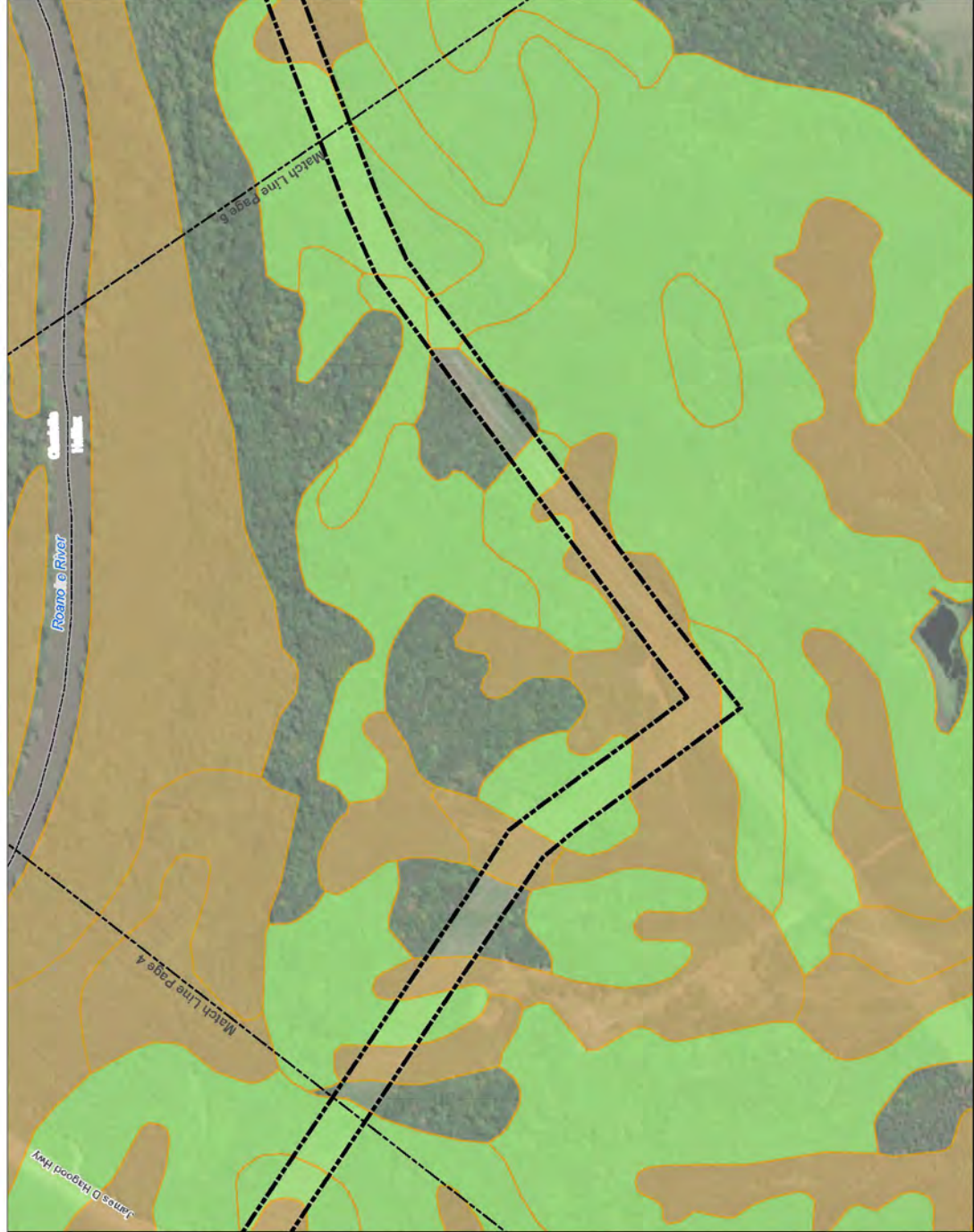




Figure No.  
III.A.1

# Prime Farmland Map

Client/Project: Dominion Energy Virginia  
 Location: Shenandoah County, Virginia  
 License #205.20967 received from  
 Over Substation to Structures #235310  
 Project Location:  
 Shenandoah County, Virginia  
 Referred to MGS on 02/25/2023  
 Referred to MGS on 02/25/2023  
 02/25/2023 to 02/25/2023



- All Areas are Prime Farmland (137.44 Acres ±)
- Farmland of Statewide Importance (158.25 Acres ±)
- Prime Farmland if Drained



Legend:  
 1. All Areas are Prime Farmland (137.44 Acres ±)  
 2. Farmland of Statewide Importance (158.25 Acres ±)  
 3. Prime Farmland if Drained





Figure No.  
III.A.1

# Prime Farmland Map

Client/Project: Dominion Energy Virginia  
 Location: Loudoun County, Virginia  
 License #235230647 received from  
 Over Substation to Structures #2353310  
 Project Location: Loudoun County, Virginia  
 Referred to: M&E on 02/25/2023  
 Referred to: M&E on 02/25/2023  
 Referred to: M&E on 02/25/2023



- All Areas are Prime Farmland (137.44 Acres ±)
- Farmland of Statewide Importance (158.25 Acres ±)
- Prime Farmland if Drained



Source: USDA, National Resources Inventory (NRI) 2001  
 1. Data provided by Dominion Energy Virginia, Loudoun County, Virginia  
 2. Data provided by Dominion Energy Virginia, Loudoun County, Virginia  
 3. Data provided by Dominion Energy Virginia, Loudoun County, Virginia  
 4. Data provided by Dominion Energy Virginia, Loudoun County, Virginia  
 5. Data provided by Dominion Energy Virginia, Loudoun County, Virginia



Figure No.  
III.A.1

# Prime Farmland Map

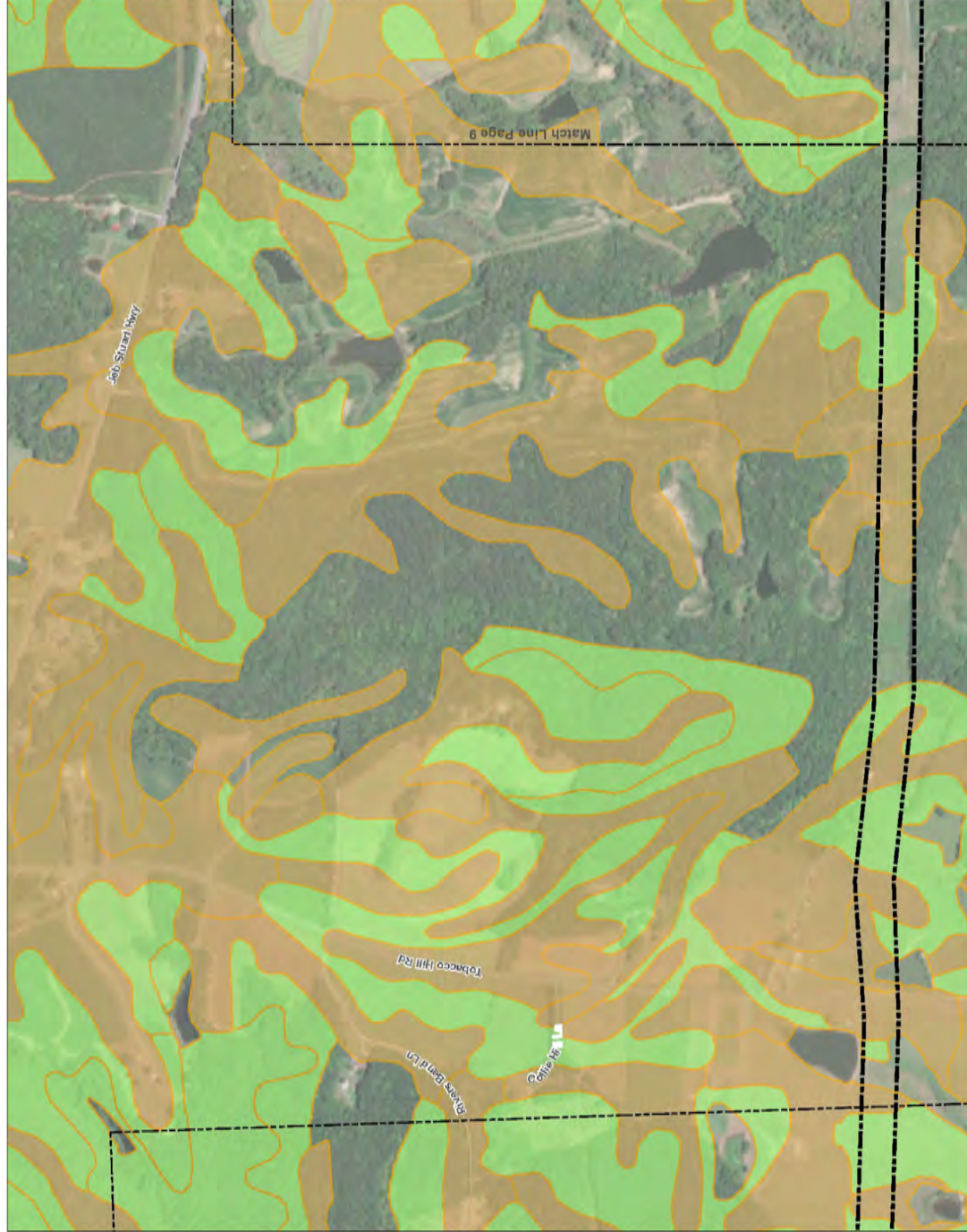
Client/Project: Dominion Energy Virginia  
 Location: Loudoun County, Virginia  
 License #23520967 received from  
 Owner Substation to Structure #2353310  
 Project Location: Loudoun County, Virginia  
 Referred to M&S on 02/25/2023  
 Referred to C&E on 02/25/2023  
 02/25/2023 to 02/25/2023



- All Areas are Prime Farmland (137.44 Acres ±)
- Farmland of Statewide Importance (158.25 Acres ±)



Source: USDA, National Resources Inventory (NRI) 2001  
 2. Data provided by Dominion Energy Virginia, Loudoun County, Virginia  
 3. Data provided by Dominion Energy Virginia, Loudoun County, Virginia  
 4. Data provided by Dominion Energy Virginia, Loudoun County, Virginia  
 5. Data provided by Dominion Energy Virginia, Loudoun County, Virginia



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.



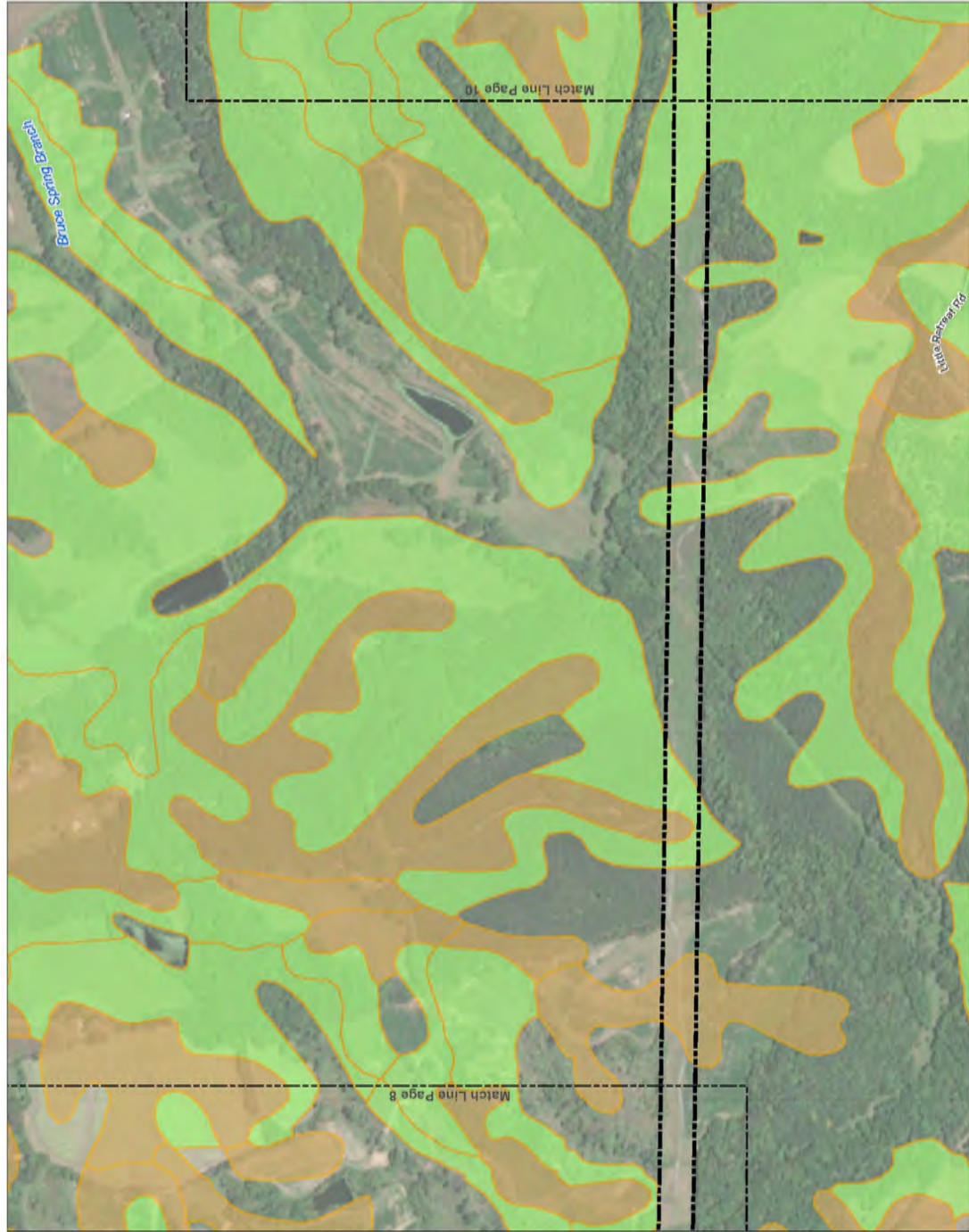
Figure No.  
III.A.1

# Prime Farmland Map

Client/Project: Dominion Energy Virginia  
 Location: Loudoun County, Virginia  
 License #205 200647 received from  
 Owner Substation to Structure #2353310  
 Project Location: Referred to MGS on 02/25/2021  
 Referred to MGS on 02/25/2021  
 Referred to MGS on 02/25/2021  
 Referred to MGS on 02/25/2021



- All Areas are Prime Farmland (137.44 Acres ±)
- Farmland of Statewide Importance (158.25 Acres ±)



Source: 1. USGS National Wetlands Inventory (NWI) data  
 2. USGS National Wetlands Inventory (NWI) data  
 3. USGS National Wetlands Inventory (NWI) data  
 4. USGS National Wetlands Inventory (NWI) data  
 5. USGS National Wetlands Inventory (NWI) data



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.



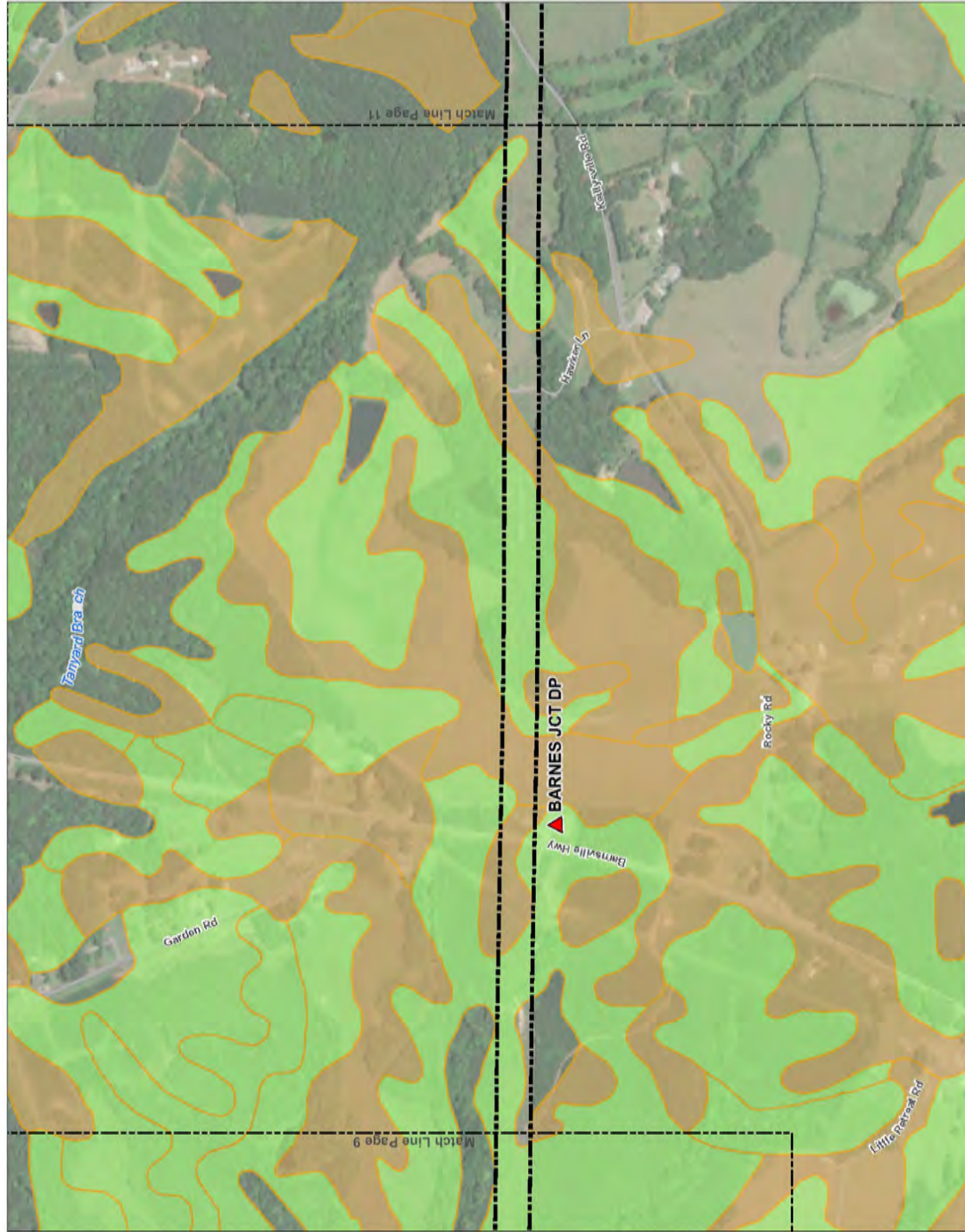
Figure No.  
III.A.1

# Prime Farmland Map

Client/Project: Dominion Energy Virginia  
 Location: Loudoun County, Virginia  
 Project #235230647 related from  
 Owner Substation to Structures #2353310  
 Project Location: Loudoun County, Virginia  
 Referred to: MDS on 02/25/2023  
 Referred to: MDS on 02/25/2023  
 Referred to: MDS on 02/25/2023



- Substation**
- ▲ All Areas are Prime Farmland (137.44 Acres ±)
  - Farmland of Statewide Importance (158.25 Acres ±)



Legend:  
 1. All Areas are Prime Farmland (137.44 Acres ±)  
 2. Farmland of Statewide Importance (158.25 Acres ±)  
 3. Substation  
 4. Road  
 5. Water  
 6. Topography  
 7. Other



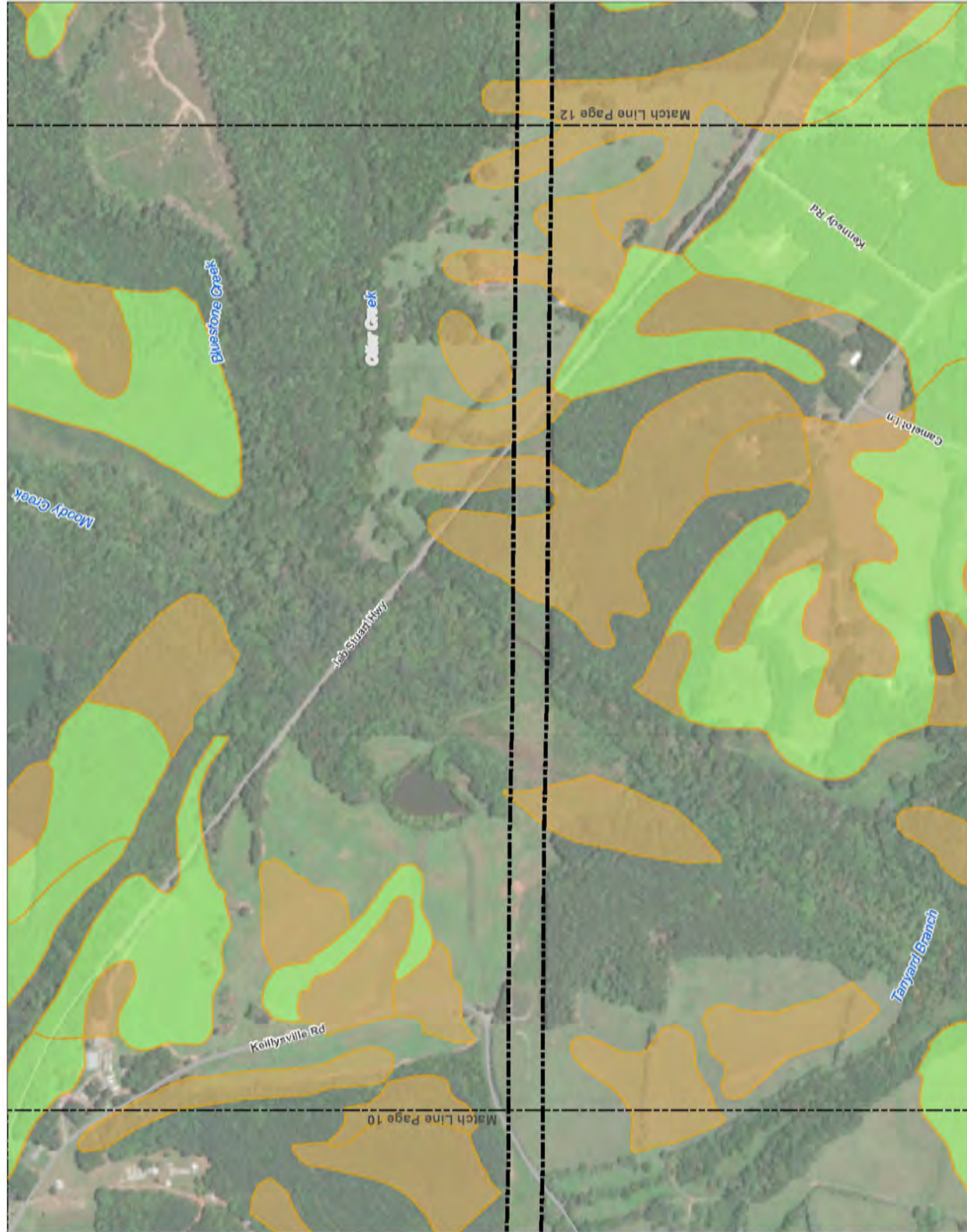
Figure No.  
III.A.1

# Prime Farmland Map

Client/Project: Dominion Energy Virginia  
 Location: Shenandoah County, Virginia  
 License #205-20967 received from  
 Owner/ Submitter to Structure #2353310  
 Project Location:  
 Shenandoah County, Virginia  
 Referred to MGS on 02/25/2021  
 Referred to CDE on 02/25/2021  
 02/25/2021 to 02/25/2021



- All Areas are Prime Farmland (137.44 Acres ±)
- Farmland of Statewide Importance (158.25 Acres ±)



Disclaimer: This map was prepared by Stantec for Dominion Energy Virginia. It is not intended to be used for any other purpose. Stantec does not warrant the accuracy or completeness of the data. 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.





Figure No.  
III.A.1

# Prime Farmland Map

Client: Dominion Energy Virginia  
 Project: Dominion Energy Virginia  
 Location: 2025-2026/2027  
 Project: 2025-2026/2027  
 Project: 2025-2026/2027  
 Project: 2025-2026/2027

Scale: 1:6,000  
 (At original document size of 11x17)  
 0 500 1,000 Feet

All Areas are Prime Farmland (137.44 Acres ±)  
 Farmland of Statewide Importance (158.25 Acres ±)



Legend:  
 1. All Areas are Prime Farmland (137.44 Acres ±)  
 2. Farmland of Statewide Importance (158.25 Acres ±)  
 3. Other Land Use (Not Prime Farmland)

Stantec  
 Dominion Energy





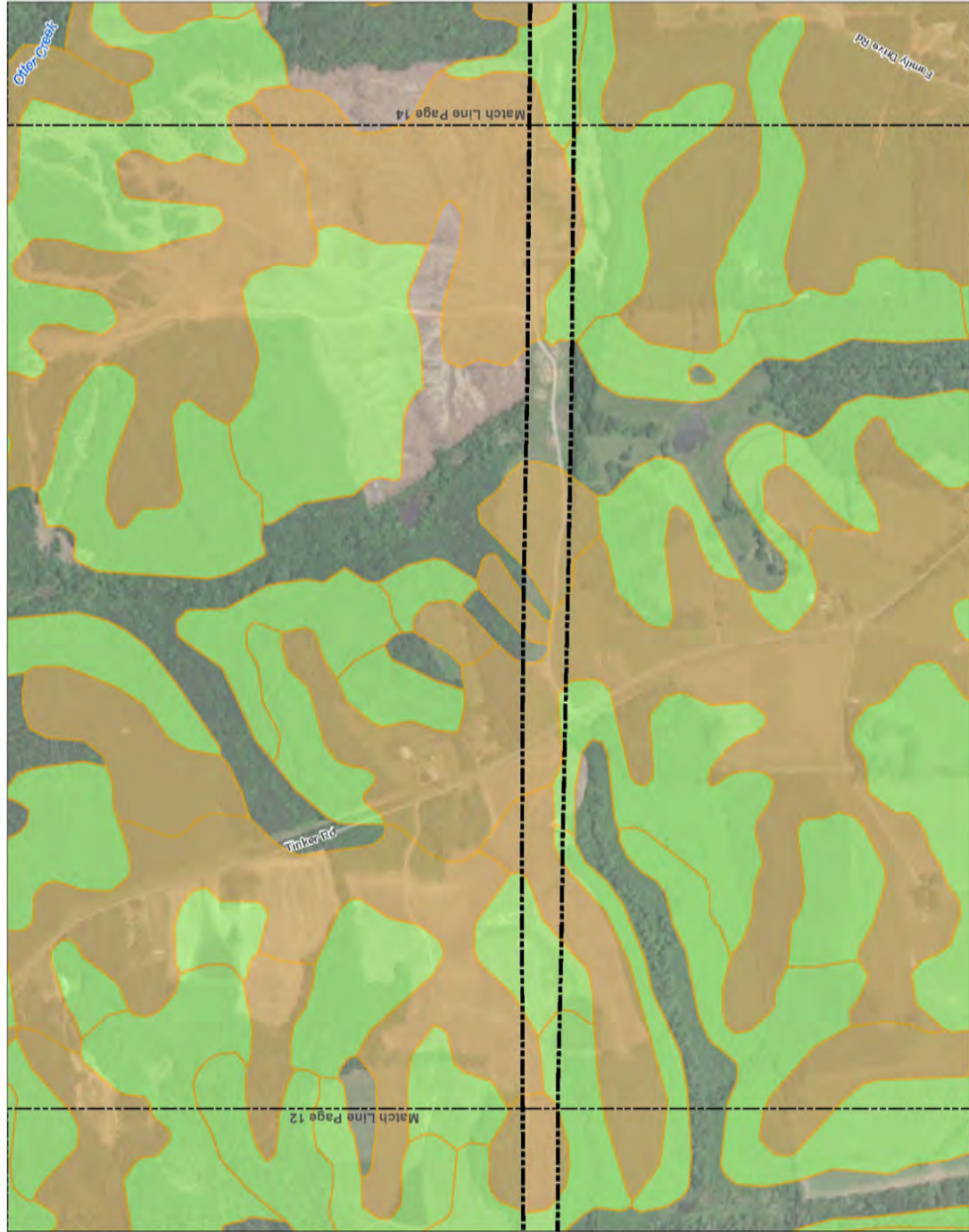
Figure No.  
III.A.1

# Prime Farmland Map

Client/Project: Dominion Energy Virginia  
 Location: Loudoun County, Virginia  
 License #235230647 received from  
 Owner/ Substitution to Structure #2352310  
 Project Location: Loudoun County, Virginia  
 Referred to MGS on 02/25/2023  
 Referred to MGS on 02/25/2023  
 Referred to MGS on 02/25/2023



- All Areas are Prime Farmland (137.44 Acres ±)
- Farmland of Statewide Importance (158.25 Acres ±)



Legend:  
 1. All Areas are Prime Farmland (137.44 Acres ±)  
 2. Farmland of Statewide Importance (158.25 Acres ±)  
 3. Other Land Use (Not Shaded)  
 4. Other Land Use (Not Shaded)  
 5. Other Land Use (Not Shaded)







Figure No.  
III.A.1

# Prime Farmland Map

Client/Project: Dominion Energy Virginia  
 Location: Loudoun County, Virginia  
 Project: #23520967 related from  
 Over Substation to Structure #235310  
 Project Location: Loudoun County, Virginia  
 Referred to: M&E on 2/25/2021  
 Referred to: M&E on 2/25/2021  
 Referred to: M&E on 2/25/2021



- Substation**
- All Areas are Prime Farmland (137.44 Acres ±)
  - Farmland of Statewide Importance (158.25 Acres ±)



Legend:  
 1. Substation  
 2. Line  
 3. Road  
 4. Water  
 5. Topography  
 6. Other

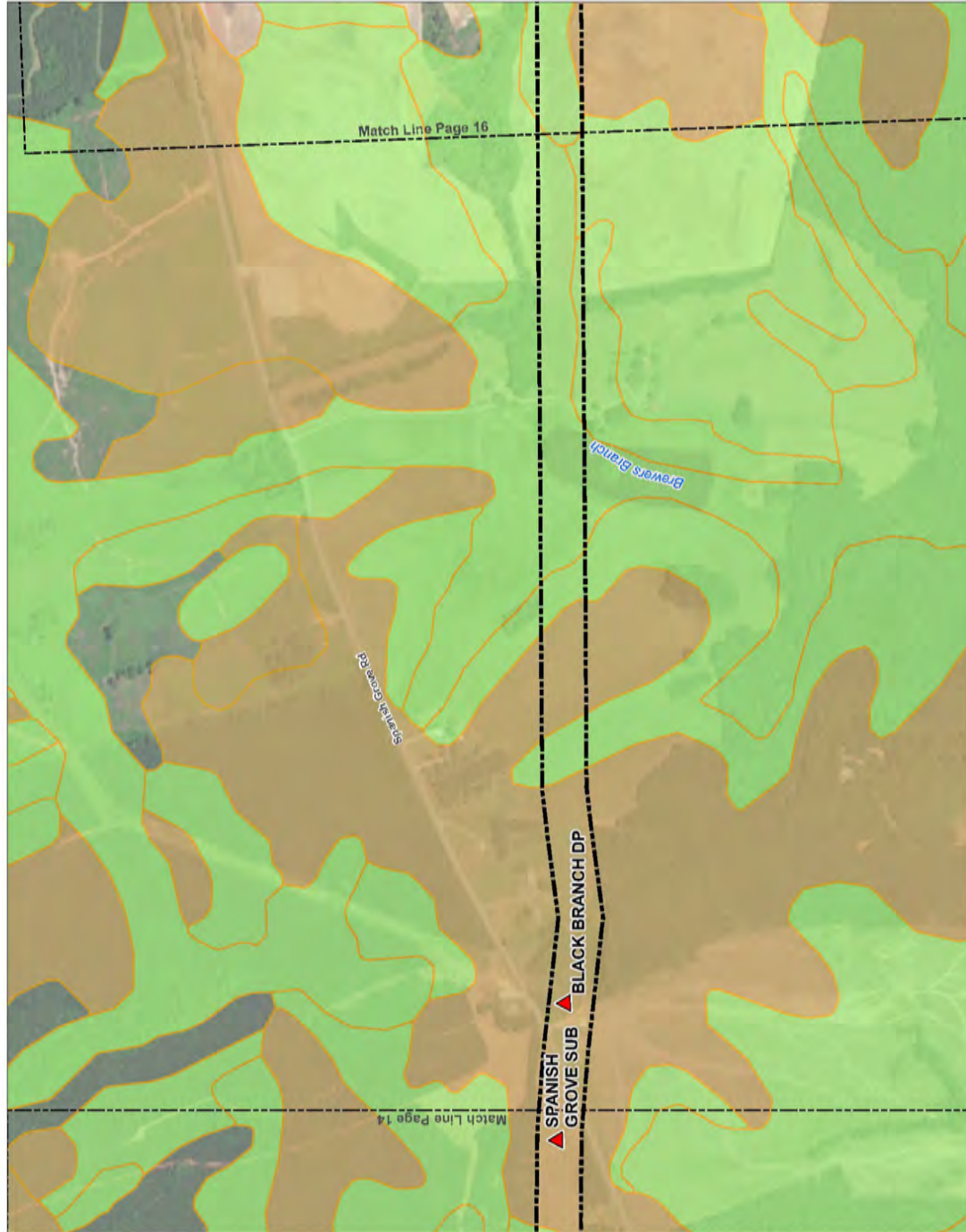




Figure No.  
III.A.1

# Prime Farmland Map

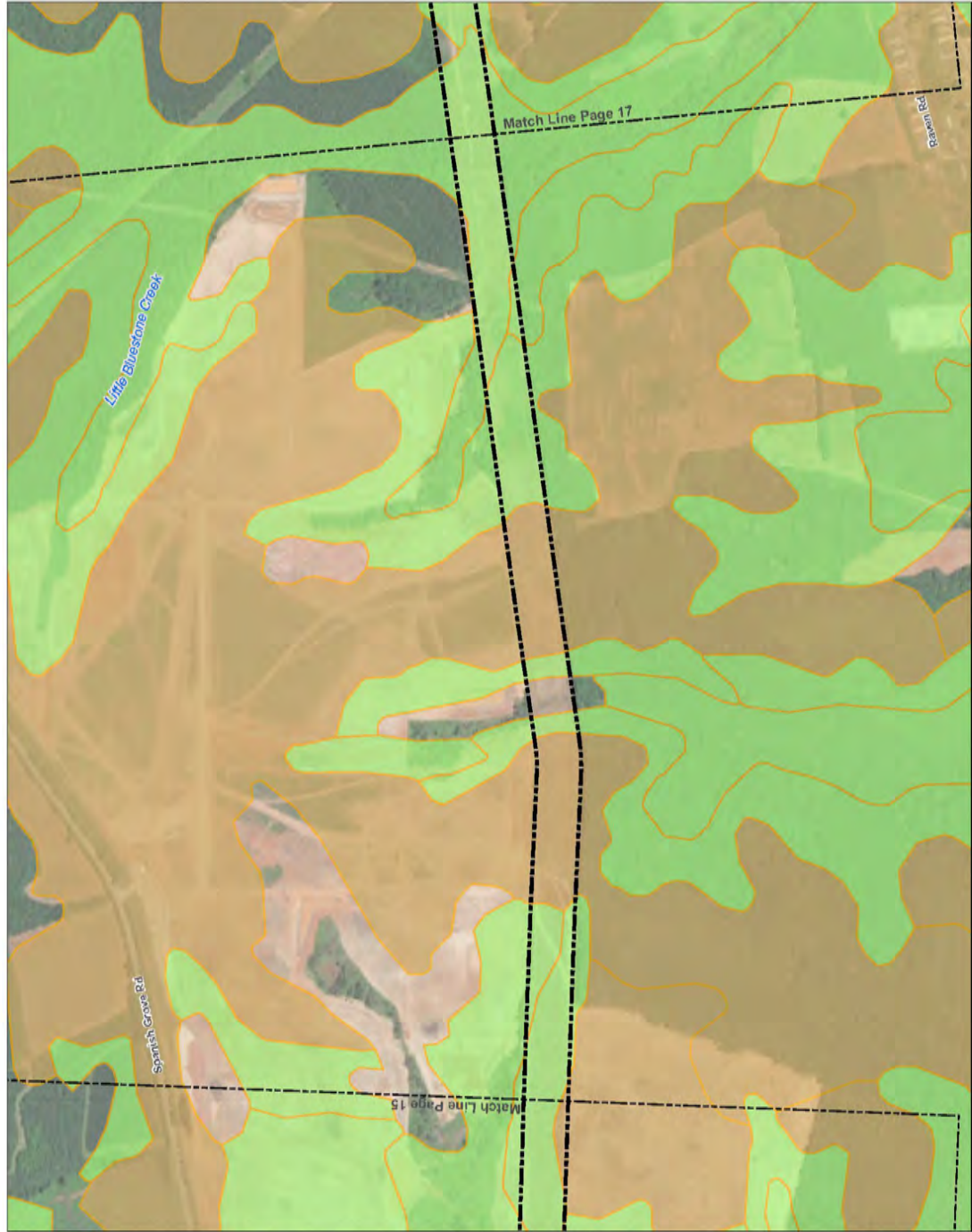
Client/Project: Dominion Energy Virginia  
 Location: Shenandoah County, Virginia  
 License #23520967 received from  
 Owner Subdivision to Structure #2353310  
 Project Location: Shenandoah County, Virginia  
 Referred to: M&E on 02/22/2022  
 By: JCS on 02/22/2022  
 02/22/2022 to 02/22/2022



- All Areas are Prime Farmland (137.44 Acres ±)
- Farmland of Statewide Importance (158.25 Acres ±)



Notes:  
 1. This map was prepared using the following data:  
 2. Data provided by the Virginia Department of Agriculture and Forestry (VDARF)  
 3. Data provided by the Virginia Department of Transportation (VDOT)  
 4. Data provided by the Virginia Department of Planning and Policy (VDPP)  
 5. Data provided by the Virginia Department of Environmental Quality (VDEQ)





### **III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES**

#### **B. Describe any public meetings the Applicant has had with neighborhood associations and/or officials of local, state or federal governments that would have an interest or responsibility with respect to the affected area or areas.**

Response: In April 2023, the Company informed Halifax, Charlotte, and Mecklenburg Counties of the proposed Rebuild Project.

In March 2023, the Company launched an internet website dedicated to the proposed Rebuild Project: <https://www.dominionenergy.com/cloverchasecity>. The website includes a description of the proposed Rebuild Project and its benefits, an explanation of need, an overview map, photo simulations, an interactive tool to view individual structure height changes, and information on the Commission review process.

Since April 2023, the Company released three mailers totaling 291 pieces of correspondence informing the public about the Rebuild Project and inviting the public to learn more about the Rebuild Project. These mailers were sent to property owners within 1,000 feet of the proposed Rebuild Project, and included a postcard mailed in April (Attachment III.B.1), a postcard mailed in May (Attachment III.B.2), and a letter mailed in June (Attachment III.B.3).

Two in-person community meetings were held on June 27 and June 28, 2023, with 44 people attending over the course of the two meetings. The meetings were held in Chase City and Red Oak, Virginia, respectively. In an effort to accommodate property owners' schedules, the mailers included invitations to both scheduled community meetings. Only three individuals attended the meetings to discuss the Rebuild Project; the remaining 41 individuals came to the meeting to discuss other projects proposed by the Company. At both in-person community meetings, the Company was available to discuss with interested individuals the project need, project timing, and the Commission approval process. Community meeting materials have been posted on the website for the proposed Rebuild Project, including simulations from key locations. The key location simulations are included as Attachment III.B.4. Additionally, map boards were developed for the community meetings showing segments of the line with existing and proposed structure locations. The map boards are included as Attachment III.B.7.

Newspaper print advertisements for the community meetings were placed in the Mecklenburg Sun (circulation 6,078), News Progress (circulation 3,200), and South Hill Enterprises (circulation 6,400). In addition, digital advertisements for the community meetings targeted residents in the 23962, 24589, 23964, and 23924 zip codes in Halifax, Charlotte, and Mecklenburg Counties, which are the zip codes most closely associated with the Rebuild Project. A copy of the digital and print ads is included as Attachment III.B.5.



An overview of the digital campaign results as of July 11, 2023 is as follows.

§ Pre-Event campaign results:

- 410,608 Impressions Delivered
- 3,007 Link Clicks
- 0.73% Clickthrough Rate
- 28.13% Video Completion Rate from 26,239 video views
- 27,542 Ad Engagements

As part of preparing for this Rebuild Project, the Company researched the demographics of the surrounding communities using the Environmental Protection Agency’s EJ mapping and screening tool, EJScreen 2.2 and census data from the U.S. Census Bureau 2017-2021 American Community Survey data. This information revealed that there are eight Census Block Groups within the Rebuild Project area that fall within one mile of the existing transmission line corridor. A review of ethnicity, income, age, and education census data identified populations within the study area that meet the Virginia Environmental Justice Act threshold to be defined as Environmental Justice Communities (“EJ Communities”). Communities of color have been identified in eight Census Block Groups within the one-mile search area. Seven of eight Census Block Groups within the one-mile search area appear to be low-income as defined by the Virginia Environmental Justice Act, while the one remaining Census Block Group lacks available income data.

Pursuant to Va. Code §§ 56-46.1 C and 56-259 C, as well as in Attachment 1 of Staff’s guidelines on transmission projects that require a CPCN, there is a strong preference for the use of existing utility right-of-way whenever feasible. The Rebuild Project is within the existing right-of-way or on Company-owned property and will not require any of the following: additional permanent or temporary right-of-way, the construction of a temporary line, or an increase in operating voltage. The structural height average will increase by 12 feet from 63.6 feet to 75.6 feet. Height differences will vary per structural location. Based on the analysis of the Rebuild Project, the Company does not anticipate disproportionately high or adverse impacts to the surrounding community and the EJ Communities located within the study area, consistent with the Rebuild Project design to reasonably minimize impacts.

In addition to its evaluation of impacts, the Company has and will continue to engage the EJ Communities and others affected by the Rebuild Project in a manner that allows them to meaningfully participate in the project development and approval process so that their views and input can be taken into consideration. See Attachment III.B.6 for a copy of the Company’s Environmental Justice Policy.



Dominion Energy image. Not project specific.

Clover-Eastern 230 kV Rebuild Postcard, February 2023.indd 1

Electric Transmission  
P.O. Box 26666  
Richmond, VA 23261



Actions Speak Louder

**Local Power Line Project  
Information Enclosed**

## IMPORTANT

# Local Power Line Project Information

## Clover-Chase City 230 kV Electric Transmission Rebuild Project

Use your iPhone camera or the QR reader app on other smartphones to visit the project page on our website.



AT DOMINION ENERGY, we are dedicated to maintaining reliable and secure electric service in the communities we serve. You are receiving this postcard to notify you about an upcoming transmission project in your area.

We are planning to rebuild approximately 16 miles of existing 230 kilovolt (kV) transmission lines that run from our Clover Substation on Clover Road in Halifax County, crossing through Charlotte County, to a half mile west of the Chase City Substation in Mecklenburg County. The line will be rebuilt within the existing right of way; therefore, no new right of way is anticipated.

We will replace the transmission structures in addition to replacing the current 230 kV wires. We are proposing to rebuild the lines with mostly weathering steel H-frame structures, which require less maintenance and have a longer service life than the current wooden H-frame structures. The new structures will be, on average, approximately 11 feet taller than the existing structures.

Be on the lookout for invitations to public meetings this summer where you can learn details about the project, timeline, and ask questions to our subject matter experts.

You may notice our crews performing initial surveys in our right of way corridor and reviewing potential access points to prepare for the project. Thank you for your understanding as we work to maintain reliable service in your community.

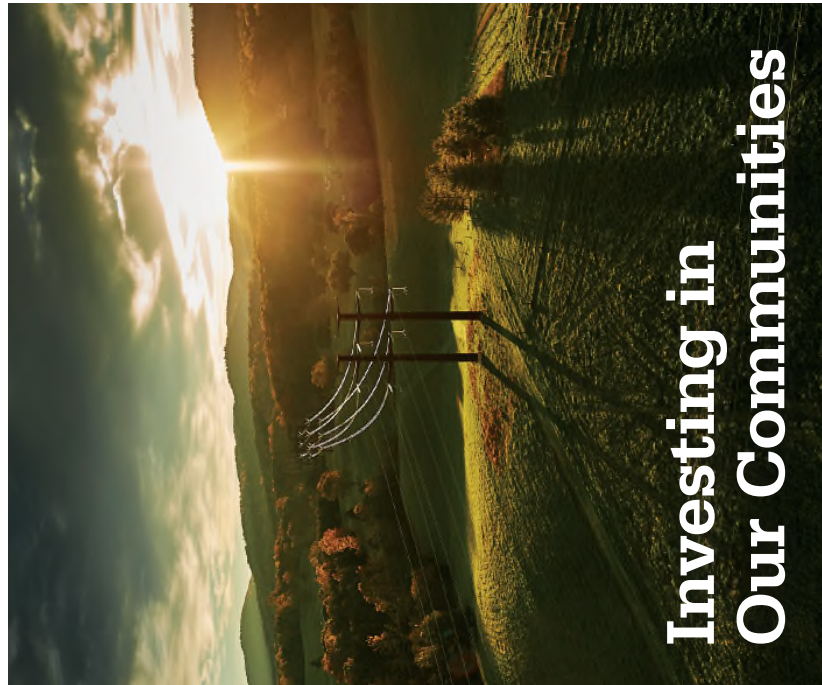
**CONTACT US** — Visit our website at [DominionEnergy.com/cloverchasecity](https://DominionEnergy.com/cloverchasecity) for project updates. Or contact us by calling 888-291-0190 or sending an email to [powerline@dominionenergy.com](mailto:powerline@dominionenergy.com).



This map is intended to serve as a representation of the project area and is not intended for detailed engineering purposes.

**AT DOMINION ENERGY**, protecting the grid and making it secure against natural and man-made acts is a top priority. We work alongside government officials to prepare for potential incidents that could affect our ability to provide electricity safely and reliably to the communities we serve. Learn how we're keeping you safe at [powerlines101.dominionenergy.com](https://powerlines101.dominionenergy.com).





Dominion Energy Image. Not project specific.

Electric Transmission  
P.O. Box 26666  
Richmond, VA 23261



Actions Speak Louder

**YOU'RE INVITED TO A  
COMMUNITY MEETING!  
INFORMATION ENCLOSED**

IMPORTANT

Local Power Line Project Information

Clover-Chase City 230 kV Electric Transmission Rebuild Project — Community Meetings

Use your iPhone camera or the QR reader app on other smartphones to scan the QR code on this project page on our website.



AT DOMINION ENERGY, we are committed to providing safe, reliable, and secure energy to the communities we serve. To maintain reliable electric service to our customers, we are planning to rebuild and reconductor approximately 16 miles of existing 230 kilovolt (kV) transmission lines that run from our Clover Substation in Halifax County, crossing through Charlotte County, to a half mile west of the Chase City Substation in Mecklenburg County, Virginia.

You are receiving this postcard because we would like to invite you to attend one of two community meetings to learn about this project. During the meetings, you can learn project details, timeline, and ask questions to our subject matter experts. Unable to attend? You may contact us and request a presentation be given to a smaller group in your community.

We look forward to your attendance at the community meetings and will continue to engage you in our project development.

**CONTACT US** — Visit our website at [DominionEnergy.com/cloverchasecity](https://DominionEnergy.com/cloverchasecity) for project updates. Or contact us by calling 888-291-0190 or sending an email to [powerline@dominionenergy.com](mailto:powerline@dominionenergy.com).



This map is intended to serve as a representation of the project area and is not intended for detailed engineering purposes.

**AT DOMINION ENERGY, protecting the grid and making it secure against natural and man-made acts is a top priority. We work alongside government officials to prepare for potential incidents that could affect our ability to provide electricity safely and reliably to the communities we serve. Learn how we're keeping you safe at [powerlines101.dominionenergy.com](https://powerlines101.dominionenergy.com).**

COMMUNITY MEETINGS

- Tuesday, June 27, 2023**  
5 p.m. – 7 p.m.  
(drop by anytime during these hours)  
Estes Community Center  
316 N. Main Street, Chase City, VA 23924
- Wednesday, June 28, 2023**  
5 p.m. – 7 p.m.  
(drop by anytime during these hours)  
Red Oak Excavating  
5192 Barnesville Highway, Red Oak, VA 23964

**LEARN MORE**

**ASK QUESTIONS**

**PROVIDE FEEDBACK**

Dominion Energy Virginia  
Electric Transmission  
P.O. Box 26666, Richmond, VA 23261  
DominionEnergy.com



June 7, 2023

**Clover-Chase City 230 kV Electric Transmission Rebuild Project**

Dear Neighbor:

At Dominion Energy, we are committed to providing safe, reliable, and secure energy to the communities we serve. You recently received an invitation to attend in-person community meetings. We are planning to rebuild approximately 16 miles of existing 230 kilovolt (kV) transmission lines that run from the Clover Substation in Halifax County, crossing through Charlotte County, to a half mile west of the Chase City Substation in Mecklenburg County, Virginia.

Community input is an important part of our project development. We hope you will attend one of our meetings to learn more about this project and speak with our subject matter experts. Unable to attend? You may contact us and request a presentation be given to a smaller group in your community.

**June 27, 2023**

5 – 7 p.m.  
Estes Community Center  
316 N. Main Street  
Chase City, VA 23924  
(Drop by anytime during these hours.)

**June 28, 2023**

5 – 7 p.m.  
Red Oak Excavating  
5192 Barnesville Highway  
Red Oak, VA 23964  
(Drop by anytime during these hours.)

We encourage you to visit [DominionEnergy.com/cloverchasecity](https://DominionEnergy.com/cloverchasecity) to utilize our interactive structure height comparison tool called the Backyard Application. This tool allows you to view details about the existing structures and compare them to the proposed structures. Feel free to contact us with any questions by calling 888-291-0190 or sending an email to [powerline@dominionenergy.com](mailto:powerline@dominionenergy.com).

This project will ensure continued safety and reliability of the electric grid. Thank you for your understanding while we plan for long-term reliability investments in your community.

Sincerely,

The Electric Transmission Project Team

Enclosures: Backyard App Fact Sheet

## Clover-Chase City 230 kV Electric Transmission Rebuild Project

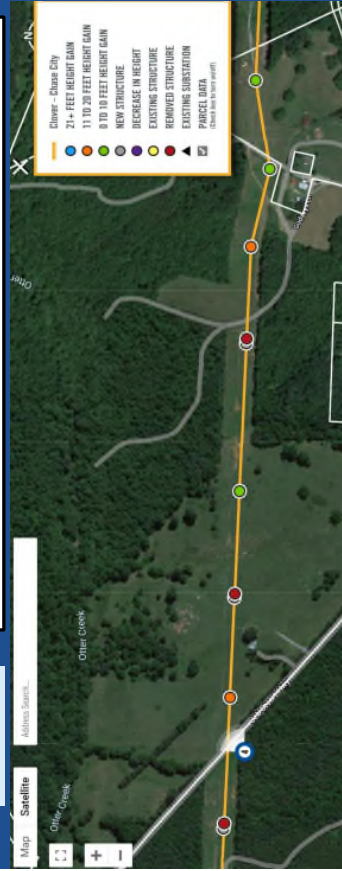
### Introducing the Backyard Application, an interactive structure height comparison tool

Use your iPhone  
camera app or the QR  
reader app on other  
smartphones  
to access the  
Backyard Application.



Take advantage of the Backyard Application features:

- Use the address search to see structure locations in your area.
- View details about individual structures by clicking on a structure location marker to see the name, existing height, proposed height, and height difference.
- Use the legend to understand structure changes, and the "Height Reference Diagram" for more detailed information about typical structure heights.



The Backyard Application is located on our website  
[DominionEnergy.com/cloverchasecity](https://DominionEnergy.com/cloverchasecity)

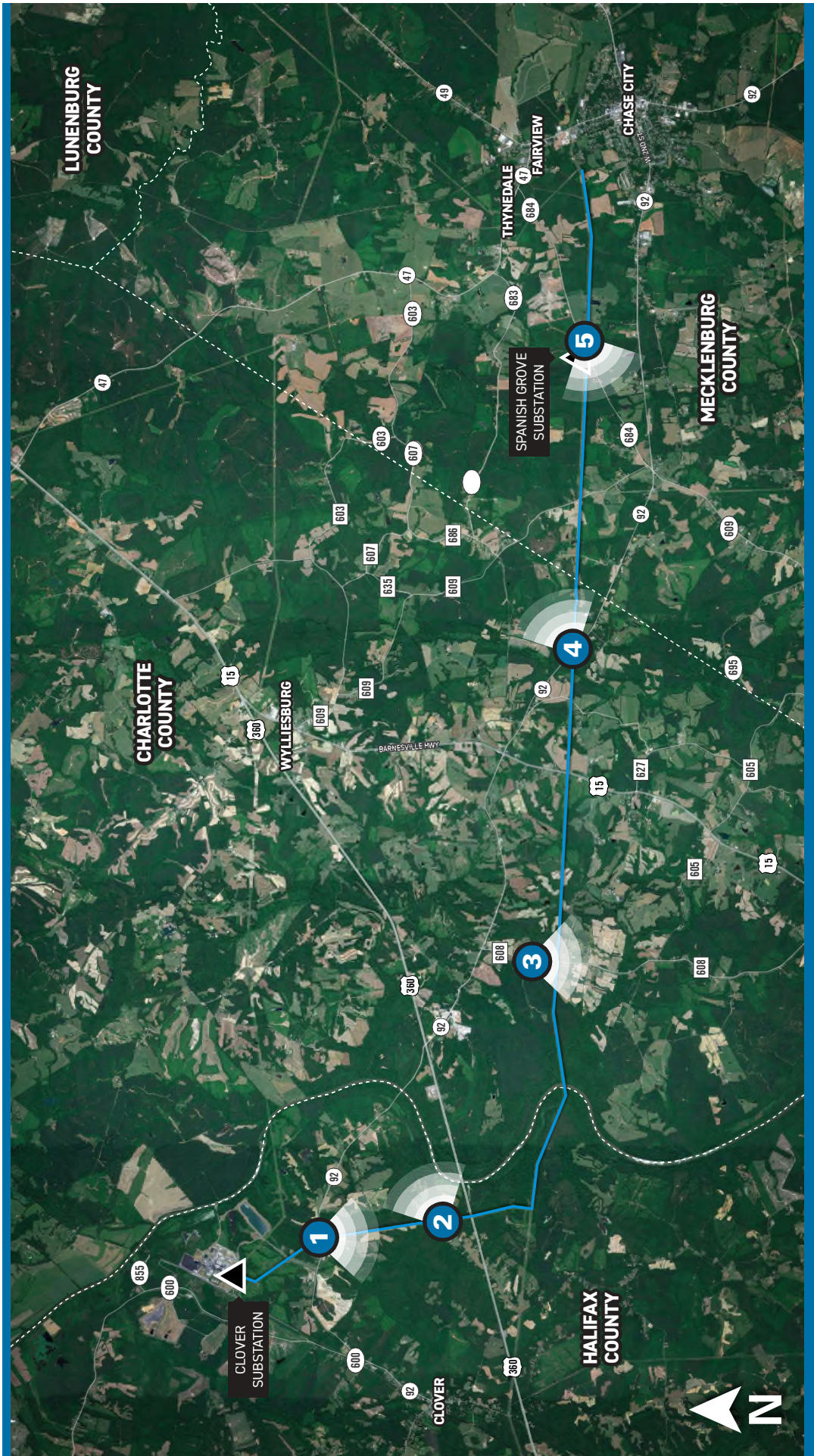
To learn more about this project, contact us by sending an email to  
[powerline@dominionenergy.com](mailto:powerline@dominionenergy.com) or calling 888-291-0190.



**CLOVER TO CHASE CITY**  
Transmission Line Project

Photo Location Map

- 1 Viewpoint Location
- Transmission Line
- Existing Substations



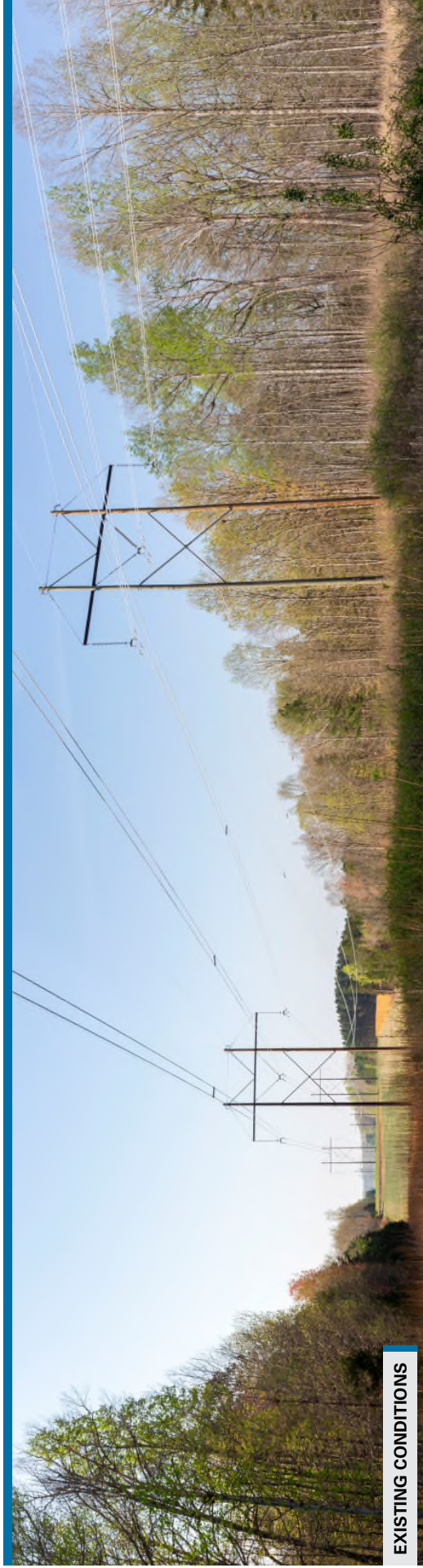
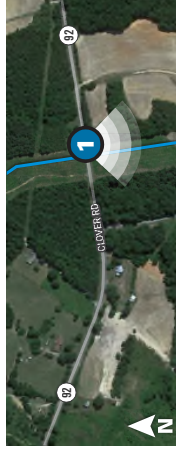


# CLOVER TO CHASE CITY

Transmission Line Project

## Viewpoint 1

04/05/2023 Time: 8:07 am Viewing Direction:  
 Transmission Line



EXISTING CONDITIONS



PROPOSED CONDITIONS

Simulations are for discussion purposes only. Final design is subject to change pending public engineering, and regulatory review.

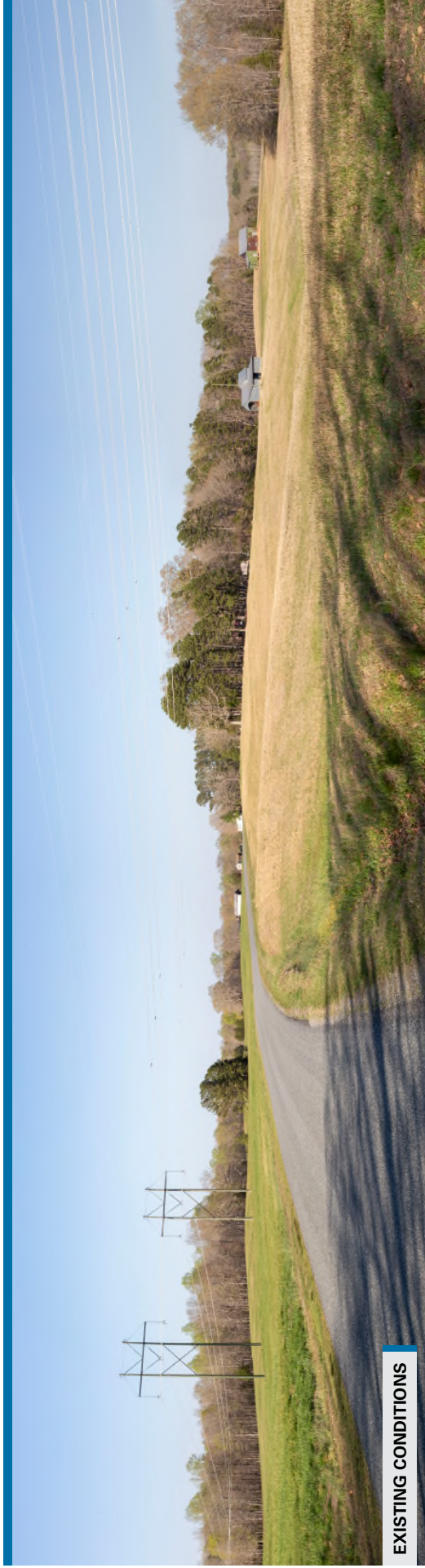
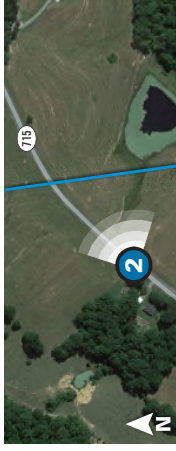


# CLOVER TO CHASE CITY

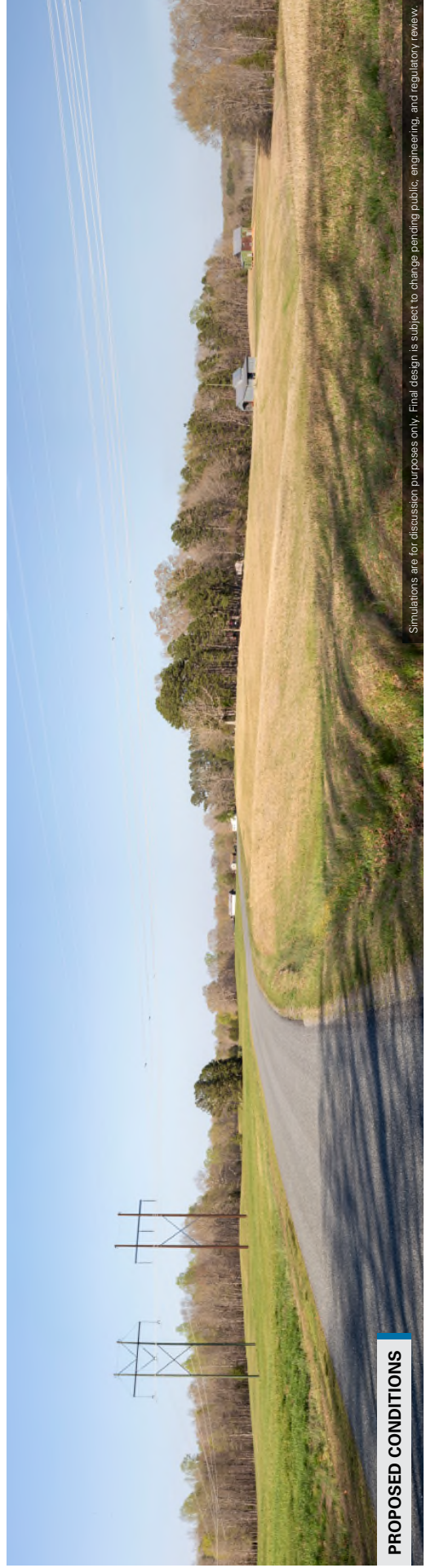
Transmission Line Project

## Viewpoint 2

04/05/2023 Time: 4:36 pm Viewing Direction: Northeast  
 2 — Transmission Line



EXISTING CONDITIONS



PROPOSED CONDITIONS

Simulations are for discussion purposes only. Final design is subject to change pending public engineering, and regulatory review.

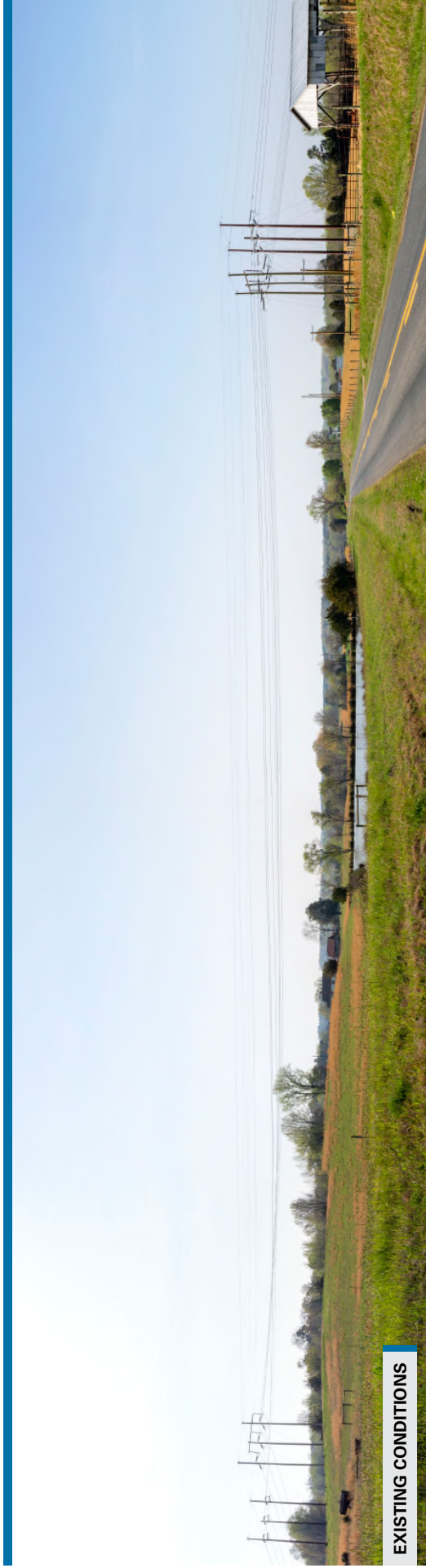
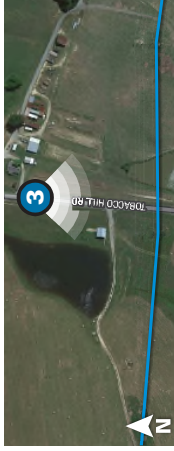


# CLOVER TO CHASE CITY

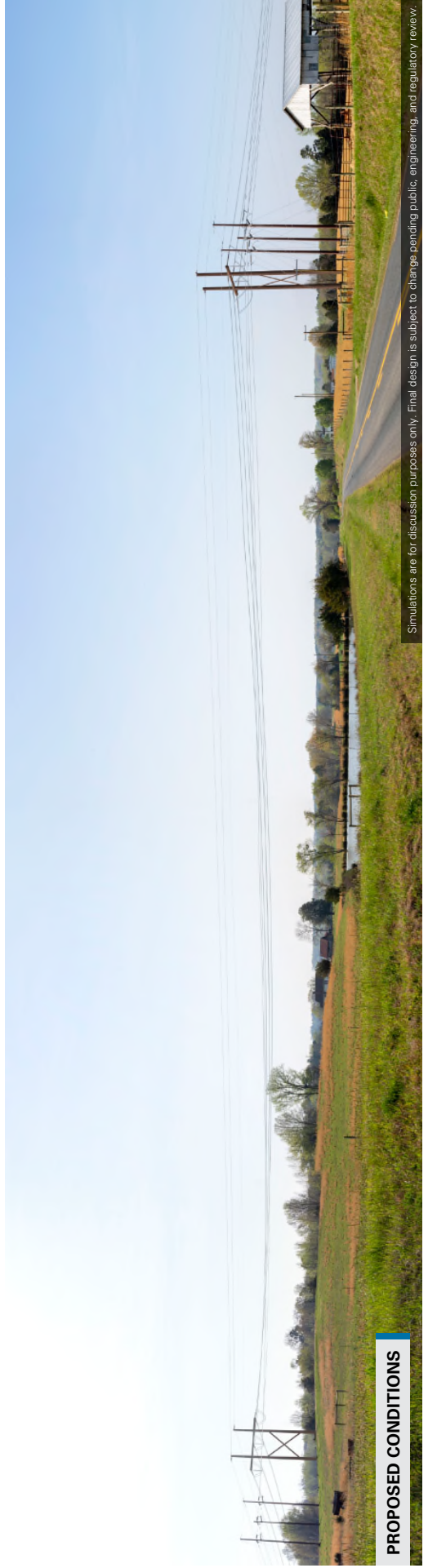
Transmission Line Project

## Viewpoint 3

04/05/2023 Time: 9:07 am Viewing Direction:  
— Transmission Line



EXISTING CONDITIONS



PROPOSED CONDITIONS

Simulations are for discussion purposes only. Final design is subject to change pending public engineering, and regulatory review.

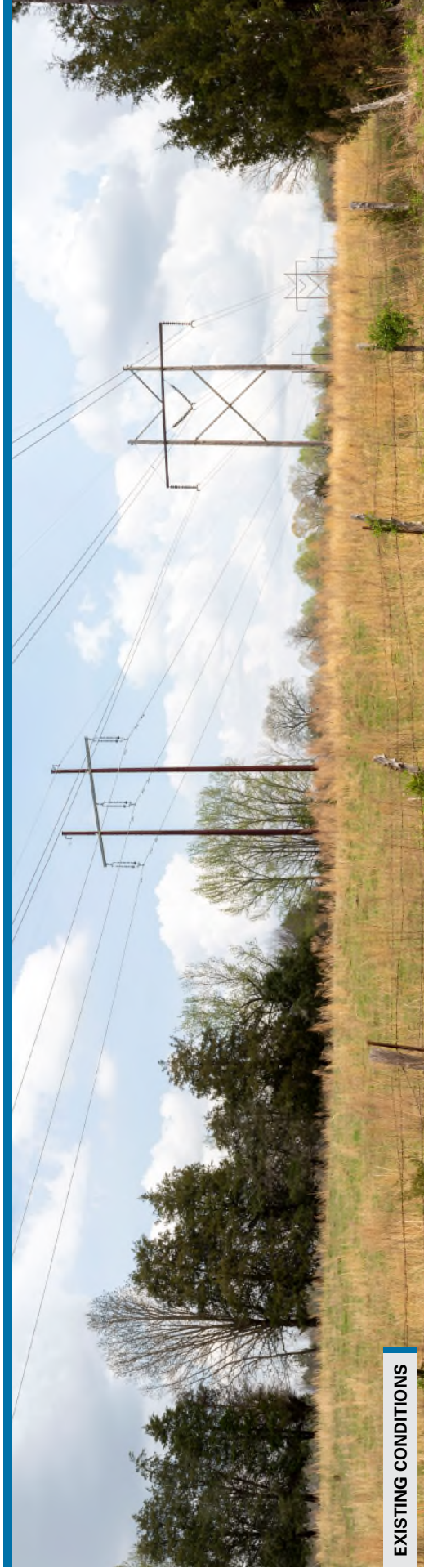
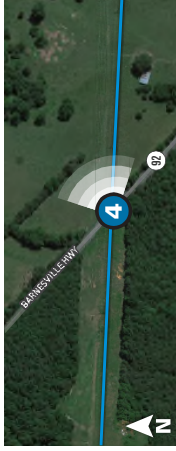


# CLOVER TO CHASE CITY

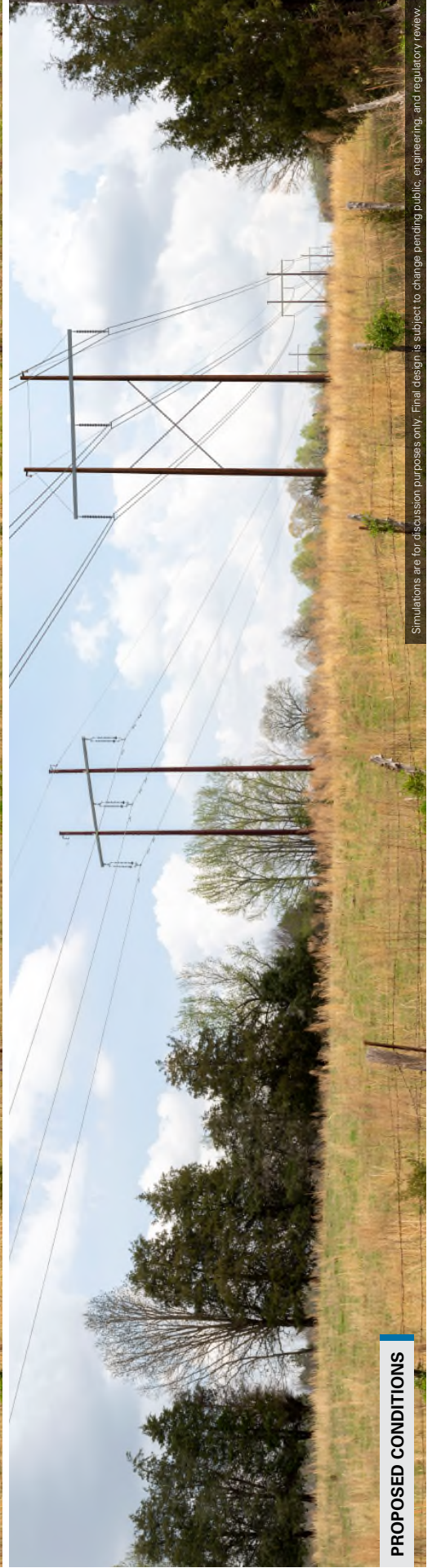
Transmission Line Project

## Viewpoint 4

04/05/2023 Time: 12:14 pm Viewing Direction: Northeast  
 — Transmission Line



EXISTING CONDITIONS



PROPOSED CONDITIONS

Simulations are for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

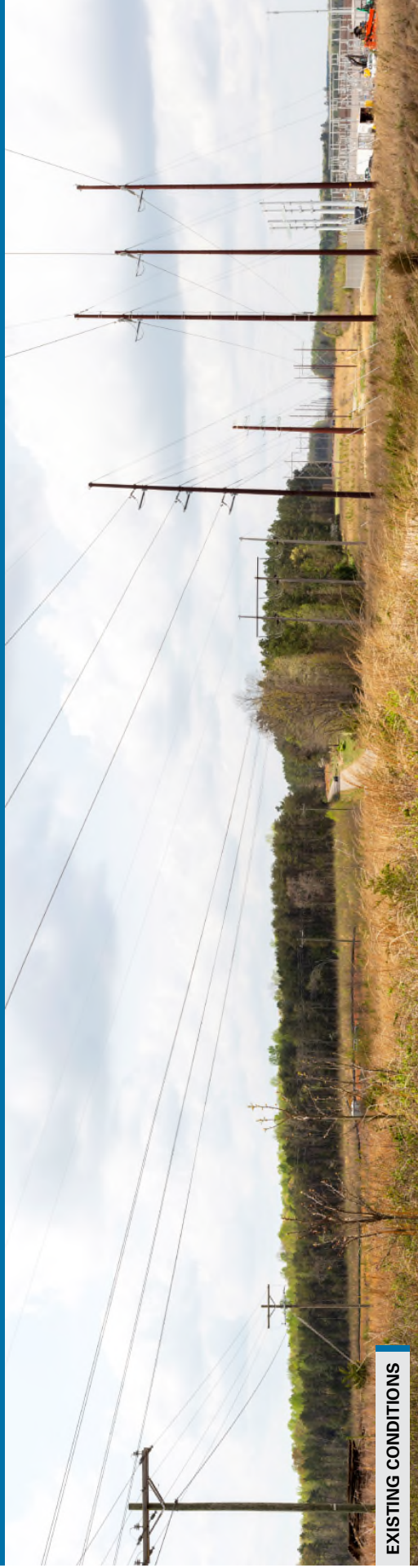
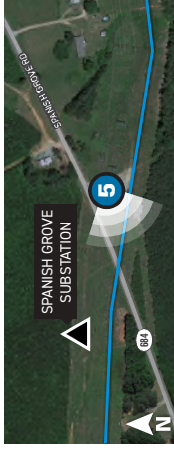


# CLOVER TO CHASE CITY

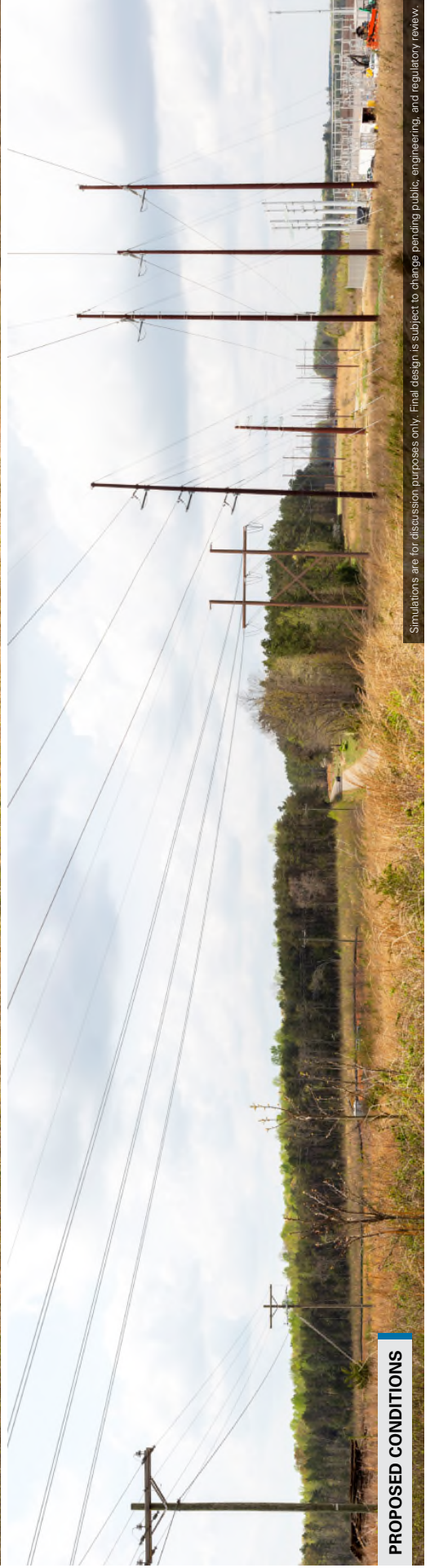
Transmission Line Project

## Viewpoint 5

04/05/2023 Time: 11:29 am Viewing Direction: Southwest  
 — Transmission Line ▲ Existing Substation



EXISTING CONDITIONS

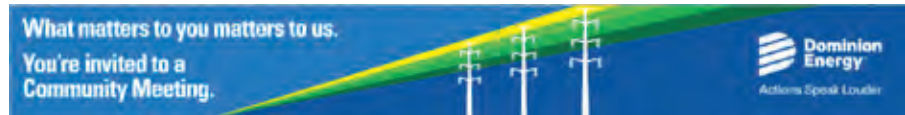


PROPOSED CONDITIONS

Simulations are for discussion purposes only. Final design is subject to change pending public engineering, and regulatory review.



Dominion Energy  
Electric Transmission  
Clover-Chase City Event  
Display



Estes Community Center: June 27, 5-7 p.m.  
Red Oak Excavating: June 28, 5-7 p.m.  
[Click here to learn more.](#)

Estes Community Center: June 27, 5-7 p.m.  
Red Oak Excavating: June 28, 5-7 p.m.  
[Click here to learn more.](#)



Dominion Energy  
Electric Transmission  
Clover-Chase City Event  
Nextdoor Imagery

Event Image:



Dominion Energy  
Electric Transmission  
Clover-Chase City Event  
Social Videos

[Pre-event Video \(Click to Play\)](#)





Dominion Energy  
Electric Transmission  
Clover-Chase City Event  
Newspaper

# You are invited to a Community Meeting

Learn about the Clover-Chase City Electric Transmission Rebuild Project taking place in Halifax, Charlotte and Mecklenburg Counties.

Choose the meeting convenient for you:

**Tuesday, June 27, 5-7 p.m.**

Estes Community Center  
316 N. Main Street  
Chase City, VA 23924

**Wednesday, June 28, 5-7 p.m.**

Red Oak Excavating  
5192 Barnesville Highway  
Red Oak, VA 23964

You can find event details and view a project map at [DominionEnergy.com/cloverchasecity](https://DominionEnergy.com/cloverchasecity)



Use your phone's camera or QR reader app to visit the project page directly.



**Dominion  
Energy**  
Actions Speak Louder



### **Environmental Justice: Ongoing Commitment to Our Communities**

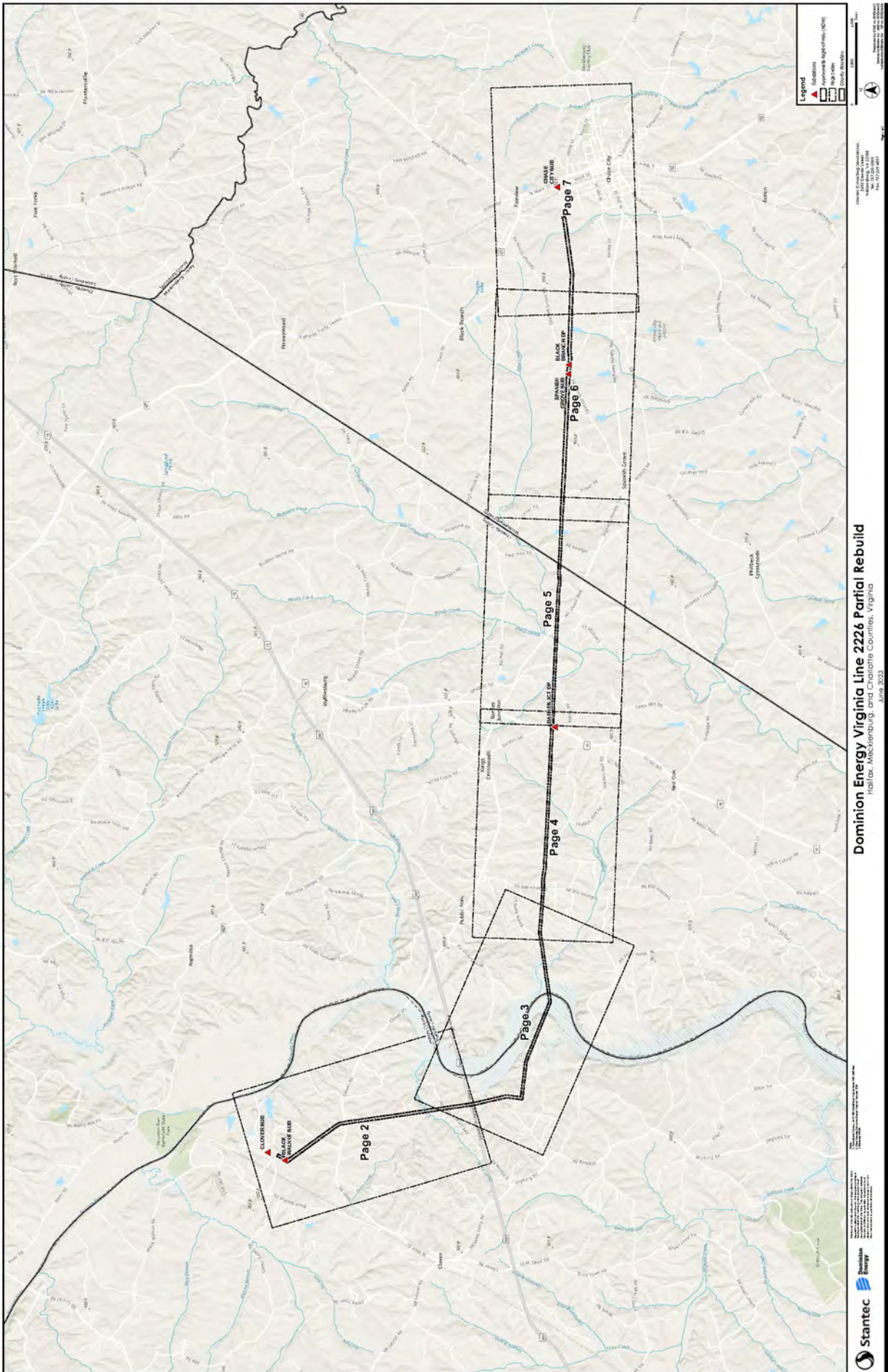
At Dominion Energy, we are committed to providing reliable, affordable, clean energy in accordance with our values of safety, ethics, excellence, embrace change and team work. This includes listening to and learning all we can from the communities we are privileged to serve.

Our values also recognize that environmental justice considerations must be part of our everyday decisions, community outreach and evaluations as we move forward with projects to modernize the generation and delivery of energy.

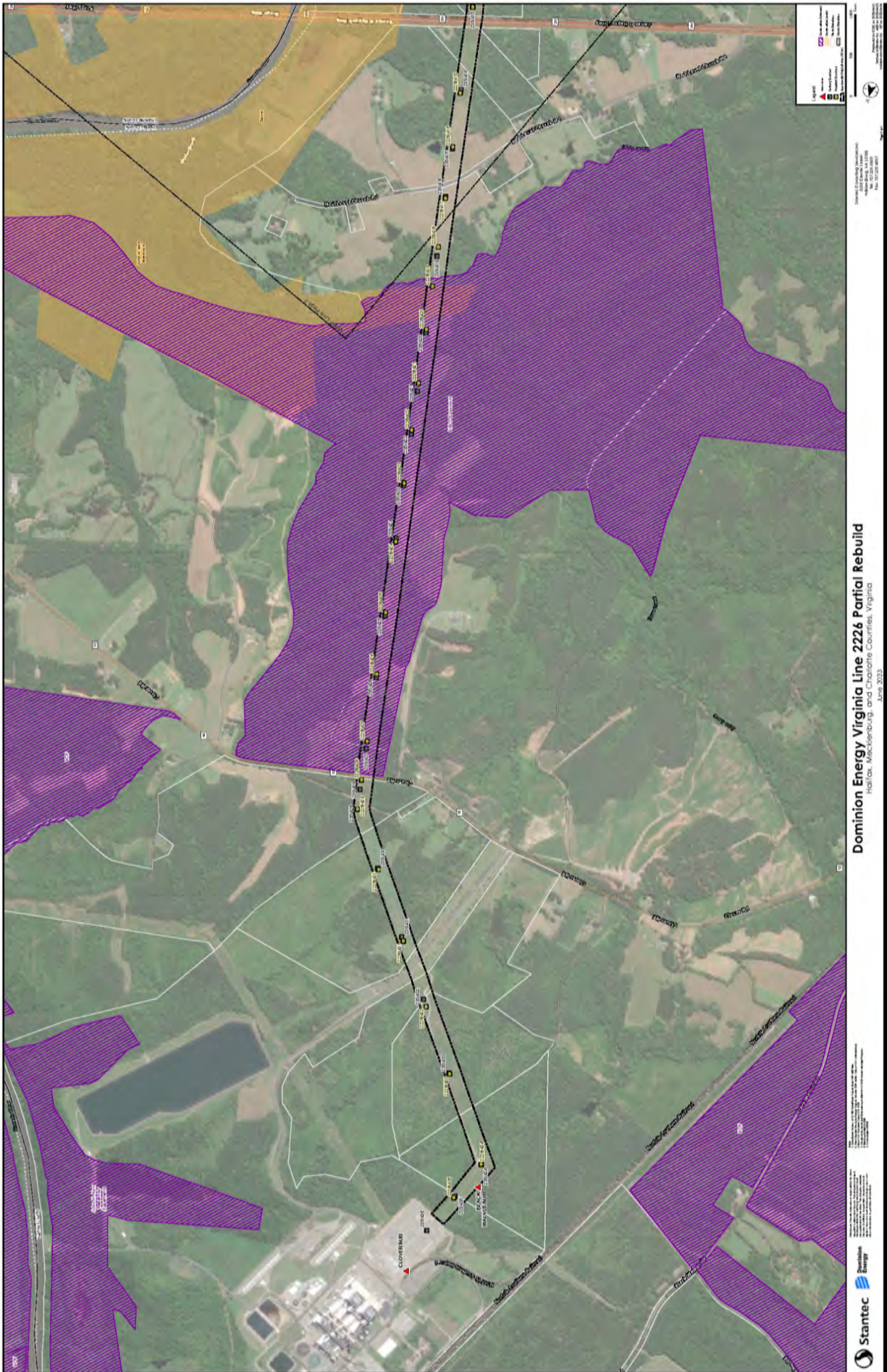
To that end, communities should have a meaningful voice in our planning and development process, regardless of race, color, national origin, or income. Our neighbors should have early and continuing opportunities to work with us. We pledge to undertake collaborative efforts to work to resolve issues. We will advance purposeful inclusion to ensure a diversity of views in our public engagement processes.

Dominion Energy will be guided in meeting environmental justice expectations of fair treatment and sincere involvement by being inclusive, understanding, dedicated to finding solutions, and effectively communicating with our customers and our neighbors. We pledge to be a positive catalyst in our communities.

November 2018



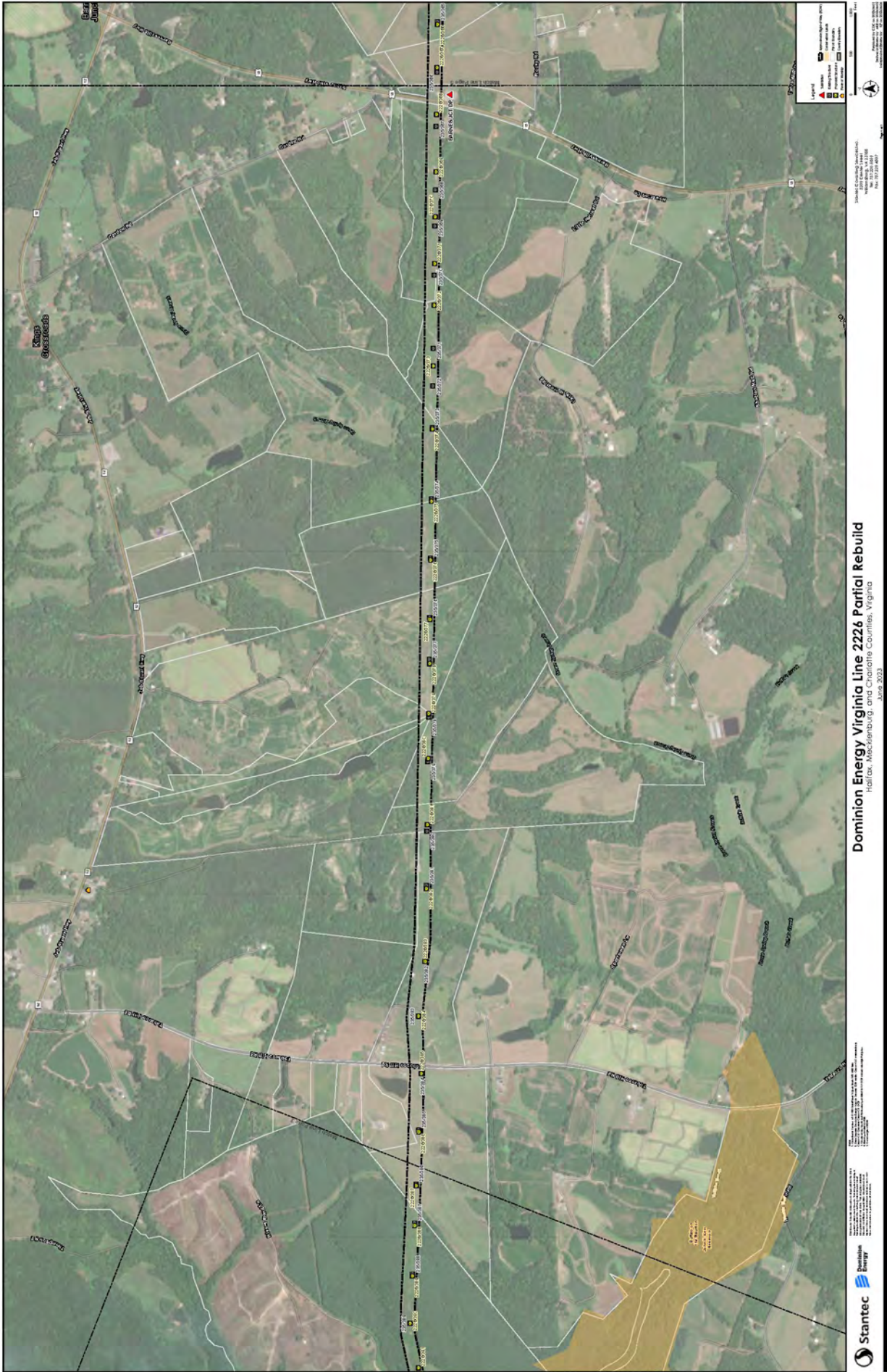




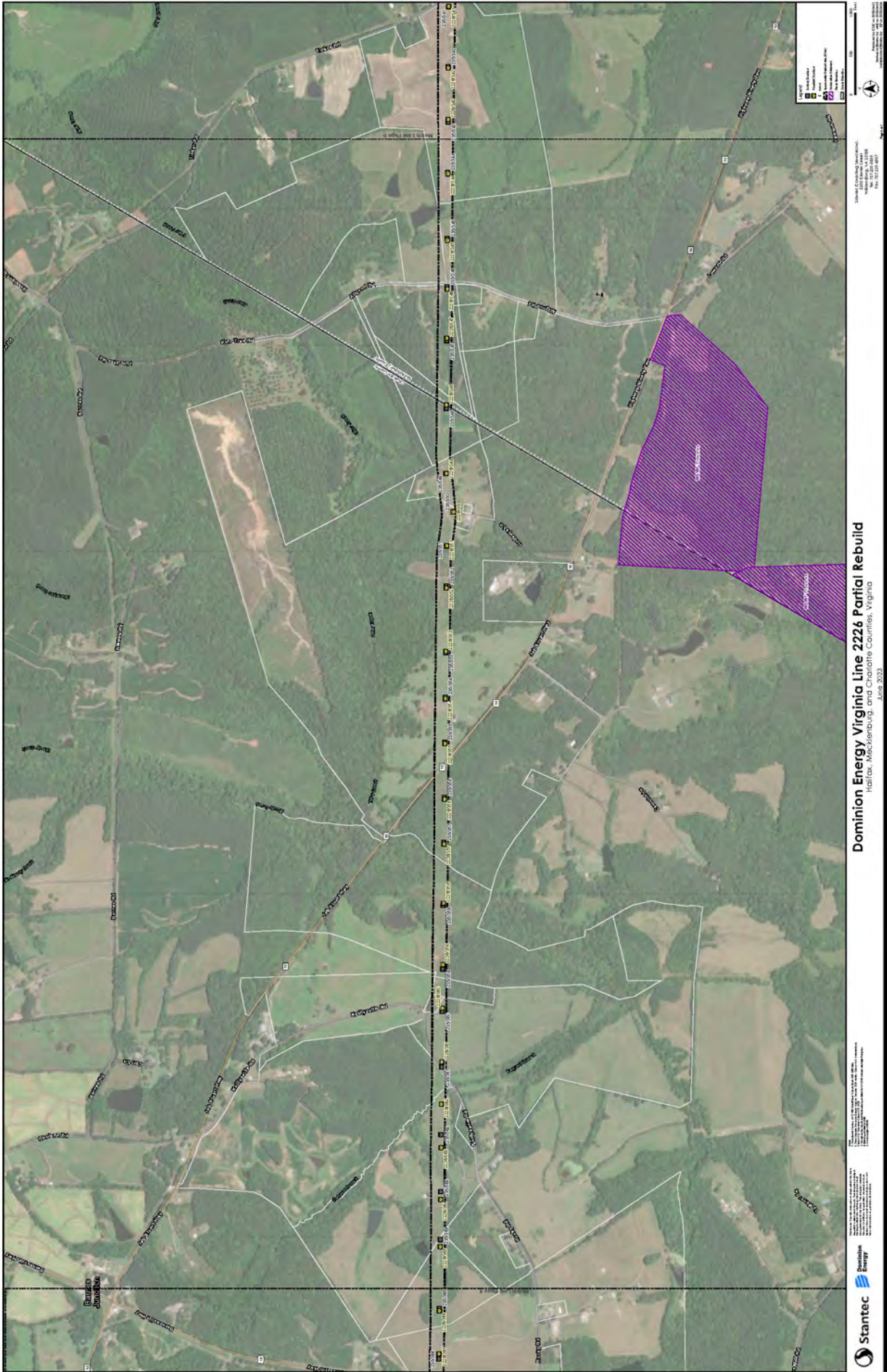








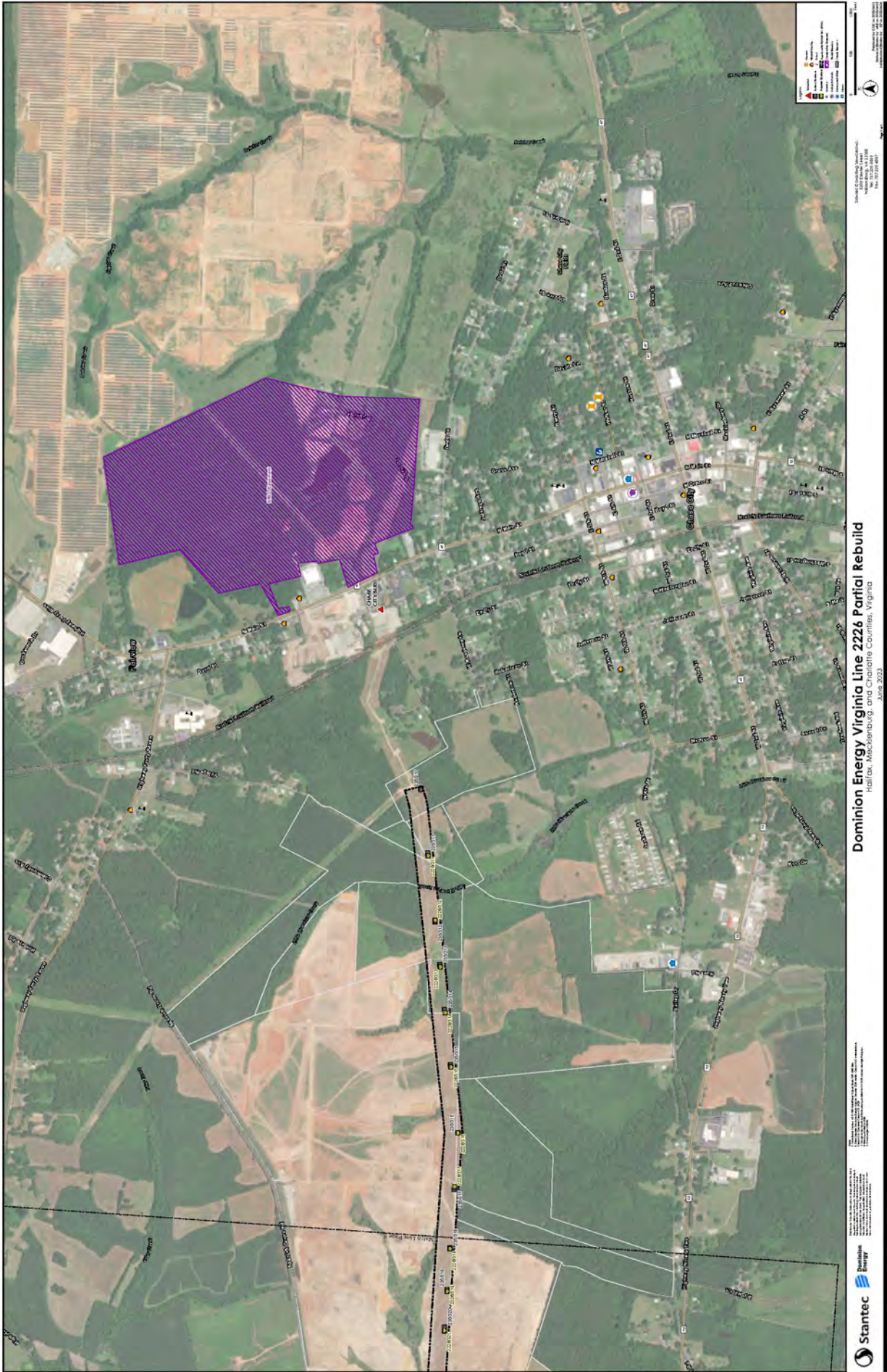














### **III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES**

#### **C. Detail the nature, location, and ownership of each building that would have to be demolished or relocated if the project is built as proposed.**

Response: During the Company's review of the existing corridor, it identified seven unauthorized encroachments within the Rebuild Project corridor. The encroachments will need to be addressed with the respective property owners as the Company continues to investigate the right-of-way.

The Company is not aware of any residences encroaching on the existing corridor and does not expect to have any residences demolished or relocated in connection with the Rebuild Project. The Company has reviewed the existing transmission corridor and is not aware of any residences encroaching on the existing corridor that would require demolition or removal in connection with the Rebuild Project.

### **III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES**

- D. Identify existing physical facilities that the line will parallel, if any, such as existing transmission lines, railroad tracks, highways, pipelines, etc. Describe the current use and physical appearance and characteristics of the existing ROW that would be paralleled, as well as the length of time the transmission ROW has been in use.**

Response: Construction of Lines #33, #36, #1027, #1050, #2204, and #2068 was completed in late 1960s-1970s, 1940s, 2021, 2023, 1993, and 2023, respectively, and these lines have been in continuous use since that time. The Rebuild Project parallels Line #33 for approximately 12.36 miles from Structure #235/310 to Structure #235/408A, Line #36 for approximately 3.82 miles from Structure #235/310 to Structure #235/340, Line #1027 for approximately 0.37 mile from Structure #235/313 to Structure #235/310, Line #1050 for approximately 2.22 miles from Spanish Grove Substation to Structure #235/310, Line #2204 for approximately 3.49 miles from Structure #235/408A to Black Walnut Substation, and Line #2068 from Clover Substation to Black Walnut Substation. Electric distribution lines are located within various sections of the existing easement including between Structures #235/418 and #235/417; #235/384 and #235/385; #235/367 and #235/366; #235/363 and #235/362; #235/347 and #235/346; #235/341 and #235/340; #235/327 and #235/326; and #235/322 and #235/321. A gas pipeline intersects the right-of-way between Structures #235/374 and #235/373.

### III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES

**E. Indicate whether the Applicant has investigated land use plans in the areas of the proposed route and indicate how the building of the proposed line would affect any proposed land use.**

Response: The Company reviewed the Halifax County Comprehensive Plan (adopted 2017),<sup>8</sup> the Mecklenburg Long Range Plan (adopted 2012 and amended 2022), and Charlotte County Comprehensive Plan (adopted 2017), including Strategic Development Plan and Tourism Strategic Plan,<sup>9</sup> to evaluate the potential effect the Rebuild Project could have on future development. The Rebuild Project is not expected to affect any surrounding proposed land use since the majority of the transmission corridor has been in use for nearly 50 years. In addition, this Rebuild Project supports Mecklenburg County's goals for data center and information technology development as well as the economic development goals and infrastructure needs of Halifax and Charlotte Counties.

#### Halifax County Comprehensive Plan

The Halifax County Comprehensive Plan discusses the need to ensure availability of adequate energy resources through properly sited and developed transmission and pipeline infrastructure, as well as promotes the development of renewable energy resources, such as properly sited and developed wind or solar facilities. The Halifax County Implementation Matrix includes a strategy for siting and developing new transmission infrastructure within the next 1–5 years. As part of the County's economic development plan, commercial and industrial development are encouraged in suitable areas while residential development is encouraged in planning areas targeted for growth, such as the community of Clover. Specific projects the County will implement include working with the Commonwealth of Virginia, Roanoke River Rails to Trails, Inc., and other localities to continue the expansion of existing Tobacco Heritage Trail.

#### Mecklenburg County Long Range Plan

The Mecklenburg County Long Range Plan does not address electric transmission lines other than in discussion with emergence of solar energy facilities and collocation with existing transmission lines. It should be noted that the County vision includes providing cost effective utility infrastructure to help drive future development and has advanced investment in telecommunications and utility infrastructure to attract a number of high-profile technology companies. There is an emphasis in the plan to market the County for information technology and data

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<sup>8</sup> See <https://www.halifaxcountyva.gov/DocumentCenter/View/175/Halifax-County-Comprehensive-Plan---Adopted-2017-PDF?bidId=>

<sup>9</sup> See [https://www.charlotteva.com/comp\\_plan.htm](https://www.charlotteva.com/comp_plan.htm)



center business opportunities, including creating a Technology Advisory Council to connect businesses and schools. The arrival or expansion of industries including Hewlett Packard and Microsoft, potentially herald the start of an information technology and data center cluster in Mecklenburg County. Additionally, one of the goals established in the Strategic Economic Development Plan is to implement a highspeed rail line from Raleigh to Richmond. Demand is expected to continue to grow with new data centers and the Southeast High-Speed Rail.

Planned development within Mecklenburg County includes transportation improvements such as bridge rehabilitation, bypass construction, and general road improvement projects. There are no planned unit or clustered development provisions included in the plan, however, the County is working to revise zoning codes to allow for additional development. Future land use in the vicinity of the Rebuild Project location is currently planned to be agricultural/rural.

#### Charlotte County Comprehensive Plan

The Charlotte County Comprehensive Plan identifies three electric service companies that provide service within their jurisdiction, including Dominion Energy Virginia, Southside Electric Cooperative, and Mecklenburg Electric Cooperative. The plan does not address electric transmission lines directly. The plan describes the County as predominantly rural with the goal of maintaining its rural character. The plan also acknowledges the need for growth and physical development and lists meeting infrastructure needs of new businesses as one of the biggest challenges in attracting new businesses to rural localities. The County has adopted a Future Land Use Plan that will extend utilities to population centers to encourage dense development in those areas and conserve natural and scenic assets, as well as protect farmland. While the Rebuild Project area is within an area planned to remain as agricultural, forestry and rural use, it is situated south of an identified growth corridor at the intersection of Routes 15 and 92.

Planned projects discussed in the Future Land Use Plan include a new Charlotte County Courthouse and Fire Department. Transportation planning is focused almost exclusively on state road system administered by the Virginia Department of Transportation (“VDOT”). There are no suggested projects or VDOT Six-Year Plans.

### **III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES**

#### **F. Government Bodies**

- 1. Indicate if the Applicant determined from the governing bodies of each county, city and town in which the proposed facilities will be located whether those bodies have designated the important farmlands within their jurisdictions, as required by § 3.2-205 B of the Code.**
- 2. If so, and if any portion of the proposed facilities will be located on any such important farmland:**
  - a. Include maps and other evidence showing the nature and extent of the impact on such farmlands;**
  - b. Describe what alternatives exist to locating the proposed facilities on the affected farmlands, and why those alternatives are not suitable; and**
  - c. Describe the Applicant's proposals to minimize the impact of the facilities on the affected farmland.**

- Response:
1. Halifax County, Charlotte County, and Mecklenburg County have not designated important farmland within their jurisdiction pursuant to Va. Code § 3.2-205 B.
  2. Not applicable.

### **III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES**

#### **G. Identify the following that lie within or adjacent to the proposed ROW:**

- 1. Any district, site, building, structure, or other object included in the National Register of Historic Places maintained by the U.S. Secretary of the Interior;**
- 2. Any historic architectural, archeological, and cultural resources, such as historic landmarks, battlefields, sites, buildings, structures, districts or objects listed or determined eligible by the Virginia Department of Historic Resources (“DHR”);**
- 3. Any historic district designated by the governing body of any city or county;**
- 4. Any state archaeological site or zone designated by the Director of the DHR, or its predecessor, and any site designated by a local archaeological commission, or similar body;**
- 5. Any underwater historic assets designated by the DHR, or predecessor agency or board;**
- 6. Any National Natural Landmark designated by the U.S. Secretary of the Interior;**
- 7. Any area or feature included in the Virginia Registry of Natural Areas maintained by the Virginia Department of Conservation and Recreation (“DCR”);**
- 8. Any area accepted by the Director of the DCR for the Virginia Natural Area Preserves System;**
- 9. Any conservation easement or open space easement qualifying under §§ 10.1-1009 – 1016, or §§ 10.1-1700 – 1705, of the Code (or a comparable prior or subsequent provision of the Code);**
- 10. Any state scenic river;**
- 11. Any lands owned by a municipality or school district; and**
- 12. Any federal, state or local battlefield, park, forest, game or wildlife preserve, recreational area, or similar facility. Features, sites, and the like listed in 1 through 11 above need not be identified again.**



- Response:
1. NRHP-listed resources that are within and adjacent to the Rebuild Project are provided in Table 4 of the DEQ Supplement. Section 2.I of the DEQ Supplement provides additional discussion.
  2. Resources that are eligible or potentially eligible for listing in the NRHP that are within and adjacent to the Rebuild Project are provided in Table 4 of the DEQ Supplement. Section 2.I of the DEQ Supplement provides additional discussion.
  3. None.
  4. Archaeological sites within the Rebuild Project area include 44HA0119 (camp, temporary), 44HA0380 (multi-component), and 44HA0381 (all artifact scatter). Archaeological sites within 250 feet of the Rebuild Project include 44HA0378 and 44HA0379 (farmstead). All of the above are unevaluated for listing eligibility.
  5. None.
  6. None.
  7. The existing right-of-way is adjacent to both the Kerr East Conservation Site and the Kerr Northwest Conservation Site. The Kerr East Conservation Site contains natural heritage resources such as Stalkless yellow cress, Northern Coastal Plain and Piedmont Mesic Mixed Hardwood Forest. The Kerr Northwest Conservation Site is classified with higher significance than that of the Kerr East Conservation Site and contains natural heritage resources such as Straw Sedge and Yadkin hedge-nettle.
  8. None.
  9. The existing right-of-way intersects a Virginia Outdoors Foundation easement (HAL-VOF-4047) established in 2015 for approximately 0.8 miles and a Blue Ridge Land Conservancy easement established in 2020 for 1.16 miles. Section 2.L of the DEQ Supplement provides additional information regarding recreation, agricultural, and forest resources potentially crossed by the Rebuild Project.
  10. The Staunton River is a designated scenic river.
  11. None.
  12. The existing right-of-way intersects the John H. Kerr Reservoir and the Buffalo on the Staunton Federal Wildlife Management Area which are both managed by the U.S. Army Corps of Engineers.

### III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES

- H. List any registered aeronautical facilities (airports, helipads) where the proposed route would place a structure or conductor within the federally-defined airspace of the facilities. Advise of contacts, and results of contacts, made with appropriate officials regarding the effect on the facilities' operations.**

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

The Company has reviewed the FAA’s website<sup>10</sup> to identify airports within 10.0 nautical miles of the proposed Rebuild Project. The following airports were identified:

- Chase City Municipal Airport (CXE), approximately 1.03 miles south of Structure 235/324.

In an email dated July 11, 2023, the Virginia Department of Aviation (“DOAv”) stated that a Form 7460 will need to be submitted to the FAA to initiate an aeronautical study to ensure that the proposed Rebuild Project will not constitute a hazard to air navigation. This correspondence is provided as Attachment 2.O.2 of the DEQ Supplement. The Company will submit Form 7460 to the FAA prior to construction to initiate aeronautical studies and will design the proposed structures to avoid interference with air navigation.

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<sup>10</sup> See <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>

### **III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES**

- I. Advise of any scenic byways that are in close proximity to or that will be crossed by the proposed transmission line and describe what steps will be taken to mitigate any visual impacts on such byways. Describe typical mitigation techniques for other highways' crossings.**

Response: The Rebuild Project does not cross any scenic Virginia byways. Use of the existing right-of-way minimizes or eliminates permanent incremental impacts at road crossings.



### **III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES**

#### **J. Identify coordination with appropriate municipal, state, and federal agencies.**

Response: As described in Sections III.B and V.D, the Company solicited feedback from the Counties of Halifax, Charlotte, and Mecklenburg regarding the proposed Rebuild Project. Below is a list of coordination efforts that have occurred with municipal, state, and federal agencies:

- A Wetland and Waters Review has been completed and sent to DEQ's Office of Wetlands and Stream Protection to initiate the wetlands impact consultation. See Attachment 2.D.1 of the DEQ Supplement.
- A Stage I Pre-Application Analysis has been prepared and submitted to VDHR. See Attachment 2.I.2 of the DEQ Supplement.
- The Company solicited comments from the Virginia Marine Resources Commission ("VMRC") and the Corps regarding the proposed Rebuild Project. See Attachment 2.1 of the DEQ Supplement.
- The Company requested comments from the USFWS, DWR, and DCR regarding the proposed Rebuild Project. See Attachment 2.1 of the DEQ Supplement. The Company solicited comments from the DOAv regarding the proposed Rebuild Project. See Attachment 2.O.2 of the DEQ Supplement.
- Letters were submitted to the agencies listed in Section V.C in July 2023 describing the Rebuild Project and requesting comment.
- Letters were submitted to Halifax County, Charlotte County, and Mecklenburg County pursuant to Va. Code § 15.2-2202 E to describe the Rebuild Project and request comment. See Section V.D of this Appendix.
- In July 2023, the Company sent letters to the Virginia Department of Historic Resources.
- In March 2023, the Company solicited comments via letter from several federally and state recognized Native American tribes, including:

Cheroenhaka (Nottoway) Indian Tribe  
Chickahominy Indian Tribe  
Chickahominy Indian Tribe Eastern Division  
Chickahominy Tribe  
Mattaponi Tribe  
Monacan Indian Nation  
Nansemond Indian Nation  
Nottoway Indian Tribe of Virginia

Pamunkey Indian Tribe  
Pamunkey Indian Tribal Resource Office  
Patawomeck Indian Tribe of Virginia  
Rappahannock Tribe  
Upper Mattaponi Indian Tribe  
Haliwa-Saponi Indian Tribe  
Sappony  
Occaneechi Band of the Saponi Nation  
Catawba Indian Nation  
Delaware Nation, Oklahoma

A copy of the letter is included as Attachment III.J.1. The Catawba Indian Nation responded on May 4, 2023, indicating it had no immediate concerns. A copy of the letter is included as Attachment III.J.2. The Delaware Nation Historic Preservation responded on April 13, 2023, indicating it had no immediate concerns. A copy of the email correspondence is included as Attachment III.J.3.

The Native American Tribes listed above were included in the public mailing (see Attachment III.B.2), inviting them to the public meetings.

Dominion Energy Virginia  
Electric Transmission  
P.O. Box 26666, Richmond, VA 23261  
DominionEnergy.com



March 31, 2023

### **Clover-Chase City 230 kV Electric Transmission Rebuild Project**

Dear Chief Red Hawk,

Dominion Energy is dedicated to maintaining safe, reliable, and affordable electric service in the communities we serve. You are receiving this project announcement letter as part of our efforts to proactively communicate early with Tribal Nations who may have an interest in this area. With your unique perspective, you can help us better plan projects in their earliest stages. Please note, this letter is not a notification of formal government-to-government consultation from any state or federal agency. Dominion Energy has been and continues to be committed to creating and maintaining strong, open, supportive, and mutually beneficial relationships with Tribal Nations.

We are reaching out to you now as we have an upcoming project in Halifax, Charlotte, and Mecklenburg Counties in Virginia, and you may have an interest in this area. To maintain reliable service for our customers, we are planning to rebuild and reconnector approximately 16 miles of existing 230 kilovolt (kV) transmission lines that run from our Clover Substation on Clover Road in Halifax County, crossing through Charlotte County, to a half mile west of our Chase City Substation in Mecklenburg County. In addition to replacing the current 230 kV wires, a process known as reconductoring, we will also need to replace the transmission structures. Reconductoring will increase the ampacity, or maximum current carried, on the line. The lines were built primarily with wooden H-frame structures. We are proposing to rebuild these with mostly weathering steel (brown) H-frame structures, which require less maintenance and have a longer service life. The new structures will be, on average, approximately 11 feet taller than the existing structures. The line will be rebuilt within the existing right of way; therefore, no new right of way is anticipated.

Enclosed is a project overview map for your reference. This project requires review by the Virginia State Corporation Commission (SCC). Providing your input now allows us to consider any concerns you may have as we work to meet the project's needs. Please feel free to notify other relevant organizations that may have an interest in the project area. For reference, other recipients of this letter include county and state historic, cultural, and scenic organizations, as well as Tribal Nations.

We will host in-person community meetings this summer, prior to submitting the SCC application. Please visit the project webpage at [DominionEnergy.com/cloverchasecity](https://DominionEnergy.com/cloverchasecity) for details regarding the community meetings, project updates, and more project information.

If you have questions or would like to set up a meeting to discuss the project, contact me by calling 804-317-1669 or sending an email to [Roxana.D.Demeter@dominionenergy.com](mailto:Roxana.D.Demeter@dominionenergy.com). You may also contact Tribal Relations Manager Ken Custalow by sending an email to [Ken.Custalow@dominionenergy.com](mailto:Ken.Custalow@dominionenergy.com).

Sincerely,

A handwritten signature in black ink that reads "Roxana Demeter".

Roxana Demeter  
The Electric Transmission Project Team

[Enclosure: Project Overview Map]



# Clover-Chase City 230 kV Electric Transmission Rebuild Project

Halifax, Charlotte, and Mecklenburg Counties, VA

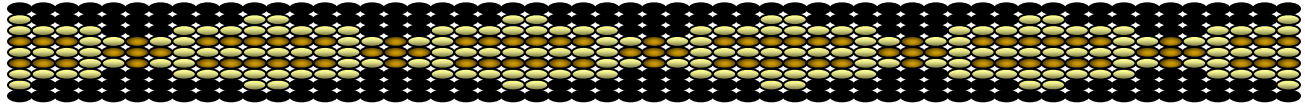


*This map is intended to serve as a representation of the project area and is not intended for detailed engineering purposes.*

For more information about this project, please visit our website at [DominionEnergy.com/cloverchasecity](http://DominionEnergy.com/cloverchasecity). You may also contact us by sending an email to [powerline@dominionenergy.com](mailto:powerline@dominionenergy.com) or calling 888-291-0190.



Office 803-328-2427  
Fax 803-328-5791



May 4, 2023

Attention: Roxana Demeter  
Dominion Energy  
P.O. Box 26666  
Richmond, VA 23261

|              |        |                                                                |
|--------------|--------|----------------------------------------------------------------|
| Re. THPO #   | TCNS # | Project Description                                            |
| 2023-1108-17 |        | Clover-Chase City 230 kV Electric Transmission Rebuild Project |

Dear Ms. Demeter,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail [Caitlin.Rogers@catawba.com](mailto:Caitlin.Rogers@catawba.com).

Sincerely,

Wenonah G. Haire  
Tribal Historic Preservation Officer

**From:** [Carissa Speck](#)  
**To:** [Roxana D Demeter \(DEV Trans Distribution - 1\)](#)  
**Subject:** [EXTERNAL] RE: Clover-Chase City - Mailing Communication for Reference  
**Date:** Thursday, April 13, 2023 2:16:19 PM  
**Attachments:** [image001.png](#)

---

**CAUTION! This message was NOT SENT from DOMINION ENERGY**

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Received. No questions or comments. Thank you!

Wanishi,

Carissa Speck  
Delaware Nation  
Historic Preservation Director  
405-247-2448 Ext. 1403  
[cspeck@delawarenation-nsn.gov](mailto:cspeck@delawarenation-nsn.gov)

---

**From:** roxana.d.demeter@dominionenergy.com <roxana.d.demeter@dominionenergy.com>  
**Sent:** Friday, March 31, 2023 11:51 AM  
**To:** Carissa Speck <cspeck@delawarenation-nsn.gov>  
**Subject:** Clover-Chase City - Mailing Communication for Reference

Ms. Speck,

Please see the attached letter for your reference.

Thanks,

**Roxana Demeter**  
Electric Transmission Communications  
Dominion Energy  
804-317-1669 (c)



CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying,



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### III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES

#### K. Identify coordination with any non-governmental organizations or private citizen groups.

Response: In March 2023, the Company solicited comments via letter from the nongovernmental organizations and private citizen groups identified below. A copy of the letter template and overview map is included as Attachment III.K.1. The VDHR responded on May 2, 2023, and had no immediate concerns about the Rebuild Project. A copy of their response is included as Attachment III.K.2.

The community leaders, environmental groups, and business groups identified below also were included in the Company's public mailing (see Attachment III.B.2), which invited communities to the public meetings.

| <u>Name</u>                            | <u>Organization</u>                          |
|----------------------------------------|----------------------------------------------|
| Ms. Elizabeth S. Kostelny              | Preservation Virginia                        |
| Mr. Thomas Gilmore                     | American Battlefield Trust                   |
| Mr. Jim Campi                          | American Battlefield Trust                   |
| Mr. Max Hokit                          | American Battlefield Trust                   |
| Mr. Steven Williams                    | Colonial National Historical Park            |
| Ms. Eleanor Breen                      | Council of Virginia Archaeologists           |
| Ms. Leighton Powell                    | Scenic Virginia                              |
| Ms. Elaine Chang                       | National Trust for Historic Preservation     |
| Ms. Julie Bolthouse                    | Piedmont Environmental Council               |
| Mr. John McCarthy                      | Piedmont Environmental Council               |
| Dr. Cassandra Newby-Alexander,<br>Dean | Norfolk State University                     |
| Mr. Roger Kirchen, Archaeologist       | Virginia Department of Historic<br>Resources |
| Ms. Adrienne Birge-Wilson              | Virginia Department of Historic<br>Resources |

|                 |                          |
|-----------------|--------------------------|
| Mr. Dave Dutton | Dutton + Associates, LLC |
|-----------------|--------------------------|



Dominion Energy Virginia  
Electric Transmission  
P.O. Box 26666, Richmond, VA 23261  
DominionEnergy.com



March 31, 2023

### **Clover-Chase City 230 kV Electric Transmission Rebuild Project**

Dear Ms. Kostelny,

Dominion Energy is dedicated to maintaining safe, reliable, and affordable electric service in the communities we serve. As a valued stakeholder with a unique perspective, you can help us meet these objectives as we plan necessary electric transmission infrastructure projects. We are reaching out to you as we have an upcoming project in Halifax, Charlotte, and Mecklenburg Counties in Virginia, and you may have an interest in this area.

To maintain reliable service for our customers, we are planning to rebuild and reductor approximately 16 miles of existing 230 kilovolt (kV) transmission lines that run from our Clover Substation on Clover Road in Halifax County, crossing through Charlotte County, to a half mile west of our Chase City Substation in Mecklenburg County. In addition to replacing the current 230 kV wires, a process known as reductoring, we will also need to replace the transmission structures. Reductoring will increase the ampacity, or maximum current carried, on the line. The lines were built primarily with wooden H-frame structures. We are proposing to rebuild these with mostly weathering steel (brown) H-frame structures, which require less maintenance and have a longer service life. The new structures will be, on average, approximately 11 feet taller than the existing structures. The line will be rebuilt within the existing right of way; therefore, no new right of way is anticipated.

Enclosed is a project overview map for your reference. This project requires review by the Virginia State Corporation Commission (SCC). Providing your input now allows us to consider any concerns you may have as we work to meet the project's needs. Please feel free to notify other relevant organizations that may have an interest in the project area. For reference, other recipients of this letter include county and state historic, cultural, and scenic organizations, as well as Tribal Nations.

We will host in-person community meetings this summer, prior to submitting the SCC application. Please visit the project webpage at [DominionEnergy.com/cloverchasecity](https://DominionEnergy.com/cloverchasecity) for details regarding the community meetings, project updates, and more project information.

If you have questions or would like to set up a meeting to discuss the project, contact me by calling 804-317-1669 or sending an email to [Roxana.D.Demeter@dominionenergy.com](mailto:Roxana.D.Demeter@dominionenergy.com).

Sincerely,

A handwritten signature in dark ink, appearing to read "Roxana Demeter", with a stylized flourish at the end.

Roxana Demeter  
The Electric Transmission Project Team

[Enclosure: Project Overview Map]

# Clover-Chase City 230 kV Electric Transmission Rebuild Project

Halifax, Charlotte, and Mecklenburg Counties, VA



*This map is intended to serve as a representation of the project area and is not intended for detailed engineering purposes.*

For more information about this project, please visit our website at [DominionEnergy.com/cloverchasecity](http://DominionEnergy.com/cloverchasecity). You may also contact us by sending an email to [powerline@dominionenergy.com](mailto:powerline@dominionenergy.com) or calling 888-291-0190.





## COMMONWEALTH of VIRGINIA

Travis A. Voyles  
Secretary of Natural and  
Historic Resources

**Department of Historic Resources**  
2801 Kensington Avenue, Richmond, Virginia 23221

Julie V. Langan  
Director  
Tel: (804) 367-2323  
Fax: (804) 367-2391  
[www.dhr.virginia.gov](http://www.dhr.virginia.gov)

May 2, 2023

Roxana Demeter  
Dominion Energy Virginia  
Electric Transmission  
P.O. Box 26666  
Richmond, VA 23261

Re: Clover - Chase City 230 kV Electric Transmission Rebuild  
Halifax, Charlotte, and Mecklenburg Counties Virginia  
DHR File No. 2023-3660

Dear Ms. Demeter

We have received your request for comments on the project referenced above. The undertaking, as presented, involves the rebuild of 16 miles of an existing 230 kV transmission line. Our comments are provided as technical assistance to Dominion. We have not been notified by any state or federal agency of their involvement in this project; however, we reserve the right to provide additional comment pursuant to the National Historic Preservation Act, if applicable.

Based on the submission, Dominion plans to prepare an application for a certificate of public convenience and necessity (CPCN) from the State Corporation Commission (SCC). Typically, we recommend that Dominion follow the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* developed by DHR to assist project proponents in developing transmission line projects that minimize impacts to historic resources.

Typically, we recommend that the project proponent establish a study area for each route alternative under consideration and gather information on known resources. A qualified cultural resources consultant in the appropriate discipline should perform an assessment of impact for each known historic resource present within the proposed study area.

Once the route alternatives have been finalized, DHR recommends that full archaeological and architectural surveys be performed to determine the effect of the project on all historic resources listed in or eligible for listing in the National Register. This process involves the identification and recordation of all archaeological sites and structures greater than 50 years of age, the evaluation of those resources for listing in the National Register, determining the degree of impact of the project on eligible resources, and developing a plan to avoid, minimize, or mitigate any negative impacts. Comments received from the public or other stakeholder

Western Region Office  
962 Kime Lane  
Salem, VA 24153  
Tel: (540) 387-5443  
Fax: (540) 387-5446

Northern Region Office  
5357 Main Street  
PO Box 519  
Stephens City, VA 22655  
Tel: (540) 868-7029  
Fax: (540) 868-7033

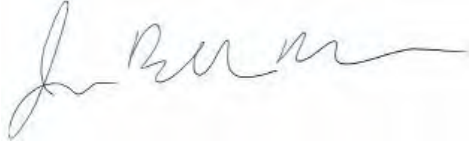
Eastern Region Office  
2801 Kensington Avenue  
Richmond, VA 23221  
Tel: (804) 367-2323  
Fax: (804) 367-2391



regarding impacts to specific historic resources should be addressed as part of this survey and assessment process.

Thank you for seeking our comments on this project. If you have any questions at this time, please do not hesitate to contact me at [jennifer.bellville-marrion@dhr.virginia.gov](mailto:jennifer.bellville-marrion@dhr.virginia.gov).

Sincerely,

A handwritten signature in dark ink, appearing to read 'J. Bellville-Marrion', with a long horizontal flourish extending to the right.

Jenny Bellville-Marrion, Project Review Archaeologist  
Review and Compliance Division

### III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES

#### L. Identify any environmental permits or special permissions anticipated to be needed.

Response: See the table below for potential permits anticipated for the proposed Rebuild Project.

**Potential Permits**

| Activity                                                            | Permit                                    | Agency                                       |
|---------------------------------------------------------------------|-------------------------------------------|----------------------------------------------|
| Impacts to wetlands and waters of the U.S.                          | Nationwide Permit 57                      | U.S. Army Corps of Engineers                 |
| Impacts to wetlands and waters of the U.S.                          | Virginia Water Protection Permit          | Virginia Department of Environmental Quality |
| Actions that may impact an authorized USACE Civil Works projects    | Rivers and Harbors Act Section 408 Permit | U.S. Army Corps of Engineers                 |
| Work within, over or under state subaqueous bottom and tidal waters | Subaqueous Bottom Permit                  | Virginia Marine Resources Commission         |
| Discharges of Stormwater from Construction Activities               | Construction General Permit               | Virginia Department of Environmental Quality |
| Work within VDOT right-of-way                                       | Land Use Permit                           | Virginia Department of Transportation        |
| Airspace obstruction evaluation                                     | FAA 7460-1                                | Federal Aviation Administration              |

#### IV. HEALTH ASPECTS OF ELECTROMAGNETIC FIELDS (“EMF”)

- A. Provide the calculated maximum electric and magnetic field levels that are expected to occur at the edge of the ROW. If the new transmission line is to be constructed on an existing electric transmission line ROW, provide the present levels as well as the maximum levels calculated at the edge of ROW after the new line is operational.

Response: Public exposure to magnetic fields is best estimated by field levels from power lines calculated at annual average loading. For any day of the year, the EMF levels associated with average conditions provide the best estimate of potential exposure. Maximum (peak) values are less relevant as they may occur for only a few minutes or hours each year.

This section describes the levels of EMF associated with the existing and proposed transmission line. EMF levels are provided for both historical (2022) and future (2027) annual average and maximum (peak) loading conditions.

##### Existing lines – Historical Average Loading in 2022

EMF levels were calculated for the existing line at the **historical average** load condition of 244 amps at an operating voltage of 242 kV when supported on the existing structures – see [Attachments II.A.5.i-iv](#).

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at a historical average load operating temperature.

EMF levels at the edge of the right-of-way for the proposed Rebuild Project at the historical average loading:

##### Existing Lines - Historic Average Loading (2022)

| Attachment | Left Edge<br>Looking Towards Clover |                               | Right Edge<br>Looking Towards Clover |                               |
|------------|-------------------------------------|-------------------------------|--------------------------------------|-------------------------------|
|            | <u>Electric Field</u><br>(kV/m)     | <u>Magnetic Field</u><br>(mG) | <u>Electric Field</u><br>(kV/m)      | <u>Magnetic Field</u><br>(mG) |
| II.A.5.i   | 1.373                               | 13.271                        | 1.417                                | 13.461                        |
| II.A.5.ii  | 1.258                               | 10.615                        | 0.636                                | 11.069                        |
| II.A.5.iii | 1.284                               | 11.923                        | 0.730                                | 17.205                        |
| II.A.5.iv  | 0.545                               | 22.578                        | 0.818                                | 20.279                        |

##### Existing lines – Historical Peak Loading in 2022

EMF levels were calculated for the existing line at the **historical peak** load condition of 878 amps and at an operating voltage of 242 kV when supported on



the existing structures – see Attachments II.A.5.i-iv.

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at a historical peak load operating temperature.

EMF levels at the edge of the right-of-way for the proposed Rebuild Project at the historical peak loading:

**Existing Lines - Historic Average Loading (2022)**

| Attachment        | Left Edge<br>Looking Towards Clover |                               | Right Edge<br>Looking Towards Clover |                               |
|-------------------|-------------------------------------|-------------------------------|--------------------------------------|-------------------------------|
|                   | <u>Electric Field</u><br>(kV/m)     | <u>Magnetic Field</u><br>(mG) | <u>Electric Field</u><br>(kV/m)      | <u>Magnetic Field</u><br>(mG) |
| <u>II.A.5.i</u>   | 1.373                               | 93.435                        | 1.417                                | 41.055                        |
| <u>II.A.5.ii</u>  | 1.258                               | 39.962                        | 0.636                                | 31.401                        |
| <u>II.A.5.iii</u> | 1.284                               | 43.627                        | 0.730                                | 48.619                        |
| <u>II.A.5.iv</u>  | 1.259                               | 46.161                        | 0.818                                | 58.823                        |

**Proposed Rebuild Project – Projected Average Loading in 2027**

EMF levels were calculated for the proposed Rebuild Project at the ***projected average*** load condition of 277 amps and at an operating voltage of 242 kV when supported on the proposed Rebuild Project structures – see Attachments II.A.5.v-viii.

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at a projected average load operating temperature.

EMF levels at the edge of the right-of-way for the proposed Rebuild Project at the projected average loading:

**Proposed Rebuild Project - Projected Average Loading (2027)**

| Attachment         | Left Edge<br>Looking Towards Clover |                               | Right Edge<br>Looking Towards Clover |                               |
|--------------------|-------------------------------------|-------------------------------|--------------------------------------|-------------------------------|
|                    | <u>Electric Field</u><br>(kV/m)     | <u>Magnetic Field</u><br>(mG) | <u>Electric Field</u><br>(kV/m)      | <u>Magnetic Field</u><br>(mG) |
| <u>II.A.5.v</u>    | 1.433                               | 34.050                        | 1.402                                | 35.068                        |
| <u>II.A.5.vi</u>   | 0.561                               | 20.982                        | 1.397                                | 30.851                        |
| <u>II.A.5.vii</u>  | 0.680                               | 31.532                        | 0.823                                | 32.806                        |
| <u>II.A.5.viii</u> | 1.091                               | 33.387                        | 0.856                                | 18.847                        |

### **Proposed Rebuild Project – Projected Peak Loading in 2027**

EMF levels were calculated for the proposed Rebuild Project at the ***projected peak*** load condition of 277 amps and at an operating voltage of 242 kV when supported on the proposed Rebuild Project structures – see Attachments II.A.5.v-viii.

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at the projected peak load operating temperature.

EMF levels at the edge of the right-of-way for the proposed Rebuild Project at the projected peak loading:

#### **Proposed Rebuild Project - Projected Peak Loading (2027)**

| Attachment  | <b>Left Edge<br/>Looking Towards Clover</b> |                                      | <b>Right Edge<br/>Looking Towards Clover</b> |                                      |
|-------------|---------------------------------------------|--------------------------------------|----------------------------------------------|--------------------------------------|
|             | <u>Electric Field</u><br>(kV/m)             | <u>Magnetic</u><br><u>Field</u> (mG) | <u>Electric Field</u><br>(kV/m)              | <u>Magnetic</u><br><u>Field</u> (mG) |
| II.A.5.v    | 1.473                                       | 28.037                               | 0.185                                        | 7.298                                |
| II.A.5.vi   | 0.324                                       | 9.308                                | 0.522                                        | 27.414                               |
| II.A.5.vii  | 0.745                                       | 23.297                               | 0.251                                        | 30.181                               |
| II.A.5.viii | 0.649                                       | 35.435                               | 0.369                                        | 67.839                               |

#### IV. HEALTH ASPECTS OF ELECTROMAGNETIC FIELDS (“EMF”)

- B. If the Applicant is of the opinion that no significant health effects will result from the construction and operation of the line, describe in detail the reasons for that opinion and provide references or citations to supporting documentation.**

Response: The conclusions of multidisciplinary scientific review panels assembled by national and international scientific agencies during the past three decades are the foundation of the Company’s opinion that no adverse health effects are anticipated to result from the operation of the proposed Rebuild Project. Each of these panels has evaluated the scientific research related to health and power-frequency EMF and provided conclusions that form the basis of guidance to governments and industries. The Company regularly monitors the recommendations of these expert panels to guide their approach to EMF.

Research on EMF and human health varies widely in approach. Some studies evaluate the effects of high, short-term EMF exposures not typically found in people’s day-to-day lives on biological responses, while others evaluate the effects of common, lower EMF exposures found throughout communities. Studies also have evaluated the possibility of effects (e.g., cancer, neurodegenerative diseases, reproductive effects) of long-term exposure. Altogether, this research includes well over a hundred epidemiologic studies of people in their natural environment and many more laboratory studies of animals (*in vivo*) and isolated cells and tissues (*in vitro*). Standard scientific procedures, such as weight-of-evidence methods, were used by the expert panels assembled by agencies to identify, review, and summarize the results of this large and diverse research.

The reviews of EMF-related biological and health research have been conducted by numerous scientific and health agencies, including, for example, the European Health Risk Assessment Network on Electromagnetic Fields Exposure (“EFHRAN”), the International Commission on Non-Ionizing Radiation Protection (“ICNIRP”), the World Health Organization (“WHO”), the International Committee on Electromagnetic Safety (“ICES”), the Scientific Committee on Emerging and Newly Identified Health Risks (“SCENIHR”) of the European Commission, and the Swedish Radiation Safety Authority (“SSM”) [(formerly the Swedish Radiation Protection Authority (“SSI”)) (WHO, 2007; SCENIHR, 2009, 2015; EFHRAN, 2010, 2012; ICNIRP, 2010; SSM, 2015, 2016, 2018, 2019, 2020, 2021; 2022; ICES, 2019). The general scientific consensus of the agencies that have reviewed this research, relying on generally accepted scientific methods, is that the scientific evidence does not show that common sources of EMF in the environment, including transmission lines and other parts of the electric system, appliances, etc., are a cause of any adverse health effects.

The most recent reviews on this topic include the 2015 report by SCENIHR and annual reviews published by SSM (e.g., for the years 2015 through 2022). These reports, similar to previous reviews, found that the scientific evidence does not



confirm the existence of any adverse health effects caused by environmental or community exposure to EMF.

The WHO has recommended that countries adopt recognized international standards published by ICNIRP and ICES. Typical levels of EMF from Dominion's power lines outside its property and rights-of-way are far below the screening reference levels of EMF recommended for the general public and still lower than exposures equivalent to restrictions to limits on fields within the body (ICNIRP, 2010; ICES, 2019).

Thus, based on the conclusions of scientific reviews and the levels of EMF associated with the proposed Project, the Company has determined that no adverse health effects are anticipated to result from the operation of the proposed Rebuild Project.

## **References**

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#### IV. HEALTH ASPECTS OF ELECTROMAGNETIC FIELDS (“EMF”)

**C. Describe and cite any research studies on EMF the Applicant is aware of that meet the following criteria:**

- 1. Became available for consideration since the completion of the Virginia Department of Health’s most recent review of studies on EMF and its subsequent report to the Virginia General Assembly in compliance with 1985 Senate Joint Resolution No. 126;**
- 2. Include findings regarding EMF that have not been reported previously and/or provide substantial additional insight into findings; and**
- 3. Have been subjected to peer review.**

Response: The Virginia Department of Health (“VDH”) conducted its most recent review and issued its report on the scientific evidence on potential health effects of extremely low frequency (“ELF”) EMF in 2000: “[T]he Virginia Department of Health is of the opinion that there is no conclusive and convincing evidence that exposure to extremely low frequency EMF emanated from nearby high voltage transmission lines is causally associated with an increased incidence of cancer or other detrimental health effects in humans.”<sup>11</sup>

The continuing scientific research on EMF exposure and health has resulted in many peer-reviewed publications since 2000. The accumulating research results have been regularly and repeatedly reviewed and evaluated by national and international health, scientific, and government agencies, including most notably:

- The WHO, which published one of the most comprehensive and detailed reviews of the relevant scientific peer-reviewed literature in 2007.
- SCENIHR, a committee of the European Commission, that published its assessments in 2009 and 2015;
- The SSM, which has published annual reviews of the relevant peer-reviewed scientific literature since 2003, with its most recent review published in 2022; and,
- EFHRAN, that published its reviews in 2010 and 2012.

The above reviews provide detailed analyses and summaries of relevant recent peer-reviewed scientific publications. The conclusions of these reviews that the evidence overall does not confirm the existence of any adverse health effects due

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<sup>11</sup> See <http://www.vdh.virginia.gov/content/uploads/sites/12/2016/02/highfinal.pdf>.



to exposure to EMF are consistent with the conclusions of the VDH report. With respect to the statistical association observed in some of the childhood leukemia epidemiologic studies, the most recent comprehensive review of the literature by SCENIHR, published in 2015, concluded that “no mechanisms have been identified and no support is existing [*sic*] from experimental studies that could explain these findings, which, together with shortcomings of the epidemiological studies prevent a causal interpretation” (SCENIHR, 2015, p. 16).

While research is continuing on multiple aspects of EMF exposure and health, many of the recent publications have focused on an epidemiologic assessment of the relationship between EMF exposure and childhood leukemia and neurodegenerative diseases. Of these, the following recent publications, published following the inclusion date (June 2014) for the SCENIHR (2015) report through May 2023, provided additional evidence and contributed to clarification of previous findings. Overall, new research studies have not provided evidence to alter the previous conclusions of scientific and health organizations, including the WHO and SCENIHR.

Epidemiologic studies of EMF and childhood leukemia published during the above referenced period include:

- Bunch et al. (2015) assessed the potential association between residential proximity to high-voltage underground cables and development of childhood cancer in the United Kingdom largely using the same epidemiologic data as in a previously published study on overhead transmission lines (Bunch et al., 2014). No statistically significant associations or trends were reported with either distance to underground cables or calculated magnetic fields from underground cables for any type of childhood cancers.
- Pedersen et al. (2015) published a case-control study that investigated the potential association between residential proximity to power lines and childhood cancer in Denmark. The study included all cases of leukemia (n=1,536), central nervous system tumor, and malignant lymphoma (n=417) diagnosed before the age of 15 between 1968 and 2003 in Denmark, along with 9,129 healthy control children matched on sex and year of birth. Considering the entire study period, no statistically significant increases were reported for any of the childhood cancer types.
- Salvan et al. (2015) compared measured magnetic-field levels in the bedroom for 412 cases of childhood leukemia under the age of 10 and 587 healthy control children in Italy. Although the statistical power of the study was limited because of the small number of highly exposed subjects, no consistent statistical associations or trends were reported between measured magnetic-field levels and the occurrence of leukemia among children in the study.
- Bunch et al. (2016) and Swanson and Bunch (2018) published additional analyses using data from an earlier study (Bunch et al., 2014). Bunch et al.

(2016) reported that the association with distance to power lines observed in earlier years was linked to calendar year of birth or year of cancer diagnosis, rather than the age of the power lines. Swanson and Bunch (2018) re-analyzed data using finer exposure categories (e.g., cut-points of every 50-meter distance) and broader groupings of diagnosis date (e.g., 1960-1979, 1980-1999, and 2000-on) and reported no overall associations between exposure categories and childhood leukemia for the later time periods (1980 and on), and consistent pattern for time periods prior to 1980.

- Crespi et al. (2016) conducted a case-control epidemiologic study of childhood cancers and residential proximity to high-voltage power lines (60 kV to 500 kV) in California. Childhood cancer cases, including 5,788 cases of leukemia and 3,308 cases of brain tumor, diagnosed under the age of 16 between 1986 and 2008, were identified from the California Cancer Registry. Controls, matched on age and sex, were selected from the California Birth Registry. Overall, no consistent statistically significant associations for leukemia or brain tumor and residential distance to power lines were reported.
- Kheifets et al. (2017) assessed the relationship between calculated magnetic-field levels from power lines and development of childhood leukemia within the same study population evaluated in Crespi et al. (2016). In the main analyses, which included 4,824 cases of leukemia and 4,782 controls matched on age and sex, the authors reported no consistent patterns, or statistically significant associations between calculated magnetic-field levels and childhood leukemia development. Similar results were reported in subgroup and sensitivity analyses. In two subsequent studies (Amoon et al., 2018a, 2019), the potential impact of residential mobility (i.e., moving residences between birth and diagnosis) on the associations reported in Crespi et al. (2016) and Kheifets et al. (2017) were examined. Amoon et al. (2019) concluded that while uncontrolled confounding by residential mobility had some impact on the association between EMF exposure and childhood leukemia, it was unlikely to be the primary driving force behind the previously reported associations.
- Amoon et al. (2018b) conducted a pooled analysis of 29,049 cases and 68,231 controls from 11 epidemiologic studies of childhood leukemia and residential distance from high-voltage power lines. The authors reported no statistically-significant association between childhood leukemia and proximity to transmission lines of any voltage. Among subgroup analyses, the reported associations were slightly stronger for leukemia cases diagnosed before 5 years of age and in study periods prior to 1980. Adjustment for various potential confounders (e.g., socioeconomic status, dwelling type, residential mobility) had little effect on the estimated associations.
- Kyriakopoulou et al. (2018) assessed the association between childhood acute leukemia and parental occupational exposure to social contacts, chemicals, and electromagnetic fields. The study was conducted at a major pediatric hospital

in Greece and included 108 cases and 108 controls matched for age, gender, and ethnicity. Statistically non-significant associations were observed between paternal exposure to magnetic fields and childhood acute leukemia for any of the exposure periods examined (1 year before conception; during pregnancy; during breastfeeding; and from birth until diagnosis); maternal exposure was not assessed due to the limited sample size. No associations were observed between childhood acute leukemia and exposure to social contacts or chemicals.

- Auger et al. (2019) examined the relationship between exposure to EMF during pregnancy and risk of childhood cancer in a cohort of 784,000 children born in Québec. Exposure was defined using residential distance to the nearest high-voltage transmission line or transformer station. The authors reported statistically non-significant associations between proximity to transformer stations and any cancer, hematopoietic cancer, or solid tumors. No associations were reported with distance to transmission lines.
- Crespi et al. (2019) investigated the relationship between childhood leukemia and distance from high-voltage lines and calculated magnetic-field exposure, separately and combined, within the California study population previously analyzed in Crespi et al. (2016) and Kheifets et al. (2017). The authors reported that neither close proximity to high-voltage lines nor exposure to calculated magnetic fields alone were associated with childhood leukemia; an association was observed only for those participants who were both close to high-voltage lines ( $< 50$  meters) and had high calculated magnetic fields ( $\geq 0.4$  microtesla [ $\mu\text{T}$ ]) (i.e., 4 milligauss [ $\text{mG}$ ]). No associations were observed with low-voltage power lines ( $< 200$  kV). In a subsequent study, Amoon et al. (2020) examined the potential impact of dwelling type on the associations reported in Crespi et al. (2019). Amoon et al. (2020) concluded that while the type of dwelling at which a child resides (e.g., single-family home, apartment, duplex, mobile home) was associated with socioeconomic status and race or ethnicity, it was not associated with childhood leukemia and did not appear to be a potential confounder in the relationship between childhood leukemia and magnetic-field exposure in this study population.
- Swanson et al. (2019) conducted a meta-analysis of 41 epidemiologic studies of childhood leukemia and magnetic-field exposure published between 1979 and 2017 to examine trends in childhood leukemia development over time. The authors reported that while the estimated risk of childhood leukemia initially increased during the earlier period, a statistically non-significant decline in estimated risk has been observed from the mid-1990s until the present (i.e., 2019).
- Talibov et al. (2019) conducted a pooled analysis of 9,723 cases and 17,099 controls from 11 epidemiologic studies to examine the relationship between parental occupational exposure to magnetic fields and childhood leukemia. No



statistically significant association was found between either paternal or maternal exposure and leukemia (overall or by subtype). No associations were observed in the meta-analyses.

- Nunez-Enriquez et al. (2020) assessed the relationship between residential magnetic-field exposure and B-lineage acute lymphoblastic leukemia (“BALL”) in children under 16 years of age in Mexico. The study included 290 cases and 407 controls matched on age, gender, and health institution; magnetic-field exposure was assessed through the collection of 24-hour measurements in the participants’ bedrooms. While the authors reported some statistically significant associations between elevated magnetic-field levels and development of B-ALL, the results were dependent on the chosen cut-points.
- Seomun et al. (2021) performed a meta-analysis based on 33 previously published epidemiologic studies investigating the potential relationship between magnetic-field exposure and childhood cancers, including leukemia and brain cancer. For childhood leukemia, the authors reported statistically significant associations with some, but not all, of the chosen cut-points for magnetic-field exposure. The associations between magnetic-field exposure and childhood brain cancer were statistically non-significant. The study provided limited new insight as most of the studies included in the current meta-analysis, were included in previously conducted meta- and pooled analyses.
- Amoon et al. (2022) conducted a pooled analysis of four studies of residential exposure to magnetic fields and childhood leukemia published following a 2010 pooled analysis by Kheifets et al. (2010). The study by Amoon et al. (2022) compared the exposures of 24,994 children with leukemia to the exposures of 30,769 controls without leukemia in California, Denmark, Italy, and the United Kingdom. Exposure was assessed by measured or calculated magnetic fields at their residences. The exposure of these two groups to magnetic fields were found not to significantly differ. A decrease in the combined effect estimates in epidemiologic studies was observed over time, and the authors concluded that their findings, based on the most recent studies, were “not in line” with previous pooled analyses that reported an increased risk of childhood leukemia.
- Brabant et al. (2022) performed a literature review and meta-analysis of studies of childhood leukemia and magnetic-field exposure. The overall analysis included 21 epidemiologic studies published from 1979 to 2020. The authors reported a statistically significant association, which they noted was “mainly explained by the studies conducted before 2000.” The authors reported a statistically significant association between childhood leukemia and measured or calculated magnetic-field exposures  $> 0.4 \mu\text{T}$  (4 mG); no statistically significant overall associations were reported between childhood leukemia and lower magnetic-field exposures ( $< 0.4 \mu\text{T}$  [4 mG]), residential distance from power lines, or wire coding configuration. An association between childhood leukemia and electric blanket use was also reported. The overall results were

likely influenced by the inclusion of a large number of earlier studies; 10 of the 21 studies in the main analysis were published prior to 2000. Studies published prior to 2000 included fewer studies deemed to be of higher study quality, as determined by the authors, compared to studies published after 2000.

- Nguyen et al. (2022) investigated whether potential pesticide exposure from living in close proximity to commercial plant nurseries confounds the association between magnetic-field exposure and childhood leukemia development reported within the California study population previously analyzed in Crespi et al. (2016) and Kheifets et al. (2017). The authors in Nguyen et al. (2022) noted that while the association between childhood leukemia and magnetic-field exposure was “slightly attenuated” after adjusting for nursery proximity or when restricting to subjects living > 300 meters from nurseries, their results “do not support plant nurseries as an explanation for observed childhood leukemia risks.” The authors further noted that close residential proximity to nurseries may be an independent risk factor for childhood leukemia.
- Zagar et al. (2023) examined the relationship between magnetic fields and childhood cancers, including childhood leukemia, in Slovenia. Cancer cases, including 194 cases of leukemia, were identified from the Slovenian Cancer Registry; cases were then classified into one of five calculated magnetic-field exposure levels (ranging from < 0.1  $\mu$ T to  $\geq$  0.4  $\mu$ T) based on residential distance to high-voltage (e.g., 110-kV, 220-kV, and 400-kV) power lines. The authors reported that less than 1% of Slovenian children and adolescents lived in an area near high-voltage power lines. No differences in the development of childhood cancers, including leukemia, brain tumors, or all cancers combined, were reported across the five exposure categories.

Epidemiologic studies of EMF and neurodegenerative diseases published during the above referenced period include:

- Seelen et al. (2014) conducted a population-based case-control study in the Netherlands and included 1,139 cases diagnosed with amyotrophic lateral sclerosis (“ALS”) between 2006 and 2013 and 2,864 frequency-matched controls. The shortest distance from the case and control residences to the nearest high-voltage power line (50 kV to 380 kV) was determined by geocoding. No statistically significant associations between residential proximity to power lines with voltages of either 50 to 150 kV or 220 to 380 kV and ALS were reported.
- Sorahan and Mohammed (2014) analyzed mortality from neurodegenerative diseases in a cohort of approximately 73,000 electricity supply workers in the United Kingdom. Cumulative occupational exposure to magnetic-fields was calculated for each worker in the cohort based on their job titles and job locations. Death certificates were used to identify deaths from

neurodegenerative diseases. No associations or trends for any of the included neurodegenerative diseases (Alzheimer's disease, Parkinson's disease, and ALS) were observed with various measures of calculated magnetic fields.

- Koeman et al. (2015, 2017) analyzed data from the Netherlands Cohort Study of approximately 120,000 men and women who were enrolled in the cohort in 1986 and followed up until 2003. Lifetime occupational history, obtained through questionnaires, and job-exposure matrices on ELF magnetic fields and other occupational exposures were used to assign exposure to study subjects. Based on 1,552 deaths from vascular dementia, the researchers reported a statistically not significant association of vascular dementia with estimated exposure to metals, chlorinated solvents, and ELF magnetic fields. However, because no exposure-response relationship for cumulative exposure was observed and because magnetic fields and solvent exposures were highly correlated with exposure to metals, the authors attributed the association with ELF magnetic fields and solvents to confounding by exposure to metals (Koeman et al., 2015). Based on a total of 136 deaths from ALS among the cohort members, the authors reported a statistically significant, approximately two-fold association with ELF magnetic fields in the highest exposure category. This association, however, was no longer statistically significant when adjusted for exposure to insecticides (Koeman et al., 2017).
- Fischer et al. (2015) conducted a population-based case-control study that included 4,709 cases of ALS diagnosed between 1990 and 2010 in Sweden and 23,335 controls matched to cases on year of birth and sex. The study subjects' occupational exposures to ELF magnetic fields and electric shocks were classified based on their occupations, as recorded in the censuses and corresponding job-exposure matrices. Overall, neither magnetic fields nor electric shocks were related to ALS.
- Vergara et al. (2015) conducted a mortality case-control study of occupational exposure to electric shock and magnetic fields and ALS. They analyzed data on 5,886 deaths due to ALS and over 58,000 deaths from other causes in the United States between 1991 and 1999. Information on occupation was obtained from death certificates and job-exposure matrices were used to categorize exposure to electric shocks and magnetic fields. Occupations classified as "electric occupations" were moderately associated with ALS. The authors reported no consistent associations for ALS, however, with either electric shocks or magnetic fields, and they concluded that their findings did not support the hypothesis that exposure to either electric shocks or magnetic fields explained the observed association of ALS with "electric occupations."
- Pedersen et al. (2017) investigated the occurrence of central nervous system diseases among approximately 32,000 male Danish electric power company workers. Cases were identified through the national patient registry between 1982 and 2010. Exposure to ELF magnetic fields was determined for each



worker based on their job titles and area of work. A statistically significant increase was reported for dementia in the high exposure category when compared to the general population, but no exposure-response pattern was identified, and no similar increase was reported in the internal comparisons among the workers. No other statistically significant increases among workers were reported for the incidence of Alzheimer's disease, Parkinson's disease, motor neuron disease, multiple sclerosis, or epilepsy, when compared to the general population, or when incidence among workers was analyzed across estimated exposure levels.

- Vinceti et al. (2017) examined the association between ALS and calculated magnetic-field levels from high-voltage power lines in Italy. The authors included 703 ALS cases and 2,737 controls; exposure was assessed based on residential proximity to high-voltage power lines. No statistically significant associations were reported and no exposure-response trend was observed. Similar results were reported in subgroup analyses by age, calendar period of disease diagnosis, and study area.
- Checkoway et al. (2018) investigated the association between Parkinsonism<sup>12</sup> and occupational exposure to magnetic fields and several other agents (endotoxins, solvents, shift work) among 800 female textile workers in Shanghai. Exposure to magnetic fields was assessed based on the participants' work histories. The authors reported no statistically significant associations between Parkinsonism and occupational exposure to any of the agents under study, including magnetic fields.
- Gunnarsson and Bodin (2018) conducted a meta-analysis of occupational risk factors for ALS. The authors reported a statistically significant association between occupational exposures to EMF, estimated using a job-exposure matrix, and ALS among the 11 studies included. Statistically significant associations were also reported between ALS and jobs that involve working with electricity, heavy physical work, exposure to metals (including lead) and chemicals (including pesticides), and working as a nurse or physician. The authors reported some evidence for publication bias. In a subsequent publication, Gunnarsson and Bodin (2019) updated their previous meta-analysis to also include Parkinson's disease and Alzheimer's disease. A slight, statistically significant association was reported between occupational exposure to EMF and Alzheimer's disease; no association was observed for Parkinson's disease.
- Huss et al. (2018) conducted a meta-analysis of 20 epidemiologic studies of ALS and occupational exposure to magnetic fields. The authors reported a

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<sup>12</sup> Parkinsonism is defined by Checkoway et al. (2018) as *"a syndrome whose cardinal clinical features are bradykinesia, rest tremor, muscle rigidity, and postural instability. Parkinson disease is the most common neurodegenerative form of [parkinsonism]"* (p. 887).

weak overall association; a slightly stronger association was observed in a subset analysis of six studies with full occupational histories available. The authors noted substantial heterogeneity among studies, evidence for publication bias, and a lack of a clear exposure-response relationship between exposure and ALS.

- Jalilian et al. (2018) conducted a meta-analysis of 20 epidemiologic studies of occupational exposure to magnetic fields and Alzheimer's disease. The authors reported a moderate, statistically significant overall association; however, they noted substantial heterogeneity among studies and evidence for publication bias.
- Rösli and Jalilian (2018) performed a meta-analysis using data from five epidemiologic studies examining residential exposure to magnetic fields and ALS. A statistically non-significant negative association was reported between ALS and the highest exposed group, where exposure was defined based on distance from power lines or calculated magnetic-field level.
- Gervasi et al. (2019) assessed the relationship between residential distance to overhead power lines in Italy and risk of Alzheimer's dementia and Parkinson's disease. The authors included 9,835 cases of Alzheimer's dementia and 6,810 cases of Parkinson's disease; controls were matched by sex, year of birth, and municipality of residence. A weak, statistically non-significant association was observed between residences within 50 meters of overhead power lines and both Alzheimer's dementia and Parkinson's disease, compared to distances of over 600 meters.
- Peters et al. (2019) examined the relationship between ALS and occupational exposure to both magnetic fields and electric shock in a pooled study of data from three European countries. The study included 1,323 ALS cases and 2,704 controls matched for sex, age, and geographic location; exposure was assessed based on occupational title and defined as low (background), medium, or high. Statistically significant associations were observed between ALS and ever having been exposed above background levels to either magnetic fields or electric shocks; however, no clear exposure-response trends were observed with exposure duration or cumulative exposure. The authors also noted significant heterogeneity in risk by study location.
- Filippini et al. (2020) investigated the associations between ALS and several environmental and occupational exposures, including electromagnetic fields, within a case-control study in Italy. The study included 95 cases and 135 controls matched on age, gender, and residential province; exposure to electromagnetic fields was assessed using the participants' responses to questions related to occupational use of electric and electronic equipment, occupational EMF exposure, and residential distance to overhead power lines. The authors reported a statistically significant association between ALS and

residential proximity to overhead power lines and a statistically non-significant association between ALS and occupational exposure to EMF; occupational use of electric and electronic equipment was associated with a statistically nonsignificant decrease in ALS development.

- Huang et al. (2020) conducted a meta-analysis of 43 epidemiologic studies examining potential occupational risk factors for dementia or mild cognitive impairment. The authors included five cohort studies and seven case-control studies related to magnetic-field exposure. For both study types, the authors reported positive associations between dementia and work-related magnetic field exposures. The paper, however, provided no information on the occupations held by the study participants, their magnetic-field exposure levels, or how magnetic-field levels were assessed; therefore, the results are difficult to interpret. The authors also reported a high level of heterogeneity among studies. Thus, this analysis adds little, if any, to the overall weight of evidence on a potential association between dementia and magnetic fields.
- Jalilian et al. (2020) conducted a meta-analysis of ALS and occupational exposure to both magnetic fields and electric shocks within 27 studies from Europe, the United States, and New Zealand. A weak, statistically significant association was reported between magnetic-field exposure and ALS; however, the authors noted evidence of study heterogeneity and publication bias. No association was observed between ALS and electric shocks.
- Chen et al. (2021) conducted a case-control study to examine the association between occupational exposure to electric shocks, magnetic fields, and motor neuron disease (“MND”) in New Zealand. The study included 319 cases with a MND diagnosis (including ALS) and 604 controls, matched on age and gender; exposure was assessed using the participants’ occupational history questionnaire responses and previously developed job-exposure matrices for electric shocks and magnetic fields. The authors reported no associations between MND and exposure to magnetic fields; positive associations were reported between MND and working at a job with the potential for electric shock exposure.
- Grebeneva et al. (2021) evaluated disease rates among electric power company workers in the Republic of Kazakhstan. The authors included three groups of “exposed” workers who “were in contact with equipment generating [industrial frequency EMF]” (a total of 161 workers), as well as 114 controls “who were not associated with exposure to electromagnetic fields.” Disease rates were assessed “based on analyzing the sick leaves of employees” from 2010 to 2014 and expressed as “incidence rate per 100 employees.” The authors reported a higher “incidence rate” of “diseases of the nervous system” in two of the exposed categories compared to the non-exposed group. No meaningful conclusions from the study could be drawn, however, because no specific diagnoses within “*diseases of the nervous system*” were identified in the paper



and no clear description was provided on how the authors defined and calculated “incidence rate” for the evaluated conditions. In addition, no measured or calculated magnetic-field levels were presented by the authors.

- Filippini et al. (2021) conducted a meta-analysis to assess the dose-response relationship between residential exposure to magnetic fields and ALS. The authors identified six ALS epidemiologic studies, published between 2009 and 2020, that assessed exposure to residential magnetic fields by either distance from overhead power lines or magnetic-field modeling. They reported a decrease in risk of ALS in the highest exposure categories for both distance-based and modeling-based exposure estimates. The authors also reported that their dose-response analyses “showed little association between distance from power lines and ALS”; the data were too sparse to conduct a dose-response analysis for modeled magnetic-field estimates. The authors noted that their study was limited by small sample size, “imprecise” exposure categories, the potential for residual confounding, and by “some publication bias.”
- Jalilian et al. (2021) conducted a meta-analysis of occupational exposure to ELF magnetic fields and electric shocks and development of ALS. The authors included 27 studies from Europe, the United States, and New Zealand that were published between 1983 and 2019. A weak, statistically significant association was reported between magnetic-field exposure and ALS, and no association was observed between electric shocks and ALS. Indications of publication bias and “moderate to high” heterogeneity were identified for the studies of magnetic-field exposure and ALS, and the authors noted that “the results should be interpreted with caution.”
- Sorahan and Nichols (2022) investigated magnetic-field exposures and mortality from MND in a large cohort of employees of the former Central Electricity Generating Board of England and Wales. The study included nearly 38,000 employees first hired between 1942 and 1982 and still employed in 1987. Estimates of exposure magnitude, frequency, and duration were calculated using data from the power stations and the employees’ job histories, and were described in detail in a previous publication (Renew et al., 2003). Mortality from MND in the total cohort was observed to be similar to national rates. No statistically significant dose-response trends were observed with lifetime, recent, or distant magnetic-field exposure; statistically significant associations were observed for some categories of recent exposure, but not for the highest exposure category.
- Vasta et al. (2023) examined the relationship between residential distance to power lines and ALS development in a cohort study of 1,098 participants in Italy. The authors reported no differences in the age of ALS onset or ALS progression rate between low-exposed and high-exposed participants based on residential distance to power lines at the time of the participants’ diagnosis. Similarly, no differences were observed when exposure was based on

residential distance to repeater antennas.

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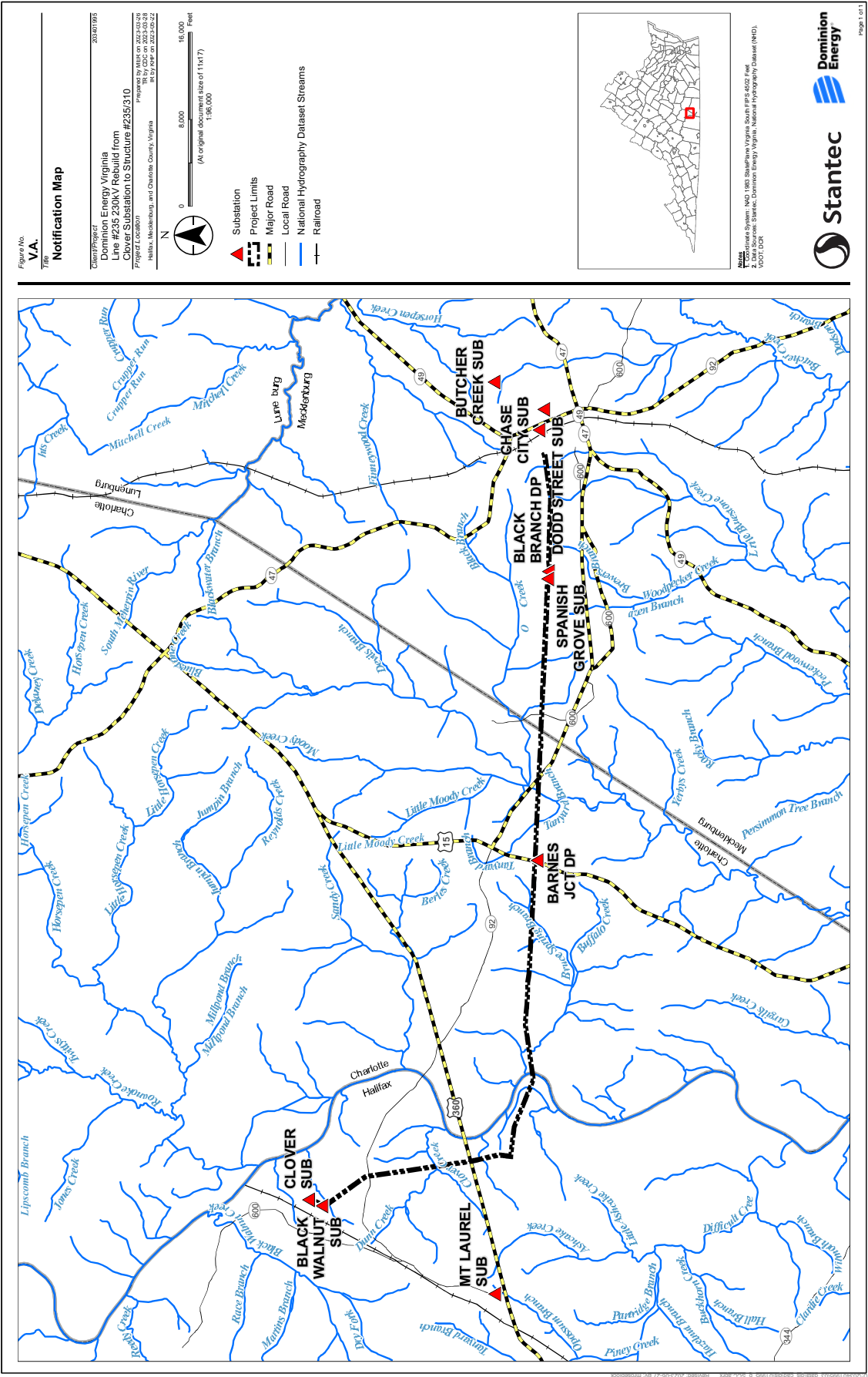
## V. NOTICE

- A. Furnish a proposed route description to be used for public notice purposes. Provide a map of suitable scale showing the route of the proposed project. For all routes that the Applicant proposed to be noticed, provide minimum, maximum and average structure heights.**

Response: A map showing the existing route to be used for the Rebuild Project is provided as Attachment V.A. A written description of the route is as follows:

The proposed route for the Rebuild Project is located within an existing approximately 16-mile right-of-way corridor currently occupied by existing 230 kV transmission Lines #33, #36, #235, #1050, #1027, #2204, and #2068. The existing transmission right-of-way for the proposed route originates at the Clover Substation and heads south for approximately 3.6 miles before turning east at Structure #235/408A and continuing east for approximately 12.3 miles to reach Structure #235/310. The entire Rebuild Project is located within Halifax, Charlotte, and Mecklenburg Counties, Virginia. The Rebuild Project crosses three major roads including James D. Hagood Highway (Highway 360) in Halifax County as well as Barnesville Highway (Highway 15) and Allgood Road (Route 600) in Charlotte County. The Rebuild Project crosses the Staunton River and John H. Kerr Reservoir.

For the proposed Rebuild Project, the minimum structure height is approximately 56.5 feet, the maximum structure height is approximately 98 feet and the average structure height is approximately 75.6 feet. These proposed structure heights are based on preliminary conceptual design, do not include foundation reveal, and are subject to change based on final engineering design.





**V. NOTICE**

- B. List Applicant offices where members of the public may inspect the application. If applicable, provide a link to website(s) where the application may be found.**

Response: The application will be made available electronically for public inspection at the following website: <https://www.dominionenergy.com/cloverchasecity>.

## V. NOTICE

**C. List all federal, state, and local agencies and/or officials that may reasonably be expected to have an interest in the proposed construction and to whom the Applicant has furnished or will furnish a copy of the application.**

Response: The following agency representatives may reasonably be expected to have an interest in the proposed Rebuild Project. Instead of furnishing a copy of the Application to these parties, the Company has sent a letter noting the availability of the Application for the proposed Rebuild Project on the Company's website.<sup>13</sup>

Ms. Bettina Rayfield  
Manager, Environmental Impact Review and Long Range Priorities  
Office of Environmental Impact Review  
Department of Environmental Quality, Central Office  
PO Box 1105  
Richmond, Virginia 23218

Ms. Michelle Henicheck  
Office of Wetlands and Streams  
Department of Environmental Quality  
1111 East Main Street, Suite 1400  
Richmond, Virginia 23219

Ms. Amy Martin  
Virginia Department of Wildlife Resources  
Wildlife Information and Environmental Services  
7870 Villa Park, Suite 400  
Henrico, Virginia 23228

Mr. Keith Tignor  
Virginia Department of Agriculture and Consumer Services  
Office of Plant Industry Services 102 Governor Street  
Richmond, Virginia 23219

Mr. Karl Didier, PhD  
Virginia Department of Forestry  
Forestland Conservation Division  
900 Natural Resources Drive, Suite 800  
Charlottesville, Virginia 22903

Mr. Tommy Johnson  
Residency Administrator

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<sup>13</sup> The Virginia Department of Conservation and Recreation asked to be removed from the Company's post-filing mailing list, and accordingly is omitted from this list.

Virginia Department of Transportation  
1013 West Atlantic St.  
P.O. Box 249  
South Hill, Virginia 23790

Scoping at VMRC  
Virginia Marine Resources Commission  
Habitat Management Division  
Building 96, 380 Fenwick Road  
Ft. Monroe, Virginia 23651

Mr. Troy Andersen  
US Fish and Wildlife Service  
Ecological Services Virginia Field Office  
6669 Short Lane  
Gloucester, Virginia 23061

Mr. Keith Goodwin  
U.S. Army Corps of Engineers  
WRDA Dominion Energy VA Liaison  
803 Front Street  
Norfolk, Virginia 23510

Mr. Michael Womack  
U.S. Army Corps of Engineers  
Operations Project Manager: Kerr Reservoir  
1930 Mays Chapel Road Boydton, Virginia 23917

Ms. Martha Little  
Virginia Outdoors Foundation  
P.O. Box 85073, PMB 38979  
Richmond, Virginia 23285-5073

Ms. Arlene Fields Warren  
Office of Drinking Water  
Virginia Department of Health  
109 Governor Street  
Richmond, VA 23219

Mr. Scott Denny  
Virginia Department of Aviation  
5702 Gulfstream Road  
Richmond, Virginia 23250



Mr. Roger Kirchen  
Department of Historic Resources  
Review and Compliance Division  
2801 Kensington Avenue  
Richmond, Virginia 23221

Scott R. Simpson, P.E.  
County Administrator, Halifax County  
P.O. Box 699  
Halifax, Virginia 24558

Daniel Witt  
County Administrator, Charlotte County  
250 LeGrande Ave, Suite A  
Charlotte Court House, Virginia 23923

Wayne Carter, III  
County Administrator, Mecklenburg County  
P.O. Box 307  
Boydton, VA 23917

## V. NOTICE

- D. If the application is for a transmission line with a voltage of 138 kV or greater, provide a statement and any associated correspondence indicating that prior to the filing of the application with the SCC the Applicant has notified the chief administrative officer of every locality in which it plans to undertake construction of the proposed line of its intention to file such an application, and that the Applicant gave the locality a reasonable opportunity for consultation about the proposed line (similar to the requirements of § 15.2-2202 of the Code for electric transmission lines of 150 kV or more).**

Response: In accordance with Va. Code § 15.2-2202 E, letters dated July 5, 2023, were sent to Mr. Scott R. Simpson, P.E., Halifax County Administrator; Mr. Daniel Witt, Charlotte County Administrator; and Mr. H. Wayne Carter, III, Mecklenburg County Administrator, advising of the Company's intention to file this Application and inviting the Counties to consult with the Company about the proposed Rebuild Project. These letters are included as Attachment V.D.

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



July 5, 2023

Scott R. Simpson, P.E.  
County Administrator, Halifax County  
P.O. Box 699  
Halifax, Virginia 24558

**Project: Dominion Energy Virginia's Line #235 230 kV Rebuild from Clover Substation to Structure #235/310**  
**Notice Pursuant to Va. Code § 15.2-2202 E**

Dear Mr. Simpson:

Dominion Energy Virginia (the "Company") is proposing to rebuild approximately 16 miles of the existing 230 kV Line #235 between the existing Clover Substation and existing Structure #235/310 using higher capacity conductors, renumber the rebuilt line segment to Line #2226, and complete work at Clover Substation to support the higher capacity conductor (the "Rebuild Project"). The Rebuild Project is located within Halifax, Mecklenburg, and Charlotte Counties in Virginia.

The Company proposes to locate the Rebuild Project entirely within the existing Line #235 rights-of-way or on Company-owned property. No additional right-of-way is necessary, as shown on the attached map.

The Rebuild Project is needed to accommodate significant increased load growth in the area over recent years and to offset any unplanned outages of the nearby Line #556, which would overload existing Line #235. The higher capacity conductors would ensure compliance with mandatory North American Electric Reliability Corporation Reliability Standards.

The Company is preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code § 15.2-2202, the Company is writing to notify Halifax County of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Rebuild Project within 30 days of receipt of this letter. Enclosed is an overview map of the Rebuild Project. Please refer to the CPCN application for any updates to the Rebuild Project description and/or routes. If there are any questions, please do not hesitate to contact me at (571) 319-2582 or [c.mcdonald@dominionenergy.com](mailto:c.mcdonald@dominionenergy.com).



July 5, 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,

A handwritten signature in black ink, appearing to read 'Christiaanna McDonald', with a stylized, cursive script.

Christiaanna McDonald  
Siting and Permitting Specialist  
Electric Transmission Services

Enclosure:      Project Overview Map





July 5, 2023

Daniel Witt  
County Administrator, Charlotte County  
250 LeGrande Ave, Suite A  
Charlotte Court House, Virginia 23923

**Project: Dominion Energy Virginia's Line #235 230 kV Rebuild from Clover Substation to Structure #235/310**  
**Notice Pursuant to Va. Code § 15.2-2202 E**

Dear Mr. Witt:

Dominion Energy Virginia (the "Company") is proposing to rebuild approximately 16 miles of the existing 230 kV Line #235 between the existing Clover Substation and existing Structure #235/310 using higher capacity conductors, renumber the rebuilt line segment to Line #2226, and complete work at Clover Substation to support the higher capacity conductor (the "Rebuild Project"). The Rebuild Project is located within Halifax, Mecklenburg, and Charlotte Counties in Virginia.

The Company proposes to locate the Rebuild Project entirely within the existing Line #235 rights-of-way or on Company-owned property. No additional right-of-way is necessary, as shown on the attached map.

The Rebuild Project is needed to accommodate significant increased load growth in the area over recent years and to offset any unplanned outages of the nearby Line #556, which would overload existing Line #235. The higher capacity conductors would ensure compliance with mandatory North American Electric Reliability Corporation Reliability Standards.

The Company is preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code § 15.2-2202, the Company is writing to notify Charlotte County of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Rebuild Project within 30 days of receipt of this letter. Enclosed is an overview map of the Rebuild Project. Please refer to the CPCN application for any updates to the Rebuild Project description and/or routes. If there are any questions, please do not hesitate to contact me at (571) 319-2582 or [c.mcdonald@dominionenergy.com](mailto:c.mcdonald@dominionenergy.com).



July 5, 2023  
Page 2 of 2

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Christiaanna McDonald  
Siting and Permitting Specialist  
Electric Transmission Services

Enclosure:      Project Overview Map

Figure No.  
LA.1

# Project Overview Map

Client/Project  
Dominion Energy Virginia

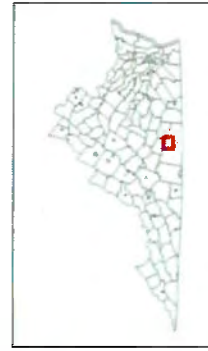
Line #235 230KV Rebuild from  
Clover Substation to Structure #235310

Project Location  
Lunenburg, Mecklenburg, and Henrico Counties, Virginia  
Project File: 2018-08-01-2018-08-01  
10 by 1000 on 2018-08-01  
10 by 1000 on 2018-08-01  
10 by 1000 on 2018-08-01

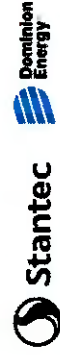
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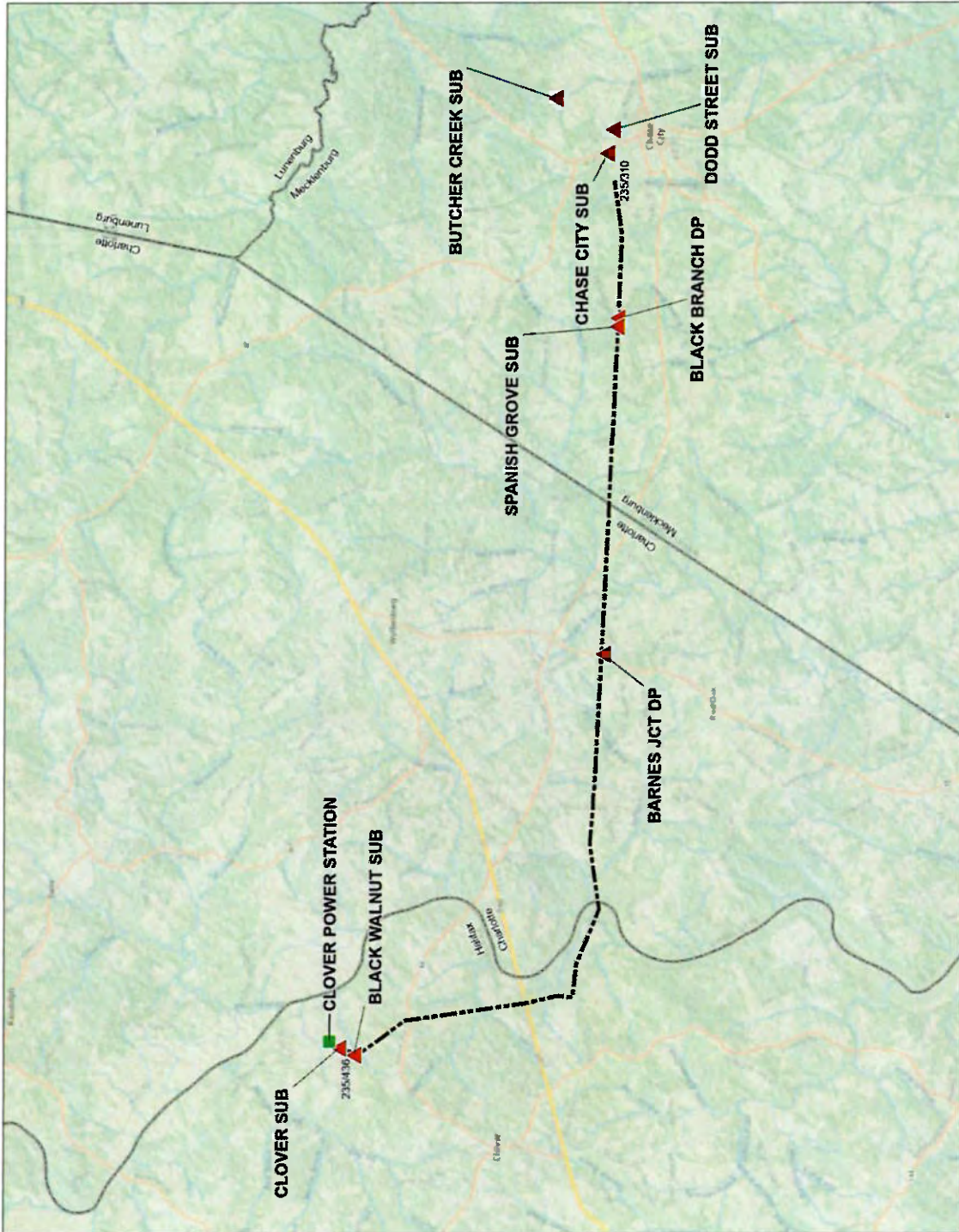
- Substation
- Existing Power Station
- Project Centerline



2018  
1. Client/Project: Dominion Energy Virginia, Line #235 230KV Rebuild from  
2. Line: Line #235 230KV Rebuild from Clover Substation to Structure #235310  
3. Background: 8 National Geographic



Page 1 of 1



Disclaimer: The document has been prepared based on information provided by others as noted in the Notes section. Stantec has not verified the accuracy and completeness of this information and shall not be responsible for any errors or omissions which may be contained herein. Stantec assumes no responsibility for any errors or omissions which may be contained herein, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.



July 5, 2023

Wayne Carter, III  
County Administrator, Mecklenburg County  
P.O. Box 307  
Boydton, VA 23917

**Project: Dominion Energy Virginia's Line #235 230 kV Rebuild from Clover Substation to Structure #235/310**  
**Notice Pursuant to Va. Code § 15.2-2202 E**

Dear Mr. Carter:

Dominion Energy Virginia (the "Company") is proposing to rebuild approximately 16 miles of the existing 230 kV Line #235 between the existing Clover Substation and existing Structure #235/310 using higher capacity conductors, renumber the rebuilt line segment to Line #2226, and complete work at Clover Substation to support the higher capacity conductor (the "Rebuild Project"). The Rebuild Project is located within Halifax, Mecklenburg, and Charlotte Counties in Virginia.

The Company proposes to locate the Rebuild Project entirely within the existing Line #235 rights-of-way or on Company-owned property. No additional right-of-way is necessary, as shown on the attached map.

The Rebuild Project is needed to accommodate significant increased load growth in the area over recent years and to offset any unplanned outages of the nearby Line #556, which would overload existing Line #235. The higher capacity conductors would ensure compliance with mandatory North American Electric Reliability Corporation Reliability Standards.

The Company is preparing an application for a Certificate of Public Convenience and Necessity ("CPCN") from the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code § 15.2-2202, the Company is writing to notify Mecklenburg County of the proposed Rebuild Project in advance of this SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Rebuild Project within 30 days of receipt of this letter. Enclosed is an overview map of the Rebuild Project. Please refer to the CPCN application for any updates to the Rebuild Project description and/or routes. If there are any questions, please do not hesitate to contact me at (571) 319-2582 or [c.mcdonald@dominionenergy.com](mailto:c.mcdonald@dominionenergy.com).



July 5, 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,

A handwritten signature in black ink, appearing to read 'Christiaanna McDonald', written in a cursive style.

Christiaanna McDonald  
Siting and Permitting Specialist  
Electric Transmission Services

Enclosure:      Project Overview Map



COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION

|                                             |   |                         |
|---------------------------------------------|---|-------------------------|
| APPLICATION OF                              | ) |                         |
|                                             | ) |                         |
| VIRGINIA ELECTRIC AND POWER                 | ) | Case No. PUR-2023-00141 |
| COMPANY                                     | ) |                         |
|                                             | ) |                         |
| For approval and certification of electric  | ) |                         |
| transmission facilities: Line #235 230 kV   | ) |                         |
| Rebuild from Clover Substation to Structure | ) |                         |
| #235/310                                    | ) |                         |

**IDENTIFICATION, SUMMARIES AND TESTIMONY OF DIRECT WITNESSES OF  
VIRGINIA ELECTRIC AND POWER COMPANY**

**Ramtin Khalili**

Witness Direct Testimony Summary  
Direct Testimony  
Appendix A: Background and Qualifications

**Chloe A. Genova**

Witness Direct Testimony Summary  
Direct Testimony  
Appendix A: Background and Qualifications

**Antoaneta Yanev**

Witness Direct Testimony Summary  
Direct Testimony  
Appendix A: Background and Qualifications

**Christianna McDonald**

Witness Direct Testimony Summary  
Direct Testimony  
Appendix A: Background and Qualifications



## **WITNESS DIRECT TESTIMONY SUMMARY**

**Witness:** Ramtin Khalili

**Title:** Engineer III – Electric Transmission Planning

**Summary:**

Company Witness Ramtin Khalili sponsors those sections of the Appendix describing the Company's electric transmission system and the need for, and benefits of, the proposed Rebuild Project, as follows:

- Section I.B: This section details the engineering justifications for the proposed Rebuild Project.
- Section I.C: This section describes the present system and details how the proposed Rebuild Project will effectively satisfy present and projected future load demand requirements.
- Section I.D: This section describes critical contingencies and associated violations due to the inadequacy of the existing system.
- Section I.E: This section explains feasible project alternatives.
- Section I.G: This section provides a system map for the affected area.
- Section I.H: This section provides the desired in-service date of the proposed Rebuild Project and the estimated construction time.
- Section I.J: This section provides information about the project if approved by the RTO.
- Section I.K: Although not applicable to the proposed Rebuild Project, this section provides outage history and maintenance history for existing transmission lines if the proposed project is a rebuild and is due in part to reliability issues.
- Section I.M: Although not applicable to the proposed Rebuild Project, this section contains information for transmission lines interconnecting a non-utility generator.
- Section I.N: Although not applicable to the proposed Rebuild Project, this section provides the proposed and existing generating sources, distribution circuits or load centers planned to be served by all new substations, switching stations, and other ground facilities associated with the proposed project.
- Section II.A.10: This section provides details of the construction plans for the proposed Rebuild Project, including requested and approved line outage schedules.

Additionally, Company Witness Khalili co-sponsors the following portions of the Appendix:

- Executive Summary (co-sponsored with Company Witness Chloe A. Genova, Toni Yanev, and Christianna McDonald): The Executive Summary provides a brief summary of the Rebuild Project.
- Section I.A (co-sponsored with Company Witness Chloe A. Genova): This section details the primary justifications for the proposed Rebuild Project.
- Section I.F (co-sponsored with Company Witness Chloe A. Genova): This section describes any lines or facilities that will be removed, replaced or taken out of service upon completion of the proposed Rebuild Project and normal and emergency ratings of the facilities.

- Section II.A.3 (co-sponsored with Company Witness Christianna McDonald): This section provides color maps of existing or proposed rights-of-way in the vicinity of the proposed Rebuild Project.

A statement of Mr. Khalili's background and qualifications is attached to his testimony as Appendix A.

**DIRECT TESTIMONY  
OF  
RAMTIN KHALILI  
ON BEHALF OF  
VIRGINIA ELECTRIC AND POWER COMPANY  
BEFORE THE  
VIRGINIA STATE CORPORATION COMMISSION  
CASE NO. PUR-2023-00141**

1   **Q.     Please state your name, business address and position with Virginia Electric and**  
2       **Power Company (“Dominion Energy Virginia” or the “Company”).**

3   A.    My name is Ramtin Khalili, and I am Engineer III - Electric Transmission Planning for the  
4        Company. My business address is 5000 Dominion Boulevard, Glen Allen, Virginia 23060.  
5        A statement of my qualifications and background is provided as Appendix A.

6   **Q.     Please describe your areas of responsibility with the Company.**

7   A.    I am responsible for planning the Company’s Southside electric transmission system  
8        for voltages of 69 kilovolts (“kV”) through 500 kV.

9   **Q.     What is the purpose of your testimony in this proceeding?**

10  A.    In order to resolve potential criteria violations of mandatory North American Electric  
11        Reliability Corporation ("NERC") Reliability Standards and consistent with sound  
12        engineering judgment, the Company proposes the following rebuild project located within  
13        existing right-of-way or on Company-owned property in Halifax, Mecklenburg, and  
14        Charlotte Counties in Virginia: (i) rebuild approximately 16 miles of the 230 kV Line  
15        currently numbered<sup>1</sup> as Line #235 between Clover Substation and Structure #235/310 using  
16        higher capacity conductor to achieve an expected summer emergency rating of 1573 MVA,

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<sup>1</sup> In Case No. PUR-2021-00137, the Company proposed to cut and renumber a segment of Line #235 between Clover Substation and Structure #235/310 to Line #2226. The Commission issued a Final Order approving this (and other) work on February 22, 2022. The Company anticipates that this segment will be cut and renumbered by June 1, 2024.



1 and renumber the rebuilt the 16-mile line segment to Line #2226; and (ii) complete work  
2 at Clover Substation to support the new line rating (the “Rebuild Project”).

3 The purpose of my testimony is to describe the Company’s electric transmission system  
4 and the need for, and benefits of, the proposed Rebuild Project. I am sponsoring Sections  
5 I.B, I.C, I.D, I.E, I.G, I.H, I.J, I.K, I.M, I.N, and II.A.10 of the Appendix. Additionally, I  
6 co-sponsor the Executive Summary with Company Witnesses Chloe A. Genova, Antoaneta  
7 Yanev, and Christianna McDonald; Sections I.A and I.F with Company Witness Chloe A.  
8 Genova, and Section II.A.3 with Company Witness Christianna McDonald.

9 **Q. Does this conclude your testimony?**

10 A. Yes, it does.

**BACKGROUND AND QUALIFICATIONS  
OF  
RAMTIN KHALILI**

Ramtin Khalili received a Doctor of Philosophy in Electrical and Electronics Engineering from Northeastern University in 2022. He also received Bachelor of Science and Master of Science degrees in electrical engineering from K. N. Toosi University of Technology and Amirkabir University of Technology, respectively. Dr. Khalili been employed by the Company since January of 2023. Prior to joining the Company, he worked as a power systems engineer with Quanta Technology LLC and other consulting companies. His areas of expertise are power system monitoring, modeling, and control. He is an expert in static, dynamic, and transient power system studies.

Mr. Khalili has not previously testified before the Virginia State Corporation Commission.

## **WITNESS DIRECT TESTIMONY SUMMARY**

**Witness:** Chloe A. Genova  
**Title:** Engineering Technical Specialist II

### **Summary:**

Company Witness Chloe A. Genova sponsors or co-sponsors the following portions of the Appendix providing an overview of the design characteristics of the transmission facilities for the proposed Rebuild Project, and discussing electric and magnetic field levels as follows:

- Section I.L: Although not applicable, this section provides photographs illustrating the deterioration of structures and associated equipment as applicable.
- Section II.A.5: This section provides drawings of the right-of-way cross section showing typical transmission lines placements.
- Sections II.B.1 to II.B.3: These sections provide the line design and operational features of the proposed project.
- Section II.B.4: Although not applicable, this section normally provides the line design and operational features of a proposed project.
- Section IV: This section provides analysis on the health aspects of electric and magnetic field levels.

Additionally, Company Witness Genova co-sponsors the following portions of the Appendix:

- Executive Summary (co-sponsored with Company Witness Ramtin Khalili, Antoaneta Yanev, and Christianna McDonald): The Executive Summary provides a brief summary of the Rebuild Project.
- Section I.A (co-sponsored with Company Witness Ramtin Khalili): This section details the primary justifications for the proposed Rebuild Project.
- Section I.F (co-sponsored with Company Witness Ramtin Khalili): This section describes any lines or facilities that will be removed, replaced or taken out of service upon completion of the proposed Rebuild Project and normal and emergency ratings of the facilities.
- Section I.I (co-sponsored with Company Witness Antoaneta Yanev): This section provides the estimated total cost of the proposed Rebuild Project.
- Section II.B.5 (co-sponsored with Company Witness Christianna McDonald): This section provides the mapping and structure heights for the existing overhead structures.
- Section V.A. (co-sponsored with Company Witness Christianna McDonald): This section provides information related to public notice of the proposed project.

A statement of Ms. Genova's background and qualifications is attached to her testimony as Appendix A.



**DIRECT TESTIMONY  
OF  
CHLOE A. GENOVA  
ON BEHALF OF  
VIRGINIA ELECTRIC AND POWER COMPANY  
BEFORE THE  
VIRGINIA STATE CORPORATION COMMISSION  
CASE NO. PUR-2023-00141**

1   **Q.     Please state your name, business address and position with Virginia Electric and Power**  
2           **Company (“Dominion Energy Virginia” or the Company”).**

3   A.     My name is Chloe A. Genova, and I am an Engineering Technical Specialist II in the Electric  
4           Transmission Line Engineering Department of the Company. My business address is 10900  
5           Nuckols Road, Glen Allen, Virginia 23060. A statement of my qualifications and background  
6           is provided as Appendix A.

7   **Q.     Please describe your areas of responsibility with the Company.**

8   A.     I am responsible for the estimating, conceptual, and final design of high voltage  
9           transmission line projects from 69 kilovolt (“kV”) to 500 kV.

10   **Q.     What is the purpose of your testimony in this proceeding?**

11   A.     In order to resolve potential criteria violations of mandatory North American Electric  
12           Reliability Corporation ("NERC") Reliability Standards and consistent with sound engineering  
13           judgment, the Company proposes the following rebuild project located within existing right-  
14           of-way or on Company-owned property in Halifax, Mecklenburg, and Charlotte Counties in  
15           Virginia: (i) rebuild approximately 16 miles of the 230 kV Line currently numbered<sup>1</sup> as Line  
16           #235 between Clover Substation and Structure #235/310 using higher capacity conductor to  
17           achieve an expected summer emergency rating of 1573 MVA, and renumber the rebuilt the 16-

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<sup>1</sup> In Case No. PUR-2021-00137, the Company proposed to cut and renumber a segment of Line #235 between Clover Substation and Structure #235/310 to Line #2226. The Commission issued a Final Order approving this (and other) work on February 22, 2022. The Company anticipates that this segment will be cut and renumbered by June 1, 2024.

1 mile line segment to Line #2226; and (ii) complete work at Clover Substation to support the  
2 new line rating (the “Rebuild Project”).

3 The purpose of my testimony is to describe the design characteristics of the transmission  
4 facilities for the proposed Rebuild Project, also to discuss electric and magnetic field levels. I  
5 sponsor Sections I.L, II.A.5, II.B.1 to II.B.4, and Section IV of the Appendix. Additionally, I  
6 co-sponsor the Executive Summary with Company Witnesses Ramtin Khalili, Antoaneta  
7 Yanev, and Christianna McDonald; Sections I.A and I.F of the Appendix with Company  
8 Witness Ramtin Khalili; Section I.I of the Appendix with Company Witness Antoaneta Yanev,  
9 and Sections II.B.5 and V.A with Company Witness Christianna McDonald.

10 **Q. Does this conclude your pre-filed direct testimony?**

11 A. Yes, it does.

**BACKGROUND AND QUALIFICATIONS  
OF  
CHLOE A. GENOVA**

Chloe A. Genova received a Bachelor of Science degree in Civil Engineering Technology from the Pennsylvania College of Technology in 2018. She currently possesses an Engineer-in-Training certification in Virginia. She worked as a contractor for Dominion Energy Virginia for three years before being hired as a full-time employee in July 2021. Ms. Genova's experience with the Company includes Overhead Electric Transmission Line Design (July 2018 – Present).

Ms. Genova has previously testified before the Virginia State Corporation Commission.



## **WITNESS DIRECT TESTIMONY SUMMARY**

**Witness:** Antoaneta Yanev

**Title:** Engineering Technical Specialist III

**Summary:**

Company Witness Antoaneta Yanev sponsors or co-sponsors the following portions of the Appendix describing the work to be performed at the existing substation for the Rebuild Project, as follows:

- Section II.C: This section describes and furnishes a one-line diagram of the substation associated with the proposed Rebuild Project, if needed.
- Executive Summary (co-sponsored with Company Witness Ramtin Khalili, Chloe A. Genova, and Christianna McDonald): The Executive Summary provides a brief summary of the Rebuild Project.
- Section I.I (co-sponsored with Company Witness Chloe A. Genova): This section provides the estimated total cost of the proposed Rebuild Project.

A statement of Ms. Yanev's background and qualifications is attached to her testimony as Appendix A.

**DIRECT TESTIMONY  
OF  
ANTOANETA YANEV  
ON BEHALF OF  
VIRGINIA ELECTRIC AND POWER COMPANY  
BEFORE THE  
VIRGINIA STATE CORPORATION COMMISSION  
CASE NO. PUR-2023-00141**

1   **Q.     Please state your name, business address and position with Virginia Electric and Power**  
2       **Company (“Dominion Energy Virginia” or the Company”).**

3   A.    My name is Antoaneta Yanev, and I am an Engineering Technical Specialist III. My business  
4        address is 5000 Dominion Boulevard, Glen Allen, Virginia 23060. A statement of my  
5        qualifications and background is provided as Appendix A.

6   **Q.     Please describe your areas of responsibility with the Company.**

7   A.    I am responsible for the evaluation of substation project requirements, feasibility studies,  
8        conceptual physical design, scope development, preliminary engineering and cost  
9        estimating for high voltage transmission and distribution substations.

10   **Q.    What is the purpose of your testimony in this proceeding?**

11   A.    In order to resolve potential criteria violations of mandatory North American Electric  
12        Reliability Corporation ("NERC") Reliability Standards and consistent with sound engineering  
13        judgment, the Company proposes the following rebuild project located within existing right-  
14        of-way or on Company-owned property in Halifax, Mecklenburg, and Charlotte Counties in  
15        Virginia: (i) rebuild approximately 16 miles of the 230 kV Line currently numbered<sup>1</sup> as Line  
16        #235 between Clover Substation and Structure #235/310 using higher capacity conductor to  
17        achieve an expected summer emergency rating of 1573 MVA, and renumber the rebuilt the 16-

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1 mile line segment to Line #2226; and (ii) complete work at Clover Substation to support the  
2 new line rating (the “Rebuild Project”).

3 The purpose of my testimony is to describe the work to be performed at the Clover Substation  
4 as a part of the proposed Rebuild Project. I sponsor Section II.C of the Appendix.  
5 Additionally, I co-sponsor the Executive Summary with Company Witnesses Ramtin Khalili,  
6 Chloe A. Genova, and Christianna McDonald; and Section I.I of the Appendix with Company  
7 Witness Chloe A. Genova, specifically as it pertains to substation work.

8 **Q. Does this conclude your testimony?**

9 **A.** Yes, it does.



**BACKGROUND AND QUALIFICATIONS  
OF  
ANTOANETA YANEV**

Antoaneta Yanev received her Bachelor of Science degree in electrical engineering from the Technical University of Sofia, Bulgaria, in 1991, with a major in Electric Power, Stations, Networks and Systems. Ms. Yanev joined the Company in 2008. Her previous responsibilities at the Company included developing detailed physical construction drawings, bills of material, grounding studies, electrical schematics, and wiring diagrams.

Ms. Yanev has previously testified before the Virginia State Corporation Commission.

## **WITNESS DIRECT TESTIMONY SUMMARY**

**Witness:** Christianna McDonald

**Title:** Siting and Permitting Specialist

**Summary:**

Company Witness Christianna McDonald will sponsor those portions of the Appendix providing an overview of the design of the route for the proposed Rebuild Project, and related permitting, as follows:

- Section II.A.1: This section provides the length of the proposed corridor and viable alternatives to the proposed Rebuild Project.
- Section II.A.2: This section provides a map showing the route of the proposed Rebuild Project in relation to notable points close to the proposed Rebuild Project.
- Section II.A.4: This section explains why the existing right-of-way is not adequate to serve the need, to the extent applicable.
- Sections II.A.6 to II.A.8: These sections provide detail regarding the right-of-way for the proposed Rebuild Project.
- Section II.A.9: This section describes the proposed route selection procedures and details alternative routes considered.
- Section II.A.11: This section details how the construction of the proposed Rebuild Project follows the provisions discussed in Attachment 1 of the Transmission Appendix Guidelines.
- Section II.A.12: This section identifies the counties and localities through which the proposed Rebuild Project will pass and provides General Highway Maps for these localities.
- Section II.B.6: This section provides photographs of existing facilities, representations of proposed facilities, and visual simulations.
- Section III: This section details the impact of the proposed Rebuild Project on scenic, environmental, and historic features.

Additionally, Ms. McDonald co-sponsors the following portions of the Appendix:

- Executive Summary (co-sponsored with Company Witness Ramtin Khalili, Toni Yanev, and Chloe A. Genova): The Executive Summary provides a brief summary of the Rebuild Project.
- Section II.A.3 (co-sponsored with Company Witness Ramtin Khalili): This section provides color maps of existing or proposed rights-of-way in the vicinity of the proposed Rebuild Project.
- Section II.B.5 (co-sponsored with Company Witness Chloe A. Genova): This section provides the mapping and structure heights for the existing and proposed overhead structures.
- Section V.A: (co-sponsored with Company Witness Chloe A. Genova): This section provides information related to public notice of the proposed Rebuild Project.

Finally, Ms. McDonald sponsors the DEQ Supplement filed with the Application. A statement of Ms. McDonald's background and qualifications is attached to her testimony as Appendix A.

**DIRECT TESTIMONY  
OF  
CHRISTIANNA MCDONALD  
ON BEHALF OF  
VIRGINIA ELECTRIC AND POWER COMPANY  
BEFORE THE  
VIRGINIA STATE CORPORATION COMMISSION  
CASE NO. PUR-2023-00141**

1   **Q.     Please state your name, business address and position with Virginia Electric and Power**  
2           **Company (“Dominion Energy Virginia” or the “Company”).**

3   A.     My name is Christianna McDonald, and I am a Siting and Permitting Specialist for Virginia  
4           Electric and Power Company (“Dominion Energy Virginia” or the “Company”) supporting  
5           Electric Transmission. My business address is 5000 Dominion Boulevard, Glen Allen,  
6           Virginia 23060. A statement of my qualifications and background is provided as Appendix A.

7   **Q.     Please describe your areas of responsibility with the Company.**

8   A.     I am responsible for identifying appropriate routes for transmission lines and obtaining  
9           necessary federal, state, and local approvals and permits for those facilities. In this  
10          position, I work closely with government officials, permitting agencies, property owners,  
11          and other interested parties, as well as with other Company personnel, to develop and  
12          maintain facilities needed by the public so as to reasonably minimize environmental and  
13          other impacts on the public in a reliable, cost-effective manner.

14   **Q.     What is the purpose of your testimony in this proceeding?**

15   A.     In order to resolve potential criteria violations of mandatory North American Electric  
16           Reliability Corporation ("NERC") Reliability Standards and consistent with sound engineering  
17           judgment, the Company proposes the following rebuild project located within existing right-  
18           of-way or on Company-owned property in Halifax, Mecklenburg, and Charlotte Counties in



1 Virginia: (i) rebuild approximately 16 miles of the 230 kV Line currently numbered<sup>1</sup> as Line  
2 #235 between Clover Substation and Structure #235/310 using higher capacity conductor to  
3 achieve an expected summer emergency rating of 1573 MVA, and renumber the rebuilt the 16-  
4 mile line segment to Line #2226; and (ii) complete work at Clover Substation to support the  
5 new line rating (the “Rebuild Project”).

6 The purpose of my testimony is to provide an overview of the route and permitting for the  
7 proposed Rebuild Project. As it pertains to routing and permitting, I sponsor Sections II.A.1,  
8 II.A.2, II.A.4, II.A.6, II.A.7, II.A.8, II.A.9, II.A.11, II.A.12, II.B.6, and III of the Appendix. I  
9 also sponsor the DEQ Supplement filed with the Application, and co-sponsor the Executive  
10 Summary with Company Witnesses Ramtin Khalili, Antoaneta Yanev, and Chloe A. Genova;  
11 Section II.A.3 with Company Witness Ramtin Khalili and Sections II.B.5 and V.A of the  
12 Appendix with Company Witness Chloe A. Genova.

13 **Q. Has the Company complied with Va. Code § 15.2-2202 E?**

14 A. Yes. In accordance with Va. Code § 15.2-2202 E, letters dated July 5, 2023, were sent to Mr.  
15 Scott R. Simpson, P.E., Halifax County Administrator; Mr. Daniel Witt, Charlotte County  
16 Administrator; and Mr. H. Wayne Carter, III, Mecklenburg County Administrator where  
17 the Rebuild Project is located. The letters stated the Company's intention to file this  
18 Application and invited the Counties to consult with the Company about the Rebuild Project.  
19 Copies of the letters are included as Appendix Attachments V.D.1, V.D.2 and V.D.3,  
20 respectively.

21 **Q. Does this conclude your testimony?**

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<sup>1</sup> In Case No. PUR-2021-00137, the Company proposed to cut and renumber a segment of Line #235 between Clover Substation and Structure #235/310 to Line #2226. The Commission issued a Final Order approving this (and other) work on February 22, 2022. The Company anticipates that this segment will be cut and renumbered by June 1, 2024.

1     A.     Yes, it does.

**BACKGROUND AND QUALIFICATIONS  
OF  
CHRISTIANNA MCDONALD**

Christianna McDonald joined the Company in 2015 as a contractor in the Strategic Underground Program. In that role, Ms. McDonald was responsible for drafting easement plats, securing executed easements, and permitting underground electric distribution projects. Ms. McDonald became an employee of the Company in 2016. In her role as the Siting and Permitting Specialist, Ms. McDonald's experience with the Company includes permitting electric distribution and transportation projects. Ms. McDonald took undergraduate courses in Mass Communication.

Ms. McDonald has not previously testified before the Virginia State Corporation Commission.