Troutman Pepper Hamilton Sanders LLP
Troutman Pepper Building, 1001 Haxall Point, 15th Floor
Richmond, VA 23219

troutman.com

Andrew J. Flavin
andy.flavin@troutman.com

Timothy L. McHugh
tim.mchugh@troutman.com

November 14, 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: Suffolk – Structure #246/94 230 kV Transmission Line #246 Virginia Rebuild Project – Case No. PUR-2023-00203.

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, an electronic copy of the Virginia Department of Transportation "General Highway Map" for the City of Suffolk, 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.
William H. Smith, Esq.
John B. Sample, Esq.

Dominion Energy®

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

Before the State Corporation Commission of Virginia

Suffolk – Structure #246/94 230 kV Transmission Line #246 Virginia Rebuild Project

Application No. 329

Case No. PUR-2023-00203

Filed: November 14, 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

Suffolk – Structure #246/94 230 kV Transmission Line #246
Virginia Rebuild Project

Application No. 329

Case No. PUR-2023-00203

Filed: November 14, 2023

COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

APPLICATION OF	)	
	)	
VIRGINIA ELECTRIC AND POWER COMPANY	)	Case No. PUR-2023-00203
	)	
For approval and certification of electric transmission facilities: Suffolk – Structure #246/94 230 kV Transmission Line #246 Virginia Rebuild Project	)	

APPLICATION OF VIRGINIA ELECTRIC AND POWER COMPANY FOR APPROVAL AND CERTIFICATION OF ELECTRIC TRANSMISSION FACILITIES: SUFFOLK – STRUCTURE #246/94 230 KV TRANSMISSION LINE #246 VIRGINIA REBUILD PROJECT

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 maintain the structural integrity and reliability of its transmission systems in compliance with the Company's mandatory electric transmission planning criteria ("Planning Criteria") and consistent with sound engineering judgment, Dominion Energy Virginia proposes the following rebuild project located within existing right-of-way or on Company-owned property in the City of Suffolk, Virginia:

- Rebuild, entirely within existing right-of-way or on Company-owned property, approximately 11.9 miles of the existing 230 kV Line #246 on single circuit wood structures, which runs from Structure #246/1C within the Company's existing Suffolk Substation to Structure #246/94 at the Virginia state line, and is located entirely within the City of Suffolk, Virginia; and

- Perform minor work at the existing Suffolk Substation, including upgrading circuit-breaker and line leads to 4000A and installing a new substation dead-end structure

(collectively, the "Virginia Rebuild Project").[1]

[1] With this Application, the Company is seeking a certificate of public convenience and necessity ("CPCN" or "Certificate") from the Virginia State Corporation Commission ("Commission") for the rebuild of 11.9 miles of Line #246 located between the Suffolk Substation and the Virginia state line (*i.e.* from Structure #246/1C through Structure #246/94), which are entirely within the City of Suffolk, Virginia. The remaining approximately 32.4 miles of Line #246 that will be rebuilt is located entirely within North Carolina, extending from the Virginia state line, through the Company's existing Tunis and Ahoskie Substations, and concluding at the Company's existing Earleys Substation (the "North Carolina Rebuild Project") (together, the Virginia Rebuild Project and North Carolina Rebuild Project are referred to herein as the "VA-NC Rebuild Project"). The Company is not seeking approval of the North Carolina Rebuild Project herein or from the North Carolina Utilities Commission ("NCUC"). Pursuant to NCGS § 62-101(a), a certificate is required from the NCUC "to construct a new transmission line," not to rebuild an existing line. Further, NCGS § 62-101(c)(2) specifically provides that "[a] certificate is not required for construction of the following lines:… [t]he replacement or expansion of an existing line with a similar line in substantially the same location, or the rebuilding, upgrading, modifying, modernizing, or reconstructing of an existing line for the purpose of increasing capacity or widening an existing right-of-way[.]" Accordingly, because the North Carolina Rebuild Project proposes to rebuild existing Line #246 with a similar line in substantially the same location, NCUC approval of the North Carolina Rebuild Project is not required. To the extent that responses are provided within this Appendix, they should

4. The Company has developed a proactive plan to rebuild transmission lines that are comprised of wood pole structures that are experiencing maintenance and reliability issues, including cracked and decaying wood, ground line rot, and woodpecker damage. A majority of Line #246 was constructed in 1971 on wooden H-frame structures, which have been identified for rebuild based on the Company's assessment in accordance with the Company's Planning Criteria. Industry experience indicates that equipment life is approximately 35 to 55 years for wooden pole structures, approximately 40 to 60 years for conductor and connectors, and approximately 50 years for porcelain insulators. The proposed Virginia Rebuild Project will replace aging infrastructure that is at the end of its service life in order to comply with the Company's mandatory Planning Criteria, thereby enabling the Company to maintain the overall long-term reliability of its transmission system.

5. The total length of the existing right-of-way and Company-owned property to be used for the Virginia Rebuild Project is approximately 11.9 miles. 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 Virginia Rebuild Project.

6. The desired in-service date for the Virginia Rebuild Project is December 31, 2028. The Company estimates it will take approximately 25 months for detailed engineering, materials, procurement, permitting, and construction of the VA-NC Rebuild Project after a final order from the Commission on the Virginia Rebuild Project. Accordingly, to support this estimated pre-

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be viewed as applicable only to the Virginia Rebuild Project, and not the North Carolina Rebuild Project or the VA-NC Rebuild Project, unless so specifically stated. Any such information related specifically to the North Carolina Rebuild Project or the VA-NC Rebuild Project should be viewed as informational only, and should not be considered as applicable for the approval being sought in this Application for a CPCN for the Virginia Rebuild Project.

construction activity timeline and construction plan, the Company respectfully requests a final order on the Virginia Rebuild Project by June 11, 2024. Should the Commission issue a final order by June 11, 2024, the Company estimates that construction of the VA-NC Rebuild Project should begin by April 2026, and be completed by December 31, 2028. This construction timeline will enable the Company to meet the targeted in-service date for the Virginia 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 Virginia 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; however, as of the writing of this document, the listing has not been published in the Federal Register. Regulatory guidance on the Tri-colored bat will be available upon listing. The Little Brown Bat is currently under review for listing by USFWS, with a decision expected in 2024. The Company's construction window described above may require adjustment based upon the regulatory guidance and potential TOYRs associated with these bat species.

7. The total estimated conceptual cost of the Virginia Rebuild Project is approximately $38.9 million (in 2023 dollars), which includes approximately $38.5 million for transmission-related work, and approximately $400,000 for substation-related work (in 2023 dollars).

8. The proposed Virginia 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 Jason Whitlow, Wesley Strunk, George Brimmer, and Hannah Hurst 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 Virginia Rebuild Project; and

c) grant a certificate of public convenience and necessity for the Virginia Rebuild Project under the Utility Facilities Act, Va. Code §§ 56-265.1, *et seq.*, by June 11, 2024, if possible.

VIRGINIA ELECTRIC AND POWER COMPANY

By: _____ _____

David J. DePippo
Annie C. Larson
Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
(804) 819-2411 (DJD)
(804) 819-2806 (ACL)
david.j.depippo@dominionenergy.com
annie.c.larson@dominionenergy.com

Andrew J. Flavin
Timothy L. McHugh
Viktoriia A. De Las Casas
William H. Smith, III
Troutman Pepper Hamilton Sanders LLP
1001 Haxall Point
Richmond, VA 23219
(804) 697-1368 (AJF)
(804) 697-1365 (TLM)
(804) 697-1205 (VDLC)
(804) 697-1218 (WHS)
andy.flavin@troutman.com
tim.mchugh@troutman.com
viktoriia.delascasas@troutman.com
trey.smith@troutman.com

Counsel for Virginia Electric and Power Company

November 14, 2023

COMMONWEALTH OF VIRGINIA
BEFORE THE
STATE CORPORATION COMMISSION

APPLICATION OF

VIRGINIA ELECTRIC AND POWER COMPANY

FOR APPROVAL AND CERTIFICATION
OF ELECTRIC FACILITIES

Suffolk – Structure #246/94 230 kV Transmission Line #246
Virginia Rebuild Project

Application No. 329

Appendix

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

Case No. PUR-2023-00203

Filed: November 14, 2023

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EXECUTIVE SUMMARY

In order to maintain the structural integrity and reliability of its transmission systems in compliance with the Company's mandatory electric transmission planning criteria ("Planning Criteria")[1] and consistent with sound engineering judgment, Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") proposes to:

(i) Rebuild, entirely within existing right-of-way or on Company-owned property, approximately 11.9 miles of the existing 230 kV Line #246 on single circuit wood structures, which runs from Structure #246/1C within the Company's existing Suffolk Substation to Structure #246/94 at the Virginia state line, and is located entirely within the City of Suffolk, Virginia; and

(ii) Perform minor work at the existing Suffolk Substation, including upgrading circuit-breaker and line leads to 4000A and installing a new substation dead-end structure

(collectively, the "Virginia Rebuild Project").[2]

The Company has developed a proactive plan to rebuild transmission lines that are comprised of wood pole structures that are experiencing maintenance and reliability issues, including cracked and decaying wood, ground line rot, and woodpecker damage. A majority of Line #246 was constructed in 1971 on wooden H-frame structures, which have been identified for rebuild based on the Company's assessment in accordance with the Company's Planning Criteria. Industry experience indicates that equipment life is approximately 35 to 55 years for wooden pole

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[1] The Company's Transmission Planning Criteria (effective April 1, 2023) can be found in Attachment 1 of the Company's Facility Interconnection Requirements ("FIR") document, which is available online at *https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/parallel-generation/facility-connection-requirements.pdf?la=en&rev=f280781e90cf47f69ea526c944c9c347&hash=82DD2567D0B033C47536134B8C4D5C5E*.

[2] With this Application, the Company is seeking a certificate of public convenience and necessity ("CPCN" or "Certificate") from the Virginia State Corporation Commission ("Commission") for the rebuild of 11.9 miles of Line #246 located between the Suffolk Substation and the Virginia state line (*i.e.* from Structure #246/1C through Structure #246/94), which are entirely within the City of Suffolk, Virginia. The remaining approximately 32.4 miles of Line #246 that will be rebuilt is located entirely within North Carolina, extending from the Virginia state line, through the Company's existing Tunis and Ahoskie Substations, and concluding at the Company's existing Earleys Substation (the "North Carolina Rebuild Project") (together, the Virginia Rebuild Project and North Carolina Rebuild Project are referred to herein as the "VA-NC Rebuild Project"). The Company is not seeking approval of the North Carolina Rebuild Project herein or from the North Carolina Utilities Commission ("NCUC"). Pursuant to NCGS § 62-101(a), a certificate is required from the NCUC "to construct a new transmission line," not to rebuild an existing line. Further, NCGS § 62-101(c)(2) specifically provides that "[a] certificate is not required for construction of the following lines:… [t]he replacement or expansion of an existing line with a similar line in substantially the same location, or the rebuilding, upgrading, modifying, modernizing, or reconstructing of an existing line for the purpose of increasing capacity or widening an existing right-of-way[.]" Accordingly, because the North Carolina Rebuild Project proposes to rebuild existing Line #246 with a similar line in substantially the same location, NCUC approval of the North Carolina Rebuild Project is not required. To the extent that responses are provided within this Appendix, they should be viewed as applicable only to the Virginia Rebuild Project, and not the North Carolina Rebuild Project or the VA-NC Rebuild Project, unless so specifically stated. Any such information related specifically to the North Carolina Rebuild Project or the VA-NC Rebuild Project should be viewed as informational only, and should not be considered as applicable for the approval being sought in this Application for a CPCN for the Virginia Rebuild Project.

structures, approximately 40 to 60 years for conductor and connectors, and approximately 50 years for porcelain insulators. The proposed Virginia Rebuild Project will replace aging infrastructure that is at the end of its service life in order to comply with the Company's mandatory Planning Criteria, thereby enabling the Company to maintain the overall long-term reliability of its transmission system.

The total length of the existing right-of-way and Company-owned property to be used for the Virginia Rebuild Project is approximately 11.9 miles. Because the existing right-of-way and Company-owned property are adequate to construct the proposed Virginia 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 Virginia Rebuild Project.

The total estimated conceptual cost of the Virginia Rebuild Project is approximately $38.9 million (in 2023 dollars), which includes approximately $38.5 million for transmission-related work, and approximately $400,000 for substation-related work (in 2023 dollars).

The desired in-service date for the Virginia Rebuild Project is December 31, 2028. The Company estimates it will take approximately 25 months for detailed engineering, materials, procurement, permitting, and construction of the VA-NC Rebuild Project after a final order from the Commission on the Virginia Rebuild Project. Accordingly, to support this estimated pre-construction activity timeline and construction plan, the Company respectfully requests a final order on the Virginia Rebuild Project by June 11, 2024. Should the Commission issue a final order by June 11, 2024, the Company estimates that construction of the VA-NC Rebuild Project should begin by April 2026, and be completed by December 31, 2028. This construction timeline will enable the Company to meet the targeted in-service date for the Virginia 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 Virginia 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; however, as of the writing of this document, the listing has not been published in the Federal Register. Regulatory guidance on the Tri-colored bat will be available upon listing. The Little Brown Bat is currently under review for listing by USFWS, with a decision expected in 2024. The Company's construction window described above may require adjustment based upon the regulatory guidance and potential TOYRs associated with these 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 Virginia Rebuild Project is necessary to replace aging infrastructure that is at the end of its service life along an approximately 11.9-mile segment of 230 kV Line #246 in the City of Suffolk, Virginia. See Attachment I.A.1 for an overview map of the proposed Virginia 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").

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.

North American Electric Reliability Corporation ("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.[3]

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.[4] 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.[5] 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 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

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[3] *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*.

[4] 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*.

[5] *See* PJM Manual 14B, Attachment D: PJM Reliability Planning 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. See Section I.J for a discussion of the PJM process as it relates to the Virginia Rebuild Project.

The Company has developed a proactive plan to rebuild transmission lines that are comprised of wood pole structures that are experiencing maintenance and reliability issues, including cracked and decaying wood, ground line rot, and woodpecker damage. Under the broader VA-NC Rebuild Project, the Company proposes to wreck and rebuild approximately 44.3 miles of existing Line #246 in existing right-of-way or on Company-owned property between the Company's existing Suffolk Substation in Virginia and Earleys Substation in North Carolina. The Virginia Rebuild Project proposes to rebuild approximately 11.9 miles out of the 44.3 miles, located entirely in the City of Suffolk, Virginia. The majority of Line #246 was constructed in 1971 on wooden H-frames, which have been identified through field inspections to be showing significant deterioration. Deterioration of the wood poles includes significant cracks, rot/decay, and woodpecker damage.

Section C.2.9 of the Company's Planning Criteria addresses electric transmission infrastructure approaching its end of life:[6]

> Electric transmission infrastructure reaches its end of life as a result of many factors. Some factors such as extreme weather and environmental conditions can *shorten* infrastructure life, while others such as maintenance activities can *lengthen* its life. Once end of life is recognized, in order to ensure continued reliability of the transmission grid, a decision must be made regarding the best way to address this end-of-life asset.
>
> For this criterion, "end of life" is defined as the point at which infrastructure is at risk of failure, and continued maintenance and/or refurbishment of the infrastructure is no longer a valid option to extend the life of the facilities consistent with Good Utility Practice and Dominion Energy Transmission Planning Criteria. The infrastructure to be evaluated under this end-of-life criteria are all transmission lines at 500 kV and above.

[6] *See supra,* n. 1.

> The decision point of this criterion is based on satisfying two metrics:
>
> 1) *Facility is nearing, or has already passed, its end of life, and*
>
> 2) *Continued operation risks negatively impacting reliability of the transmission system.*
>
> For facilities that satisfy both of these metrics, this criterion mandates either replacing these facilities with in-kind infrastructure that meets current Dominion standards or employing an alternative solution to ensure the Dominion transmission system satisfies all applicable reliability criteria.

Effective March 24, 2020, the Company updated its Planning Criteria so that infrastructure to be evaluated under end of life criteria changed from "all transmission lines at 69 kV and above" to "all regional transmission lines operated at 500 kV and above." The remaining transmission lines between 100 kV and 500 kV are evaluated under the Company's Attachment M-3 End-of-Life Planning Criteria. The latest version of this criteria was presented at the December 14, 2022 PJM Sub-Regional RTEP meeting. See Attachment I.A.2 for updated slides presented by the Company at that meeting. As discussed in Attachment I.A.2, end of life projects between 100 kV and 500 kV are classified as supplemental projects. The process, however, for determining that an asset has reached its end of life remains the same; therefore, the Company continues to use the criteria evaluation process outlined in Section C.2.9 of the Planning Criteria.

The Virginia Rebuild Project will rebuild 11.9 miles of Line # 246, which has been identified for rebuild based on Dominion Energy Virginia's assessment in accordance with the Company's Planning Criteria and consistent with sound engineering judgment.

1) Facility is nearing, or has already passed, its end of life

In regard to the first metric of the Company's Planning Criteria addressing end of life, the wooden structures supporting the 11.9-mile segment of Line #246 proposed to be rebuilt are experiencing cracks, rot, and woodpecker damage. Out of the 95 wooden pole structures supporting Line #246 in Virginia, approximately 75% (56 pole structures) are currently in poor condition in need of replacement in the near term. Of those 56 pole structures, 5 structures have severe rot/decay, 2 structures are severely cracked, and 14 structures show woodpecker damage. Based on the wood pole assessment, a complete rebuild is recommended because the condition and age of these structures indicates that they have reached the end of their life.

In addition to the wood structures, industry guidelines indicate equipment life for conductor and connectors are 40-60 years, and porcelain insulators are 50 years.

The combination of deteriorating condition and age indicate that these structures and line equipment have reached their end of life.

2) Continued operation risks negatively impacting reliability of the transmission system

Regarding the second metric of the Company's Planning Criteria addressing end of life, Line #246 provides direct delivery to one industrial load customer served out of the Company's Nucor Substation, located in North Carolina. Should Line #246 be out of service, one industrial customer would be left unserved. See Section I.C for additional details. The Company is unable to provide reliable transmission service to this customer unless it addresses the critical structural deficiencies identified in the Virginia Rebuild Project.

The Company submitted the VA-NC Rebuild Project proposal, which includes the Virginia Rebuild Project, as a supplemental project to the PJM RTEP process in August 2023 to address the end-of-life criteria. The Company anticipates submitting additional proposal for the Virginia Rebuild Project to the PJM RTEP process in December 2023. No additional reliability studies were required by PJM in support of the need for the proposed Virginia Rebuild Project because service to the customers fed from the Company's Nucor Substation would cease absent the Virginia Rebuild Project. See Section I.J.

In summary, the proposed Virginia Rebuild Project will replace aging infrastructure at the end of its service life in compliance with the Company's mandatory Planning Criteria and consistent with sound engineering judgment, thereby enabling the Company to maintain the overall long-term reliability of its transmission system, as well as to provide important system reliability benefits to the Company's entire network.

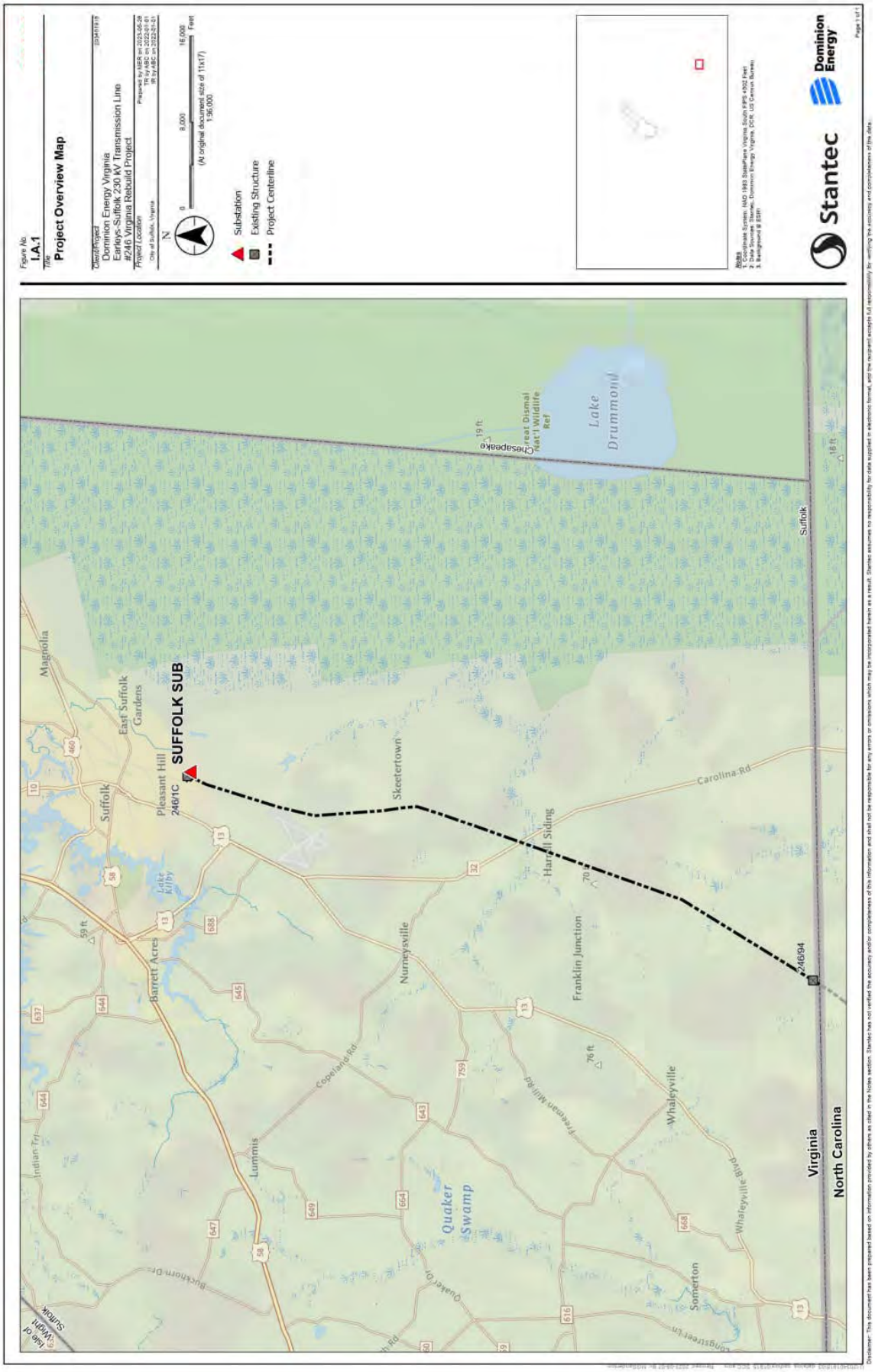


Figure No.
I.A-1
Title
Project Overview Map
Client/Project
Dominion Energy Virginia
Earleys–Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-28
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
N
0
8,000
16,000
Feet
(At original document size of 11x17)
1:96,000
Substation
Existing Structure
Project Centerline
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Source: Dominion Energy Virginia, ESRI, US Census Bureau
3. Background © ESRI
Stantec
Dominion Energy
Page 1 of 1
SUFFOLK SUB
246/1C
246/94
Pleasant Hill
Skeetertown
Harrell Siding
Carolina Rd
Great Dismal Swamp Nat'l Wildlife Ref
Lake Drummond
Chesapeake
Suffolk
East Suffolk Gardens
Magnolia
Barrett Acres
Lake Kilby
Nurneysville
Franklin Junction
Lummis
Quaker Swamp
Whaleyville
Whaleyville Blvd
Somerton
Virginia
North Carolina

Dominion Energy

PJM Southern Sub-Regional RTEP Meeting

Planning Assumptions

Planning Criteria and Assumptions

- PJM Assumptions Apply
- All analysis and solutions must satisfy
  - NERC TPL standards
  - PJM Planning Criteria in Attachment D & G of PJM Manual 14B
  - Dominion Energy's Facility Interconnection Requirements
    - Requirements to connect to Dominion's Transmission system
    - Attachment 1 – Dominion's FERC Form 715 Planning Criteria
    - Attachment 3 – Generation Interconnection Protection Requirements
    - Attachment 4 – Generator Ride-Through Requirements
  - Supplemental Project Drivers as Described Below
- PJM and Dominion validate each other's study results to ensure solutions resolve specific need and create no other harm to system
- Proposed solutions are presented
  - TEAC for facilities 230 kV and above
  - Southern Sub-regional for facilities below 230 kV

Power Flow Modeling Assumptions

- Dominion uses PJM RTEP developed power flow models for 5 year and intermediate year assessments
- For situations where a PJM RTEP model is not available, Dominion will create a specific case using a PJM RTEP case
- Dominion at times may also utilize a MMWG series power flow case
- Loads used in all power flow cases will be modeled consistent with the 2023 PJM Load Forecast Report
- Generation retirements modeled as outlined in the PJM's Generation Retirement Process
  - Dominion may also consider future generation retirements consistent with the VA/NC Integrated Resource Plan

Dominion Energy's FERC Form 715 End of Life Planning Criteria

- Infrastructure to be evaluated under this end-of-life criteria are all regional transmission lines operated at 500 kV and above
- The decision point of this criterion is based on satisfying two metrics:
  1) Facility is nearing, or has already passed, its end of life, and
  2) Continued operation risks negatively impacting reliability of the transmission system, including our ability to serve local load.
- Projects approved by PJM under this criteria are classified as baseline
- Detailed discussion on the End of Life criteria can be found in Attachment 1, section C.2.9 of Dominion Energy's Facility Interconnection Requirements document
- All other asset management of transmission infrastructure is covered by the M-3 Supplemental process
- The Appendix lists transmission lines expected to be evaluated using the FERC Form No. 715 End of Life criteria in the 2023 RTEP cycle

Supplemental Project Drivers

Summary of Supplemental Project Drivers

I. Customer Service	• Service to new and existing customers. Interconnect new customer load. Address distribution load growth, customer outage exposure, equipment loading
II. Equipment Material Condition, Performance and Risk	• Degraded equipment performance, material condition, obsolescence, equipment failure, employee and public safety and environmental impact • Substation Assets, Transmission Line Assets, Transmission Transformers
III. Operational Flexibility and Efficiency	• Optimizing system configuration, equipment duty cycles and restoration capability, minimize outages
IV. Infrastructure Resilience	• Improve system ability to anticipate, absorb, adapt to, and/or rapidly recover from a potentially disruptive event, including severe weather, geo-magnetic disturbances, electromagnetic pulses, physical and cyber security challenges, critical infrastructure reduction.
V. Other	• Meet objectives not included in other definitions

I. Customer Service

- Service to new and existing customers. Interconnect new customer load. Address distribution load growth, customer outage exposure, equipment loading

Customer Service Considerations

Project Drivers typically include:

- New Load Delivery Points (DP)
- Upgrades or modifications to existing Load Delivery Points(DP)
- Other customer requests

II. Equipment Material Condition, Performance and Risk

- Degraded equipment performance, material condition, obsolescence, equipment failure, employee and public safety and environmental impact
- Substation Assets, Transmission Line Assets, Transmission Transformers

Equipment Material Condition, Performance and Risk

- End of Life
  - Transmission Lines operated at or above 100 kV and below 500 kV
  - Transformers with high-side operated at or above 100 kV
- Other Asset Management

  Types of equipment assessed include but not limited to:
  - Transmission Lines below 100 kV
  - Line Components (not part of EOL Criteria)
  - Transformers below 100 kV
  - Breakers
  - Circuit Switchers
  - Reactors
  - Capbanks
  - Wave Traps
  - Relaying
  - Switches
  - Bus Work, Leads
  - FACTS Devices

Equipment Material Condition, Performance and Risk

Project Drivers

- EOL and Asset Management projects include the replacement, modification, upgrade or addition of transmission equipment for the following purposes:
  - Replacement of equipment due to eminent failure
  - Safety concerns
  - Compliance (internal and external)
  - Reliability
  - Operating Flexibility
  - Obsolescence
  - Other

Dominion Energy's Attachment M-3 End of Life Planning Criteria for Transmission Lines

- Infrastructure to be evaluated under this end-of-life criteria are all transmission lines operated at or above 100kV and below 500 kV
- Projects must satisfy the following two decision point metrics:
  1) Facility is nearing, or has already passed, its end of life, and
  2) Continued operation risks negatively impacting reliability of the transmission system, including our ability to serve local load.
- Projects will be classified as supplemental

Transmission Line Facilities

Project Development Process

- All project requests and inputs are reviewed
- Records of inspections, component failures, refurbishments/repairs, tower loading studies, COR-TEN corrosion studies and other relevant information are reviewed
- Field sampling and inspections are performed
- Perform analysis to determine condition of individual lines and a ranking to support remediation

Transmission Line Components

Project Development Process

- Industry typical “expected” service life are considered:
  - Steel structures 40 to 60 years
  - Conductors 60 years
  - Connectors 40 to 60 years
  - Insulators (Porcelain/Glass) 50 years+ (Polymer) 30 years
  - Fiber 30 years
  - Wood 55 years with maintenance
- However, the actual service life is dependent upon many variables and ongoing inspection to evaluate condition is the best determinant of end of service life.

Dominion Energy's Attachment M-3
End of Life Planning Criteria for Transformers

- Infrastructure to be evaluated under this end-of-life criteria are transmission transformers, high side operated at or above 100kV
- Transformer Health Assessment Program (THA)

500 kV Transformer Failure in 2000

230 kV Transformer Failure in 2001

Transmission Transformer THA Overview

- For Transmission Transformers, Dominion uses a Transformer Health Assessment (THA) approach to prioritize replacement
- A proven systematic approach to calculating transformer health and risk
- Not just about age – several condition-based parameters are considered
- Supports possible additional maintenance, online monitoring, proactive replacements

Transmission Transformer THA Overview

Parameters Considered for Proactive Replacement:

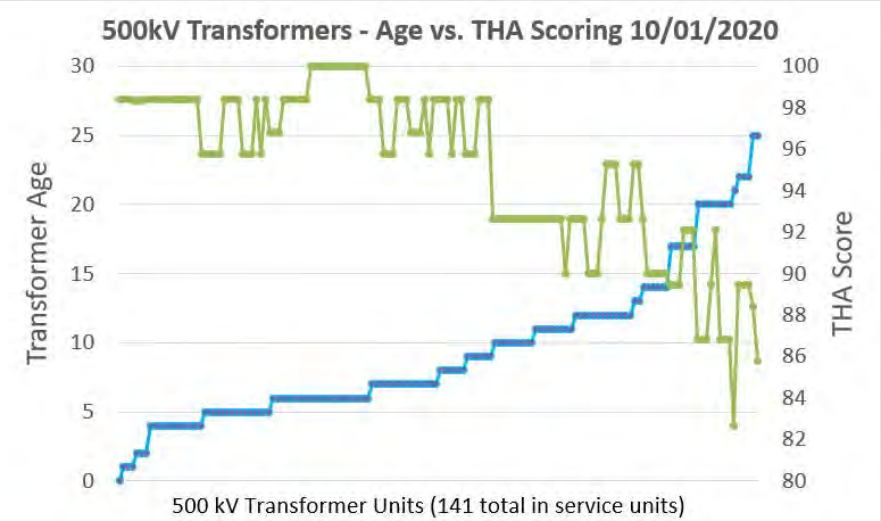
- THA score less than 80
- Maintenance history/environmental risk
- Previous transformer failures of same manufacturer
- Previous failures and remanufacturing history
- Dissolved Gas-in-Oil Analysis (DGA) trends

THA Condition-Based Parameter Weighting

Parameter	Weight for 500 kV Txs	Weight for 230 kV Txs
Dissolved Gas-in-Oil Analysis	25%	25%
Winding Power Factor	20%	15%
LTC Design	-	15%
Age	10%	10%
BIL Ratings	10%	10%
Loading	5%	-
Oil Acidity	5%	-
Moisture in Oil/Insulation	5%	5%
Bushing Power Factor	5%	5%
Tertiary Design/Presence	5%	5%
Bushing Type/Age	5%	5%
Fault Exposure	5%	5%

Example Scoring of Age Parameter

Age	Score
0 - 10 years	10
10 - 30 years	7
30 - 40 years	4
40 - 45 years	1
45 - 50 years	-5
50 - 55 years	-10
> 55 years	-15



The age of each unit is plotted on the blue line and the associated THA score is plotted on the green line.

Other Asset Management

Project Development Process

Other Transmission Line and Transformer Projects (below 100kV)

- Projects are evaluated using the same process as EOL

Substation Projects

- Projects are prioritized based on many different factors including:
  - Project Type
  - Likelihood and consequence of failure
  - Completing work in conjunction with other planned capital improvement work or scheduled maintenance activities and outages
  - Project cost
- Projects are assigned to a project manager and the conceptual team for detailed review and estimating
- Planning reviews projects to ensure they do not conflict with long term plans prior to submittal to PJM through the M-3 Planning process

Other Asset Management

Project Development Process

- All project requests and inputs are reviewed
- Compliance projects (time based) are identified and documented. These typically include:
  - Wave Traps – 25 years
  - CCVT's - 25 years
  - Batteries – 20 years
  - Battery Chargers – 20 years
  - Nuclear (Switchyard and one terminal away) – 20 years
- A high-level scope and cost estimate is developed

III. Operational Flexibility and Efficiency

- Optimizing system configuration, equipment duty cycles and restoration capability, minimize outages

Operational Flexibility and Efficiency Considerations

Project Drivers typically include:

- Operational flexibility issues identified by Dominion's SOC and/or field operations
- Reoccurring thermal, voltage, or stability issues identified by System Operations in real time but not captured in planning studies
- Projects related to ability to safely and reliably operate the transmission system
- Provide flexibility and improvement to serve customer load
- Adherence to Facility Interconnection Requirements
- Other

IV. Infrastructure Resilience

- Improve system ability to anticipate, absorb, adapt to, and/or rapidly recover from a potentially disruptive event, including severe weather, geo-magnetic disturbances, physical and cyber security challenges, critical infrastructure reduction

Infrastructure Resilience
Considerations

Project Drivers typically include:

- Hardening for severe weather
- GMD (geo-magnetic disturbances)
- EMP (electromagnetic pulses)
- Physical and Cyber security challenges
- Reduction of Critical Infrastructure
- Rapid Restoration of Services (mobiles, spares, etc.)
- Adherence to Facility Interconnection Requirements

V. Other

- Meet objectives not included in other definitions

Other Planning Considerations

Project Drivers typically include:

- Unique situations that drive “needs” not covered in other objectives
- Adhere to Good Utility Practice
- Maintain system reliability

Questions?

Appendix A:
Transmission lines expected to be evaluated using Dominion Energy's FERC Form 715 End of Life criteria in 2023 RTEP cycle

Line A	Line B	Line Section	Line A kV	Line B kV	Line A Year	Line B Year
579		Septa – Yadkin	500		1975	
588		Fentress – Yadkin	500		1975	

Note: This list covers lines to be evaluated under Dominion's End of Life criteria during the 2023 planning cycle. The evaluation could lead to some of these facilities being delayed, cancelled or removed from consideration as well as other facilities added.

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 Virginia Rebuild Project to be constructed. The Virginia Rebuild Project is required by the Company's end-of-life criteria as described in Section I.A.

[3] Planning Studies

Not applicable.

[4] Facilities List

Not applicable.

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 VA-NC Rebuild Project. The existing Line #246 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 southern Virginia and North Carolina area.

The tables in Attachment I.C.1 provide 10 years of historical system peak loads for the Company's Carolina and Suffolk 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 315 MW to 760 MW, and the winter peak electrical demand for this area is projected to vary between approximately 287 MW to 861 MW.

As discussed in Section I.A., Line #246 provides direct delivery to one load customer served out of Nucor Substation, which is located in North Carolina. Should Line #246 be out of service, this industrial customer would be left unserved.

The Company's Suffolk Substation, which is located at the Virginia end of Line #246, is an important hub in the transmission system. The substation interconnects three 500 kV lines and steps power down to 230 kV and 115 kV levels. At the North Carolina end of Line # 246 is Earleys Substation, which is also an important hub in the transmission system. This substation interconnects a solar farm. The solar farm is a capacity resource to PJM with 53.6 MW capacity and 80 MW energy.

The existing Line #246 cannot adequately serve the needs of the Company and its customer because of aging infrastructure, as discussed in Section I.A. The Company has created a plan to address its end-of-life facilities, setting target completion dates for end-of-life projects based on the condition of the facilities, the Company's resources, and the need to schedule outages. The desired in-service date for completion of the Virginia Rebuild Project is December 31, 2028.

Completing the Virginia Rebuild Project will support Dominion Energy Virginia's

continued reliable electric service to retail and wholesale customers and will support the future overall growth and system generation capability in the area.

Loads taken from 2023-2038 MW / MVAR Load Projection Spreadsheet
Highlighted cells used in application

Attachment I.C.1

Forecast Load MW

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	MAX	MIN
Carolina Area - Summer	672	676	676	676	676	676	676	676	676	676	**676**	**672**
Suffolk Area - Summer	395	395	398	398	398	398	398	398	398	398	**398**	**395**
Carolina Area - Winter	709	709	713	713	713	713	713	713	713	713	**713**	**709**
Suffolk Area - Winter	407	409	409	409	409	409	409	409	409	409	**409**	**407**

Historic Load MW

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	MAX	MIN
Carolina Area - Summer	711	729	720	760	760	696	470	640	621	657	**760**	**470**
Suffolk Area - Summer	315	322	348	356	360	349	368	378	370	376	**378**	**315**
Carolina Area - Winter	838	861	755	768	843	597	613	633	710	707	**861**	**597**
Suffolk Area - Winter	412	442	372	381	451	337	287	345	370	403	**451**	**287**

	MAX	MIN
Peak Load Historic and Projected (Summer)	**760**	**315**
Peak Load Historic and Projected (Winter)	**861**	**287**

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: Not applicable.

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

No feasible alternatives have been submitted to PJM. As stated in Section I.A, not rebuilding 11.9 miles of 230 kV transmission Line #246 which runs from Structure #246/1C within the Company's existing Suffolk Substation to Structure #246/94 results in not serving one industrial load direct-connect customer in North Carolina.

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 an analysis of demand-side resources ("DSM") as 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, the Company has identified a need for the Virginia Rebuild Project based on the need to replace aging infrastructure at the end of its service life in order to comply with the Company's mandatory Planning Criteria and consistent with sound engineering judgment, thereby enabling the Company to maintain the overall long-term reliability of its transmission system.[7] 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 Virginia Rebuild Project. Based on these considerations, the evaluation of the Virginia Rebuild Project demonstrated that despite accounting for DSM consistent with PJM's methods, the Virginia Rebuild Project is necessary.

Incremental DSM also will not absolve the need for the Virginia Rebuild Project. As reflected in Attachment I.C.1, the peak load area for this Virginia Rebuild Project (historic and projected) ranges from 287 MW to 861 MW (summer and winter). 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.

[7] While the PJM load forecast does not directly incorporate DR, its load forecast incorporates variables derived from Itron that reflect EE by modeling the stock of end-use equipment and its usages. Further, because PJM's load forecast considers the historical non-coincident peak ("NCP") for each load serving entity ("LSE") within PJM, it reflects the actual load reductions achieved by DSM programs to the extent an LSE has used DSM to reduce its NCPs.

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.

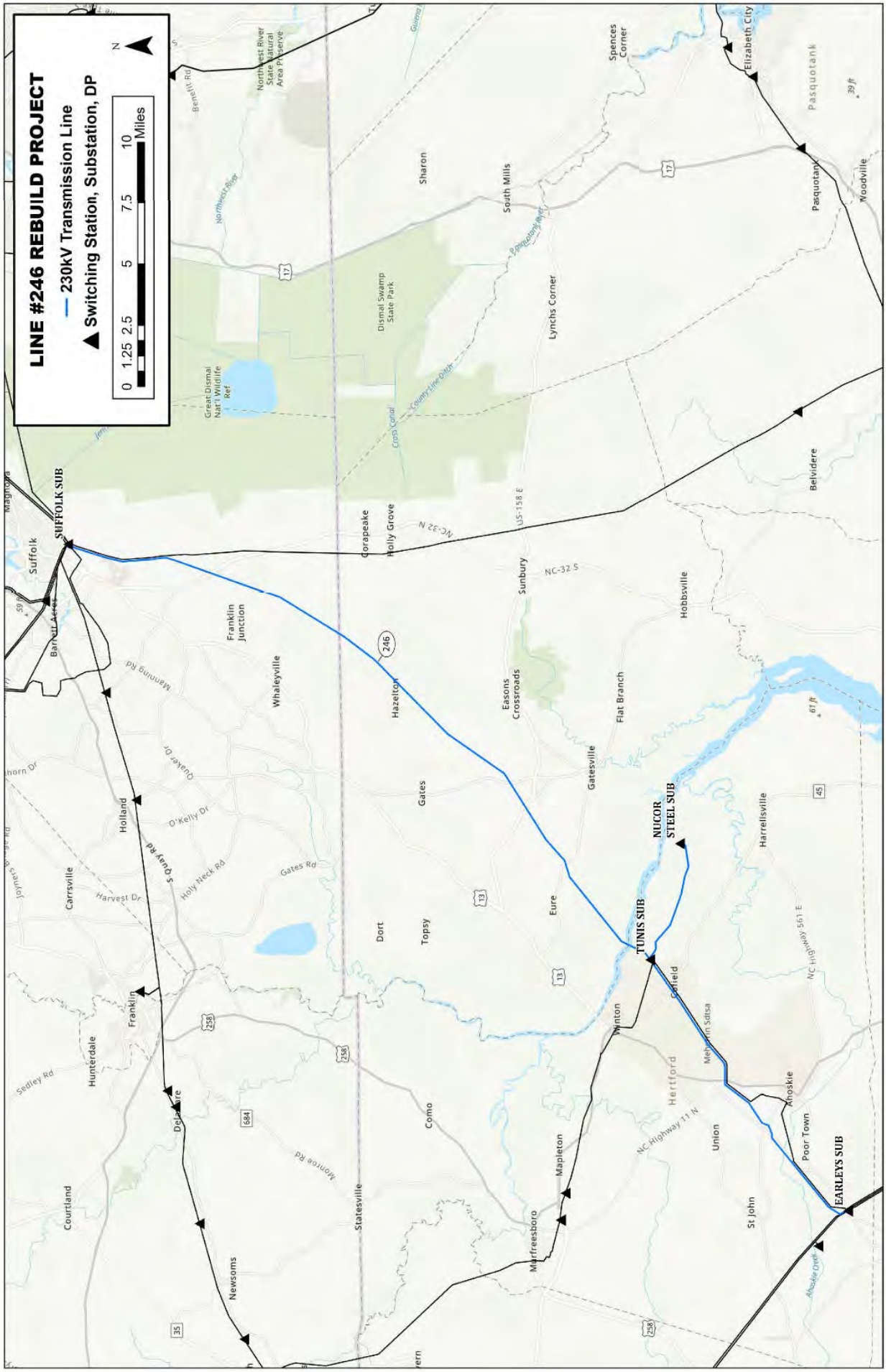
Response: The Virginia Rebuild Project includes the removal and replacement of existing facilities on existing Line #246, as described below. There will be no lines permanently taken out of service as part of the proposed Virginia Rebuild Project.

The Company proposes to replace one steel H-frame structure and 95 wooden H-frame structures with weathered steel H-frames, and one concrete substation structure with one galvanized steel substation structure.

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 Attachment I.G.1.


LINE #246 REBUILD PROJECT
230kV Transmission Line
Switching Station, Substation, DP
0 1.25 2.5 5 7.5 10 Miles
N
SUFFOLK SUB
NUCOR STEEL SUB
TUNIS SUB
EARLEYS SUB
Suffolk
Franklin Junction
Whaleyville
Holland
Carrsville
Hunterdale
Franklin
Courtland
Newsoms
Statesville
Coppeake
Holly Grove
Sunbury
Hobbsville
Belvidere
Eason's Crossroads
Flat Branch
Gatesville
Gates
Dort
Topsy
Eure
Harrellsville
Hertford
Winton
Mapleton
Maxfreesboro
Coño
Union
St John
Poor Town
Mehorin Sdsa
Oakfield
Ahoskie
Pasquotank
Elizabeth City
Woodville
Spences Corner
South Mills
Lynchs Corner
Sharon
Dismal Swamp State Park
Great Dismal Nat'l Wildlife Ref
Northwest River State Natural Area Preserve
Northwest River
Cross Canal
County Line Ditch
Pasquotank River
Hazelton
Barnett Aerial
Manning Rd
Quaker Dr
O'Kelly Dr
Holy Neck Rd
Gates Rd
Harvest Dr
S Quay Rd
Sedley Rd
Monroe Rd
Joyner Rd
Benett Rd
NC-32 S
NC-32 N
US-158 E
NC Highway 11 N
NC Highway 561 E
246
17
13
45
258
684
35

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 Virginia Rebuild Project is December 31, 2028.

The Company estimates that it will take approximately 25 months for detailed engineering, materials procurement, permitting, real estate, and construction of the VA-NC Rebuild Project after a final order from the Commission on the Virginia Rebuild Project. Accordingly, to support this estimated construction timeline and construction plan, the Company respectfully requests a final order by June 11, 2024. Should the Commission issue a final order by June 11, 2024, the Company estimates that construction of the VA-NC Rebuild Project should begin by April 2026, and be completed by December 31, 2028. This construction timeline will enable the Company to meet the targeted in-service date for the Virginia 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. 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 and Little Brown 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; however, as of the writing of this document the listing has not been published in the Federal Register. Regulatory guidance on the Tri-colored bat will be available upon listing. The Little Brown Bat is currently under review for listing by USFWS, with a decision expected in 2024. 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 Virginia Rebuild Project is approximately $38.9 million (in 2023 dollars), which includes approximately $38.5 million for transmission-related work and approximately $400,000 for substation-related work (in 2023 dollars).

The total estimated conceptual cost of the VA-NC Rebuild Project is approximately $150 million (in 2023 dollars), which includes estimated costs associated with the North Carolina Rebuild Project.

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 Company submitted the VA-NC Rebuild Project proposal as a supplemental project to the PJM RTEP process in August 2023 and plans to submit additional information in December 2023 to address the end-of-life criteria. Attachment I.J.1 contains the relevant slides presented at the August 2023 PJM TEAC meeting, and Attachment I.J.2 contains the relevant slides that the Company plans to present at the December 2023 PJM TEAC meeting.

No additional reliability studies were required by PJM in support of the need for the proposed VA-NC Rebuild Project because service to the customer fed from Dominion Energy North Carolina's Nucor Substation would be dropped absent the proposed VA-NC Rebuild Project. The proposed VA-NC Rebuild Project is expected to be incorporated into PJM's RTEP process as a supplemental project.

The VA-NC Rebuild Project will be 100% cost allocated to the DOM Zone.

Dominion Transmission Zone: Supplemental Equipment Material Condition, Performance and Risk

Need Number: DOM-2023-0044

Process Stage: Need Meeting 08/08/2023

Project Driver: Equipment Material Condition, Performance Risk

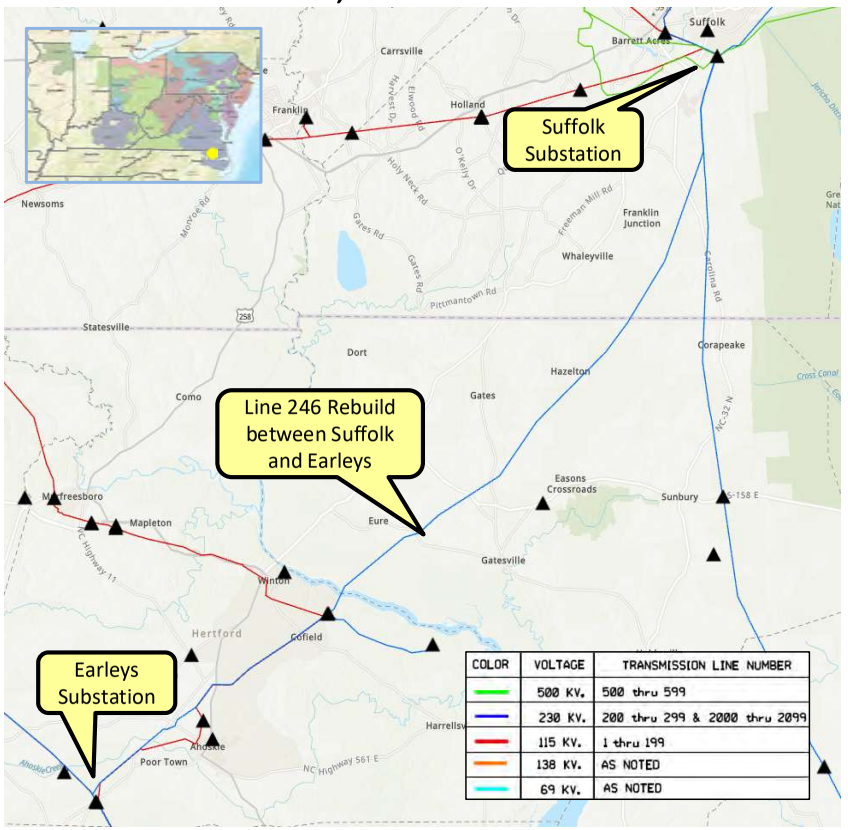
Specific Assumption References:

See details on Equipment Material Condition, Performance and Risk in Dominion's Planning Assumptions presented in December 2022.

Problem Statement:

Dominion Energy has identified a need to replace approximately 44.3 miles of 230kV Line #246 (Suffolk to Earleys) to new 230kV standards based on the Company's End of Life criteria.

- Line #246 was constructed on primarily wood H-frame structures in 1971, with many in need of replacement due to deterioration.
- Industry guidelines indicate equipment life for steel structures is 40-60 years, wood structures is 35-55 years, conductor and connectors are 40-60 years, and porcelain insulators are 50 years.
- Line #246 provides service to Nucor substation with approximately 36.7MW of load



Dominion Transmission Zone: Supplemental 230kV Line 246 – EOL Rebuild

Need Number: DOM-2023-0044

Process Stage: Solution Meeting 12/05/2023

Proposed Solution: Rebuild approximately 44.3 miles of Line 246 between Earleys and Suffolk to current 230kV standards. The normal rating of the line conductor will be 1573 MVA.

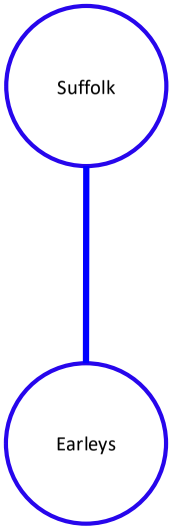
Estimated Project Cost: $150M

Alternatives Considered:
No feasible alternatives, End-of-Life

Line 246 is the only transmission supply to Nucor Steel. Permanent load loss for removal of this line is estimated at 36.7MW.

Project In-service Date: 12/31/2028

Project Status: Conceptual
Model: 2027 RTEP



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 Virginia Rebuild Project is not driven by outage history, but rather by the need to replace transmission infrastructure approaching its end of life. See Section I.A of this Appendix.

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: The proposed Virginia Rebuild Project will replace aging infrastructure that is at the end of its service life.

See Attachment I.L.1 for representative photographs of the deterioration of the wood poles supporting Line #246 that have been identified for rebuild and Attachment I.L.2 for the wood pole inspection reports detailing the condition of those representative structures.

Summary:

Located between Suffolk and Earlys Substations, line #246 is at its end of service life. Approximately 75% of the line currently consists of wooden h-frame structures in need of repair from an operational and reliability perspective. Most of the hardware, insulators, and conductors were installed in 1971 and is approximately 50 years old.

EOL Project:

Currently, rebuild project 993045 is established and has a target completion date of the 8/31/2028.

Right-of-ways:

Line #246 passes through vast areas of farmland, wetlands, major water-crossings, and states routes. A rebuild should explore any right-of-way challenges.

Mainline (Virginia Portion)

~200' Shared ROW with Line #247 between Strs. 1 – 10
~180' Shared ROW with Line #247 between Strs. 10 – 39
~120' ROW between Strs. 39 – 95 (VA State Line)

Virginia Asset Information:

Line #246 is comprised mostly of wood structures. All the 95 wooden structures located in the state of Virginia are of 1971 vintage. The rest of the Virginia portion of the line comprises of one (1) concrete structure, two (2) galvanized steel structures, and one (1) weathering steel pole structure. The line was constructed using 2-545.6 ACAR (24/7) and 3#6 ALWD shield wire that is approximately 50 years old. Porcelain and hardware are also 1971 vintage.

Operation History:

The 246 line has experienced 25-line operations in the past 15 yrs. two (2) of which led to extensive outages for repairs.

Short Desc.	# Events	Long Desc.
Avian Disturbance	15	Bird Streamer/Bird Contact
Line Equipment Failure	2	1 Conductor Sleeve, 1 Failed Static
Weather	4	3 Lightning,1 Extreme Wind
Unknown	4	Unknown After Exhaustive Patrol

Summary of 15 yr. Operational History

Maintenance (Virginia Portion):

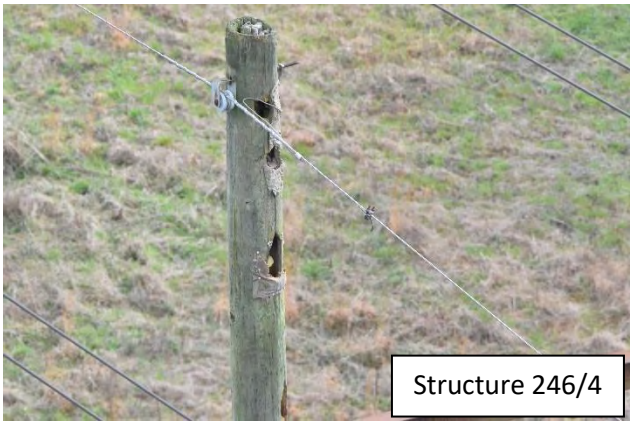
wPole inspections have shown the wooden/concrete poles are approaching their end-of-life. There are a total of twenty-one (21) structure-related open notifications in the state of Virginia (approximately %25 of structures). Of those twenty-one (21) outstanding maintenances notifications five (5) structures were reported as severe rot/decay, two (2) experiencing severe cracking, fourteen (14) woodpecker damage.

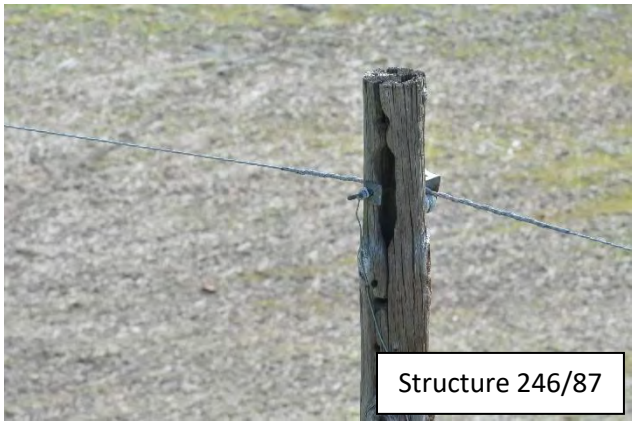
Remediation Work Done in 2023

Strs. 4, 5, 15, 21, 22, 24, 27, 31, 35, 36, 37, 49, 55, 59, 60, 61, 69, 70, 71, 87

Hardware Corrosion:

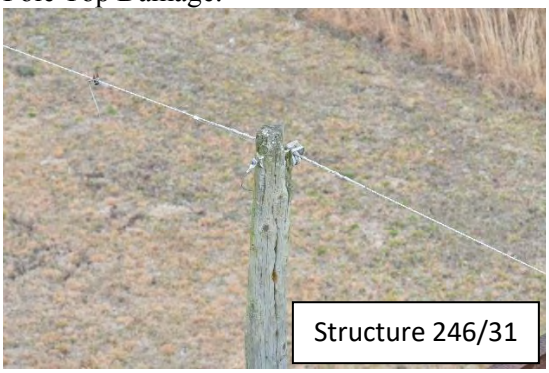
Woodpecker Damage:

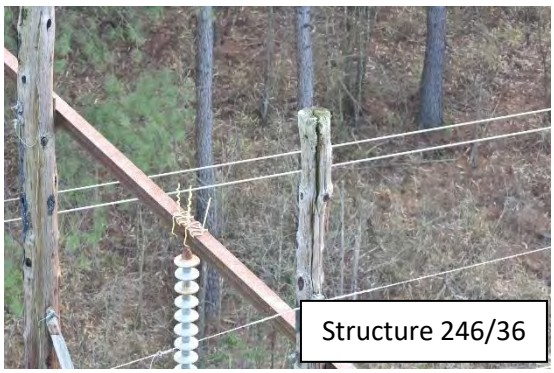




Rot/Decay:

Pole Top Damage:





OUTSTANDING NOTIFICATIONS - LINE 246				
LINE/STR	CAUSE GROUP	CAUSE CODE	CAUSE TEXT	NOTIF. DATE
246/2	Wood Pole	Str- C=Cracked,S=Split,CH=Chipped	3 pole str. Middle pole is rotting at gr	1/19/2021
246/5	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/6	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/7	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/9	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/11	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/12	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/13	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/14	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/15	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/16	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/17	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/18	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/19	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/20	Wood Pole	WP Dmg-AC=AbovCA,BC=BeloCA,BG=BetwnGy	AC	8/12/2013
246/20	Wood Pole	WP Damage-MI=Minor, MA=Major	MI	8/12/2013
246/20	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/21	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/21	Wood Pole	Rot/Decay-Location/Type=	Right pole is rotting at base at ground	1/20/2021
246/22	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/23	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/24	Wood Pole	WP Dmg-AC=AbovCA,BC=BeloCA,BG=BetwnGy	ALL OVER	8/12/2013
246/24	Wood Pole	WP Damage-MI=Minor, MA=Major	MA (Various locations on both str)	8/12/2013
246/24	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/25	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/26	Wood Pole	WP Dmg-AC=AbovCA,BC=BeloCA,BG=BetwnGy	AC	8/12/2013
246/26	Wood Pole	WP Damage-MI=Minor, MA=Major	MI	8/12/2013
246/26	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/27 Pending Removal	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/27 Pending Removal	Wood Pole	R/R(RP=Replace,RE=Repair) Severity=	RP per W. Gatlin	2/4/2013
246/27 Pending Removal	Wood Pole	Rot/Decay-Location/Type=	Top of Pole is rotting	1/20/2021
246/27 Pending Removal	Wood Pole	R/R(RP=Replace,RE=Repair) Severity=	RP per W. Gatlin	1/20/2021
246/28	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/30	Static Wire	Static Wire Other=	Loose Shield Wire anchor plates	12/6/2011
246/30	Static Wire	Wire Position L,M,R,T,B	R	12/6/2011
246/30	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/31	Wood Pole	Pole Position=	Left	6/5/2014
246/31	Wood Pole	WP Damage-MI=Minor, MA=Major	Small - 6	6/5/2014
246/31	Wood Pole	Rot/Decay-Location/Type=	Shell rot depth .08in	6/5/2014
246/31	Wood Pole	Pole Position=	Right	6/5/2014
246/31	Wood Pole	Rot/Decay-Location/Type=	Med - 1	6/5/2014
246/31	Wood Pole	Rot/Decay-Location/Type=	Shell rot depth .16in	6/5/2014
246/31	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/32	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/33	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/34	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/35	Wood Pole	WP Dmg-AC=AbovCA,BC=BeloCA,BG=BetwnGy	AC	8/13/2013
246/35	Wood Pole	WP Damage-MI=Minor, MA=Major	MI	8/13/2013
246/35			Says top is cracking near static	8/13/2013
246/35	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/36	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/36	Static Wire	Static Wire Other=	Broken	3/29/2017
246/37 Pending Removal	Conductor	Damaged	broke	12/6/2011
246/37 Pending Removal	Conductor	Wire Position L,M,R,T,B	R	12/6/2011
246/37 Pending Removal	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/37 Pending Removal	Wood Pole	R/R(RP=Replace,RE=Repair) Severity=	RP per W. Gatlin	2/4/2013
246/39	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/40	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/41	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/42	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/43	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/44	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/45	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/46	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Replace	2/4/2013
246/47	Wood Pole	Str Number-M=Missing,F=Faded,A=Aerial	Missing	1/25/2018
246/54	Wood Pole	WP Dmg-AC=AbovCA,BC=BeloCA,BG=BetwnGy	AC	8/7/2013
246/54	Wood Pole	WP Damage-MI=Minor, MA=Major	MI	8/7/2013
246/55	Wood Pole	WP Dmg-AC=AbovCA,BC=BeloCA,BG=BetwnGy	AC	8/7/2013
246/55	Wood Pole	WP Damage-MI=Minor, MA=Major	MA	8/7/2013
246/59	Wood Pole	Str- C=Cracked,S=Split,CH=Chipped	Top of pole deteriorating severely.	1/27/2021
246/60 Pending Removal	Wood Pole	WP Damage-MI=Minor, MA=Major	MA	1/27/2021
246/60 Pending Removal	Wood Pole	WP Dmg-AC=AbovCA,BC=BeloCA,BG=BetwnGy	AC. Right at Static	1/27/2021
246/60 Pending Removal	Wood Pole	R/R(RP=Replace,RE=Repair) Severity=	RP per W. Gatlin	1/27/2021

246/61	Wood Pole	WP Dmg-AC=AbovCA,BC=BeloCA,BG=BetwnGy	AC/BC	8/7/2013
246/61	Wood Pole	WP Damage-MI=Minor, MA=Major	MI	8/7/2013
246/64	Wood Pole	Str- C=Cracked,S=Split,CH=Chipped	Top of pole decaying.	1/27/2021
246/66 Pending Removal	Wood Pole	WP Damage-MI=Minor, MA=Major	MA	1/27/2021
246/66 Pending Removal	Wood Pole	WP Dmg-AC=AbovCA,BC=BeloCA,BG=BetwnGy	AC. Right at static bolt.	1/27/2021
246/66 Pending Removal	Wood Pole	R/R(RP=Replace,RE=Repair) Severity=	RP per W. Gatlin	1/27/2021
246/81	Wood Pole	Str Number-M=Missing,F=Faded,A=Aerial	M	1/31/2018
246/83	Wood Pole	Str Number-M=Missing,F=Faded,A=Aerial	M	1/31/2018
246/84	Wood Pole	Pole Position=	L	5/9/2017
246/84	Wood Pole	WP Damage-MI=Minor, MA=Major		5/9/2017
246/87 Pending Removal	Wood Pole	Shelf Gain-RP=Repair,RE=Rpair	Wood Pole-Shelf Gain-RP=Repair,RE=Rpair	2/2/2021
246/87 Pending Removal	Wood Pole	WP Damage-MI=Minor, MA=Major	Ma top at static	2/2/2021
246/87 Pending Removal	Wood Pole	R/R(RP=Replace,RE=Repair) Severity=	RP per W. Gatlin	2/2/2021
246/88 Pending Removal	Wood Pole	WP Damage-MI=Minor, MA=Major	at static through bolt	1/16/2016
246/88 Pending Removal	Wood Pole	R/R(RP=Replace,RE=Repair) Severity=	RP per W. Gatlin	1/16/2016
246/88 Pending Removal	Wood Pole	Pole Other=	Pole Cracked	2/6/2017
246/88 Pending Removal	Wood Pole	Rot/Decay-Location/Type=	Top	2/6/2017
246/88 Pending Removal			From notif.# 11625666	2/6/2017
246/88 Pending Removal	Wood Pole	R/R(RP=Replace,RE=Repair) Severity=	RP per W. Gatlin	2/6/2017

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 existing right-of-way for the Virginia Rebuild Project is approximately 11.9 miles from Structure #246/1C within the Company's existing Suffolk Substation to Structure #246/94 at the Virginia state line. The right-of-way is located entirely within the City of Suffolk, Virginia.

No alternative routes are proposed for the Virginia 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 Virginia Rebuild Project is located within existing transmission line right-of-way, which collocates and parallels Line #247 for approximately four miles. No portion of the right-of-way is proposed to be quitclaimed or relinquished.

The Company will make a digital Geographic Information Systems ("GIS") shape file available to interested persons upon request to counsel for the Company.

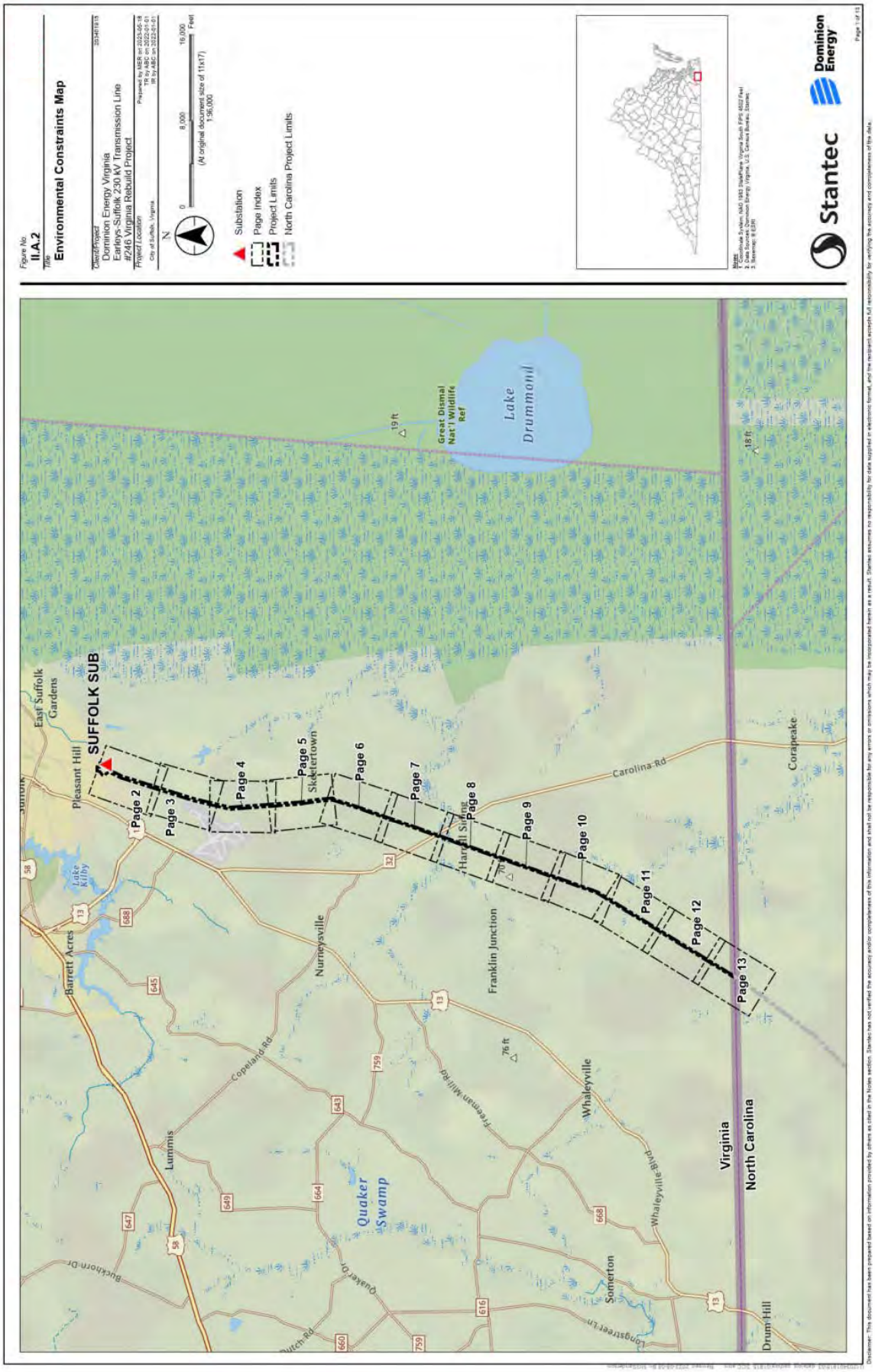


Figure No.
II.A.2
Title
Environmental Constraints Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-16
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
N
0
8,000
16,000
Feet
(At original document size of 11x17)
1:96,000
Substation
Page Index
Project Limits
North Carolina Project Limits
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia; U.S. Census Bureau; Stantec
3. Basemap: © ESRI
Stantec
Dominion Energy
SUFFOLK SUB
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Page 7
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Page 10
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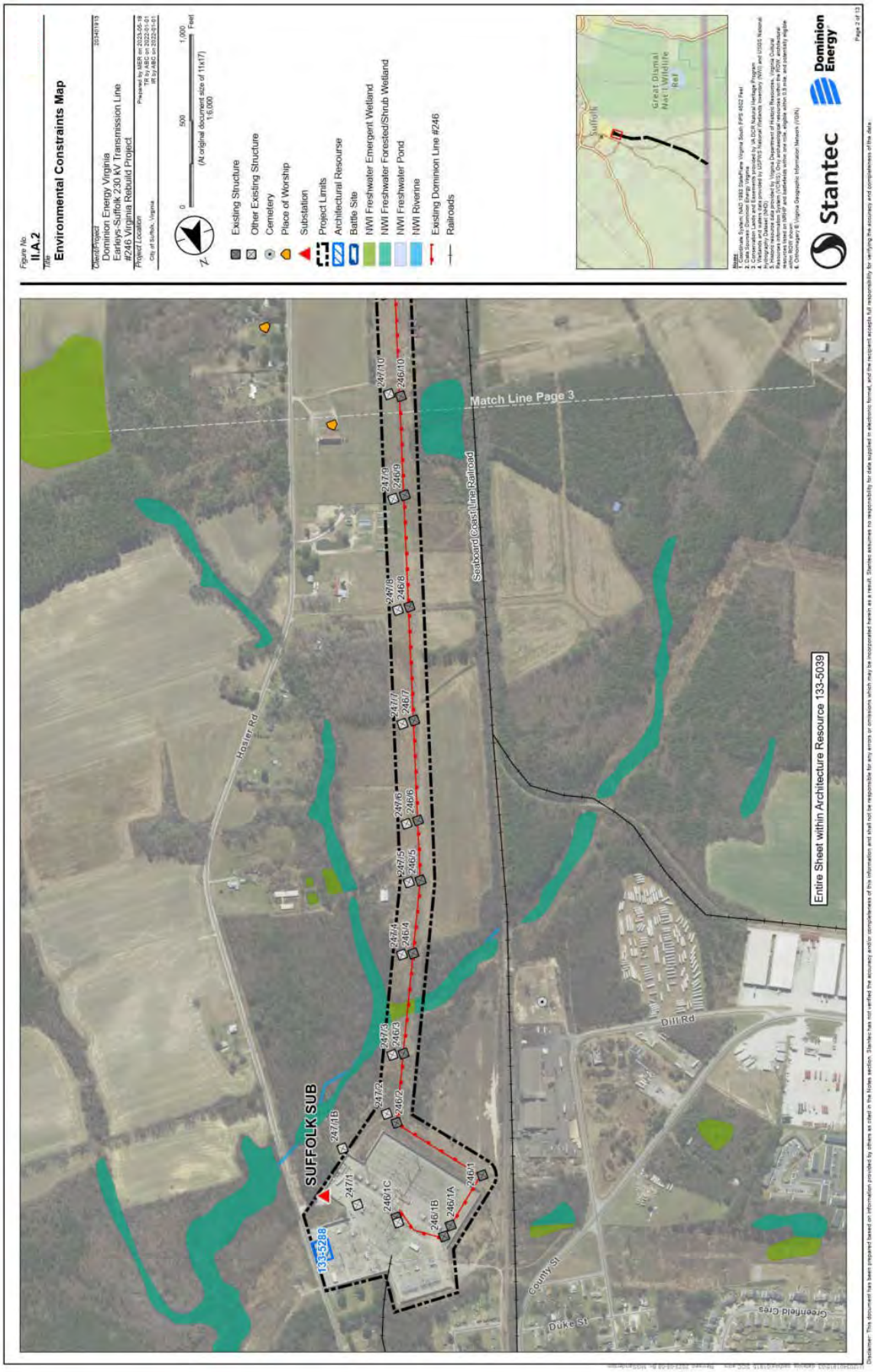
Page 13
Great Dismal Nat'l Wildlife Ref
Lake Drummond
Pleasant Hill
East Suffolk Gardens
Barrett Acres
Lake Kilby
Nurneysville
Franklin Junction
Harrell Swamp
Carolina Rd
Corapeake
Copeland Rd
Lummis
Quaker Swamp
Freeman Mill Rd
Whaleyville
Whaleyville Blvd
Somerton
Drum Hill
Buckhorn Dr
Quaker Dr
Dutch Rd
Longstreet Ln
Virginia
North Carolina
19 ft
18 ft
76 ft
Page 1 of 13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#246 Virginia Rebuild Project
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Prepared by MER on 2023-05-18
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
N
Existing Structure
Other Existing Structure
Cemetery
Place of Worship
Substation
Project Limits
Architectural Resourse
Battle Site
NWI Freshwater Emergent Wetland
NWI Freshwater Forested/Shrub Wetland
NWI Freshwater Pond
NWI Riverine
Existing Dominion Line #246
Railroads
Suffolk
Great Dismal Nat'l Wildlife Ref
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia
3. Cultural resources data provided by VDHR
4. Wetlands and waters data provided by USFWS National Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD)
5. Historic resources data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS). Only archaeological resources within the ROW, architectural resources within the ROW and within the viewshed, and NRHP-listed or eligible historic districts within 1/2 mile are potentially eligible within ROW shown.
6. Orthoimagery © Virginia Geographic Information Network (VGIN)
Stantec
Dominion Energy
Page 2 of 13
Match Line Page 3
Entire Sheet within Architecture Resource 133-5039
SUFFOLK SUB
133-5288
247/1B
247/1
246/1C
246/1B
246/1A
246/1
247/2
246/2
247/3
246/3
247/4
246/4
247/5
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247/6
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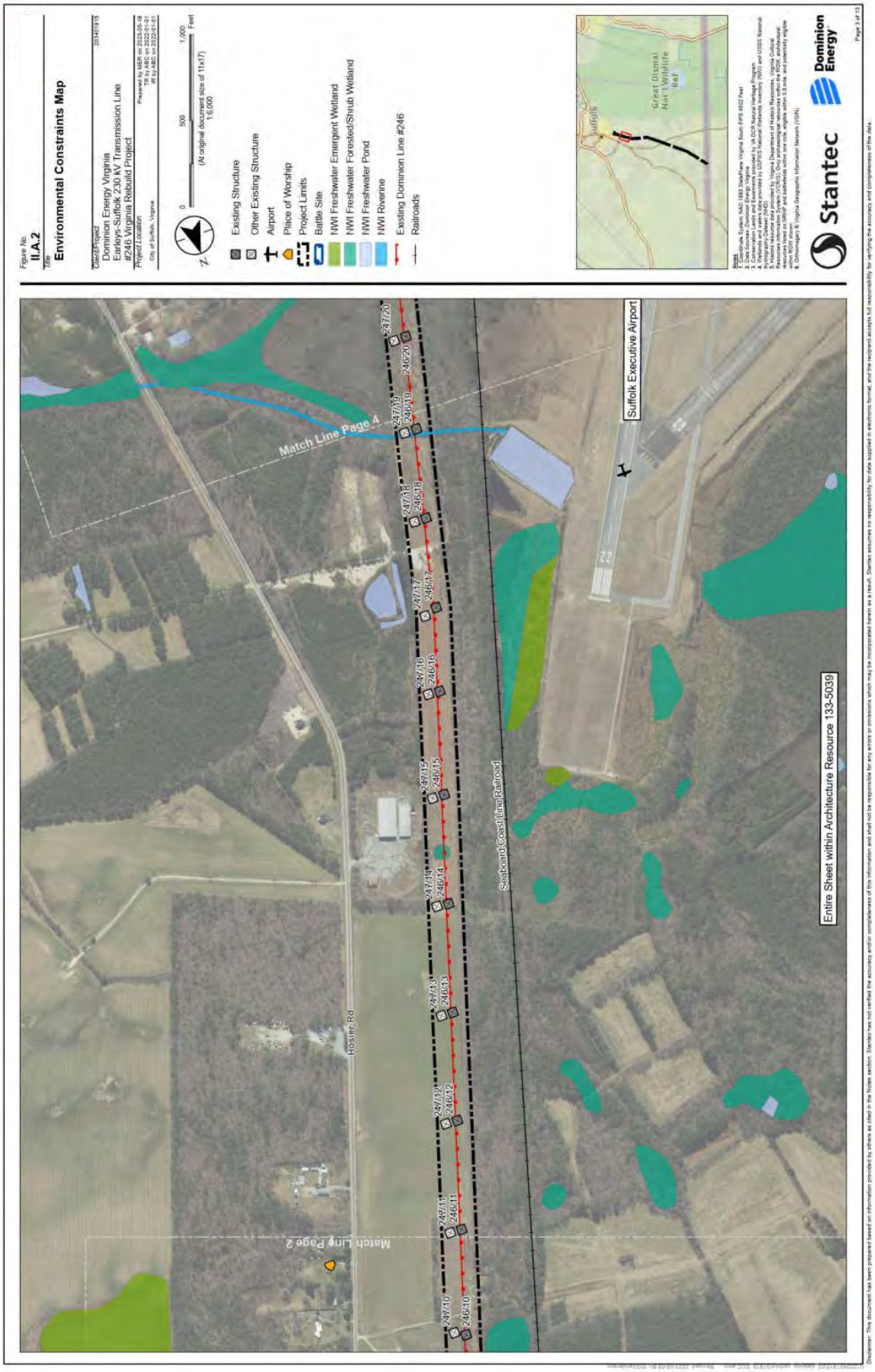
247/10
246/10
Hosier Rd
Seaboard Coast Line Railroad
Dill Rd
County St
Duke St
Greenfield Cres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Project Location
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0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
N
Existing Structure
Other Existing Structure
Airport
Place of Worship
Project Limits
Battle Site
NWI Freshwater Emergent Wetland
NWI Freshwater Forested/Shrub Wetland
NWI Freshwater Pond
NWI Riverine
Existing Dominion Line #246
Railroads
Great Dismal Nat'l Wildlife Ref
Suffolk
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1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia
3. Cultural and water data provided by VDHR
4. Wetlands and water data provided by USFWS National Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD)
5. Historic resources data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS). Only archaeological resources within the ROW, architectural resources within 1,000 feet of the centerline, and historic districts within 3,000 feet of the centerline are shown.
6. Orthoimagery © Virginia Geographic Information Network (VGIN)
Match Line Page 2
Match Line Page 4
Hosier Rd
Seaboard Coast Line Railroad
Suffolk Executive Airport
Entire Sheet within Architecture Resource 133-5039
247/10
246/10
247/11
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247/12
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Dominion Energy
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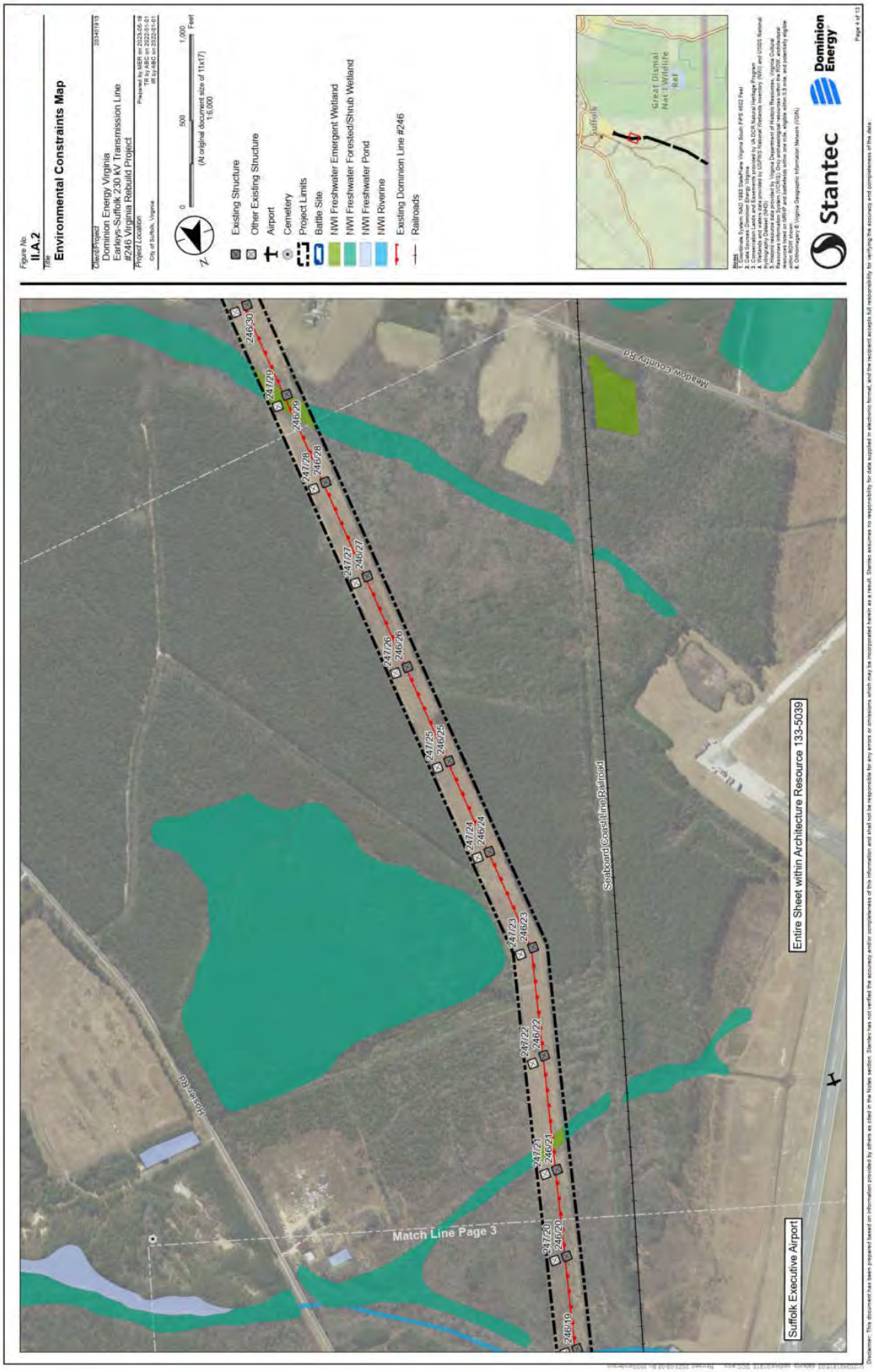
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Earleys–Suffolk 230 kV Transmission Line
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IR by ABC on 2023-01-01
0
500
1,000 Feet
(At original document size of 11x17)
1:6,000
Existing Structure
Other Existing Structure
Airport
Cemetery
Project Limits
Battle Site
NWI Freshwater Emergent Wetland
NWI Freshwater Forested/Shrub Wetland
NWI Freshwater Pond
NWI Riverine
Existing Dominion Line #246
Railroads
Great Dismal Nat'l Wildlife Ref
Suffolk
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia
3. Cemetery and battle site data provided by VA DCR Natural Heritage Program
4. Wetlands and waters data provided by USFWS National Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD)
5. Archaeological resources provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS). Only archaeological resources within the ROW, architectural resources within the ROW and within one mile, and historic districts within one mile of the ROW are presently eligible and ROW shown.
6. Orthoimagery © Virginia Geographic Information Network (VGIN)
Stantec
Dominion Energy
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Suffolk Executive Airport
Seaboard Coastline Railroad
Entire Sheet within Architecture Resource 133-5039
Match Line Page 3
Meadow County Rd
Hosier Rd
246/30
247/29
246/29
247/28
246/28
247/27
246/27
247/26
246/26
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246/21
247/20
246/20
246/19

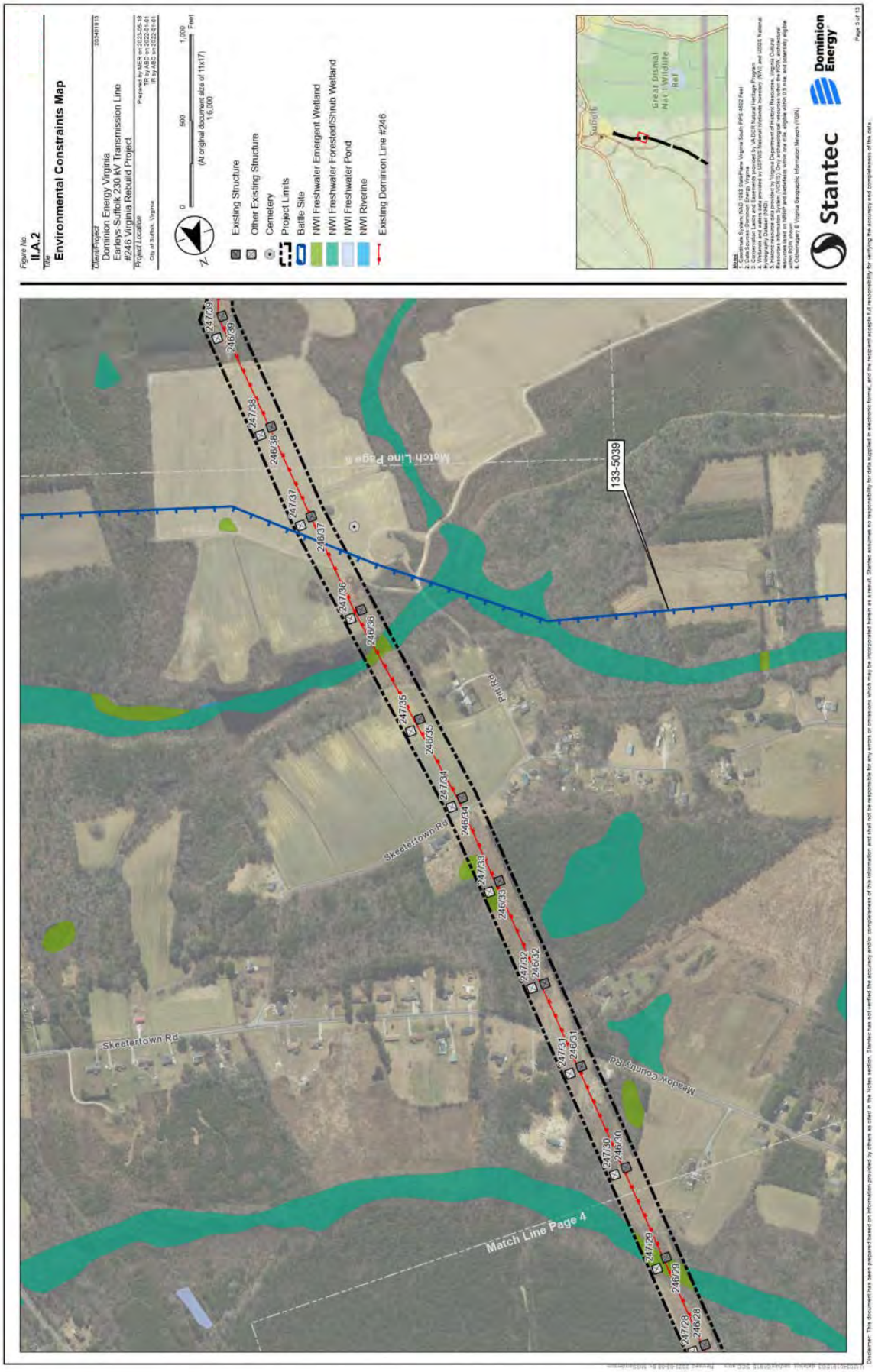
Figure No.
II.A.2
Title
Environmental Constraints Map
Client/Project
Dominion Energy Virginia
Earleys–Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-19
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
N
Existing Structure
Other Existing Structure
Cemetery
Project Limits
Battle Site
NWI Freshwater Emergent Wetland
NWI Freshwater Forested/Shrub Wetland
NWI Freshwater Pond
NWI Riverine
Existing Dominion Line #246
Suffolk
Great Dismal Nat'l Wildlife Ref
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia
3. Cultural and water data provided by USFWS National Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD)
4. Wetlands and waters data provided by USFWS National Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD)
5. Cultural resources data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS). Only archaeological resources within the ROW, architectural resources within the ROW and within 0.5 mile, and historic districts within 0.5 mile are potentially eligible within ROW shown.
6. Orthoimagery © Virginia Geographic Information Network (VGIN)
Stantec
Dominion Energy
Page 5 of 13
247/39
246/39
247/38
246/38
247/37
246/37
247/36
246/36
247/35
246/35
247/34
246/34
247/33
246/33
247/32
246/32
247/31
246/31
247/30
246/30
247/29
246/29
247/28
246/28
133-5039
Match Line Page 6
Match Line Page 4
Skeetertown Rd
Skeetertown Rd
Meadow County Rd
Pond
Pond

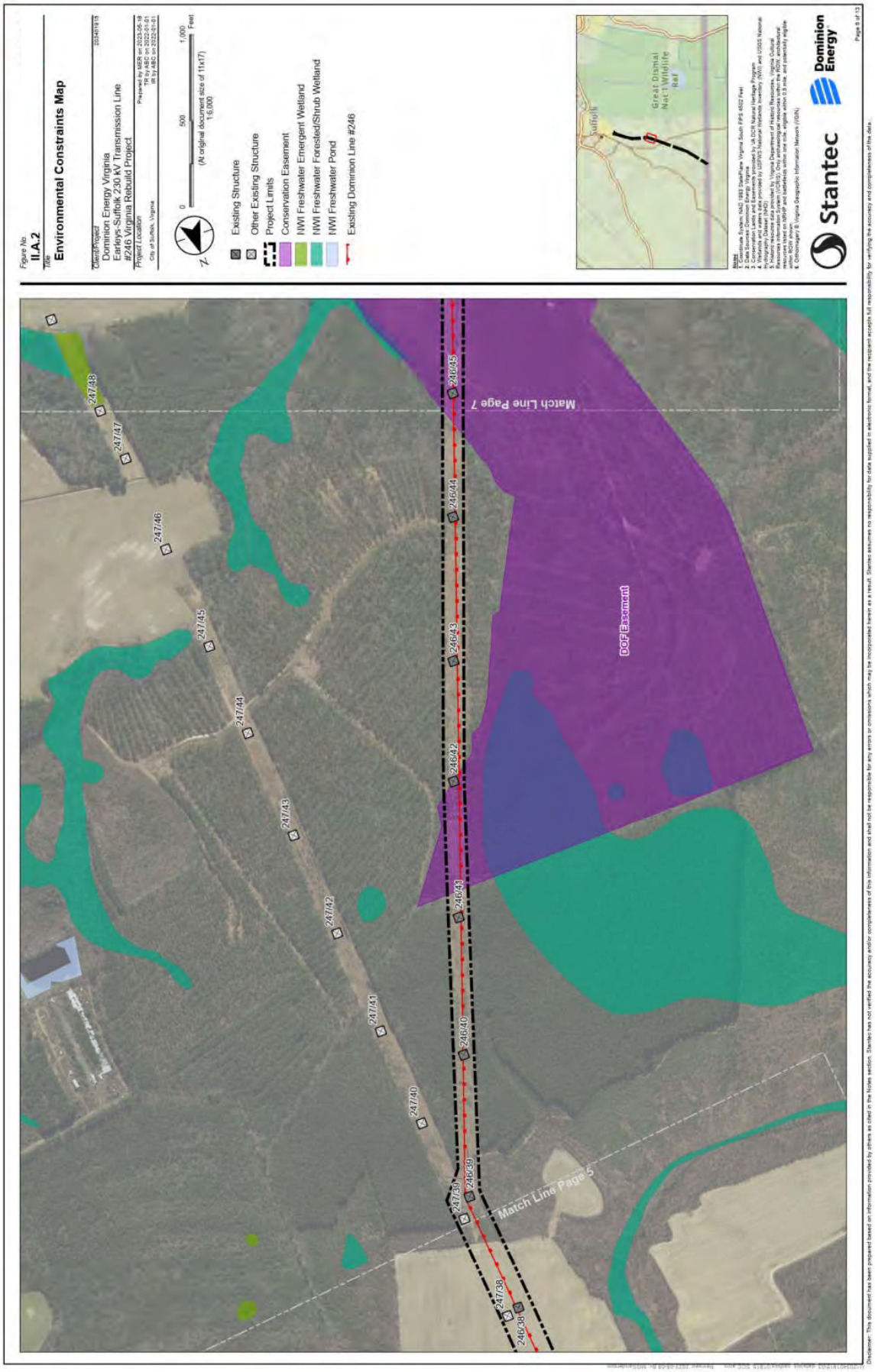
Figure No.
II.A.2
Title
Environmental Constraints Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line #246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-19
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
500
1,000 Feet
(At original document size of 11x17)
1:6,000
N
Existing Structure
Other Existing Structure
Project Limits
Conservation Easement
NWI Freshwater Emergent Wetland
NWI Freshwater Forested/Shrub Wetland
NWI Freshwater Pond
Existing Dominion Line #246
Suffolk
Great Dismal Nat'l Wildlife Ref
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia
3. Cultural resources data provided by VA DCR Natural Heritage Program
4. Wetlands and waters data provided by USFWS National Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD)
5. Historic resources data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS). Only archaeological resources within the ROW, architectural resources within 0.5 mile, and historic districts within 1 mile of the ROW are potentially eligible within ROW shown.
6. Orthoimagery © Virginia Geographic Information Network (VGIN)
Stantec
Dominion Energy
Page 6 of 13
Match Line Page 5
Match Line Page 7
DCP Easement
247/38
247/47
247/46
247/45
247/44
247/43
247/42
247/41
247/40
247/39
246/38
246/39
246/40
246/41
246/42
246/43
246/44
246/45
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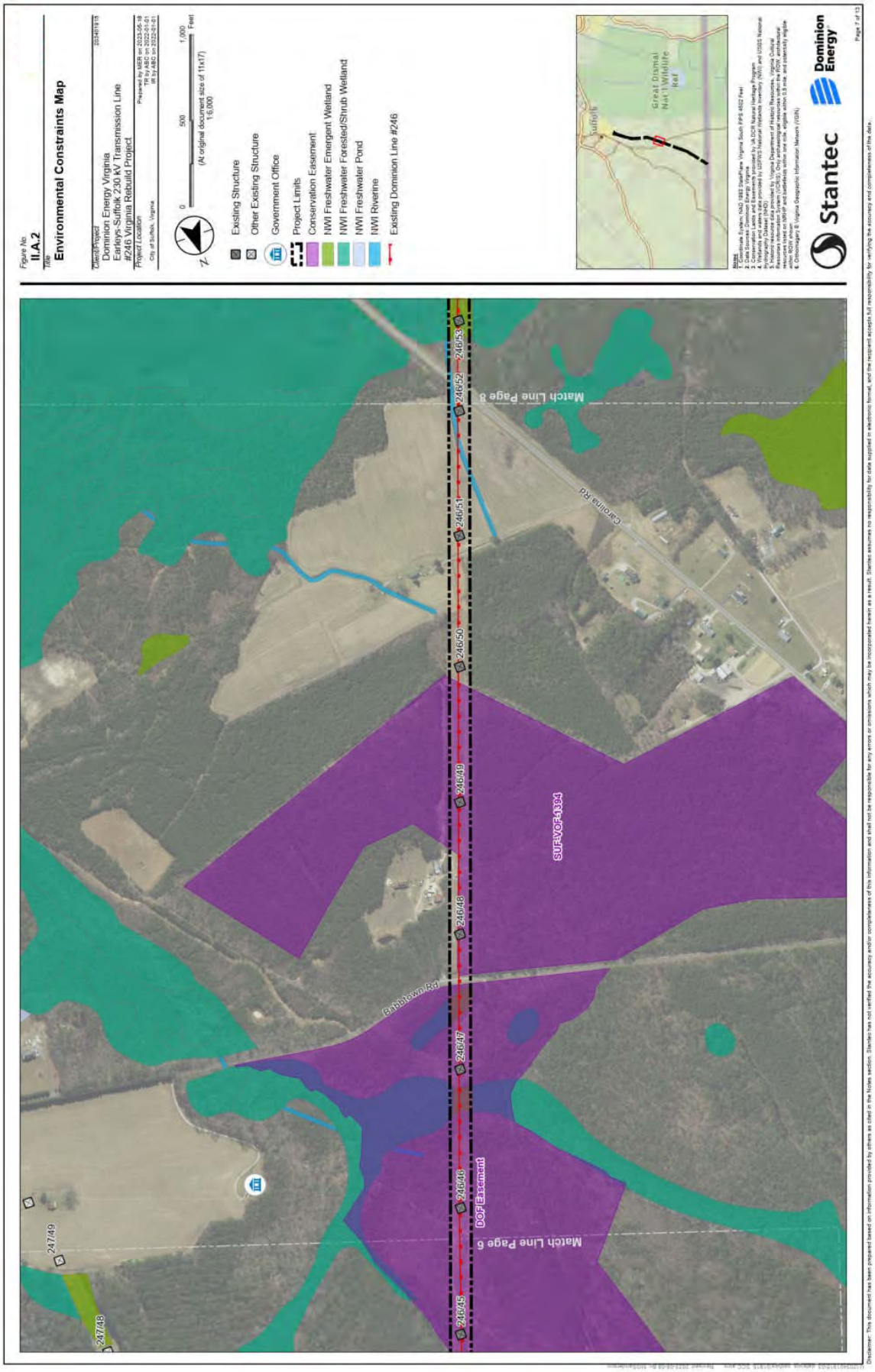
Figure No.
II.A.2
Title
Environmental Constraints Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-19
TR by ABC on 2023-07-01
IR by ABC on 2023-07-01
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
Existing Structure
Other Existing Structure
Government Office
Project Limits
Conservation Easement
NWI Freshwater Emergent Wetland
NWI Freshwater Forested/Shrub Wetland
NWI Freshwater Pond
NWI Riverine
Existing Dominion Line #246
Suffolk
Great Dismal Nat'l Wildlife Ref
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia
3. Cultural resources data provided by VA DCR Natural Heritage Program
4. Wetlands and waters data provided by USFWS National Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD)
5. Historic resources data provided by Virginia Department of Historic Resources. Virginia Cultural Resources Information System (VCRIS). Only archaeological resources within the ROW, architectural resources within the ROW and parcels within 1/2 mile, and potentially eligible within 800ft shown.
6. Orthoimagery © Virginia Geographic Information Network (VGIN)
Stantec
Dominion Energy
Page 7 of 13
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247/49
247/48
246/46
246/45
246/47
246/48
246/49
246/50
246/51
246/52
246/53
Match Line Page 6
Match Line Page 8
DOF Easement
SURVEY-4304
Bethlehem Rd
Carolina Rd

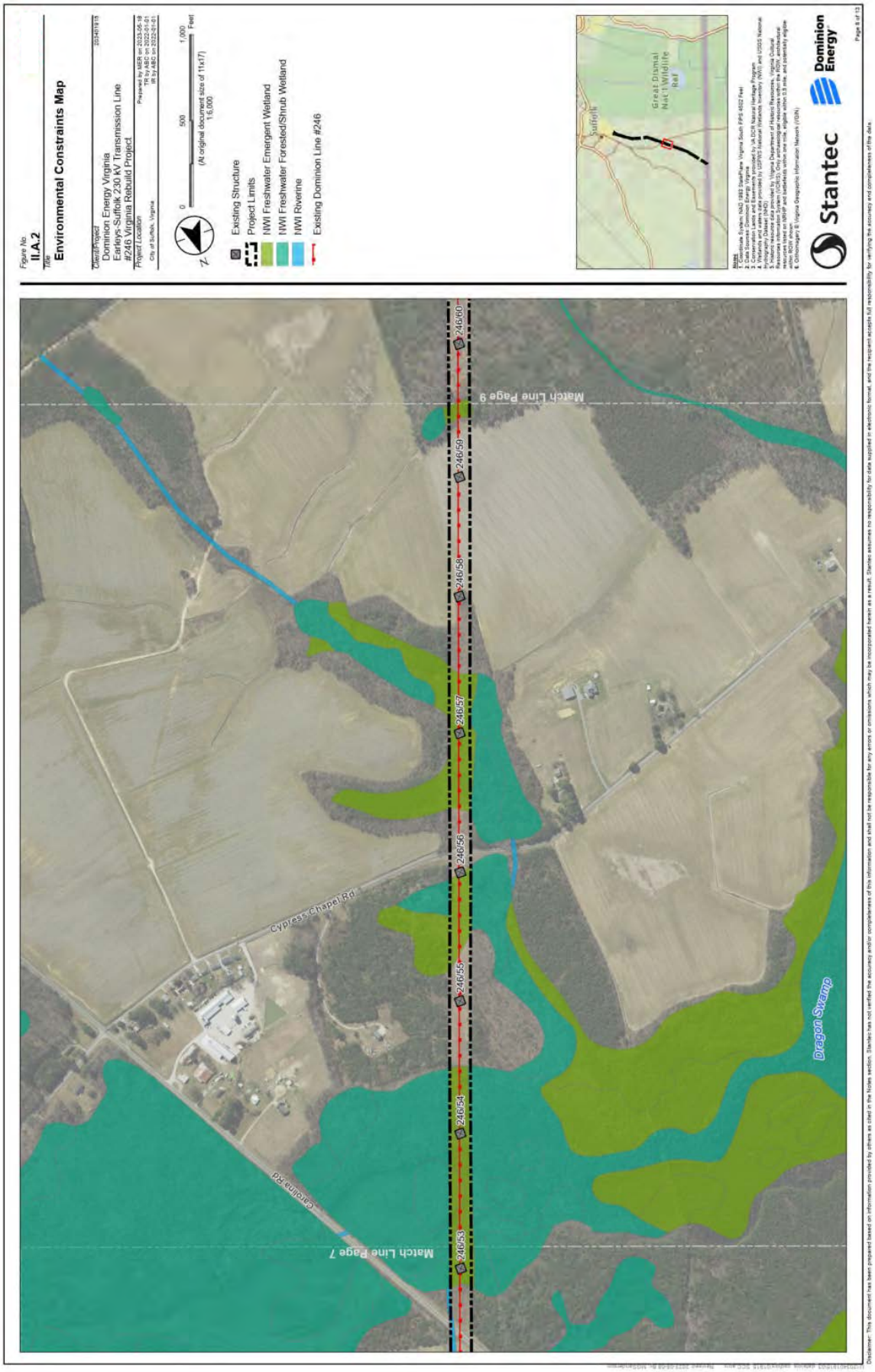
Figure No.
II.A.2
Title
Environmental Constraints Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-19
TR by ABD on 2023-11-01
IR by ABD on 2024-04-01
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
N
Existing Structure
Project Limits
NWI Freshwater Emergent Wetland
NWI Freshwater Forested/Shrub Wetland
NWI Riverine
Existing Dominion Line #246
Great Dismal Nat'l Wildlife Ref
Suffolk
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia
3. Cultural and water data provided by VDHR's Data Sharing Service
4. Wetlands and waters data provided by USFWS National Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD)
5. Historic resources provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS). Only archaeological resources within the ADH, architectural resources listed on the National Register of Historic Places within 0.5 mile, and architectural resources eligible within 100 ft of the line are potentially eligible within ADH shown.
6. Orthoimagery © Virginia Geographic Information Network (VGIN)
Stantec
Dominion Energy
Page 8 of 13
Match Line Page 7
Match Line Page 9
246/53
246/54
246/55
246/56
246/57
246/58
246/59
246/60
Cypress Chapel Rd
Centerville Rd
Dragon Swamp


Figure No.
II.A.2
Title
Environmental Constraints Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-19
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
500
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Feet
(At original document size of 11x17)
1:6,000
N
Existing Structure
Project Limits
NWI Freshwater Emergent Wetland
NWI Freshwater Forested/Shrub Wetland
NWI Freshwater Pond
NWI Riverine
Existing Dominion Line #246
Suffolk
Great Dismal Nat'l Wildlife Ref
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia
3. Environmental data was collected by VA DCR Natural Heritage Program
4. Wetlands and waters data provided by USFWS National Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD)
5. Cultural resources data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS). Only archaeological resources within the ROW, architectural resources within the ROW and within 1,000 feet of the ROW, and potentially eligible resources within 1,000 feet of the ROW are presently eligible within ROW shown.
6. Orthoimagery © Virginia Geographic Information Network (VGIN)
Stantec
Dominion Energy
Page 9 of 13
246/60
246/61
246/62
246/63
246/64
246/65
246/66
246/67
Match Line Page 8
Match Line Page 10
Roundtree Estates
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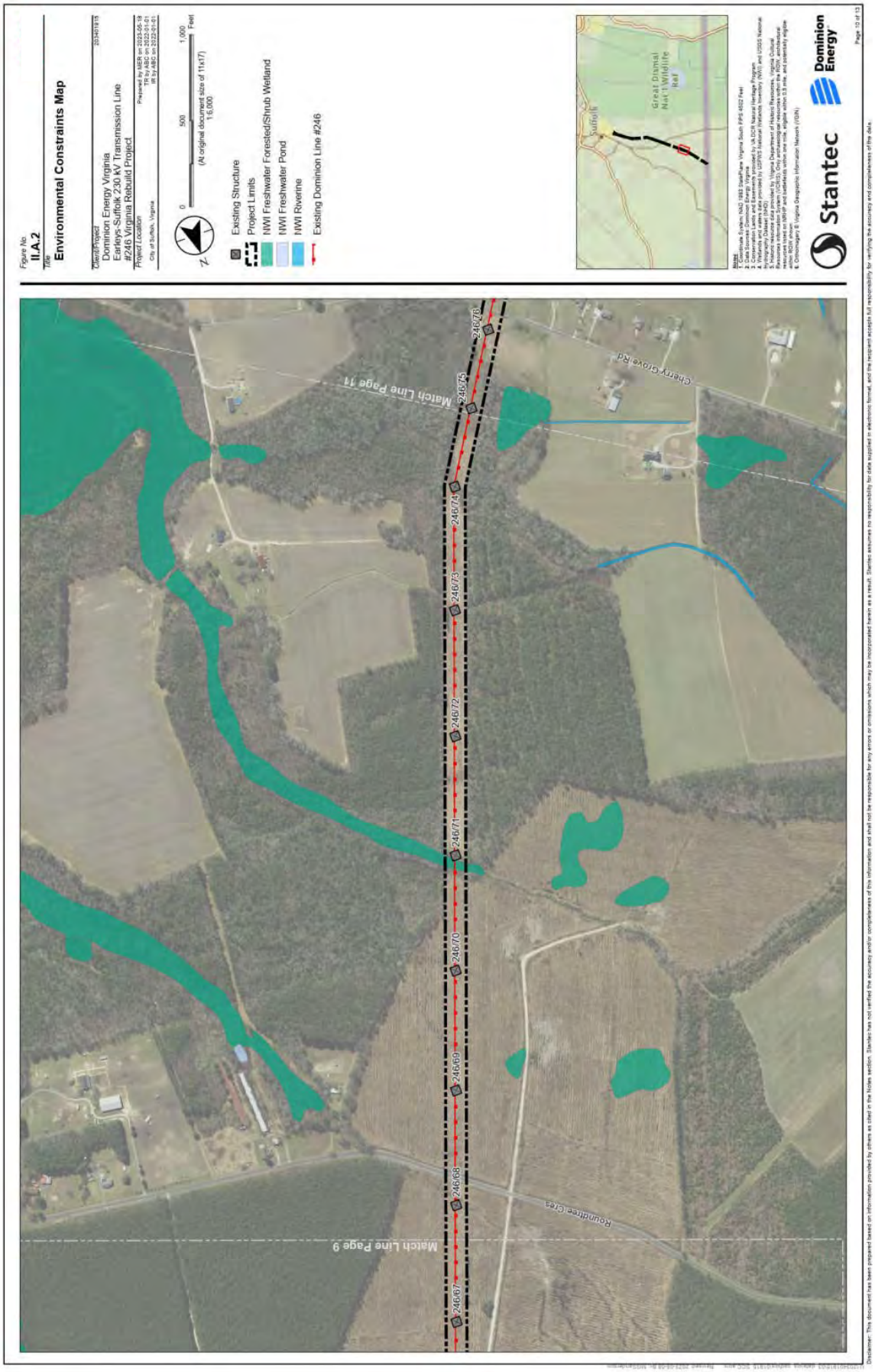
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II.A.2
Title
Environmental Constraints Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-08-18
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
N
Existing Structure
Project Limits
NWI Freshwater Forested/Shrub Wetland
NWI Freshwater Pond
NWI Riverine
Existing Dominion Line #246
Suffolk
Great Dismal Nat'l Wildlife Ref
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia
3. Orthoimagery: Aerial photography captured by VA GCR Natural Heritage Program
4. Wetlands and waters data provided by USFWS National Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD)
5. Historic resources data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS). Only archaeological resources within the ADH, architectural resources within the APE, and historic districts within the APE are displayed on this map. For a complete listing of historic resources within the APE, see the assembly register within ROW shown.
6. Orthoimagery © Virginia Geographic Information Network (VGIN)
Stantec
Dominion Energy
Page 10 of 13
246/67
246/68
246/69
246/70
246/71
246/72
246/73
246/74
246/75
246/76
Match Line Page 9
Match Line Page 11
Boundtree Edge
Cherry Grove Rd

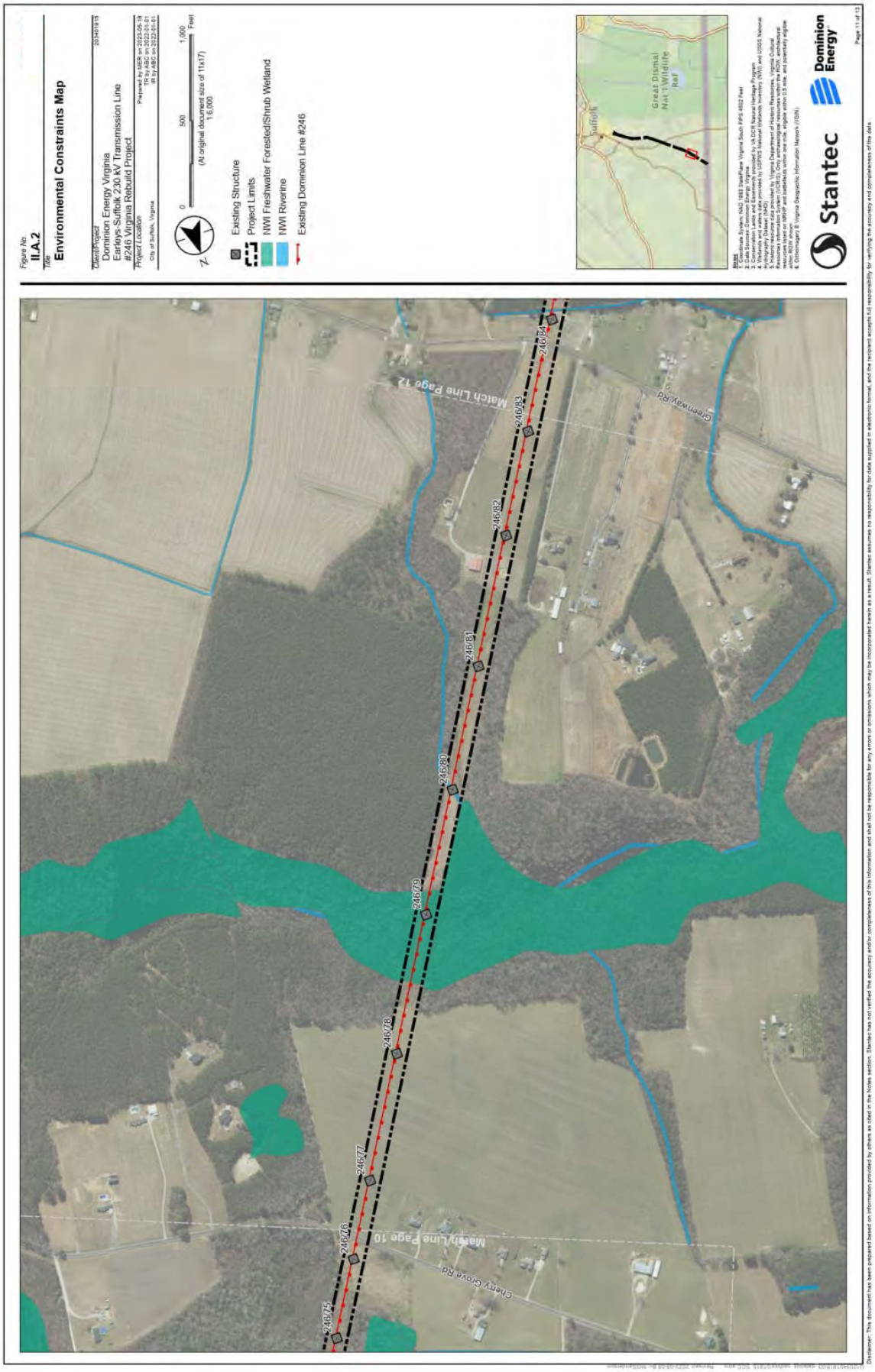
Figure No.
II.A.2
Title
Environmental Constraints Map
Client/Project
Dominion Energy Virginia
Earleys–Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-19
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
500
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Feet
(At original document size of 11x17)
1:6,000
Existing Structure
Project Limits
NWI Freshwater Forested/Shrub Wetland
NWI Riverine
Existing Dominion Line #246
Great Dismal Nat'l Wildlife Ref
Suffolk
Match Line Page 12
Match Line Page 10
Cherry Grove Rd
Greenway Rd
246/75
246/76
246/77
246/78
246/79
246/80
246/81
246/82
246/83
246/84
Stantec
Dominion Energy
Page 11 of 13

Figure No.
II.A.2
Title
Environmental Constraints Map
Client/Project
Dominion Energy Virginia
Earleys–Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-19
TR by ABD on 2023-10-01
IR by ABD on 2023-10-01
0
500
1,000 Feet
(At original document size of 11x17)
1:6,000
N
Existing Structure
Project Limits
NWI Freshwater Emergent Wetland
NWI Freshwater Forested/Shrub Wetland
NWI Riverine
Existing Dominion Line #246
Suffolk
Great Dismal Nat'l Wildlife Ref
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia
3. Wetlands and water features mapped by VA DCR Natural Heritage Program
4. Wetlands and water data provided by USFWS National Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD)
5. Aerial imagery provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS). Only archaeological resources within the ROW, architectural resources eligible or listed on the National Register, and historic districts within 0.5 mile are potentially eligible within ROW shown.
6. Orthoimagery © Virginia Geographic Information Network (VGIN)
Stantec
Dominion Energy
Page 12 of 13
246/94
246/95
246/96
246/97
246/98
246/99
246/00
246/01
Greenway Rd
Match Line Page 11
Match Line Page 13
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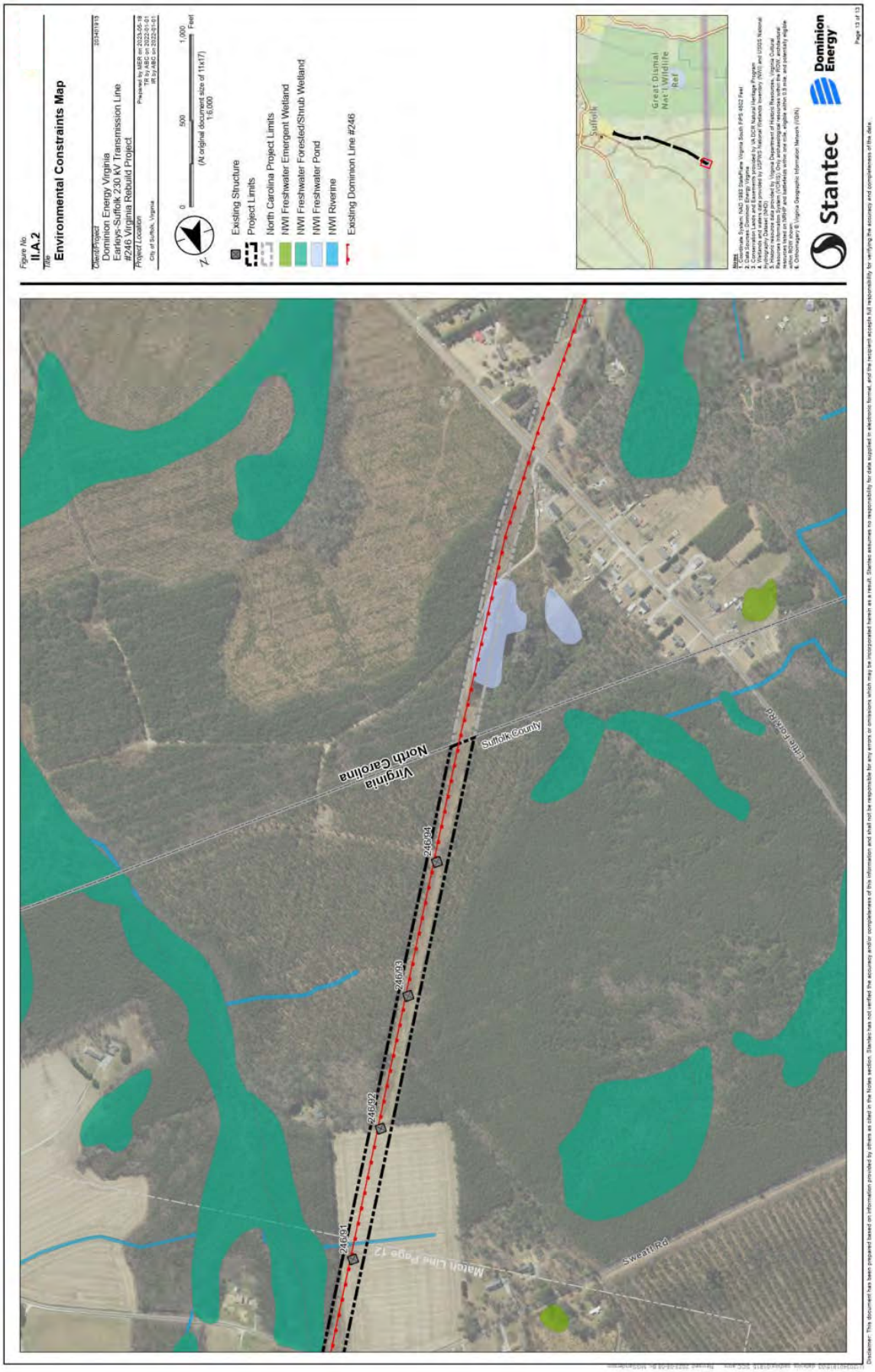
Figure No.
II.A.2
Title
Environmental Constraints Map
Client/Project
Dominion Energy Virginia
Earleys–Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-19
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
N
Existing Structure
Project Limits
North Carolina Project Limits
NWI Freshwater Emergent Wetland
NWI Freshwater Forested/Shrub Wetland
NWI Freshwater Pond
NWI Riverine
Existing Dominion Line #246
Great Dismal Nat'l Wildlife Ref
Suffolk
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia
3. Cultural and water data provided by VA DCR Natural Heritage Program
4. Wetlands and water data provided by USFWS National Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD)
5. Historic resources provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS). Only archaeological resources within the ROW, architectural resources within 1,000 feet, and historic districts within 2 miles of the line are potentially eligible within ROW shown.
6. Orthoimagery © Virginia Geographic Information Network (VGIN)
Stantec
Dominion Energy
Virginia
North Carolina
Suffolk County
246.94
246.93
246.92
246.91
Match Line Page 12
Sweath Rd
Page 13 of 13
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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 Attachment I.G.1.

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 Virginia 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;

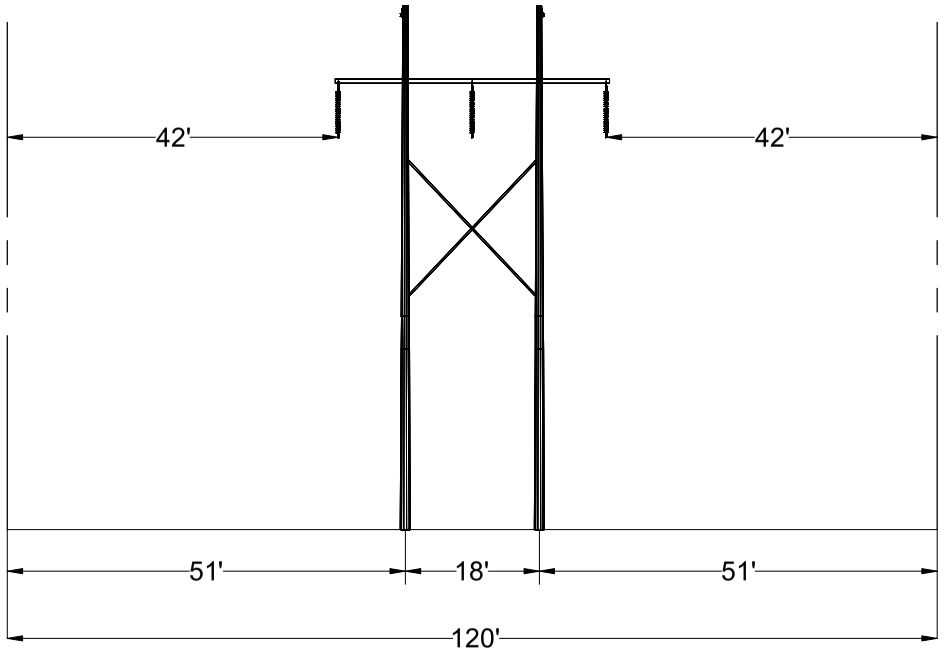
c. Existing utility facilities on the ROW; and

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.a through II.A.5.d.

SUFFOLK - EARLEYS, LINE #246
EXISTING CONFIGURATION

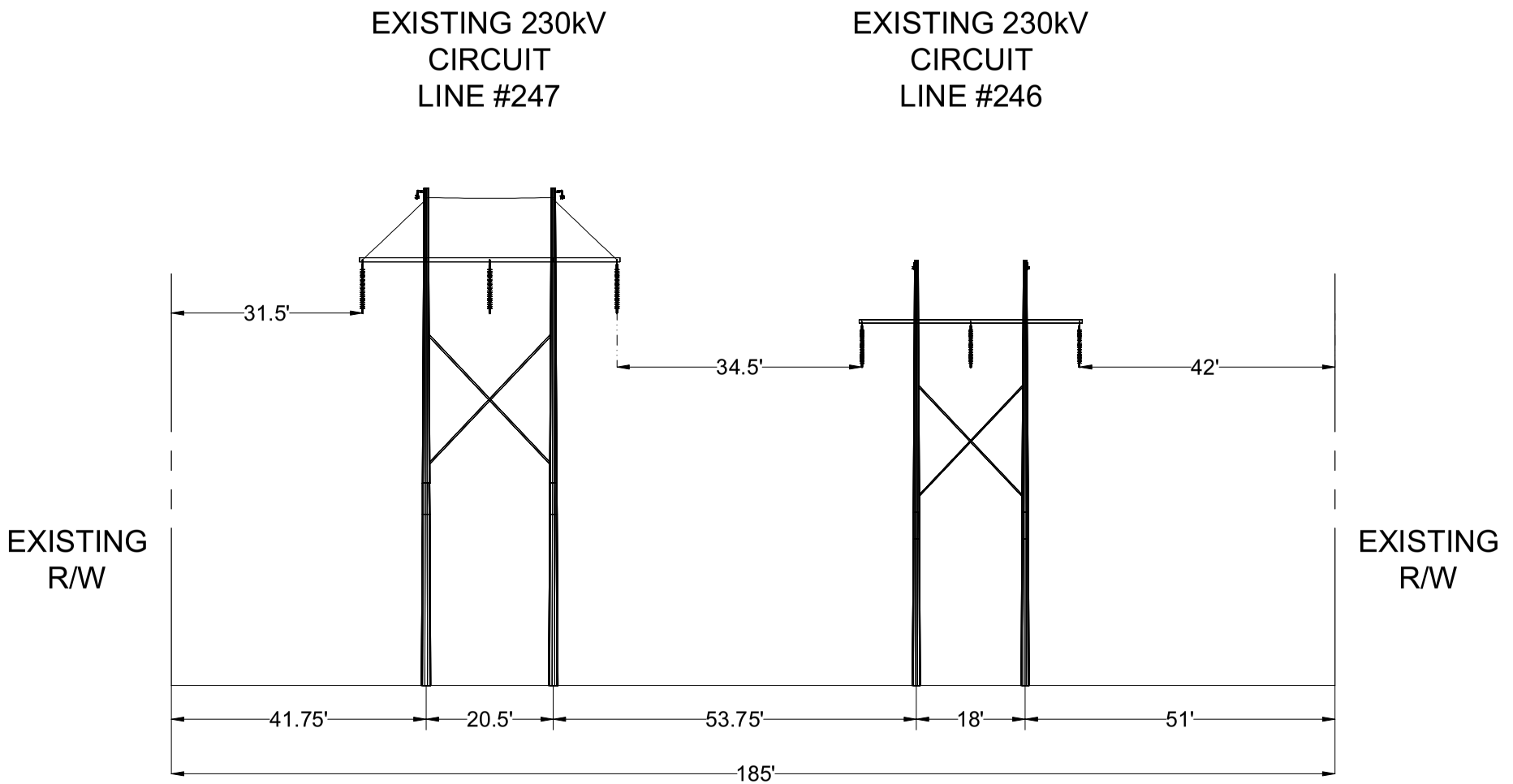
EXISTING 230kV
CIRCUIT
LINE #246



TYPICAL RIGHT OF WAY LOOKING TOWARD EARLEYS FROM STR #246/39 TO STR #246/94

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

SUFFOLK - EARLEYS, LINE #246
EXISTING CONFIGURATION

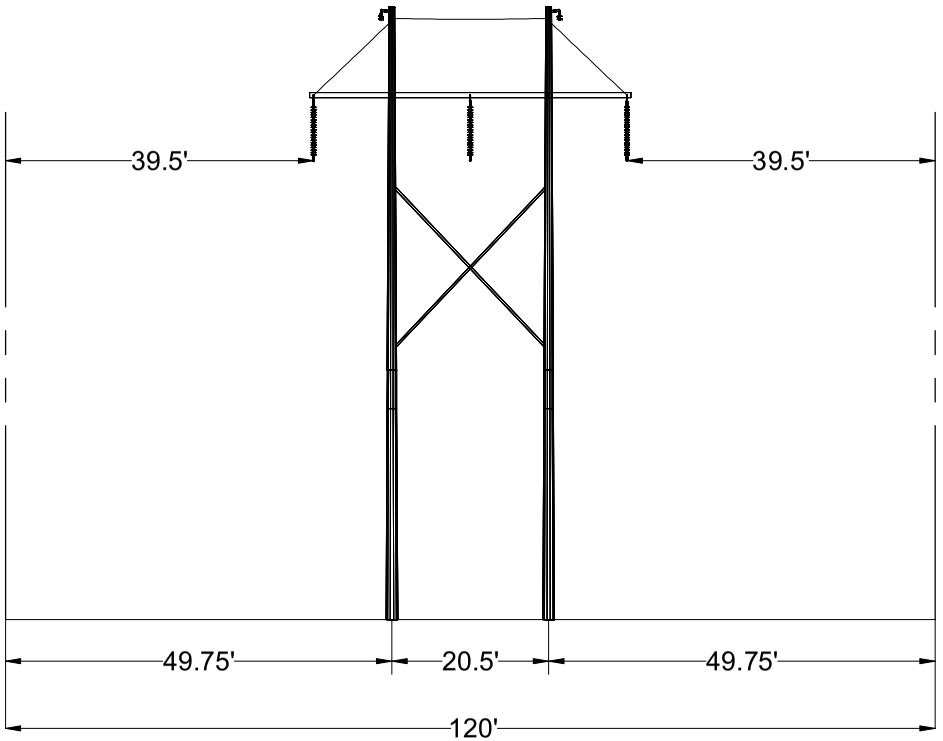


TYPICAL RIGHT OF WAY LOOKING TOWARD EARLEYS FROM SUFFOLK TO STR. #246/39

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

SUFFOLK - EARLEYS, LINE #246
PROPOSED CONFIGURATION

PROPOSED 230kV
CIRCUIT
LINE #246



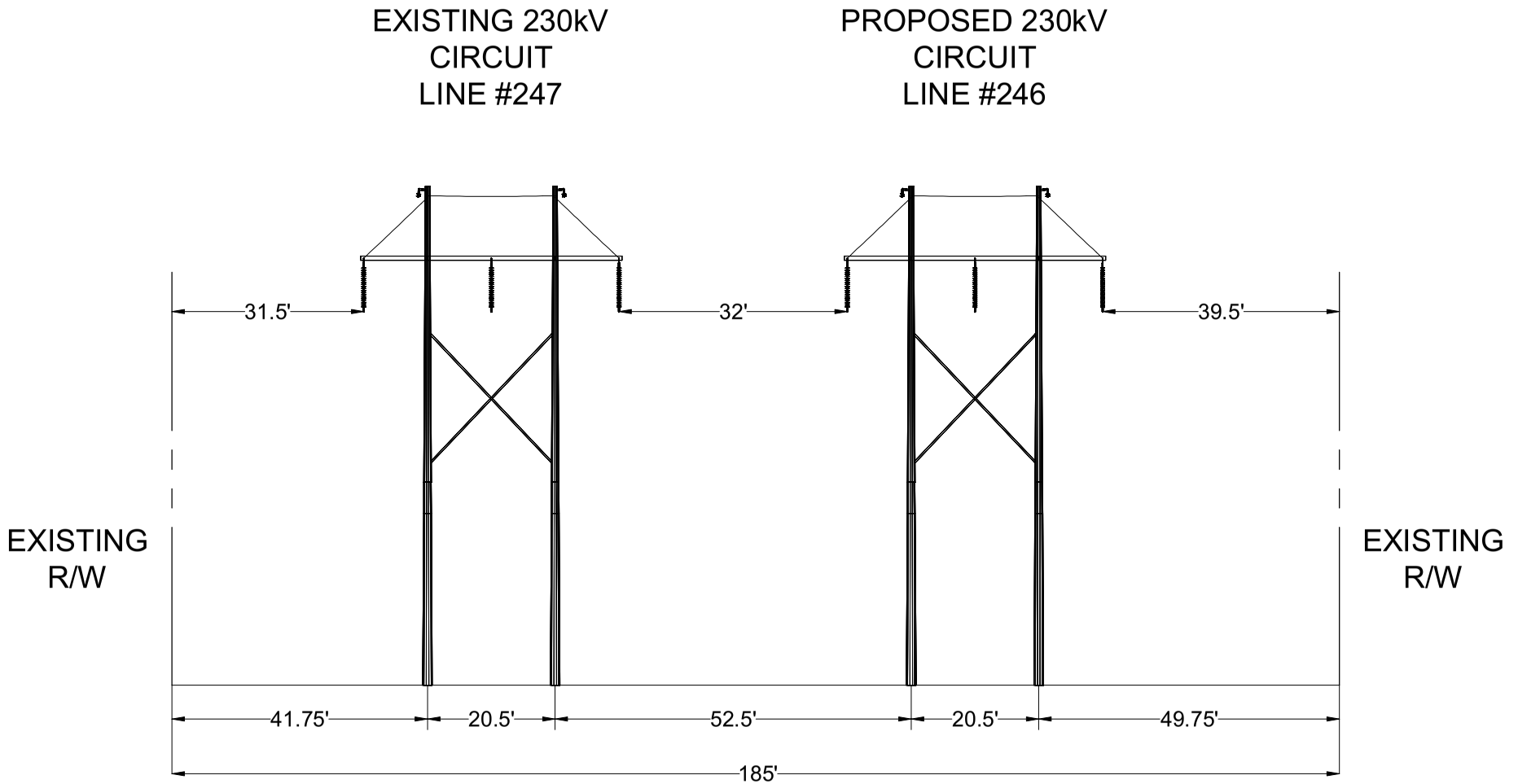
EXISTING
R/W

EXISTING
R/W

TYPICAL RIGHT OF WAY LOOKING TOWARD EARLEYS FROM STR #246/39 TO STR #246/94

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

SUFFOLK - EARLEYS, LINE #246
PROPOSED CONFIGURATION



TYPICAL RIGHT OF WAY LOOKING TOWARD EARLEYS FROM SUFFOLK TO STR. #246/39

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

80

Attachment II.A.5.d

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 Virginia Rebuild Project corridor in 1969. The Company does not anticipate that new easements will be required as the Virginia Rebuild Project is within existing rights-of-way or on Company-owned property.

The existing right-of-way intersects the following easements held by others but established after the Company obtained its easements:

- For approximately 0.42 miles and 0.12 miles at two separate points, the existing right-of-way intersects a Virginia Department of Forestry ("DOF") easement (SUF-2009-003) established in 2009; and

- For approximately 0.32 miles, the existing right-of-way intersects a Virginia Outdoors Foundation ("VOF") easement (SUF-VOF-1394) established in 2003.

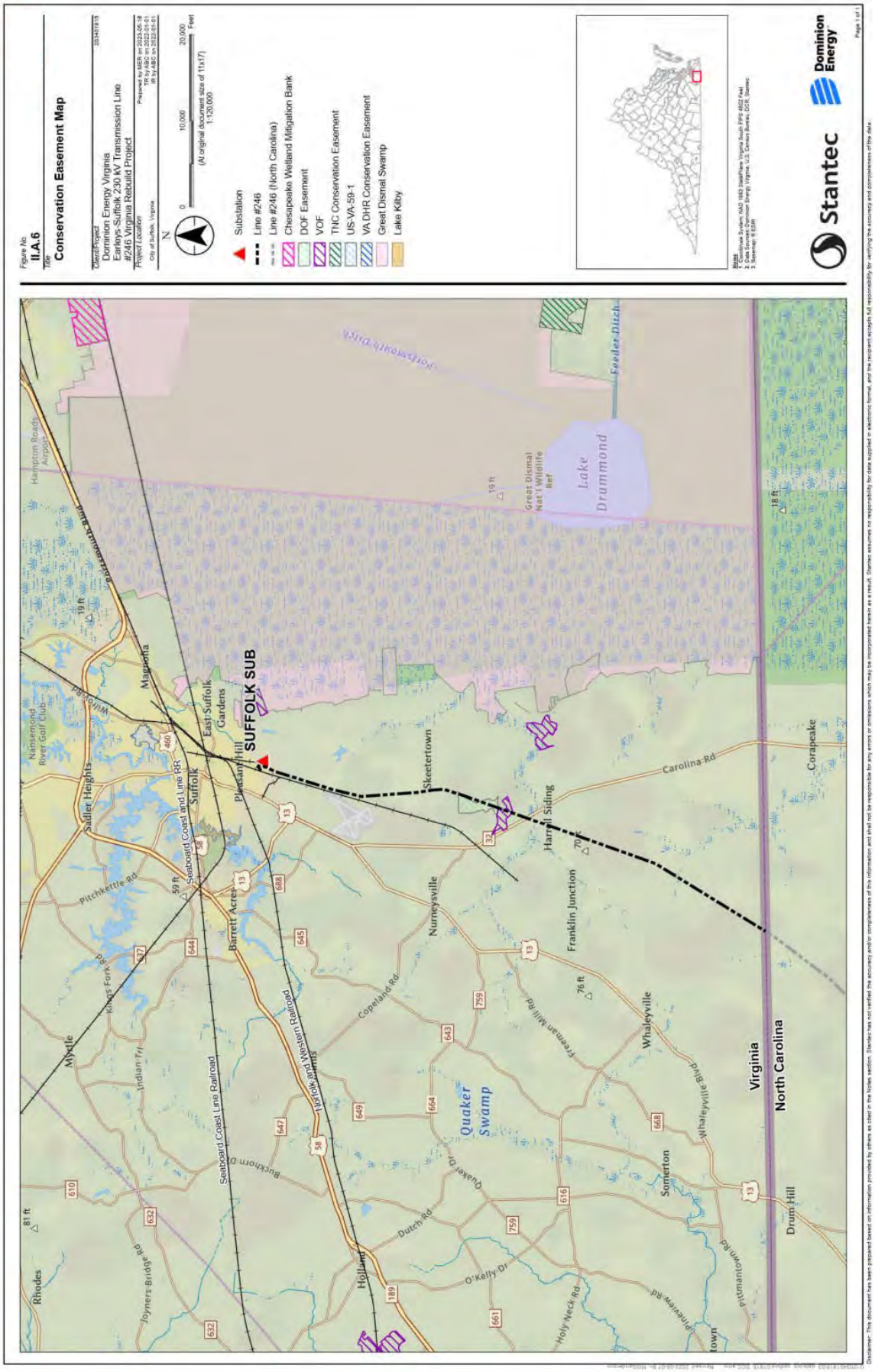


Figure No.
II.A.6
Title
Conservation Easement Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-19
TR by ABG on 2023-06-21
IR by ABG on 2023-06-22
N
0
10,000
20,000
Feet
(At original document size of 11x17)
1:120,000
Substation
Line #246
Line #246 (North Carolina)
Chesapeake Wetland Mitigation Bank
DOF Easement
VOF
ThC Conservation Easement
US-VA-59-1
VA DHR Conservation Easement
Great Dismal Swamp
Lake Kilby
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia; U.S. Census Bureau; DCR; Stantec
3. Basemap: © ESRI
Stantec
Dominion Energy
Page 1 of 1
SUFFOLK SUB
Lake Drummond
Great Dismal Nat'l Wildlife Ref
Dismal Swamp Canal
Feeder Ditch
Hampton Roads Airport
Nansemond River Golf Club
Saddler Heights
Magnolia
East Suffolk Gardens
Pleasant Hill
Suffolk
Seaboard Coast and Line RR
Skeetertown
Harrell Siding
Carolina Rd
Corapeake
Pitchkettle Rd
Barrett Acres
Nurneysville
Franklin Junction
Copeland Rd
Freeman Mill Rd
Whaleyville
Whaleyville Blvd
Quaker Swamp
Quaker Rd
Somerton
Virginia
North Carolina
Drum Hill
Holland
Dutch Rd
O'Kelly Dr
Holy Neck Rd
Pitts Mountain Rd
Town
Rhodes
Joyners Bridge Rd
Myrtle
Knotts Fork
Indian Trl
Buchhorn Dr
Seaboard Coast Line Railroad
Norfolk and Western Railroad
19 ft
59 ft
81 ft
76 ft
70 ft
18 ft

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 entire 120-foot width of the existing transmission line corridor 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 Virginia Rebuild Project. When clearing is required, 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 Virginia 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 these Guidelines), 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. For the proposed Virginia Rebuild Project, the existing transmission corridor right-of-way that currently contains Line #246 is adequate.

Because the existing right-of-way and Company-owned property are adequate to construct the Virginia 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 Virginia 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: To limit service disruption to the affected load area, the Company plans to take Line #246 out of service. The outages are scheduled to allow the adjacent infrastructure to adequately provide service to connected customers while Line #246 is out of service. This strategy will allow the grid to be in normal and optimal configuration and available to respond to contingency issues should they arise. Assuming a final order by June 11, 2024, as requested in Section I.H, the Company expects to start construction by April 2026, and to complete construction of the VA-NC Rebuild Project by December 31, 2028. 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 has requested two outages. The first outage will affect the Virginia portion of Line #246 and will occur from Spring of 2026 through the end of 2028. The second outage will only affect portions of Line #246 in North Carolina. 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 these Guidelines, 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 Virginia Rebuild Project with an existing transmission corridor.

By utilizing the existing transmission corridor, the proposed Virginia Rebuild Project will minimize impact to any site listed on the National Register of Historic Places ("NRHP"). Thus, the Virginia 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 VDHR regarding its plans prior to engineering and construction of the Virginia 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

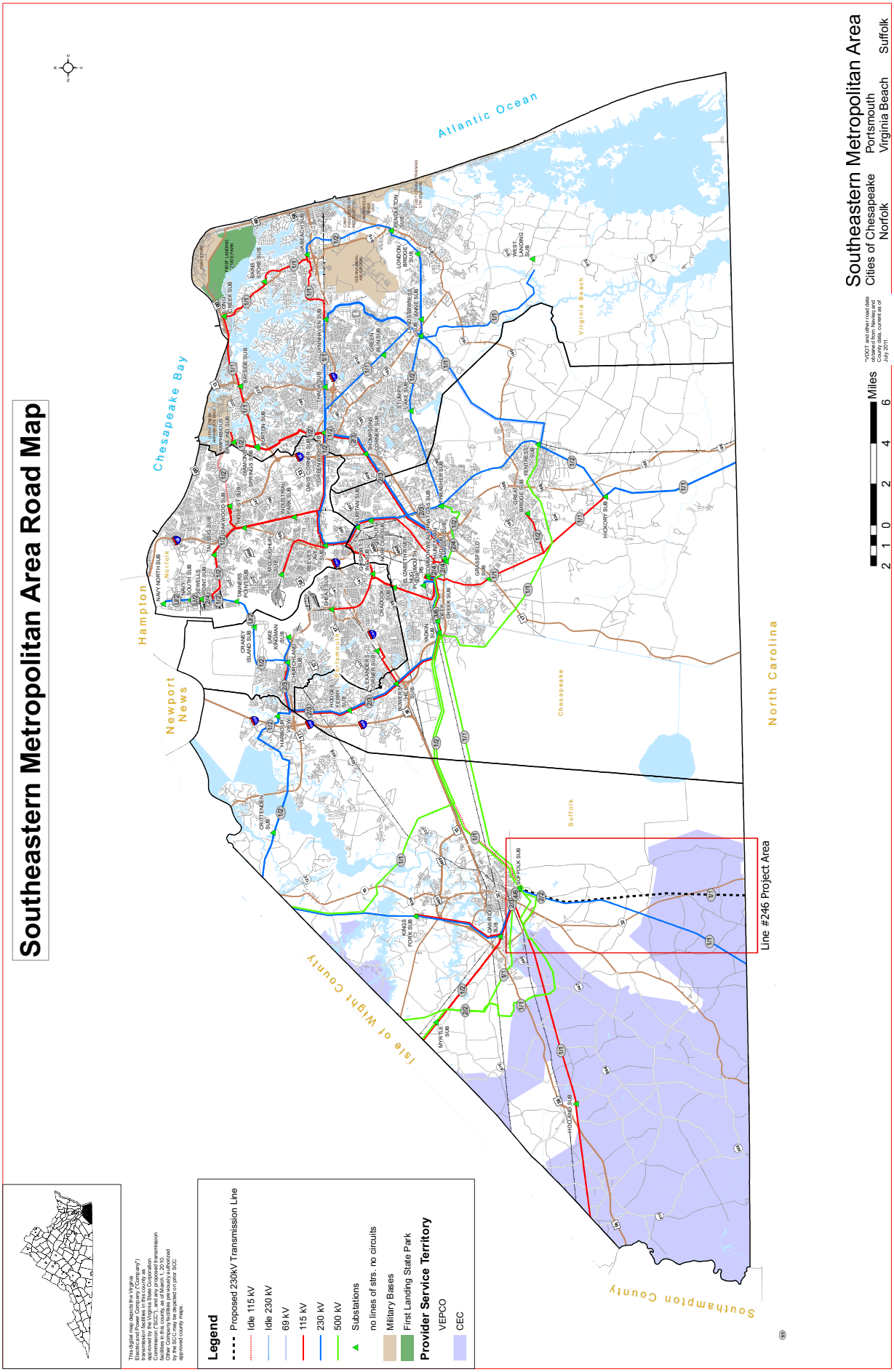
A. Right-of-way ("ROW")

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 Virginia Rebuild Project traverses the City of Suffolk for a total of approximately 11.9 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 the City of Suffolk has been marked as required and filed with the Application. A reduced copy of the map is provided as Attachment II.A.12.


Southeastern Metropolitan Area Road Map
Southeastern Metropolitan Area
Cities of Chesapeake
Norfolk
Portsmouth
Virginia Beach
Suffolk
Miles
0 1 2 4 6
Legend
Proposed 230kV Transmission Line
Idle 115 kV
Idle 230 kV
69 kV
115 kV
230 kV
500 kV
Substations
no lines of strs. no circuits
Military Bases
First Landing State Park
Provider Service Territory
VEPCO
CEC
Line #246 Project Area
Atlantic Ocean
Chesapeake Bay
Hampton
Newport News
Norfolk
Portsmouth
Chesapeake
Suffolk
Virginia Beach
North Carolina
Isle of Wight County
Southampton 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 single circuit 230 kV Line #246 will be designed and operated at 230 kV and will have a summer/winter transfer capability of 1572 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 proposed conductor for 230 kV Line #246 will be three phases of two (2) 768.2 ACSS/TW (20/7) "Maumee." See Attachments II.B.3.a-b for more details on conductor configurations at each structure type.

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;

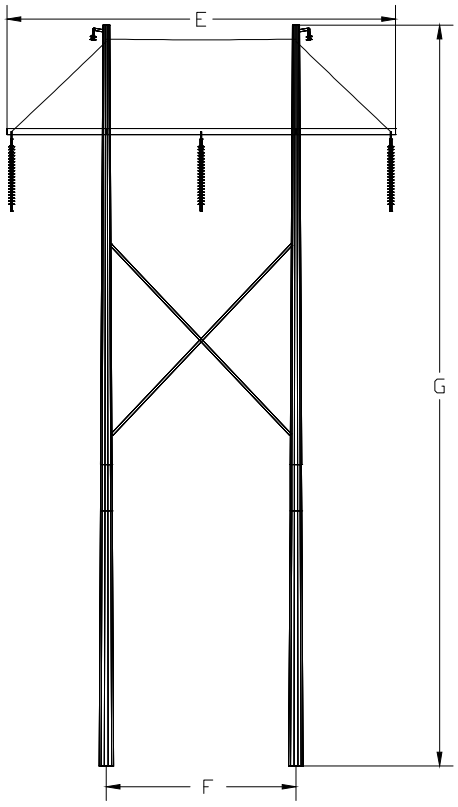
i. the average span length; and

j. the minimum conductor-to-ground clearances under maximum operating conditions.

Response: See Attachments II.B.3.a-b.

PROPOSED 230kV CIRCUIT

LINE #246
SUFFOLK - EARLEYS



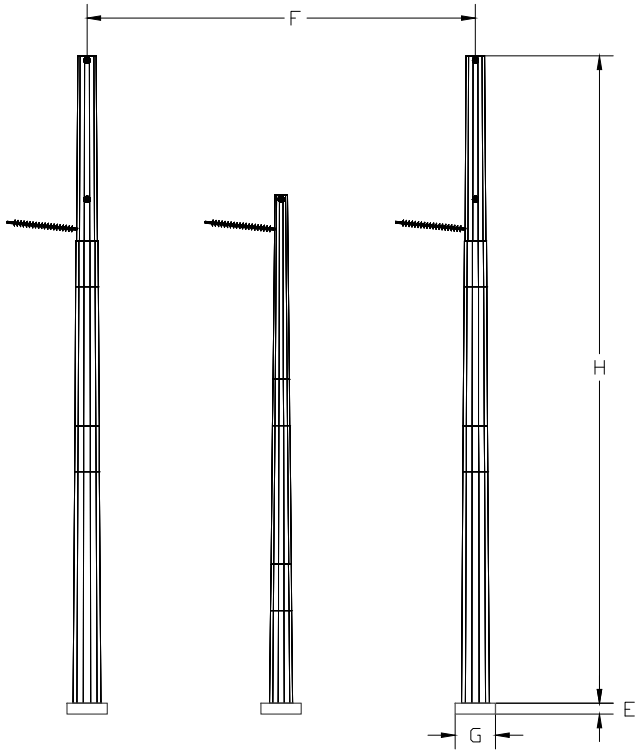
230 kV SC H-FRAME SUSPENSION STRUCTURE

A.	MAPPING OF THE ROUTE:	SEE ATTACHMENT II.B.3.iv
B.	RATIONALE FOR STRUCTURE TYPE:	TYPICAL CONFIGURATION FOR SINGLE CIRCUIT H-FRAME SUSPENSION STRUCTURES.
C.	LENGTH OF R/W (STRUCTURE QTY):	11.9 MILES (82 STRUCTURES)
D.	STRUCTURE MATERIAL:	WEATHERING STEEL
	RATIONALE FOR MATERIAL:	WEATHERING STEEL WAS SELECTED TO MATCH OTHER LINES IN THE AREA AND IS COMPANY'S STANDARD
E.	AVERAGE WIDTH AT CROSS ARM:	42'
F.	AVERAGE WIDTH AT BASE:	20.5'
G.	MINIMUM STRUCTURE HEIGHT:	48.5'
	MAXIMUM STRUCTURE HEIGHT:	110'
	AVERAGE STRUCTURE HEIGHT:	75'
H.	AVERAGE SPAN LENGTH (RANGE):	670' (365'-834') (SEE NOTE 3)
I.	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. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE GROUNDLINE AND DO NOT INCLUDE EMBEDDED PORTION UNDERGROUND.
3. THE SPAN ASSOCIATED WITH EACH STRUCTURE IS THE AHEAD SPAN.

PROPOSED 230kV CIRCUIT

LINE #246
SUFFOLK - EARLEYS



230 kV DC ENGINEERED 3-POLE DEADEND STRUCTURE

A.	MAPPING OF THE ROUTE:	SEE ATTACHMENT II.B.3.iv
B.	RATIONALE FOR STRUCTURE TYPE:	TYPICAL CONFIGURATION FOR SINGLE CIRCUIT 3-POLE DEADEND STRUCTURES.
C.	LENGTH OF R/W (STRUCTURE QTY):	11.9 MILES (12 STRUCTURES)
D.	STRUCTURE MATERIAL:	WEATHERING STEEL
	RATIONALE FOR MATERIAL:	WEATHERING STEEL WAS SELECTED TO MATCH OTHER LINES IN THE AREA AND IS COMPANY'S STANDARD.
E.	FOUNDATION MATERIAL:	CONCRETE
	AVERAGE FOUNDATION REVEAL:	SEE NOTE 2
F.	AVERAGE STRUCTURE WIDTH:	42'
G.	AVERAGE FOUNDATION WIDTH:	SEE NOTE 2
H.	MINIMUM STRUCTURE HEIGHT:	55'
	MAXIMUM STRUCTURE HEIGHT:	75'
	AVERAGE STRUCTURE HEIGHT:	65'
I.	AVERAGE SPAN LENGTH (RANGE):	670' (365'-834') (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 Virginia Rebuild Project. The proposed approximate structure heights are from the conceptual design created to estimate the cost of the Virginia 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
246/1C	65	75	**
246/1B	105	105	*
246/1A	48.5	48.5	*
246/1	59	70	II.B.3.b
246/2	59.5	60	II.B.3.b
246/3	53.5	65.5	II.B.3.a
246/4	60	65.5	II.B.3.a
246/5	65.5	55	II.B.3.b
246/6	78.5	65.5	II.B.3.a
246/7	78	70	II.B.3.a
246/8	65	74.5	II.B.3.a
246/9	64.5	70	II.B.3.a
246/10	65	70	II.B.3.a
246/11	64.5	70	II.B.3.a
246/12	65	65.5	II.B.3.a
246/13	64.5	70	II.B.3.a
246/14	64	70	II.B.3.a
246/15	64	70	II.B.3.a
246/16	64.5	65.5	II.B.3.a
246/17	55	60	II.B.3.b
246/18	64.5	65.5	II.B.3.a
246/19	64	70	II.B.3.a
246/20	63.5	70	II.B.3.a

246/21	64.5	70	II.B.3.a
246/22	65.5	79	II.B.3.a
246/23	64	60	II.B.3.b
246/24	65	70	II.B.3.a
246/25	60	74.5	II.B.3.a
246/26	65	70	II.B.3.a
246/27	59	65.5	II.B.3.a
246/28	64.5	70	II.B.3.a
246/29	59	79	II.B.3.a
246/30	64.5	65.5	II.B.3.a
246/31	63.5	70	II.B.3.a
246/32	64	70	II.B.3.a
246/33	64	74.5	II.B.3.a
246/34	59.5	65	II.B.3.b
246/35	64	74.5	II.B.3.a
246/36	63	74.5	II.B.3.a
246/37	64.5	60	II.B.3.b
246/38	64.5	70	II.B.3.a
246/39	73	70	II.B.3.b
246/40	69.5	79	II.B.3.a
246/41	69.5	74.5	II.B.3.a
246/42	69.5	74.5	II.B.3.a
246/43	69.5	79	II.B.3.a
246/44	74	79	II.B.3.a
246/45	74.5	83.5	II.B.3.a
246/46	73.5	79	II.B.3.a
246/47	69.5	74.5	II.B.3.a
246/48	69.5	74.5	II.B.3.a
246/49	73.5	79	II.B.3.a
246/50	73	83.5	II.B.3.a
246/51	73.5	79	II.B.3.a
246/52	72.5	79	II.B.3.a
246/53	69	79	II.B.3.a
246/54	69.5	79	II.B.3.a
246/55	70	79	II.B.3.a
246/56	68	70	II.B.3.b
246/57	68.5	79	II.B.3.a
246/58	67.5	74.5	II.B.3.a
246/59	69	74.5	II.B.3.a

246/60	69	74.5	II.B.3.a
246/61	68	74.5	II.B.3.a
246/62	69	74.5	II.B.3.a
246/63	69.5	74.5	II.B.3.a
246/64	69.5	79	II.B.3.a
246/65	69	79	II.B.3.a
246/66	64	70	II.B.3.a
246/67	64	70	II.B.3.a
246/68	64	70	II.B.3.a
246/69	63.5	70	II.B.3.a
246/70	65	70	II.B.3.a
246/71	64.5	70	II.B.3.a
246/72	68.5	74.5	II.B.3.a
246/73	69	74.5	II.B.3.a
246/74	69	70	II.B.3.b
246/75	59	70	II.B.3.a
246/76	65	74.5	II.B.3.a
246/77	68.5	74.5	II.B.3.a
246/78	61	74.5	II.B.3.a
246/79	68	79	II.B.3.a
246/80	68.5	79	II.B.3.a
246/81	67.5	74.5	II.B.3.a
246/82	68.5	74.5	II.B.3.a
246/83	58.5	74.5	II.B.3.a
246/84	69	74.5	II.B.3.a
246/85	70	79	II.B.3.a
246/86	68.5	74.5	II.B.3.a
246/87	68.5	74.5	II.B.3.a
246/88	69	74.5	II.B.3.a
246/89	69	74.5	II.B.3.a
246/90	68.5	65	II.B.3.b
246/91	68.5	79	II.B.3.a
246/92	69	79	II.B.3.a
246/93	69	74.5	II.B.3.a
246/94	69	75	II.B.3.b
Minimum* **	48.5	48.5	
Maximum* **	105	110	
Average* **	70	75	

* Existing structure included as part of the Virginia Rebuild Project, but not to be replaced.

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

*** Exclusive of structures not being replaced.

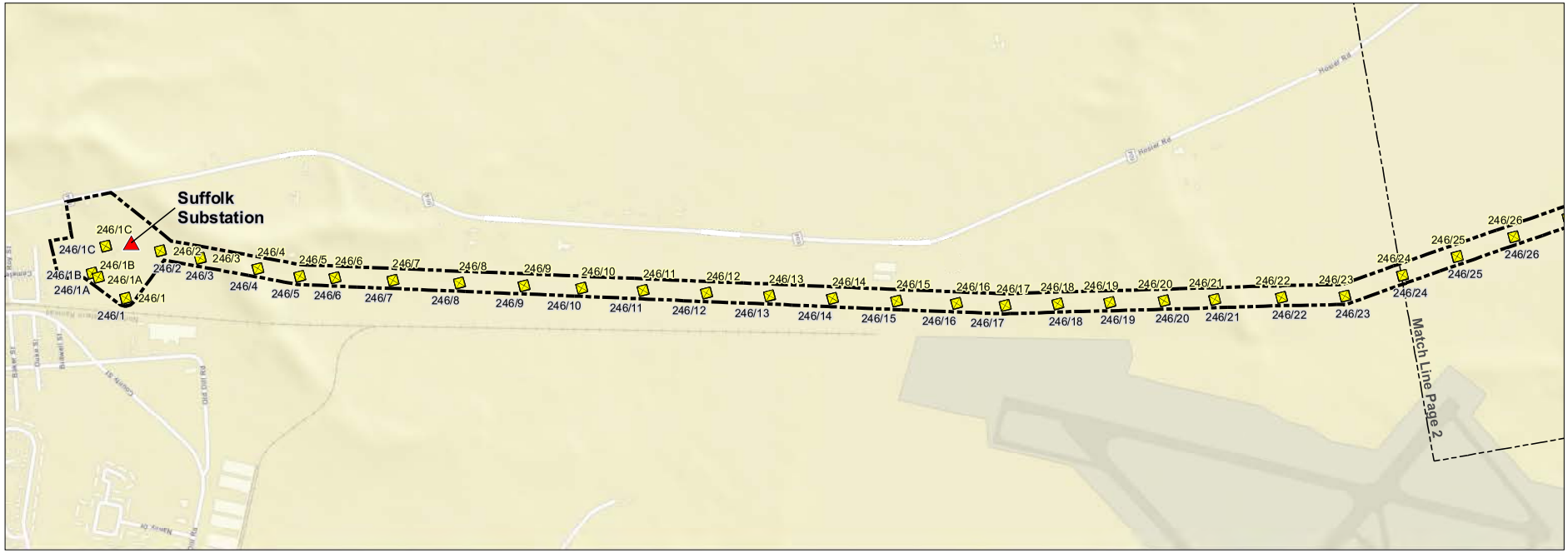


Table II.B.5

Existing Structure Number	246/1C	246/1B	246/1A	246/1	246/2	246/3	246/4	246/5	246/6	246/7	246/8	246/9	246/10	246/11	246/12	246/13	246/14	246/15	246/16	246/17	246/18	246/19	246/20	246/21	246/22	246/23	246/24	246/25	246/26
Existing Structure Height (Feet)	65	105	48.5	59	59.5	53.5	60	65.5	78.5	78	65	64.5	65	64.5	65	64.5	64	64	64.5	55	64.5	64	63.5	64.5	65.5	64	65	60	65

Proposed Structure Number	246/1C	246/1B	246/1A	246/1	246/2	246/3	246/4	246/5	246/6	246/7	246/8	246/9	246/10	246/11	246/12	246/13	246/14	246/15	246/16	246/17	246/18	246/19	246/20	246/21	246/22	246/23	246/24	246/25	246/26
Proposed Structure Height (Feet)	75	105	48.5	70	60	65.5	65.5	55	65.5	70	74.5	70	70	70	65.5	70	70	70	65.5	60	65.5	70	70	70	79	60	70	74.5	70

*Structure heights do not include foundation reveal. Proposed structure heights and location based on preliminary engineering and are subject to change during final design.

Substation
Proposed Structure
Existing Structure
Project Right-of-Way
North Carolina Right-of-Way

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

N

Stantec

Project Location
City of Suffolk, Virginia

Prepared by MGS on 2023-10-24
TR by BJW on 2023-10-25
IR by CPG on 2023-10-25

Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project

203401915

Figure No.
II.B.5

Title
Existing and Proposed Structures

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR
3. Base Map © ESRI

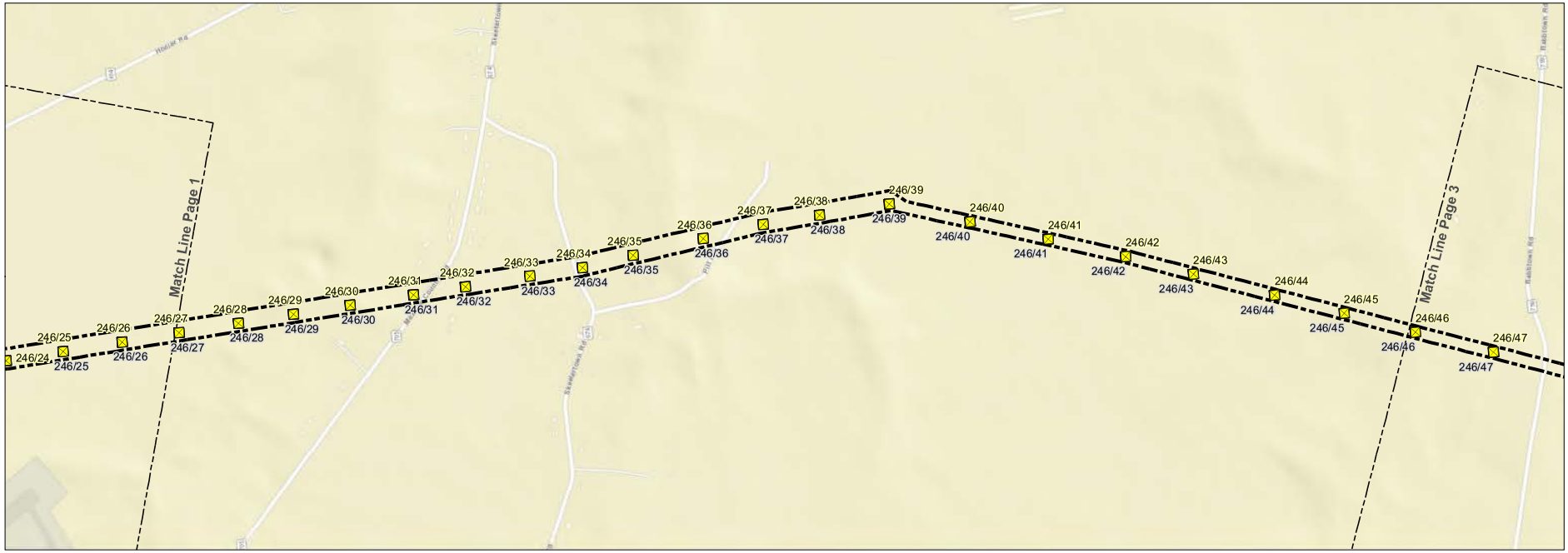


Table II.B.5

Existing Structure Number	246/24	246/25	246/26	246/27	246/28	246/29	246/30	246/31	246/32	246/33	246/34	246/35	246/36	246/37	246/38	246/39	246/40	246/41	246/42	246/43	246/44	246/45	246/46	246/47
Existing Structure Height (Feet)	65	60	65	59	64.5	59	64.5	63.5	64	64	59.5	64	63	64.5	64.5	73	69.5	69.5	69.5	69.5	74	74.5	73.5	69.5

Proposed Structure Number	246/24	246/25	246/26	246/27	246/28	246/29	246/30	246/31	246/32	246/33	246/34	246/35	246/36	246/37	246/38	246/39	246/40	246/41	246/42	246/43	246/44	246/45	246/46	246/47
Proposed Structure Height (Feet)	70	74.5	70	65.5	70	79	65.5	70	70	74.5	65	74.5	74.5	60	70	70	79	74.5	74.5	79	79	83.5	79	74.5

*Structure heights do not include foundation reveal. Proposed structure heights and location based on preliminary engineering and are subject to change during final design.

Substation
Proposed Structure
Existing Structure
Project Right-of-Way
North Carolina Right-of-Way

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

N

Stantec

Project Location
City of Suffolk, Virginia

Prepared by MGS on 2023-10-24
TR by BJW on 2023-10-25
IR by CPG on 2023-10-25

Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
203401915

Figure No.
II.B.5

Title
Existing and Proposed Structures

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR
3. Base Map © ESRI

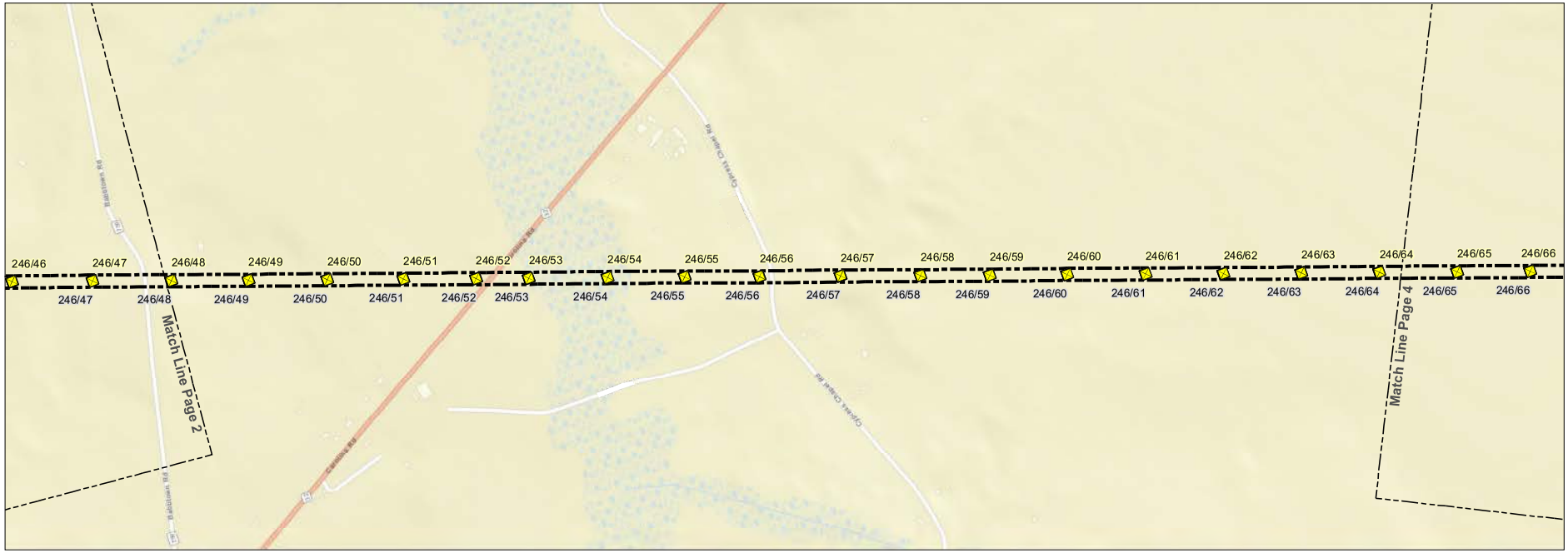
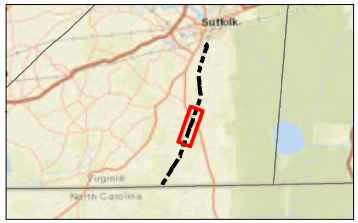


Table II.B.5

Existing Structure Number	246/46	246/47	246/48	246/49	246/50	246/51	246/52	246/53	246/54	246/55	246/56	246/57	246/58	246/59	246/60	246/61	246/62	246/63	246/64	246/65	246/66
Existing Structure Height (Feet)	73.5	69.5	69.5	73.5	73	73.5	72.5	69	69.5	70	68	68.5	67.5	69	69	68	69	69.5	69.5	69	64

Proposed Structure Number	246/46	246/47	246/48	246/49	246/50	246/51	246/52	246/53	246/54	246/55	246/56	246/57	246/58	246/59	246/60	246/61	246/62	246/63	246/64	246/65	246/66
Proposed Structure Height (Feet)	79	74.5	74.5	79	83.5	79	79	79	79	79	70	79	74.5	74.5	74.5	74.5	74.5	74.5	79	79	70

*Structure heights do not include foundation reveal. Proposed structure heights and location based on preliminary engineering and are subject to change during final design.



Substation
Proposed Structure
Existing Structure
Project Right-of-Way
North Carolina Right-of-Way

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

N

Stantec

Project Location
City of Suffolk, Virginia

Prepared by MGS on 2023-10-24
TR by BJW on 2023-10-25
IR by CPG on 2023-10-25

Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
203401915

Figure No.
II.B.5

Title
Existing and Proposed Structures

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR
3. Base Map © ESRI

Table II.B.5

Existing Structure Number	246/65	246/66	246/67	246/68	246/69	246/70	246/71	246/72	246/73	246/74	246/75	246/76	246/77	246/78	246/79	246/80	246/81	246/82	246/83	246/84	246/85	246/86
Existing Structure Height (Feet)	69	64	64	64	63.5	65	64.5	68.5	69	69	59	65	68.5	61	68	68.5	67.5	68.5	58.5	69	70	68.5

Proposed Structure Number	246/65	246/66	246/67	246/68	246/69	246/70	246/71	246/72	246/73	246/74	246/75	246/76	246/77	246/78	246/79	246/80	246/81	246/82	246/83	246/84	246/85	246/86
Proposed Structure Height (Feet)	79	70	70	70	70	70	70	74.5	74.5	70	70	74.5	74.5	74.5	79	79	74.5	74.5	74.5	74.5	79	74.5

*Structure heights do not include foundation reveal. Proposed structure heights and location based on preliminary engineering and are subject to change during final design.

Substation
Proposed Structure
Existing Structure
Project Right-of-Way
North Carolina Right-of-Way

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

N

Stantec

Project Location
City of Suffolk, Virginia

Prepared by MGS on 2023-10-24
TR by BJW on 2023-10-25
IR by CPG on 2023-10-25

Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
203401915

Figure No.
II.B.5

Title
Existing and Proposed Structures

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR
3. Base Map © ESRI

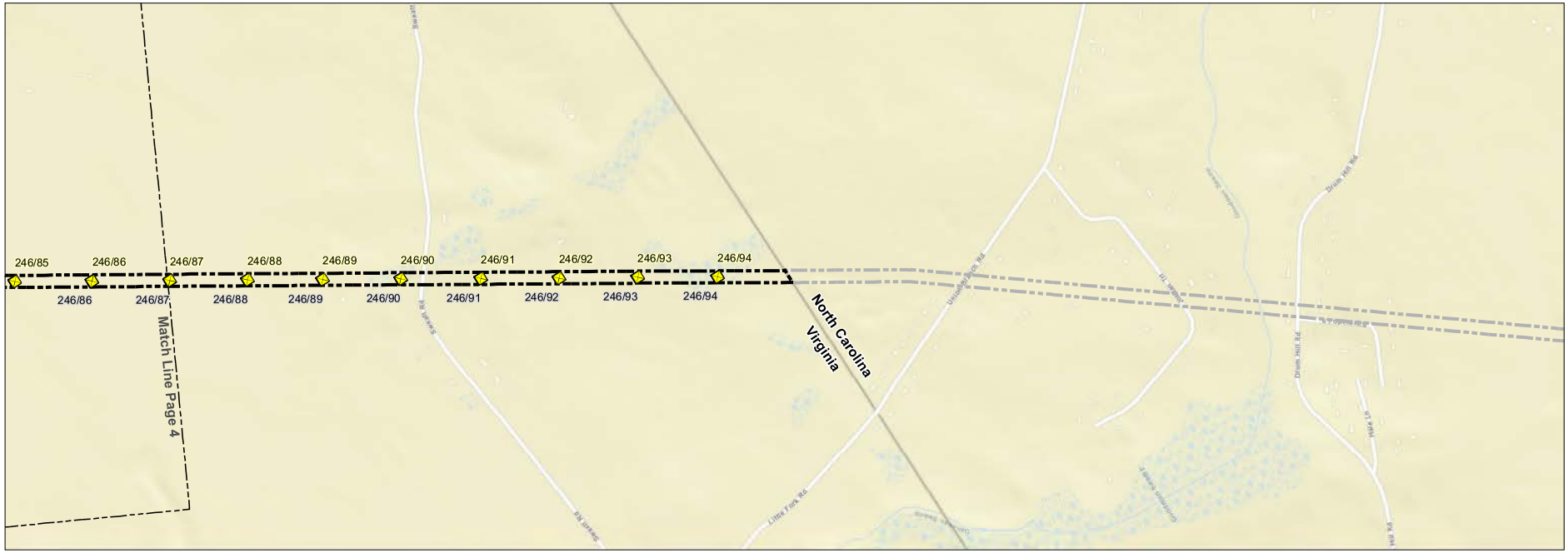


Table II.B.5

Existing Structure Number	246/85	246/86	246/87	246/88	246/89	246/90	246/91	246/92	246/93	246/94
Existing Structure Height (Feet)	70	68.5	68.5	69	69	68.5	68.5	69	69	69

Proposed Structure Number	246/85	246/86	246/87	246/88	246/89	246/90	246/91	246/92	246/93	246/94
Proposed Structure Height (Feet)	79	74.5	74.5	74.5	74.5	65	79	79	74.5	75

*Structure heights do not include foundation reveal. Proposed structure heights and location based on preliminary engineering and are subject to change during final design.

Substation
Proposed Structure
Existing Structure
Project Right-of-Way
North Carolina Right-of-Way

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

Stantec

Project Location
City of Suffolk, Virginia

Prepared by MGS on 2023-10-24
TR by BJW on 2023-10-25
IR by CPG on 2023-10-25

Client/Project
203401915
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project

Figure No.
II.B.5

Title
Existing and Proposed Structures

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, Stantec, DCR
3. Base Map © ESRI

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.a.i-ii for representative photographs of typical existing structures.

(b) Comparable photographs or representations for proposed structures.

See Attachments II.B.6.b.i-ii, for representative photographs of the proposed structures for the Virginia Rebuild 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.

The overall average structure height will increase only minimally, by 5 feet from 70 feet or an approximately 7.2% increase, which does not meet the threshold of a "substantial increase" as outlined by the VDHR in *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (January 2008). Nonetheless, the Company chose to prepare photo simulations from historic properties. Attachment II.B.6.c 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 ("OP"). The table below identifies the historic properties evaluated.

VDHR #	Resource Name	OP	Comments
133-5039	Siege of Suffolk/Hill's Point Battlefield /Suffolk II Battlefield	OP1, OP2, OP3, OP4	OP1: No visibility OP2: Substation fence blocks visibility OP3: Minimal change OP4: No visibility
133-5288	Dominion Power Substation, Hosier Road	OP2	Resource within Substation. Substation fence blocks visibility from OP2

133-5568	Golden Peanut Company/The Suffolk Peanut Company	OP1	No visibility
133-5244[8]	Hall Place Historic District	OP1	Viewshed model suggests no visibility. OP1 serves as proxy for resource. No visibility

[8] DHR #133-5244, Hall Place Historic District, has been determined to be eligible for listing on the National Register of Historic Places. While it is within one mile of the Rebuild Project and included in this section for simulations, it is greater than 0.5 mile from the Rebuild Project and therefore not included in the Stage I Pre-application Analysis included as Attachment 2.I.2 of the DEQ Supplement.


Figure No.
II.B.6.c
Title
Photo Simulations
Client/Project
Dominion Energy Virginia
Suffolk - Structure #246/94 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MGS on 2023-09-11
TR by JMH on 2023-09-27
IR by SLH on 2023-09-27
0
1,500
3,000
Feet
(At original document size of 11x17)
1:18,000
N
Substation
Photo Location/Observation Point
Proposed Structure
Existing Structure
Project Area
0.5-Mile Buffer
1-Mile Buffer
Architectural Resource
Existing Visible, Proposed Not Visible
Both Existing and Proposed Visible
Existing Not Visible, Proposed Visible
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia; U.S. Census Bureau; Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS); VGIN
3. Base map: ESRI World Topo Map Service
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LiDAR
Stantec
Page 1 of 2
Sheet entirely within Architectural Resource 133-5039
Match Line Page 2
Suffolk Substation
OP1
OP2
OP3
133-5288
133-5244
133-5568
246/1
246/2
246/3
246/4
246/6
246/9
246/10
246/11
246/12
246/13
246/14
246/15
246/16
246/18
246/20
246/22
Hoster Rd
Dill Rd
Greenfield Cres
Obici Industrial Blvd
Kilby Ave
Brook Ave
Battery Ave
Maryland Ave
Hall Ave
Smith St
Park Rd
Cedar St
S Saratoga St
S Main St
York St
Gilliden St
County St
Factory St
Lobaur St
Collier Cres
Baltic St
Jericho Ditch Ln
Lake Kennedy Dr
Truman Rd
White Marsh Rd
Benton Rd
58
32
13
337

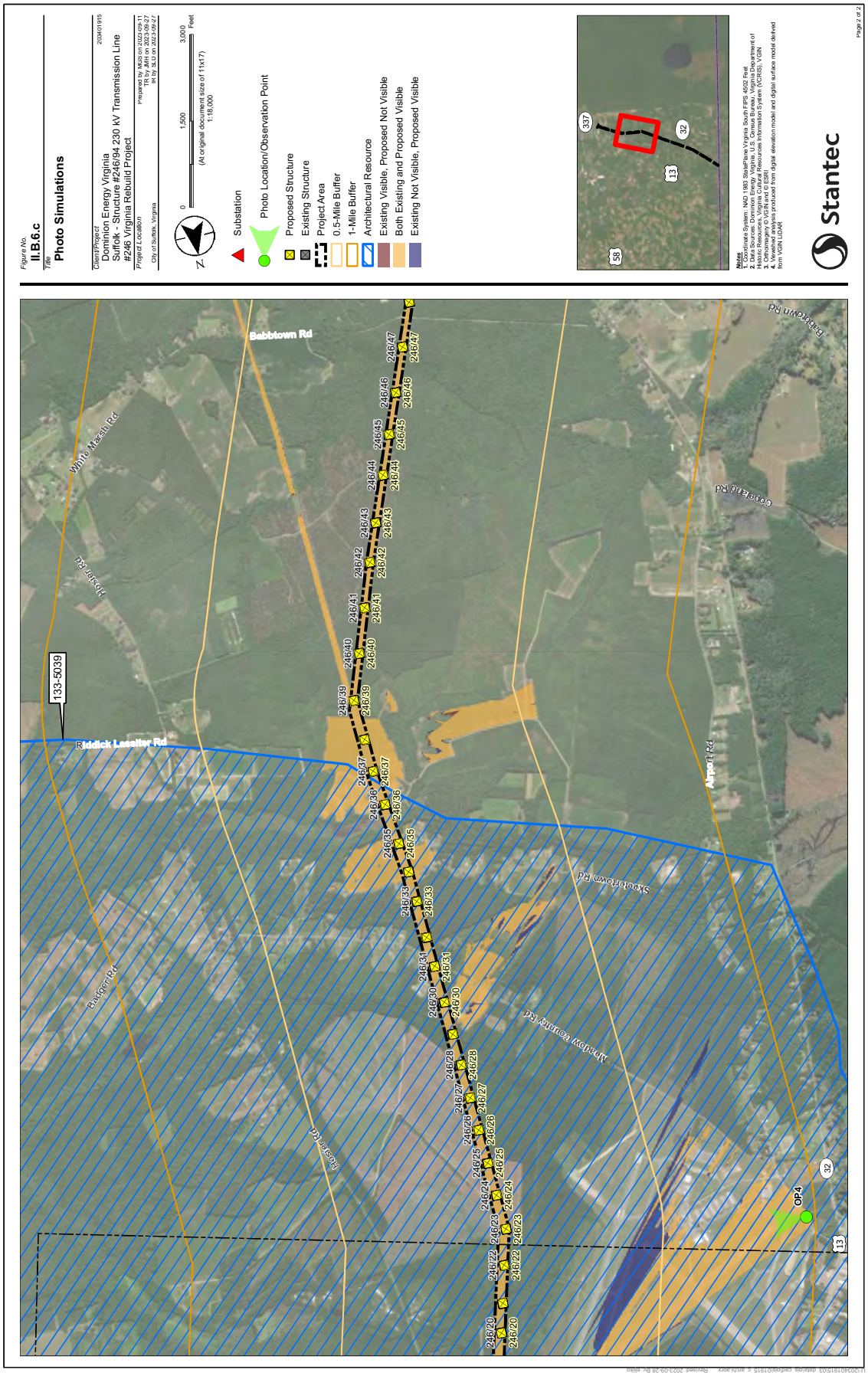


Figure No.
II.B.6.c
Title
Photo Simulations
Client/Project
Dominion Energy Virginia
Suffolk - Structure #246/94 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MGS on 2023-09-11
TR by JMH on 2023-09-27
IR by SLH on 2023-09-27
0
1,500
3,000
Feet
(At original document size of 11x17)
1:18,000
N
Substation
Photo Location/Observation Point
Proposed Structure
Existing Structure
Project Area
0.5-Mile Buffer
1-Mile Buffer
Architectural Resource
Existing Visible, Proposed Not Visible
Both Existing and Proposed Visible
Existing Not Visible, Proposed Visible
Babbtown Rd
White Marsh Rd
Fiddick Laseter Rd
133-5039
Badger Rd
Airport Rd
Sweetgum Rd
Liberty Corner Rd
Cooper Farm Rd
Hosier Rd
OP4
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia; U.S. Census Bureau; Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS); VGIN
3. Base map: 2021 NAIP Imagery, 1m resolution
4. Viewshed analysis produced from digital elevation model and digital surface model derived from VGIN LIDAR
Stantec
Page 2 of 2
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.

OP01 – SOUTHEAST EXISTING

Photograph provided by Stantec

OP 1 Existing
Suffolk II Battlefield (DHR #133-5039) &
The Suffolk Peanut Company (DHR #133-5568)

Stantec Dominion Energy

OP01 – SOUTHEAST
PROPOSED

Photograph provided by Stantec

OP 1 Proposed
Suffolk II Battlefield (DHR #133-5039) &
The Suffolk Peanut Company (DHR #133-5568)

Stantec Dominion Energy

Photograph provided by Stantec

OP 2 Existing
Suffolk II Battlefield (DHR #133-5039) &
Dominion Power Substation Hosier Road (DHR #133-5288)

Stantec Dominion Energy

OP02 – SOUTHWEST

PROPOSED

Simulation provided by Stantec

OP 2 Proposed (Not Visible)
Suffolk II Battlefield (DHR #133-5039) &
Dominion Power Substation Hosier Road (DHR #133-5288)

Stantec Dominion Energy

Photograph provided by Stantec

OP 3 Existing
Suffolk II Battlefield (DHR #133-5039)

Stantec Dominion Energy

Simulation provided by Stantec

OP 3 Proposed
Suffolk II Battlefield (DHR #133-5039)

Stantec Dominion Energy

OP04 – NORTHEAST EXISTING

Photograph provided by Stantec

OP 4 Existing
Suffolk II Battlefield (DHR #133-5039)

Stantec Dominion Energy

OP04 – NORTHEAST

PROPOSED

Simulation provided by Stantec

OP 4 Proposed (No Visibility)
Suffolk II Battlefield (DHR #133-5039)

Stantec | Dominion Energy

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, and none of the impacted substations being expanded. The Virginia Rebuild Project will require the following substation work:

At Suffolk Substation, the Company will upgrade the circuit-breaker and line leads to 4000A and install a new dead-end structure.

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 Virginia Rebuild Project traverses approximately 11.9 miles through the City of Suffolk in an area that is largely characterized by agricultural and forestal land as well as woody wetlands and low-intensity developed land. The Virginia Rebuild Project runs from Structure #246/1C within the Company's existing Suffolk Substation and ends at Structure #246/94 at the Virginia state line. The route, located in the City of Suffolk, crosses primarily rural farmlands and the route is collocated with one existing transmission line.

Farmlands/Forests

Within the existing transmission right-of-way, the majority of land is zoned agricultural district, which provides for high intensity agricultural operations. According to the Natural Resources Conservation Service Data ("NRCS"), approximately 82.08 acres of prime farmland, 109.99 acres of prime farmland if drained, and 10.40 acres of farmland of statewide importance are located within the right-of-way. The right-of-way has been in use since 1969 and portions of the existing right-of-way are currently in agricultural use. 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; as such, no portions of the existing right-of-way are forested. Therefore, it is not expected that the Virginia Rebuild Project will permanently impact farmland or forests. Prime farmlands within the Virginia 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 Virginia Rebuild Project on recreational, agricultural, and forest resources.

See Attachment III.A.1 for a map depicting prime farmland and farmland of statewide importance in the area, and Section 2.L of the DEQ Supplement for the estimated amount of farmland and forestland within the right-of-way that the proposed Virginia Rebuild Project would impact.

Wetlands

The proposed Virginia Rebuild Project is located within the Hampton Roads, Albemarle, and Chowan watersheds, Hydrologic Unit Codes 02080208, 03010205, and 03010203, respectively. According to the U.S. Geological Survey ("USGS") topographic quadrangles for Suffolk, VA, Corapeake, NC-VA, and Whaleville,

VA-NC, the existing transmission line corridor crosses Cypress Swamp and Pine Swamp.

On behalf of the Company, Stantec Consulting Services, Inc. ("Stantec") conducted a desktop level evaluation to identify potential wetlands and other surface waters within the Virginia Rebuild Project. The details of the evaluation are discussed in Section 2.D of the DEQ Supplement. Prior to construction, the Company will delineate wetlands and other waters of the United States using the *Routine Determination Method,* as outlined in the *1987 Corps of Engineers Wetland Delineation Manual* and methods described in the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plan 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. Prior to construction, the Company will obtain any necessary permits to impact jurisdictional waters.

For additional description of the character of the area that will be traversed by the Virginia Rebuild Project and the related impacts, see Section 2.D of the DEQ Supplement.

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. This report was submitted to the VDHR in November 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.

Threatened and Endangered Species

Online database searches for threatened and endangered species in the vicinity of the Virginia Rebuild Project, including the U.S. Fish and Wildlife ("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 in the vicinity of the Virginia Rebuild Project's right-of-way. These results are identified in the report included as 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 the City of Suffolk GIS parcel and zoning data and aerial interpretation, there are approximately seventeen buildings located within 500 feet of the centerline, eight buildings located within 250 feet of the centerline, and one building located within 100 feet of the centerline. This count is based on desktop data and has not been field verified. No dwellings are located within the existing right-of-way.

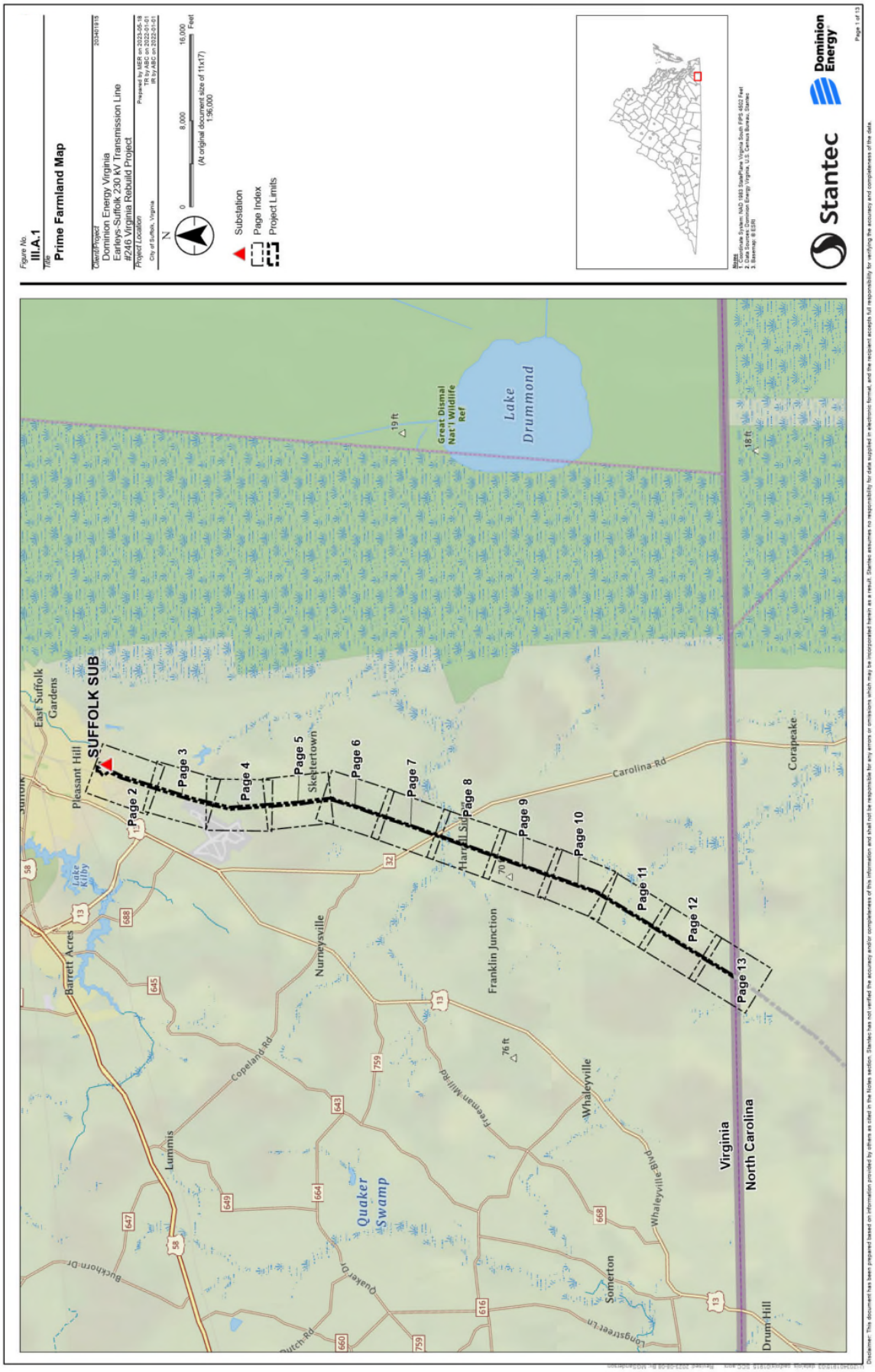


Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Earleys–Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-08-18
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
20340193
N
0
8,000
16,000
Feet
(At original document size of 11x17)
1:96,000
Substation
Page Index
Project Limits
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia; U.S. Census Bureau; Stantec
3. Basemap: © ESRI
Stantec
Dominion Energy
Page 1 of 13
SUFFOLK SUB
Page 2
Page 3
Page 4
Page 5
Page 6
Page 7
Page 8
Page 9
Page 10
Page 11
Page 12
Page 13
Lake Drummond
Great Dismal Nat'l Wildlife Ref
Lake Kilby
East Suffolk Gardens
Pleasant Hill
Barrett Acres
Lumkins
Nurneysville
Skeetertown
Harrell Siding
Franklin Junction
Carolina Rd
Corapeake
Whaleyville
Whaleyville Blvd
Freeman Mill Rd
Copeland Rd
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Somerton
Drum Hill
Virginia
North Carolina
19 ft
18 ft
70
76 ft

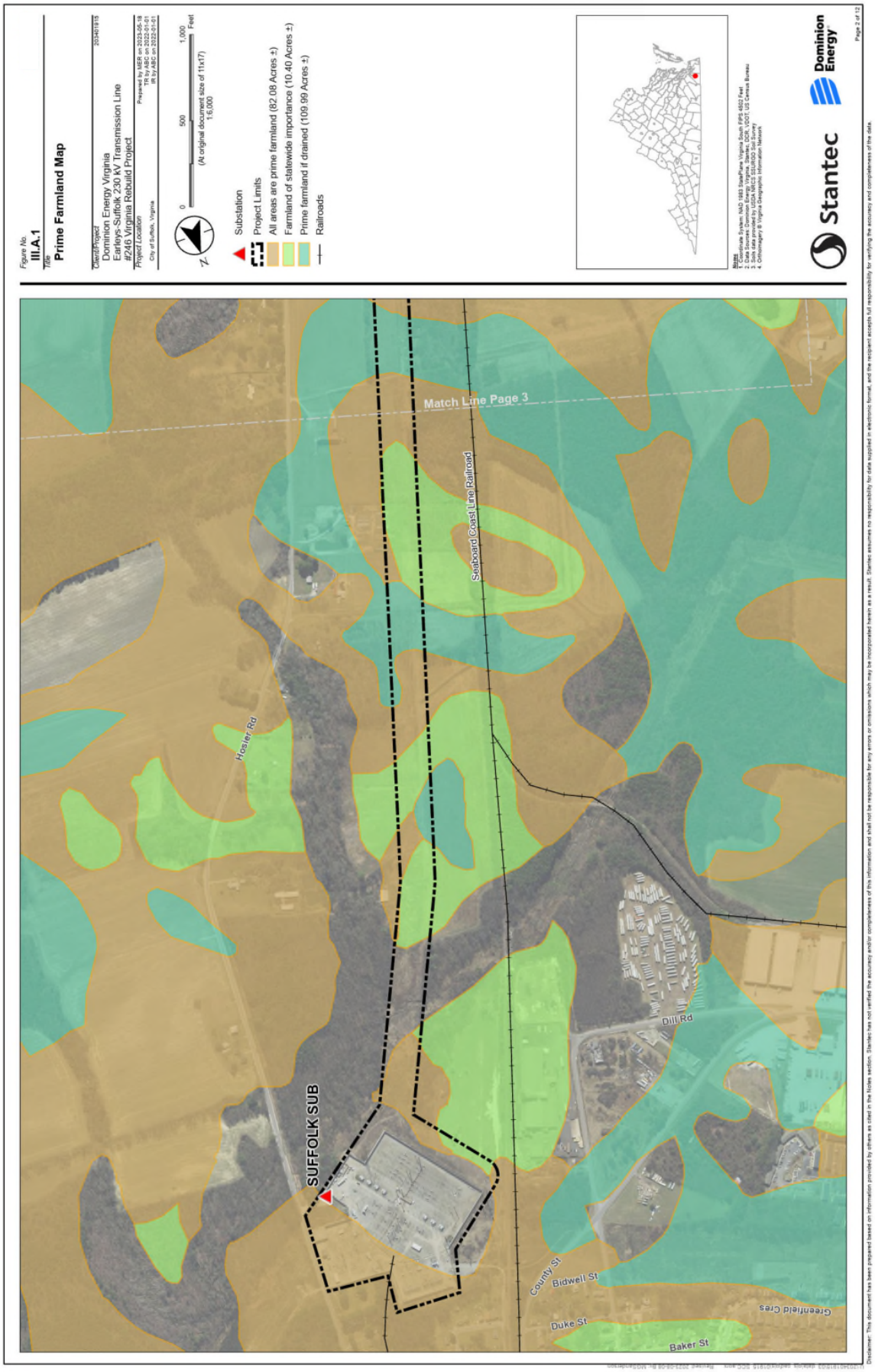
Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-08-18
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
N
Substation
Project Limits
All areas are prime farmland (82.08 Acres ±)
Farmland of statewide importance (10.40 Acres ±)
Prime farmland if drained (109.99 Acres ±)
Railroads
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia; Stantec; DCR; VDOT; US Census Bureau
3. Base map is a USGS Topo and NAT Geo World Map
4. Orthoimagery © Virginia Geographic Information Network
Stantec
Dominion Energy
Page 2 of 12
Match Line Page 3
Seaboard Coast Line Railroad
Hosier Rd
Dill Rd
SUFFOLK SUB
County St
Bidwell St
Duke St
Baker St
Greenfield Cres


Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
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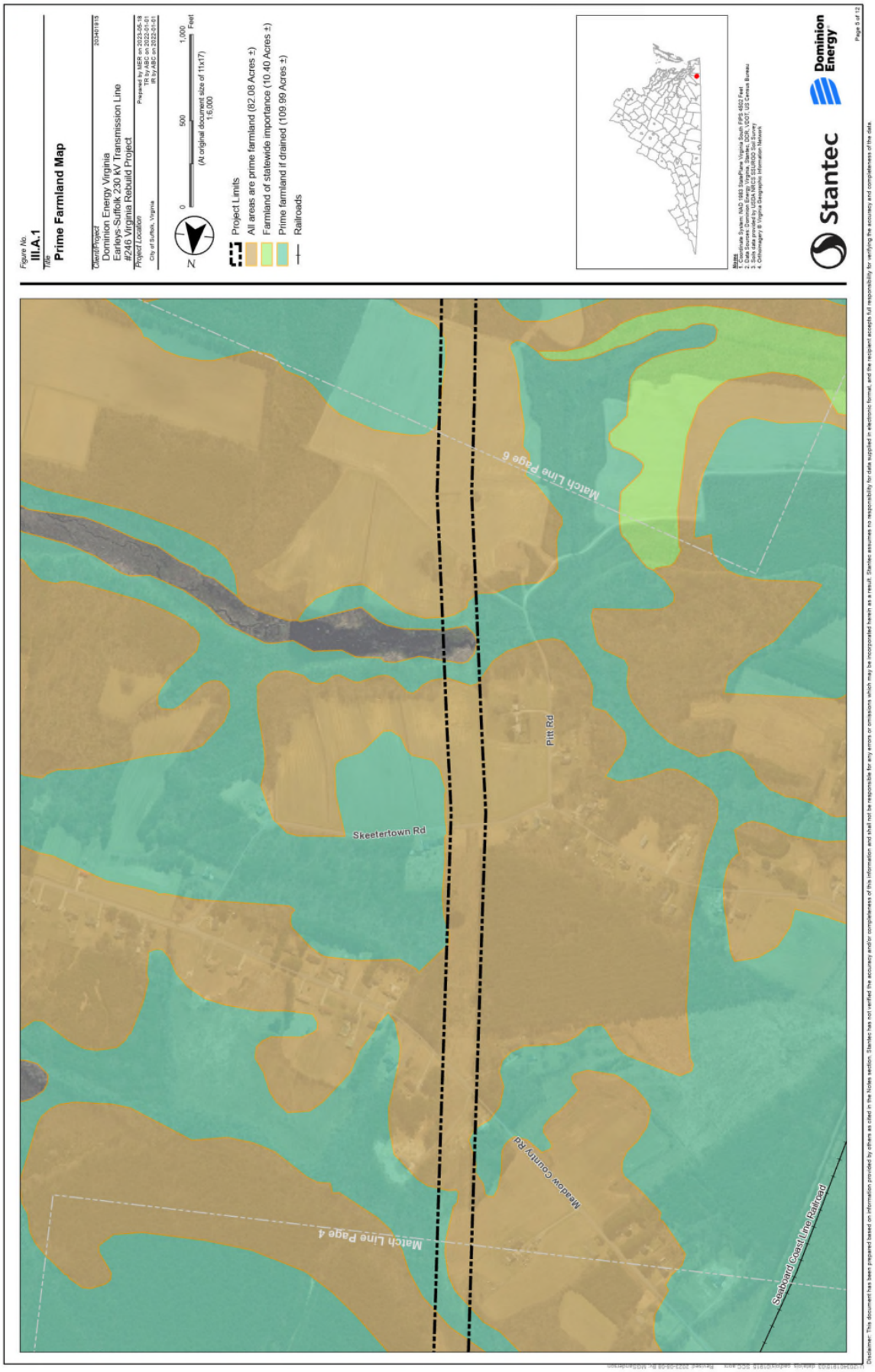
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
N
Project Limits
All areas are prime farmland (82.08 Acres ±)
Farmland of statewide importance (10.40 Acres ±)
Prime farmland if drained (109.99 Acres ±)
Railroads
Match Line Page 4
Match Line Page 2
Hosier Rd
Seaboard Coast Line Railroad
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia; Stantec; DCR; VDOT; US Census Bureau
3. Base map is USGS NAIP 2021 (0.5m) Aerial Imagery
4. Orthoimagery @ Virginia Geographic Information Network
Stantec
Dominion Energy
Page 3 of 12


Figure No.
III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-08-18
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
N
Project Limits
All areas are prime farmland (82.08 Acres ±)
Prime farmland if drained (109.99 Acres ±)
Railroads
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia; Stantec; DCR; VDOT; US Census Bureau
3. Basemap: ESRI World Imagery (Clarity)
4. Orthoimagery © Virginia Geographic Information Network
Stantec
Dominion Energy
Page 4 of 12
Match Line Page 5
Meadow Country Rd
Seaboard Coast Line Railroad
Hosier Rd
Match Line Page 3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III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-08-18
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
N
Project Limits
All areas are prime farmland (82.08 Acres ±)
Farmland of statewide importance (10.40 Acres ±)
Prime farmland if drained (109.99 Acres ±)
Railroads
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia; Stantec; DCR; VDOT; US Census Bureau
3. Base map is USGS National Map 2020 Imagery
4. Orthoimagery @ Virginia Geographic Information Network
Stantec
Dominion Energy
Page 5 of 12
Match Line Page 6
Pitt Rd
Skeetertown Rd
Meadow County Rd
Match Line Page 4
Seaboard Coast Line Railroad

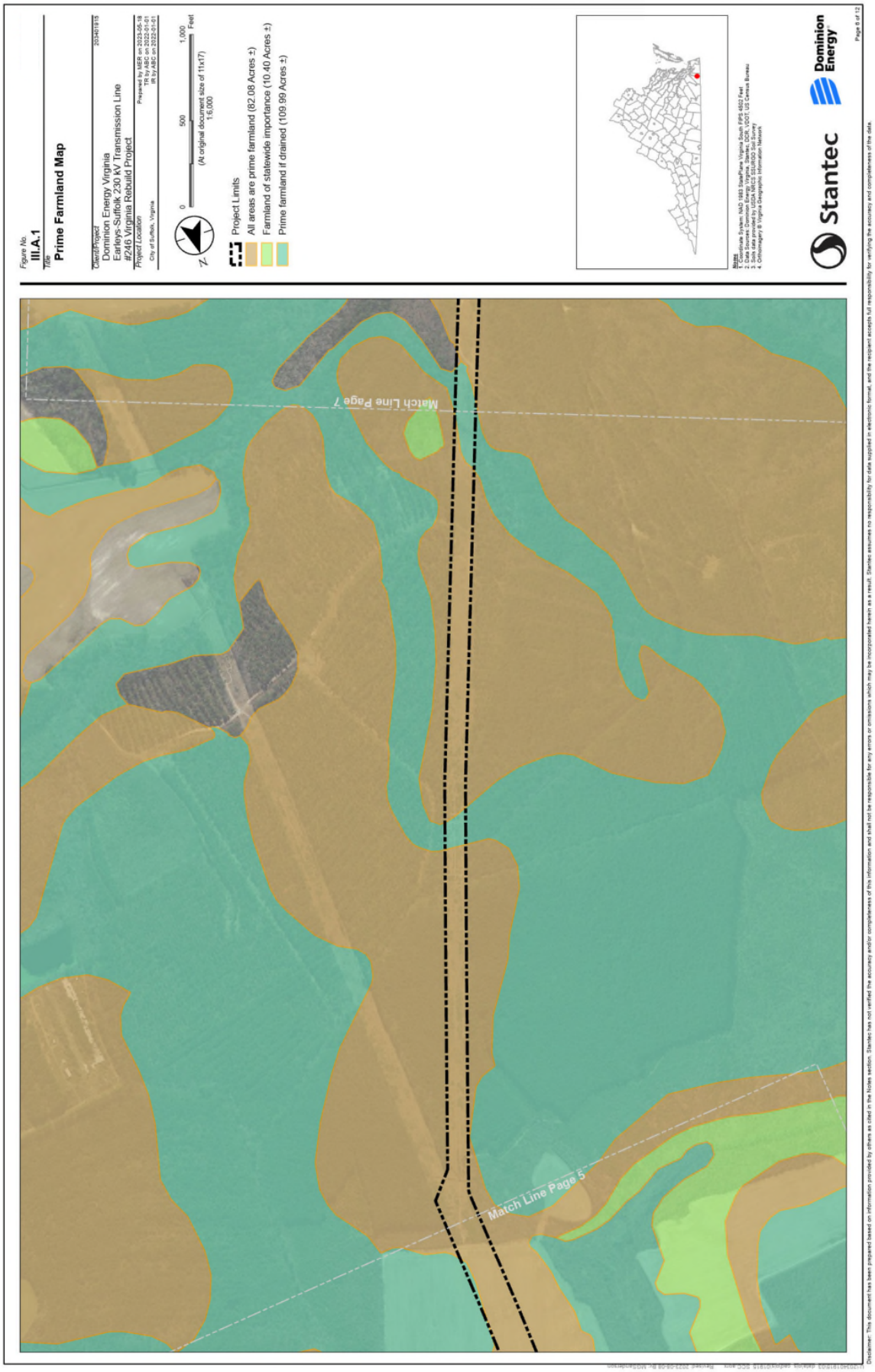
Figure No.
III.A.1
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Prime Farmland Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-08-18
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
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Feet
(At original document size of 11x17)
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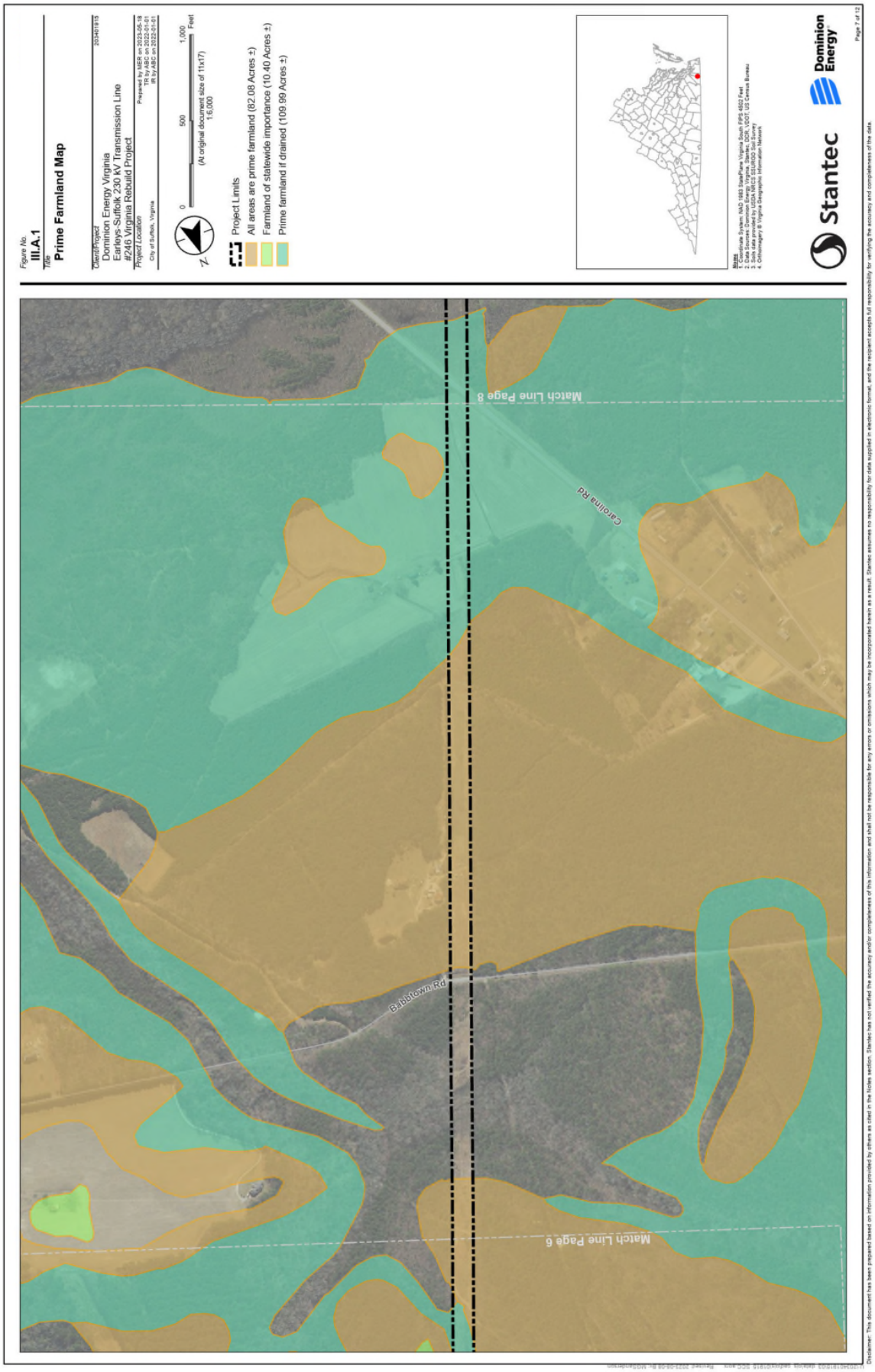
N
Project Limits
All areas are prime farmland (82.08 Acres ±)
Farmland of statewide importance (10.40 Acres ±)
Prime farmland if drained (109.99 Acres ±)
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia; Stantec; DCR; VDOT; US Census Bureau
3. Basemap: USGS National Map (Topo); ESRI World Imagery
4. Orthoimagery © Virginia Geographic Information Network
Stantec
Dominion Energy
Match Line Page 7
Match Line Page 5
Page 6 of 12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III.A.1
Title
Prime Farmland Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
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IR by ABC on 2023-01-01
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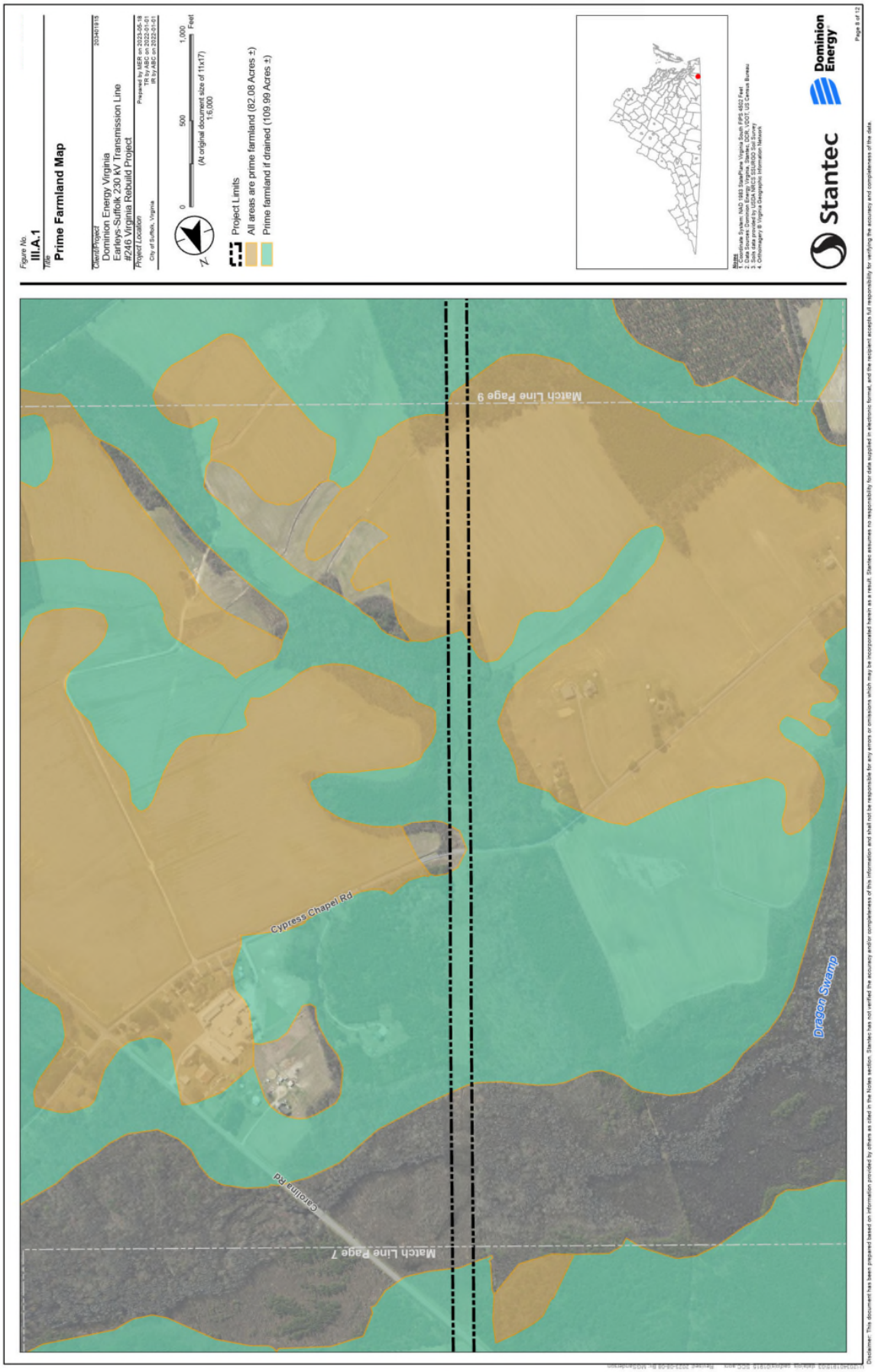
3. Basemap: ESRI World Imagery (Clarity); Source: Esri
4. Orthoimagery @ Virginia Geographic Information Network
Stantec
Dominion Energy
Page 7 of 12
Match Line Page 8
Match Line Page 6
Babstown Rd
Carolina Rd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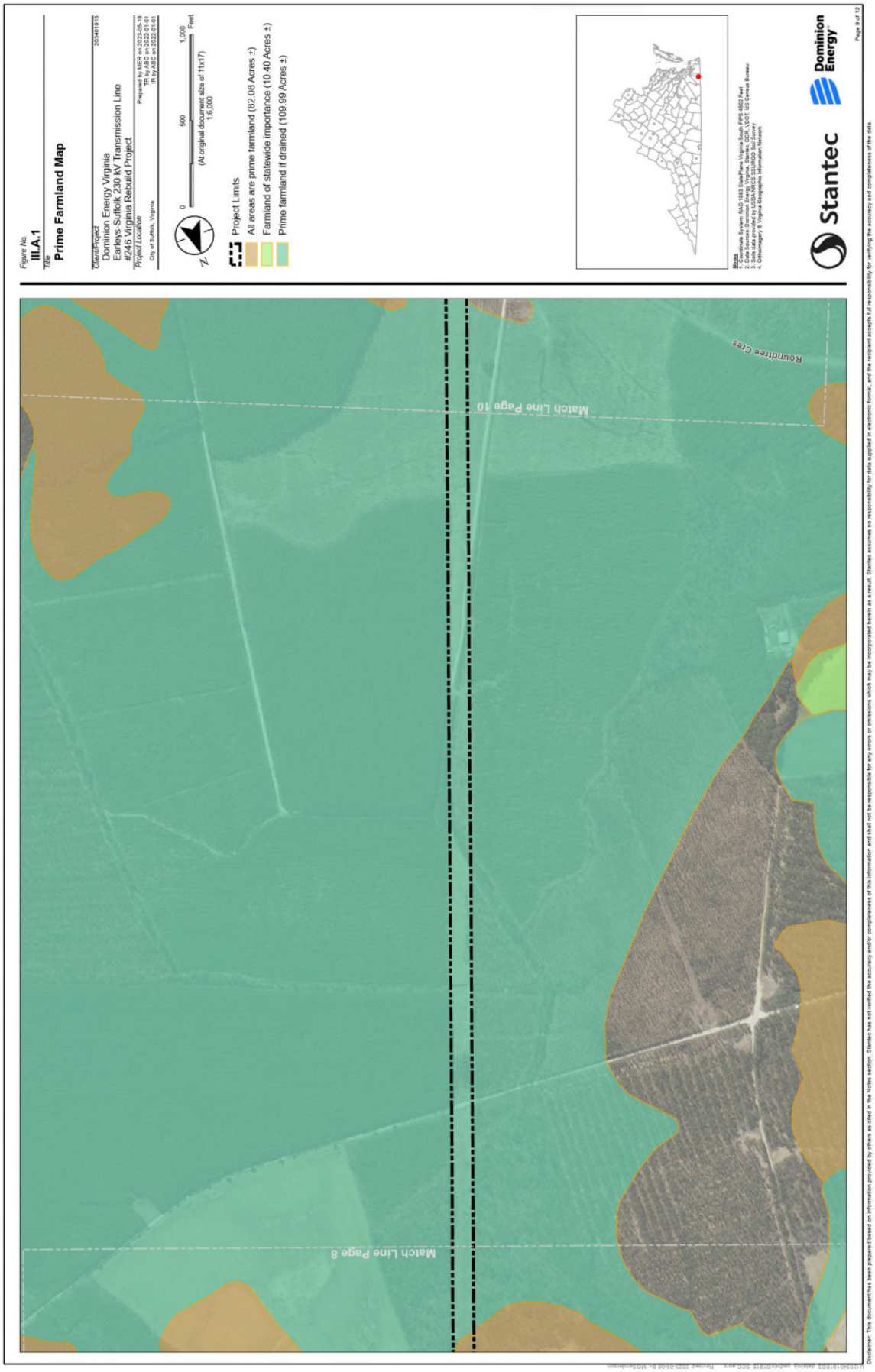
3. Data was collected using Trimble GNSS Receivers
4. Orthoimagery @ Virginia Geographic Information Network
Stantec
Dominion Energy
Match Line Page 9
Match Line Page 7
Cypress Chapel Rd
Carolina Rd
Dragon Swamp
Page 8 of 12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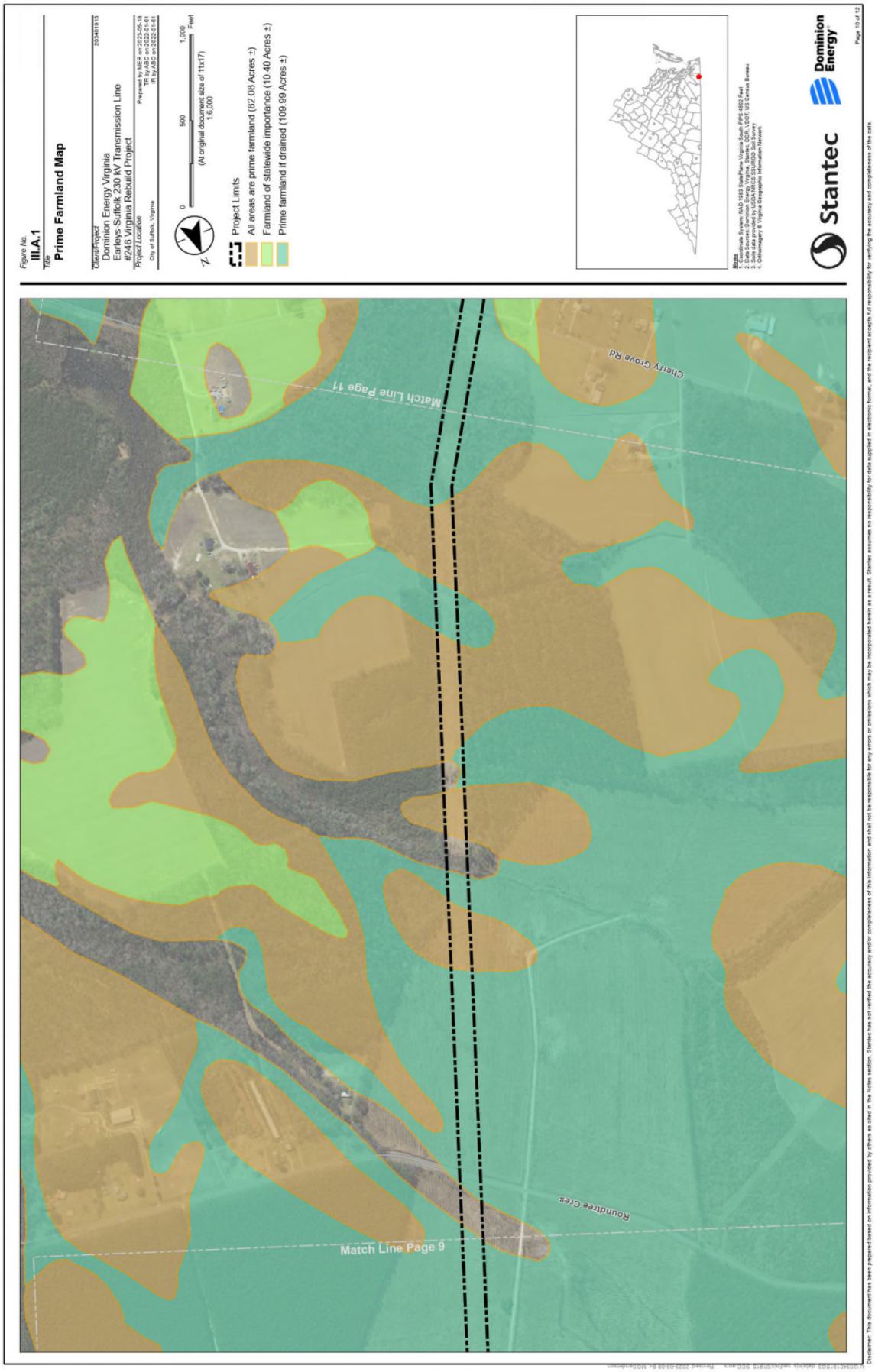
4. Orthoimagery @ Virginia Geographic Information Network
Stantec
Dominion Energy
Match Line Page 8
Match Line Page 10
Roundtree Cres
Page 9 of 12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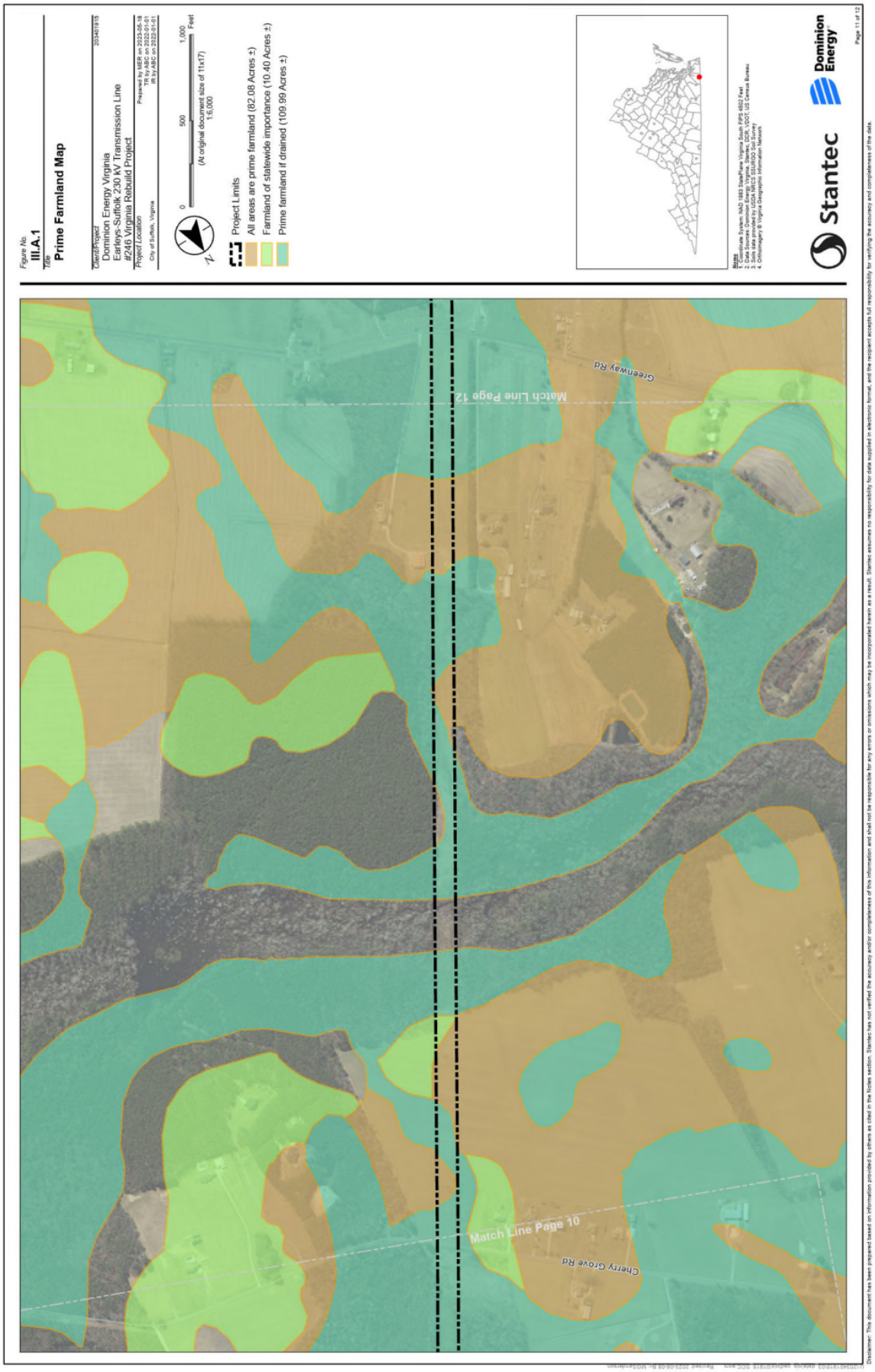
Stantec
Dominion Energy
Match Line Page 11
Cherry Grove Rd
Roundtree Cres
Match Line Page 9
Page 10 of 12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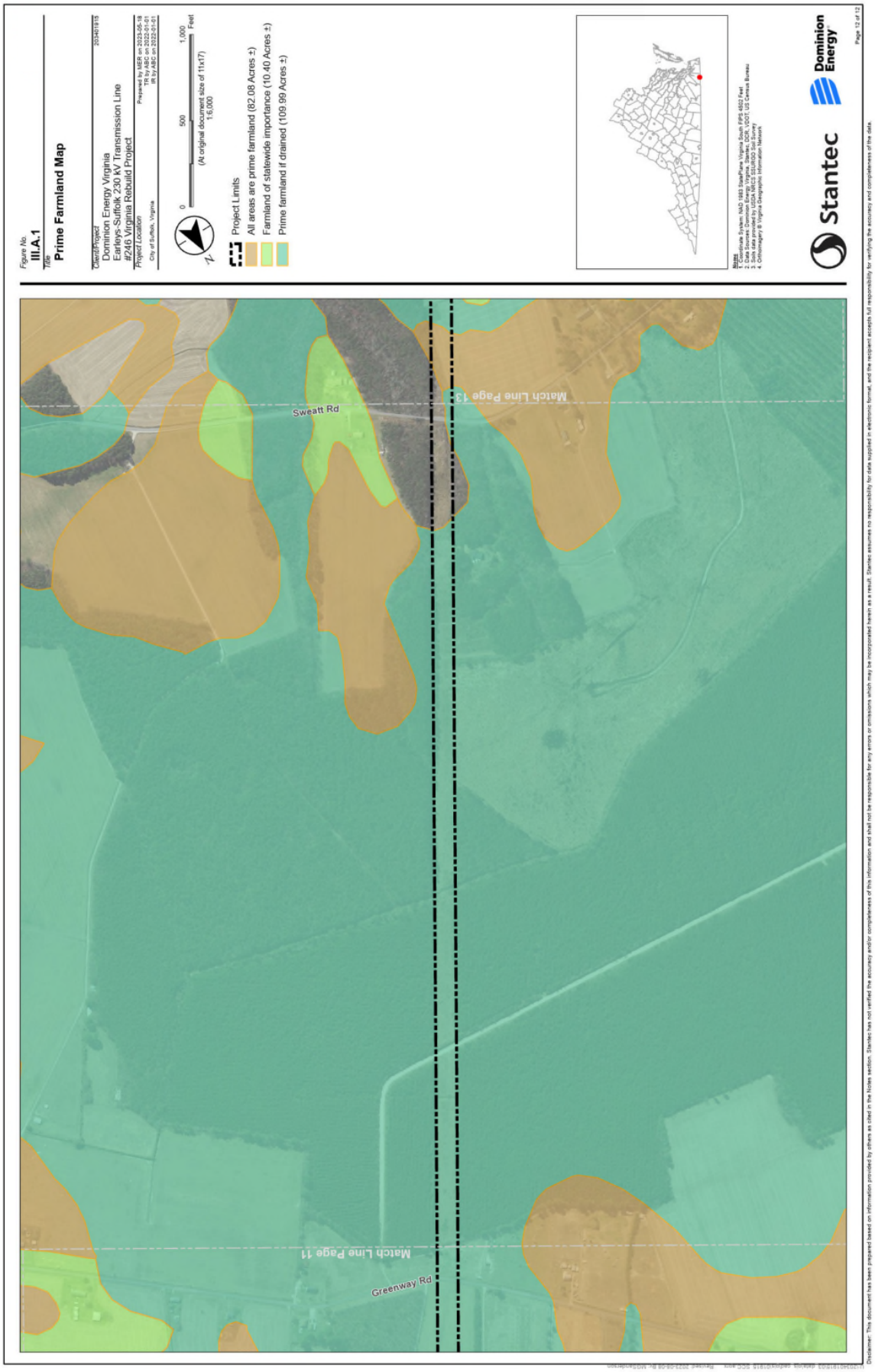
3. Basemap Source: USGS National Map 2020 Ortho Imagery
4. Orthoimagery © Virginia Geographic Information Network
Stantec
Dominion Energy
Page 11 of 12
Match Line Page 12
Match Line Page 10
Greenway Rd
Cherry Grove Rd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Earleys-Suffolk 230 kV Transmission Line
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Project Location
City of Suffolk, Virginia
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2. Data Sources: Dominion Energy Virginia; Stantec; DCR; VDOT; US Census Bureau
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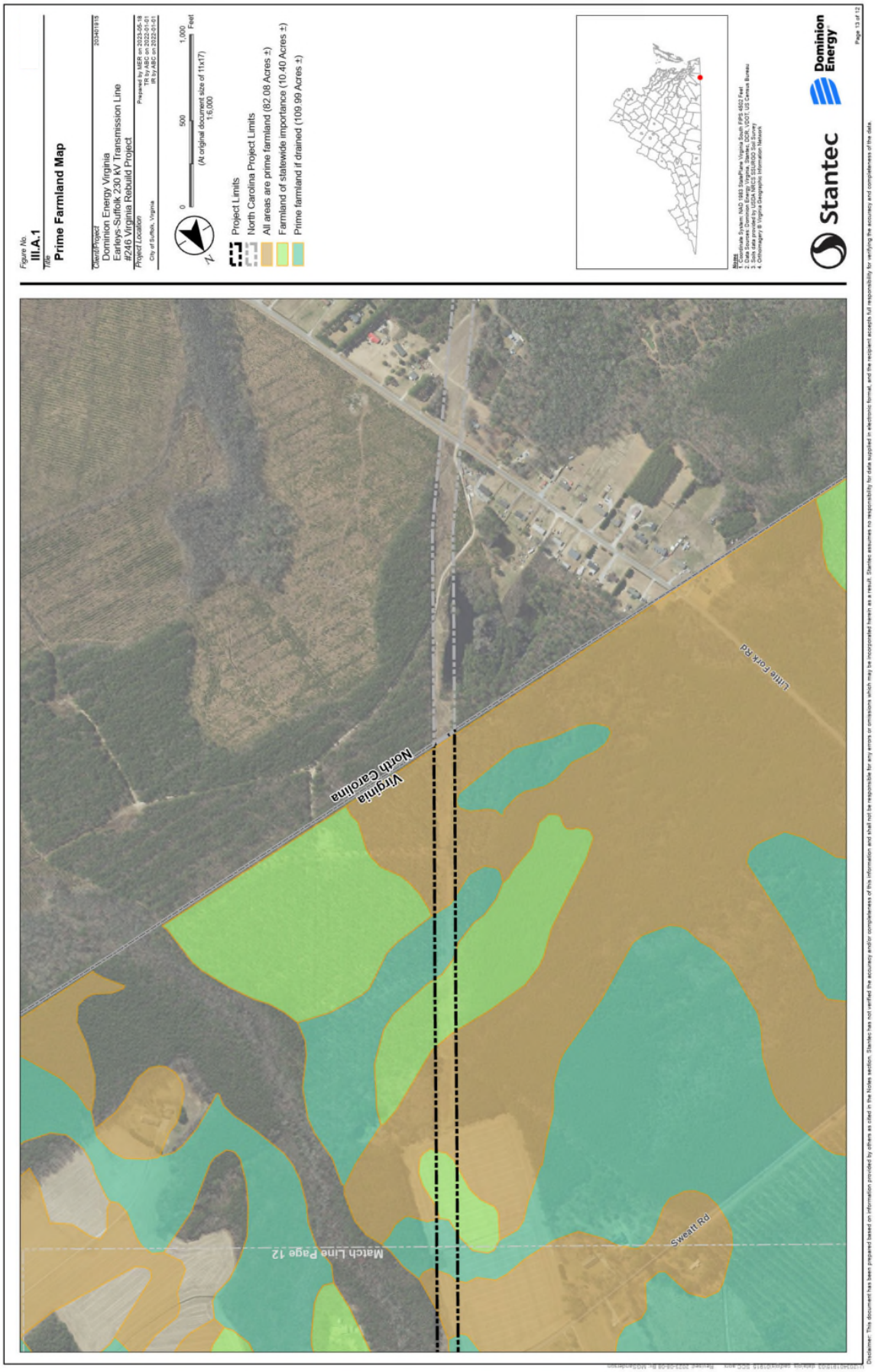
Stantec
Dominion Energy
Sweatt Rd
Greenway Rd
Match Line Page 11
Match Line Page 13
Page 12 of 12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Project Limits
North Carolina Project Limits
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2. Data Sources: Dominion Energy Virginia; Stantec; DCR; VDOT; US Census Bureau
3. Basemap: Virginia Base Mapping Program (VBMP) Imagery
4. Orthoimagery © Virginia Geographic Information Network
Stantec
Dominion Energy
Virginia
North Carolina
Little Fork Rd
Sweatt Rd
Match Line Page 12
Page 13 of 12

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 the City of Suffolk of the proposed Virginia Rebuild Project.

In April 2023, the Company launched an internet website dedicated to the proposed Virginia Rebuild Project: https://www.dominionenergy.com/projects-and-facilities/electric-projects/power-line-projects/earleys-tunis-suffolk. The website includes a description of the proposed Virginia 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.

A screenshot of Backyard App is provided as Attachment III.B.1.

Since May 2023, the Company released two mailers totaling 879 pieces of correspondence informing the public about the Virginia Rebuild Project and inviting the public to learn more about the Virginia Rebuild Project. These mailers were sent to property owners within 1,000 feet of proposed Virginia Rebuild Project, and included a postcard mailed in May 2023 (Attachment III.B.2), and a postcard mailed in August 2023 (Attachment III.B.3), with details identified below.

Mail Date	Mailer Name	Mailing Universe
5/23/23	Earleys-Tunis-Suffolk Rebuild Postcard Project Announcement	441 – Virginia recipients 1000FT from ROW
8/22/23	Earleys-Tunis-Suffolk OH PC Aug 2023	438 – Virginia recipients 1000FT from ROW

Two in-person community meetings were held on September 12 and September 13, 2023. The meetings were held in Suffolk, Virginia, and Ahoskie, North Carolina respectively. Three individuals attended the meeting in Suffolk, and one individual attended the meeting in Ahoskie. In an effort to accommodate property owners' schedules, the mailers included invitations to both scheduled community meetings. At both in-person community meetings, the Company was available to discuss the project need, project timing, and the Commission approval process. Community meeting materials have been posted on the website for the proposed Virginia 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 along with

existing and proposed structure locations. The map boards are included as Attachment III.B.5.

A newspaper print advertisement for the community meetings was placed in the Suffolk Herald News – Sunday-Half Page – FC – 10" x10" running on September 10, 2023. In addition, digital advertisements for the community meetings targeted residents in the 23434, 23438, and 23432 zip codes in the City of Suffolk, which are the zip codes most closely associated with the Virginia Rebuild Project. A copy of the digital and print ads is included as Attachment III.B.6.

An overview of the digital campaign, which ran from August 28 through September 13, 2023, resulted in the following (as of September 22, 2023).

- Pre-Event campaign results:
  - 838,170 Impressions Delivered
  - 5,723 Link Clicks
  - 0.68% Clickthrough Rate
  - 39,569 Video Views, of which 16,901 were completed video views, with a 42.71% Video Completion Rate
  - 33,897 Ad Engagements

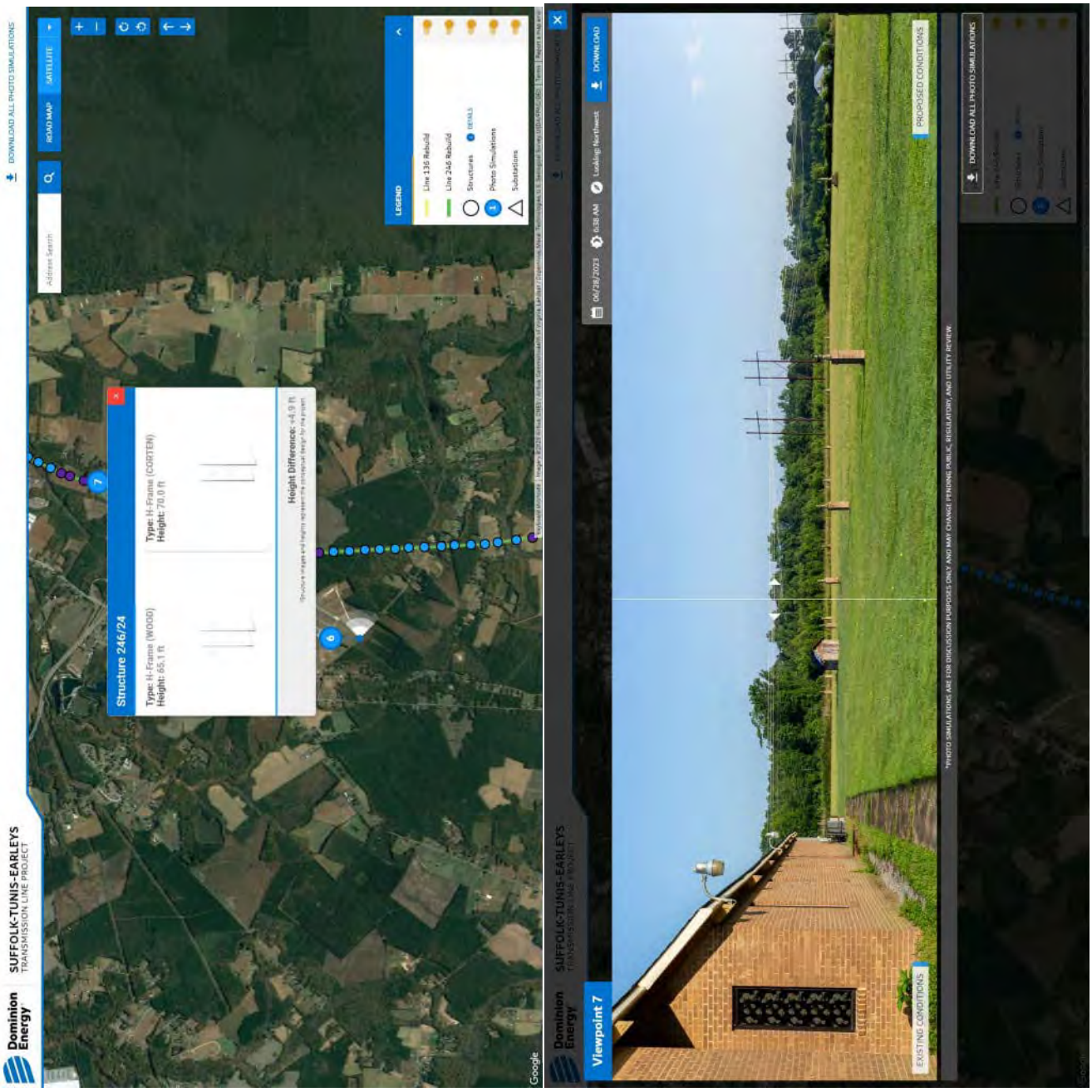
As part of preparing for the Virginia Rebuild Project, the Company researched the demographics of the surrounding communities using the Environmental Protection Agency's EJ mapping and screening tool, EJScreen 2.2 and census data from the U.S. Census Bureau 2017-2021 American Community Survey data. This information revealed that there are 13 Census Block Groups within the Virginia 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 10 Census Block Groups within the one-mile search area. Ten of 13 Census Block Groups within the one-mile search area appear to be low-income as defined by the Virginia Environmental Justice Act. None of the Census Block Groups lack available income data.

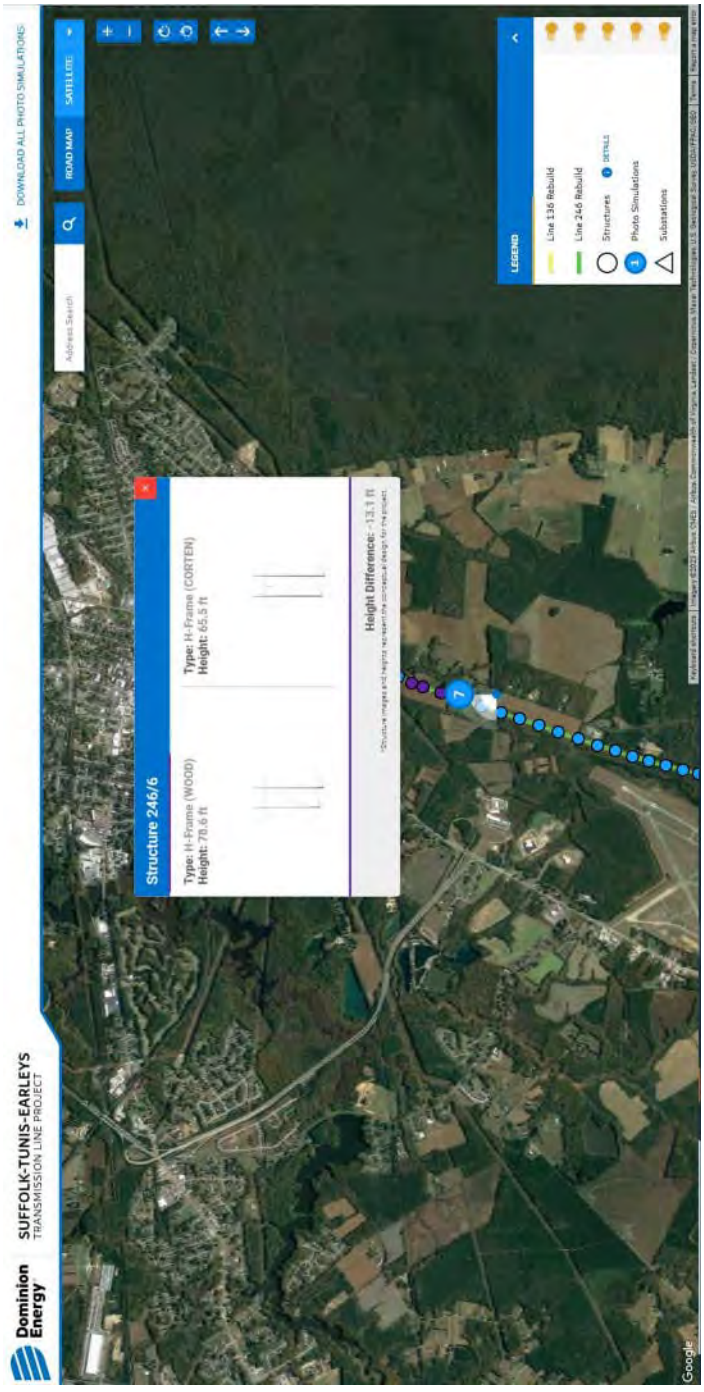
Pursuant to Va. Code §§ 56-46.1 C and 56-259 C, as well as in Attachment 1 of these Guidelines, there is a strong preference for the use of existing utility right-of-way whenever feasible. The Virginia Rebuild Project is within the existing right-of-way or on Company-owned property and will not require 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 5 feet from 70 feet to 75 feet. Height differences will vary per structural location. Based on the analysis of the Virginia Rebuild Project, the Company does not anticipate disproportionately high or adverse impacts to the surrounding

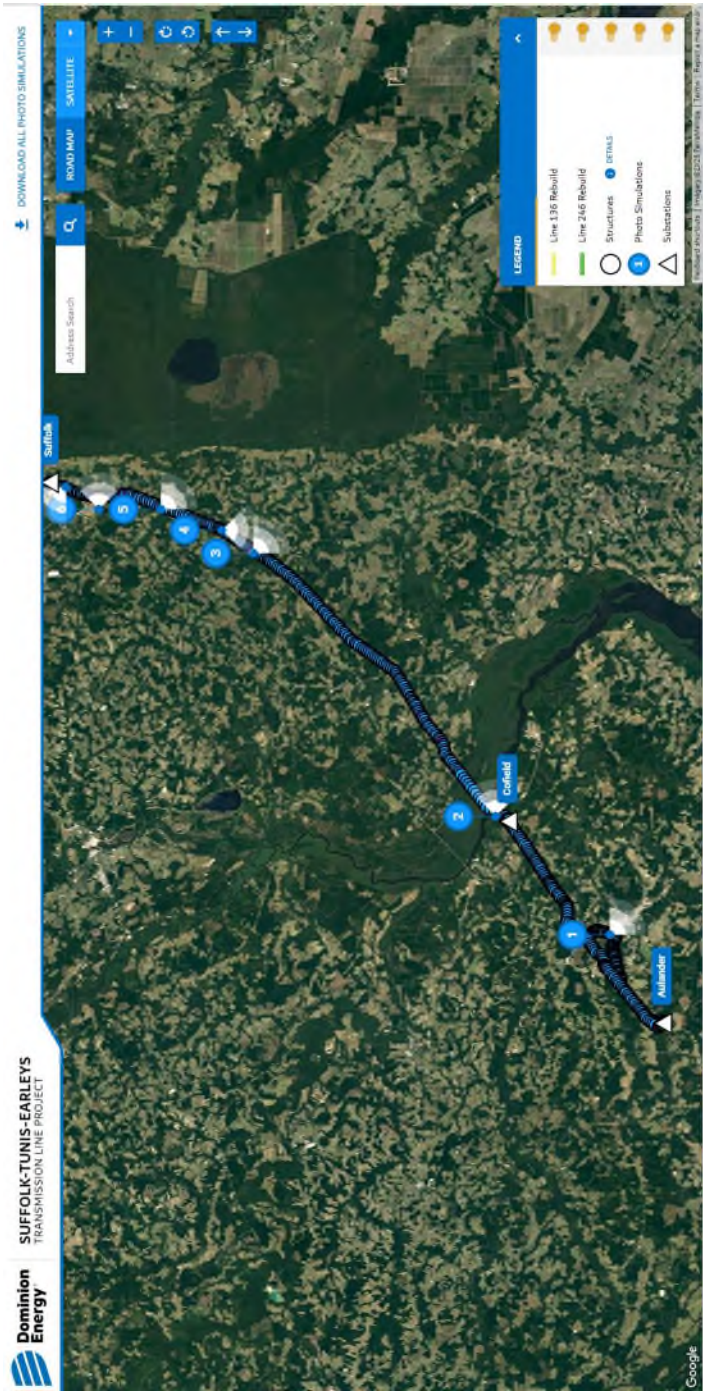
community and the EJ Communities located within the study area, consistent with the Virginia Rebuild Project design to reasonably minimize impacts.

In addition to its evaluation of impacts, the Company has and will continue to engage the EJ Communities and others affected by the Virginia 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.7 for a copy of the Company's Environmental Justice Policy.

Backyard App Screenshots - https://power-viz.com/STE/


Dominion Energy
SUFFOLK-TUNIS-EARLEYS
TRANSMISSION LINE PROJECT
DOWNLOAD ALL PHOTO SIMULATIONS
Address Search
ROAD MAP
SATELLITE
Structure 246/24
Type: H-Frame (WOOD)
Height: 65.1 ft
Type: H-Frame (CORTEN)
Height: 70.0 ft
Height Difference: +4.9 ft
LEGEND
Line 136 Rebuild
Line 246 Rebuild
Structures
Photo Simulations
Substations
Google
Viewpoint 7
06/28/2023
8:38 AM
Looking Northwest
DOWNLOAD
EXISTING CONDITIONS
PROPOSED CONDITIONS
*PHOTO SIMULATIONS ARE FOR DISCUSSION PURPOSES ONLY AND MAY CHANGE PENDING PUBLIC, REGULATORY, AND UTILITY REVIEW
DOWNLOAD ALL PHOTO SIMULATIONS


Dominion Energy
SUFFOLK-TUNIS-EARLEYS
TRANSMISSION LINE PROJECT
DOWNLOAD ALL PHOTO SIMULATIONS
Address Search
ROAD MAP
SATELLITE
Structure 246/6
Type: H-Frame (WOOD)
Height: 78.6 ft
Type: H-Frame (CORTEN)
Height: 65.5 ft
Height Difference: -13.1 ft
LEGEND
Line 136 Rebuild
Line 246 Rebuild
Structures
DETAILS
Photo Simulations
Substations
Google


Dominion Energy
SUFFOLK-TUNIS-EARLEYS
TRANSMISSION LINE PROJECT
DOWNLOAD ALL PHOTO SIMULATIONS
Address Search
ROAD MAP
SATELLITE
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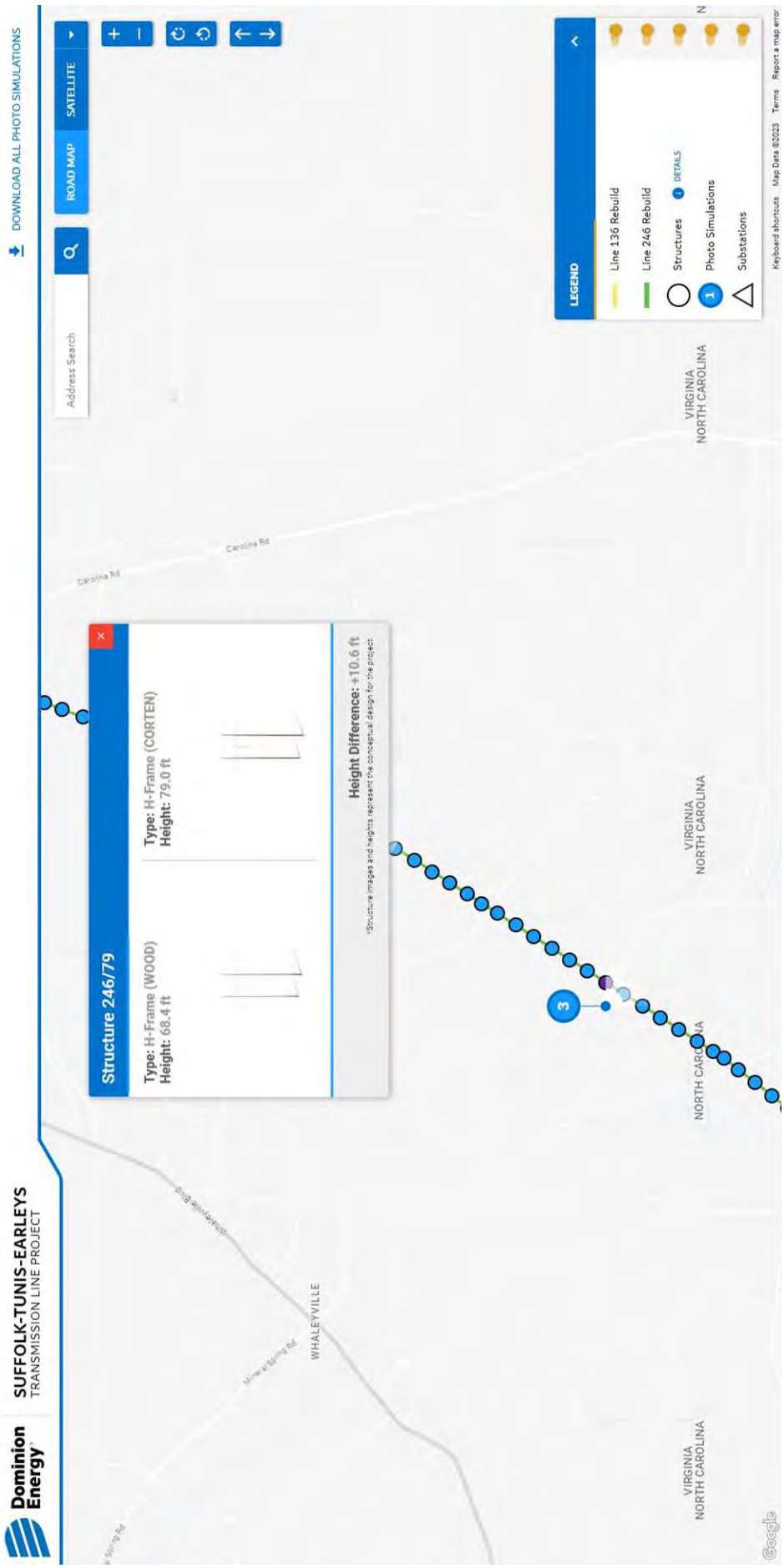
Suffolk
Cofield
Aulander
Google


Dominion Energy
SUFFOLK-TUNIS-EARLEYS
TRANSMISSION LINE PROJECT
DOWNLOAD ALL PHOTO SIMULATIONS
ROAD MAP
SATELLITE
Address Search
LEGEND
Line 136 Rebuild
Line 246 Rebuild
Structures
DETAILS
Photo Simulations
Substations
Structure 246/79
Type: H-Frame (WOOD)
Height: 68.4 ft
Type: H-Frame (CORTEN)
Height: 79.0 ft
Height Difference: +10.6 ft
*Structure images and heights represent the conceptual design for the project
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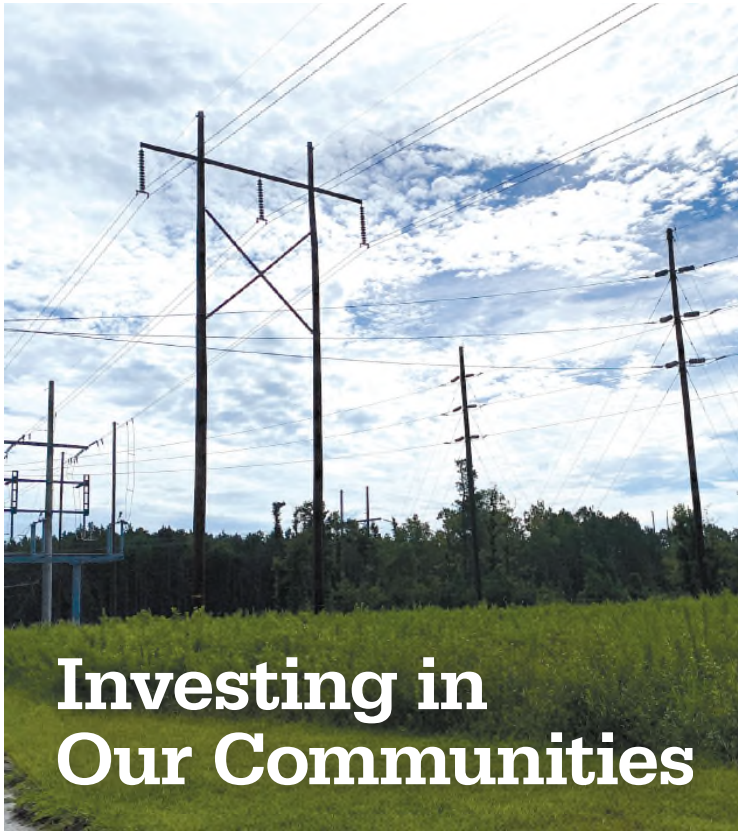
WHALEYVILLE
VIRGINIA
NORTH CAROLINA
Keyboard shortcuts
Map Data ©2023
Terms
Report a map error
Google



Dominion Energy image. Not project specific.

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

Dominion Energy®

Actions Speak Louder

Local Power Line Project Information Enclosed

HAYES, AUGUSTUS, HEIRS;
C/O DONNA B ROWLETT
OR CURRENT RESIDENT
401 ARCHDALE DR APT 1302
DURHAM, NC 27707-3998

IMPORTANT

Local Power Line Project Information

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

Earleys-Tunis-Suffolk 230 kV and 115 kV Electric Transmission Line Rebuild Project

AT DOMINION ENERGY, we are dedicated to maintaining safe and reliable electric service in the communities we serve. You are receiving this postcard because we are proposing to rebuild two aging electric transmission lines in Hertford and Gates counties in North Carolina. One line extends into the City of Suffolk, Virginia. After more than five decades of dependable service, the existing structures and components on both lines are at the end of their service life. Replacing this equipment will maintain reliability for our customers.

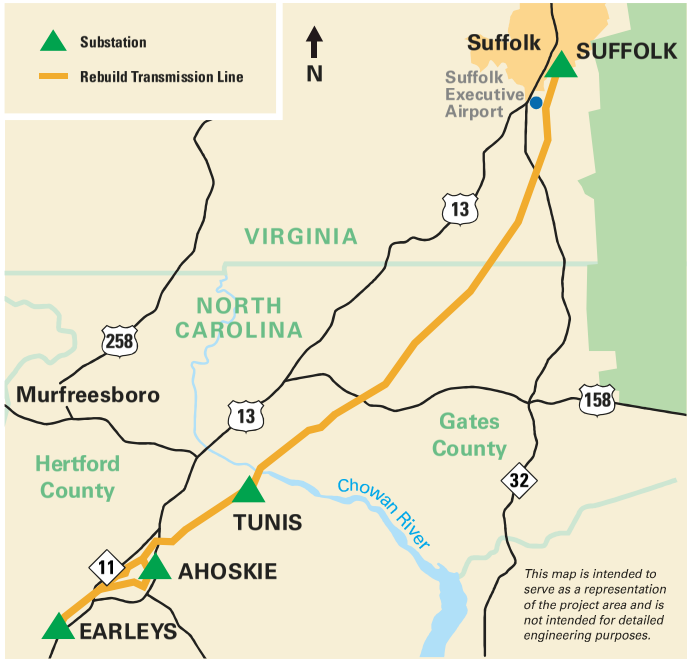
AT DOMINION ENERGY, protecting the grid and making it secure against natural and man-made acts is a top priority. We work alongside government officials to prepare for potential incidents that could affect our ability to provide electricity safely and reliably to the communities we serve. Learn how we're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

The 44.3-mile, 230 kilovolt (kV) electric transmission line between our Suffolk and Earleys substations was built on wooden H-frame and weathering steel lattice structures. We are proposing to rebuild this line using brown, weathering steel H-frame structures and galvanized steel lattice structures. The 14.8-mile, 115 kV electric transmission line between our Tunis and Earleys substations was built on wooden monopole structures. We are proposing to rebuild this line using weathering steel monopole structures. No new or expanded right of way is needed.

We plan to survey the electric transmission corridor in early summer. Our crews will access the right of way on foot or in vehicles. Surveys may include collecting small soil and/or vegetation samples. Any holes will be refilled after surveying is complete.

This project does not require review by the North Carolina Utilities Commission (NCUC). However, the Virginia State Corporation Commission (SCC) requires review of the 14.7 miles of transmission line located in Suffolk, Virginia. We will host a community meeting to share more information about this project in late summer.

After receiving all necessary approvals and permits, we plan to rebuild both transmission lines between 2026 and 2028.



CONTACT US — Visit our website at DominionEnergy.com/Earleys for project updates. Or contact us by sending an email to powerline@dominionenergy.com or calling 888-291-0190.

Dominion Energy image. Not project specific.

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

Dominion Energy®

Actions Speak Louder

You're Invited to a Community Open House Meeting

HAYES, AUGUSTUS, HEIRS;
C/O DONNA B ROWLETT
OR CURRENT RESIDENT
401 ARCHDALE DR APT 1302
DURHAM, NC 27707-3998

IMPORTANT

Local Power Line Project Information

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

Earleys-Tunis-Suffolk 230 kV and 115 kV Electric Transmission Line Rebuild Project

AT DOMINION ENERGY, we are committed to providing information about projects planned in the communities we serve.

We are proposing to rebuild two aging electric transmission lines in Hertford and Gates counties in North Carolina. One line extends 11.9 miles into the City of Suffolk, Virginia. Replacing this equipment will maintain electric reliability for our customers. No new right of way is needed.

In October, we plan to file an application with the Virginia State Corporation Commission (SCC). This project does not require review by the North Carolina Utilities Commission (NCUC).

To learn important information about the project's timelines and benefits, you are invited to attend one of our open house meetings. Here you can ask questions and interact with our project team.

We will continue to update you on this important reliability project.

CONTACT US

Visit our website at DominionEnergy.com/Earleys for project updates. Or contact us by sending an email to powerline@dominionenergy.com or calling 888-291-0190.

COMMUNITY MEETINGS

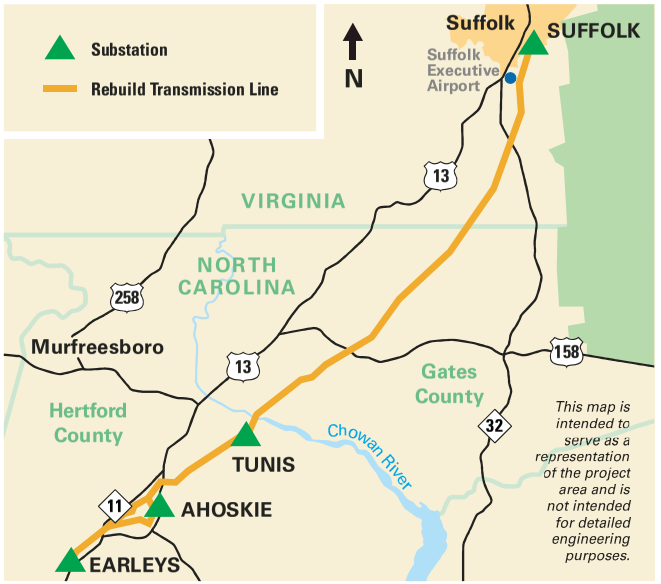
Tuesday
September 12, 2023
5:00 p.m. – 7:00 p.m.

Rennee Celebration Center
178 E Washington Street
Suffolk, VA 23434

Wednesday
September 13, 2023
5:00 p.m. – 7:00 p.m.

Cooper's Lounge
& Events LLC
1200 Memorial Drive E, Ste. B
Ahoskie, NC 27910

There is no formal presentation; stop by anytime during the open house.



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.

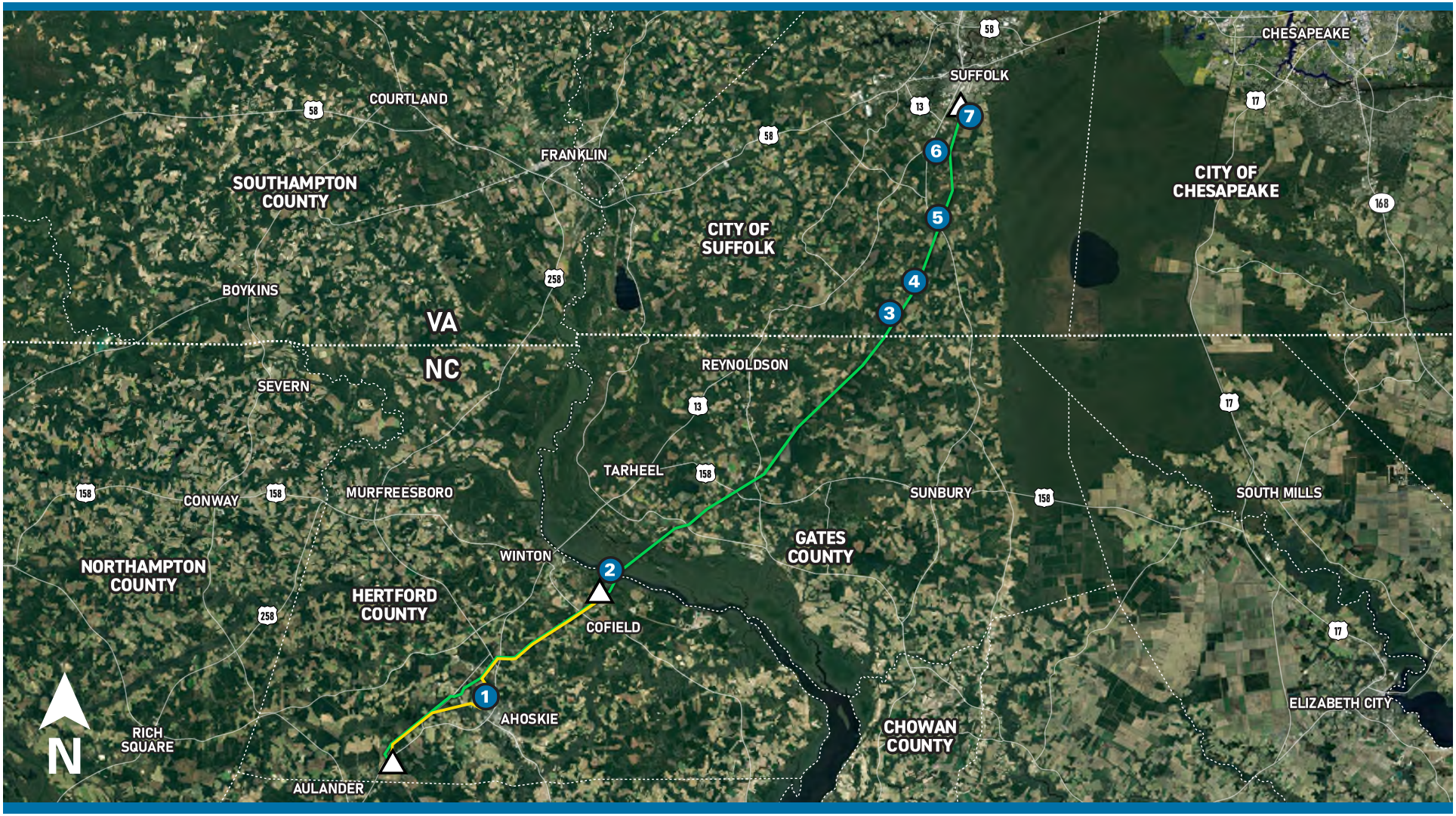
SUFFOLK-TUNIS-EARLEYS

Transmission Line Rebuild Project

Photo Location Map

1 Viewpoint Location — Transmission Line 246 to be Rebuilt — Transmission Line 136 to be Rebuilt — Substation

Dominion Energy



SUFFOLK-TUNIS-EARLEYS

Transmission Line Rebuild Project

Viewpoint 1

Date: 06/28/2023 **Time:** 11:14 am **Viewing Direction:** Southeast

1 Viewpoint Location — Transmission Line 246 to be Rebuilt

Transmission Line 136 to be Rebuilt

Dominion Energy®

EXISTING CONDITIONS

PROPOSED CONDITIONS

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

SUFFOLK-TUNIS-EARLEYS

Transmission Line Rebuild Project

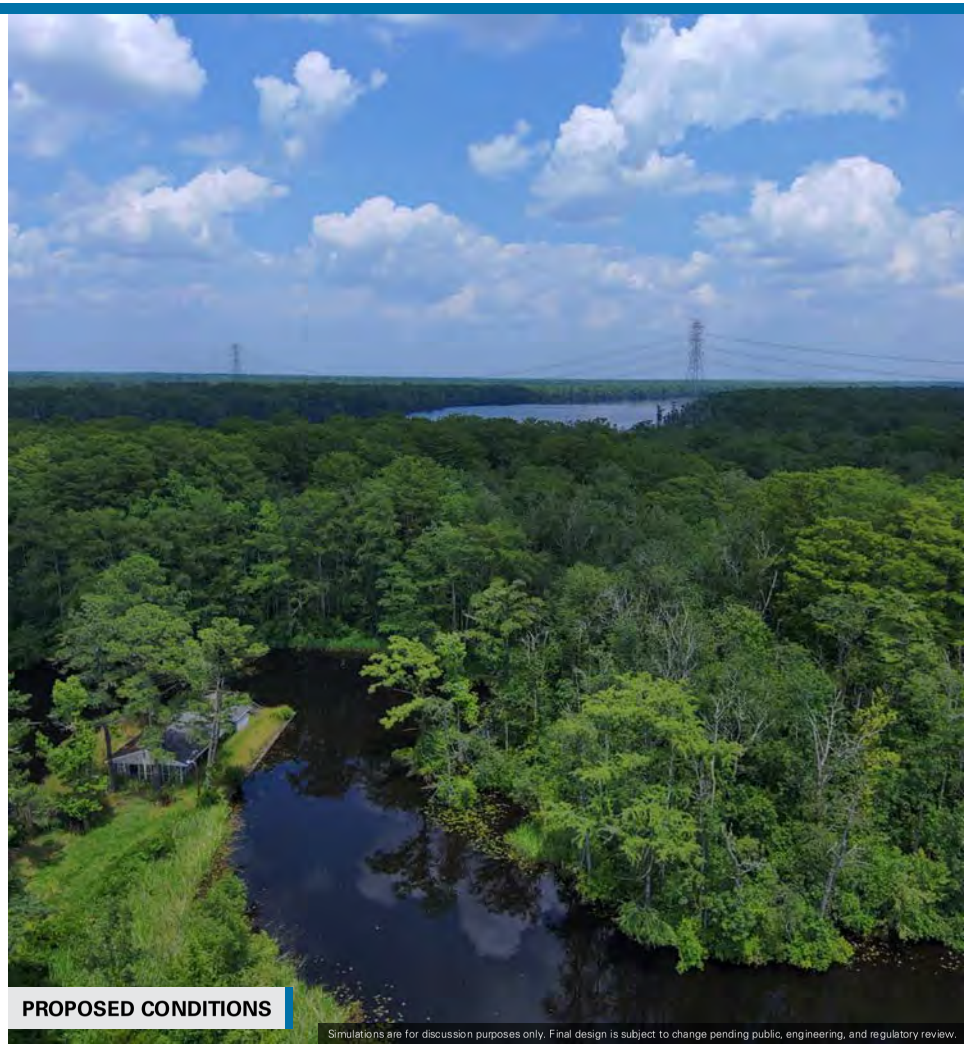
Viewpoint 2

Date: 06/28/2023 **Time:** 6:28 pm **Viewing Direction:** East

Viewpoint Location — Transmission Line 246 to be Rebuilt

Dominion Energy®

EXISTING CONDITIONS



PROPOSED CONDITIONS

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

SUFFOLK-TUNIS-EARLEYS

Transmission Line Rebuild Project

Viewpoint 3

Date: 06/28/2023 **Time:** 3:43 pm **Viewing Direction:** Southeast

3 Viewpoint Location — Transmission Line 246 to be Rebuilt

Dominion Energy®

EXISTING CONDITIONS

PROPOSED CONDITIONS

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

SUFFOLK-TUNIS-EARLEYS

Transmission Line Rebuild Project

Viewpoint 4

Date: 06/28/2023 **Time:** 4:11 pm **Viewing Direction:** South

Viewpoint Location — Transmission Line 246 to be Rebuilt

Dominion Energy®

EXISTING CONDITIONS

PROPOSED CONDITIONS

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

SUFFOLK-TUNIS-EARLEYS

Transmission Line Rebuild Project

Viewpoint 5

Date: 06/28/2023 **Time:** 4:39 pm **Viewing Direction:** Southeast

5 Viewpoint Location — Transmission Line 246 to be Rebuilt

Dominion Energy®

EXISTING CONDITIONS

PROPOSED CONDITIONS

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

SUFFOLK-TUNIS-EARLEYS

Transmission Line Rebuild Project

Viewpoint 6

Date: 06/28/2023 **Time:** 5:06 pm **Viewing Direction:** East

6 Viewpoint Location — Transmission Line 246 to be Rebuilt

Dominion Energy®

EXISTING CONDITIONS

PROPOSED CONDITIONS OVERLAY

Objects displayed in yellow are partially or fully obscured from view due to distance, vegetation screening, or existing infrastructure.

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

SUFFOLK-TUNIS-EARLEYS

Transmission Line Rebuild Project

Viewpoint 7

Date: 06/28/2023 **Time:** 6:38 am **Viewing Direction:** Northwest

Viewpoint Location — Transmission Line 246 to be Rebuilt

Dominion Energy®

EXISTING CONDITIONS

PROPOSED CONDITIONS

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

Project Timeline

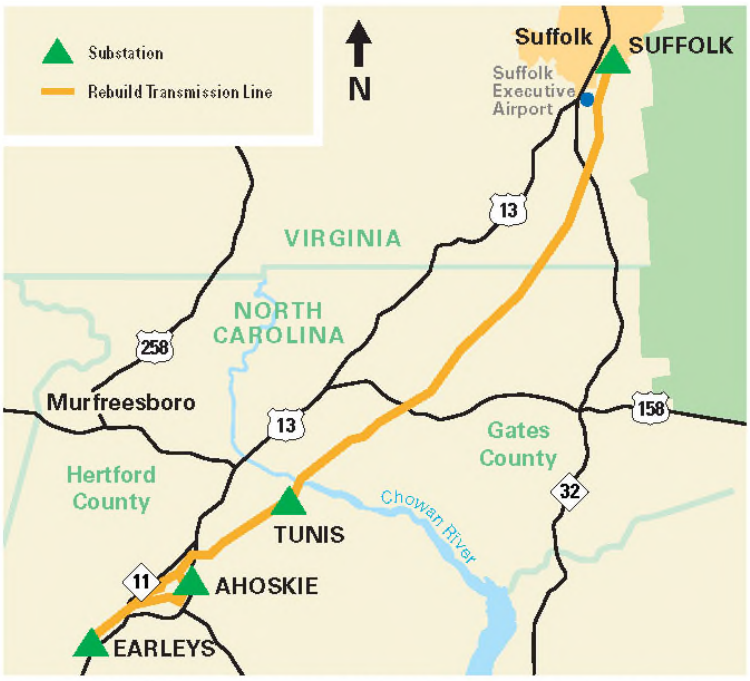
Dominion Energy

- **Spring 2023** – Project announced
- **September 2023** – Public Open Houses
- **October 2023** – File project with the Virginia State Corporation Commission (SCC) for a Certificate of Public Convenience and Necessity (CPCN)
- **Fall 2024** – Anticipated SCC approval to proceed
- **Early 2025** – Right of way encroachment review
- **January 2026** – Begin forestry activities
- **March 2026** – Prepare construction access
- **Spring 2026 – summer 2028** – Construction activities
  - **Phase 1 (Spring 2026–Fall 2027)** – 230 kV rebuild between Suffolk and Tunis substations
  - **Phase 2 (Fall 2027–Summer 2028)** – 230 kV and 115 kV rebuild between Tunis and Earleys substations
- **Late summer 2028** – Expected rebuild completion
- **Fall 2028 – spring 2029** – Right of way restoration activities

This schedule is subject to change

Project Overview

We are planning to rebuild two aging electric transmission lines in northeast North Carolina in Hertford and Gates counties. One line continues to the City of Suffolk, Virginia. After more than five decades of dependable service, the existing structures and components on both lines are at the end of their service life. Replacing this equipment will maintain reliability for our customers.



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

230 kV electric transmission line:
- Between Suffolk and Earleys substations
- 44.3 miles
- Built on wooden H-frame and weathering steel lattice structures

115 kV electric transmission line:
- Between Tunis and Earleys substations
- 14.8 miles
- Built on wooden monopole structures

Proposal:
- Rebuild the 230 kV line using a combination of brown, weathering steel H-frame structures and galvanized steel lattice structures
- Rebuild the 115 kV line using weathering steel monopole structures
- No new right of way is needed

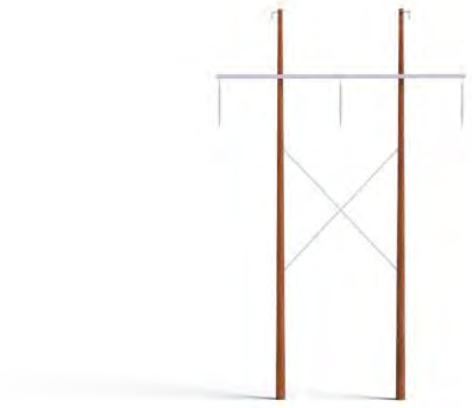
Existing transmission 230 kV H-frame and 115 kV monopole wooden structures by Tunis Substation in North Carolina. Photo taken in summer 2022.

Existing weathering steel lattice towers north of the Chowan River, looking south. The 230 kV electric transmission line here shares structures with a distribution line to cross the wetlands and the river. Photo taken in March 2023.

Structures

New weathering steel structures are about five feet taller than original wooden structures

Old Average Height: 67 FT

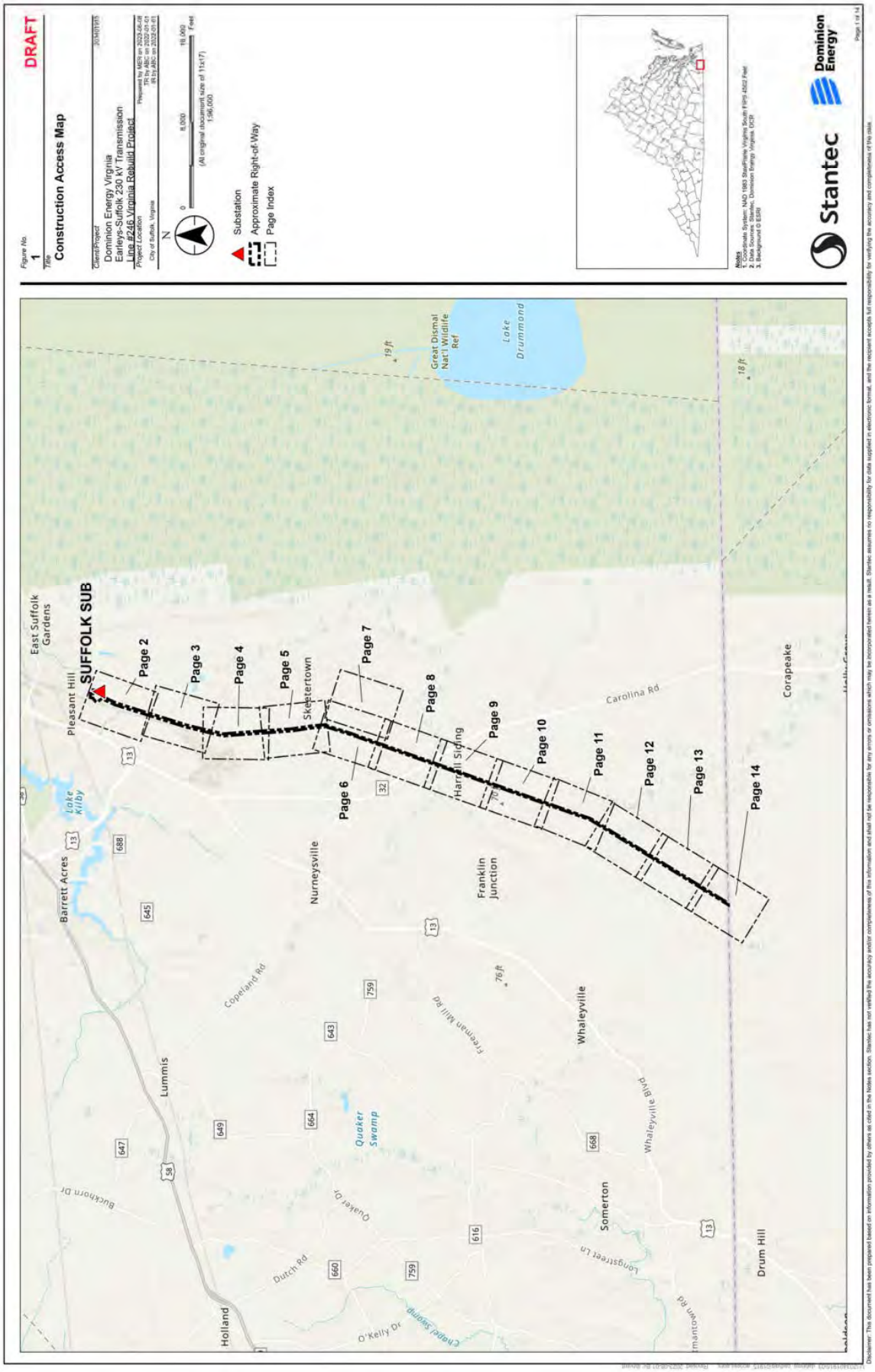


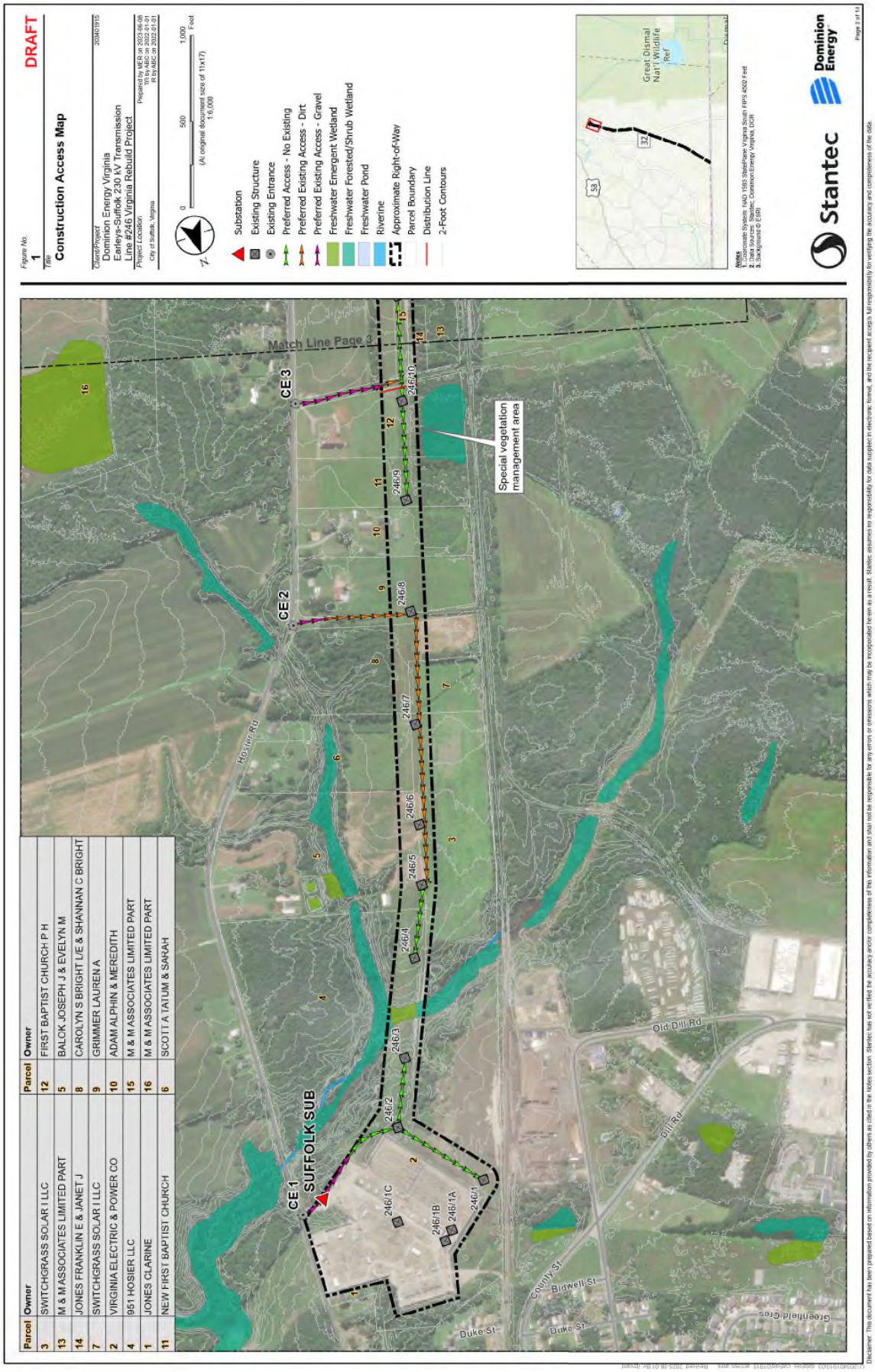
New Average Height: 73 FT

Old Average Height: 58 FT

New Average Height: 63 FT

Heights subject to change during final engineering


DRAFT
Figure No.
1
Title
Construction Access Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line #246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
N
0
8,000
16,000
Feet
(At original document size of 11x17)
1:96,000
Substation
Approximate Right-of-Way
Page Index
Page 2
Page 3
Page 4
Page 5
Page 6
Page 7
Page 8
Page 9
Page 10
Page 11
Page 12
Page 13
Page 14
SUFFOLK SUB
East Suffolk Gardens
Pleasant Hill
Barrett Acres
Lake Kilby
Nurneysville
Skeetertown
Harrell Siding
Franklin Junction
Carolina Rd
Great Dismal Nat'l Wildlife Ref
Lake Drummond
Corapeake
Copeland Rd
Freeman Mill Rd
Whaleyville
Whaleyville Blvd
Lummis
Quaker Swamp
Somerton
Longstreet Ln
Drum Hill
Holland
Dutch Rd
Quaker Dr
O'Kelly Dr
Buckhorn Dr
Stantec
Dominion Energy


DRAFT
Figure No. 1
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Construction Access Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line #246 Virginia Rebuild Project
20240191S
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-08-08
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
Substation
Existing Structure
Existing Entrance
Preferred Access - No Existing
Preferred Existing Access - Dirt
Preferred Existing Access - Gravel
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Riverine
Approximate Right-of-Way
Parcel Boundary
Distribution Line
2-Foot Contours
Great Dismal Natl Wildlife Ref
Dismal
32
58
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Source: Stantec, Dominion Energy Virginia, USGS
3. Background © ESRI
Stantec
Dominion Energy
Page 3 of 14
Parcel Owner
3 SWITCHGRASS SOLAR I LLC
13 M & M ASSOCIATES LIMITED PART
14 JONES FRANKLIN E & JANET J
7 SWITCHGRASS SOLAR I LLC
2 VIRGINIA ELECTRIC & POWER CO
4 951 HOSIER LLC
1 JONES CLARINE
11 NEW FIRST BAPTIST CHURCH
Parcel Owner
12 FIRST BAPTIST CHURCH P H
5 BALOK JOSEPH J & EVELYN M
8 CAROLYN S BRIGHT L/E & SHANNAN C BRIGHT
9 GRIMMER LAUREN A
10 ADAM ALPHIN & MEREDITH
15 M & M ASSOCIATES LIMITED PART
16 M & M ASSOCIATES LIMITED PART
6 SCOTT A TATUM & SARAH
Match Line Page 4
CE 1
SUFFOLK SUB
CE 2
CE 3
Special vegetation management area
Hosier Rd
Old Dill Rd
Dill Rd
Duke St
Bidwell St
County St
Greenfield Cres
246/1
246/1A
246/1B
246/1C
246/2
246/3
246/4
246/5
246/6
246/7
246/8
246/9
246/10
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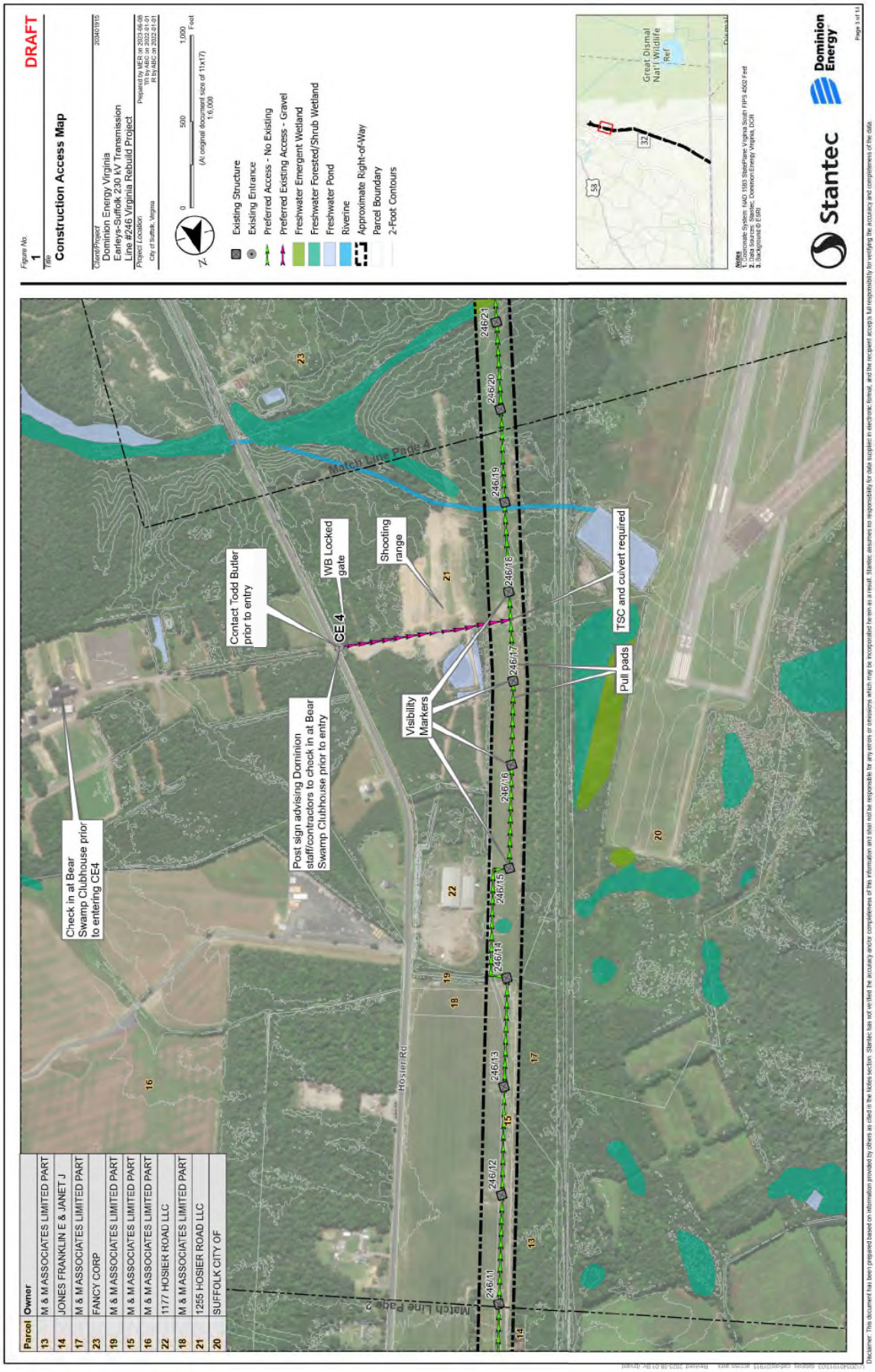
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Client/Project Dominion Energy Virginia Earleys-Suffolk 230 kV Transmission Line #246 Virginia Rebuild Project
Project Location City of Suffolk, Virginia
Prepared by MER on 2023-08-08
TR by ABD on 2023-01-01
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0 500 1,000 Feet
(At original document size of 11x17)
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Existing Structure
Existing Entrance
Preferred Access - No Existing
Preferred Existing Access - Gravel
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Riverine
Approximate Right-of-Way
Parcel Boundary
2-Foot Contours
Great Dismal Nat'l Wildlife Ref.
Dismal
58
32
Notes
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2. Data Sources: Stantec, Dominion Energy Virginia, USGS
3. Background © ESRI
Stantec
Dominion Energy
Page 3 of 14
Parcel Owner
13 M & M ASSOCIATES LIMITED PART
14 JONES FRANKLIN E & JANET J
17 M & M ASSOCIATES LIMITED PART
23 FANCY CORP
19 M & M ASSOCIATES LIMITED PART
15 M & M ASSOCIATES LIMITED PART
16 M & M ASSOCIATES LIMITED PART
22 1177 HOSIER ROAD LLC
18 M & M ASSOCIATES LIMITED PART
21 1255 HOSIER ROAD LLC
20 SUFFOLK CITY OF
Match Line Page 4
Match Line Page 2
Hosier Rd
Check in at Bear Swamp Clubhouse prior to entering CE4
Post sign advising Dominion staff/contractors to check in at Bear Swamp Clubhouse prior to entry
Contact Todd Butler prior to entry
WB Locked gate
CE 4
Shooting range
Visibility Markers
Pull pads
TSC and culvert required
246/11
246/12
246/13
246/14
246/15
246/16
246/17
246/18
246/19
246/20
246/21
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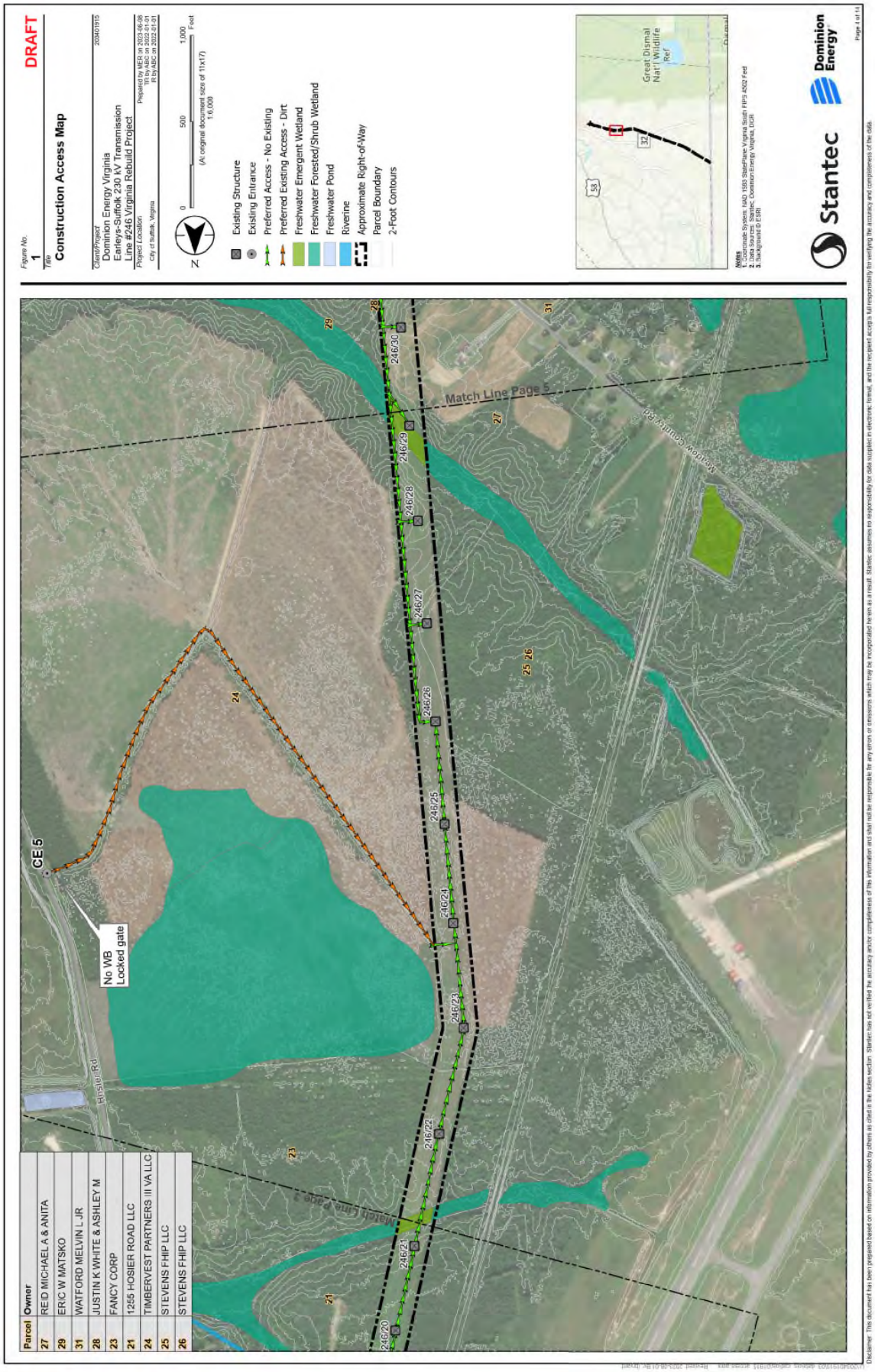
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(At original document size of 11x17)
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Existing Entrance
Preferred Access - No Existing
Preferred Access - Dirt
Freshwater Emergent Wetland
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Freshwater Pond
Riverine
Approximate Right-of-Way
Parcel Boundary
2-Foot Contours
Great Dismal Natl Wildlife Ref
Dismal
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Source: ESRI, Connect Energy, Virginia, USA
3. Background © ESRI
Stantec
Dominion Energy
Page 1 of 11
Parcel Owner
27 REID MICHAEL A & ANITA
29 ERIC W MATSKO
31 WATFORD MELVIN L JR
28 JUSTIN K WHITE & ASHLEY M
23 FANCY CORP
21 1255 HOSIER ROAD LLC
24 TIMBERVEST PARTNERS III VA LLC
25 STEVENS FHIP LLC
26 STEVENS FHIP LLC
CE 5
No WB Locked gate
Hosier Rd
Match Line Page 5
Match Line Page 3
Holladay Country Rd
246/20
246/21
246/22
246/23
246/24
246/25
246/26
246/27
246/28
246/29
246/30
21
23
24
25 26
27
28
29
31
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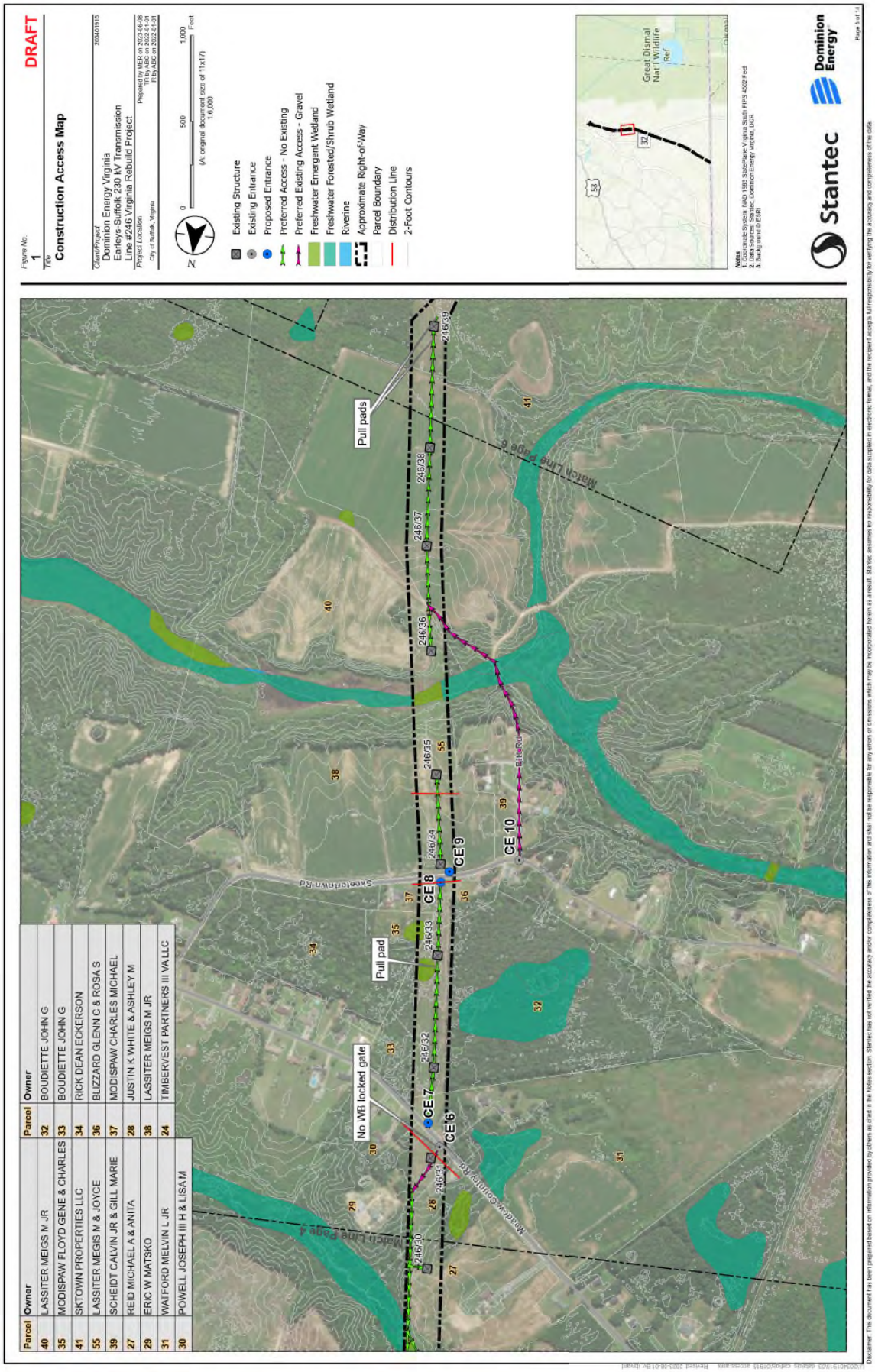
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Existing Structure
Existing Entrance
Proposed Entrance
Preferred Access - No Existing
Preferred Access - Gravel
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Riverine
Approximate Right-of-Way
Parcel Boundary
Distribution Line
2-Foot Contours
Great Dismal Natl Wildlife Ref
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Source: Dominion Energy Virginia, USA
3. Background © ESRI
Stantec
Dominion Energy
Page 1 of 11
Parcel Owner Parcel Owner
40 LASSITER MEIGS M JR 32 BOUDIETTE JOHN G
35 MODISPAW FLOYD GENE & CHARLES 33 BOUDIETTE JOHN G
41 SKITOWN PROPERTIES LLC 34 RICK DEAN ECKERSON
55 LASSITER MEGIS M & JOYCE 36 BLIZZARD GLENN C & ROSA S
39 SCHEIDT CALVIN JR & GILL MARIE 37 MODISPAW CHARLES MICHAEL
27 REID MICHAEL A & ANITA 28 JUSTIN K WHITE & ASHLEY M
29 ERIC W MATSKO 38 LASSITER MEIGS M JR
31 WAITFORD MELVIN L JR 24 TIMBERVEST PARTNERS III VA LLC
30 POWELL JOSEPH III H & LISA M
Match Line Page 4
Match Line Page 6
Skeetertown Rd
Meadow County Rd
Pull pads
Pull pad
No WB locked gate
CE 6
CE 7
CE 8
CE 9
CE 10
246/30
246/31
246/32
246/33
246/34
246/35
246/36
246/37
246/38
246/39
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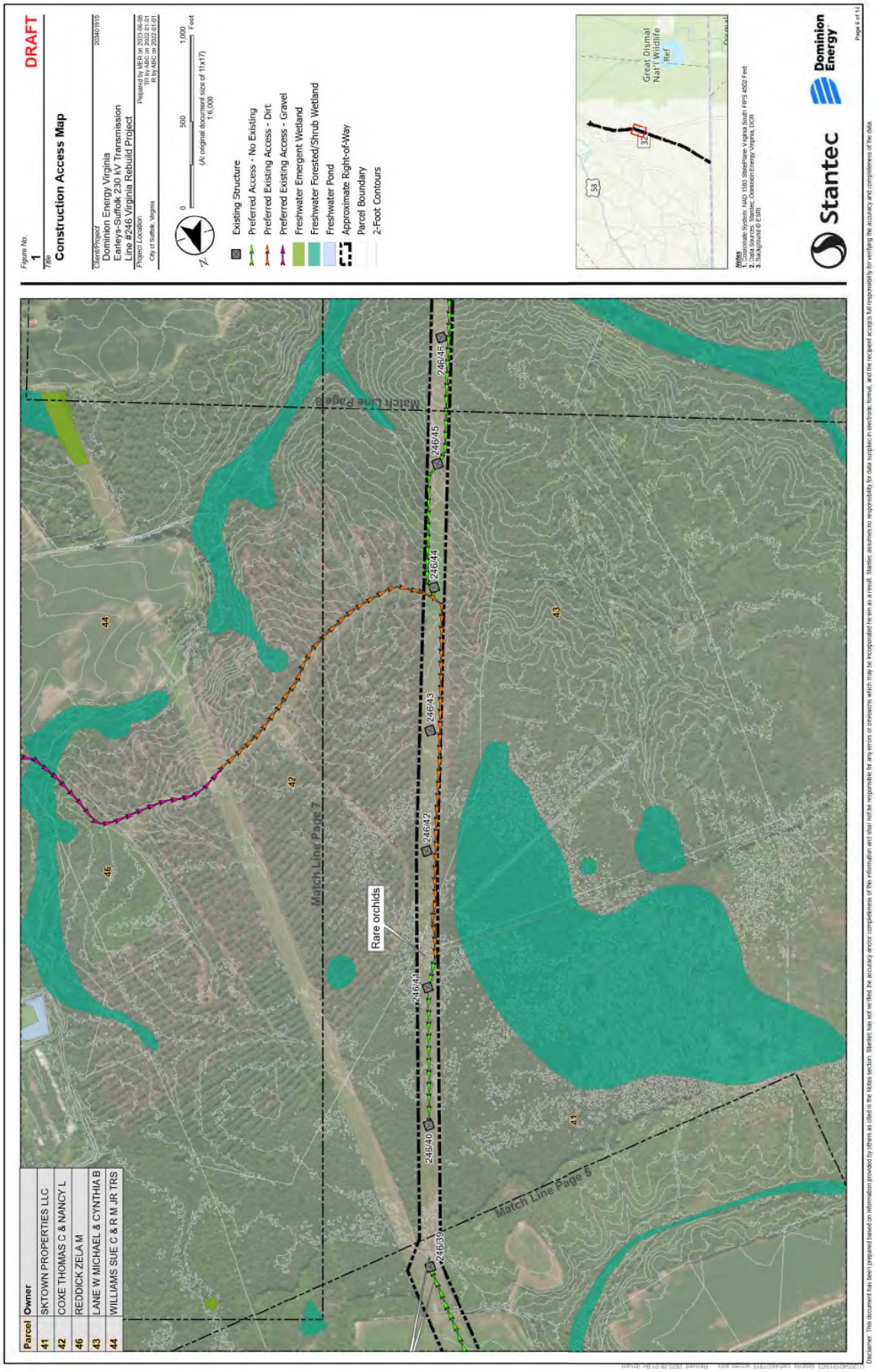
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Earleys-Suffolk 230 kV Transmission Line #246 Virginia Rebuild Project
20240915
Project Location
City of Suffolk, Virginia
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TM by ABC on 2023-01-01
IR by ABC on 2023-01-01
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(At original document size of 11x17)
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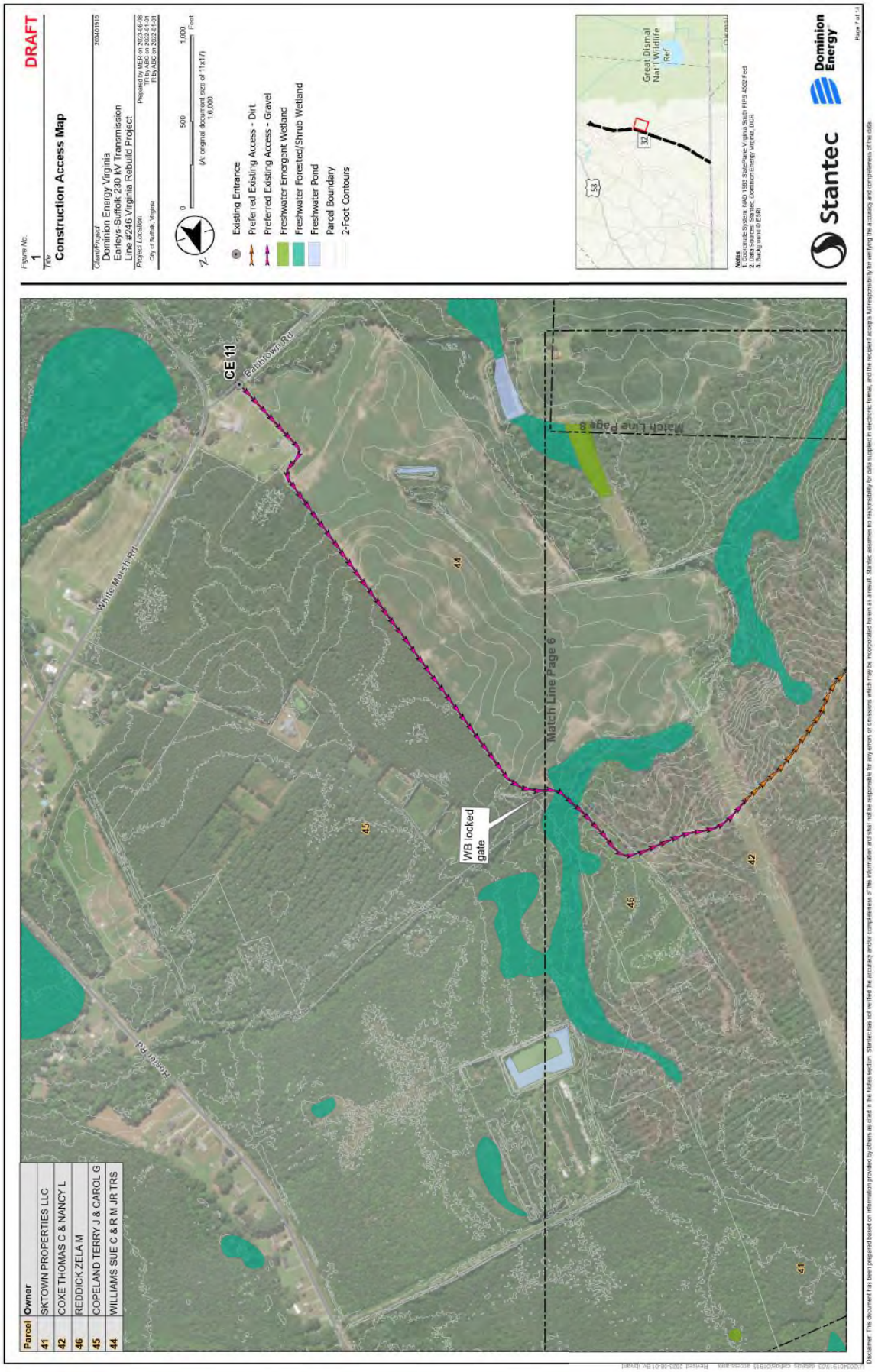
Existing Structure
Preferred Access - No Existing
Preferred Existing Access - Dirt
Preferred Existing Access - Gravel
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Approximate Right-of-Way
Parcel Boundary
2-Foot Contours
Great Dismal Nat'l Wildlife Ref
Dismal
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Source: VGIN, Commonwealth Virginia, USGS
3. Background © ESRI
Stantec
Dominion Energy
Parcel Owner
41 SKTOWN PROPERTIES LLC
42 COXE THOMAS C & NANCY L
46 REDDICK ZELA M
43 LANE W MICHAEL & CYNTHIA B
44 WILLIAMS SUE C & R M JR TRS
Match Line Page 7
Match Line Page 5
Rare orchids
246/41
246/40
246/39
246/42
246/43
246/44
246/45
246/45
41
42
43
44
46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City of Suffolk, Virginia
Prepared by MER on 2023-06-06
TM by ABC on 2023-01-01
IR by ABC on 2023-01-01
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Existing Entrance
Preferred Existing Access - Dirt
Preferred Existing Access - Gravel
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Parcel Boundary
2-Foot Contours
Great Dismal Nat'l Wildlife Ref
Dismal
32
58
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Source: Stantec, Dominion Energy Virginia, USGS
3. Background © ESRI
Stantec
Dominion Energy
Page 7 of 11
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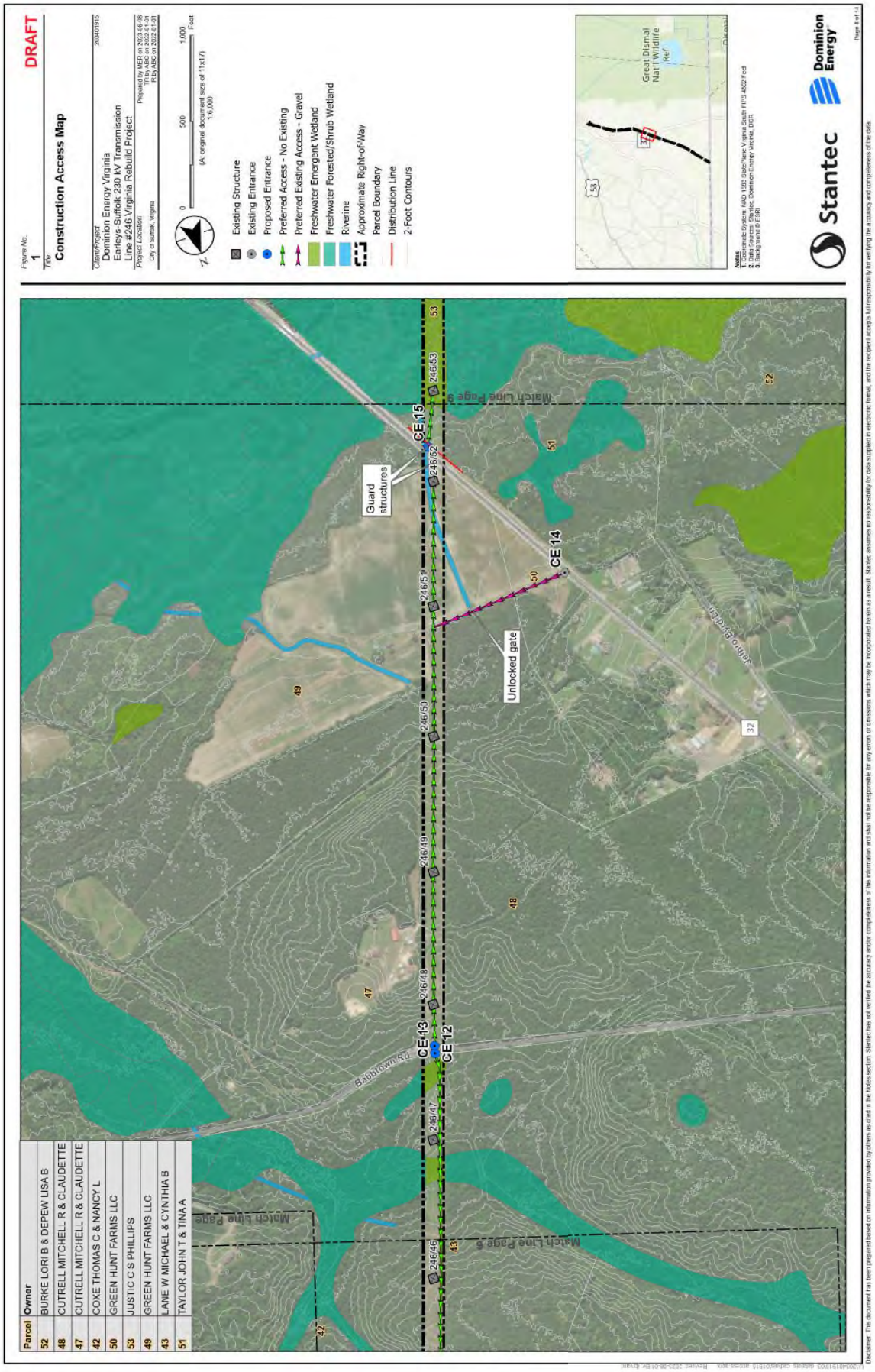
Parcel
Owner
41
SKTOWN PROPERTIES LLC
42
COXE THOMAS C & NANCY L
46
REDDICK ZELA M
45
COPELAND TERRY J & CAROL G
44
WILLIAMS SUE C & R M JR TRS
CE 11
Pollard Town Rd
White Marsh Rd
Hosier Rd
WB locked gate
Match Line Page 6
Match Line Page 8
41
42
44
45
46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Earleys-Suffolk 230 kV Transmission Line #246 Virginia Rebuild Project
20240191S
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-08-08
TM by ABD on 2023-01-01
TR by ABD on 2023-01-01
0
500
1,000
Foot
(At original document size of 11x17)
1:6,000
Existing Structure
Existing Entrance
Proposed Entrance
Preferred Access - No Existing
Preferred Existing Access - Gravel
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Riverine
Approximate Right-of-Way
Parcel Boundary
Distribution Line
2-Foot Contours
Great Dismal Nat'l Wildlife Ref.
Dismal
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Source: ESRI, Dominion Energy Virginia, USGS
3. Background © ESRI
Stantec
Dominion Energy
Parcel Owner
52 BURKE LORI B & DEPEW LISA B
48 CUTRELL MITCHELL R & CLAUDETTE
47 CUTRELL MITCHELL R & CLAUDETTE
42 COXE THOMAS C & NANCY L
50 GREEN HUNT FARMS LLC
53 JUSTIC C S PHILLIPS
49 GREEN HUNT FARMS LLC
43 LANE W MICHAEL & CYNTHIA B
51 TAYLOR JOHN T & TINA A
Babbtown Rd
Guard structures
Unlocked gate
CE 12
CE 13
CE 14
CE 15
246/47
246/48
246/49
246/50
246/51
246/52
246/53
246/46
Match Line Page 5
Match Line Page 6
Match Line Page 8
Page 1 of 14

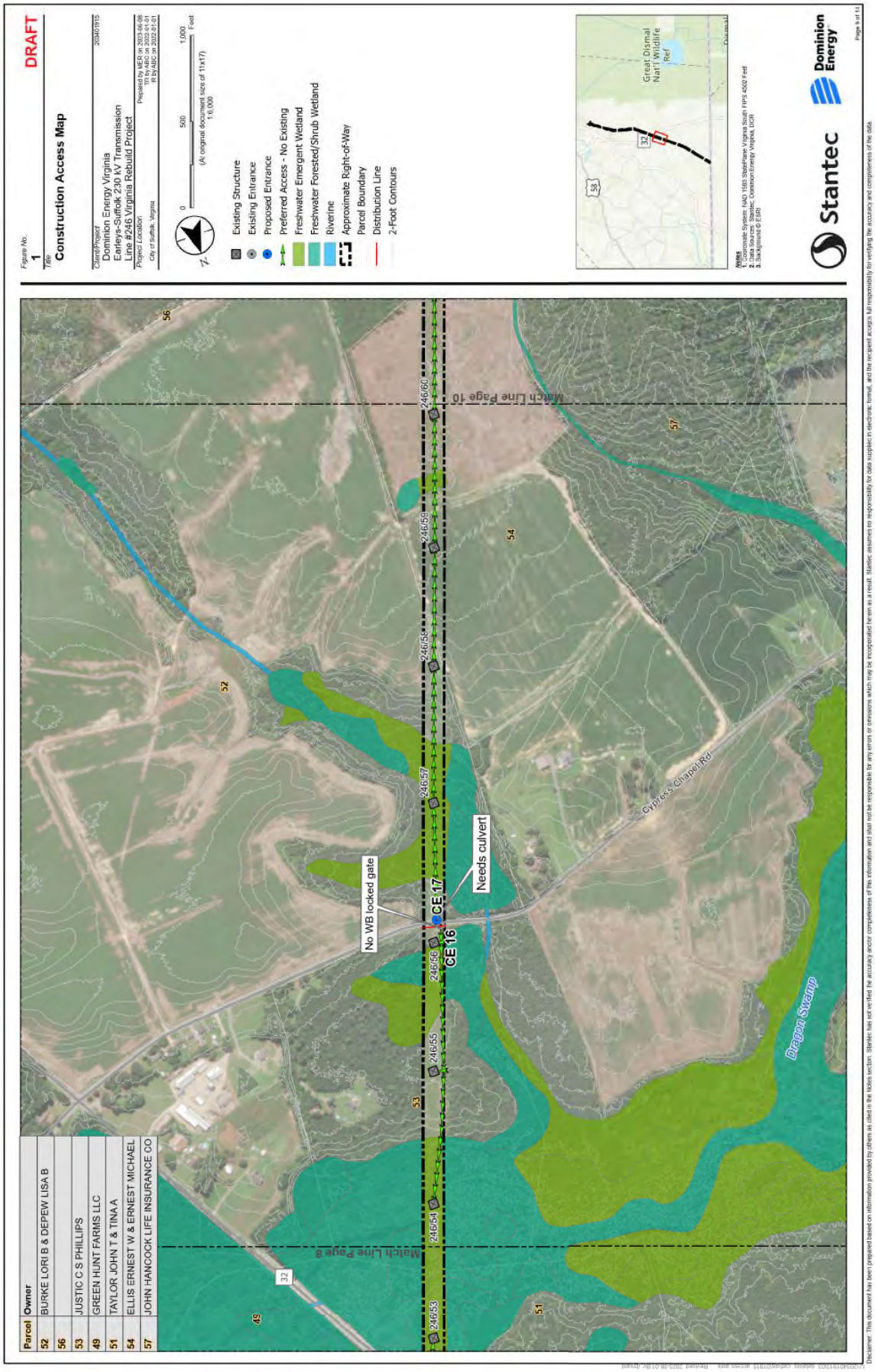
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Figure No.
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Construction Access Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line #246 Virginia Rebuild Project
20240915
Project Location
City of Suffolk, Virginia
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Existing Structure
Existing Entrance
Proposed Entrance
Preferred Access - No Existing
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Riverine
Approximate Right-of-Way
Parcel Boundary
Distribution Line
2-Foot Contours
Great Dismal Nat'l Wildlife Ref
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Source: Stantec, Commercial Energy, Virginia, USDA
3. Background © ESRI
Stantec
Dominion Energy
Parcel
Owner
52
BURKE LORI B & DEPEW LISA B
56
53
JUSTIC C S PHILLIPS
49
GREEN HUNT FARMS LLC
51
TAYLOR JOHN T & TINA A
54
ELLIS ERNEST W & ERNEST MICHAEL
57
JOHN HANCOCK LIFE INSURANCE CO
Match Line Page 8
Match Line Page 10
246/53
246/54
246/55
246/56
246/57
246/58
246/59
246/60
CE 16
CE 17
No WB locked gate
Needs culvert
Cypress Chapel Rd
Dragon Swamp
49
51
52
53
54
56
57
32
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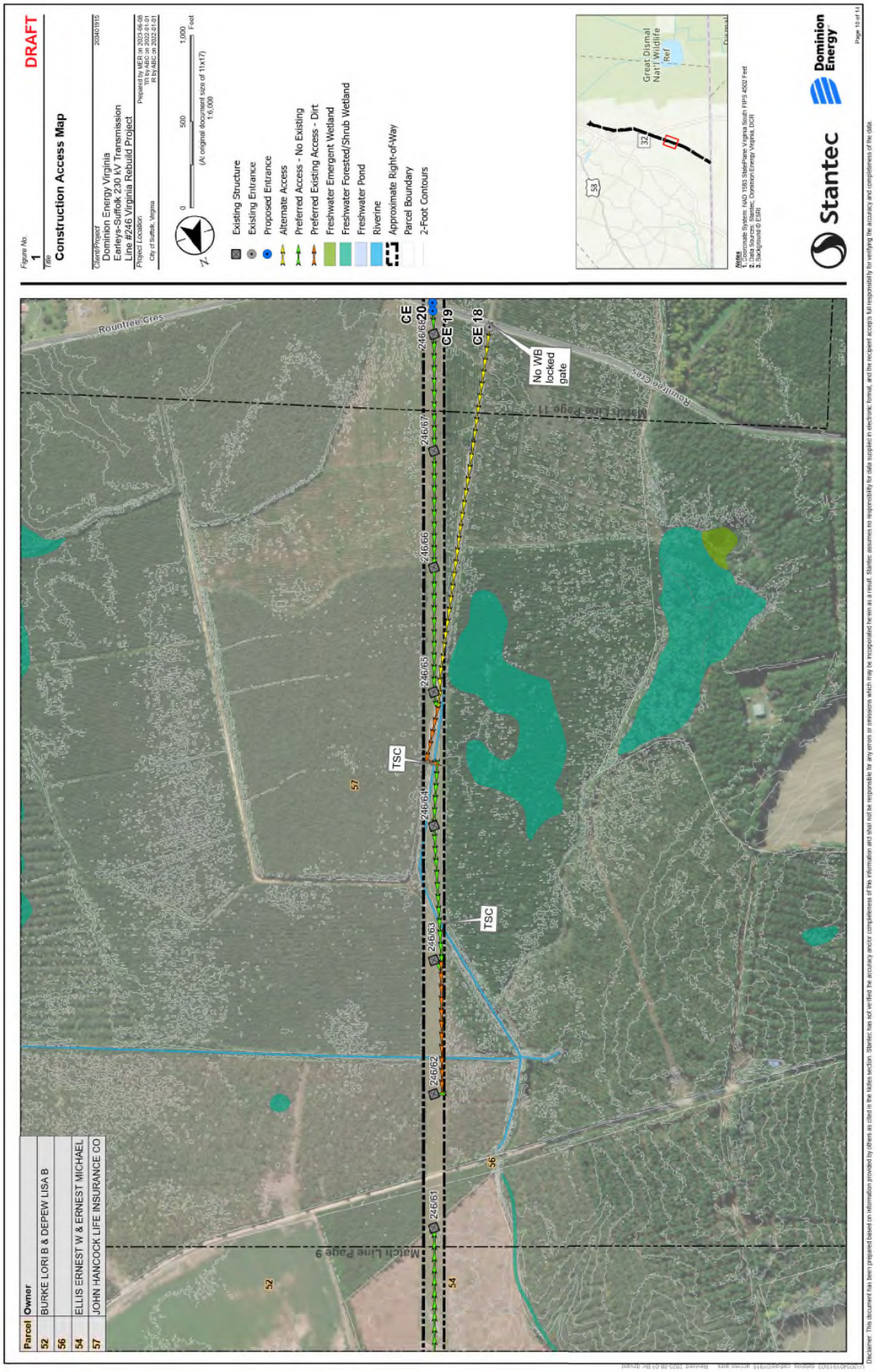
Page 9 of 11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Great Dismal Nat'l Wildlife Ref
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Source: Dominion Energy Virginia, USGS
3. Background © ESRI
Stantec
Dominion Energy
Parcel
Owner
52
BURKE LORI B & DEPEW LISA B
56
54
ELLIS ERNEST W & ERNEST MICHAEL
57
JOHN HANCOCK LIFE INSURANCE CO
Match Line Page 9
Match Line Page 11
Rountree Cres
Rountree Cres
CE 20
CE 19
CE 18
246/67
246/66
246/65
246/64
246/63
246/62
246/61
TSC
TSC
No WB locked gate
52
54
56
57
Page 10 of 11

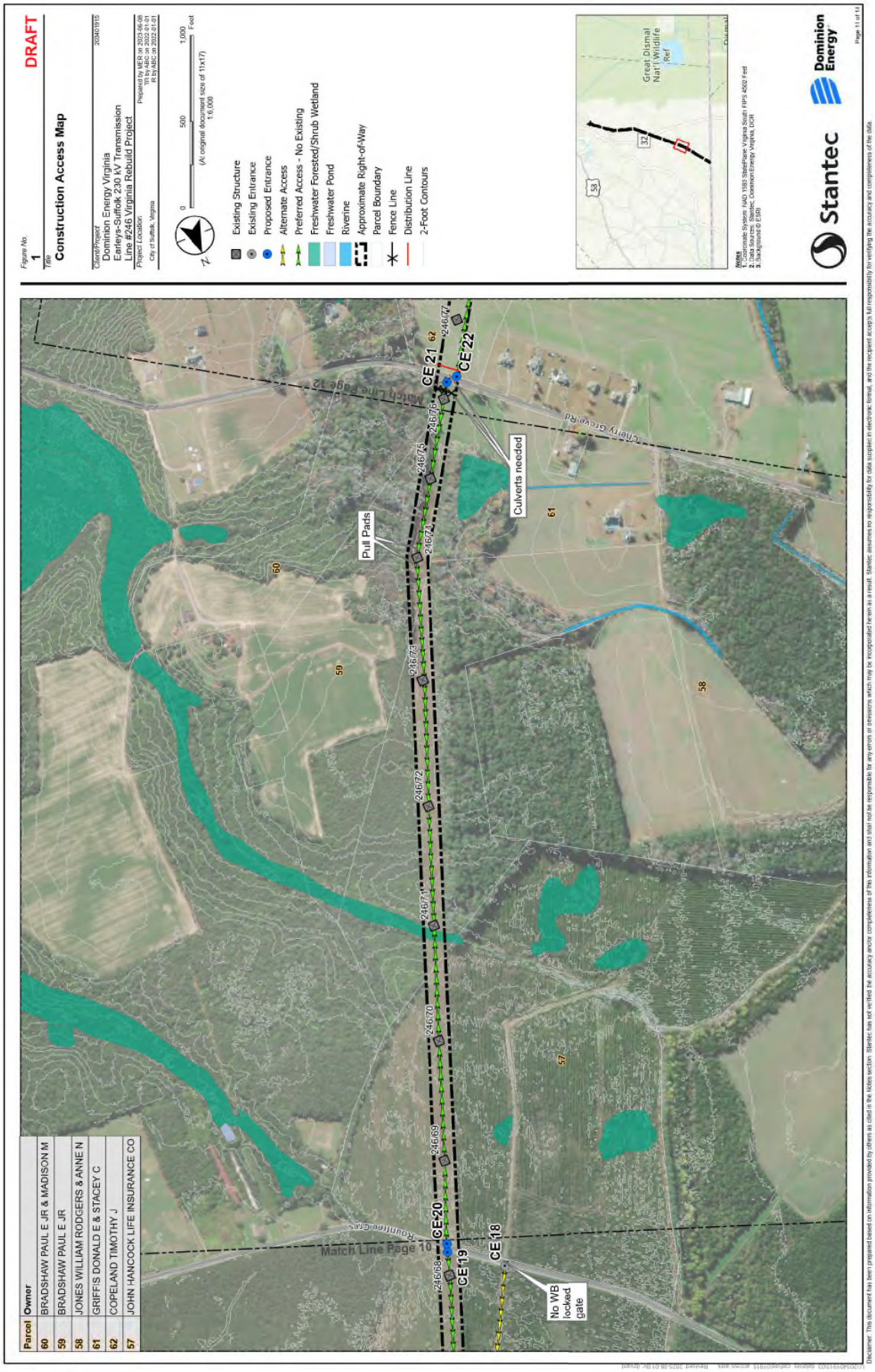
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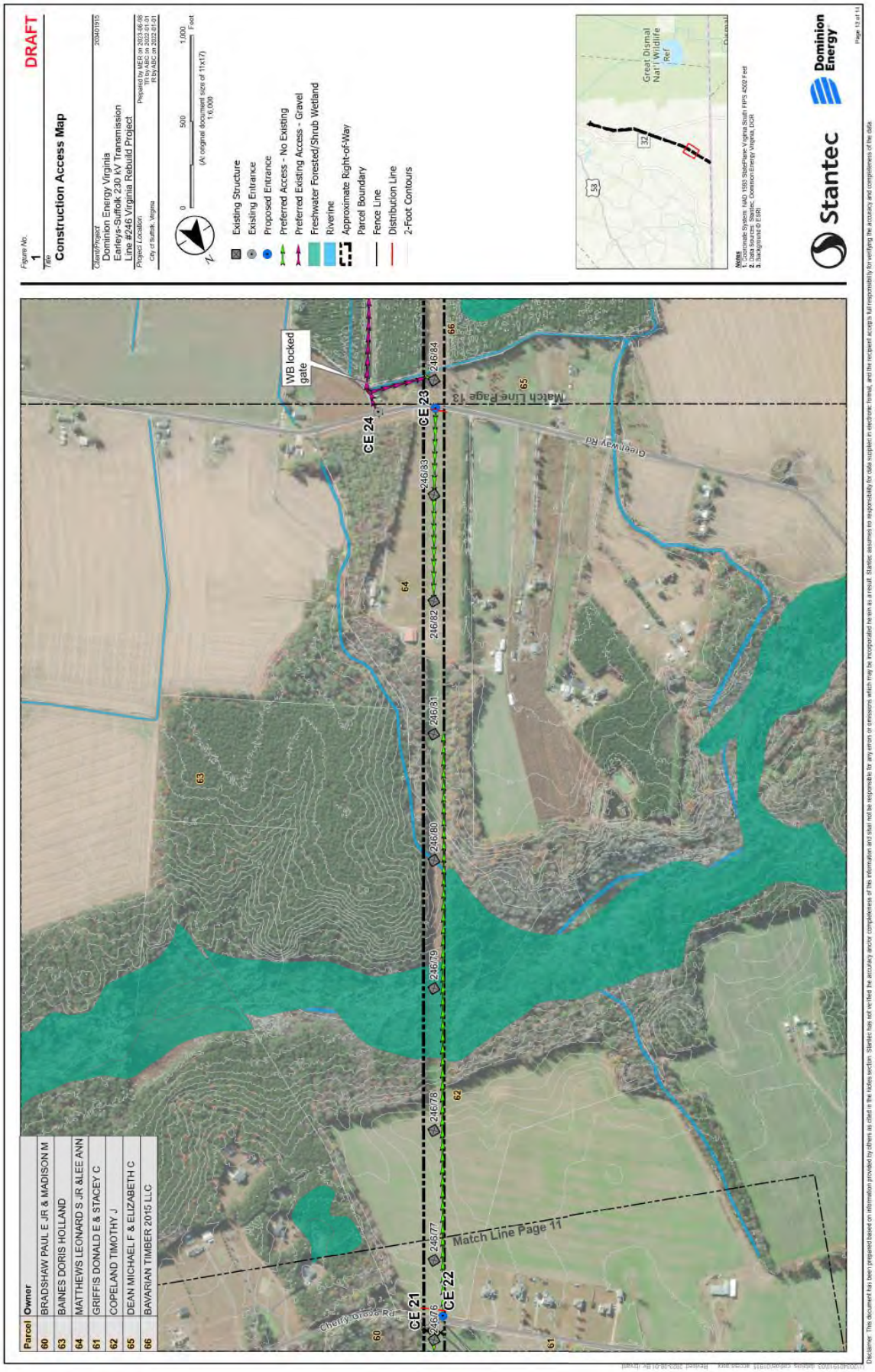
Figure No.
1
Title
Construction Access Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line #246 Virginia Rebuild Project
20240191S
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-08
TM by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
500
1,000 Feet
(At original document size of 11x17)
1:6,000
Existing Structure
Existing Entrance
Proposed Entrance
Alternate Access
Preferred Access - No Existing
Freshwater Forested/Shrub Wetland
Freshwater Pond
Riverine
Approximate Right-of-Way
Parcel Boundary
Fence Line
Distribution Line
2-Foot Contours
Great Dismal Nat'l Wildlife Ref.
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Source: Stantec, Connect Energy Maps, USDA
3. Background © ESRI
Stantec
Dominion Energy
Parcel
Owner
60
BRADSHAW PAUL E JR & MADISON M
59
BRADSHAW PAUL E JR
58
JONES WILLIAM RODGERS & ANNE N
61
GRIFFIS DONALD E & STACEY C
62
COPELAND TIMOTHY J
57
JOHN HANCOCK LIFE INSURANCE CO
Match Line Page 12
Match Line Page 10
Rountree Cir
Liberty Grove Rd
CE 18
CE 19
CE 20
CE 21
CE 22
246/68
246/69
246/70
246/71
246/72
246/73
246/74
246/75
246/76
246/77
Pull Pads
Culverts needed
No WB locked gate
57
58
59
60
61
62
Page 11 of 14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Title
Construction Access Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line #246 Virginia Rebuild Project
20240915
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-08
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
Existing Structure
Existing Entrance
Proposed Entrance
Preferred Access - No Existing
Preferred Existing Access - Gravel
Freshwater Forested/Shrub Wetland
Riverine
Approximate Right-of-Way
Parcel Boundary
Fence Line
Distribution Line
2-Foot Contours
Great Dismal Natl Wildlife Ref
Dismal
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Source: Stantec, Dominion Energy Virginia, USDA
3. Background © ESRI
Stantec
Dominion Energy
Page 13 of 14
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Parcel
Owner
60 BRADSHAW PAUL E JR & MADISON M
63 BAINES DORIS HOLLAND
64 MATTHEWS LEONARD S JR &LEE ANN
61 GRIFFIS DONALD E & STACEY C
62 COPELAND TIMOTHY J
65 DEAN MICHAEL F & ELIZABETH C
66 BAVARIAN TIMBER 2015 LLC
CE 21
CE 22
CE 23
CE 24
246/76
246/78
246/77
246/79
246/80
246/81
246/82
246/83
246/84
WB locked gate
Match Line Page 11
Match Line Page 13
Cherry Grove Rd
Greenway Rd

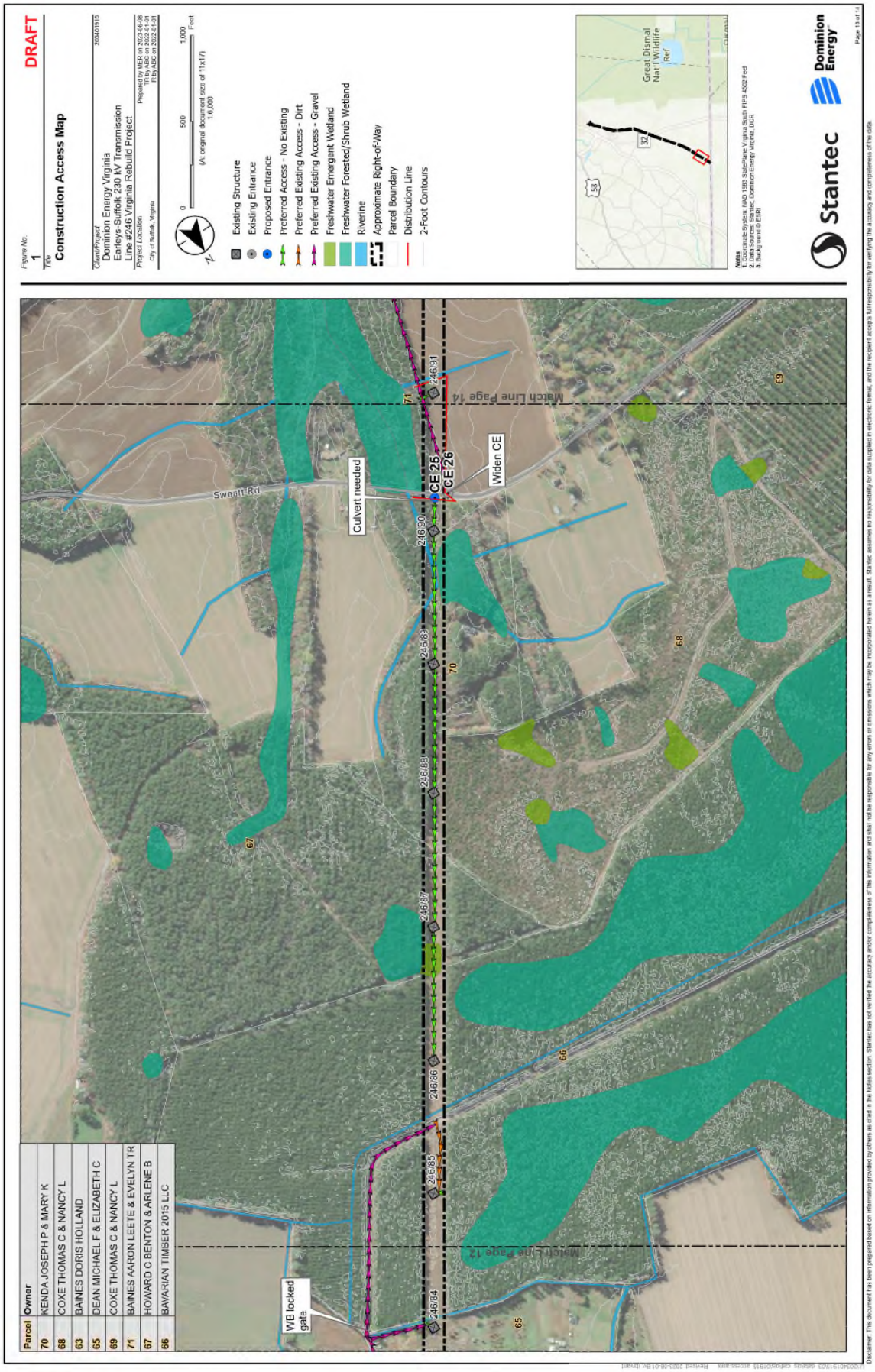
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Figure No.
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Construction Access Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line #246 Virginia Rebuild Project
20240191S
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-08
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
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1,000
Feet
(At original document size of 11x17)
1:6,000
Existing Structure
Existing Entrance
Proposed Entrance
Preferred Access - No Existing
Preferred Existing Access - Dirt
Preferred Existing Access - Gravel
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Riverine
Approximate Right-of-Way
Parcel Boundary
Distribution Line
2-Foot Contours
Great Dismal Nat'l Wildlife Ref
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, USGS
3. Background © ESRI
Stantec
Dominion Energy
Parcel Owner
70 KENDA JOSEPH P & MARY K
68 COXE THOMAS C & NANCY L
63 BAINES DORIS HOLLAND
65 DEAN MICHAEL F & ELIZABETH C
69 COXE THOMAS C & NANCY L
71 BAINES AARON LEETE & EVELYN TR
67 HOWARD C BENTON & ARLENE B
66 BAVARIAN TIMBER 2015 LLC
WB locked gate
Culvert needed
Widen CE
CE 25
CE 26
Sweat Rd
Match Line Page 14
Match Line Page 13
246/84
246/85
246/86
246/87
246/88
246/89
246/90
246/91
65
66
67
68
69
70
71

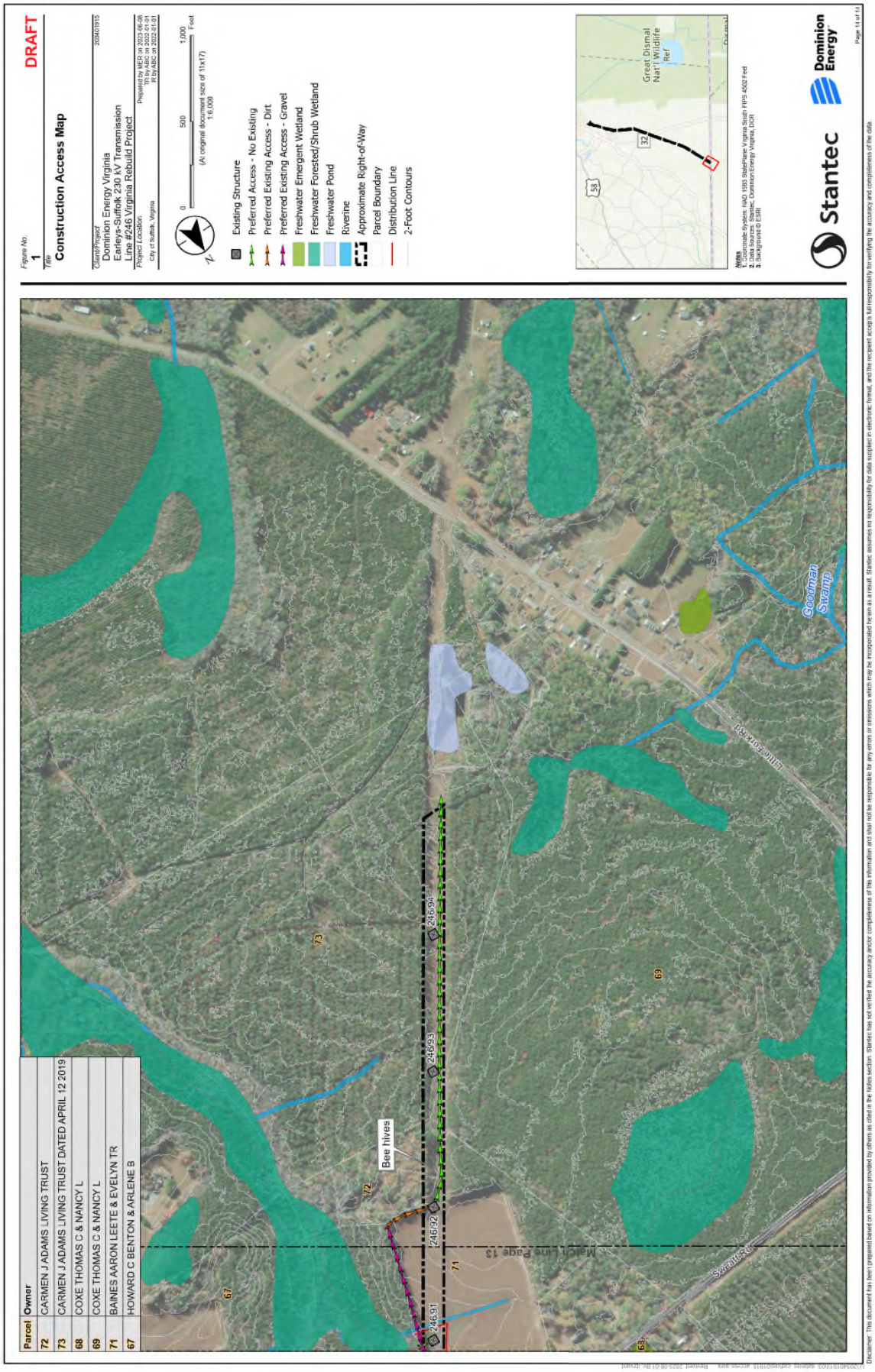
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Figure No.
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Title
Construction Access Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line #246 Virginia Rebuild Project
20240191S
Project Location
City of Suffolk, Virginia
Prepared by MER on 2023-06-06
TR by ABC on 2023-01-01
IR by ABC on 2023-01-01
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
Existing Structure
Preferred Access - No Existing
Preferred Existing Access - Dirt
Preferred Existing Access - Gravel
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Riverine
Approximate Right-of-Way
Parcel Boundary
Distribution Line
2-Foot Contours
Great Dismal Nat'l Wildlife Ref
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dominion Energy Virginia, ESRI
3. Background © ESRI
Stantec
Dominion Energy
Parcel
Owner
72
CARMEN J ADAMS LIVING TRUST
73
CARMEN J ADAMS LIVING TRUST DATED APRIL 12 2019
68
COXE THOMAS C & NANCY L
69
COXE THOMAS C & NANCY L
71
BAINES AARON LEETE & EVELYN TR
67
HOWARD C BENTON & ARLENE B
246/31
246/32
246/33
246/34
Bee hives
Match Line Page 13
Goodman Swamp
Sweetbriar Rd
Page 11 of 14

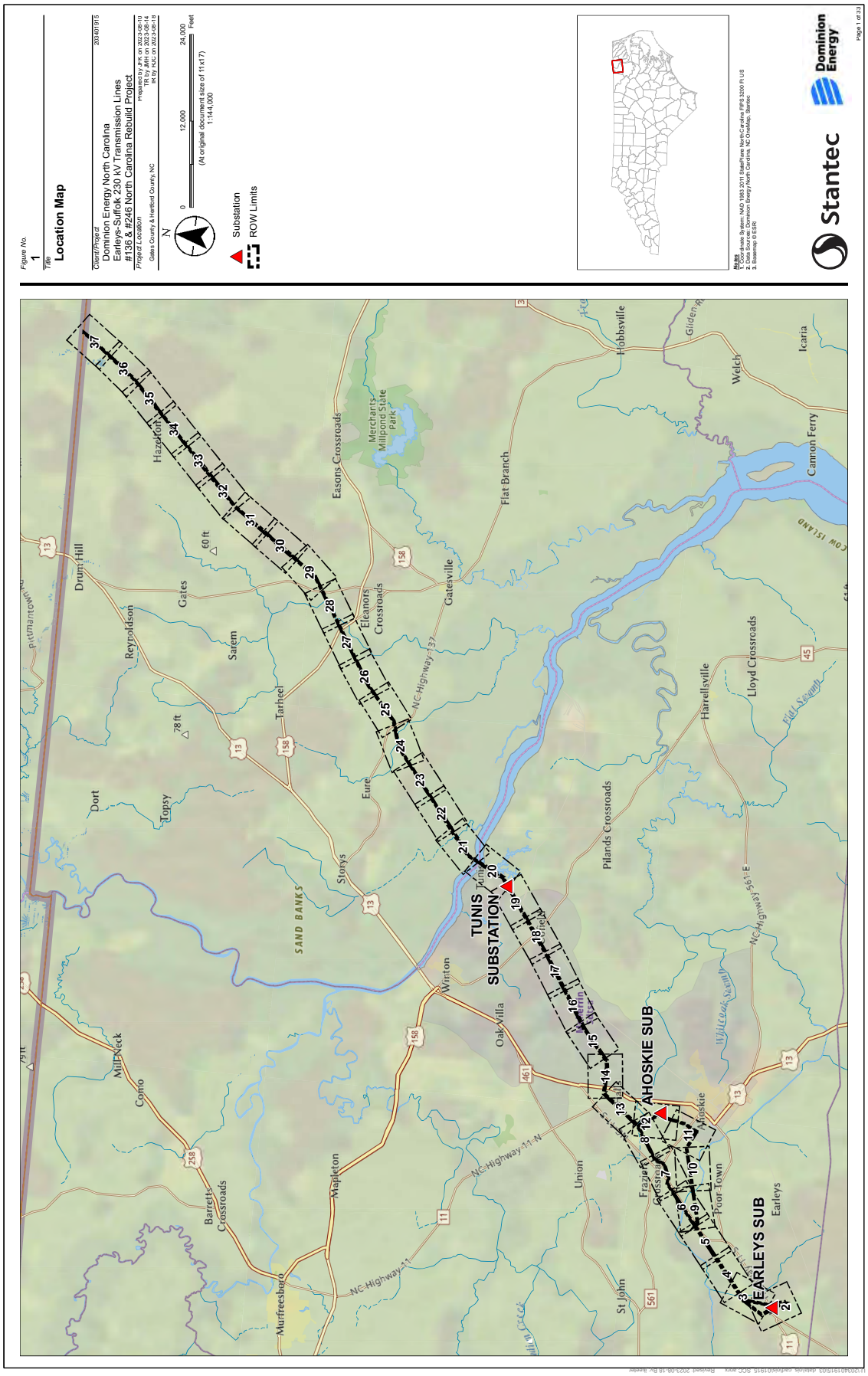
Figure No.
1
Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
20240191S
Project Location
Gates County & Hertford County, NC
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
IR by KAD on 2023-08-18
N
0
12,000
24,000
Feet
(At original document size of 11x17)
1:144,000
Substation
ROW Limits
Notes
1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Ft US
2. Data Source: Dominion Energy North Carolina, NC OneMap, Stantec
3. Basemap: ESRI
Stantec
Dominion Energy
Page 1 of 33
TUNIS SUBSTATION
AHOSKIE SUB
EARLEYS SUB
Hazelton
Drum Hill
Pittmanton
Reynoldson
Gates
Dort
Topsy
Sarem
Tarheel
Eure
Storys
Eleanors Crossroads
Easons Crossroads
Merchants Millpond State Park
Gatesville
Flat Branch
Hobbsville
Welch
Icaria
Cannon Ferry
Harrellsville
Lloyd Crossroads
Pilands Crossroads
Oak Villa
Winton
Mill Neck
Como
Barretts Crossroads
Mapleton
Murfreesboro
Union
St John
Frazier Crossroads
Poor Town
Ahoskie
Earleys
SAND BANKS
NC Highway 137
NC Highway 11
NC Highway 11-N
NC Highway 561-E
Full Swamp
Wiccacon Swamp
Bull Run Creek
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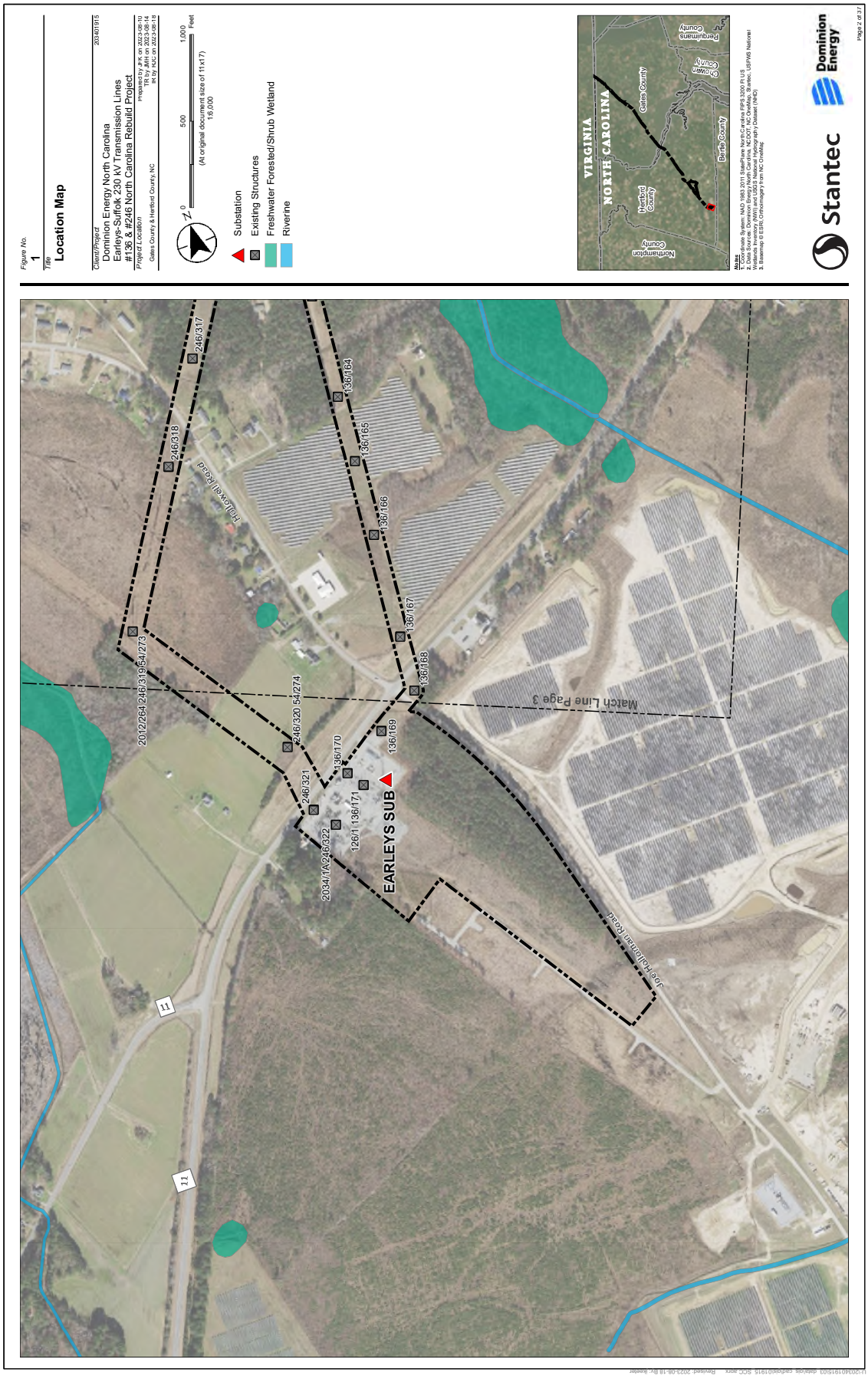
Figure No.
1
Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
IR by KAD on 2023-08-18
20340195
0
500
1,000
Feet
(At original document size of 11x17)
1:8,000
Substation
Existing Structures
Freshwater Forested/Shrub Wetland
Riverine
VIRGINIA
NORTH CAROLINA
Northampton County
Hertford County
Gates County
Chowan County
Perquimans County
Bertie County
Notes
1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Ft U.S
2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), USGS National Hydrography Dataset (NHD)
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
EARLEYS SUB
2012/264 246/319 54/273
246/318
246/317
246/320 54/274
246/321
2034/1A 246/322
126/1 136/171
136/170
136/169
136/168
136/167
136/166
136/165
136/164
Holloway Road
Joe Holloman Road
Match Line Page 3
11
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Page 2 of 37

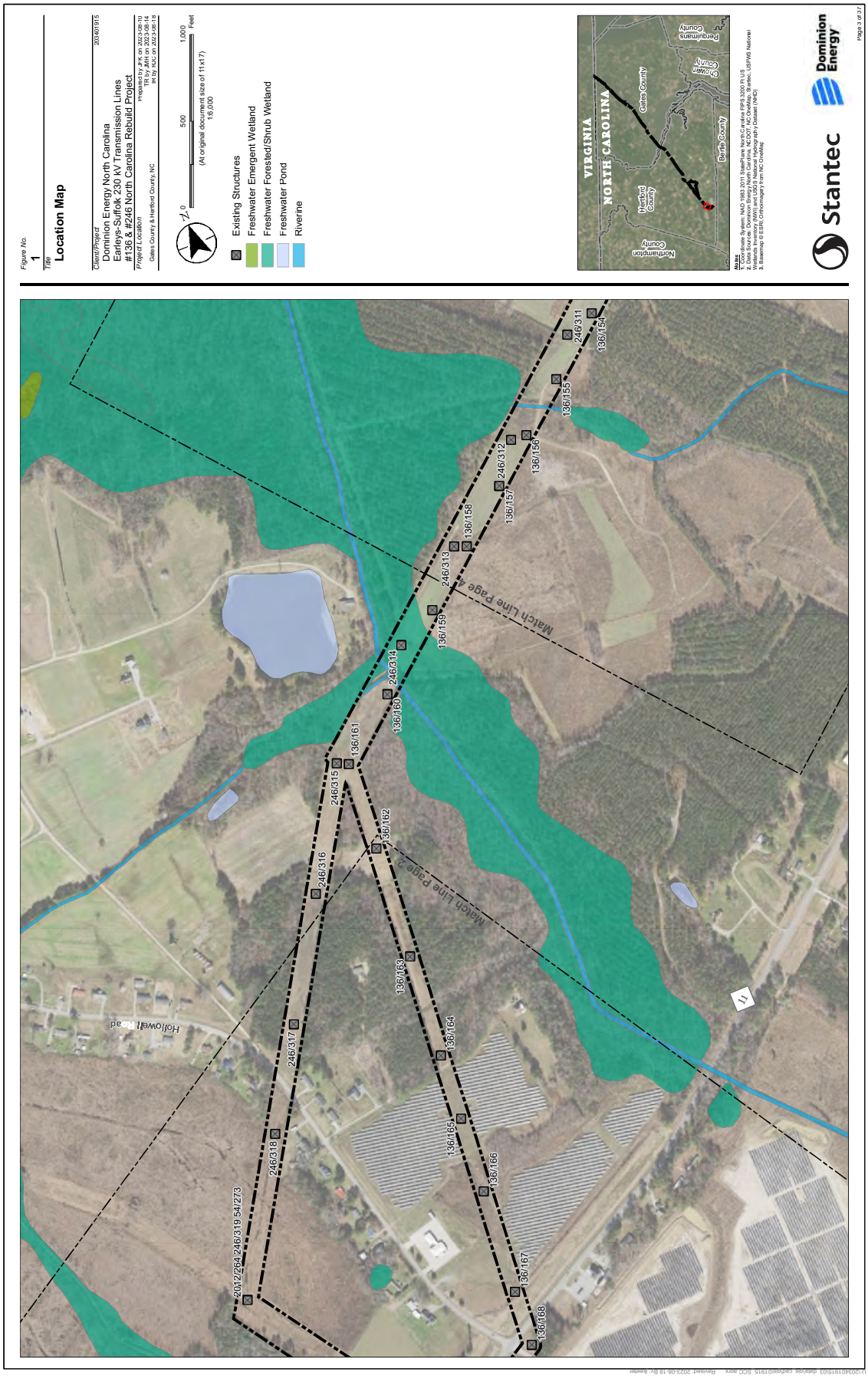
Figure No.
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Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
20240195
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
IR by KAD on 2023-08-16
0
500
1,000
Feet
(At original document size of 11x17)
1:8,000
Existing Structures
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Riverine
VIRGINIA
NORTH CAROLINA
Northampton County
Hertford County
Gates County
Chowan County
Perquimans County
Bertie County
Notes
1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Ft U.S.
2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), and National Hydrography Dataset (NHD).
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Match Line Page 2
Match Line Page 3
Holloway Road
11
2012/264
246/319
54/273
246/318
246/317
246/316
246/315
246/314
246/313
246/312
246/311
136/154
136/155
136/156
136/157
136/158
136/159
136/160
136/161
136/162
136/163
136/164
136/165
136/166
136/167
136/168
Page 3 of 37
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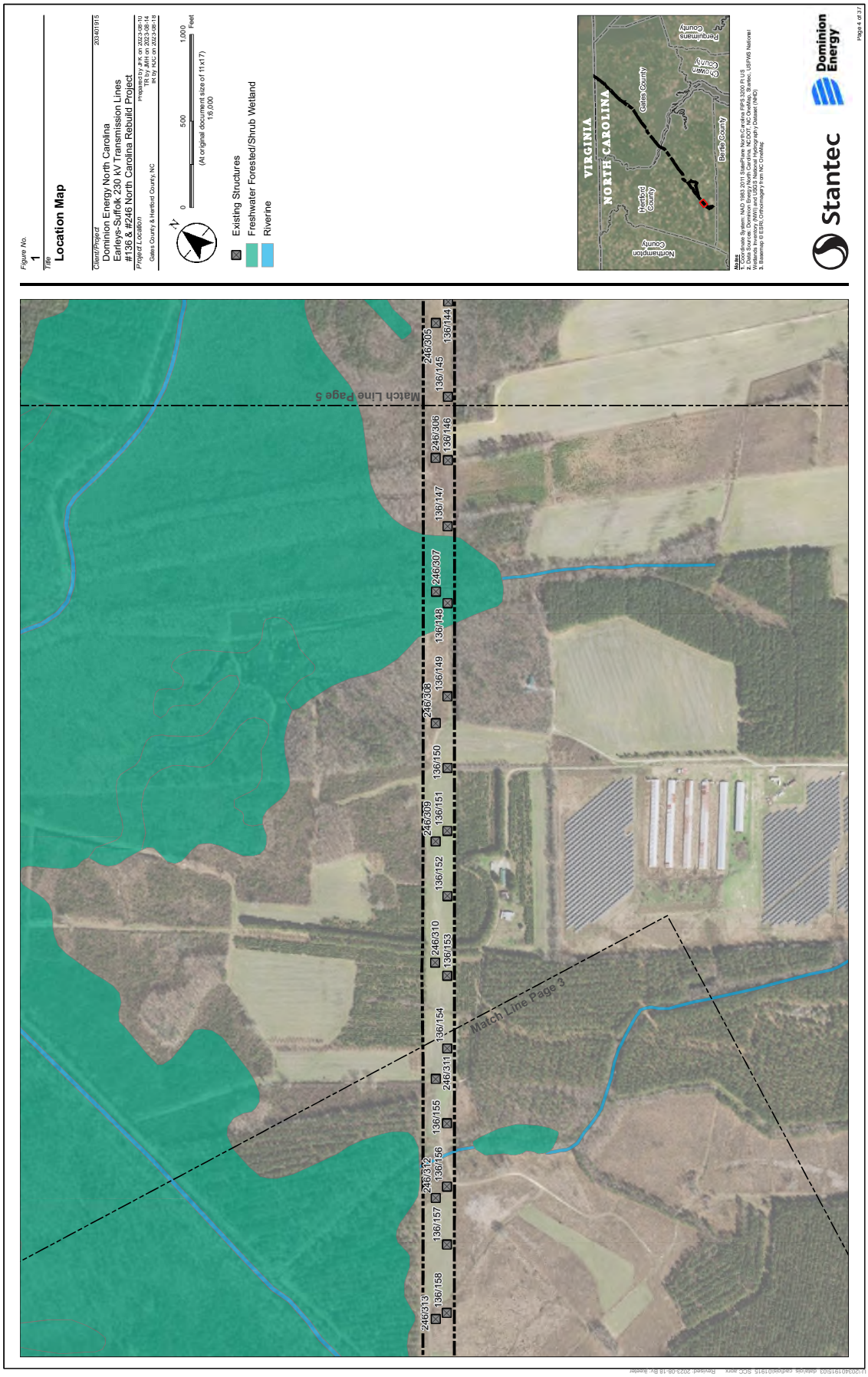
Figure No.
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Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
IR by KAS on 2023-08-18
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
Existing Structures
Freshwater Forested/Shrub Wetland
Riverine
VIRGINIA
NORTH CAROLINA
Northampton County
Hertford County
Gates County
Chowan County
Perquimans County
Bertie County
Notes
1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Ft U.S
2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), USGS National Hydrography Dataset (NHD)
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Page 4 of 37
Match Line Page 5
Match Line Page 3
246/313
136/158
136/157
246/312
136/156
136/155
246/311
136/154
246/310
136/153
136/152
246/309
136/151
136/150
246/308
136/149
136/148
246/307
136/147
246/306
136/146
136/145
246/305
136/144
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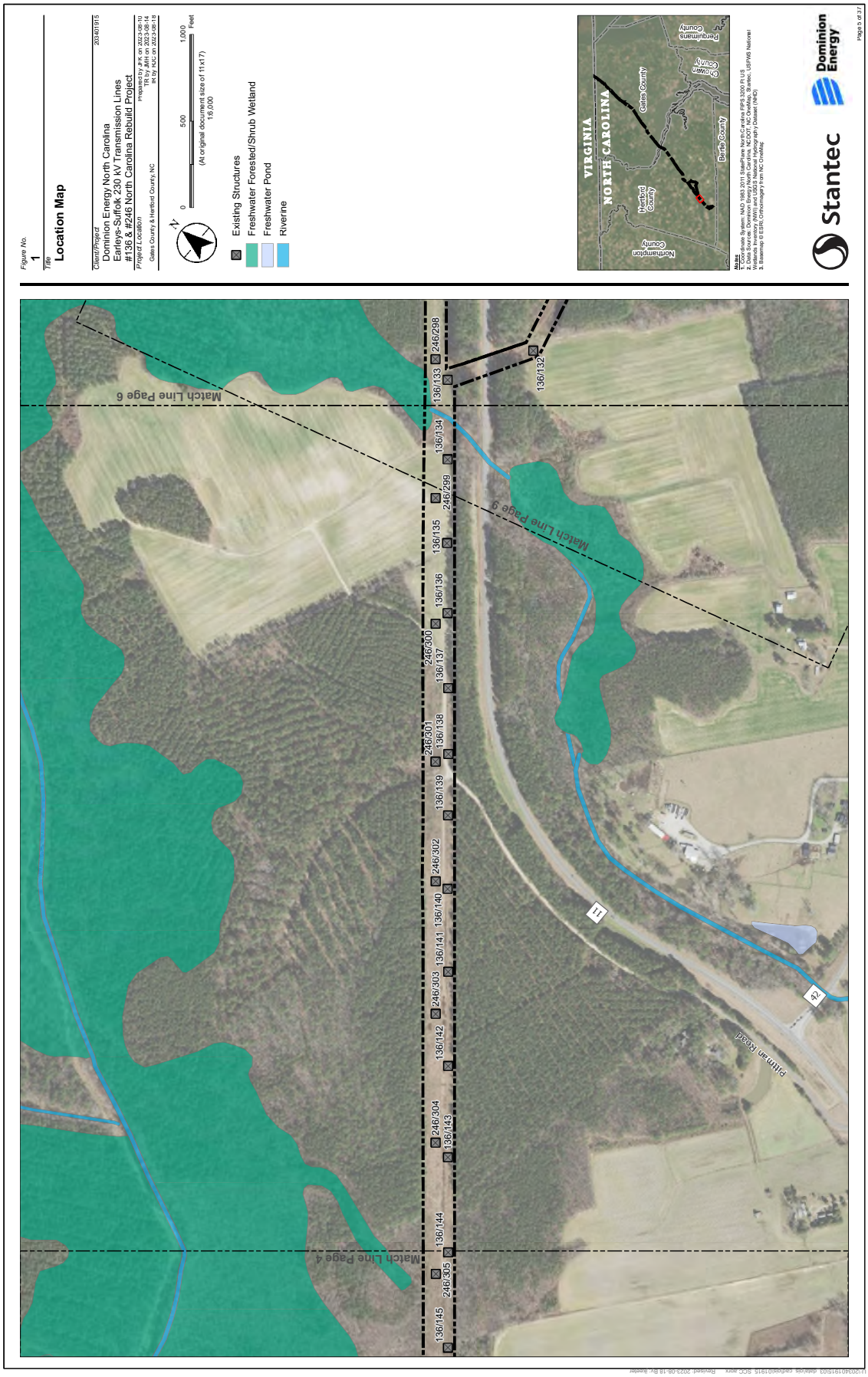
Figure No.
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Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
IR by KAD on 2023-08-16
0
500
1,000
Feet
(At original document size of 11x17)
1:8,000
Existing Structures
Freshwater Forested/Shrub Wetland
Freshwater Pond
Riverine
VIRGINIA
NORTH CAROLINA
Northampton County
Hertford County
Gates County
Chowan County
Perquimans County
Bertie County
Notes
1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Ft U.S
2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), USGS National Hydrography Dataset (NHD)
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Match Line Page 6
Match Line Page 4
Match Line Page 9
136/132
136/133
246/298
136/134
246/299
136/135
136/136
246/300
136/137
246/301
136/138
136/139
246/302
136/140
136/141
246/303
136/142
136/143
246/304
136/144
246/305
136/145
11
42
Pilmon Road
Page 5 of 37
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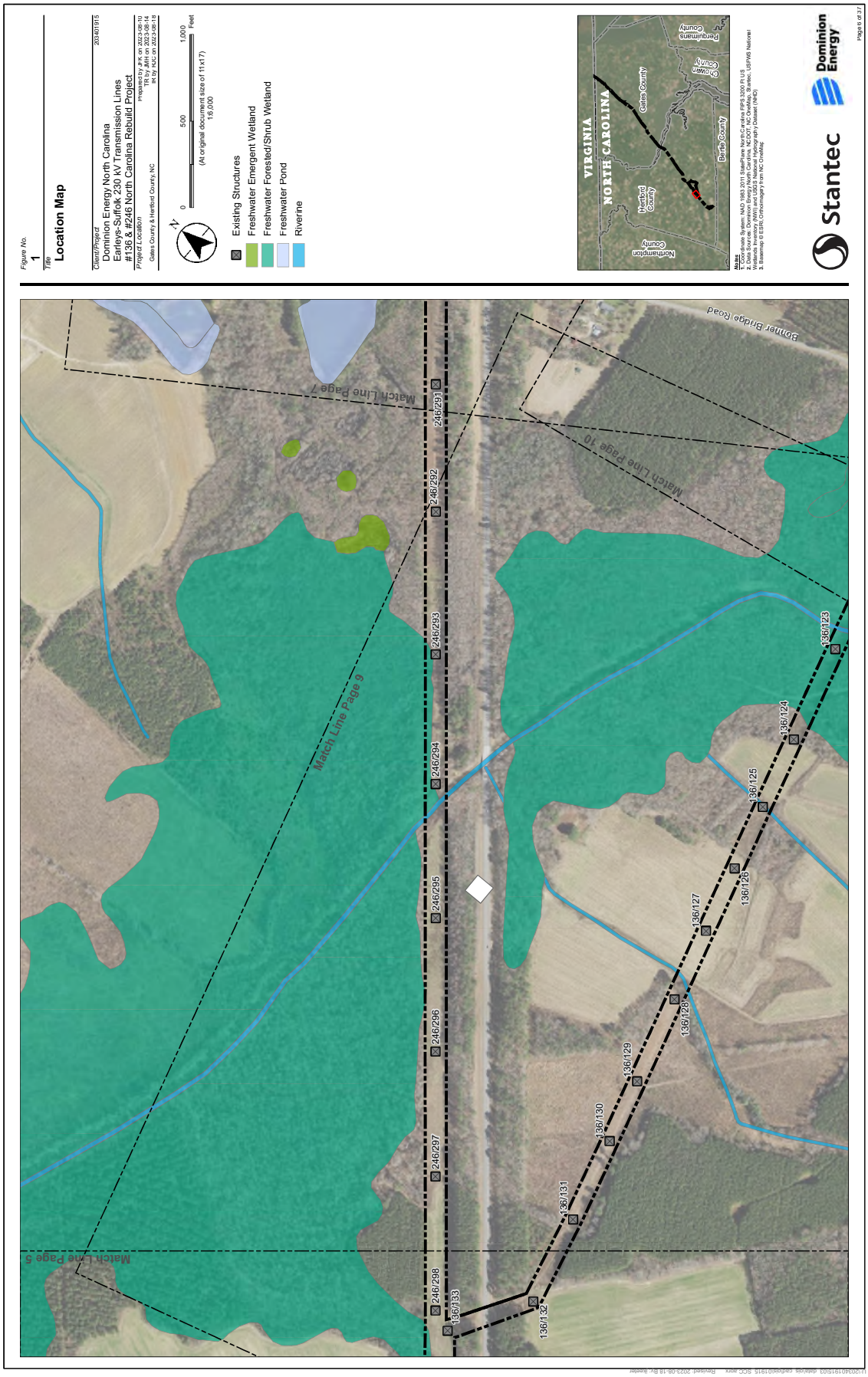
Figure No.
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Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
20240195
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
IR by KAD on 2023-08-16
0
500
1,000
Feet
(At original document size of 11x17)
1:8,000
N
Existing Structures
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Riverine
VIRGINIA
NORTH CAROLINA
Northampton County
Hertford County
Gates County
Chowan County
Perquimans County
Bertie County
Notes
1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Ft U.S
2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), USGS National Hydrography Dataset (NHD)
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Page 6 of 37
Match Line Page 5
Match Line Page 7
Match Line Page 9
Match Line Page 10
Bonner Bridge Road
246/291
246/292
246/293
246/294
246/295
246/296
246/297
246/298
136/133
136/132
136/131
136/130
136/129
136/128
136/127
136/126
136/125
136/124
136/123
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Figure No.
1
Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
20240195
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
IR by KAD on 2023-08-16
N
0
500
1,000
Feet
(At original document size of 11x17)
1:6,000
Existing Structures
Freshwater Forested/Shrub Wetland
Freshwater Pond
Riverine
VIRGINIA
NORTH CAROLINA
Northampton County
Hertford County
Gates County
Chowan County
Perquimans County
Bertie County
Notes
1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Ft U S
2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), NCSU Cooperative Extension Service, Microsoft Bing Maps, ESRI, Maxar, Earthstar Geographics, and the GIS User Community
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Match Line Page 6
Match Line Page 8
Match Line Page 9
Match Line Page 10
246/283
246/284
246/285
246/286
246/287
246/288
246/289
246/290
246/290A
246/291
Fire Tower Road
Bonner Bridge Road
195
17
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Page 7 of 37

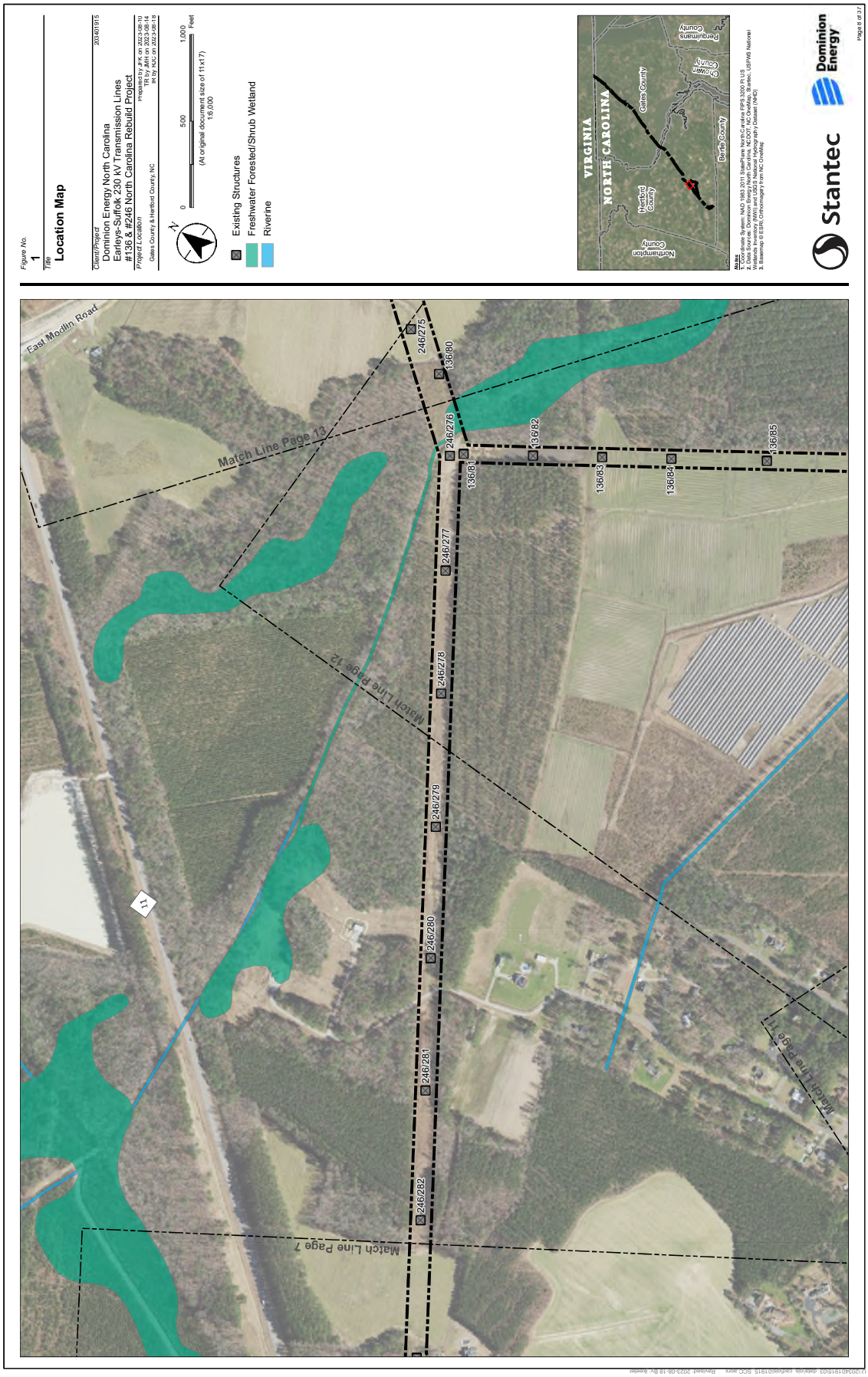
Figure No.
1
Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
20240195
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
IR by KAD on 2023-08-16
0
500
1,000
Feet
(At original document size of 11x17)
1:8,000
Existing Structures
Freshwater Forested/Shrub Wetland
Riverine
VIRGINIA
NORTH CAROLINA
Northampton County
Hertford County
Gates County
Chowan County
Perquimans County
Bertie County
Notes
1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Ft U S
2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), USGS National Hydrography Dataset (NHD)
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
East Modlin Road
Match Line Page 13
Match Line Page 12
Match Line Page 7
Match Line Page 17
246/275
136/80
246/276
136/82
136/81
136/83
136/84
136/85
246/277
246/278
246/279
246/280
246/281
246/282
11
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Page 6 of 37

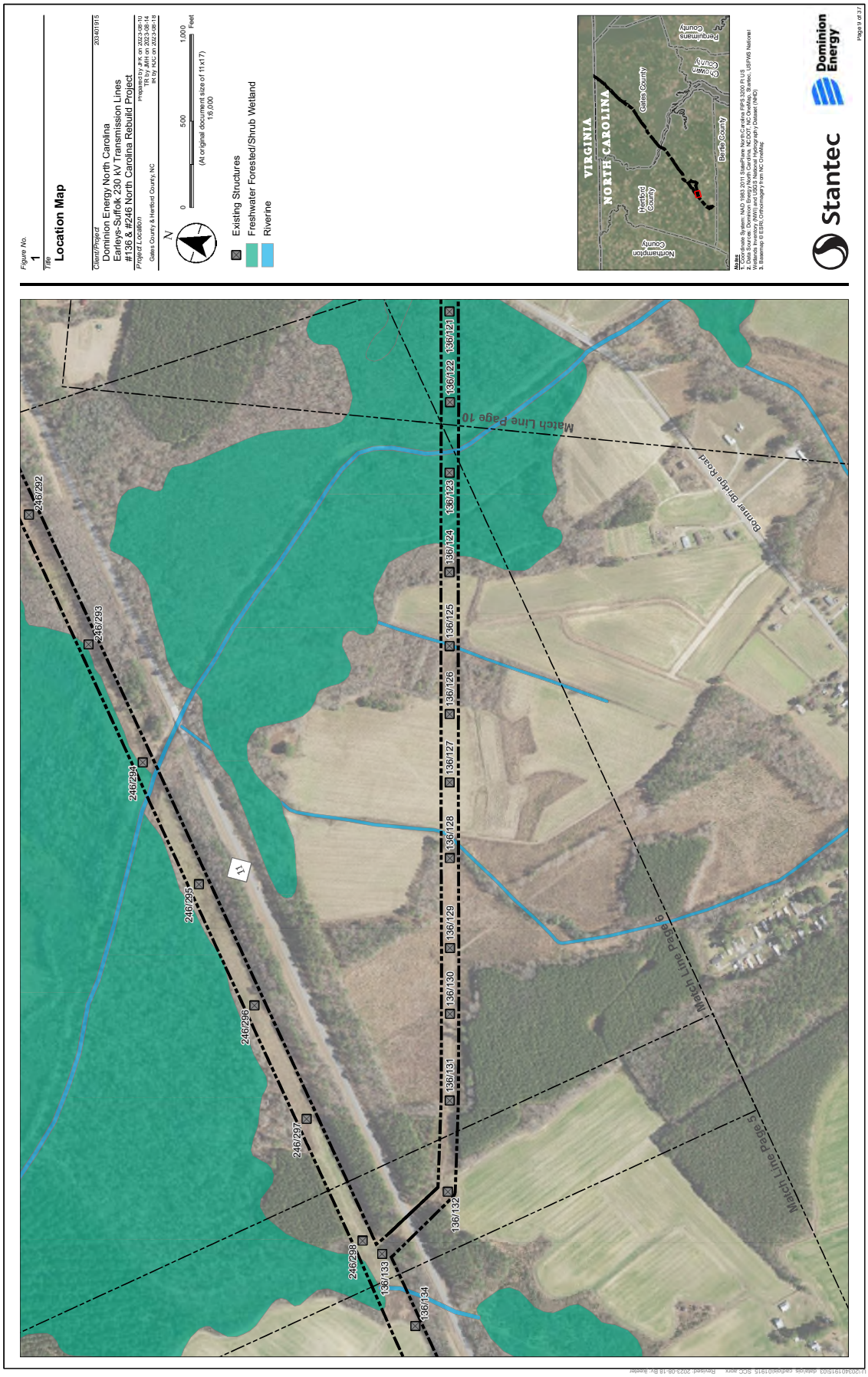
Figure No.
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Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
20240195
Project Location
Gates County & Hertford County, NC
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
IR by KAD on 2023-08-16
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Existing Structures
Freshwater Forested/Shrub Wetland
Riverine
VIRGINIA
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Northampton County
Hertford County
Gates County
Chowan County
Perquimans County
Bertie County
Notes
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2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), USGS National Hydrography Dataset (NHD)
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Page 9 of 37
Match Line Page 10
Bonner Bridge Road
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246/292
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136/121
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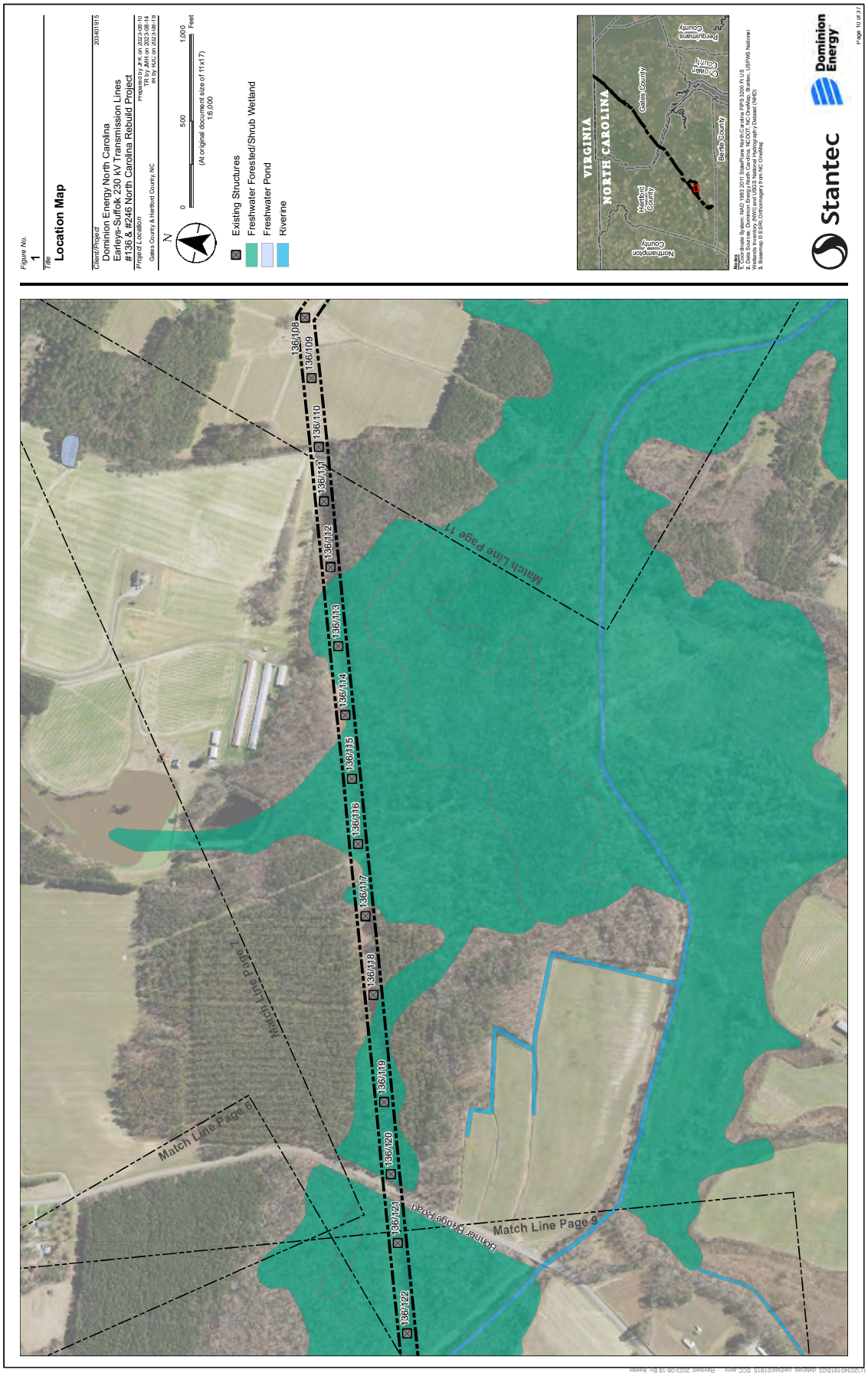
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Stantec
Dominion Energy
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136/109
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Bonner Bridge Road
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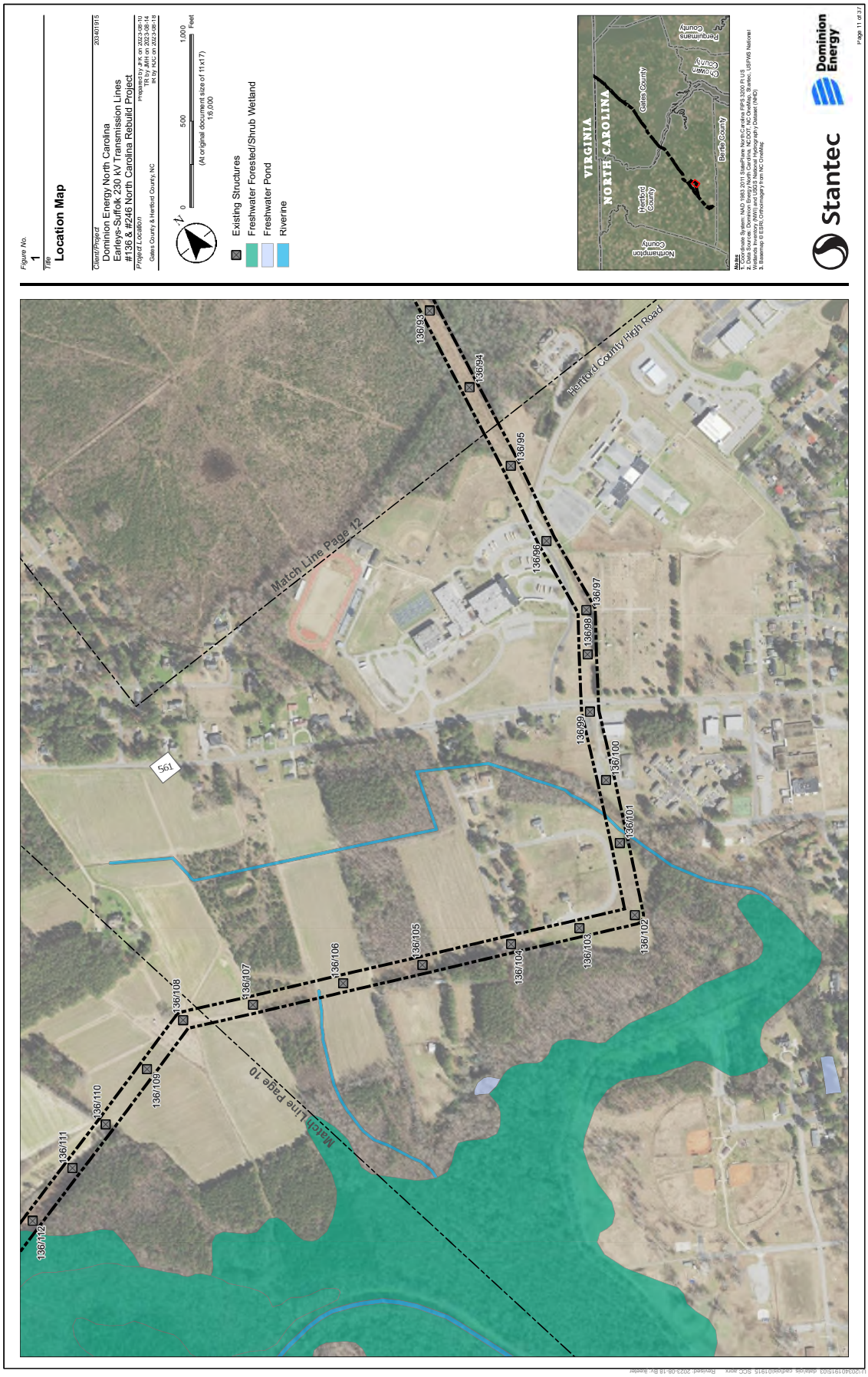
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Stantec
Dominion Energy
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136/93
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Hertford County High Road
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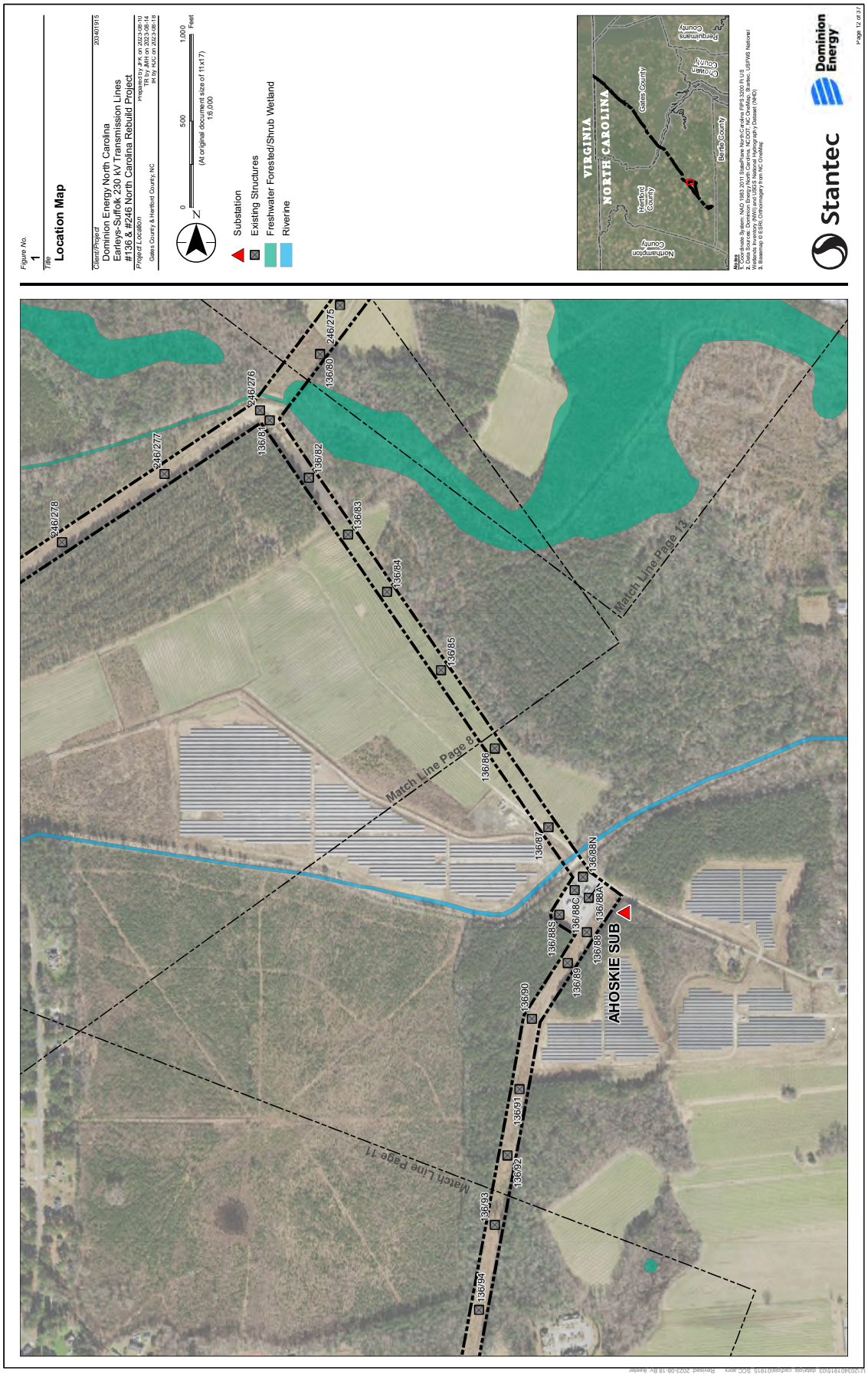
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Existing Structures
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Stantec
Dominion Energy
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Page 12 of 37
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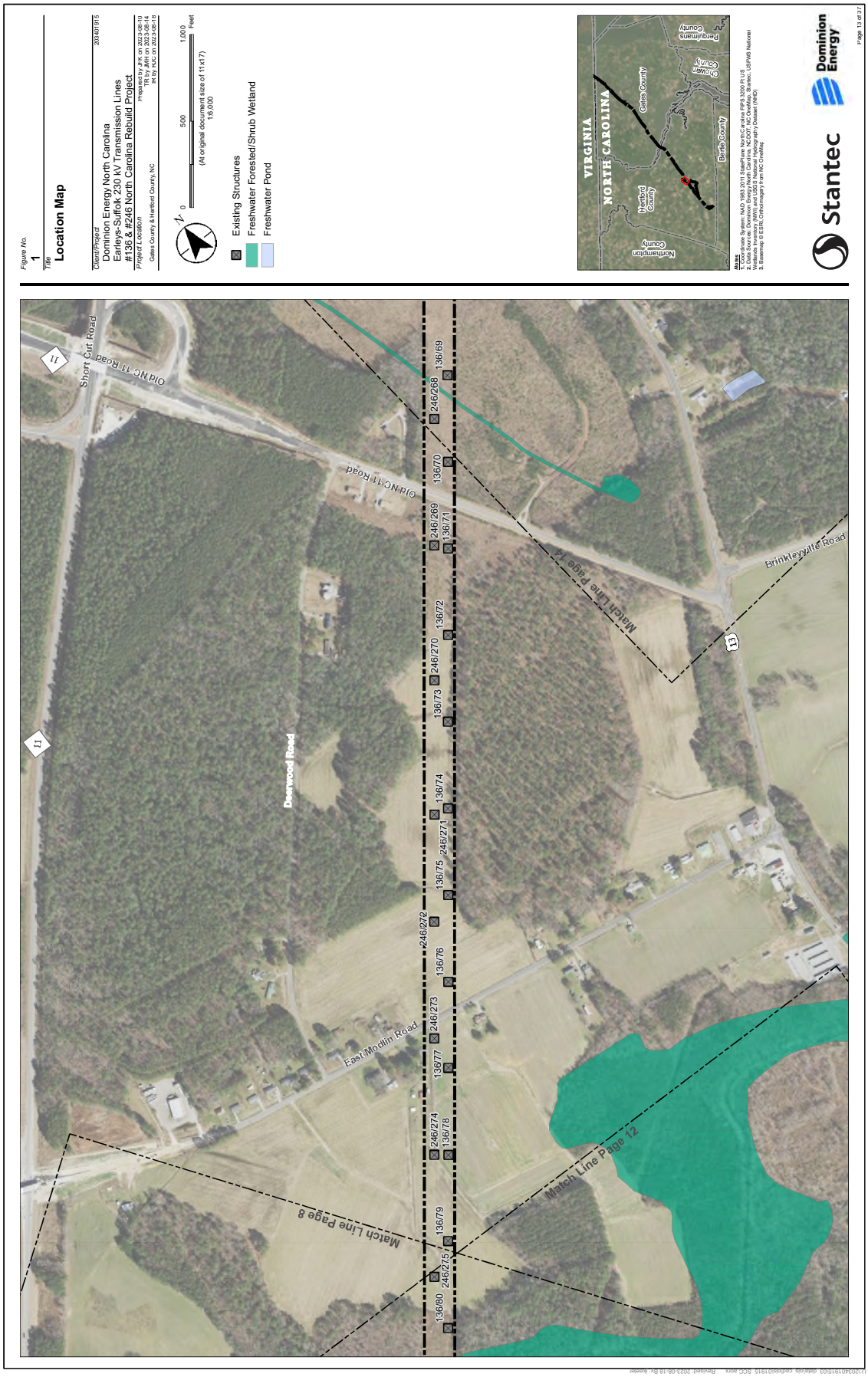
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Existing Structures
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Stantec
Dominion Energy
Page 13 of 37
Old NC 11 Road
Short Cut Road
Deerwood Road
East Modlin Road
Brinkleyville Road
Match Line Page 8
Match Line Page 12
Match Line Page 14
246/272
246/273
246/274
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136/70
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Location Map
Client/Project
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Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
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Stantec
Dominion Energy
Hall Siding Road
Brinkley Road
Brinkleyville Road
Old NC 11 Road
Match Line Page 15
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Page 14 of 37


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Location Map
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Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
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Stantec
Dominion Energy
Page 15 of 37
East Salutia Hall Road
Match Line Page 16
Match Line Page 14
Hall Siding Road
Brinkleyville Road
246/251
136/45
246/252
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246/254
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136/52
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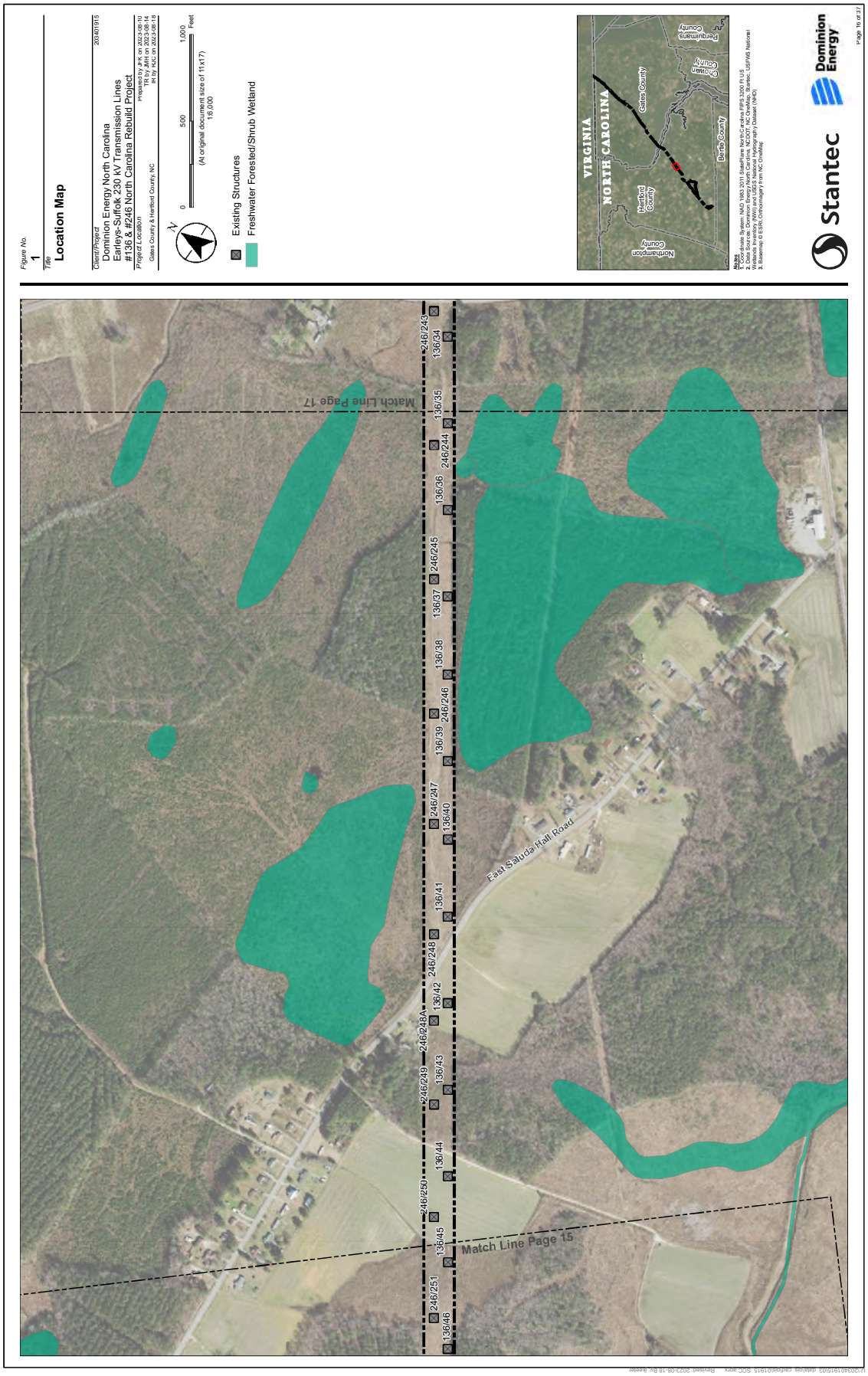
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Existing Structures
Freshwater Forested/Shrub Wetland
VIRGINIA
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3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Page 16 of 37
Match Line Page 17
Match Line Page 15
East Saluda Hall Road
246/243
136/34
136/35
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246/247
136/40
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136/46
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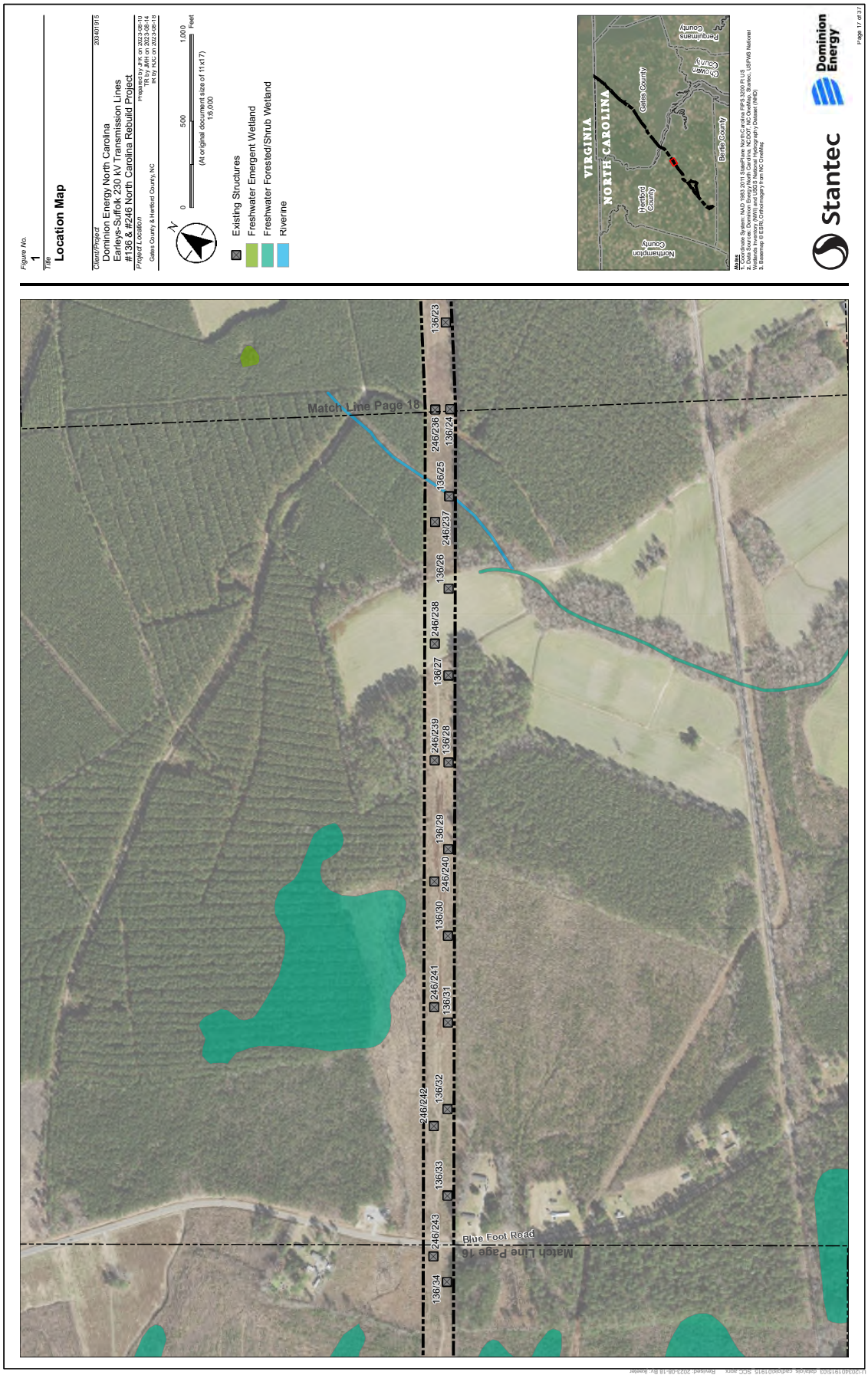
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Existing Structures
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Riverine
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Perquimans County
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3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Page 17 of 37
Match Line Page 18
Match Line Page 16
Blue Foot Road
136/23
246/236
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Stantec
Dominion Energy
Match Line Page 17
Match Line Page 19
Perdue Road
Perdue Road
Pisgah Cofield Road
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246/233
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Page 19 of 37
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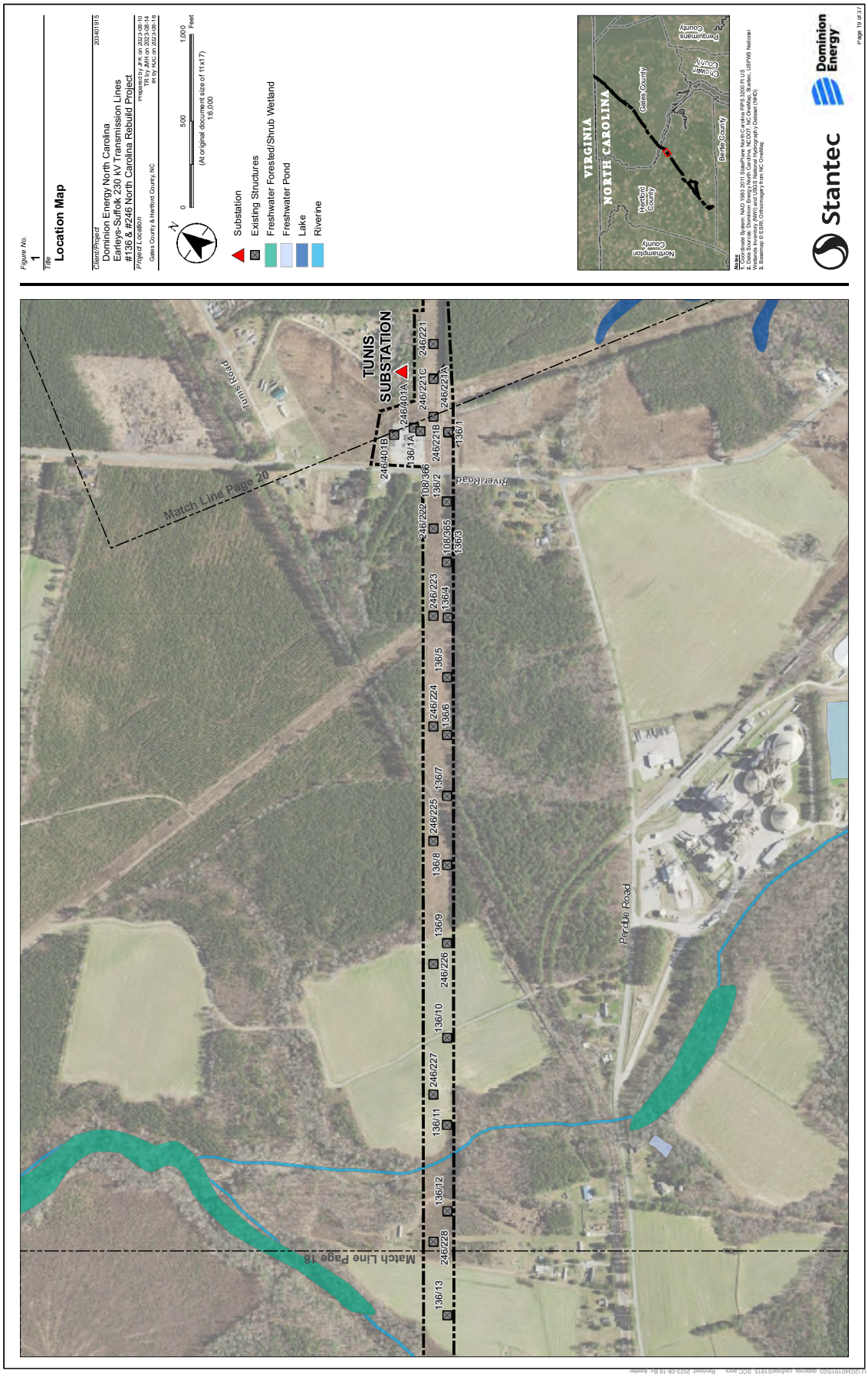
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Stantec
Dominion Energy
Page 19 of 37
TUNIS SUBSTATION
Tunis Road
River Road
Perdue Road
Match Line Page 18
Match Line Page 20
246/401B
246/401A
136/1A
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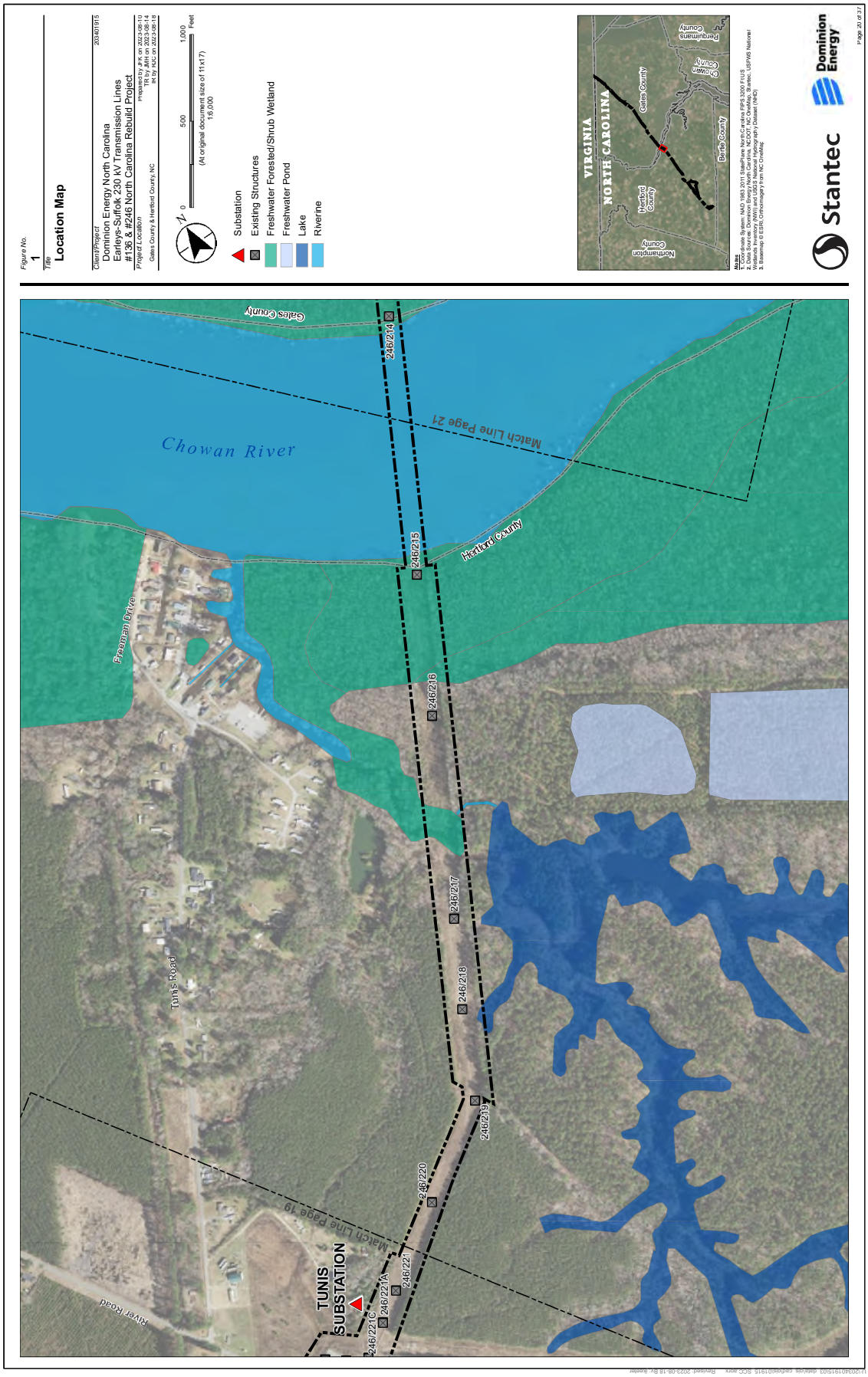
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Dominion Energy
Chowan River
Gates County
Match Line Page 21
Hertford County
Freeman Drive
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TUNIS SUBSTATION
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Page 20 of 37
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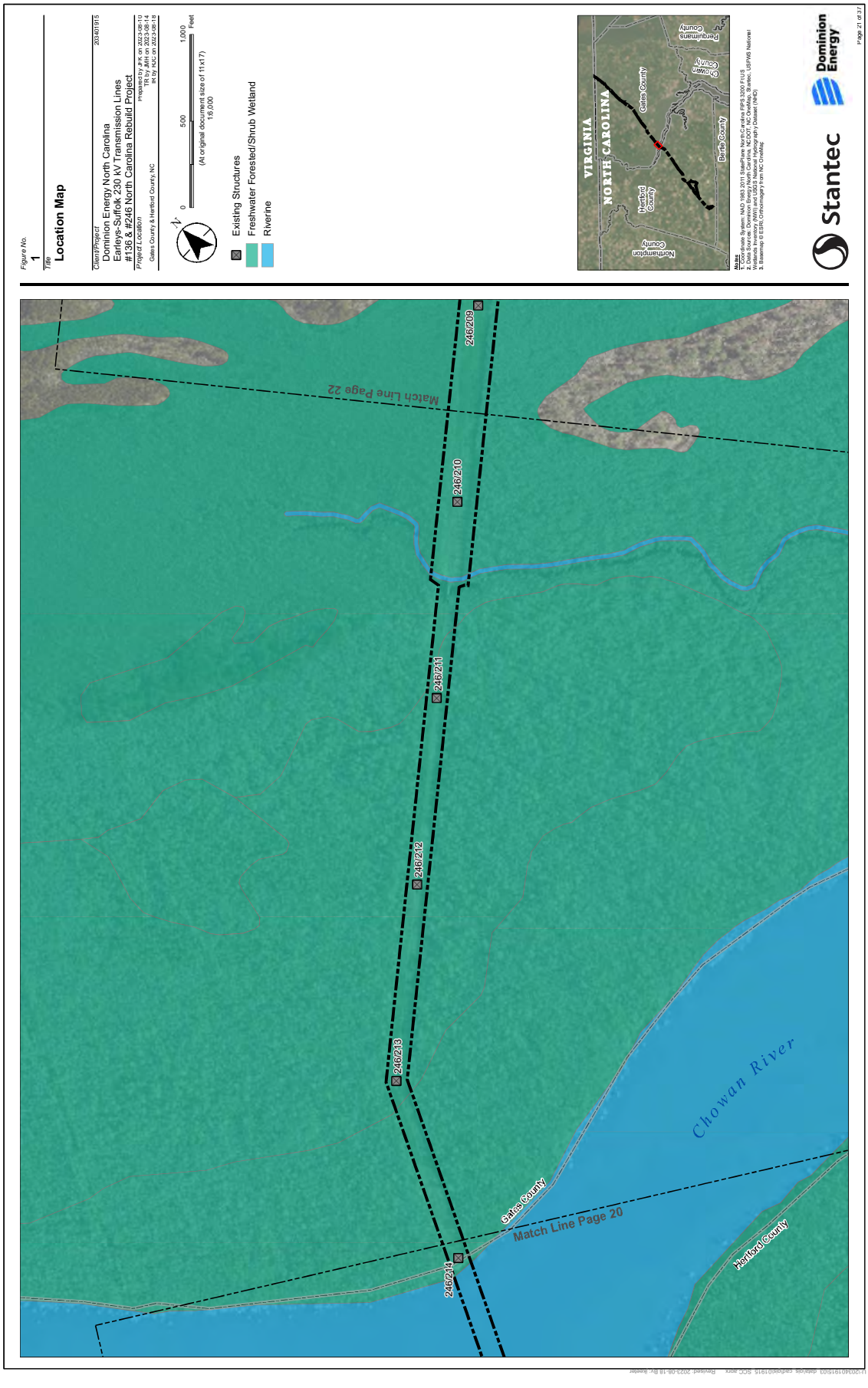
Figure No.
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Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
IR by KAS on 2023-08-15
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(At original document size of 11x17)
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Existing Structures
Freshwater Forested/Shrub Wetland
Riverine
VIRGINIA
NORTH CAROLINA
Northampton County
Hertford County
Gates County
Chowan County
Perquimans County
Bertie County
Notes
1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Feet US
2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), USGS National Hydrography Dataset (NHD)
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
246/209
246/210
246/211
246/212
246/213
246/214
Match Line Page 22
Match Line Page 20
Gates County
Hertford County
Chowan River
Page 21 of 37
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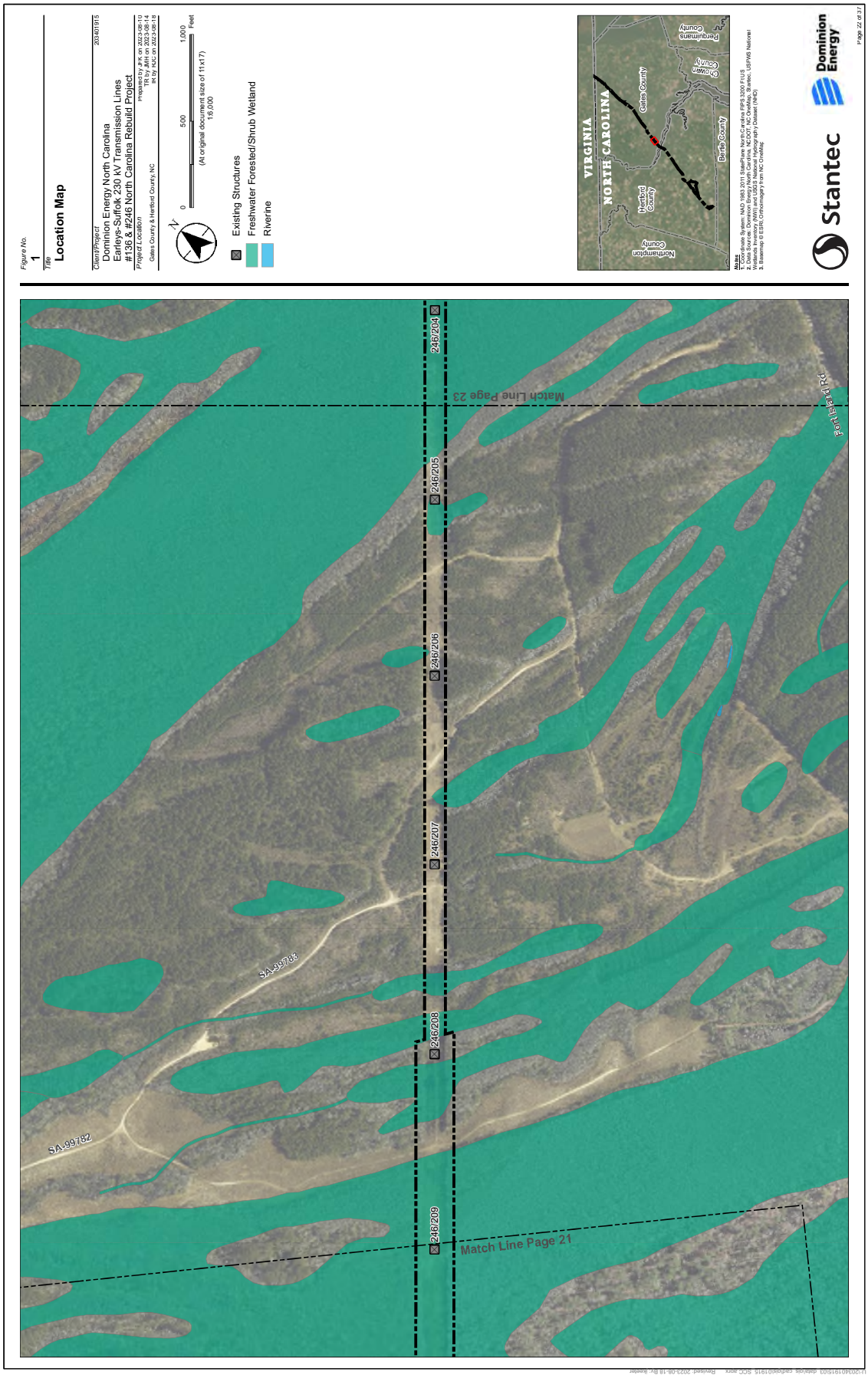
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Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
20240195
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
IR by KAD on 2023-08-16
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Existing Structures
Freshwater Forested/Shrub Wetland
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Northampton County
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Chowan County
Perquimans County
Bertie County
Notes
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3. Basemap: © ESRI, Orthoimagery from NC OneMap
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Dominion Energy
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Page 22 of 37
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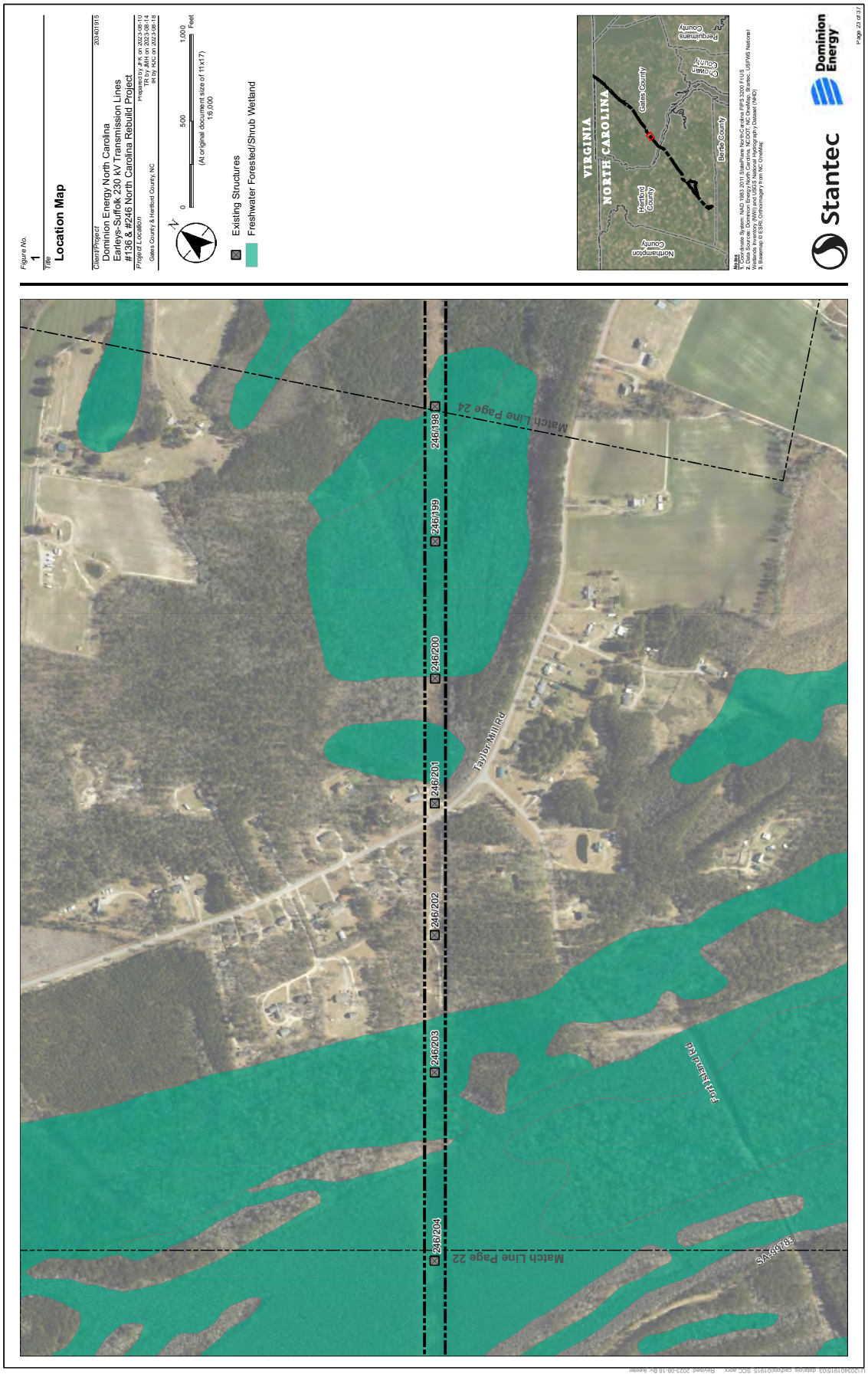
Figure No.
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Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
20240195
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Freshwater Forested/Shrub Wetland
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Chowan County
Perquimans County
Bertie County
Notes
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3. Basemap: © ESRI, Orthoimagery from NC OneMap
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Dominion Energy
246/198
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Match Line Page 24
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Taylor Mill Rd
Fort Isaac Rd
Page 20 of 37
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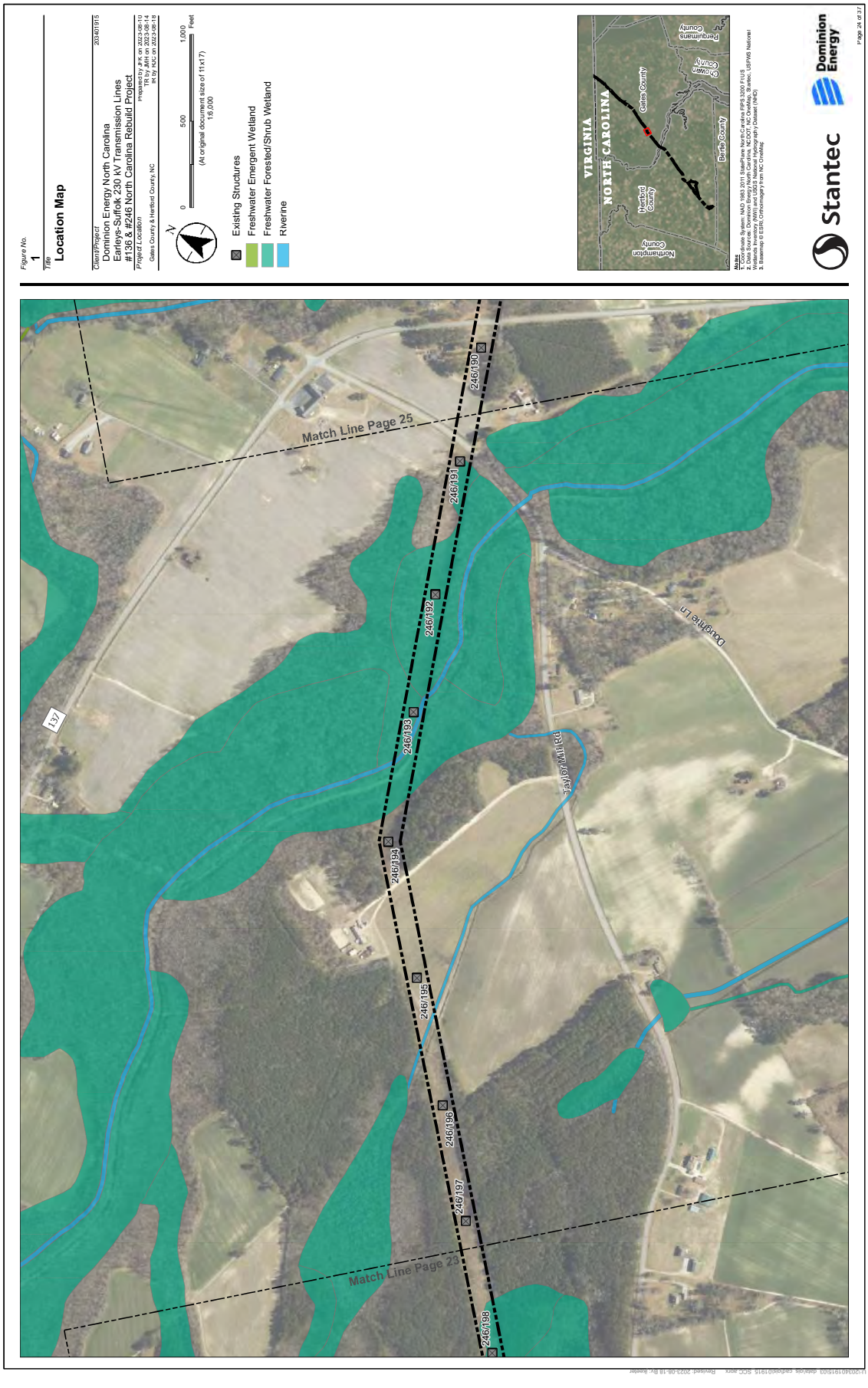
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Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
20240195
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Northampton County
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Chowan County
Perquimans County
Bertie County
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3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
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Match Line Page 27
246/190
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246/196
246/197
246/198
137
Doubletree Ln
Taylor Mill Rd
Page 24 of 37
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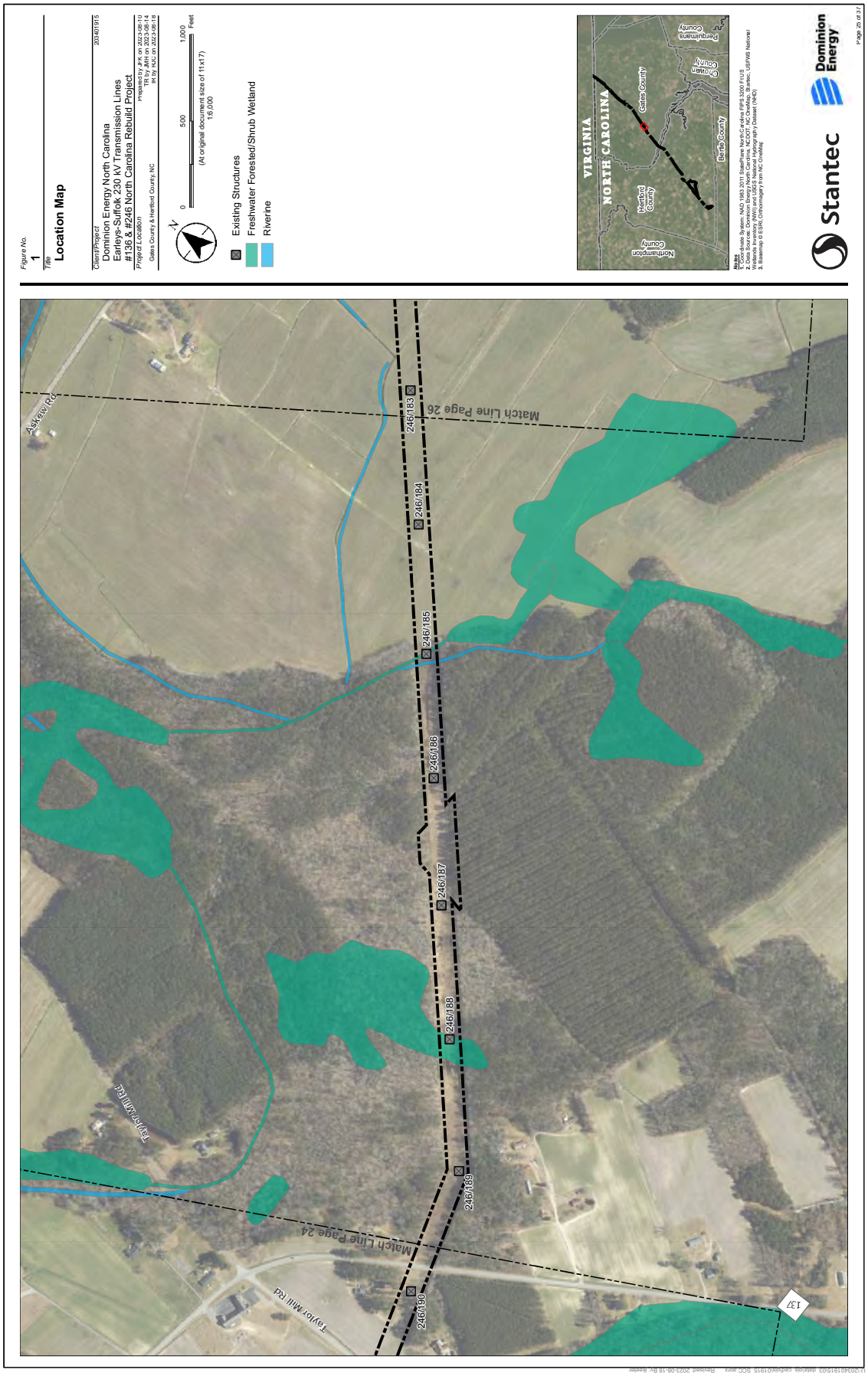
Figure No.
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Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
20240195
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Gates County
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Northampton County
Perquimans County
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Bertie County
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1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Ft U S
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3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Page 20 of 37
Match Line Page 26
Match Line Page 24
Askew Rd
Taylor Mill Rd
Pepper Mill Rd
246/183
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137
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Figure No.
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Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
20240195
Prepared by JFK on 2023-08-10
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IR by KAS on 2023-08-15
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Existing Structures
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Gates County
Hertford County
Northampton County
Chowan County
Perquimans County
Bertie County
Notes
1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Ft U.S
2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), NC Soil Survey Geographic Database (SSURGO)
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Match Line Page 27
Match Line Page 25
246/176
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Trinity Rd
Askew Rd
Page 26 of 37
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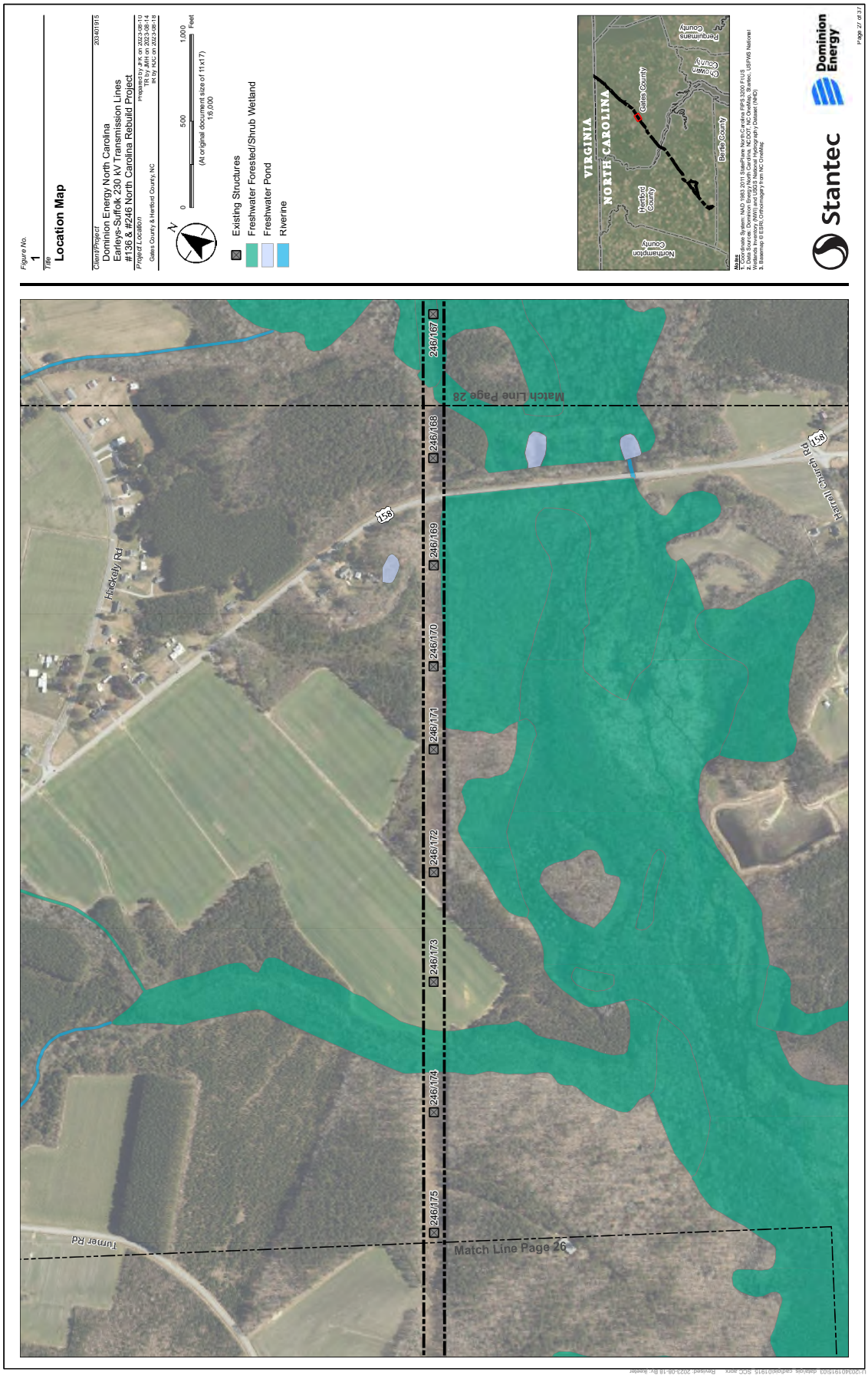
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Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
Prepared by JFK on 2023-08-10
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IR by KAS on 2023-08-16
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Existing Structures
Freshwater Forested/Shrub Wetland
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Northampton County
Hertford County
Gates County
Chowan County
Perquimans County
Pasquotank County
Camden County
Currituck County
Dare County
Tyrrell County
Hyde County
Beaufort County
Martin County
Bertie County
Notes
1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Feet US
2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), USGS National Hydrography Dataset (NHD)
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Page 27 of 37
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246/169
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246/172
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Match Line Page 28
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Heckety Rd
Turner Rd
Harrell Church Rd
158
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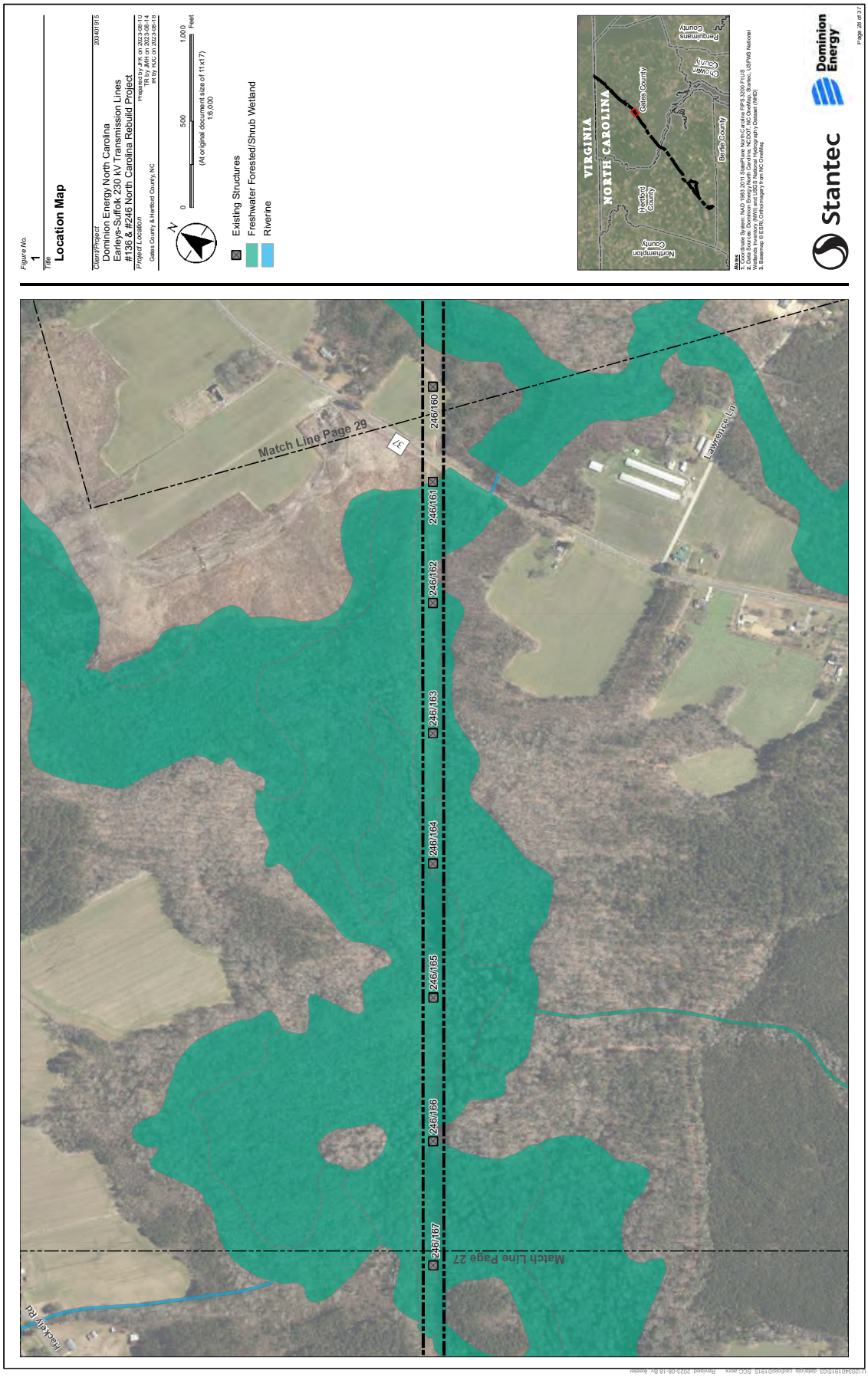
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Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
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Gates County
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Bertie County
Notes
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2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), USGS National Hydrography Dataset (NHD)
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Match Line Page 29
Match Line Page 27
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246/165
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246/167
37
Hickory Rd
Lawrence Ln
Page 28 of 37
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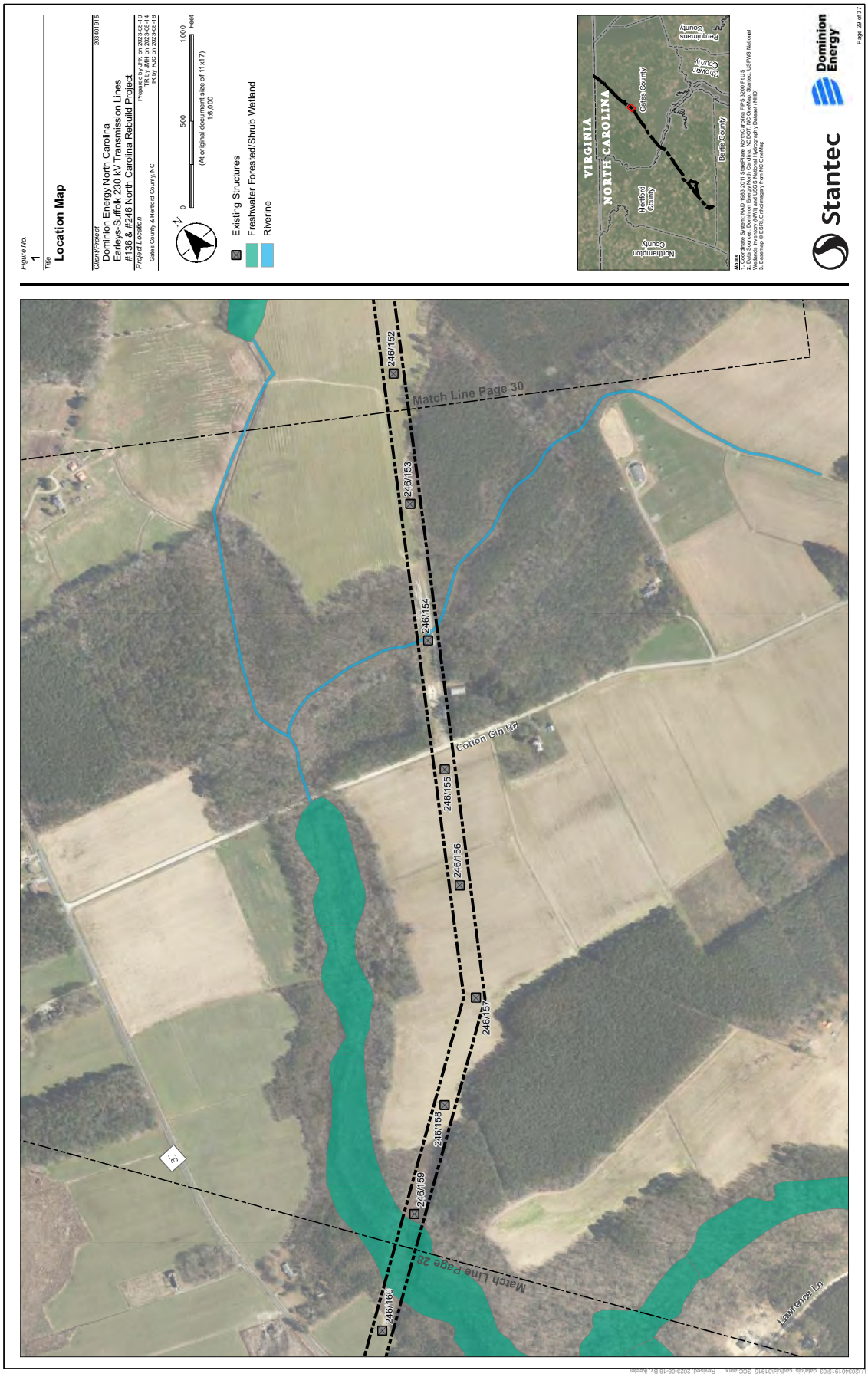
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Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
IR by KAC on 2023-08-16
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Northampton County
Perquimans County
Pasquotank County
Bertie County
Notes
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3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Page 29 of 37
246/152
246/153
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Match Line Page 30
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Cotton Gin Rd
Lawrence Ln
37
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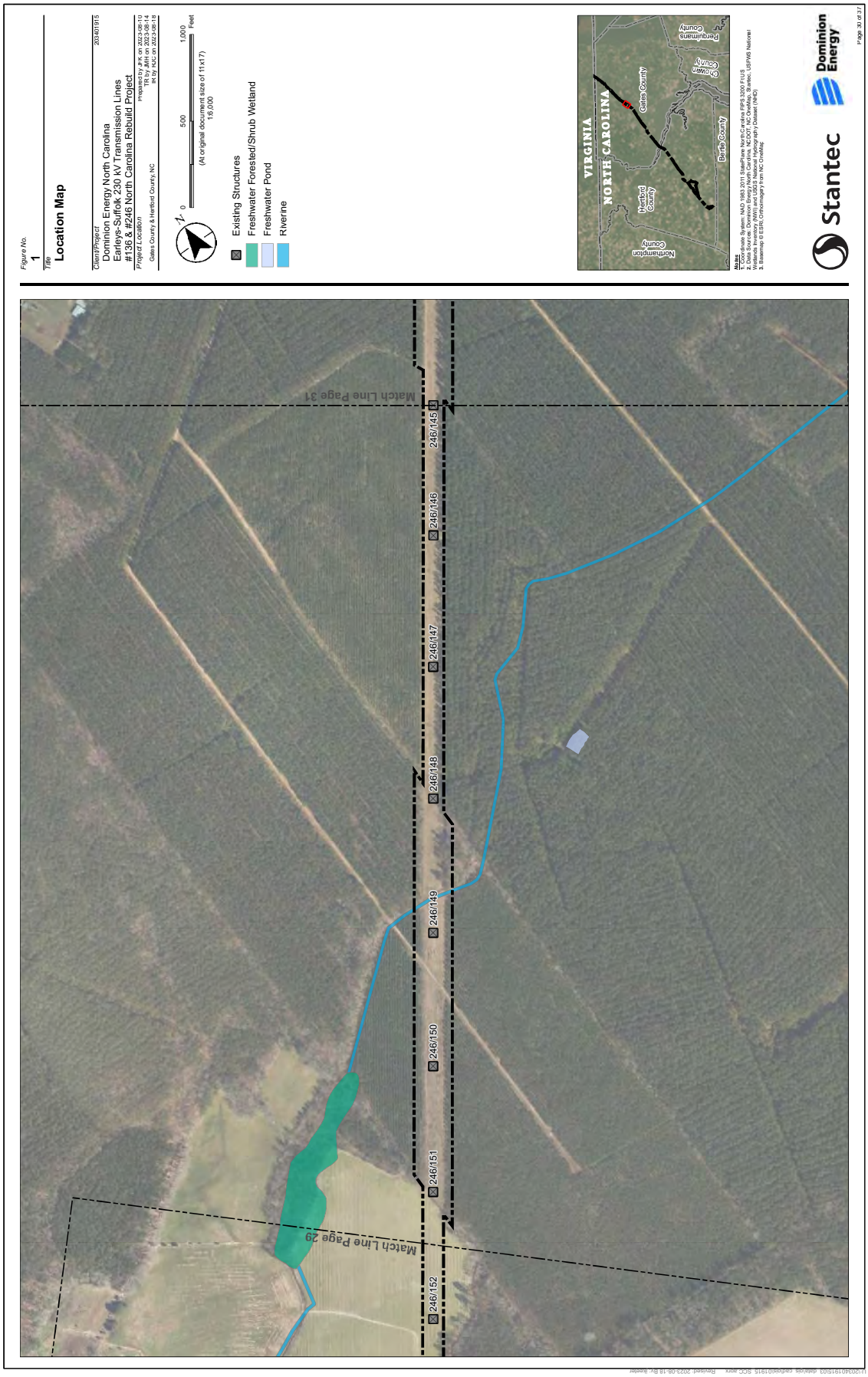

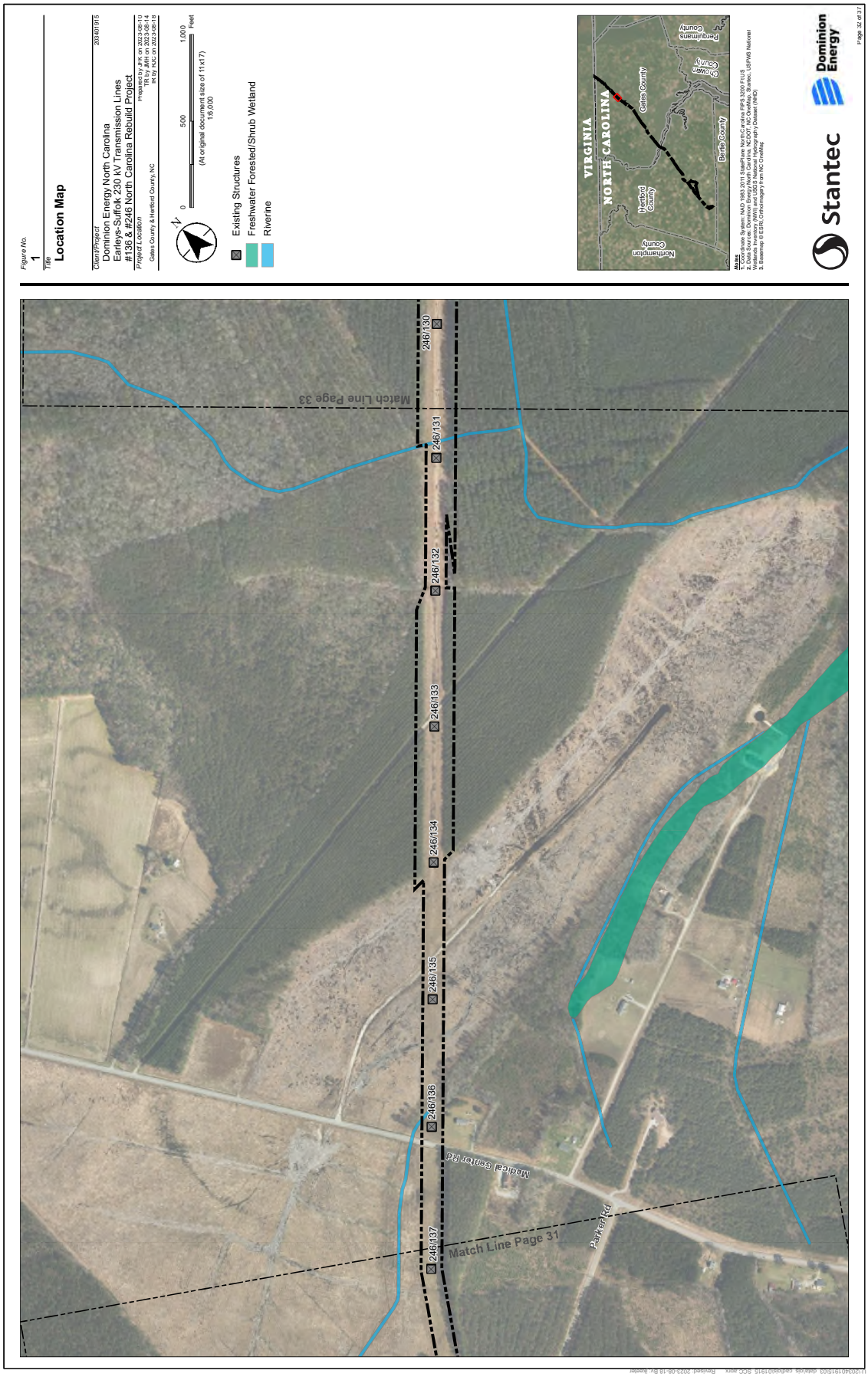
Figure No.
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Location Map
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Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
20240195
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3. Basemap: © ESRI, Orthoimagery from NC OneMap
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Dominion Energy
Match Line Page 33
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Match Line Page 31
Medical Center Dr
Parkland
Page 32 of 37
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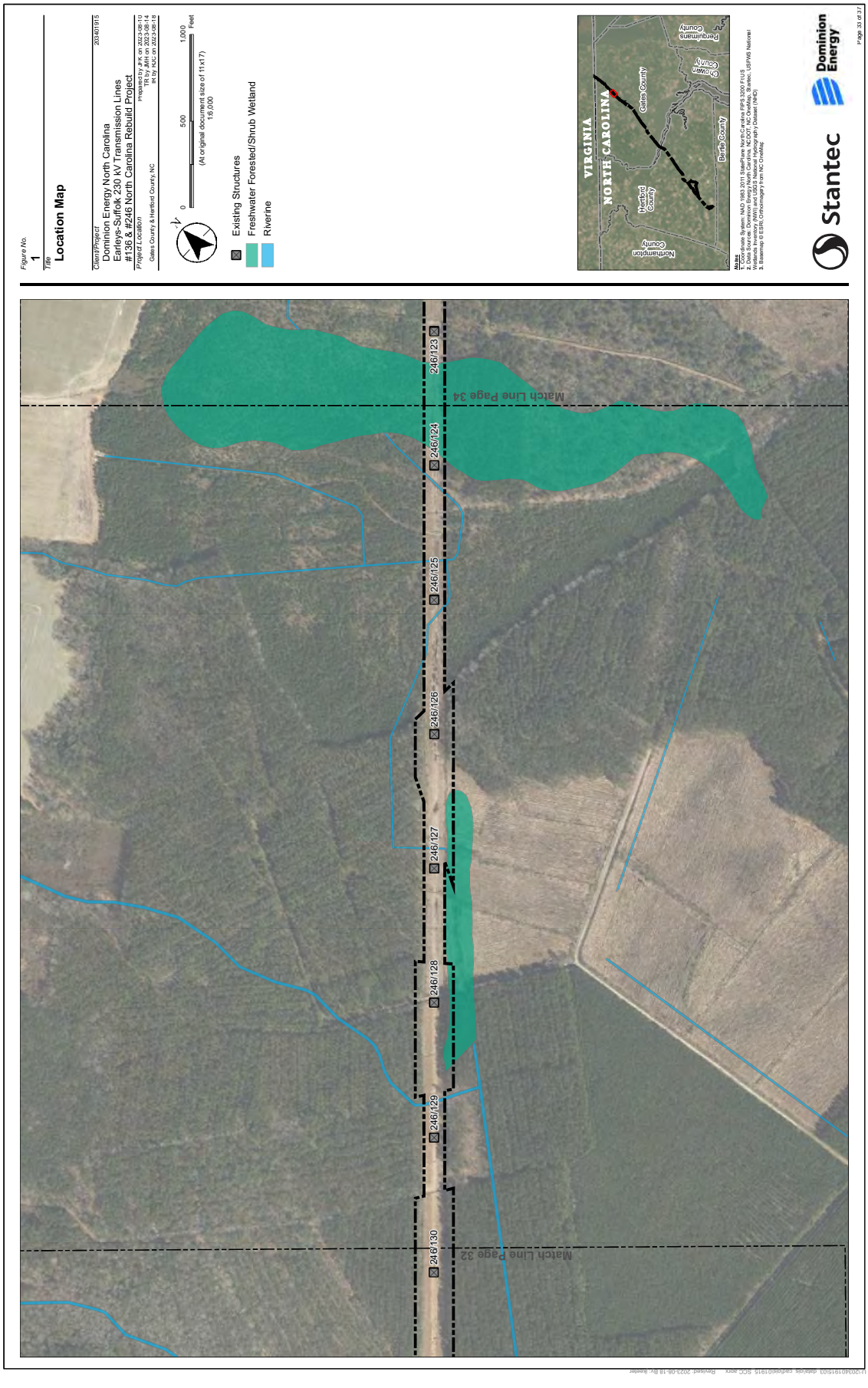
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Location Map
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Earleys-Suffolk 230 kV Transmission Lines
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20240195
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Stantec
Dominion Energy
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Page 33 of 37
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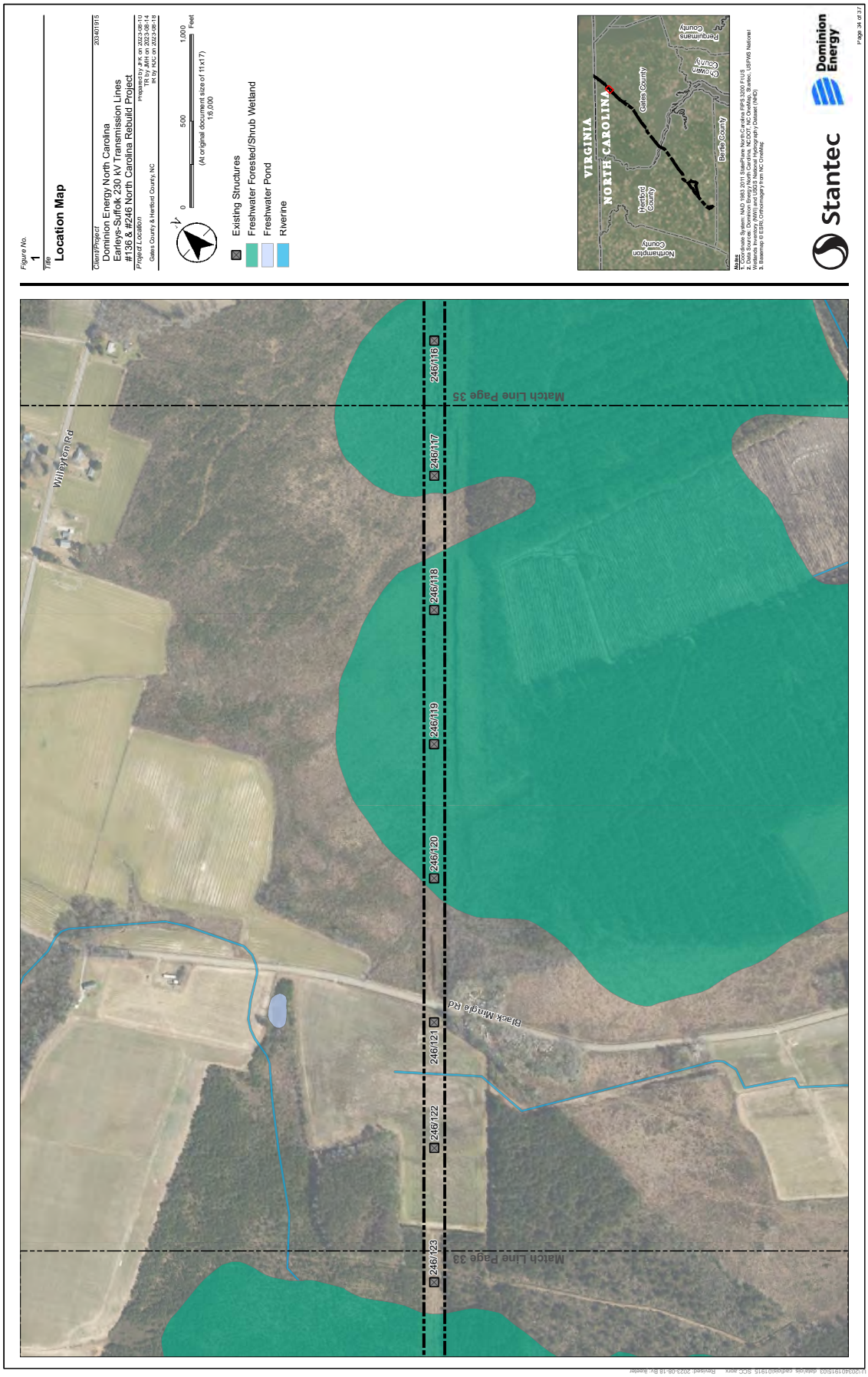
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Location Map
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#136 & #246 North Carolina Rebuild Project
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Gates County
Chowan County
Perquimans County
Bertie County
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3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Page 34 of 37
Match Line Page 35
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Willeyton Rd
Black Mingle Rd
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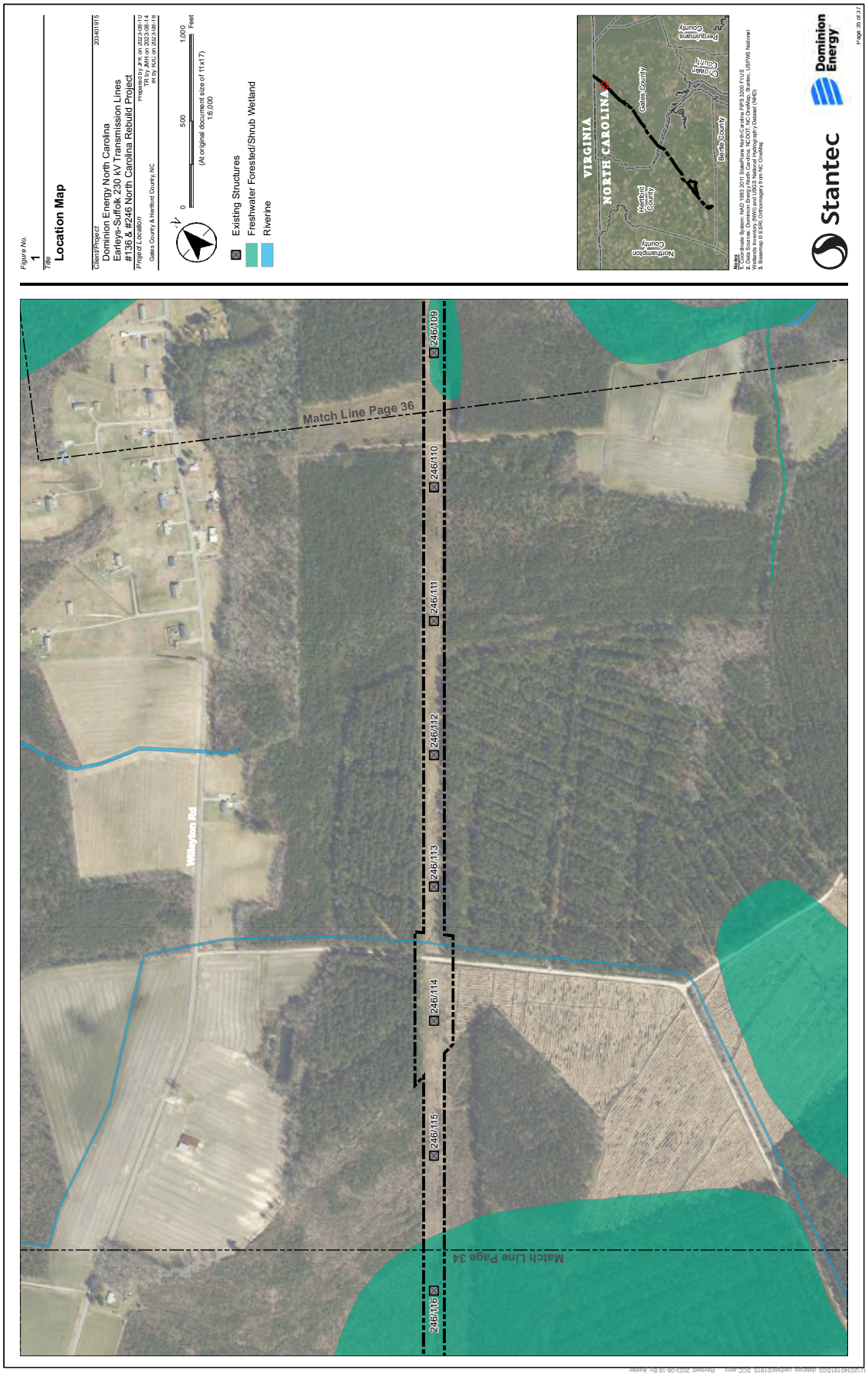
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Notes
1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Ft U S
2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), U.S. Census Bureau's Tiger Database (ArcGIS)
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Page 35 of 37
Match Line Page 36
Match Line Page 34
Willeyton Rd
246/109
246/110
246/111
246/112
246/113
246/114
246/115
246/116
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Figure No.
1
Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
20240191S
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
IR by KAD on 2023-08-15
0
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Feet
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Existing Structures
Freshwater Forested/Shrub Wetland
Riverine
VIRGINIA
NORTH CAROLINA
Northampton County
Hertford County
Gates County
Chowan County
Perquimans County
Bertie County
Notes
1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Ft U.S
2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), NHD, and Imagery Basemap (ArcGIS)
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Match Line Page 37
Drum Hill Rd
246/102
246/103
246/104
246/105
246/106
246/107
246/108
246/109
Whiteoak Rd
Match Line Page 35
Page 36 of 37
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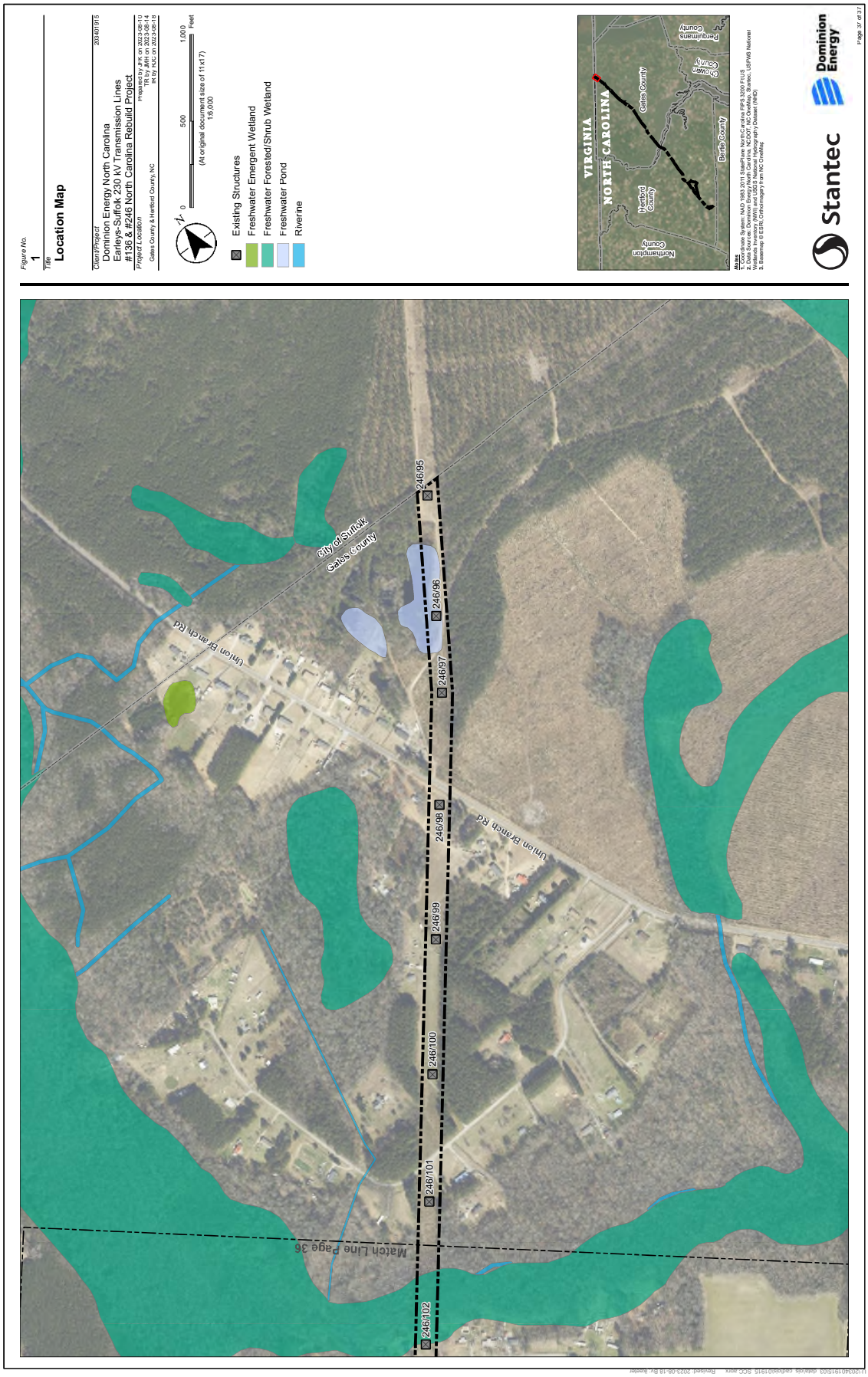
Figure No.
1
Title
Location Map
Client/Project
Dominion Energy North Carolina
Earleys-Suffolk 230 kV Transmission Lines
#136 & #246 North Carolina Rebuild Project
Project Location
Gates County & Hertford County, NC
20240195
Prepared by JFK on 2023-08-10
TR by JMH on 2023-08-14
IR by KAD on 2023-08-30
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Existing Structures
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Riverine
VIRGINIA
NORTH CAROLINA
Northampton County
Hertford County
Gates County
Bertie County
Perquimans County
Chowan County
Notes
1. Coordinate System: NAD 1983 2011 StatePlane North Carolina FIPS 3200 Feet US
2. Data Sources: Dominion Energy North Carolina, NCDOT, NC OneMap, Stantec, USFWS National Wetlands Inventory (NWI), NCSC, NCDEQ Forest Inventory Dataset (NHD)
3. Basemap: © ESRI, Orthoimagery from NC OneMap
Stantec
Dominion Energy
Page 37 of 37
246/95
246/96
246/97
246/98
246/99
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246/101
246/102
City of Suffolk
Gates County
Union Branch Rd
Match Line Page 36
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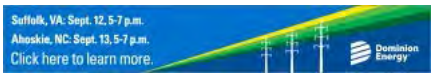
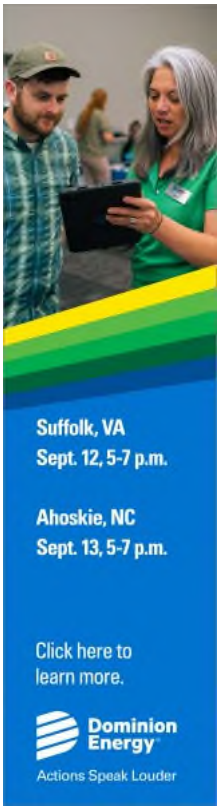
charles ryan associates

Dominion Energy Electric Transmission Contact:
Carrie Rose Pace, carrie.s.rose.pace@dominionenergy.com

Dominion Energy Electric Transmission

Earleys Tunis Suffolk Event Display





charles ryan associates

Dominion Energy Electric Transmission

Earleys Tunis Suffolk Event Nextdoor Imagery

Event Image:

charles ryan associates

Dominion Energy Electric Transmission

Earleys Tunis Suffolk Event Social Videos

Pre-event Video (Click to Play)

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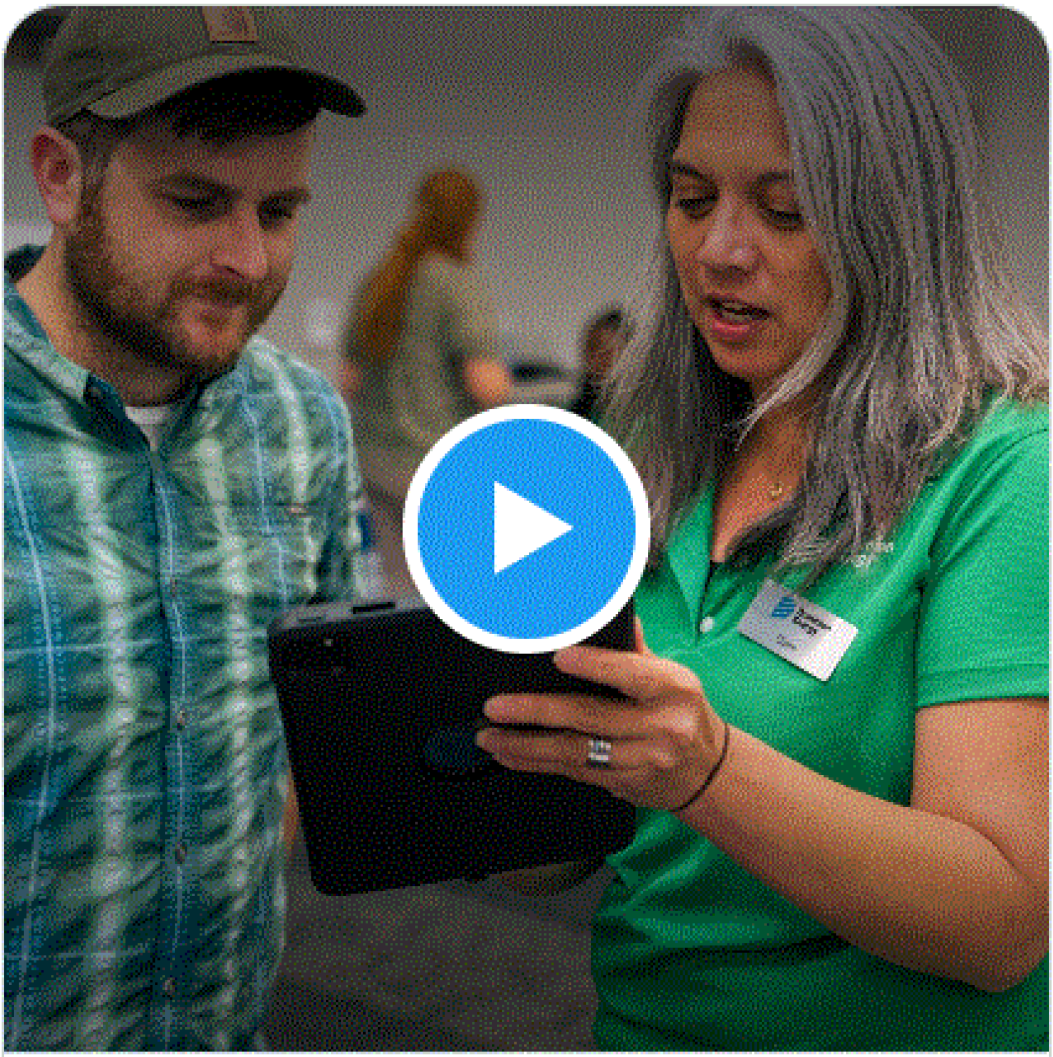
Dominion Energy
Electric Transmission

Earleys Tunis Suffolk Event
Newspaper

Dominion Energy @DominionEnergy

Join us for a Community Open House to learn more about the Earleys-Tunis-Suffolk Electric Transmission Line Rebuild Project taking place in the City of Suffolk and northeast North Carolina. This project will improve electric reliability in your area.



www.dominionenergy.com

Community Open Houses

Dominion Energy

Sponsored

Community Open Houses

Learn more about an electric transmission line rebuild project in your area.

September 12 & 13, 5 - 7 p.m.

Learn more

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 initial review of the existing transmission corridor for the Virginia Rebuild Project, the Company identified five unauthorized encroachments within the Virginia Rebuild Project corridor which include vehicles, debris, trailers, etc. 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 Virginia 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 Line #246 was completed in the early 1970s. The right-of-way was acquired in 1969 and has been in continuous use since that time. The proposed Virginia Rebuild Project shares the existing transmission corridor right-of-way with Line #247 from Structure #246/2 within the Company's existing Suffolk Substation to Structure #246/39, a distance of approximately four miles. Line #246 also parallels the CSX railroad from Suffolk Substation to Structure #246/15, a distance of approximately 1.39 miles (approximate distance is based on GIS date). The Line #246 right-of-way does not overlap with the CSX railroad. Based on aerial data, the CSX railroad bed is not being maintained and appears abandoned. The CSX railroad is located approximately 250 feet from the Company's right-of-way. The Virginia Rebuild Project does not otherwise parallel any other existing physical facilities.

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 City of Suffolk Comprehensive Plan, adopted April 1, 2015, was reviewed to evaluate the potential effect the Virginia Rebuild Project could have on future development. The placement and construction of electric transmission lines are not addressed within the Plan. Instead, the Comprehensive Plan addresses the development and growth of the City, and the preservation and enhancement of natural and cultural resources. The Virginia Rebuild Project is located entirely within the existing right-of-way or on Company-owned property and is not expected to affect land use. The Virginia Rebuild Project is not expected to impact the character of the community as the transmission corridor has been in use for over 50 years, and is also on land designated as either an Agricultural District or Heavy Industrial District. Any markings or lights that may be required by the Federal Aviation Administration due to a portion of Line #246 being located within the Airport Overlay District will be implemented during construction. The proximity of Line #246 will not be changing and will have no effect or electrical interference with navigational signals or radio communications.

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. The City of Suffolk has not designated important farmland within their jurisdiction pursuant to Va. Code § 3.2-205 B. See Attachment III.A.1 for a map depicting prime farmland and farmland of statewide importance.

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 Virginia 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 Virginia 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 and adjacent to the Virginia Rebuild Project right-of-way are provided in Section 2.I of the DEQ Supplement.
5. None.
6. None.
7. None.
8. None.
9. As described in Section II.A.6, the Virginia Rebuild Project crosses easements held by the VOF and DOF. These easements were obtained after the Company acquired easements for the right-of-way.
10. None.
11. None.
12. None.

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[9] to identify airports within 10.0 nautical miles of the proposed Virginia Rebuild Project. The following airports were identified:

- Suffolk Executive Airport, runway approximately 0.16 nautical miles west of the Virginia Rebuild Project.
- Hampton Roads Executive Airport, approximately 7.3 nautical miles northeast of the Suffolk Substation.

In an email dated September 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 Virginia 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.

[9] *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 Virginia 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 City of Suffolk regarding the proposed Virginia 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 Virginia Rebuild Project. See Sections 2.B and 2.D of the DEQ Supplement.

- The Company requested comments from the USFWS, DWR, and DCR regarding the proposed Virginia Rebuild Project. See Section 2.G of the DEQ Supplement.

- Letters were submitted to City of Suffolk pursuant to Va. Code § 15.2-2202 E to describe the Virginia Rebuild Project and request comment. See Section V.D of this Appendix.

- The Company solicited comments from the DOAv regarding the proposed Virginia Rebuild Project. See Attachment 2.O.2 of the DEQ Supplement.

- Letters were submitted to the agencies listed in Section V.C in September 2023, describing the Virginia Rebuild Project and requesting comment. A copy of a letter template sent to these agencies is included as Attachment 2.1 of the DEQ Supplement.

- In April and September 2023, the Company sent letters to the Virginia Department of Historic Resources. The DHR responded on May 16, 2023, and had no immediate concerns about the Virginia Rebuild Project. This correspondence is included as Attachment 2.I.1 of the DEQ Supplement.

- On April 19, 2023, the Company solicited comments via letter from several federally and state recognized Native American tribes and Tribal Nations with an interest in the project area, including:

Tribal - VA	Chief Walt “Red Hawk” Brown	Cheroenhaka (Nottoway) Indian Tribe
Tribal - VA	Mary Frances Wilkerson	Cheroenhaka (Nottoway) Indian Tribe
Tribal - VA	Chief Stephen Adkins	Chickahominy Indian Tribe
Tribal - VA	Assistant Chief Reginald Stewart	Chickahominy Indian Tribe
Tribal - VA	Chief Gerald A Stewart	Chickahominy Indian Tribe Eastern Division
Tribal - VA	Jessica Phillips	Chickahominy Indian Tribe Eastern Division
Tribal - VA	Dana Adkins	Chickahominy Tribe
Tribal - VA	Chief Mark Custalow	Mattaponi Tribe
Tribal - VA	Chief Kenneth Branham	Monacan Indian Nation
Tribal - VA & TDAT (Suffolk, Hertford & Gates)	Chief Keith Anderson	Nansemond Indian Nation
Tribal - VA	Chief Lynette Allston	Nottoway Indian Tribe of Virginia
Tribal - VA	SUB: Ms. Beth Roach	Nottoway Indian Tribe of Virginia
Tribal - VA & TDAT (Suffolk)	Chief Robert Gray	Pamunkey Indian Tribe
Tribal -	Shaleigh R. Howells	Pamunkey Indian Tribal Resource Office

VA		
Tribal - VA	Chief Charles (Bootsie) Bullock	Patawomeck Indian Tribe of Virginia
Tribal - VA	Chief G. Anne Richardson	Rappahannock Tribe
Tribal - VA	SUB: Assistant Chief	Rappahannock Tribe
Tribal - VA	Chief W. Frank Adams	Upper Mattaponi Indian Tribe
Tribal - VA	Leigh Mitchell	Upper Mattaponi Indian Tribe
Tribal - NC	Jamie Oxendine	Haliwa-Saponi Indian Tribe
Tribal - NC	Dr. Ogletree Richardson	Haliwa-Saponi Indian Tribe
Tribal - NC	Jonathan Caudill, Jr.	Meherrin Indian Tribe
Tribal - TDAT (Suffolk)	Carissa Speck	Delaware Nation of Oklahoma
Tribal - TDAT (Hertford & Gates)	Caitlin Rogers	Catawba Indian Nation
Tribal - TDAT (Hertford)	Bryan Printup	Tuscarora Nation

A copy of the letter template is included as Attachment III.J.1. The Company received a letter of concurrence from the Catawba Indian Nation on May 18, 2023. A copy of the letter is included as Attachment III.J.2. The Company also received a confirmation of receipt from the Delaware Nation of Oklahoma on May 24, 2023. A copy of the receipt is included as Attachment III.J.3.

Dominion Energy Virginia
Electric Transmission
P.O. Box 26666, Richmond, VA 23261-6666
DominionEnergy.com

April 19, 2023

Earleys-Tunis-Suffolk 230 kV and 115 kV Electric Transmission Line 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 as we have an upcoming project in the City of Suffolk, Virginia, and in the North Carolina counties of Hertford and Gates, and you may have an interest in this area. We are planning to rebuild two aging electric transmission lines. After more than five decades of dependable service, the structures and components on both lines are at the end of their service life. Replacing the equipment will maintain reliability for our customers.

Transmission Line 246 – Suffolk to Earleys substations

- 44.3 miles
- 230 kilovolt (kV)
- Previous material: wooden H-frame and weathering steel lattice structures
- New material: brown, weathering steel H-frame structures and galvanized steel lattice structures
- No new right of way is needed

Transmission Line 136 – Tunis to Earleys substations

- 14.8 miles
- 115 kV
- Previous material: wooden monopole structures
- New material: weathering steel monopole structures
- No new right of way is needed

Enclosed is a project overview map for your reference. The Virginia State Corporation Commission (SCC) does require a review of the portion (14.7 miles) of the 230 kV line that is in the City of Suffolk, Virginia. This project does not require review by the North Carolina Utilities Commission (NCUC).

We are only in the planning phase of the project and have not determined the exact locations of the new poles. However, we plan to rebuild each structure close to the original structure's

location within the existing right of way. Providing your input 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 an in-person community meeting in late summer 2023 before we submit the SCC application. Please visit the project webpage at DominionEnergy.com/Earleys for meeting 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 804-771-4878 or sending an email to carrie.s.rose.pace@dominionenergy.com. You may also contact Tribal Relations Manager Ken Custalow by sending an email to Ken.Custalow@dominionenergy.com.

Sincerely,

Carrie Rose Pace
Communications Specialist
The Electric Transmission Project Team

Earleys-Tunis-Suffolk 230 kV and 115 kV Electric Transmission Line Rebuild Project

Dominion Energy

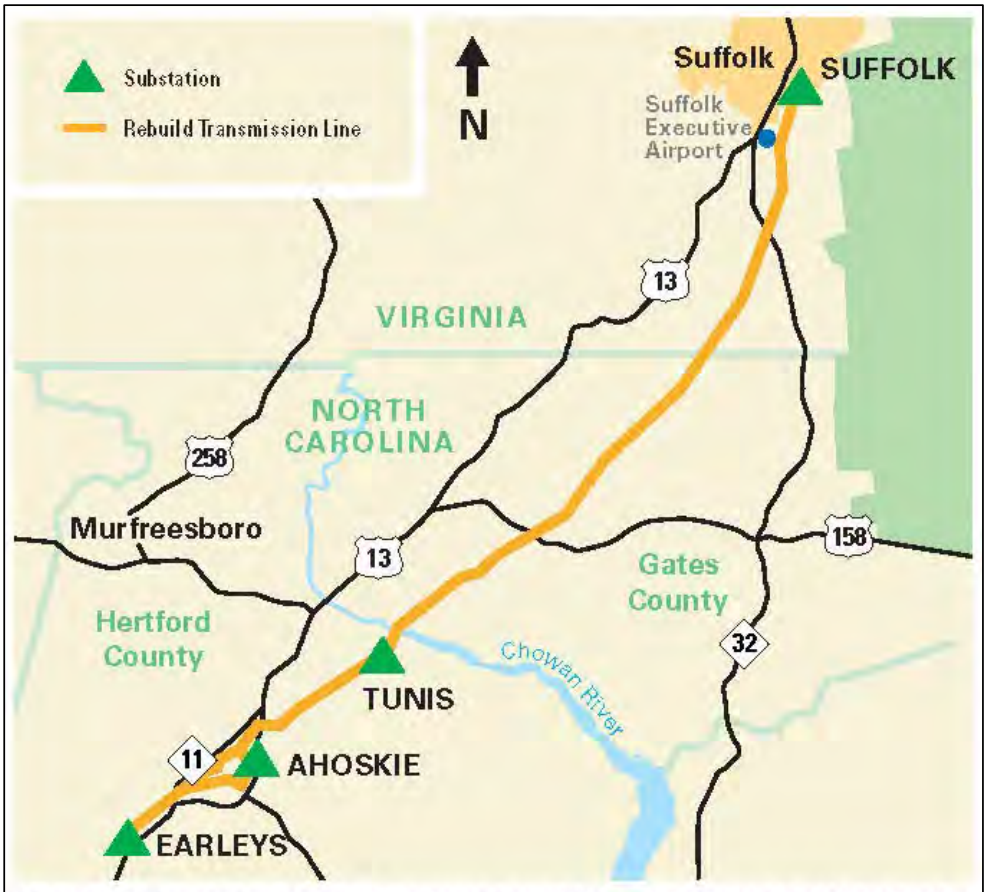
City of Suffolk, Virginia
Gates County, North Carolina
Hertford County, North Carolina

Photo by Tunis Substation

Project Proposal

Rebuild two aging electric transmission lines that are at the end of their service life after more than five decades of reliable service. No new right of way is needed.

- **230 kilovolt (kV) electric transmission line:**
  - Between our Suffolk and Earleys substations
  - 44.3 miles long
  - Was built on wooden H-frame and weathering steel lattice structures
  - Will rebuild using brown, weathering steel H-frame structures and galvanized steel lattice structures
- **115 kV electric transmission line:**
  - Between our Tunis and Earleys substations
  - 14.8 miles long
  - Was built on wooden monopole structures
  - Will rebuild this line using weathering steel monopole structures



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

Earleys-Tunis-Suffolk 230 kV and 115 kV Electric Transmission Line Rebuild Project

Dominion Energy

City of Suffolk, Virginia
Gates County, North Carolina
Hertford County, North Carolina

Photo by Tunis Substation

Project Timeline

Spring 2023	Project announcement; public engagement begins
Late summer 2023	Community Open Houses (to be announced)
Fall 2023	File project with the Virginia State Corporation Commission (SCC) *This project does not require review by the North Carolina Utilities Commission (NCUC)*
Fall 2024	Anticipated SCC project approval
2025	Right of way review and permitting
January 2026	Begin forestry activities
Spring 2026	Construction activities begin **Phase 1 (spring 2026 – fall 2027):** 230 kV rebuild between Suffolk and Tunis substations **Phase 2 (fall 2027 – summer 2028):** 230 kV and 115 kV rebuild between Tunis and Earleys substations
Summer 2028	Anticipated rebuild completion
Fall 2028 – spring 2029	Restoration activities, including vegetation management and rehabilitation

For more information about this project, visit our website at
DominionEnergy.com/Earleys.
Or contact us
email: powerline@dominionenergy.com
phone: 888-291-0190

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

May 18, 2023

Attention: Carrie Rose Pace
Dominion Energy
P.O. Box 26666
Richmond, VA 23261

Re. THPO #	TCNS #	Project Description
2023-1108-20		Earleys-Tunis-Suffolk 230 kV and 115 kV Electric Transmission Line Rebuild Project

Dear Ms. Pace,

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.

Sincerely,

Caitlin Rogers for

Wenonah G. Haire
Tribal Historic Preservation Officer

From: Carissa Speck <cspeck@delawarenation-nsn.gov>
Sent: Wednesday, May 24, 2023 12:04 PM
To: Carrie S Rose Pace (DEV Trans Distribution - 1)
Cc: Ken Custalow (Services - 6)
Subject: [EXTERNAL] RE: Dominion Energy: Earleys-Tunis-Suffolk 230 kV and 115 kV Electric Transmission Line Rebuild Project

Received. Thank you.

From: carrie.s.rose.pace@dominionenergy.com <carrie.s.rose.pace@dominionenergy.com>
Sent: Tuesday, April 18, 2023 4:10 PM
To: Carissa Speck <cspeck@delawarenation-nsn.gov>
Cc: ken.custalow@dominionenergy.com
Subject: Dominion Energy: Earleys-Tunis-Suffolk 230 kV and 115 kV Electric Transmission Line Rebuild Project

Good afternoon Ms. Speck,

We are mailing a project announcement letter to your office tomorrow. A PDF letter copy is attached for your records.

The project website URL referenced in the letter is currently in production, and should be live later this week in conjunction with the mailing.

Please do not hesitate to connect with us if we may assist.

Warmly,

Carrie Rose Pace
Communications Specialist
Electric Transmission

Dominion Energy
5000 Dominion Boulevard, Glen Allen, VA 23060
Mailing Address: P.O. Box 26666, Richmond, VA 23261
O: 804-771-4878 C: 804-664-6422

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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: On April 19, 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 community leaders, environmental groups, and business groups identified below also were included in the Company's public mailing (see Attachment III.B.3), which invited communities to the public meetings.

Name	**Organization**
Ms. Elizabeth S. Kostelny	Preservation Virginia
Mr. Thomas Gilmore	American Battlefield Trust
Mr. Jim Campi	American Battlefield Trust
Mr. Max Hokit	American Battlefield Trust
Ms. Eleanor Breen	Council of Virginia Archaeologists
Ms. Leighton Powell	Scenic Virginia
Ms. Elaine Chang	National Trust for Historic Preservation
Mr. Roger Kirchen, Archaeologist	Virginia Department of Historic Resources
Ms. Adrienne Birge-Wilson	Virginia Department of Historic Resources
Mr. Dave Dutton	Dutton + Associates, LLC

Dominion Energy Virginia
Electric Transmission
P.O. Box 26666, Richmond, VA 23261-6666
DominionEnergy.com

April 19, 2023

Earleys-Tunis-Suffolk 230 kV and 115 kV Electric Transmission Line 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 infrastructure projects. We are reaching out to you as we have an upcoming project in the City of Suffolk, Virginia, and in the North Carolina counties of Hertford and Gates, and you may have an interest in this area.

We are planning to rebuild two aging electric transmission lines. After more than five decades of dependable service, the structures and components on both lines are at the end of their service life. Replacing this equipment will maintain reliability for our customers.

Transmission Line 246 – Suffolk to Earleys substations

- 44.3 miles
- 230 kilovolt (kV)
- Previous material: wooden H-frame and weathering steel lattice structures
- New material: brown, weathering steel H-frame structures and galvanized steel lattice structures
- No new right of way is needed

Transmission Line 136 – Tunis to Earleys substations

- 14.8 miles
- 115 kV
- Previous material: wooden monopole structures
- New material: weathering steel monopole structures
- No new right of way is needed

Enclosed is a project overview map for your reference. The Virginia State Corporation Commission (SCC) does require a review of the portion (14.7 miles) of the 230 kV line that is in the City of Suffolk, Virginia. This project does not require review by the North Carolina Utilities Commission (NCUC).

We are only in the planning phase of the project and have not determined the exact locations of the new poles. However, we plan to rebuild each structure close to the original structure's location within the existing right of way. Providing your input 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 an in-person community meeting in late summer 2023 before we submit the SCC application. Please visit the project webpage at DominionEnergy.com/Earleys for meeting 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 804-771-4878 or sending an email to carrie.s.rose.pace@dominionenergy.com.

Sincerely,

Carrie Rose Pace
Communications Specialist
The Electric Transmission Project Team

Earleys-Tunis-Suffolk 230 kV and 115 kV Electric Transmission Line Rebuild Project

Dominion Energy

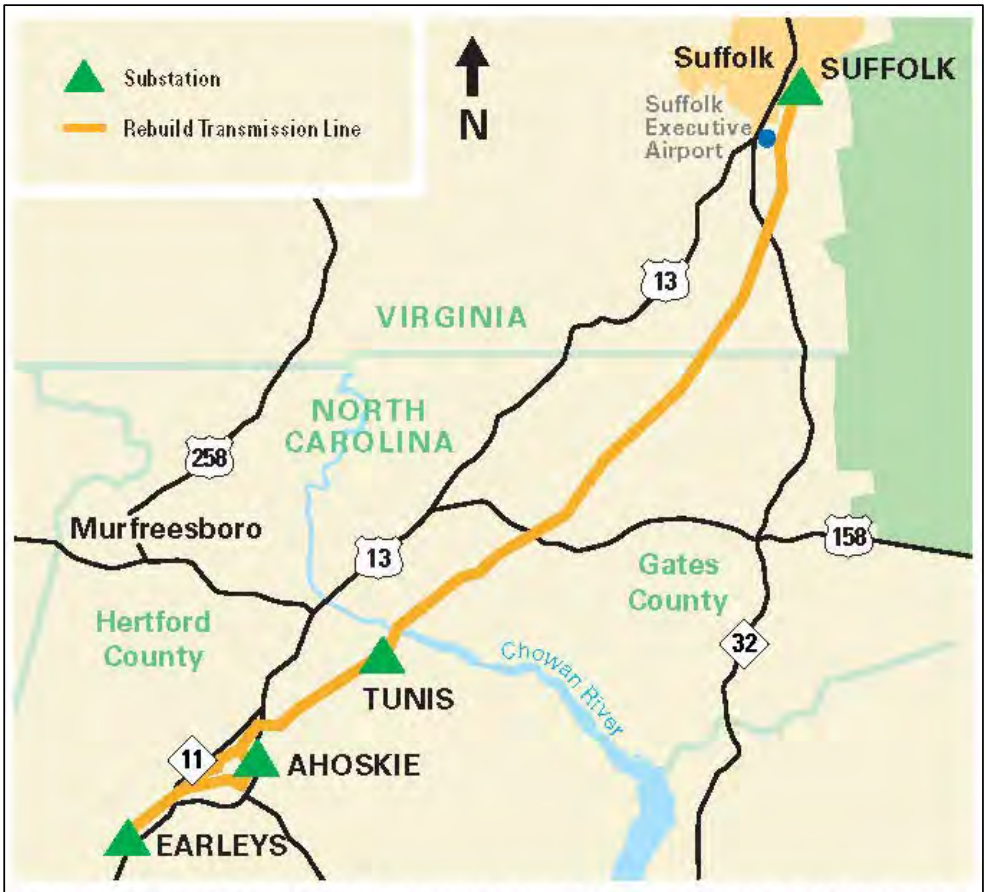
City of Suffolk, Virginia
Gates County, North Carolina
Hertford County, North Carolina

Photo by Tunis Substation

Project Proposal

Rebuild two aging electric transmission lines that are at the end of their service life after more than five decades of reliable service. No new right of way is needed.

- **230 kilovolt (kV) electric transmission line:**
  - Between our Suffolk and Earleys substations
  - 44.3 miles long
  - Was built on wooden H-frame and weathering steel lattice structures
  - Will rebuild using brown, weathering steel H-frame structures and galvanized steel lattice structures
- **115 kV electric transmission line:**
  - Between our Tunis and Earleys substations
  - 14.8 miles long
  - Was built on wooden monopole structures
  - Will rebuild this line using weathering steel monopole structures



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

Earleys-Tunis-Suffolk 230 kV and 115 kV Electric Transmission Line Rebuild Project

Dominion Energy

City of Suffolk, Virginia
Gates County, North Carolina
Hertford County, North Carolina

Photo by Tunis Substation

Project Timeline

Spring 2023	Project announcement; public engagement begins
Late summer 2023	Community Open Houses (to be announced)
Fall 2023	File project with the Virginia State Corporation Commission (SCC) *This project does not require review by the North Carolina Utilities Commission (NCUC)*
Fall 2024	Anticipated SCC project approval
2025	Right of way review and permitting
January 2026	Begin forestry activities
Spring 2026	Construction activities begin **Phase 1 (spring 2026 – fall 2027):** 230 kV rebuild between Suffolk and Tunis substations **Phase 2 (fall 2027 – summer 2028):** 230 kV and 115 kV rebuild between Tunis and Earleys substations
Summer 2028	Anticipated rebuild completion
Fall 2028 – spring 2029	Restoration activities, including vegetation management and rehabilitation

For more information about this project, visit our website at
DominionEnergy.com/Earleys.
Or contact us
email: powerline@dominionenergy.com
phone: 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

May 16, 2023

Carrie Rose Pace
Dominion Energy Virginia
Electric Transmission
P.O. Box 26666
Richmond, VA 23261

Re: Earleys-Tunis-Suffolk 230 kv and 115kv Transmission Line
City of Suffolk, Virginia
DHR File No. 2023-3145

Dear Ms. Rose Pace,

We have received your request for comments on the project referenced above. The undertaking, as presented, involves the rebuild of a 230 kv line in the City of Suffolk, Virginia and in North Carolina. 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 notice, the proposed project does meet the requirements to be filed with the Virginia State Corporation Commission (SCC). Typically, for SCC permitted projects, we recommend that Dominion follows the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia,* developed by DHR and the SCC 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.

Sincerely,

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

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

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 Virginia Rebuild Project.

Potential Permits

Activity	Permit	Agency
Impacts to wetlands and waters of the U.S.	Nationwide Permit	U.S. Army Corps of Engineers
Impacts to wetlands and waters of the U.S.	Virginia Water Protection Permit	Virginia Department of Environmental Quality
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 (2028) annual average and maximum (peak) loading conditions.

Existing line – Historical Average Loading in 2022

EMF levels were calculated for the existing line at the ***historical average*** load condition of 232 amps at an operating voltage of 230 kV when supported on the existing structures – see Attachment II.A.5.a and b.

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

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

Existing Line - Historic Average Loading (2022)

	Left Edge ROW Per II.A.5 Drawing View		**Right Edge ROW Per II.A.5 Drawing View**	
Attachment	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.5.a	1.4	14	1.4	14
II.A.5.b	2.4	14	1.4	13

Existing line – Historical Peak Loading in 2022

EMF levels were calculated for the existing line at the ***historical peak*** load condition of 986 amps and at an operating voltage of 230 kV when supported on the existing structures – see Attachment II.A.5.a and b.

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

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

Existing Line - Historic Average Loading (2022)

Attachment	Left Edge ROW Per II.A.5 Drawing View		Right Edge ROW Per II.A.5 Drawing View	
	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.5.a	1.4	60	1.4	60
II.A.5.b	2.6	44	1.5	60

Proposed Virginia Rebuild Project – Projected Average Loading in 2028

EMF levels were calculated for the proposed Virginia Rebuild Project at the ***projected average*** load condition of 490.8 amps and at an operating voltage of 230 kV when supported on the proposed Virginia Rebuild Project structures – see Attachments II.A.5.c and d.

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 Virginia Rebuild Project at the projected average loading:

Proposed Virginia Rebuild Project - Projected Average Loading (2028)

Attachment	Left Edge ROW Per II.A.5 Drawing View		Right Edge ROW Per II.A.5 Drawing View	
	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.5.c	1.4	30	1.4	30
II.A.5.d	2.1	5	1.8	36

Proposed Virginia Rebuild Project – Projected Peak Loading in 2028

EMF levels were calculated for the proposed Virginia Rebuild Project at the ***projected peak*** load condition of 818 amps and at an operating voltage of 230 kV when supported on the proposed Virginia Rebuild Project structures – see Attachments II.A.5.c and d.

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 Virginia Rebuild Project at the projected peak loading:

Proposed Virginia Rebuild Project - Projected Peak Loading (2028)

	Left Edge ROW Per II.A.5 Drawing View		**Right Edge ROW Per II.A.5 Drawing View**	
Attachment	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.5.c	1.4	50	1.4	50
II.A.5.d	2.1	8	1.8	60

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 Virginia 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; ICNRIP, 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 Virginia Rebuild Project.

References

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Report on the Analysis of Risks Associated to Exposure to EMF: *In Vitro* and *In Vivo* (Animals) Studies. Milan, Italy: EFHRAN, 2010.

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Risk Analysis of Human Exposure to Electromagnetic Fields (Revised). Report D2 of the EFHRAN Project. Milan, Italy: EFHRAN, 2012.

International Commission on Non-ionizing Radiation Protection (ICNIRP). Guidelines for limiting exposure to time-varying electric and magnetic fields (1 Hz to 100 kHz). Health Phys 99: 818-36, 2010.

International Committee on Electromagnetic Safety (ICES). IEEE Standard for Safety Levels with Respect to Human Exposure to Electromagnetic Fields 0 to 300 GHz. IEEE Std C95.1-2019. New York, NY: IEEE, 2019.

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). Health Effects of Exposure to EMF. Brussels, Belgium: European Commission, 2009.

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). Opinion on Potential Health Effects of Exposure to Electromagnetic Fields (EMF). Brussels, Belgium: European Commission, 2015.

Swedish Radiation Safety Authority (SSM). Research 2015:19. Recent Research on EMF and Health Risk - Tenth report from SSM's Scientific Council on Electromagnetic Fields. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2015.

Swedish Radiation Safety Authority (SSM). Research 2016:15. Recent Research on EMF and Health Risk - Eleventh report from SSM's Scientific Council on

Electromagnetic Fields, 2016. Including Thirteen years of electromagnetic field research monitored by SSM's Scientific Council on EMF and health: How has the evidence changed over time? Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2016.

Swedish Radiation Safety Authority (SSM). Research 2018:09. Recent Research on EMF and Health Risk - Twelfth report from SSM's Scientific Council on Electromagnetic Fields, 2017. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2018.

Swedish Radiation Safety Authority (SSM). Research 2019:08. Recent Research on EMF and Health Risk – Thirteenth Report from SSM's Scientific Council on Electromagnetic Fields, 2018. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2019.

Swedish Radiation Safety Authority (SSM). Research 2020:04. Recent Research on EMF and Health Risk - Fourteenth Report from SSM's Scientific Council on Electromagnetic Fields, 2019. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2020.

Swedish Radiation Safety Authority (SSM). Research 2021:08. Recent Research on EMF and Health Risk - Fifteenth report from SSM's Scientific Council on Electromagnetic Fields, 2020. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2021.

Swedish Radiation Safety Authority (SSM). Research 2022:16. Recent Research on EMF and Health Risk – Sixteenth report from SSM's Scientific Council on Electromagnetic Fields, 2021. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2022.

World Health Organization (WHO). Environmental Health Criteria 238: Extremely Low Frequency (ELF) Fields. Geneva, Switzerland: World Health Organization, 2007.

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."[10]

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

[10] *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 Quebéc. 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 (≥ 0.4 microtesla ["μT"]) (i.e., ≥ 4 milligauss ["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 μT (4 mG); no statistically significant overall associations were reported between childhood leukemia and lower magnetic-field exposures (< 0.4 μT [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 μT to ≥ 0.4 μT) 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[11] 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 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.

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[11] 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).

- 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.

- Röösli 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.

References

Amoon AT, Oksuzyan S, Crespi CM, Arah OA, Cockburn M, Vergara X, Kheifets L. Residential mobility and childhood leukemia. Environ Res 164: 459-466, 2018a.

Amoon AT, Crespi CM, Ahlbom A, Bhatnagar M, Bray I, Bunch KJ, Clavel J, Feychting M, Hemon D, Johansen C, Kreis C, Malagoli C, Marquant F, Pedersen

C, Raaschou-Nielsen O, Röösli M, Spycher BD, Sudan M, Swanson J, Tittarelli A, Tuck DM, Tynes T, Vergara X, Vinceti M, Wunsch-Filho V, Kheifets L. Proximity to overhead power lines and childhood leukaemia: an international pooled analysis. Br J Cancer 119: 364-373, 2018b.

Amoon AT, Arah OA, Kheifets L. The sensitivity of reported effects of EMF on childhood leukemia to uncontrolled confounding by residential mobility: a hybrid simulation study and an empirical analysis using CAPS data. Cancer Causes Control 30: 901-908, 2019.

Amoon AT, Crespi CM, Nguyen A, Zhao X, Vergara X, Arah OA, and Kheifets L. The role of dwelling type when estimating the effect of magnetic fields on childhood leukemia in the California Power Line Study (CAPS). Cancer Causes Control 31:559-567, 2020.

Amoon AT, Swanson J, Magnani C, Johansen C, Kheifets L. Pooled analysis of recent studies of magnetic fields and childhood leukemia. Environ Res 204(Pt A):111993, 2022.

Auger N, Bilodeau-Bertrand M, Marcoux S, Kosatsky T. Residential exposure to electromagnetic fields during pregnancy and risk of child cancer: A longitudinal cohort study. Environ Res 176: 108524, 2019.

Brabant C, Geerinck A, Beaudart C, Tirelli E, Geuzaine C, Bruyère O. Exposure to magnetic fields and childhood leukemia: a systematic review and meta-analysis of case-control and cohort studies. Rev Environ Health, 2022.

Bunch KJ, Keegan TJ, Swanson J, Vincent TJ, Murphy MF. Residential distance at birth from overhead high-voltage powerlines: childhood cancer risk in Britain 1962-2008. Br J Cancer 110: 1402-1408, 2014.

Bunch KJ, Swanson J, Vincent TJ, Murphy MF. Magnetic fields and childhood cancer: an epidemiological investigation of the effects of high-voltage underground cables. J Radiol Prot 35: 695-705, 2015.

Bunch KJ, Swanson J, Vincent TJ, Murphy MF. Epidemiological study of power lines and childhood cancer in the UK: further analyses. J Radiol Prot 36: 437-455, 2016.

Checkoway H, Ilango S, Li W, Ray RM, Tanner CM, Hu SC, Wang X, Nielsen S, Gao DL, Thomas DB. Occupational exposures and parkinsonism among Shanghai women textile workers. Am J Ind Med 61: 886-892, 2018.

Chen GX, Mannetje A, Douwes J, Berg LH, Pearce N, Kromhout H, Glass B, Brewer N, McLean DJ. Occupational exposure to electric shocks and extremely low-frequency magnetic fields and motor neurone disease. Am J Epidemiol 190(3):393-402, 2021.

Crespi CM, Vergara XP, Hooper C, Oksuzyan S, Wu S, Cockburn M, Kheifets L. Childhood leukaemia and distance from power lines in California: a population-based case-control study. Br J Cancer 115: 122-128, 2016.

Crespi CM, Swanson J, Vergara XP, Kheifets L. Childhood leukemia risk in the California Power Line Study: Magnetic fields versus distance from power lines. Environ Res 171: 530-535, 2019.

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Report on the Analysis of Risks Associated to Exposure to EMF: *In Vitro* and *In Vivo* (Animals) Studies. Milan, Italy: EFHRAN, 2010.

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Risk Analysis of Human Exposure to Electromagnetic Fields (Revised). Report D2 of the EFHRAN Project. Milan, Italy: EFHRAN, 2012.

Filippini T, Tesauro M, Fiore M, Malagoli C, Consonni M, Violi F, lacuzio L, Arcolin E, Oliveri Conti G, Cristaldi A, Zuccarello P, Zucchi E, Mazzini L, Pisano F, Gagliardi 1, Patti F, Mandrioli J, Ferrante M, Vinceti M. Environmental and occupational risk factors ofamyotrophic lateral sclerosis: A population-based casecontrol study. Int J Environ Res Public Health 17(8):2882, 2020.

Filippini T, Hatch EE, Vinceti M. Residential exposure to electromagnetic fields and risk of amyotrophic lateral sclerosis: a dose-response meta-analysis. Sci Rep 11(1):11939, 2021.

Fischer H, Kheifets L, Huss A, Peters TL, Vermeulen R, Ye W, Fang F, Wiebert P, Vergara XP, Feychting M. Occupational Exposure to Electric Shocks and Magnetic Fields and Amyotrophic Lateral Sclerosis in Sweden. Epidemiology 26: 824-830, 2015.

Gervasi F, Murtas R, Decarli A, Giampiero Russo A. Residential distance from high-voltage overhead power lines and risk of Alzheimer's dementia and Parkinson's disease: a population-based case-control study in a metropolitan area of Northern Italy. Int J Epidemiol, 2019.

Grebeneva OV, Rybalkina DH, Ibrayeva LK, Shadetova AZ, Drobchenko EA, Aleshina NY. Evaluating occupational morbidity among energy enterprise employees in industrial region of Kazakhstan. Russian Open Medical Journal: ROMJ 10(3):e0319, 2021.

Gunnarsson LG and Bodin L. Amyotrophic lateral sclerosis and occupational exposures: A systematic literature review and meta-analyses. Int J Environ Res Public Health 15(11):2371, 2018.

Gunnarsson LG and Bodin L. Occupational exposures and neurodegenerative diseases: A systematic literature review and meta-analyses. Int J Environ Res Public Health 16(3):337, 2019.

Huang LY, Hu HY, Wang ZT, Ma YH, Dong Q, Tan L, Yu JT. Association of occupational factors and dementia or cognitive impairment: A systematic review and meta-analysis. J Alzheimers Dis 78(1):217-227, 2020.

Huss A, Peters S, Vermeulen R. Occupational exposure to extremely low-frequency magnetic fields and the risk of ALS: A systematic review and meta-analysis. Bioelectromagnetics 39: 156-163, 2018.

Jalilian H, Teshnizi SH, Röösli M, Neghab M. Occupational exposure to extremely low frequency magnetic fields and risk of Alzheimer disease: A systematic review and meta-analysis. Neurotoxicology 69: 242-252, 2018.

Jalilian H, Najafi K, Khosravi Y, and Roosli M. Amyotrophic lateral sclerosis, occupational exposure to extremely low frequency magnetic fields and electric shocks: A systematic review and meta-analysis. Rev Environ Health 36(1): 129-142, 2021.

Kheifets L, Crespi CM, Hooper C, Cockburn M, Amoon AT, Vergara XP. Residential magnetic fields exposure and childhood leukemia: a population-based case-control study in California. Cancer Causes Control 28: 1117-1123, 2017.

Koeman T, Schouten LJ, van den Brandt PA, Slottje P, Huss A, Peters S, Kromhout H, Vermeulen R. Occupational exposures and risk of dementia-related mortality in the prospective Netherlands Cohort Study. Am J Ind Med 58: 625-635, 2015.

Koeman T, Slottje P, Schouten LJ, Peters S, Huss A, Veldink JH, Kromhout H, van den Brandt PA, Vermeulen R. Occupational exposure and amyotrophic lateral sclerosis in a prospective cohort. Occup Environ Med 74: 578-585, 2017.

Kyriakopoulou A, Meimeti E, Moisoglou I, Psarrou A, Provatopoulou X, Dounias G. Parental Occupational Exposures and Risk of Childhood Acute Leukemia. Mater Sociomed 30: 209-214, 2018.

Nguyen A, Crespi CM, Vergara X, Kheifets L. Commercial outdoor plant nurseries as a confounder for electromagnetic fields and childhood leukemia risk. Environ Res 212(Pt C):113446, 2022.

Nunez-Enriquez JC, Correa-Correa V, Flores-Lujano J, Perez-Saldivar ML, Jimenez-Hernandez E, Martin-Trejo JA, Espinoza-Hernandez LE, Medina-Sanson A, Cardenas-Cardos R, Flores-Villegas LV, Pefialoza-Gonzdlez JG, Torres-Nava JR, Espinosa-Elizondo RM, Amador-Sanchez R, Rivera-Luna R, Dosta-Herrera JJ, Mondragon-Garcia JA, Gonzalez-Ulibarri JE, Martinez-Silva SI, EspinozaAnrubio G, Duarte-Rodriguez DA, Garcia-Cortes LR, Gil-Hernandez AE, MejfaArangure JM. Extremely low-frequency magnetic fields and the risk of childhood B-lineage acute lymphoblastic leukemia in a city with high incidence of leukemia and elevated exposure to ELF magnetic fields. Bioelectromagnetics 41(8):581- 597, 2020.

Pedersen C, Johansen C, Schüz J, Olsen JH, Raaschou-Nielsen O. Residential exposure to extremely low-frequency magnetic fields and risk of childhood leukaemia, CNS tumour and lymphoma in Denmark. Br J Cancer 113: 1370-1374, 2015.

Pedersen C, Poulsen AH, Rod NH, Frei P, Hansen J, Grell K, Raaschou-Nielsen O, Schüz J, Johansen C. Occupational exposure to extremely low-frequency magnetic fields and risk for central nervous system disease: an update of a Danish cohort study among utility workers. Int Arch Occup Environ Health 90: 619-628, 2017.

Peters S, Visser AE, D'Ovidio F, Beghi E, Chio A, Logroscino G, Hardiman O, Kromhout H, Huss A, Veldink J, Vermeulen R, van den Berg LH. Associations of Electric Shock and Extremely Low-Frequency Magnetic Field Exposure With the Risk of Amyotrophic Lateral Sclerosis. Am J Epidemiol 188: 796-805, 2019.

Renew DC, Cook RF, Ball MC. A method for assessing occupational exposure to power-frequency magnetic fields for electricity generation and transmission workers. J Radiol Prot 23(3):279-303, 2003.

Röösli M and Jalilian H. A meta-analysis on residential exposure to magnetic fields and the risk of amyotrophic lateral sclerosis. Rev Environ Health 33: 295-299, 2018.

Salvan A, Ranucci A, Lagorio S, Magnani C. Childhood leukemia and 50 Hz magnetic fields: findings from the Italian SETIL case-control study. Int J Environ Res Public Health 12: 2184-2204, 2015.

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). Health Effects of Exposure to EMF. Brussels, Belgium: European Commission, 2009.

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). Opinion on Potential Health Effects of Exposure to Electromagnetic Fields (EMF). Brussels, Belgium: European Commission, 2015.

Seelen M, Vermeulen RC, van Dillen LS, van der Kooi AJ, Huss A, de Visser M, van den Berg LH, Veldink JH. Residential exposure to extremely low frequency electromagnetic fields and the risk of ALS. Neurology 83: 1767-1769, 2014.

Seomun G, Lee J, Park J. Exposure to extremely low-frequency magnetic fields and childhood cancer: A systematic review and meta-analysis. PLoS One 16:e0251628, 2021.

Sorahan T and Mohammed N. Neurodegenerative disease and magnetic field exposure in UK electricity supply workers. Occup Med (Lond) 64: 454-460, 2014.

Sorahan T and Nichols L. Motor neuron disease risk and magnetic field exposures. Occup Med (Lond) 72(3):184-190, 2022.

Swanson J and Bunch KJ. Reanalysis of risks of childhood leukaemia with distance from overhead power lines in the UK. J Radiol Prot 38: N30-N35, 2018.

Swanson J, Kheifets L, and Vergara X. Changes over time in the reported risk for childhood leukaemia and magnetic fields. J Radiol Prot 39:470-488, 2019.

Swedish Radiation Safety Authority (SSM). Research 2019:08. Recent Research on EMF and Health Risk – Thirteenth Report from SSM's Scientific Council on Electromagnetic Fields, 2018. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2019.

Talibov M, Olsson A, Bailey H, Erdmann F, Metayer C, Magnani C, Petridou E, Auvinen A, Spector L, Clavel J, Roman E, Dockerty J, Nikkila A, Lohi O, Kang A, Psaltopoulou T, Miligi L, Vila J, Cardis E, Schüz J. Parental occupational exposure to low-frequency magnetic fields and risk of leukaemia in the offspring: findings from the Childhood Leukaemia International Consortium (CLIC). Occup Environ Med 76:746-753, 2019.

Vasta R, Callegaro S, Grassano M, Canosa A, Cabras S, Di Pede F, Matteoni E, De Mattei F, Casale F, Salamone P, Mazzini L, De Marchi F, Moglia C, Calvo A, Chiò A, Manera U. Exposure to electromagnetic fields does not modify neither the age of onset nor the disease progression in ALS patients. Amyotroph Lateral Scler Frontotemporal Degener 24(3-4):343-346, 2023.

Vergara X, Mezei G, Kheifets L. Case-control study of occupational exposure to electric shocks and magnetic fields and mortality from amyotrophic lateral sclerosis in the US, 1991-1999. J Expo Sci Environ Epidemiol 25: 65-71, 2015.

Vinceti M, Malagoli C, Fabbi S, Kheifets L, Violi F, Poli M, Caldara S, Sesti D, Violanti S, Zanichelli P, Notari B, Fava R, Arena A, Calzolari R, Filippini T, Iacuzio L, Arcolin E, Mandrioli J, Fini N, Odone A, Signorelli C, Patti F, Zappia M, Pietrini V, Oleari P, Teggi S, Ghermandi G, Dimartino A, Ledda C, Mauceri C, Sciacca S, Fiore M, Ferrante M. Magnetic fields exposure from high-voltage power lines and risk of amyotrophic lateral sclerosis in two Italian populations. Amyotroph Lateral Scler Frontotemporal Degener 18: 583-589, 2017.

World Health Organization (WHO). Environmental Health Criteria 238: Extremely Low Frequency (ELF) Fields. Geneva, Switzerland: World Health Organization, 2007.

Zagar T, Valic B, Kotnik T, Korat S, Tomsic S, Zadnik V, Gajsek P. Estimating exposure to extremely low frequency magnetic fields near high-voltage power lines and assessment of possible increased cancer risk among Slovenian children and adolescents. Radiol Oncol 57(1):59-69, 2023.

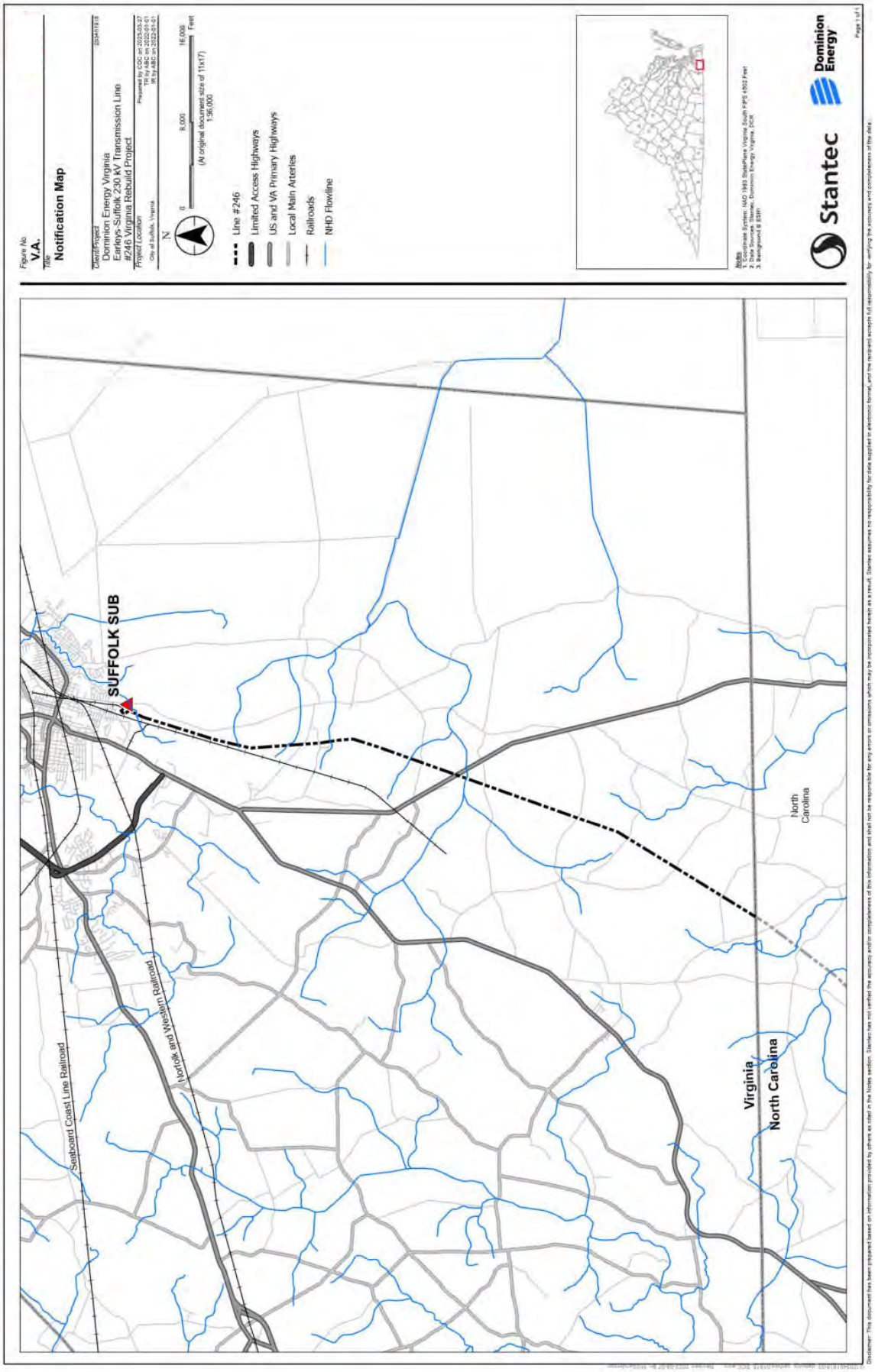
V. NOTICE

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 Virginia Rebuild Project is provided as Attachment V.A. A written description of the route is as follows:

The proposed route for the Virginia Rebuild Project is located within an existing 11.9-mile right-of-way corridor currently occupied by existing 230 kV transmission Line #246. The existing transmission right-of-way for the proposed route originates at the Company's existing Suffolk Substation in the City of Suffolk and heads south for approximately four miles while sharing the right-of-way with Line #247 and then heads southwesterly for approximately 7.9 miles to reach Structure #246/94 at the Virginia state line. The entire Virginia Rebuild Project is located within the City of Suffolk. The Virginia Rebuild Project crosses one major road (Carolina Road, Route 32) and nine smaller roads.

For the proposed Virginia Rebuild Project, the minimum structure height is approximately 48.5 feet, the maximum structure height is approximately 110 feet, and the average structure height is approximately 75 feet, based on preliminary conceptual design, inclusive of a foundation reveal, and subject to change based on final engineering design.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Notification Map
Client/Project
Dominion Energy Virginia
Earleys-Suffolk 230 kV Transmission Line
#246 Virginia Rebuild Project
Project Location
City of Suffolk, Virginia
N
0
8,000
16,000
Feet
(At original document size of 11x17)
1:36,000
Line #246
Limited Access Highways
US and VA Primary Highways
Local Main Arteries
Railroads
NHD Flowline
SUFFOLK SUB
Seaboard Coast Line Railroad
Norfolk and Western Railroad
Virginia
North Carolina
North Carolina
Stantec
Dominion Energy

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/projects-and-facilities/electric-projects/power-line-projects/earleys-tunis-suffolk.

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 Virginia 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 Virginia Rebuild Project on the Company's website.[12]

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. Rene Hypes
Virginia Department of Conservation and Recreation
Division of Natural Heritage
600 East Main Street, 24th Floor
Richmond, Virginia 23219

Environmental Reviewer
Virginia Department of Conservation and Recreation
Planning & Recreation Bureau
600 East Main Street, 17th Floor
Richmond, Virginia 23219

Ms. Amy Martin
Environmental Services Biologist Manager
Virginia Department of Wildlife Resources
P.O. Box 90778
Henrico, Virginia 23228

[12] The Virginia Department of Conservation and Recreation ("DCR") asked to be removed from the Company's post-filing mailing list. Accordingly, DCR will not receive post-filing mailings.

Mr. Keith Tignor
Endangered Plant and Insect Species Program
Virginia Department of Agriculture and Consumer Affairs
102 Governor Street
Richmond, Virginia 23219

Clint Folks
Virginia Department of Forestry
Forestland Conservation Division
900 Natural Resources Drive, Suite 800
Charlottesville, Virginia 22903

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

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
Norfolk District, Southern Section
9100 Arboretum Parkway, Suite 235
Richmond, VA 23236

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
Airport Services Division
Virginia Department of Aviation
5702 Gulfstream Road
Richmond, Virginia 23250

Christopher G. Hall
District Engineer
Virginia Department of Transportation
7511 Burbage Drive
Suffolk, VA 23435

Paul Matticks
Franklin Residency
23116 Meherrin Road
Courtland, Virginia 23837

Mr. Michael Duman
Mayor, City of Suffolk
P.O. Box 1858
Suffolk, VA 23439

Mr. LeOtis Williams
Whaleyville City Council Representative
P.O. Box 1858
Suffolk, VA 23439

Mr. Kevin Wyne
Director of Community Development
442 W Washington Street
Suffolk, Virginia 23434

Suffolk Executive Airport
12000 Gene Bolton Drive
Suffolk, Virginia 23434

Mr. Albert S. Moore II
City Manager, City of Suffolk
441 Market Street
Suffolk, Virginia 23434

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 September 11, 2023, were sent to: (1) Mr. Albert Moore II, City Manager, City of Suffolk; (2) Mr. Michael Duman, Mayor, City of Suffolk; and (3) Mr. LeOtis Williams, City Council Member, Whaleyville District City Council Representative. The letters provided notice of the Company's intent to file this Application and invited the addressees to consult with the Company about the proposed Virginia Rebuild Project. These letters are included as Attachment V.D.

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

September 11, 2023

BY EMAIL

Mr. Albert S. Moore II
City Manager, City of Suffolk
441 Market Street
Suffolk, Virginia 23434

RE: Dominion Energy Virginia's proposed Earleys-Suffolk 230 kV Line #246 Virginia Rebuild Project
Notice Pursuant to Va. Code § 15.2-2202

Dear Mr. Moore,

Dominion Energy Virginia (the "Company") is proposing to rebuild approximately 11.9 miles of 230 kV Line #246 on single-circuit weathering steel structures between structure #246/1C within the Company's existing Suffolk Substation and #246/94 at the Virginia State line, located in the City of Suffolk, Virginia (the "Rebuild Project"). Other minor work within the Suffolk Substation will include upgrading circuit-breaker and line leads and installing a new substation dead-end structure.

The Rebuild Project, which will replace aging infrastructure at the end of its service life, is needed to maintain reliable service for the overall load growth in the area, and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards. The Company proposes to locate the Rebuild Project entirely within the existing Line #246 right-of-way or on Company-owned property. No additional right-of-way is necessary, as shown on the attached map. The Company is preparing to file an application for a Certificate of Public Convenience and Necessity ("CPCN") with the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code § 15.2-2202, the Company is writing to notify you 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 the date of this letter. Once filed, the application will be available for review on the Company's website at https://www.dominionenergy.com/projects-and-facilities/electric-projects/power-line-projects/earleys-tunis-suffolk.

Enclosed is a Project Overview Map and associated GIS shapefile depicting the proposed Rebuild Project, as well as its general location. Please note that the Project Overview Map and route description depicted therein are preliminary in nature and subject to final engineering. If you have any questions, please do not hesitate to contact me directly at 804-298-5646 or Hannah.Hurst@dominionenergy.com.

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Regards,

Elizabeth Hurst

Hannah Hurst
Siting and Permitting Specialist

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

September 11, 2023

BY EMAIL

Mr. Leotis Williams
City Council Member, Whaleyville District
P.O. Box 1858
Suffolk, Virginia 23434

RE: Dominion Energy Virginia's proposed Earleys-Suffolk 230 kV Line #246 Virginia Rebuild Project
Notice Pursuant to Va. Code § 15.2-2202

Dear Mr. Williams,

Dominion Energy Virginia (the "Company") is proposing to rebuild approximately 11.9 miles of 230 kV Line #246 on single-circuit weathering steel structures between structure #246/1C within the Company's existing Suffolk Substation and #246/94 at the Virginia State line, located in the City of Suffolk, Virginia (the "Rebuild Project"). Other minor work within the Suffolk Substation will include upgrading circuit-breaker and line leads and installing a new substation dead-end structure.

The Rebuild Project, which will replace aging infrastructure at the end of its service life, is needed to maintain reliable service for the overall load growth in the area, and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards. The Company proposes to locate the Rebuild Project entirely within the existing Line #246 right-of-way or on Company-owned property. No additional right-of-way is necessary, as shown on the attached map. The Company is preparing to file an application for a Certificate of Public Convenience and Necessity ("CPCN") with the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code § 15.2-2202, the Company is writing to notify you 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 the date of this letter. Once filed, the application will be available for review on the Company's website at https://www.dominionenergy.com/projects-and-facilities/electric-projects/power-line-projects/earleys-tunis-suffolk.

Enclosed is a Project Overview Map and associated GIS shapefile depicting the proposed Rebuild Project, as well as its general location. Please note that the Project Overview Map and route description depicted therein are preliminary in nature and subject to final engineering. Please email comments to Hannah Hurst at Hannah.hurst@dominionenergy.com. If you have any questions or need additional information, please email the same address or call (804) 298-5646.

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Regards,

Elizabeth Hurst

Hannah Hurst
Siting and Permitting Specialist

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

September 11, 2023

BY EMAIL

Mr. Michael Duman
Mayor, City of Suffolk
P.O. Box 1858
Suffolk, Virginia 23439

RE: Dominion Energy Virginia's proposed Earleys-Suffolk 230 kV Line #246 Virginia Rebuild Project
Notice Pursuant to Va. Code § 15.2-2202

Dear Mr. Duman,

Dominion Energy Virginia (the "Company") is proposing to rebuild approximately 11.9 miles of 230 kV Line #246 on single-circuit weathering steel structures between structure #246/1C within the Company's existing Suffolk Substation and #246/94 at the Virginia State line, located in the City of Suffolk, Virginia (the "Rebuild Project"). Other minor work within the Suffolk Substation will include upgrading circuit-breaker and line leads and installing a new substation dead-end structure.

The Rebuild Project, which will replace aging infrastructure at the end of its service life, is needed to maintain reliable service for the overall load growth in the area, and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards. The Company proposes to locate the Rebuild Project entirely within the existing Line #246 right-of-way or on Company-owned property. No additional right-of-way is necessary, as shown on the attached map. The Company is preparing to file an application for a Certificate of Public Convenience and Necessity ("CPCN") with the Virginia State Corporation Commission ("SCC"). Pursuant to Va. Code § 15.2-2202, the Company is writing to notify you 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 the date of this letter. Once filed, the application will be available for review on the Company's website at https://www.dominionenergy.com/projects-and-facilities/electric-projects/power-line-projects/earleys-tunis-suffolk.

Enclosed is a Project Overview Map and associated GIS shapefile depicting the proposed Rebuild Project, as well as its general location. Please note that the Project Overview Map and route description depicted therein are preliminary in nature and subject to final engineering. If you have any questions, please do not hesitate to contact me directly at 804-298-5646 or Hannah.Hurst@dominionenergy.com.

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Regards,

Elizabeth Hurst

Hannah Hurst
Siting and Permitting Specialist

COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

APPLICATION OF	)	
	)	
VIRGINIA ELECTRIC AND POWER COMPANY	)	Case No. PUR-2023-00203
	)	
	)	
For approval and certification of electric transmission facilities: Suffolk – Structure #246/94 230 kV Transmission Line #246 Virginia Rebuild Project	)	

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

Jason Whitlow

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

Wesley Strunk

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

George Brimmer

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

Hannah Hurst

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

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Jason Whitlow

Title: Engineer III – Electric Transmission Planning

Summary:

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

- Section I.B: This section details the engineering justifications for the proposed Virginia Rebuild Project.
- Section I.C: This section describes the present system and details how the proposed VA-NC Rebuild Project will effectively satisfy present and projected future load demand requirements.
- Section I.D: Although not applicable to the Virginia Rebuild Project, 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 Virginia 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 Virginia 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 Virginia Rebuild Project, this section contains information for transmission lines interconnecting a non-utility generator.
- Section I.N: Although not applicable to the proposed Virginia 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 Virginia Rebuild Project, including requested and approved line outage schedules.

Additionally, Mr. Whitlow co-sponsors the following portions of the Appendix:

- Executive Summary (co-sponsored with Company Witnesses Wesley Strunk, Hannah Hurst, and George Brimmer): The Executive Summary provides a brief summary of the Virginia Rebuild Project.
- Section I.A (co-sponsored with Company Witness Wesley Strunk): This section details the primary justifications for the proposed Virginia Rebuild Project.
- Section I.F (co-sponsored with Company Witness Wesley Strunk): This section describes any lines or facilities that will be removed, replaced or taken out of service upon completion of the proposed Virginia Rebuild Project and normal and emergency ratings of the facilities.

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

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

DIRECT TESTIMONY
OF
JASON WHITLOW
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
VIRGINIA STATE CORPORATION COMMISSION
CASE NO. PUR-2023-00203

Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").

A. My name is Jason Whitlow, and I am an Engineer III in the Electric Transmission Planning Department of the Company. My business address is 5000 Dominion Boulevard, Glen Allen, Virginia 23060. A statement of my qualifications and background is provided as Appendix A.

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

A. I am responsible for planning the Company's electric transmission system for voltages of 69 kilovolts ("kV") through 500 kV.

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

A. In order to maintain the structural integrity and reliability of the Company's transmission systems in compliance with the Company's mandatory electric transmission planning criteria ("Planning Criteria")[1] and consistent with sound engineering judgment, the Company proposes to (i) rebuild, entirely within existing right-of-way or on Company-owned property, approximately 11.9 miles of the existing 230 kV Line #246 on single

[1] The Company's Transmission Planning Criteria (effective April 1, 2023) can be found in Attachment 1 of the Company's Facility Interconnection Requirements ("FIR") document, which is available online at https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/parallel-generation/facility-connection-requirements.pdf?la=en&rev=f280781e90cf47f69ea526c944c9c347&hash=82DD2567D0B033C47536134B8C4D5C5E.

circuit wood structures, which runs from Structure #246/1C within the Company's existing Suffolk Substation to Structure #246/94 at the Virginia state line, and is located entirely within the City of Suffolk, Virginia; and (ii) perform minor work at the existing Suffolk Substation, including upgrading circuit-breaker and line leads to 4000A and installing a new substation dead-end structure (collectively, the "Virginia Rebuild Project").[2]

The purpose of my testimony is to describe the Company's electric transmission system and the need for, and benefits of, the proposed Rebuild Project. I am sponsoring Sections 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 also co-sponsor Sections I.A and I.F of the Appendix with Company Witness Wesley Strunk, and Section II.A.3 with Company Witness Hannah Hurst. Lastly, I co-sponsor the Executive Summary with Company Witnesses Wesley Strunk, Hannah Hurst, and George Brimmer.

Q. Does this conclude your testimony?

A. Yes, it does.

[2] With this Application, the Company is seeking a certificate of public convenience and necessity ("CPCN" or "Certificate") from the Virginia State Corporation Commission ("Commission") for the rebuild of 11.9 miles of Line #246 located between the Suffolk Substation and the Virginia state line (*i.e.* from Structure #246/1C through Structure #246/94), which are entirely within the City of Suffolk, Virginia. The remaining approximately 32.4 miles of Line #246 that will be rebuilt is located entirely within North Carolina, extending from the Virginia state line, through the Company's existing Tunis and Ahoskie Substations, and concluding at the Company's existing Earleys Substation (the "North Carolina Rebuild Project") (together, the Virginia Rebuild Project and North Carolina Rebuild Project are referred to herein as the "VA-NC Rebuild Project"). The Company is not seeking approval of the North Carolina Rebuild Project herein or from the North Carolina Utilities Commission ("NCUC"). Pursuant to NCGS § 62-101(a), a certificate is required from the NCUC "to construct a new transmission line," not to rebuild an existing line. Further, NCGS § 62-101(c)(2) specifically provides that "[a] certificate is not required for construction of the following lines:… [t]he replacement or expansion of an existing line with a similar line in substantially the same location, or the rebuilding, upgrading, modifying, modernizing, or reconstructing of an existing line for the purpose of increasing capacity or widening an existing right-of-way[.]" Accordingly, because the North Carolina Rebuild Project proposes to rebuild existing Line #246 with a similar line in substantially the same location, NCUC approval of the North Carolina Rebuild Project is not required. To the extent that responses are provided within this Appendix, they should be viewed as applicable only to the Virginia Rebuild Project, and not the North Carolina Rebuild Project or the VA-NC Rebuild Project, unless so specifically stated. Any such information related specifically to the North Carolina Rebuild Project or the VA-NC Rebuild Project should be viewed as informational only, and should not be considered as applicable for the approval being sought in this Application for a CPCN for the Virginia Rebuild Project.

APPENDIX A

BACKGROUND AND QUALIFICATIONS
OF
JASON WHITLOW

Jason Whitlow received a B.S. in Mechanical Engineering from Virginia Tech in 2007. Mr. Whitlow has been employed by the Company since 2013, where he has worked in both natural gas and electric transmission planning. Prior to joining the Company, he worked as a Project Manager for The Whiting-Turner Contracting Company.

Jason Whitlow has not previously testified before the Virginia State Corporation Commission.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Wesley Strunk

Title: Transmission Line Design Engineer

Summary:

Company Witness Wesley Strunk will sponsor those portions of the Appendix providing an overview of the design characteristics of the transmission facilities for the proposed Virginia Rebuild Project, and discussing electric and magnetic field levels, as follows:

- Section I.L: 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 structure placements.
- Section II.B.1 to II.B.3: These sections provide the line design and operational features of the proposed Virginia Rebuild Project.
- Section IV: This section provides analysis on the health aspects of electric and magnetic field levels.

Additionally, Mr. Strunk co-sponsors the following portions of the Appendix:

- Executive Summary (co-sponsored with Company Witnesses Jason Whitlow, Hannah Hurst, and George Brimmer): The Executive Summary provides a brief summary of the Virginia Rebuild Project.
- Section I.A (co-sponsored with Company Witness Jason Whitlow): This section details the primary justifications for the proposed Virginia Rebuild Project.
- Section I.F (co-sponsored with Company Witness Jason Whitlow): This section describes any lines or facilities that will be removed, replaced or taken out of service upon completion of the proposed Virginia Rebuild Project and normal and emergency ratings of the facilities.
- Section I.I (co-sponsored with Company Witness George Brimmer): This section provides the estimated total cost of the proposed Virginia Rebuild Project.
- Section II.B.5 (co-sponsored with Company Witness Hannah Hurst): This section provides the mapping and structure heights for the existing and proposed overhead structures.

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

DIRECT TESTIMONY
OF
WESLEY STRUNK
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
VIRGINIA STATE CORPORATION COMMISSION
CASE NO. PUR-2023-00203

Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").

A. My name is Wesley Strunk, and I am a Transmission Line Design Engineer at the Company. As an external contractor to Dominion, I provide engineering services to the Electric Transmission Line Engineering Department of the Company. My business address is 5000 Dominion Boulevard, Glen Allen, Virginia 23060. A statement of my qualifications and background is provided as Appendix A.

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

A. I am responsible for the estimating, conceptual and final design of high voltage transmission line projects from voltages of 69 kilovolts ("kV") to 500 kV.

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

A. In order to maintain the structural integrity and reliability of the Company's transmission systems in compliance with the Company's mandatory electric transmission planning criteria ("Planning Criteria")[1] and consistent with sound engineering judgment, the Company proposes to (i) rebuild, entirely within existing right-of-way or on Company-

[1] The Company's Transmission Planning Criteria (effective April 1, 2023) can be found in Attachment 1 of the Company's Facility Interconnection Requirements ("FIR") document, which is available online at https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/parallel-generation/facility-connection-requirements.pdf?la=en&rev=f280781e90cf47f69ea526c944c9c347&hash=82DD2567D0B033C47536134B8C4D5C5E.

owned property, approximately 11.9 miles of the existing 230 kV Line #246 on single circuit wood structures, which runs from Structure #246/1C within the Company's existing Suffolk Substation to Structure #246/94 at the Virginia state line, and is located entirely within the City of Suffolk, Virginia; and (ii) perform minor work at the existing Suffolk Substation, including upgrading circuit-breaker and line leads to 4000A and installing a new substation dead-end structure (collectively, the "Virginia Rebuild Project").[2]

The purpose of my testimony is to describe the design characteristics of the transmission facilities for the proposed Virginia Rebuild Project, and also to discuss electric and magnetic field ("EMF") levels. I sponsor Sections I.L, II.A.5, II.B.1 to II.B.3, and IV of the Appendix. I also co-sponsor Section I.A and Section I.F of the Appendix with Company Witness Jason Whitlow; Section I.I of the Appendix with Company Witness George Brimmer; and Section II.B.5 with Company Witness Hannah Hurst. Lastly, I co-sponsor the Executive Summary with Company Witnesses Jason Whitlow, Hannah Hurst, and George Brimmer.

[2] With this Application, the Company is seeking a certificate of public convenience and necessity ("CPCN" or "Certificate") from the Virginia State Corporation Commission ("Commission") for the rebuild of 11.9 miles of Line #246 located between the Suffolk Substation and the Virginia state line (*i.e.* from Structure #246/1C through Structure #246/94), which are entirely within the City of Suffolk, Virginia. The remaining approximately 32.4 miles of Line #246 that will be rebuilt is located entirely within North Carolina, extending from the Virginia state line, through the Company's existing Tunis and Ahoskie Substations, and concluding at the Company's existing Earleys Substation (the "North Carolina Rebuild Project") (together, the Virginia Rebuild Project and North Carolina Rebuild Project are referred to herein as the "VA-NC Rebuild Project"). The Company is not seeking approval of the North Carolina Rebuild Project herein or from the North Carolina Utilities Commission ("NCUC"). Pursuant to NCGS § 62-101(a), a certificate is required from the NCUC "to construct a new transmission line," not to rebuild an existing line. Further, NCGS § 62-101(c)(2) specifically provides that "[a] certificate is not required for construction of the following lines:… [t]he replacement or expansion of an existing line with a similar line in substantially the same location, or the rebuilding, upgrading, modifying, modernizing, or reconstructing of an existing line for the purpose of increasing capacity or widening an existing right-of-way[.]" Accordingly, because the North Carolina Rebuild Project proposes to rebuild existing Line #246 with a similar line in substantially the same location, NCUC approval of the North Carolina Rebuild Project is not required. To the extent that responses are provided within this Appendix, they should be viewed as applicable only to the Virginia Rebuild Project, and not the North Carolina Rebuild Project or the VA-NC Rebuild Project, unless so specifically stated. Any such information related specifically to the North Carolina Rebuild Project or the VA-NC Rebuild Project should be viewed as informational only, and should not be considered as applicable for the approval being sought in this Application for a CPCN for the Virginia Rebuild Project.

Q. Does this conclude your testimony?

A. Yes, it does.

APPENDIX A

BACKGROUND AND QUALIFICATIONS
OF
WESLEY STRUNK

Wesley Strunk received an undergraduate degree in Civil Engineering from the University of Kentucky in 2013. Mr. Strunk also received a masters degree in Business Administration from the University of Kentucky in 2014. Mr. Strunk has been employed by the Company as a contractor since 2021. Prior to joining the Company, he worked as a transmission line engineer and manager at Sargent & Lundy. His areas of expertise are overhead transmission line design and foundation design. He is an expert in drilled pier foundation design and transmission line design utilizing PLS-CADD to ensure clearances are maintained and structural analysis is adequate.

Wesley Strunk has not previously testified before the Virginia State Corporation Commission.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: George Brimmer

Title: Engineer III - Substation Conceptual

Summary:

Company Witness George Brimmer sponsors or co-sponsors the following portions of the Appendix describing the work to be performed at the existing substations for the Virginia Rebuild Project, as follows:

- Section I.I (co-sponsored with Company Witness Wesley Strunk): This section provides the estimated total cost of the proposed Virginia Rebuild Project.

- Section II.C: Although not applicable to the Virginia Rebuild Project, this section describes and furnishes a one-line diagram of new substation(s) associated with a proposed project.

Additionally, Mr. Brimmer co-sponsors the following portion of the Appendix:

- Executive Summary (co-sponsored with Company Witnesses Wesley Strunk, Jason Whitlow, and Hannah Hurst): The Executive Summary provides a brief summary of the Virginia Rebuild Project.

A statement of Mr. Brimmer background and qualifications is attached to his testimony as Appendix A.

DIRECT TESTIMONY
OF
GEORGE BRIMMER
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
VIRGINIA STATE CORPORATION COMMISSION
CASE NO. PUR-2023-00203

Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the Company").

A. My name is George Brimmer, and I am an Engineer III - Substation Conceptual. My business address is 5000 Dominion Boulevard, Glen Allen, Virginia 23060. A statement of my qualifications and background is provided as Appendix A.

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

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

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

A. In order to maintain the structural integrity and reliability of the Company's transmission systems in compliance with the Company's mandatory electric transmission planning criteria ("Planning Criteria")[1] and consistent with sound engineering judgment, the Company proposes to (i) rebuild, entirely within existing right-of-way or on Company-owned property, approximately 11.9 miles of the existing 230 kV Line #246 on single

[1] The Company's Transmission Planning Criteria (effective April 1, 2023) can be found in Attachment 1 of the Company's Facility Interconnection Requirements ("FIR") document, which is available online at https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/parallel-generation/facility-connection-requirements.pdf?la=en&rev=f280781e90cf47f69ea526c944c9c347&hash=82DD2567D0B033C47536134B8C4D5C5E.

circuit wood structures, which runs from Structure #246/1C within the Company's existing Suffolk Substation to Structure #246/94 at the Virginia state line, and is located entirely within the City of Suffolk, Virginia; and (ii) perform minor work at the existing Suffolk Substation, including upgrading circuit-breaker and line leads to 4000A and installing a new substation dead-end structure (collectively, the "Virginia Rebuild Project").[2]

The purpose of my testimony is to describe the work to be performed at the Suffolk Substation as a part of the proposed Virginia Rebuild Project. I sponsor Section II.C of the Appendix. Additionally, I co-sponsor Section I.I of the Appendix with Company Witness Wesley Strunk, specifically as it pertains to substation work. Lastly, I co-sponsor the Executive Summary with Company Witnesses Wesley Strunk, Jason Whitlow, and Hannah Hurst.

Q. Does this conclude your testimony?

A. Yes, it does.

[2] With this Application, the Company is seeking a certificate of public convenience and necessity ("CPCN" or "Certificate") from the Virginia State Corporation Commission ("Commission") for the rebuild of 11.9 miles of Line #246 located between the Suffolk Substation and the Virginia state line (*i.e.* from Structure #246/1C through Structure #246/94), which are entirely within the City of Suffolk, Virginia. The remaining approximately 32.4 miles of Line #246 that will be rebuilt is located entirely within North Carolina, extending from the Virginia state line, through the Company's existing Tunis and Ahoskie Substations, and concluding at the Company's existing Earleys Substation (the "North Carolina Rebuild Project") (together, the Virginia Rebuild Project and North Carolina Rebuild Project are referred to herein as the "VA-NC Rebuild Project"). The Company is not seeking approval of the North Carolina Rebuild Project herein or from the North Carolina Utilities Commission ("NCUC"). Pursuant to NCGS § 62-101(a), a certificate is required from the NCUC "to construct a new transmission line," not to rebuild an existing line. Further, NCGS § 62-101(c)(2) specifically provides that "[a] certificate is not required for construction of the following lines:… [t]he replacement or expansion of an existing line with a similar line in substantially the same location, or the rebuilding, upgrading, modifying, modernizing, or reconstructing of an existing line for the purpose of increasing capacity or widening an existing right-of-way[.]" Accordingly, because the North Carolina Rebuild Project proposes to rebuild existing Line #246 with a similar line in substantially the same location, NCUC approval of the North Carolina Rebuild Project is not required. To the extent that responses are provided within this Appendix, they should be viewed as applicable only to the Virginia Rebuild Project, and not the North Carolina Rebuild Project or the VA-NC Rebuild Project, unless so specifically stated. Any such information related specifically to the North Carolina Rebuild Project or the VA-NC Rebuild Project should be viewed as informational only, and should not be considered as applicable for the approval being sought in this Application for a CPCN for the Virginia Rebuild Project.

APPENDIX A

BACKGROUND AND QUALIFICATIONS
OF
GEORGE BRIMMER

George Brimmer received a Bachelor of Science degree in Electrical Engineering from Virginia Commonwealth University in 2014. Mr. Brimmer also received a Bachelor of Science degree in Psychology in 2008. Mr. Brimmer has been employed by the Company since 2013. Prior to joining the Company, he worked as Cable Technician for American Systems Corporation from 2010 to 2011. His areas of expertise are substation and grounding design.

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

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Hannah Hurst

Title: Siting and Permitting Specialist

Summary:

Company Witness Hannah Hurst will sponsor those portions of the Appendix providing an overview of the design of the route for the proposed Virginia 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 Virginia Rebuild Project.
- Section II.A.2: This section provides a map showing the route of the proposed Virginia Rebuild Project in relation to notable points close to the proposed Virginia Rebuild Project.
- Section II.A.4: Although not applicable to the Virginia Rebuild Project, this section explains why the existing right-of-way is not adequate to serve the needs of the Company.
- Sections II.A.6 to II.A.8: These sections provide detail regarding the right-of-way for the proposed Virginia 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 Virginia 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 Virginia 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 Virginia Rebuild Project on scenic, environmental, and historic features.
- Section V: This section provides information related to public notice of the proposed Virginia Rebuild Project.

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

- Executive Summary (co-sponsored with Company Witnesses Wesley Strunk, Jason Whitlow, and George Brimmer): The Executive Summary provides a brief summary of the Virginia Rebuild Project.
- Section II.A.3 (co-sponsored with Company Witness Jason Whitlow): This section provides color maps of existing or proposed rights-of-way in the vicinity of the proposed Virginia Rebuild Project.
- Section II.B.5 (co-sponsored with Company Witness Wesley Strunk): This section provides the mapping and structure heights for the existing and proposed overhead structures.

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

DIRECT TESTIMONY
OF
HANNAH HURST
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2023-00203

Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").

A. My name is Hannah Hurst, and I am a Siting and Permitting Specialist for Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") supporting Electric Transmission. My business address is 5000 Dominion Boulevard, Glen Allen, Virginia 23060. A statement of my qualifications and background is provided as Appendix A.

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

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

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

A. In order to maintain the structural integrity and reliability of the Company's transmission systems in compliance with the Company's mandatory electric transmission planning criteria ("Planning Criteria")[1] and consistent with sound engineering judgment, the

[1] The Company's Transmission Planning Criteria (effective April 1, 2023) can be found in Attachment 1 of the Company's Facility Interconnection Requirements ("FIR") document, which is available online at https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/parallel-generation/facility-connection-

Company proposes to (i) rebuild, entirely within existing right-of-way or on Company-owned property, approximately 11.9 miles of the existing 230 kV Line #246 on single circuit wood structures, which runs from Structure #246/1C within the Company's existing Suffolk Substation to Structure #246/94 at the Virginia state line, and is located entirely within the City of Suffolk, Virginia; and (ii) perform minor work at the existing Suffolk Substation, including upgrading circuit-breaker and line leads to 4000A and installing a new substation dead-end structure (collectively, the "Virginia Rebuild Project").[2]

The purpose of my testimony is to provide an overview of the route and permitting for the proposed Virginia Rebuild Project. As it pertains to routing and permitting, I sponsor Sections II.A.1, 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, III, and V of the Appendix. I also sponsor the DEQ Supplement filed with the Application, and co-sponsor Section II.A.3 with Company Witness Jason Whitlow, and Section II.B.5 of the

requirements.pdf?la=en&rev=f280781e90cf47f69ea526c944c9c347&hash=82DD2567D0B033C47536134B8C4D5C5E.

[2] With this Application, the Company is seeking a certificate of public convenience and necessity ("CPCN" or "Certificate") from the Virginia State Corporation Commission ("Commission") for the rebuild of 11.9 miles of Line #246 located between the Suffolk Substation and the Virginia state line (*i.e.* from Structure #246/1C through Structure #246/94), which are entirely within the City of Suffolk, Virginia. The remaining approximately 32.4 miles of Line #246 that will be rebuilt is located entirely within North Carolina, extending from the Virginia state line, through the Company's existing Tunis and Ahoskie Substations, and concluding at the Company's existing Earleys Substation (the "North Carolina Rebuild Project") (together, the Virginia Rebuild Project and North Carolina Rebuild Project are referred to herein as the "VA-NC Rebuild Project"). The Company is not seeking approval of the North Carolina Rebuild Project herein or from the North Carolina Utilities Commission ("NCUC"). Pursuant to NCGS § 62-101(a), a certificate is required from the NCUC "to construct a new transmission line," not to rebuild an existing line. Further, NCGS § 62-101(c)(2) specifically provides that "[a] certificate is not required for construction of the following lines:… [t]he replacement or expansion of an existing line with a similar line in substantially the same location, or the rebuilding, upgrading, modifying, modernizing, or reconstructing of an existing line for the purpose of increasing capacity or widening an existing right-of-way[.]" Accordingly, because the North Carolina Rebuild Project proposes to rebuild existing Line #246 with a similar line in substantially the same location, NCUC approval of the North Carolina Rebuild Project is not required. To the extent that responses are provided within this Appendix, they should be viewed as applicable only to the Virginia Rebuild Project, and not the North Carolina Rebuild Project or the VA-NC Rebuild Project, unless so specifically stated. Any such information related specifically to the North Carolina Rebuild Project or the VA-NC Rebuild Project should be viewed as informational only, and should not be considered as applicable for the approval being sought in this Application for a CPCN for the Virginia Rebuild Project.

Appendix with Company Witness Wesley Strunk. Lastly, I co-sponsor the Executive Summary with Company Witnesses Wesley Strunk, Jason Whitlow, and George Brimmer.

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

A. In accordance with Va. Code § 15.2-2202 E, letters dated September 11, 2023, were sent to (1) Mr. Albert Moore II, City Manager for the City of Suffolk; (2) Mr. Michael Duman, Mayor, the City of Suffolk; and (3) Mr. LeOtis Williams, City Council Member, Whaleyyville District, advising of the Company's intention to file this Application and inviting the City to consult with the Company about the Virginia Rebuild Project. Copies of these letters are included as Appendix Attachment V.D.

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

A. Yes, it does.

APPENDIX A

BACKGROUND AND QUALIFICATIONS
OF
HANNAH HURST

Hannah Hurst received a bachelor's degree in Environmental Horticulture from Virginia Tech Polytechnic Institute in 2016. Ms. Hurst has been employed by the Company since 2022 as a Siting and Permitting Specialist. Prior to joining the Company, she worked as an Environmental Planner for New Kent County where she was responsible for permitting procedures and inspections. Her areas of expertise are in local zoning, planning, and local environmental permitting.

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