EXHIBIT NO. 1

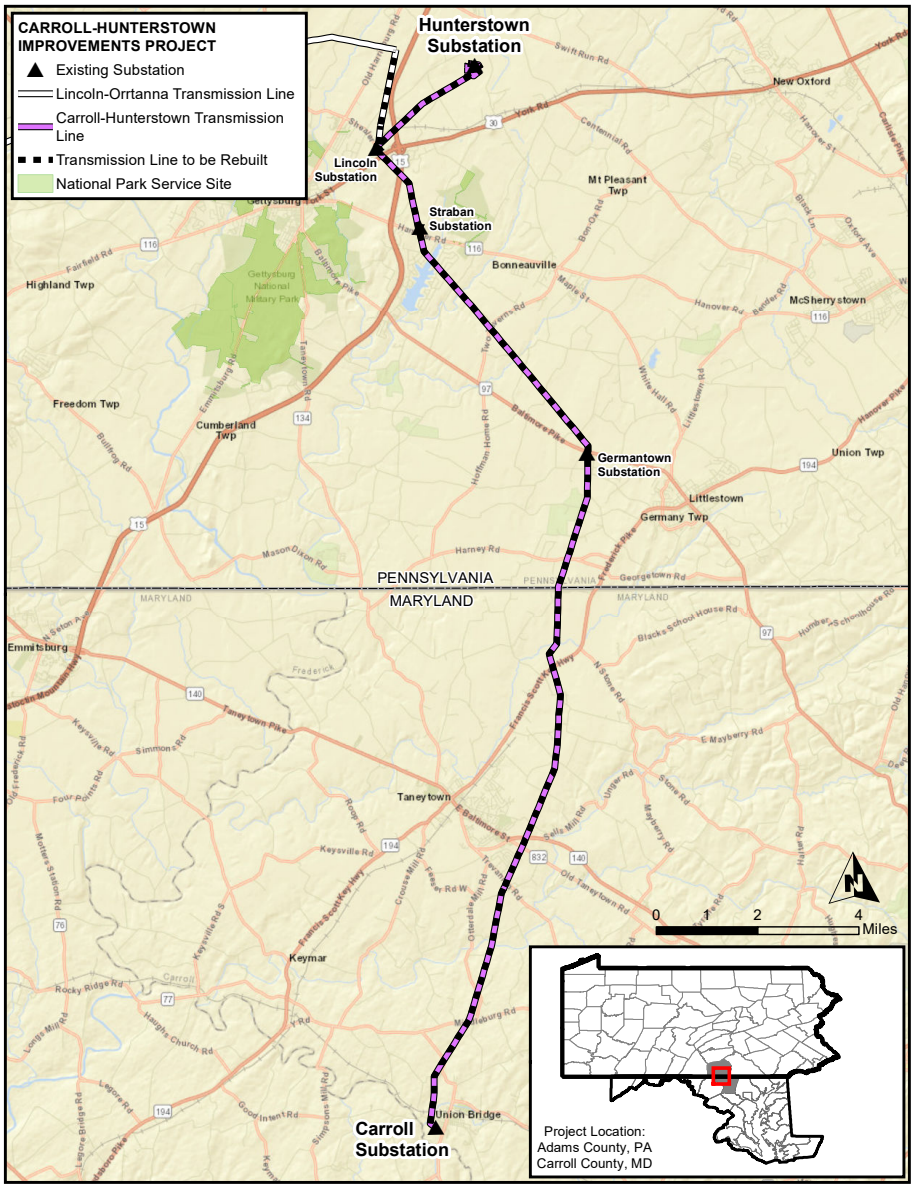
ENERGIZE 365

Carroll-Hunterstown Improvements Project

Adams County, Pennsylvania, and Carroll County, Maryland

Overview

FirstEnergy subsidiaries Mid-Atlantic Interstate Transmission (MAIT) and Potomac Edison have been awarded a project by regional transmission organization PJM Interconnection to upgrade a 24-mile transmission line between the Hunterstown Substation in Adams County, Pennsylvania, and the Carroll Substation in Carroll County, Maryland. The companies will utilize existing transmission rights of way for the work, minimizing environmental and community impacts.



MAIT and Potomac Edison will rebuild the line and add a new set of 230-kilovolt (kV) wires, known as a circuit, to the existing 115-kV and 138-kV circuits currently in the corridor. New steel structures that can accommodate the circuits will be installed. The line spans 13 miles in the Met-Ed service area in Adams County and 11 miles in Potomac Edison's service area in Carroll County.

Potomac Edison will expand the Carroll Substation for upgrades related to the rebuilt line. The project will also require MAIT to rebuild two miles of a 115-kV transmission line in Adams County, north of the Lincoln Substation in Straban Township. This work will also utilize an existing transmission right of way, and there will be no change in voltage.

Benefits

The project will enhance transmission system reliability, accommodate growing demand for electricity by residential and commercial customers, and facilitate the connection of renewable energy sources. It is one of multiple projects that was awarded by PJM, the grid operator for 13 states including Maryland and Pennsylvania, after PJM solicited proposals to address the growing demand for electricity in its territory.

Continued on back

MAIT Mid-Atlantic Interstate Transmission, LLC A FirstEnergy Company

PotomacEdison A FirstEnergy Company

The project will enhance the flow of electricity across the system for all customers and help address the impact of recent power plant retirements in PJM's service territory, including in Maryland and Pennsylvania.

For more information about PJM and the transmission system, please visit learn.pjm.com.

Approvals

MAIT and Potomac Edison plan to file applications with the Pennsylvania Public Utility Commission (PAPUC) and the Maryland Public Service Commission (MD PSC) in the spring of 2025 seeking approval for the project. The companies will obtain all required permits and authorizations from federal, state and local agencies prior to construction.

Preconstruction Activities

The companies are currently conducting preconstruction activities along the transmission right of way. To ensure compliance with environmental regulations and complete necessary surveys, our personnel may be seen driving or walking the property, taking measurements, placing boundary flags and occasionally obtaining soil and/or vegetation samples. Some larger geotechnical boring equipment may be used to obtain geological data for engineering design. Company representatives will work to keep nearby landowners updated on the project.

Easements

MAIT and Potomac Edison intend to conduct the transmission work in accordance with the easements already in place and are not proposing alternative routes outside of the right of way. The companies will contact landowners directly to discuss the need for any additional easements required for the project or temporary rights necessary to facilitate construction, such as access routes, tree clearing and laydown yards.

Permitting

Detailed wetland, stream and other environmental and historical evaluations have been conducted along the existing transmission line corridor in coordination with appropriate governmental agencies. MAIT and Potomac Edison will obtain all permits required by local, state and federal agencies prior to construction.

Preliminary Project Timeline

Q4 2024	Public information meetings
Q1-Q2 2025	PAPUC and MD PSC applications
2027	Construction start
2028	Project complete and in service

Contact

Please reach out to our dedicated hotline at 888-311-4737 with questions or email us at transmissionprojects@firstenergycorp.com.

About Energize365

Energize365 is a multi-year grid evolution program focused on transmission and distribution investments that will deliver the power FirstEnergy's customers depend on today while also meeting the challenges of tomorrow. With planned investments of $26 billion between 2024 and 2028, the program will create a smarter, more secure grid that will meet and exceed reliability targets and accommodate electric vehicles, the electrification of homes and businesses, and clean energy sources.

About Us

MAIT and Potomac Edison, subsidiaries of FirstEnergy, have decades of experience in constructing, operating and maintaining transmission facilities that enhance the reliability of the transmission system. MAIT owns and operates approximately 4,300 miles of transmission lines in Pennsylvania, and Potomac Edison owns and operates 1,200 miles of transmission lines in Maryland, Virginia and West Virginia. For additional information about our transmission projects, please visit firstenergycorp.com/transmission.

COMM10404-11-24-CV
Produced by FirstEnergy's Communications and Branding Department

MAIT™ Mid-Atlantic Interstate Transmission, LLC A FirstEnergy Company

PotomacEdison® A FirstEnergy Company

EXHIBIT NO. 2

Proof of Publication of Legal Notice

Under provisions of "Newspaper Advertising Act" of
Pennsylvania and its Supplements

STATEMENT

It is hereby stated and declared that the Gettysburg Times is a daily newspaper as defined under the "Newspaper Advertising Act" of the Commonwealth of Pennsylvania approved May 16, 1929, and its several supplements and amendments, published at its place of business in the Township of Cumberland, Adams County, Pennsylvania, and is of general circulation throughout said County. That it was established in the year 1902 and has been issued regularly and continuously circulated and distributed from its established place of business daily, from the date of its establishment to the present time; that said newspaper is owned and published by Gettysburg Times Publishing LLC, a corporate organized and existing under the laws of the State of Pennsylvania. That a legal notice, a true copy of which exactly as printed and published, is securely attached hereto, was published and appeared in the regular editions and issues of said newspaper on the following dates, viz.

GBT: 11/6/2024

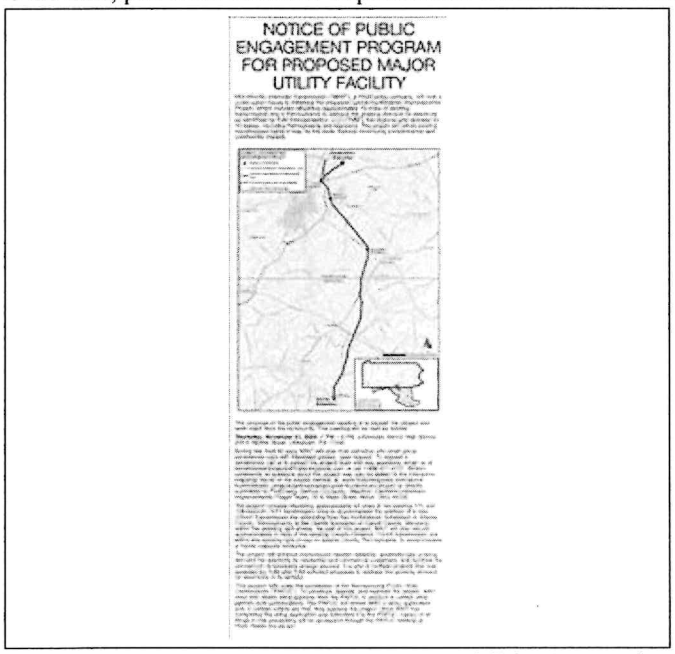
That all of the charges. costs and expenses, including the fee for the affidavit to this proof of publication has not been paid in full.

Kyle Smith

Advertising Clerk of
Gettysburg Times Publishing LLC

Commonwealth of Pennsylvania } ss.
County of Adams

On 11/6/2024, before me, the subscriber, a Notary Public in and for said State and County personally came the above named Kyle Smith who having been by me duly sworn according to law on his/her oath doth depose and say that he/she is the Advertising Clerk of Gettysburg Times Publishing LLC, a corporation, and is an officer duly authorized by resolution of the Board of Directors of said corporation to make the foregoing statement and this affidavit on its behalf; that the affiant is not interested in the subject matter of the notice or advertising referred to in the foregoing statement and that all of the allegations contained in the foregoing statement as to the time, place and character of publication therein referred to are true.


NOTICE OF PUBLIC ENGAGEMENT PROGRAM FOR PROPOSED MAJOR UTILITY FACILITY

Kyle Smith

Advertising Clerk

Sworn to and subscribed before me the day and year aforesaid.

Debra K. Hahn

Notary Public
My commission expires

Commonwealth of Pennsylvania - Notary Seal
Debra K. Hahn, Notary Public
Adams County
My commission expires February 25, 2025
Commission number 1015260
Member, Pennsylvania Association of Notaries

Statement of Advertising Costs
Gettysburg Times
To Gettysburg Times Publishing LLC,
for publishing notice or advertisement attached hereto

On the above Dates:	$
Probating same	$5.00
Total	$523.75

Publisher's Receipt for Advertising Costs

Gettysburg Times Publishing LLC- a corporation, publisher of the Gettysburg Times, a daily newspaper, hereby acknowledges receipt of the aforesaid advertising and publication of costs and certifies that the same have not been fully paid.

Gettysburg Times Publishing LLC, a corporation publisher of The Gettysburg Times, a daily newspaper

By _____
Its _____

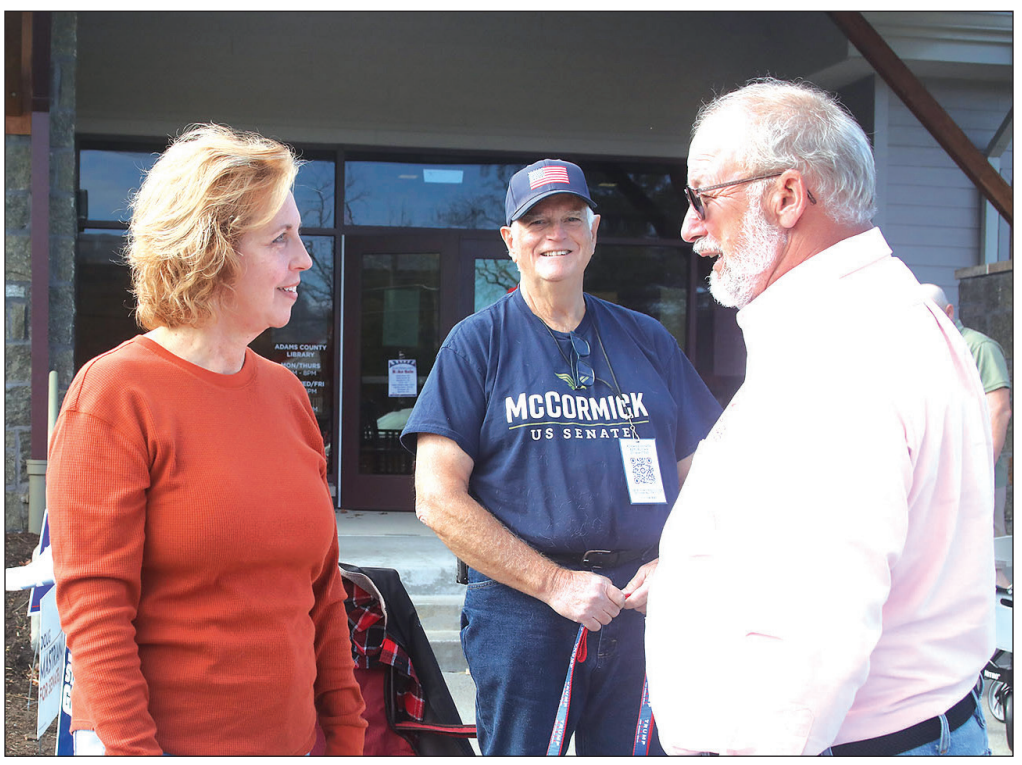
People lined up across the county Tuesday to cast a ballot

Straban Township residents waited in a long line to vote at the Adams County Emergency Services Building. (Darryl Wheeler/Gettysburg Times)

Bonneauville residents wait in line at the Deacon Richard J. Weaver Parish Center to vote Tuesday. (Darryl Wheeler/Gettysburg Times)

Gettysburg residents voted at the Charlie Sterner Recreation Building at the Gettysburg Rec Park. (Darryl Wheeler/Gettysburg Times)

Cumberland Township residents wait in line to vote at the temporary township building at 730 Chambersburg Road. (Darryl Wheeler/Gettysburg Times)

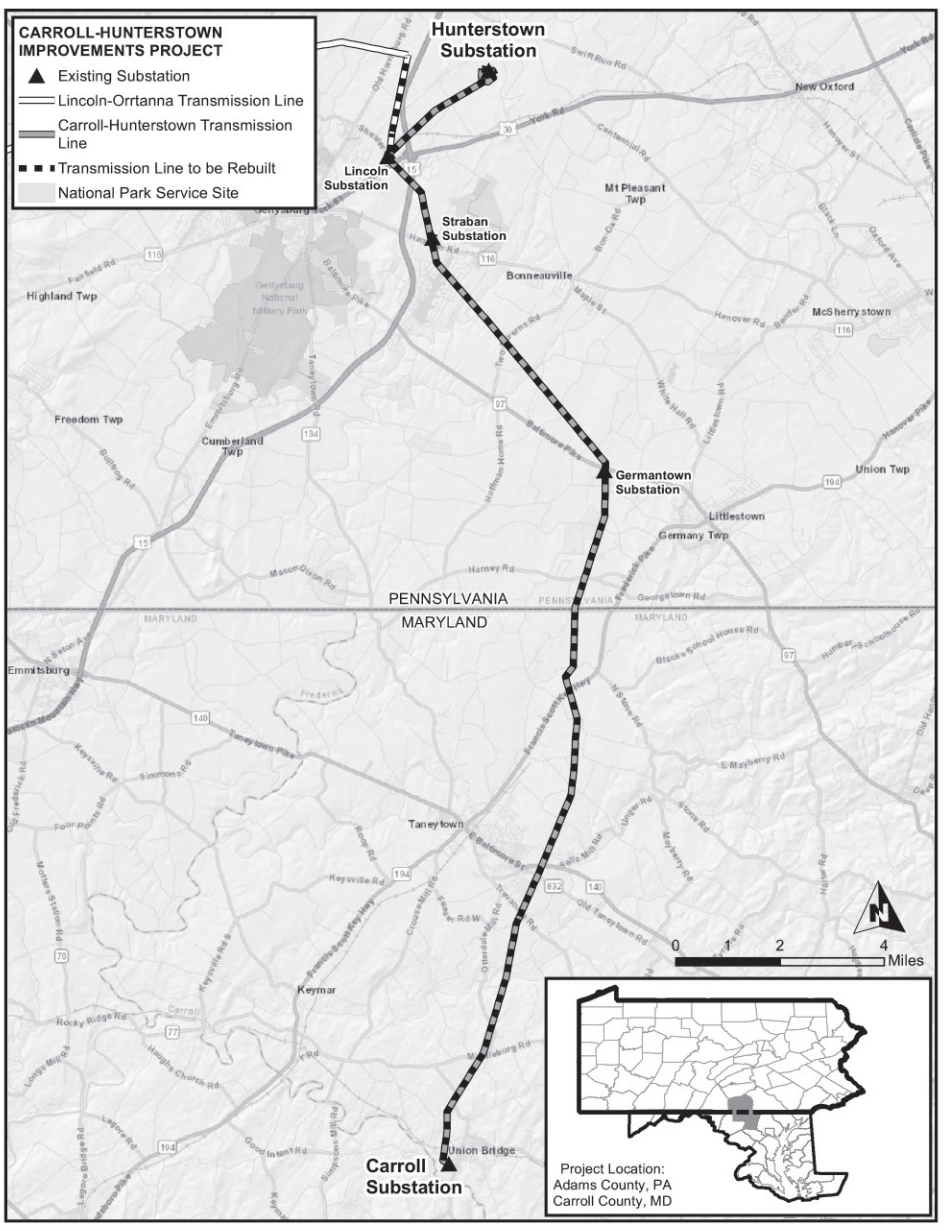


Rep. Dan Moul (R-91), right, talks with Amy Milson after she voted in the Carroll Valley Tuesday. At center back is Richard Mathews. (Darryl Wheeler/Gettysburg Times)

A constable's vehicle is parked outside the Highland Township Municipal Building on Election Day. (Darryl Wheeler/Gettysburg Times)

NOTICE OF PUBLIC ENGAGEMENT PROGRAM FOR PROPOSED MAJOR UTILITY FACILITY

Mid-Atlantic Interstate Transmission ("MAIT"), a FirstEnergy company, will host a public open house to introduce the proposed Carroll-Hunterstown Improvements Project, which includes rebuilding approximately 13 miles of existing transmission line in Pennsylvania to address the growing demand for electricity as identified by PJM Interconnection, LLC ("PJM"), the regional grid operator for 13 states, including Pennsylvania and Maryland. The project will utilize existing transmission rights-of-way for the work, thereby minimizing environmental and community impacts.



The purpose of the public engagement meeting is to explain the project and seek input from the community. The meeting will be held as follows:

Thursday, November 21, 2024, 7 PM – 9 PM, Littlestown Senior High School, 200 E Myrtle Street, Littlestown, PA 17340.

During the next 60 days, MAIT will also hold individual and small group conference calls with interested parties, upon request. To request a conference call or to contact the project team with any questions, email us at transmissionprojects@firstenergycorp.com or call 1-888-311-4737. Written comments or questions about the project may also be added to the interactive mapping found on the project website at: www.firstenergycorp.com/about/transmission_projects/pennsylvania/carroll-hunterstown-project or directly submitted to FirstEnergy Service Company, Attention: Carroll-Hunterstown Improvements Project Team, 76 S. Main Street, Akron, Ohio 44308.

The project includes rebuilding approximately 24 miles of the existing 115 and 138-kilovolt ("kV") transmission lines to accommodate the addition of a new 230-kV transmission line extending from the Hunterstown Substation in Adams County, Pennsylvania, to the Carroll Substation in Carroll County, Maryland, within the existing right-of-way. As part of this project, MAIT will also rebuild approximately 2 miles of the existing Lincoln-Orrtanna 115-kV transmission line within the existing right-of-way in Adams County, Pennsylvania, to accommodate a higher capacity conductor.

The project will enhance transmission system reliability, accommodate growing demand for electricity by residential and commercial customers, and facilitate the connection of renewable energy sources. It is one of multiple projects that was awarded by PJM after PJM solicited proposals to address the growing demand for electricity in its territory.

This project falls under the jurisdiction of the Pennsylvania Public Utility Commission ("PAPUC"). To construct, operate, and maintain the project, MAIT must first obtain siting approval from the PAPUC in addition to certain other permits and authorizations. The PAPUC will review MAIT's siting application and, if certain criteria are met, may approve the project. Once MAIT has completed the siting application and submitted it to the PAPUC, copies of all filings in the proceeding will be accessible through the PAPUC website at https://www.puc.pa.gov.

EXHIBIT NO. 3

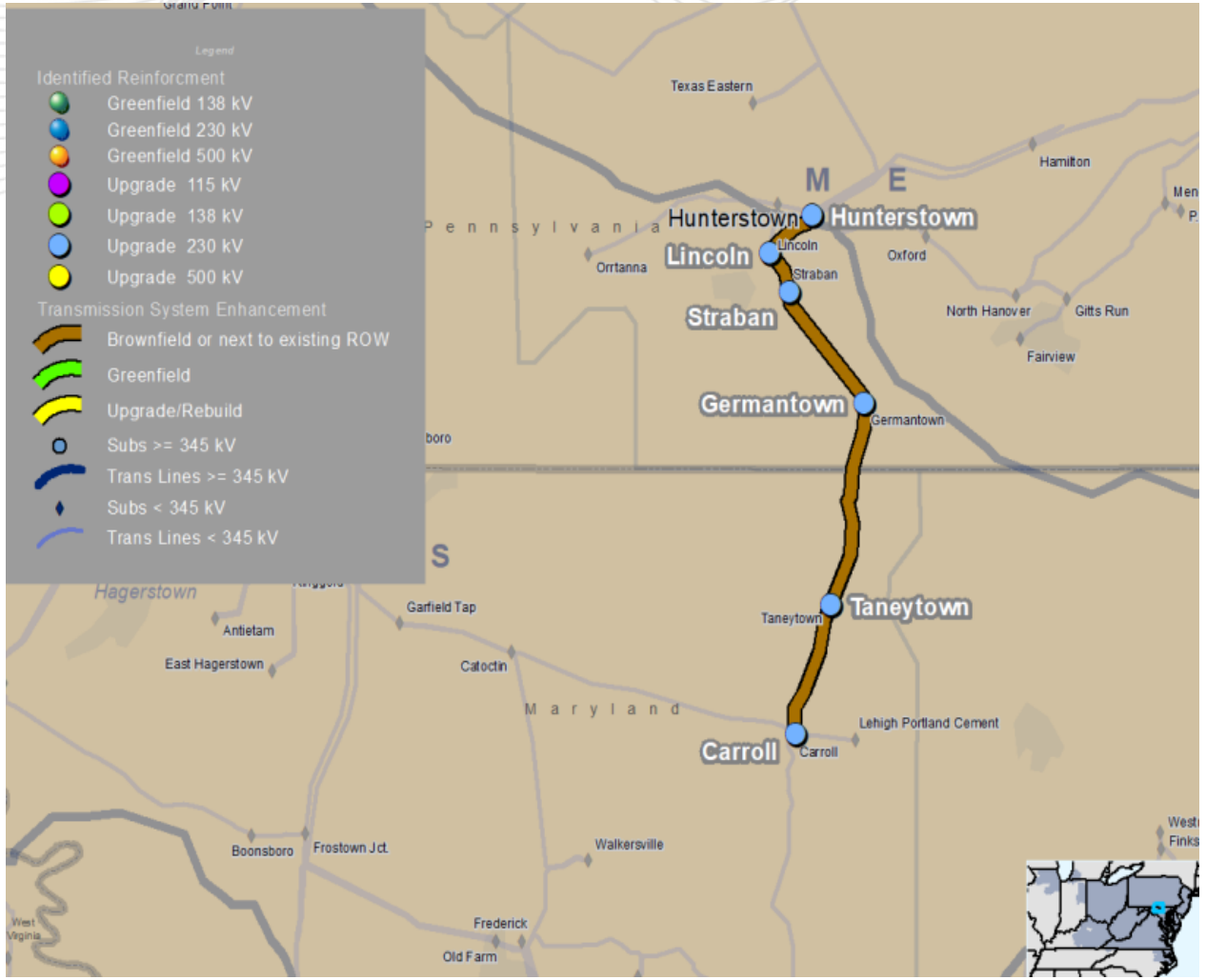
Preferred Proposals to Address Clusters - East

FE: 2022-W3-837

Build new 230 kV AC circuit from Hunterstown - Carroll

- Rebuild the existing Hunterstown – Carroll 115/138 kV Corridor as Double Circuit using 230kV construction standards
  - 230kV New Rating – 726SN/890SE/824WN/1056WE MVA
  - 115kV New Rating – 363SN/445SE/412WN/528WE MVA
- Reconductor Lincoln – Orrtanna 115 kV Line
  - New Rating- 232SN/282SE/263WN/334WE MVA
- Fayetteville – Grand Point 138 kV - Replace line trap at Grand Point 138 kV
  - New Rating – 195SN/258SE/280WN/368WE MVA
- Reid - Ringgold 138 kV - Replace line trap, substation conductor, breaker at Ringgold, relaying and CTs
  - New Rating – 308SN/376SE/349WN/445WE MVA
- Cancel b3768 (Rebuild/Reconductor the Germantown - Lincoln 115 kV Line.) (Cost: $17.36M)

Proposed Cost Estimate: $**137M**
Required In-Service Date : **6/1/2027**
Projected In-Service Date : 2028-2030



NOTE: *This map is only intended to illustrate the general electrical connectivity of the projects, and should not be relied upon for exact geographical substation locations or line routes.*

EXHIBIT NO. 4

Recommended Solutions to Address Clusters - East

Recommended Solution:

FE: 2022-W3-837

Build new 230 kV AC circuit from Hunterstown - Carroll

- Rebuild the existing Hunterstown – Carroll 115/138 kV Corridor as Double Circuit using 230kV construction standards
  - 230kV New Rating – 726SN/890SE/824WN/1056WE MVA
  - 115kV New Rating – 363SN/445SE/412WN/528WE MVA

PJM Identified upgrades:

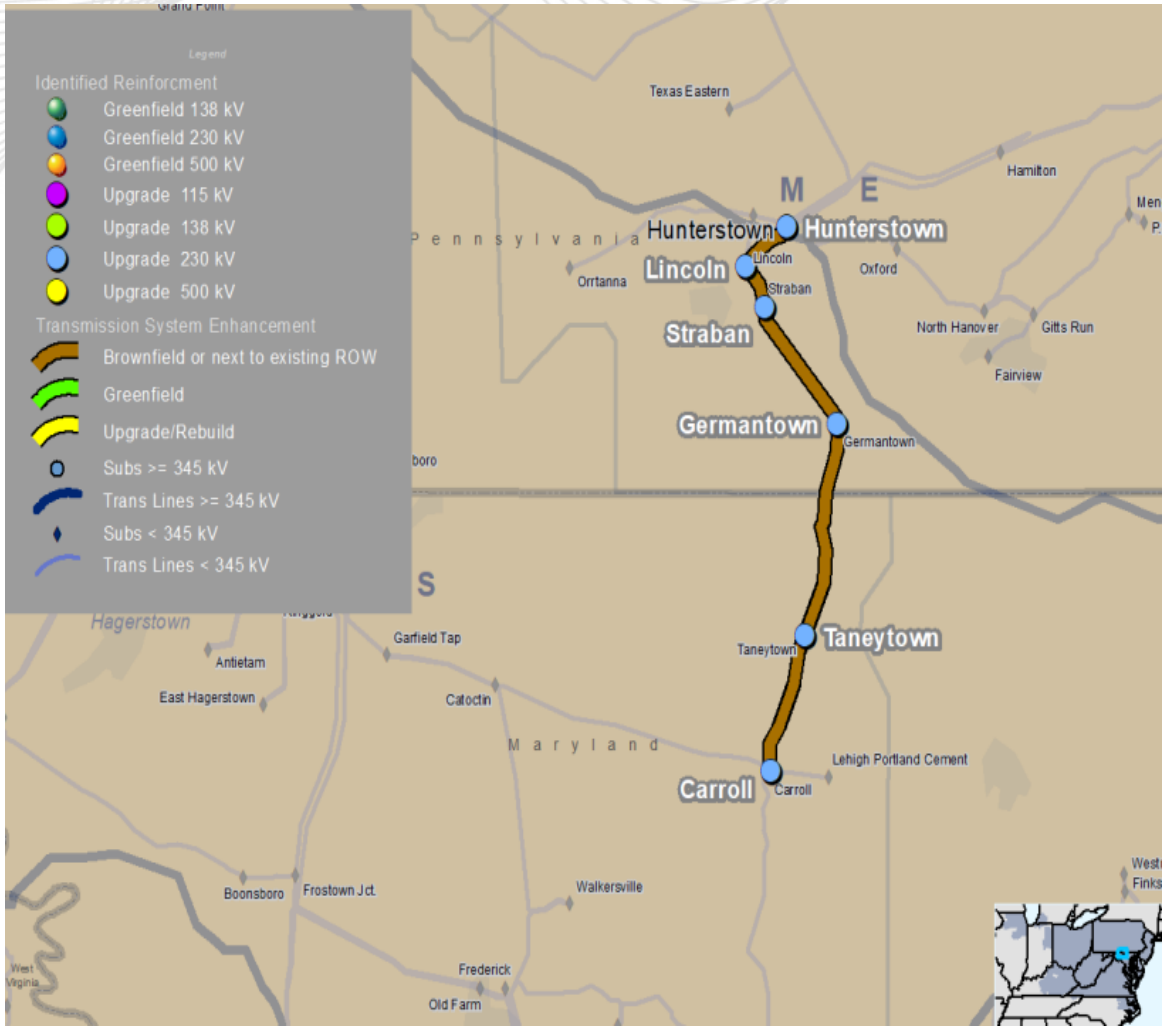
- Reconductor Lincoln – Orrtanna 115 kV Line
  - New Rating- 232SN/282SE/263WN/334WE MVA
- Fayetteville – Grand Point 138 kV - Replace line trap at Grand Point 138 kV
  - New Rating – 195SN/258SE/280WN/368WE MVA
- Reid - Ringgold 138 kV - Replace line trap, substation conductor, breaker at Ringgold, relaying and CTs
  - New Rating – 308SN/376SE/349WN/445WE MVA
- Cancel b3768 (Rebuild/Reconductor the Germantown - Lincoln 115 kV Line.) (Cost: $17.36M)

Baseline # B3800.9 –B3800.25

Proposed Cost Estimate: $152.65 M – $17.36 M = $135.3 M

Required In-Service Date : **6/1/2027**

Projected In-Service Date : 6/1/2028



NOTE: *This map is only intended to illustrate the general electrical connectivity of the projects, and should not be relied upon for exact geographical substation locations or line routes.*

EXHIBIT NO. 5

DESIGNATED ENTITY AGREEMENT

Between

PJM Interconnection, L.L.C.

And

Mid-Atlantic Interstate Transmission LLC.

PJM RTEP Projects b3800.10 to .12, b3800.14, b3800.18 to .19, b3800.2, & b3800.22 to .24:
PJM 2022 Window 3 Recommended Solution

DESIGNATED ENTITY AGREEMENT

Between

PJM Interconnection, L.L.C.

And

Mid-Atlantic Interstate Transmission LLC.

This Designated Entity Agreement, including the Schedules attached hereto and incorporated herein (collectively, "Agreement") is made and entered into as of the Effective Date between PJM Interconnection, L.L.C. ("Transmission Provider" or "PJM"), and Mid-Atlantic Interstate Transmission LLC. ("Designated Entity" or "MAIT"), referred to herein individually as "Party" and collectively as "the Parties."

WITNESSETH

WHEREAS, in accordance with FERC Order No. 1000 and Schedule 6 of the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. ("Operating Agreement"), Transmission Provider is required to designate among candidates, pursuant to a FERC-approved process, an entity to develop and construct a specified project to expand, replace and/or reinforce the Transmission System operated by Transmission Provider;

WHEREAS, pursuant to Section 1.5.8(i) of Schedule 6 of the Operating Agreement, the Transmission Provider notified Designated Entity that it was designated as the Designated Entity for the Project (described in Schedule A to this Agreement) to be included in the Regional Transmission Expansion Plan;

WHEREAS, pursuant to Section 1.5.8(j) of Schedule 6 of the Operating Agreement, Designated Entity accepted the designation as the Designated Entity for the Project and therefore has the obligation to construct the Project; and

NOW, THEREFORE, in consideration of the mutual covenants herein contained, together with other good and valuable consideration, the receipt and sufficiency is hereby mutually acknowledged by each Party, the Parties mutually covenant and agree as follows:

Article 1 – Definitions

1.0 Defined Terms.

All capitalized terms used in this Agreement shall have the meanings ascribed to them in Part I of the Tariff or in definitions either in the body of this Agreement or its attached Schedules. In the event of any conflict between defined terms set forth in the Tariff or defined terms in this Agreement, including the Schedules, such conflict will be resolved in favor of the terms as defined in this Agreement.

1.1 Confidential Information.

Any confidential, proprietary, or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy, or compilation relating to the Project or Transmission Owner facilities to which the Project will interconnect, which is designated as confidential by the party supplying the information, whether conveyed verbally, electronically, in writing, through inspection, or otherwise, and shall include, but may not be limited to, information relating to the producing party's technology, research and development, business affairs and pricing, land acquisition and vendor contracts relating to the Project.

1.2 Designated Entity Letter of Credit.

Designated Entity Letter of Credit shall mean the letter of credit provided by the Designated Entity pursuant to Section 1.5.8(j) of Schedule 6 of the Operating Agreement and Section 3.0 of this Agreement as security associated with the Project.

1.3 Development Schedule.

Development Schedule shall mean the schedule of milestones set forth in Schedule C of this Agreement.

1.4 Effective Date.

Effective Date shall mean the date this Agreement becomes effective pursuant to Section 2.0 of this Agreement.

1.5 Initial Operation.

Initial Operation shall mean the date the Project is (i) energized and (ii) under Transmission Provider operational dispatch.

1.6 Project.

Project shall mean the enhancement or expansion included in the PJM Regional Transmission Expansion Plan described in Schedule A of this Agreement.

1.7 Project Finance Entity.

Project Finance Entity shall mean holder, trustee or agent for holders, of any component of Project Financing.

1.8 Project Financing.

Project Financing shall mean: (a) one or more loans, leases, equity and/or debt financings, together with all modifications, renewals, supplements, substitutions and replacements thereof,

the proceeds of which are used to finance or refinance the costs of the Project, any alteration, expansion or improvement to the Project, or the operation of the Project; or (b) loans and/or debt issues secured by the Project.

1.9 Reasonable Efforts.

Reasonable Efforts shall mean such efforts as are consistent with ensuring the timely and effective design and construction of the Project in a manner, which ensures that the Project, once placed in service, meets the requirements of the Project as described in Schedule B and are consistent with Good Utility Practice.

1.10 Required Project In-Service Date.

Required Project In-Service Date shall mean the date the Project is required to: (i) be completed in accordance with the Scope of Work in Schedules B this Agreement, (ii) meet the criteria outlined in Schedule D of this Agreement and (iii) be under Transmission Provider operational dispatch.

Article 2 – Effective Date and Term

2.0 Effective Date.

Subject to regulatory acceptance, this Agreement shall become effective on the date the Agreement has been executed by all Parties, or if this Agreement is filed with FERC for acceptance, rather than reported only in PJM's Electric Quarterly Report, upon the date specified by FERC.

2.1 Term.

This Agreement shall continue in full force and effect from the Effective Date until: (i) the Designated Entity executes the Consolidated Transmission Owners Agreement; and (ii) the Project (a) has been completed in accordance with the terms and conditions of this Agreement, (b) meets all relevant required planning criteria, and (c) is under Transmission Provider's operational dispatch; or (iii) the Agreement is terminated pursuant to Article 8 of this Agreement.

Article 3 – Security

3.0 Obligation to Provide Security.

In accordance with Section 1.5.8(j) of Schedule 6 of the Operating Agreement, Designated Entity shall provide Transmission Provider a letter of credit as acceptable to Transmission Provider (Designated Entity Letter of Credit) or cash security in the amount of $2,798,400, which is three percent of the estimated cost of the Project. Designated Entity is required provide and maintain

the Designated Entity Letter of Credit, as required by Section 1.5.8(j) of Schedule 6 of the Operating Agreement and Section 3.0 of this Agreement. The Designated Entity Letter of Credit shall remain in full force and effect for the term of this Agreement and for the duration of the obligations arising therefrom in accordance with Article 17.0.

3.1 Distribution of Designated Entity Letter of Credit or Cash Security.

In the event that Transmission Provider draws upon the Designated Entity Letter of Credit or retains the cash security in accordance with Sections 7.5, 8.0, or 8.1, Transmission Provider shall distribute such funds as determined by FERC.

Article 4 – Project Construction

4.0 Construction of Project by Designated Entity.

Designated Entity shall design, engineer, procure, install and construct the Project, including any modifications thereto, in accordance with: (i) the terms of this Agreement, including but not limited to the Scope of Work in Schedule B and the Development Schedule in Schedule C; (ii) applicable reliability principles, guidelines, and standards of the Applicable Regional Reliability Council and NERC; (iii) the Operating Agreement; (iv) the PJM Manuals; and (v) Good Utility Practice.

4.1 Milestones.

4.1.0 Milestone Dates.

Designated Entity shall meet the milestone dates set forth in the Development Schedule in Schedule C of this Agreement. Milestone dates set forth in Schedule C only may be extended by Transmission Provider in writing. Failure to meet any of the milestone dates specified in Schedule C, or as extended as described in this Section 4.1.0 or Section 4.3.0 of this Agreement, shall constitute a Breach of this Agreement. Transmission Provider reasonably may extend any such milestone date, in the event of delays not caused by the Designated Entity that could not be remedied by the Designated Entity through the exercise of due diligence, or if an extension will not delay the Required Project In-Service Date specified in Schedule C of this Agreement; provided that a corporate officer of the Designated Entity submits a revised Development Schedule containing revised milestones and showing the Project in full operation no later than the Required Project In-Service Date specified in Schedule C of this Agreement.

4.1.1 Right to Inspect.

Upon reasonable notice, Transmission Provider shall have the right to inspect the Project for the purposes of assessing the progress of the Project and satisfaction of milestones. Such inspection shall not be deemed as review or approval by Transmission Provider of any design or construction practices or standards used by the Designated Entity.

4.2 Applicable Technical Requirements and Standards.

For the purposes of this Agreement, applicable technical requirements and standards of the Transmission Owner(s) to whose facilities the Project will interconnect shall apply to the design, engineering, procurement, construction and installation of the Project to the extent that the provisions thereof relate to the interconnection of the Project to the Transmission Owner(s) facilities.

4.3 Project Modification.

4.3.0 Project Modification Process.

The Scope of Work and Development Schedule, including the milestones therein, may be revised, as required, in accordance with Transmission Provider's project modification process set forth in the PJM Manuals, or otherwise by Transmission Provider in writing. Such modifications may include alterations as necessary and directed by Transmission Provider to meet the system condition for which the Project was included in the Regional Transmission Expansion Plan.

4.3.1 Consent of Transmission Provider to Project Modifications.

Designated Entity may not modify the Project without prior written consent of Transmission Provider, including but not limited to, modifications necessary to obtain siting approval or necessary permits, which consent shall not be unreasonably withheld, conditioned, or delayed.

4.3.2 Customer Facility Interconnections And Transmission Service Requests.

Designated Entity shall perform or permit the engineering and construction necessary to accommodate the interconnection of Customer Facilities to the Project and transmission service requests that are determined necessary for such interconnections and transmission service requests in accordance with Parts IV and VI, and Parts II and III, respectively, of the Tariff.

4.4 Project Tracking.

The Designated Entity shall provide regular, quarterly construction status reports in writing to Transmission Provider. The reports shall contain, but not be limited to, updates and information specified in the PJM Manuals regarding: (i) current engineering and construction status of the Project; (ii) Project completion percentage, including milestone completion; (iii) current target Project or phase completion date(s); (iv) applicable outage information; and (v) cost expenditures to date and revised projected cost estimates for completion of the Project. Transmission Provider shall use such status reports to post updates regarding the progress of the Project.

4.5 Exclusive Responsibility of Designated Entity.

Designated Entity shall be solely responsible for all planning, design, engineering, procurement, construction, installation, management, operations, safety, and compliance with applicable laws and regulations associated with the Project, including but not limited to obtaining all necessary

permits, siting, and other regulatory approvals. Transmission Provider shall have no responsibility to manage, supervise, or ensure compliance or adequacy of same.

Article 5 – Coordination with Third-Parties

5.0 Interconnection Coordination Agreement with Transmission Owner(s).

By the dates specified in the Development Schedule in Schedule C of this Agreement, Designated Entity shall execute or request to file unexecuted with the Commission: (a) an Interconnection Coordination Agreement; and (b) an interconnection agreement among and between Designated Entity, Transmission Provider, and the Transmission Owner(s) to whose facilities the Project will interconnect.

5.1 Connection with Entities Not a Party to the Consolidated Transmission Owners Agreement.

Designated Entity shall not permit any part of the Project facilities to be connected with the facilities of any entity which is not: (i) a party to Consolidated Transmission Owners Agreement without an interconnection agreement that contains provisions for the safe and reliable interconnection and operation of such interconnection in accordance with Good Utility Practice, and principles, guidelines and standards of the Applicable Regional Reliability Council and NERC or comparable requirements of an applicable retail tariff or agreement approved by appropriate regulatory authority; or (ii) a party to a separate Designated Entity Agreement.

Article 6 – Insurance

6.0 Designated Entity Insurance Requirements.

Designated Entity shall obtain and maintain in full force and effect such insurance as is consistent with Good Utility Practice. The Transmission Provider shall be included as an Additional Insured in the Designated Entity's applicable liability insurance policies. The Designated Entity shall provide evidence of compliance with this requirement upon request by the Transmission Provider.

6.1 Subcontractor Insurance.

In accord with Good Utility Practice, Designated Entity shall require each of its subcontractors to maintain and, upon request, provide Designated Entity evidence of insurance coverage of types, and in amounts, commensurate with the risks associated with the services provided by the subcontractor. Bonding and hiring of contractors or subcontractors shall be the Designated Entity's discretion, but regardless of bonding or the existence or non-existence of insurance, the Designated Entity shall be responsible for the performance or non-performance of any contractor or subcontractor it hires.

Article 7 – Breach and Default

7.0 Breach.

Except as otherwise provided in Article 10, a Breach of this Agreement shall include:

(a) The failure to comply with any term or condition of this Agreement, including but not limited to, any Breach of a representation, warranty, or covenant made in this Agreement, and failure to provide and maintain security in accordance with Section 3.0 of this Agreement;

(b) The failure to meet a milestone or milestone date set forth in the Development Schedule in Schedule C of this Agreement, or as extended in writing as described in Sections 4.1.0 and 4.3.0 of this Agreement;

(c) Assignment of this Agreement in a manner inconsistent with the terms of this Agreement; or

(d) Failure of any Party to provide information or data required to be provided to another Party under this Agreement for such other Party to satisfy its obligations under this Agreement.

7.1 Notice of Breach.

In the event of a Breach, a Party not in Breach of this Agreement shall give written notice of such Breach to the breaching Party, and to any other persons, including a Project Finance Entity, if applicable, that the breaching Party identifies in writing prior to the Breach. Such notice shall set forth, in reasonable detail, the nature of the Breach, and where known and applicable, the steps necessary to cure such Breach.

7.2 Cure and Default.

A Party that commits a Breach and does not take steps to cure the Breach pursuant to Section 7.3 shall be in Default of this Agreement.

7.3 Cure of Breach.

The breaching Party may: (i) cure the Breach within thirty days from the receipt of the notice of Breach or other such date as determined by Transmission Provider to ensure that the Project meets its Required Project In-Service Date set forth in Schedule C; or, (ii) if the Breach cannot be cured within thirty days but may be cured in a manner that ensures that the Project meets the Required Project In-Service Date for the Project, within such thirty day time period, commences in good faith steps that are reasonable and appropriate to cure the Breach and thereafter diligently pursue such action to completion.

7.4 Re-evaluation if Breach Not Cured.

In the event that a breaching Party does not cure a Breach in accordance with Section 7.3 of this Agreement, Transmission Provider shall conduct a re-evaluation pursuant to Section 1.5.8(k) of Schedule 6 of the Operating Agreement. If based on such re-evaluation, the Project is retained in the Regional Transmission Expansion Plan and the Designated Entity's designation for the Project also is retained, the Parties shall modify this Agreement, including Schedules, as necessary. In all other events, Designated Entity shall be considered in Default of this Agreement, and this Agreement shall terminate in accordance with Section 8.1 of this Agreement.

7.5 Remedies.

Upon the occurrence of an event of Default, the non-Defaulting Party shall be entitled to: (i) commence an action to require the Defaulting Party to remedy such Default and specifically perform its duties and obligations hereunder in accordance with the terms and conditions hereof; (ii) suspend performance hereunder; and (iii) exercise such other rights and remedies as it may have in equity or at law. Upon Default by Designated Entity, Transmission Provider may draw upon the Designated Entity Letter of Credit. Nothing in this Section 7.5 is intended in any way to affect the rights of a third-party to seek any remedy it may have in equity or at law from the Designated Entity resulting from Designated Entity's Default of this Agreement.

7.6 Remedies Cumulative.

No remedy conferred by any provision of this Agreement is intended to be exclusive of any other remedy and each and every remedy shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity or by statute or otherwise. The election of any one or more remedies shall not constitute a waiver of the right to pursue other available remedies.

7.7 Waiver.

Any waiver at any time by any Party of its rights with respect to a Breach or Default under this Agreement, or with respect to any other matters arising in connection with this Agreement, shall not be deemed a waiver or continuing waiver with respect to any other Breach or Default or other matter.

Article 8 – Early Termination

8.0 Termination by Transmission Provider.

In the event that: (i) pursuant to Section 1.5.8(k) of Schedule 6 of the Operating Agreement, Transmission Provider determines to remove the Project from the Regional Transmission Expansion Plan and/or not to retain Designated Entity's status for the Project; (ii) Transmission Provider otherwise determines pursuant to Regional Transmission Expansion Planning Protocol

in Schedule 6 of the Operating Agreement that the Project is no longer required to address the specific need for which the Project was included in the Regional Transmission Expansion Plan; or (iii) an event of force majeure, as defined in section 10.0 of this Attachment KK, or other event outside of the Designated Entity's control that, with the exercise of Reasonable Efforts, Designated Entity cannot alleviate and which prevents the Designated Entity from satisfying its obligations under this Agreement, Transmission Provider may terminate this Agreement by providing written notice of termination to Designated Entity, which shall become effective the later of sixty calendar days after the Designated Entity receives such notice or other such date the FERC establishes for the termination. In the event termination pursuant to this Section 8.0 is based on (ii) or (iii) above, Transmission Provider shall not have the right to draw upon the Designated Entity Letter of Credit or retain the cash security and shall cancel the Designated Entity Letter of Credit or return the cash security within thirty days of the termination of this Agreement.

8.1 Termination by Default.

This Agreement shall terminate in the event a Party is in Default of this Agreement in accordance with Sections 7.2 or 7.4 of this Agreement. Upon Default by Designated Entity, Transmission Provider may draw upon the Designated Entity Letter of Credit or retain the cash security.

8.2 Filing at FERC.

Transmission Provider shall make the appropriate filing with FERC as required to effectuate the termination of this Agreement pursuant to this Article 8.

Article 9 – Liability and Indemnity

9.0 Liability.

For the purposes of this Agreement, Transmission Provider's liability to the Designated Entity, any third-party, or any other person arising or resulting from any acts or omissions associated in any way with performance under this Agreement shall be limited in the same manner and to the same extent that Transmission Provider's liability is limited to any Transmission Customer, third-party or other person under Section 10.2 of the Tariff arising or resulting from any act or omission in any way associated with service provided under the Tariff or any Service Agreement thereunder.

9.1 Indemnity.

For the purposes of this Agreement, Designated Entity shall at all times indemnify, defend, and save Transmission Provider and its directors, managers, members, shareholders, officers and employees harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third-parties,

arising out of or resulting from the Transmission Provider's acts or omissions associated with the performance of its obligations under this Agreement to the same extent and in the same manner that a Transmission Customer is required to indemnify, defend and save Transmission Provider and its directors, managers, members, shareholders, officers and employees harmless under Section 10.3 of the Tariff.

Article 10 – Force Majeure

10.0 Force Majeure.

For the purpose of this section, an event of force majeure shall mean any cause beyond the control of the affected Party, including but not restricted to, acts of God, flood, drought, earthquake, storm, fire, lightening, epidemic, war, riot, civil disturbance or disobedience, labor dispute, labor or material shortage, sabotage, acts of public enemy, explosions, orders, regulations or restrictions imposed by governmental, military, or lawfully established civilian authorities, which in any foregoing cases, by exercise of due diligence, it has been unable to overcome. An event of force majeure does not include: (i) a failure of performance that is due to an affected Party's own negligence or intentional wrongdoing; (ii) any removable or remedial causes (other than settlement of a strike or labor dispute) which an affected Party fails to remove or remedy within a reasonable time; or (iii) economic hardship of an affected Party.

10.1 Notice.

A Party that is unable to carry out an obligation imposed on it by this Agreement due to Force Majeure shall notify the other Party in writing within a reasonable time after the occurrence of the cause relied on.

10.2 Duration of Force Majeure.

A Party shall not be responsible for any non-performance or considered in Breach or Default under this Agreement, for any deficiency or failure to perform any obligation under this Agreement to the extent that such failure or deficiency is due to Force Majeure. A Party shall be excused from whatever performance is affected only for the duration of the Force Majeure and while the Party exercises Reasonable Efforts to alleviate such situation. As soon as the non-performing Party is able to resume performance of its obligations excused because of the occurrence of Force Majeure, such Party shall resume performance and give prompt notice thereof to the other Party. In the event that Designated Entity is unable to perform any of its obligations under this Agreement because of an occurrence of Force Majeure, Transmission Provider may terminate this Agreement in accordance with Section 8.0 of this Agreement.

10.3 Breach or Default of or Force Majeure under Interconnection Coordination Agreement

If either of the following events prevents Designated Entity from performing any of its obligations under this Agreement, such event shall be considered a Force Majeure event under

this Agreement and the provisions of this Article 10 shall apply: (i) a breach or default of the Interconnection Coordination Agreement associated with the Project by a party to the Interconnection Coordination Agreement other than the Designated Entity; or (ii) an event of Force Majeure under the Interconnection Coordination Agreement associated with the Project.

Article 11 – Assignment

11.0 Assignment.

A Party may assign all of its rights, duties, and obligations under this Agreement in accordance with this Section 11.0. Except for assignments described in Section 11.1 of this Agreement that may not result in the assignment of all rights, duties, and obligations under this Agreement to a Project Finance Entity, no partial assignments will be permitted. No Party may assign any of its rights or delegate any of its duties or obligations under this Agreement without prior written consent of the other Party, which consent shall not be unreasonably withheld, conditioned, or delayed. Any such assignment or delegation made without such written consent shall be null and void. Assignment by the Designated Entity shall be contingent upon, prior to the effective date of the assignment: (i) the Designated Entity or assignee demonstrating to the satisfaction of Transmission Provider that the assignee has the technical competence and financial ability to comply with the requirements of this Agreement and to construct the Project consistent with the assignor's cost estimates for the Project; and (ii) the assignee is eligible to be a Designated Entity for the Project pursuant to Sections 1.5.8(a) and (f) of Schedule 6 of the Operating Agreement. Except as provided in an assignment to a Finance Project Entity to the contrary, for all assignments by any Party, the assignee must assume in a writing, to be provided to the other Party, all rights, duties, and obligations of the assignor arising under this Agreement. Any assignment described herein shall not relieve or discharge the assignor from any of its obligations hereunder absent the written consent of the other Party. In no circumstance, shall an assignment of this Agreement or any of the rights, duties, and obligations under this Agreement diminish the rights of the Transmission Provider under this Agreement, the Tariff, or the Operating Agreement. Any assignees that will construct, maintain, or operate the Project shall be subject to, and comply with the terms of this Agreement, the Tariff and the Operating Agreement.

11.1 Project Finance Entity Assignments

11.1.1 Assignment to Project Finance Entity

If an arrangement between the Designated Entity and a Project Finance Entity provides that the Project Finance Entity may assume any of the rights, duties and obligations of the Designated Entity under this Agreement or otherwise provides that the Project Finance Entity may cure a Breach of this Agreement by the Designated Entity, the Project Finance Entity may be assigned this Agreement or any of the rights, duties, or obligations hereunder only upon written consent of the Transmission Provider, which consent shall not be unreasonably withheld, conditioned, or delayed. In no circumstance, shall an assignment of this Agreement or any of the rights, duties,

and obligations under this Agreement diminish the rights of the Transmission Provider under this Agreement, the Tariff, or the Operating Agreement.

11.1.2 Assignment By Project Finance Entity

A Project Finance Entity that has been assigned this Agreement or any of the rights, duties or obligations under this Agreement or otherwise is permitted to cure a Breach of this Agreement, as described pursuant to Section 11.1.1 above, may assign this Agreement or any of the rights, duties or obligations under this Agreement to another entity not a Party to this Agreement only: (i) upon the Breach of this Agreement by the Designated Entity; and (ii) with the written consent of the Transmission Provider, which consent shall not be unreasonably withheld, conditioned, or delayed. In no circumstance, shall an assignment of this Agreement or any of the rights, duties, and obligations under this Agreement alter or diminish the rights of the Transmission Provider under this Agreement, the Tariff, or the Operating Agreement. Any assignees that will construct, maintain, or operate the Project shall be subject to, and comply with the Tariff and Operating Agreement.

Article 12 – Information Exchange

12.0 Information Access.

Subject to Applicable Laws and Regulations, each Party shall make available to the other Party information necessary to carry out each Party's obligations and responsibilities under this Agreement, the Operating Agreement, and the Tariff. Such information shall include but not be limited to, information reasonably requested by Transmission Provider to prepare the Regional Transmission Expansion Plan. The Parties shall not use such information for purposes other than to carry out their obligations or enforce their rights under this Agreement, the Operating Agreement, and the Tariff.

12.1 Reporting of Non-Force Majeure Events.

Each Party shall notify the other Party when it becomes aware of its inability to comply with the provisions of this Agreement for a reason other than Force Majeure. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including, but not limited to, the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation or information provided under this Section 12.1 shall not entitle the receiving Party to allege a cause of action for anticipatory Breach of this Agreement.

Article 13 – Confidentiality

13.0 Confidentiality.

For the purposes of this Agreement, information will be considered and treated as Confidential Information only if it meets the definition of Confidential Information set forth in Section 1.1 of this Agreement and is clearly designated or marked in writing as "confidential" on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is "confidential." Confidential Information shall be treated consistent with Section 18.17 of the Operating Agreement. A Party shall be responsible for the costs associated with affording confidential treatment to its information.

Article 14 – Regulatory Requirements

14.0 Regulatory Approvals.

Designated Entity shall seek and obtain all required government authority authorizations or approvals as soon as reasonably practicable, and by the milestone dates set forth in the Development Schedule of Schedule C of this Agreement, as applicable.

Article 15 – Representations and Warranties

15.0 General.

Designated Entity hereby represents, warrants and covenants as follows, with these representations, warranties, and covenants effective as to the Designated Entity during the full time this Agreement is effective:

15.0.1 Good Standing

Designated Entity is duly organized or formed, as applicable, validly existing and in good standing under the laws of its State of organization or formation, and is in good standing under the laws of the respective State(s) in which it is incorporated.

15.0.2 Authority

Designated Entity has the right, power and authority to enter into this Agreement, to become a Party thereto and to perform its obligations hereunder. This Agreement is a legal, valid and binding obligation of Designated Entity, enforceable against Designated Entity in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

15.0.3 No Conflict.

The execution, delivery and performance of this Agreement does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of Designated Entity, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon Designated Entity or any of its assets.

Article 16 – Operation of Project

16.0 Initial Operation.

The following requirements shall be satisfied prior to Initial Operation of the Project:

16.0.1 Execution of the Consolidated Transmission Owners Agreement

Designated Entity has executed the Consolidated Transmission Owners Agreement and is able to meet all requirements therein.

16.0.2 Execution of an Interconnection Agreement

Designated Entity has executed an Interconnection Agreement with the Transmission Owner(s) to whose facilities the Project will interconnect, or such agreement has been filed unexecuted with the Commission.

16.0.3 Operational Requirements

The Project must meet all applicable operational requirements described in the PJM Manuals.

16.0.4 Parallel Operation

Designated Entity shall have all necessary systems and personnel in place to allow for parallel operation of its facilities with the facilities of the Transmission Owner(s) to which the Project is interconnected consistent with the Interconnection Coordination Agreement associated with the Project.

16.0.5 Synchronization

Designated Entity shall have received any necessary authorization from Transmission Provider and the Transmission Owner(s) to whose facilities the Project will interconnect to synchronize with the Transmission System or to energize, as applicable, per the determination of Transmission Provider, the Project.

16.1 Partial Operation.

If the Project is to be completed in phases, the completed part of the Project may operate prior to completion and Required Project In-Service Date set forth in Schedule C of this Agreement, provided that: (i) Designated Entity has notified Transmission Provider of the successful completion of the Project phase; (ii) Transmission Provider has determined that partial operation

of the Project will not negatively impact the reliability of the Transmission System; (iii) Designated Entity has demonstrated that the requirements for Initial Operation set forth in Section 16.0 of this Agreement have been met for the Project phase; and (iv) partial operation of the Project is consistent with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice.

Article 17 – Survival

17.0 Survival of Rights.

The rights and obligations of the Parties in this Agreement shall survive the termination, expiration, or cancellation of this Agreement to the extent necessary to provide for the determination and enforcement of said obligations arising from acts or events that occurred while this Agreement was in effect. The Liability and Indemnity provisions in Article 9 also shall survive termination, expiration, or cancellation of this Agreement.

Article 18 – Non-Standard Terms and Conditions

18.0 Schedule E – Addendum of Non-Standard Terms and Conditions.

Subject to FERC acceptance or approval, the Parties agree that the terms and conditions set forth in the attached Schedule E are hereby incorporated by reference, and made a part of, this Agreement. In the event of any conflict between a provision of Schedule E that FERC has accepted and any provision of the standard terms and conditions set forth in this Agreement that relates to the same subject matter, the pertinent provision of Schedule E shall control.

Article 19 – Miscellaneous

19.0 Notices.

Any notice or request made to or by any Party regarding this Agreement shall be made by U.S. mail or reputable overnight courier to the addresses set forth below:

Transmission Provider:
PJM Interconnection, L.L.C.
2750 Monroe Blvd.
Audubon, PA 19403
Attention: Augustine Caven, Manager, Transmission Coordination and Analysis

Designated Entity:
Mid-Atlantic Interstate Transmission LLC.
76 S. Main Street,
Akron, Ohio 44308, United States

Attention: Carl J. Bridenbaugh, bridenbaughc@firstenergycorp.com

With copies to:
Evan Dean, edean@firstenergycorp.com
Greg Hussing, hussingg@firstenergycorp.com
Doug Saltz, dsaltz@firstenergycorp.com
Sally Thomas, ssimmons@firstenergycorp.com

19.1 No Transmission Service.

This Agreement does not entitle the Designated Entity to take Transmission Service under the Tariff.

19.2 No Rights.

Neither this Agreement nor the construction or the financing of the Project entitles Designated Entity to any rights related to Customer-Funded Upgrades set forth in Subpart C of Part VI of the Tariff.

19.3 Standard of Review.

Future modifications to this Agreement by the Parties or the FERC shall be subject to the just and reasonable standard and the Parties shall not be required to demonstrate that such modifications are required to meet the "public interest" standard of review as described in *United Gas Pipe Line Co. v. Mobile Gas Service Corp.*, 350 U.S. 332 (1956), and *Federal Power Commission v. Sierra Pacific Power Co.*, 350 U.S. 348 (1956).

19.4 No Partnership.

Notwithstanding any provision of this Agreement, the Parties do not intend to create hereby any joint venture, partnership, association taxable as a corporation, or other entity for the conduct of any business for profit.

19.5 Headings.

The Article and Section headings used in this Agreement are for convenience only and shall not affect the construction or interpretation of any of the provisions of this Agreement.

19.6 Interpretation.

Wherever the context may require, any noun or pronoun used herein shall include the corresponding masculine, feminine or neuter forms. The singular form of nouns, pronouns and verbs shall include the plural and vice versa.

19.7 Severability.

Each provision of this Agreement shall be considered severable and if for any reason any provision is determined by a court or regulatory authority of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of this Agreement shall continue in full force and effect and shall in no way be affected, impaired or invalidated, and such invalid, void or unenforceable provision shall be replaced with valid and enforceable provision or provisions which otherwise give effect to the original intent of the invalid, void or unenforceable provision.

19.8 Further Assurances.

Each Party hereby agrees that it shall hereafter execute and deliver such further instruments, provide all information and take or forbear such further acts and things as may be reasonably required or useful to carry out the intent and purpose of this Agreement and as are not inconsistent with the terms hereof.

19.9 Counterparts.

This Agreement may be executed in multiple counterparts to be construed as one effective as of the Effective Date.

19.10 Governing Law

This Agreement shall be governed under the Federal Power Act and Delaware law, as applicable.

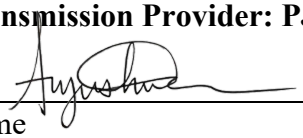
19.11 Incorporation of Other Documents.

The Tariff, the Operating Agreement, and the Reliability Assurance Agreement, as they may be amended from time to time, are hereby incorporated herein and made a part hereof.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective authorized officials.

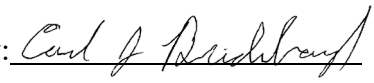
Transmission Provider: PJM Interconnection, L.L.C.

By:  Manager, Transmission Coordination & Analysis 10/7/2024

Name Title Date

Printed name of signer: Augustine C. Caven

Designated Entity: Mid-Atlantic Interstate Transmission LLC.

By:  VP, Power Delivery 9/18/2024

Name Title Date

Printed name of signer: Carl J. Bridenbaugh

SCHEDULE A

Description of Projects

PJM Baseline Upgrade IDs	Description of Projects
b3800.10	Rebuild the Germantown-Lincoln 115 kV line for 230 kV double circuit construction. (~7.6 mi)
b3800.11	Rebuild the Hunterstown-Lincoln 115 kV line for 230 kV double circuit construction. (~2.8 mi)
b3800.12	Rebuild the Germantown-Carroll 138 kV line for 230 kV double circuit construction (MAIT). (~2.8 mi)
b3800.14	Construct New 230 kV Hunterstown-Carroll line (MAIT section). (~13.2 mi)
b3800.18	Add a new 230 kV Breaker at the Hunterstown 230 kV substation for the new Hunterstown-Carroll 230 kV termination.
b3800.19	Reconductor Lincoln-Orrtanna 115 kV line. (~2 mi)
b3800.2	Break the existing TMI-Peach Bottom line within the existing right of way and install new structures rerouting the line towards Chanceford Switchyard taps being constructed by PPL.
b3800.22	Install DTT relaying at Straban substation.
b3800.23	Revise Relay Settings at Lincoln substation.
b3800.24	Revise Relay Settings at Germantown substation.

SCHEDULE B

Scope of Work

PJM Baseline Upgrade IDs	Scope of Work
b3800.10	Rebuild the ~7.6 mi Germantown-Lincoln 115 kV line for 230 kV double circuit construction.
b3800.11	Rebuild the ~2.8 mi Hunterstown-Lincoln 115 kV line for 230 kV double circuit construction.
b3800.12	Rebuild the ~2.8 mi Germantown-Carroll 138 kV line for 230 kV double circuit construction (MAIT).
b3800.14	Construct ~13.2 mi of the new 230 kV Hunterstown-Carroll line (MAIT section).
b3800.18	Add a new 230 kV breaker at the Hunterstown 230 kV substation for the new Hunterstown-Carroll 230 kV termination.
b3800.19	Reconductor the ~2mi Lincoln-Orrtanna 115 kV line.
b3800.2	Break the existing TMI-Peach Bottom line within the existing right of way and install new structures rerouting the line towards Chanceford Switchyard taps being constructed by PPL.
b3800.22	Install DTT relaying at Straban substation.
b3800.23	Revise Relay Settings at Lincoln substation.
b3800.24	Revise Relay Settings at Germantown substation.

SCHEDULE C

Development Schedule

Designated Entity shall ensure and demonstrate to the Transmission Provider that it timely has met the following milestones and milestone dates and that the milestones remain in good standing:

Milestones				
PJM Baseline Upgrade ID	**Execute Interconnection Coordination Agreement:** On or before this date, Designated Entity must execute the Interconnection Coordination Agreement or request the agreement be filed unexecuted.	**Demonstrate Adequate Project Financing**: On or before this date, Designated Entity must demonstrate that adequate project financing has been secured. Project financing must be maintained for the term of this Agreement	**Acquisition of all necessary federal, state, county, and local site permits:** On or before this date, Designated Entity must demonstrate that all required federal, state, county and local site permits have been acquired.	**Required Project In-Service Date:** On or before this date, Designated Entity must: (i) demonstrate that the Project is completed in accordance with the Scope of Work in Schedules B of this Agreement; (ii) meets the criteria outlined in Schedule D of this Agreement; and (iii) is under Transmission Provider operational dispatch.
b3800.10	N/A	10/1/2024; Project will be funded annually starting January 2024 from Cash from Operations and a $350 million credit facility that is currently in place	6/1/2027	6/1/2028
b3800.11	N/A	10/1/2024; Project will be funded annually starting January 2024 from Cash from Operations and a $350 million credit facility that is currently in place	6/1/2027	6/1/2028
b3800.12	N/A	10/1/2024; Project will be funded annually starting January 2024 from Cash from Operations and a $350 million credit facility that is currently in place	6/1/2027	6/1/2028
b3800.14	N/A	10/1/2024; Project will be funded annually starting January 2024 from Cash from Operations and a $350 million credit facility that is currently in place	6/1/2027	6/1/2028
b3800.18	N/A	10/1/2024; Project will be funded annually	6/1/2027	6/1/2028

		starting January 2024 from Cash from Operations and a $350 million credit facility that is currently in place		
b3800.19	N/A	10/1/2024; Project will be funded annually starting January 2024 from Cash from Operations and a $350 million credit facility that is currently in place	9/1/2026	6/1/2027
b3800.2	N/A	10/1/2024; Project will be funded annually starting January 2024 from Cash from Operations and a $350 million credit facility that is currently in place	9/1/2026	6/1/2027
b3800.22	N/A	10/1/2024; Project will be funded annually starting January 2024 from Cash from Operations and a $350 million credit facility that is currently in place	N/A	6/1/2028
b3800.23	N/A	10/1/2024; Project will be funded annually starting January 2024 from Cash from Operations and a $350 million credit facility that is currently in place	N/A	6/1/2028
b3800.24	N/A	10/1/2024; Project will be funded annually starting January 2024 from Cash from Operations and a $350 million credit facility that is currently in place	N/A	6/1/2028

SCHEDULE D

PJM Planning Requirements and Criteria and Required Ratings

PJM Baseline Upgrade ID	Required Ratings (MVA): Summer Normal/Summer Emergency/Winter Normal/Winter Emergency	Planning Criteria
b3800.10	Lincoln – Straban 115 kV Line: 363/445/412/528 SN/SE/WN/WE (MVA) Straban – Germantown 115 kV Line: 363/445/412/528 SN/SE/WN/WE (MVA)	Projects that comprise 2022 RTEP Window 3 Recommended Solution collectively address the 2027/28 baseline local and regional constraints associated with: (i) Data Center load additions in APS and Dominion zones, (ii) reactive power needs, and (iii) the cumulative impact of over 11,000 MW of generation changes and deactivations. These projects all adhere to all applicable planning criteria, including PJM, NERC, SERC, RFC and local Transmission Owner FERC 715 criteria.
b3800.11	Hunterstown – Riley (AD1-020) 115 kV Line: 363/445/412/528 SN/SE/WN/WE (MVA) Riley (AD1-020) – Lincoln 115 kV Line: 363/445/412/528 SN/SE/WN/WE (MVA)	
b3800.12	Germantown – Taneytown 138 kV Line: 308/376/349/445 SN/SE/WN/WE (MVA)	
b3800.14	Hunterstown – Carroll 230 kV Line: 726/890/824/1056 SN/SE/WN/WE (MVA)	
b3800.18	N/A	
b3800.19	Lincoln – Orrtanna 115 kV Line: 232/282263/334 SN/SE/WN/WE (MVA)	
b3800.2	TMI – Chanceford 500 kV Line*: 2644/2844/2946/3106 SN/SE/WN/WE (MVA) Chanceford – Peach Bottom 500 kV Line*: 3678/4541/4262/5503 SN/SE/WN/WE (MVA)	

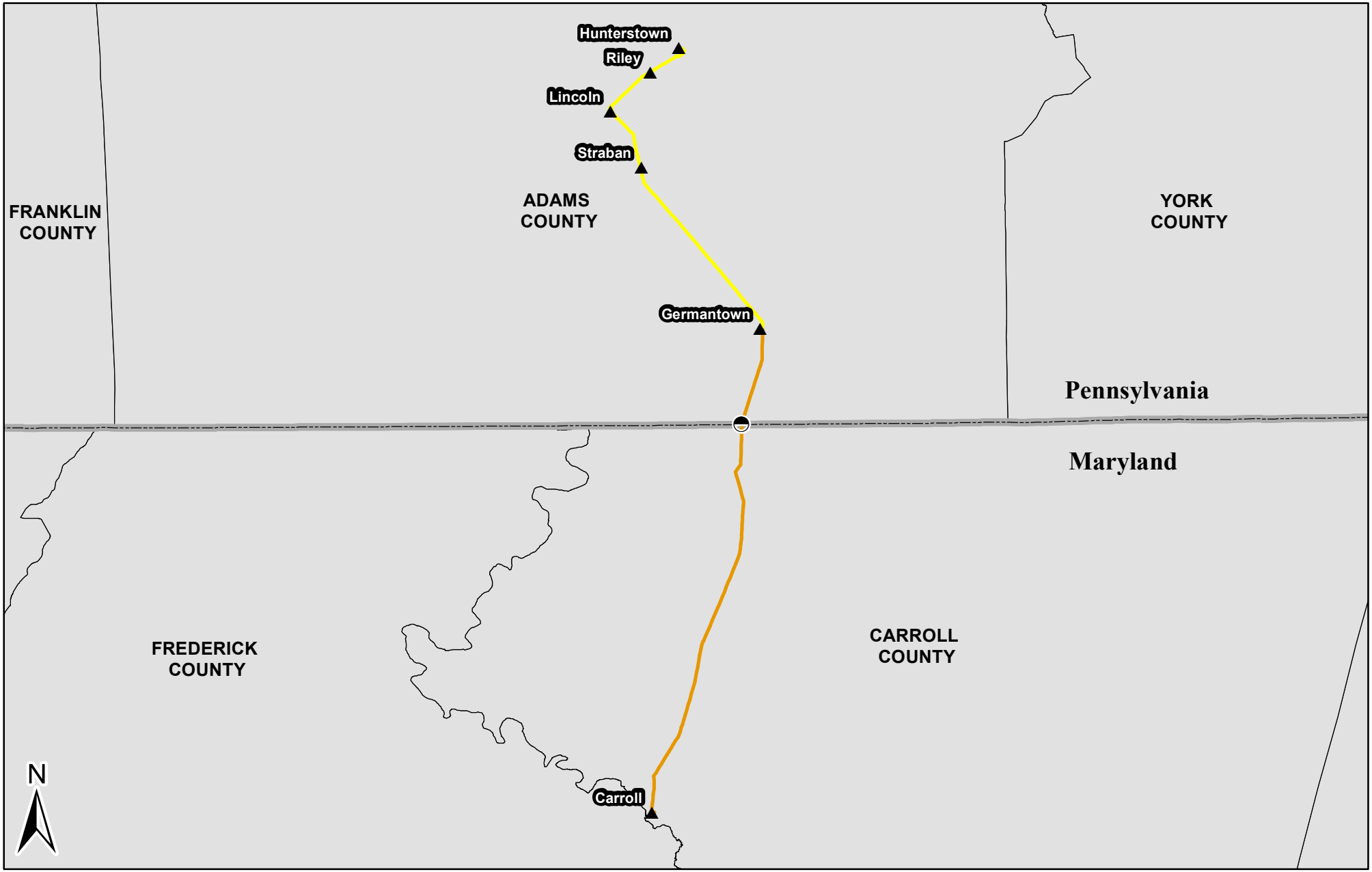
	*The ratings provided reflect FirstEnergy's ratings. The final ratings of this line are dependent upon an external entity.
b3800.22	N/A
b3800.23	N/A
b3800.24	N/A

SCHEDULE E

Mid-Atlantic Interstate Transmission LLC.
PJM RTEP Projects b3800.10 to .12, b3800.14, b3800.18 to .19, b3800.2, & b3800.22 to .24:
PJM 2022 Window 3 Recommended Solution

Non-Standard Terms and Conditions

EXHIBIT NO. 6



LEGEND:

- ▲ Existing Substation
- POI
- 115 kV
- 138 kV
- State Boundary
- County Boundary

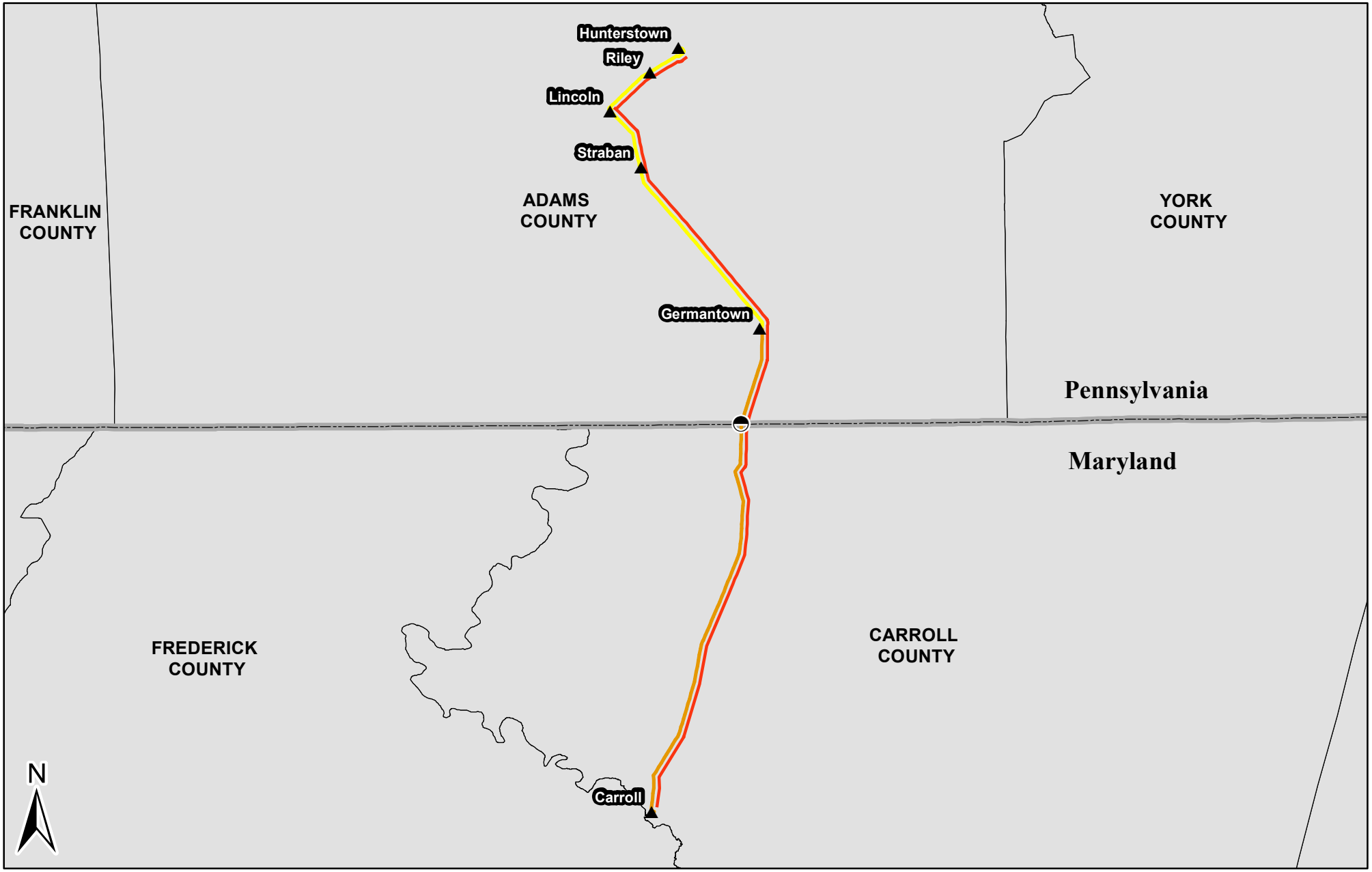
NOT TO SCALE

MAIT™

Mid-Atlantic Interstate Transmission, LLC
A FirstEnergy Company

MAIT EXISTING TRANSMISSION SYSTEM PROJECT AREA

EXHIBIT 6A - PAGE 1 OF 2



LEGEND:

- ▲ Existing Substation
- ◓ POI
- Proposed 230 kV
- 115 kV
- 138 kV
- State Boundary
- County Boundary

NOT TO SCALE

MAIT™

Mid-Atlantic Interstate Transmission, LLC
A FirstEnergy Company

MAIT PROPOSED TRANSMISSION SYSTEM PROJECT AREA

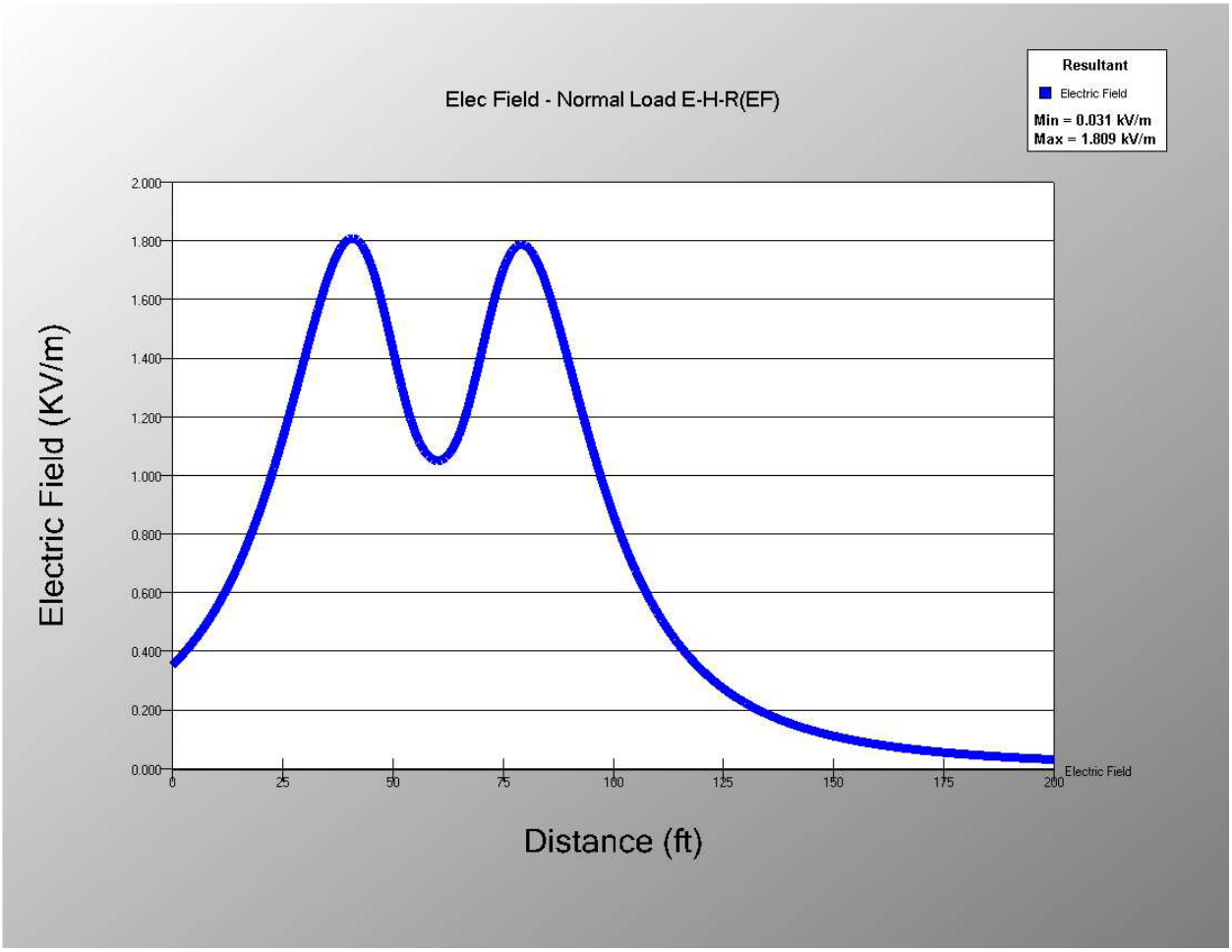
EXHIBIT 6B - PAGE 2 OF 2

EXHIBIT NO. 7

EMF Exhibit 7

Existing Hunterstown-Riley 115 kV Transmission Line

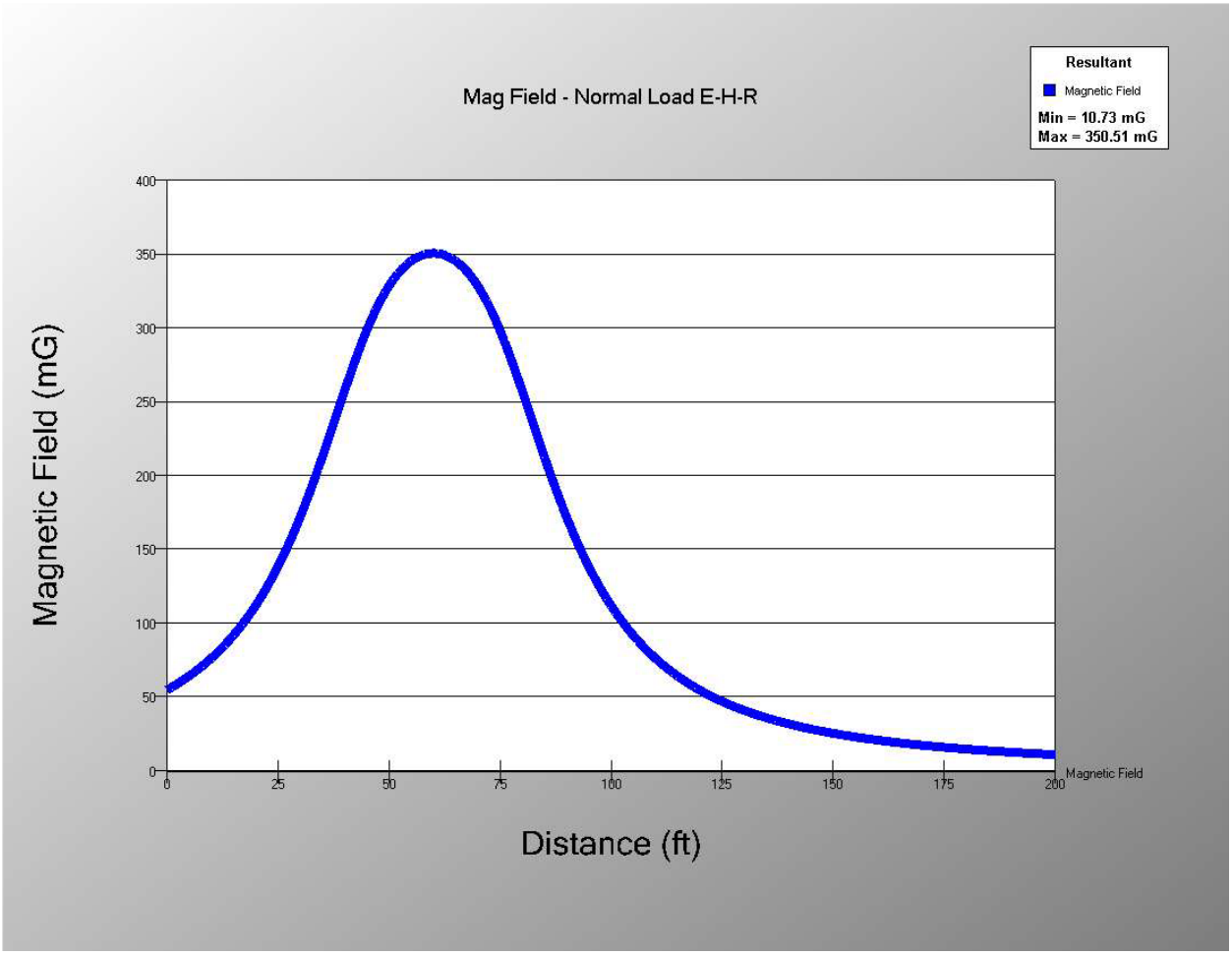
Electric Field



EMF Exhibit 7

Existing Hunterstown-Riley 115 kV Transmission Line

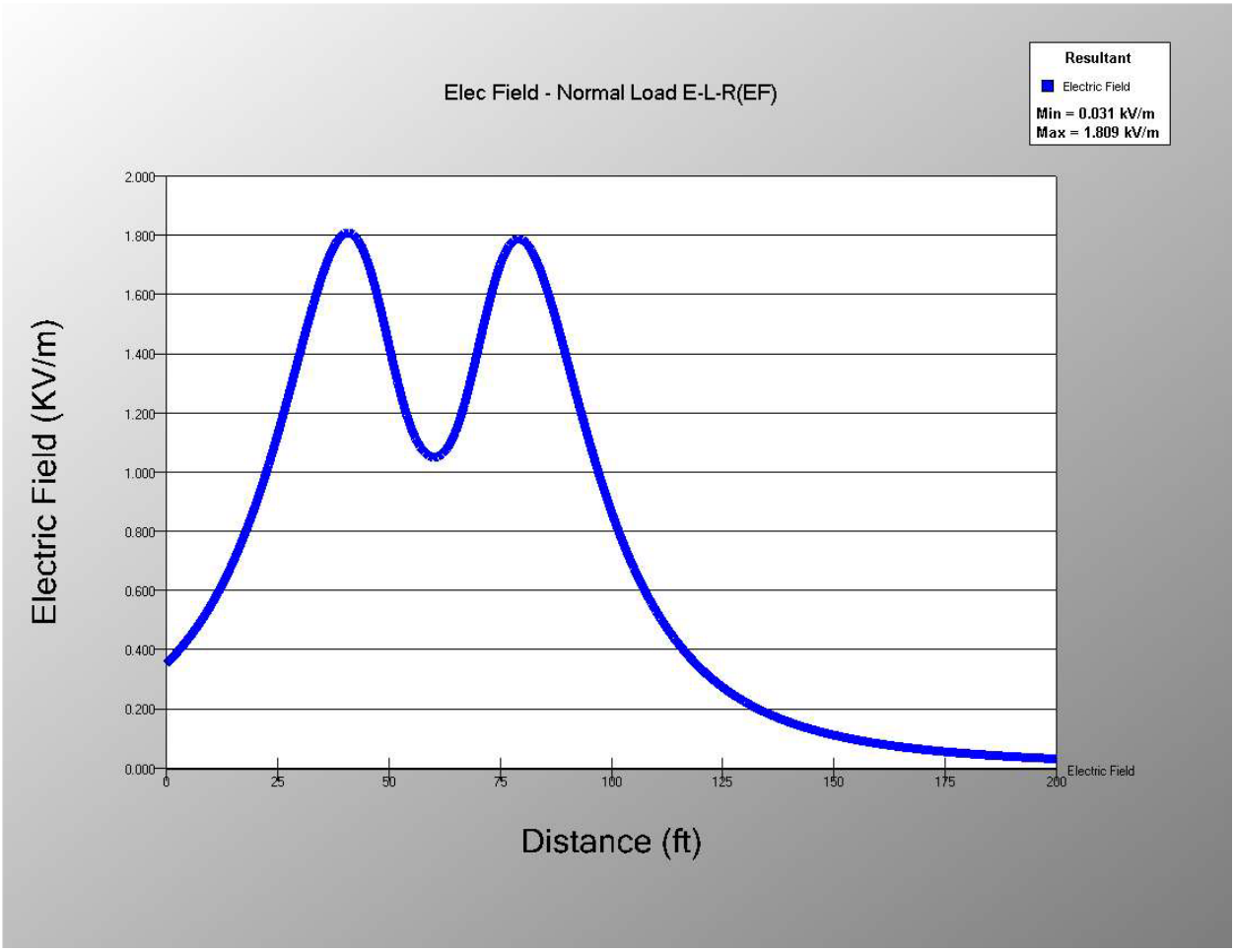
Magnetic Field



EMF Exhibit 7

Existing Lincoln-Riley 115 kV Transmission Line

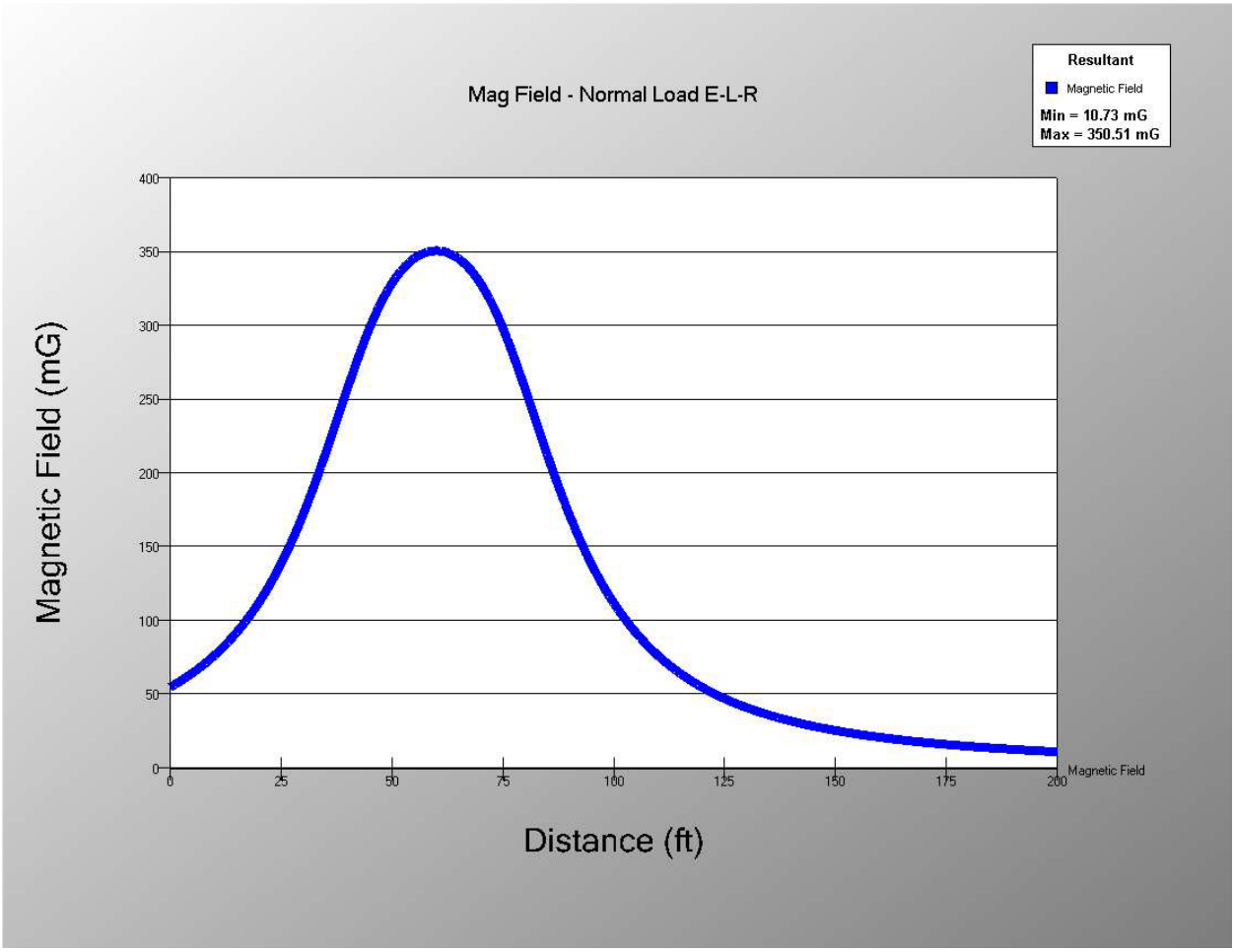
Electric Field



EMF Exhibit 7

Existing Lincoln-Riley 115 kV Transmission Line

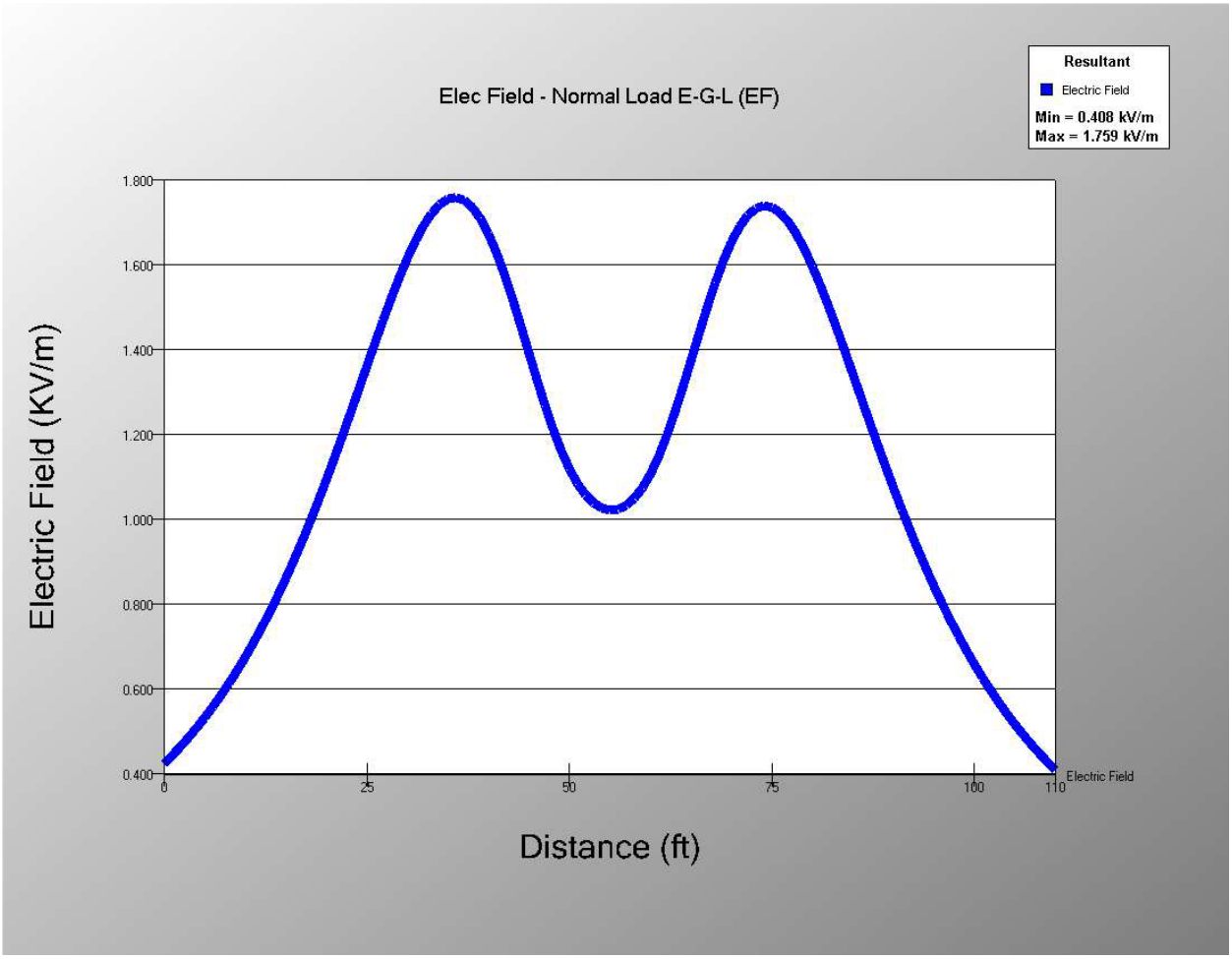
Magnetic Field



EMF Exhibit 7

Existing Germantown-Lincoln 115 kV Transmission Line

Electric Field



EMF Exhibit 7

Existing Germantown-Lincoln 115 kV Transmission Line

Magnetic Field

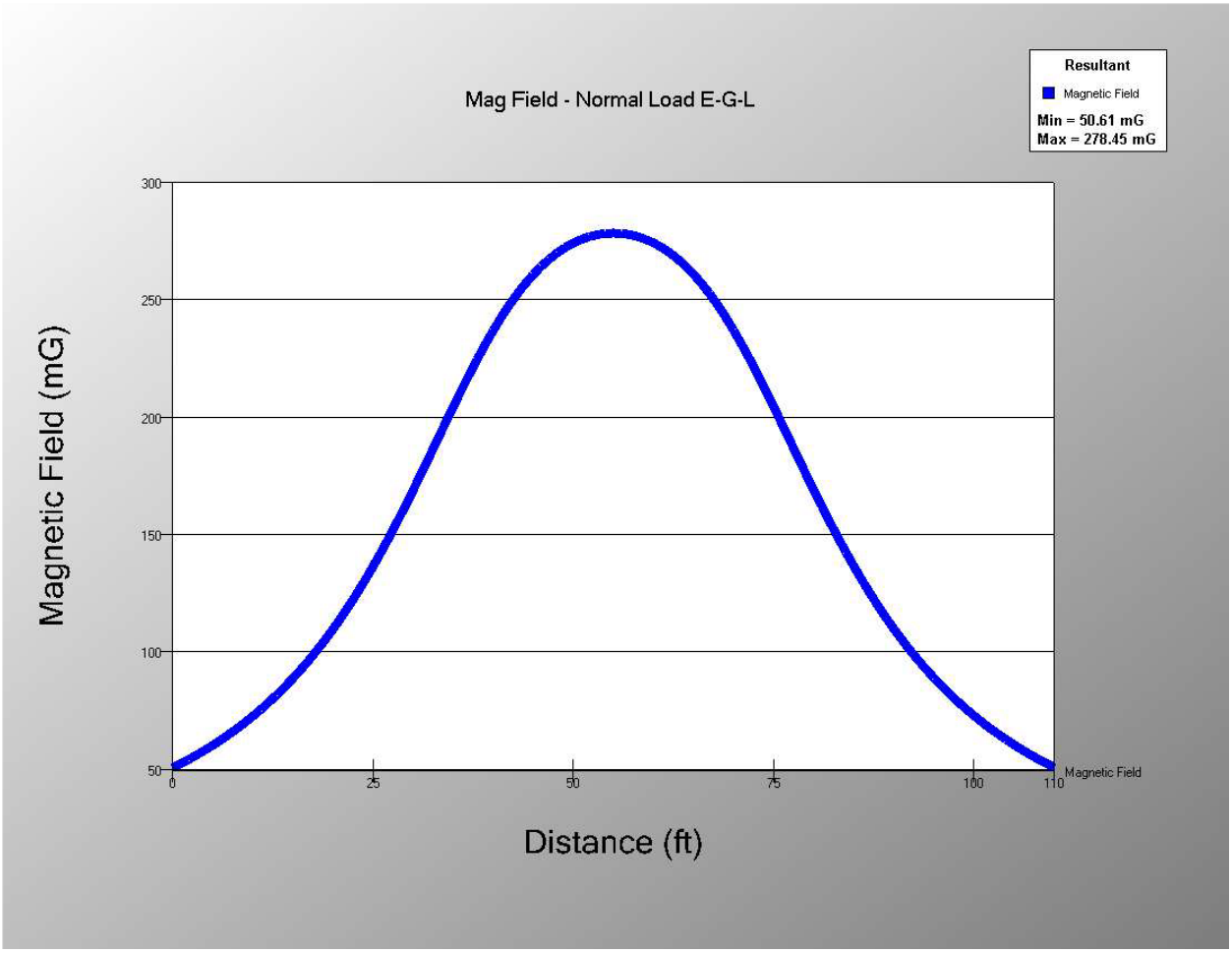
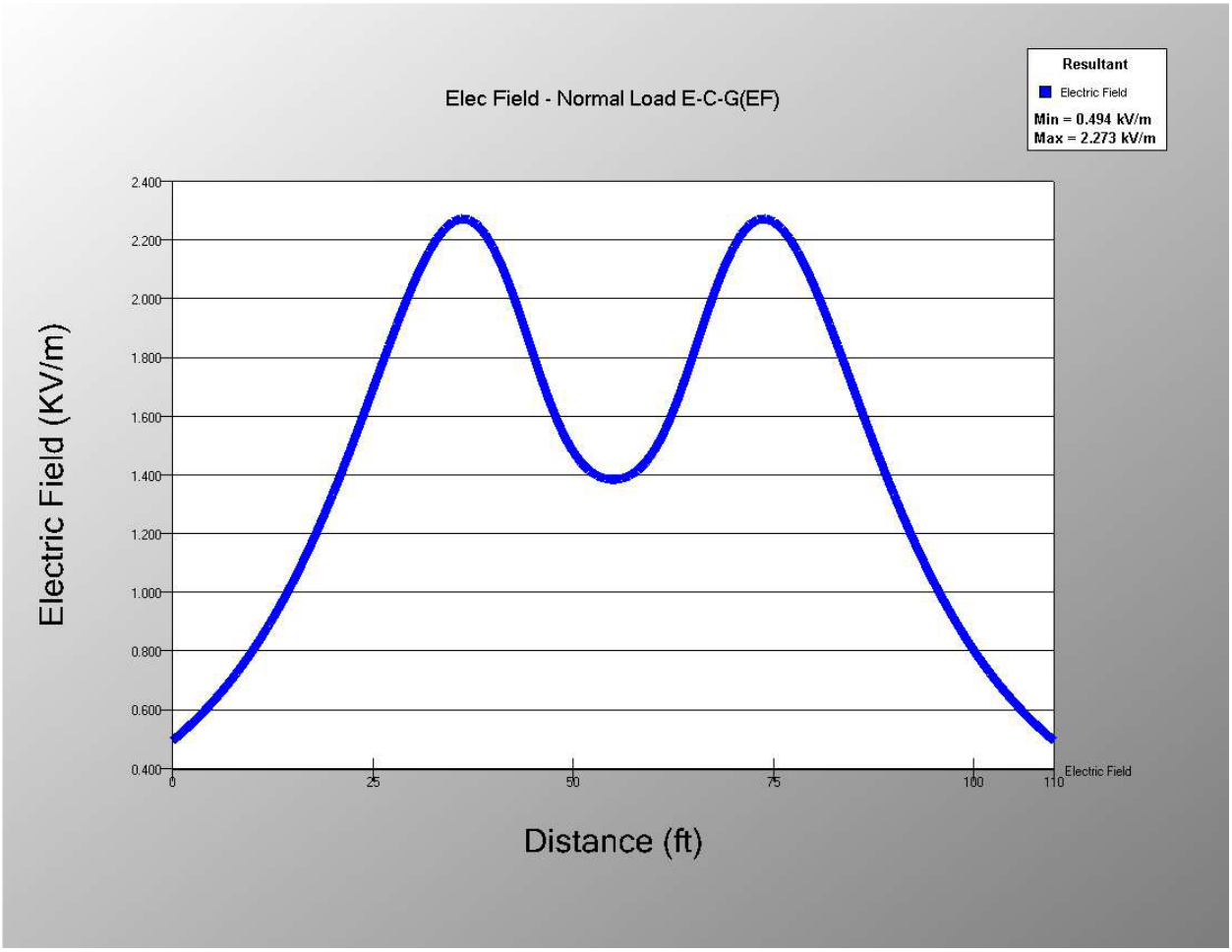


EXHIBIT NO. 8

EMF Exhibit 8

Existing Carroll-Germantown 138 kV Transmission Line

Electric Field



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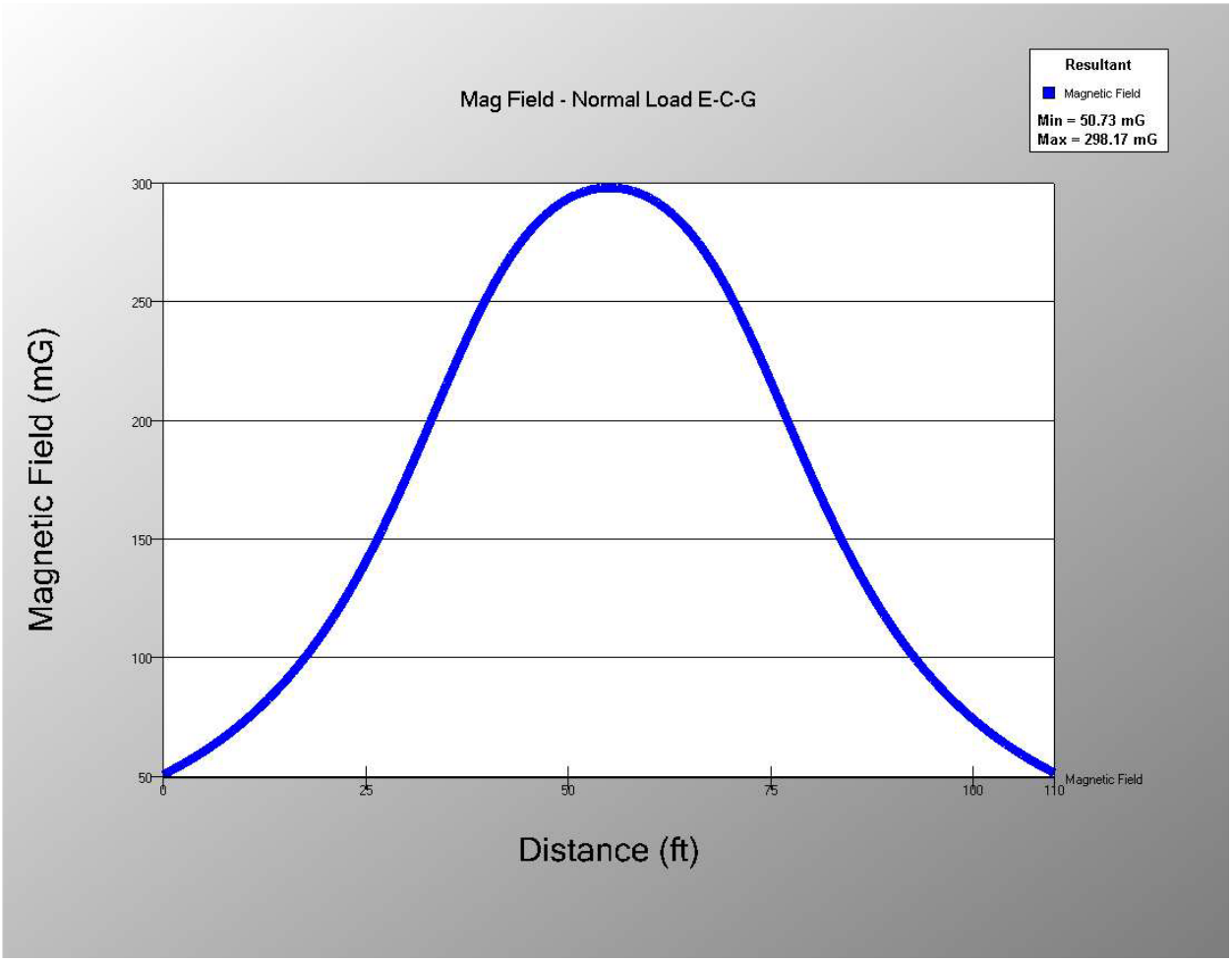
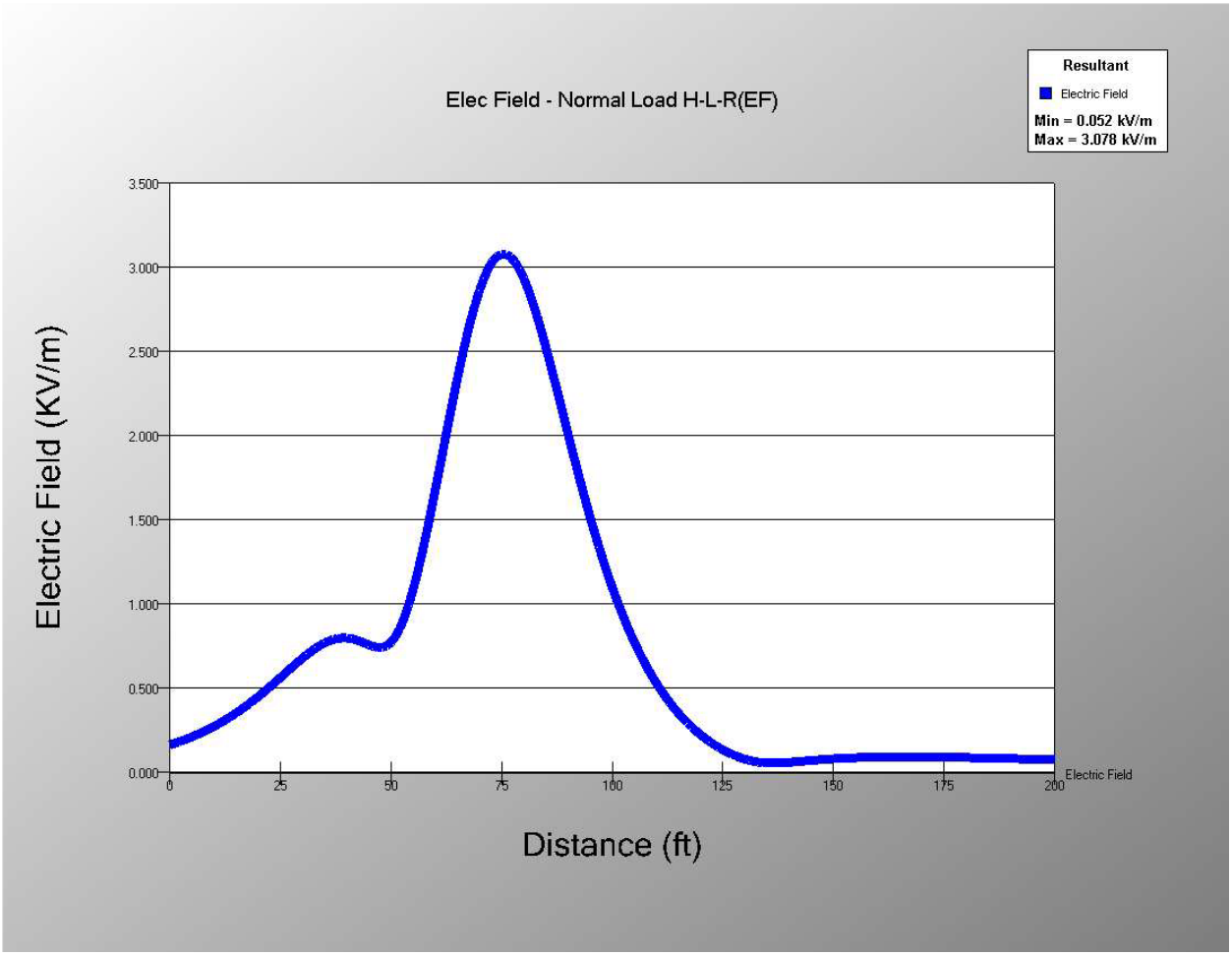


EXHIBIT NO. 9

EMF Exhibit 9

Proposed Carroll-Hunterstown 230 kV and Hunterstown-Riley 115 kV Transmission Lines

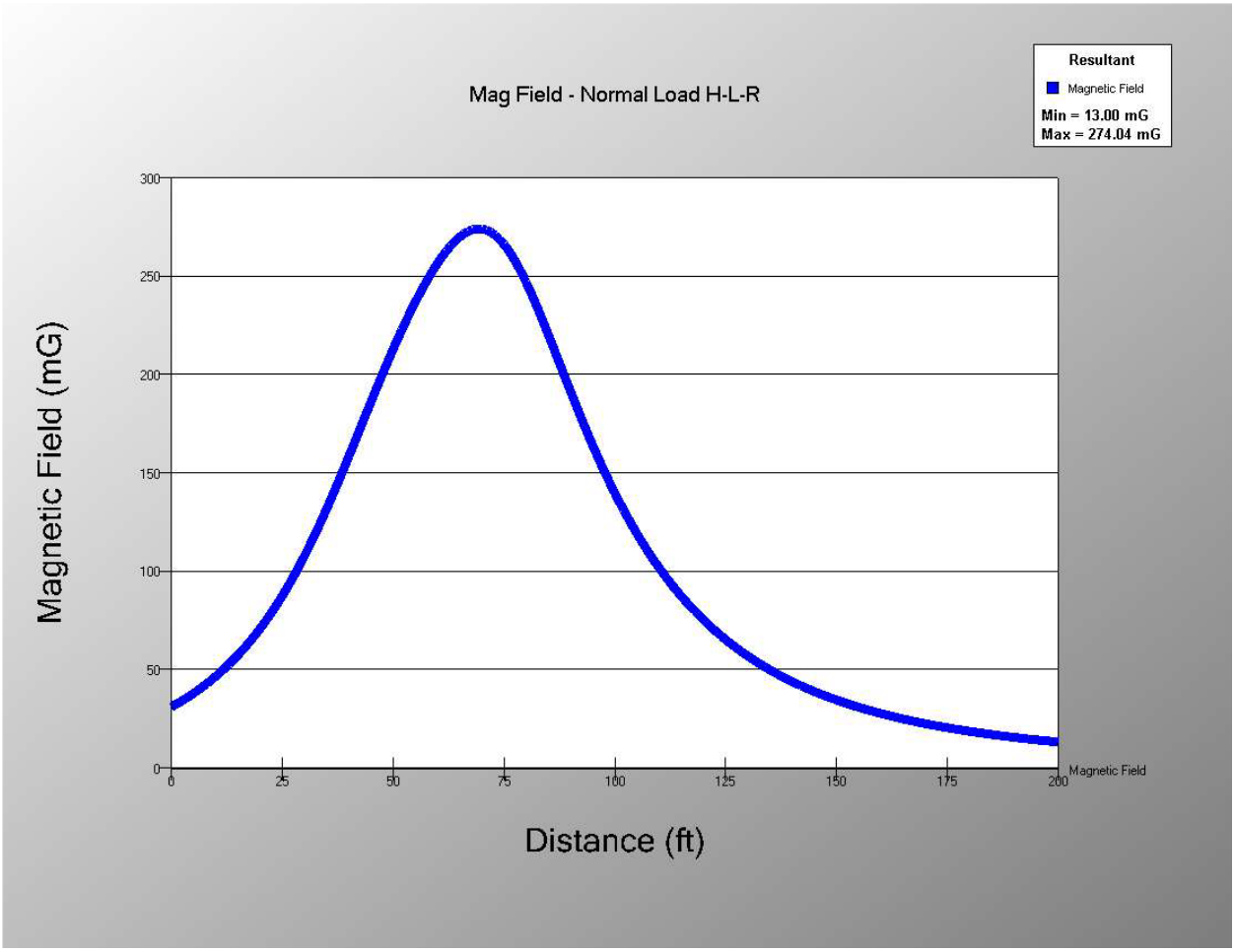
Electric Field



EMF Exhibit 9

Proposed Carroll-Hunterstown 230 kV and Hunterstown-Riley 115 kV Transmission Lines

Magnetic Field



EMF Exhibit 9

Proposed Carroll-Hunterstown 230 kV and Lincoln-Riley 115 kV Transmission Lines

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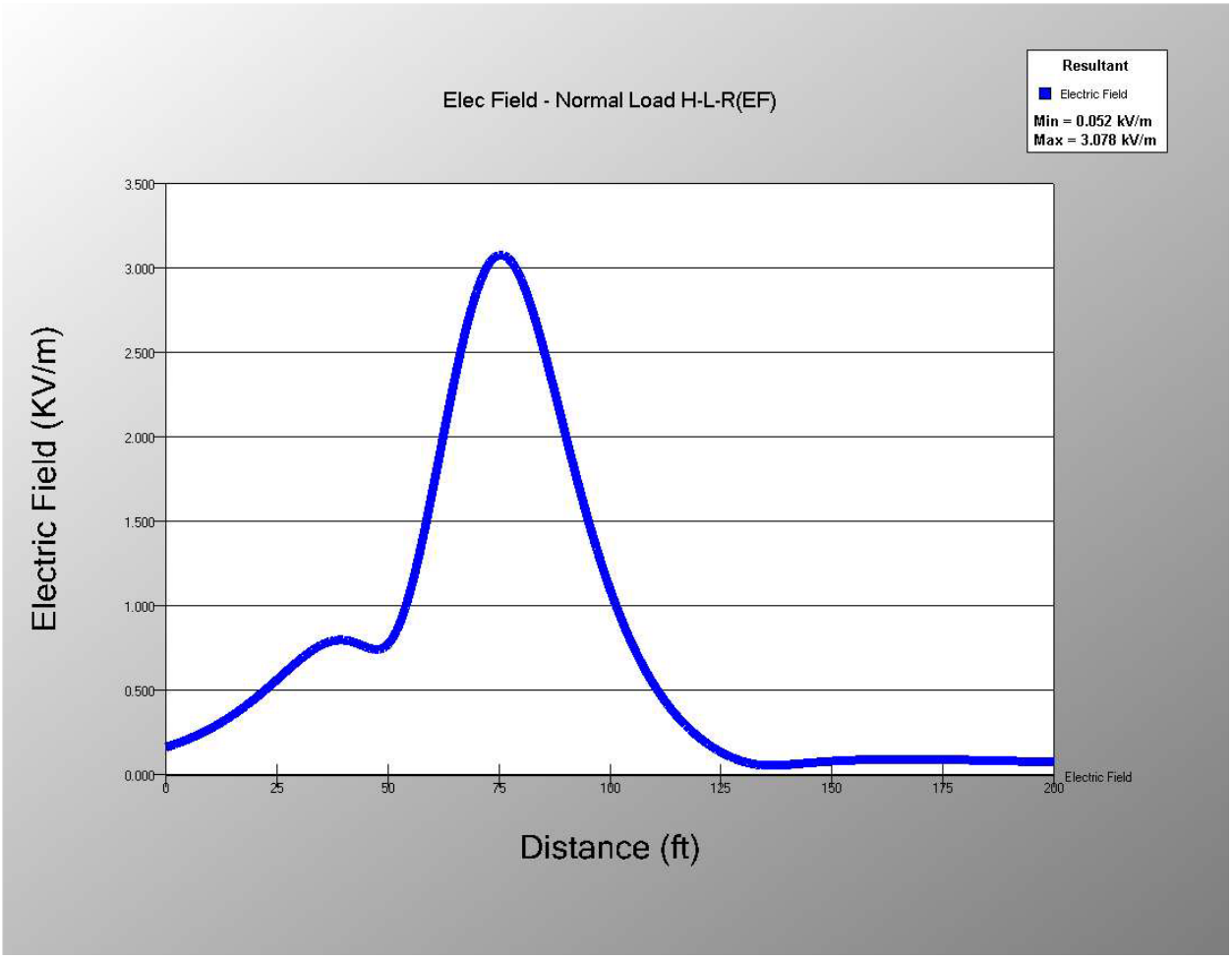

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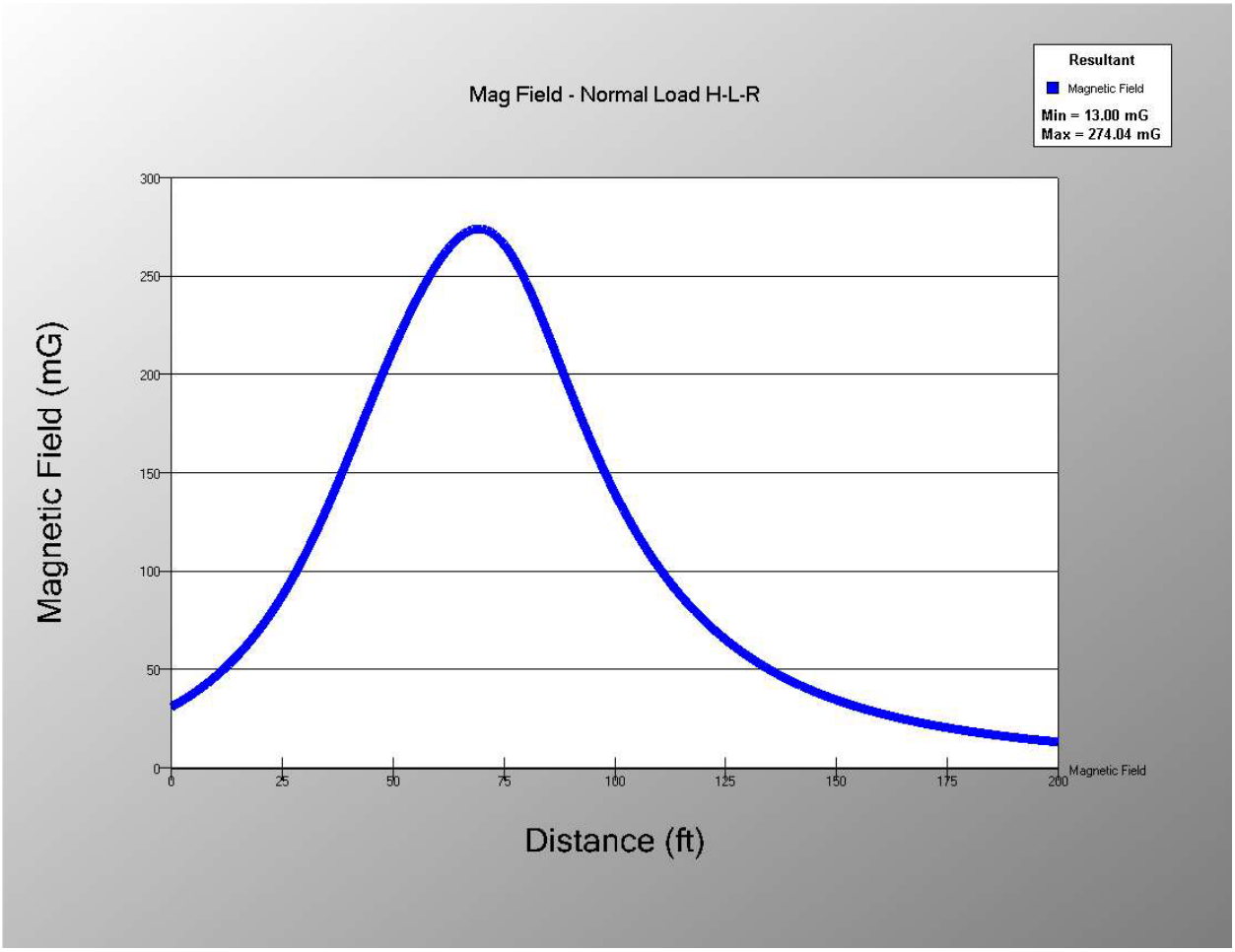

EMF Exhibit 9

Proposed Carroll-Hunterstown 230 kV and Germantown-Lincoln 115 kV Transmission Lines

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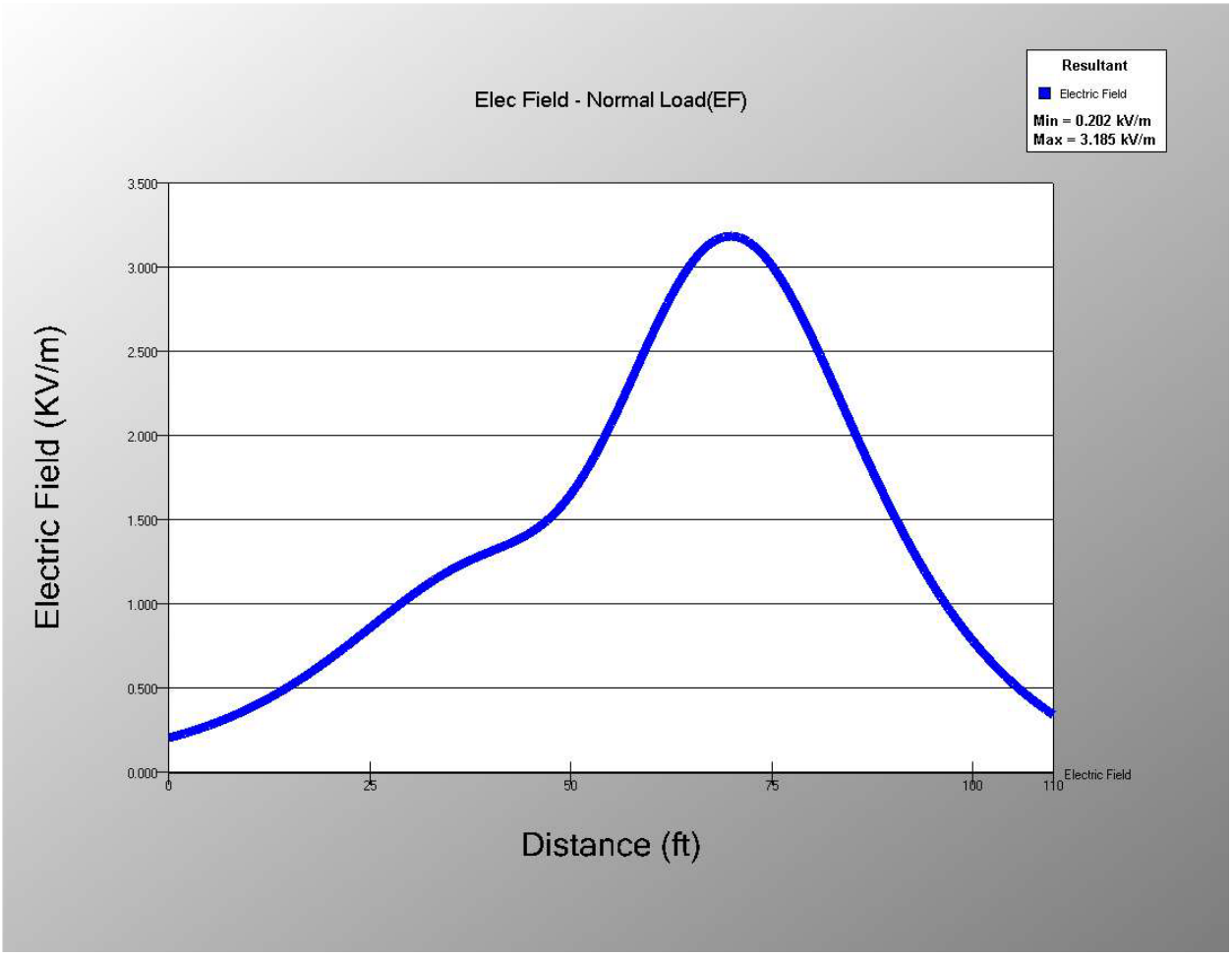


EMF Exhibit 9

Proposed Carroll-Hunterstown 230 kV and Germantown-Lincoln 115 kV Transmission Lines

Magnetic Field

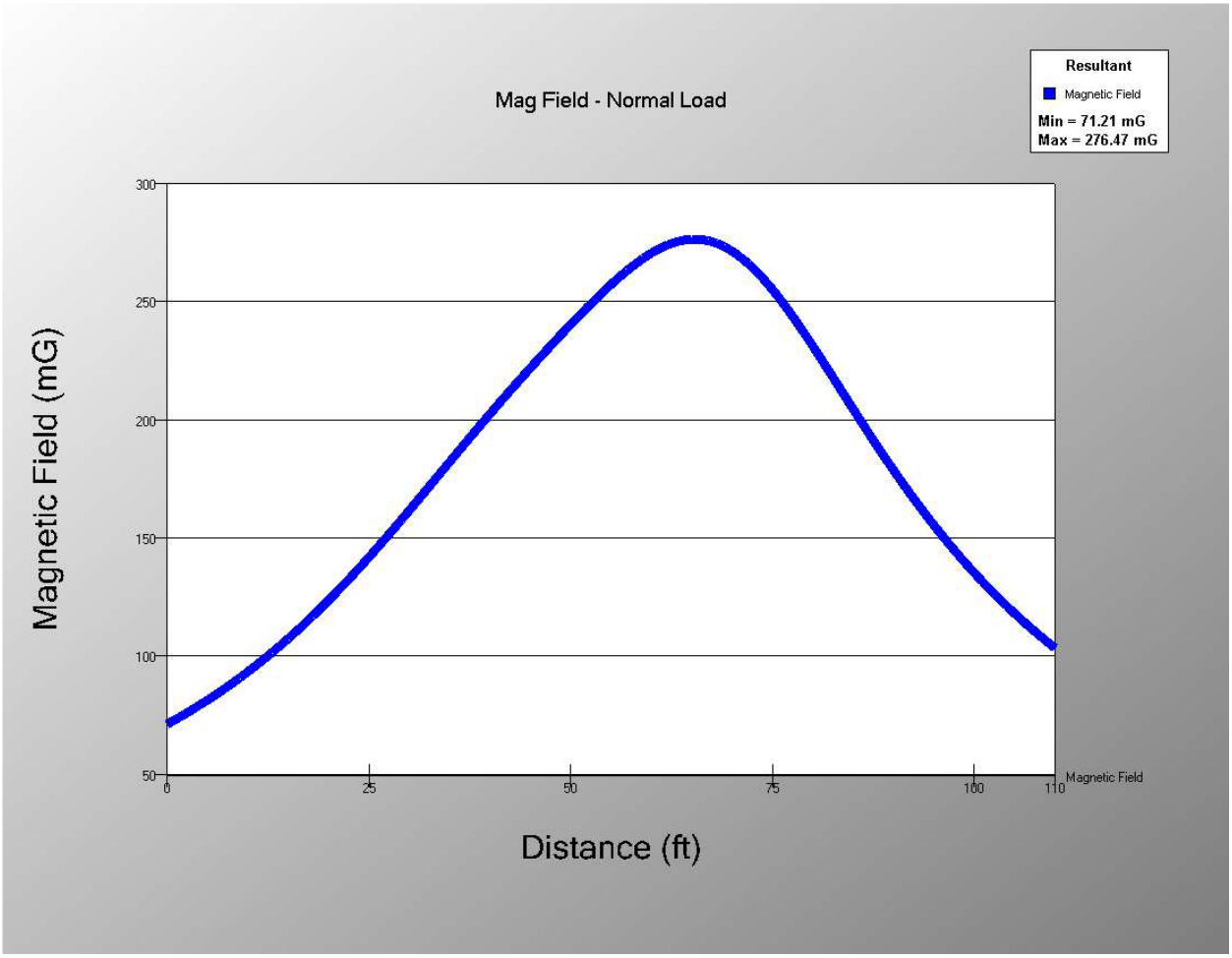
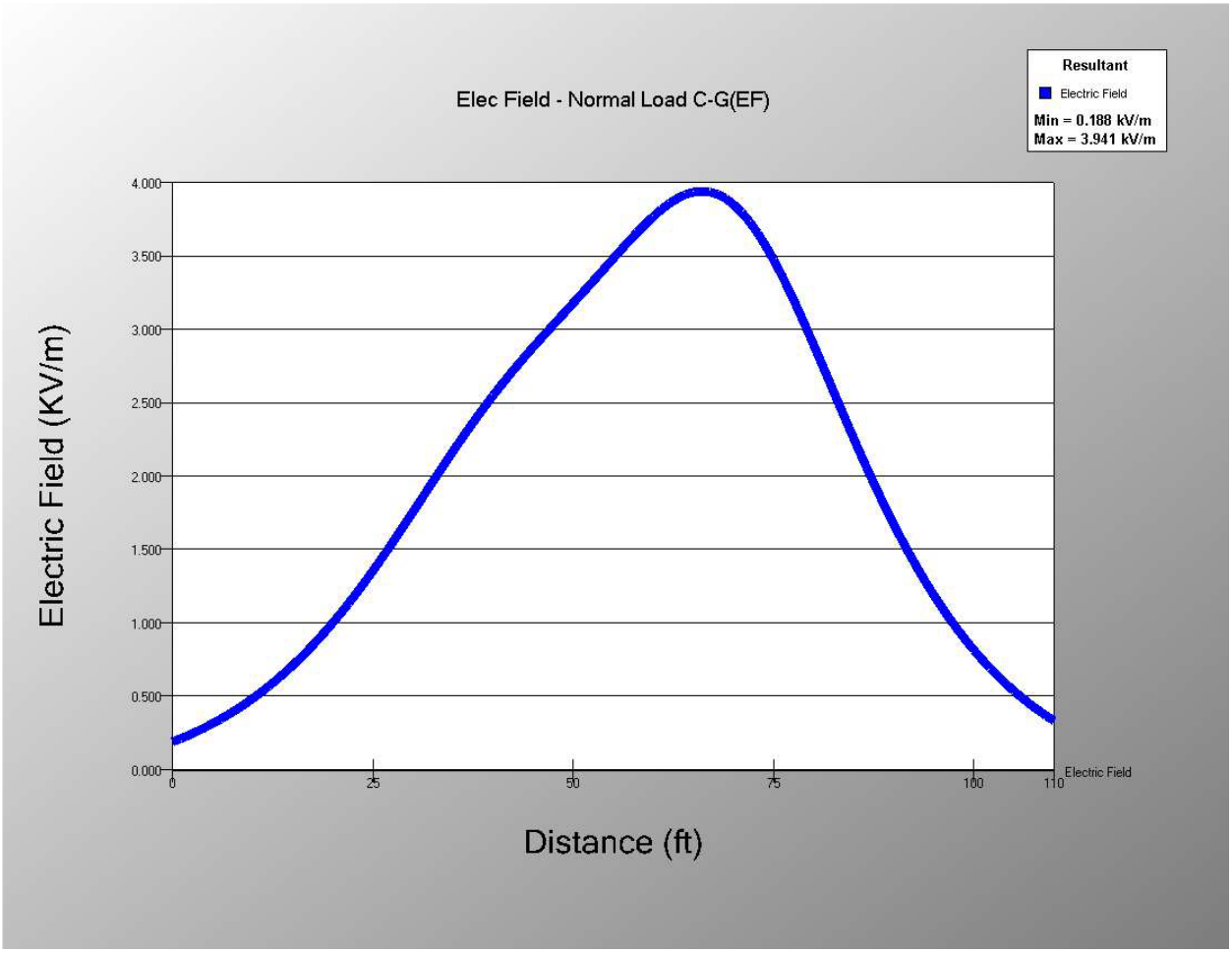


EXHIBIT NO. 10

EMF Exhibit 10

Proposed Carroll-Hunterstown 230 kV and Carroll-Germantown 138 kV Transmission Lines

Electric Field



EMF Exhibit 10

Proposed Carroll-Hunterstown 230 kV and Carroll-Germantown 138 kV Transmission Lines

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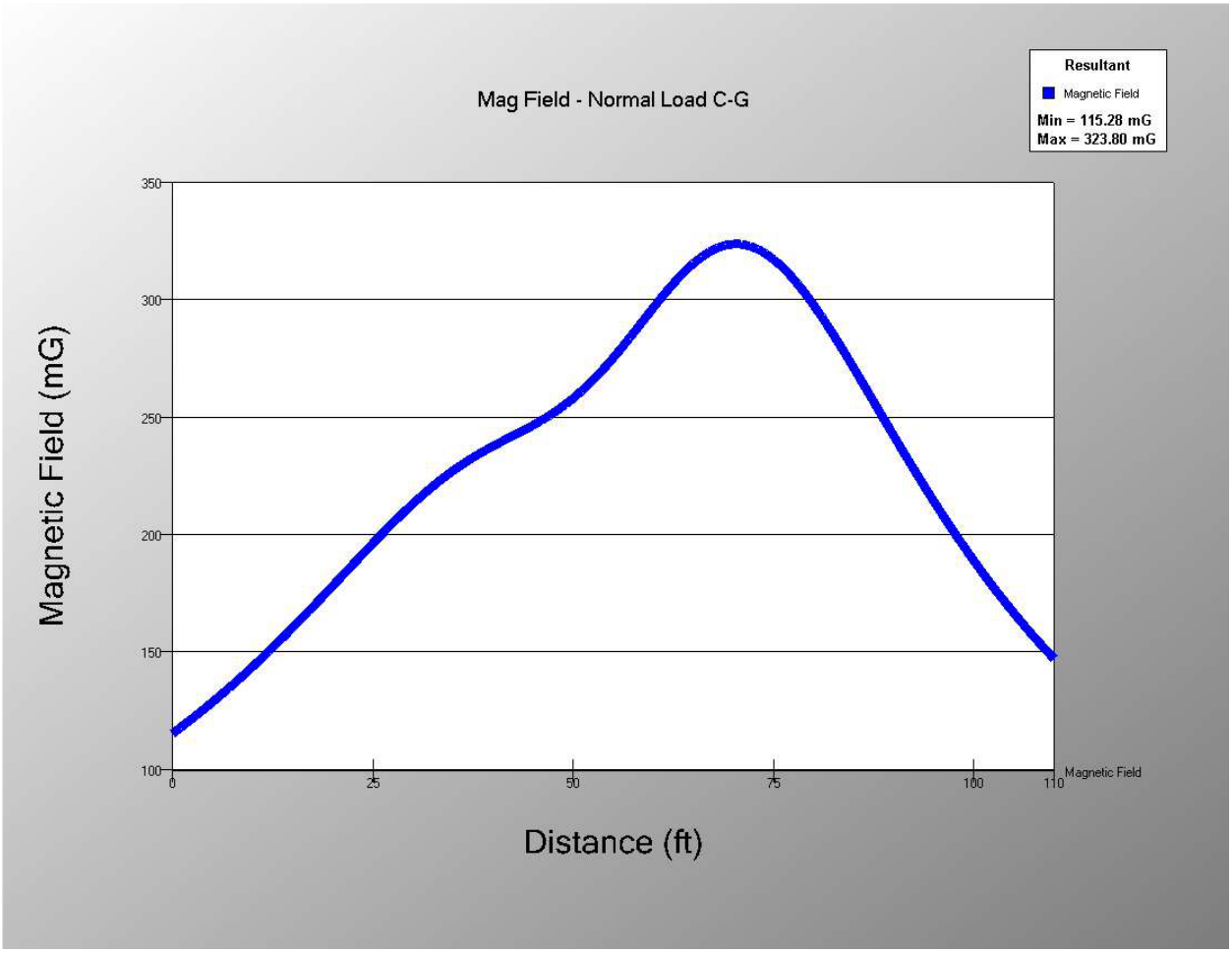

EXHIBIT NO. 11

TRANSMISSION LINE ROUTE SELECTION STUDY

Carroll-Hunterstown Improvements Project

Carroll and Frederick Counties, Maryland and Adams County, Pennsylvania

APRIL 2025

Prepared For:
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1.0 INTRODUCTION AND PROJECT NEED

This document presents the Route Selection Study ("Study") conducted for Potomac Edison ("PE") in Maryland and Mid-Atlantic Interstate Transmission, LLC ("MAIT") in Pennsylvania, which are part of the FirstEnergy Service Company ("FirstEnergy"), to identify the potential route options for developing a new 230 kilovolt ("kV") transmission line that will connect the existing Carroll 138/69 kV Substation located in the town of Union Bridge in Carroll County, Maryland, to the existing Hunterstown 230/500 kV Substation, located within Straban Township, Adams County, Pennsylvania (Project).

The straight-line distance between the Carroll Substation and the Hunterstown Substation is approximately 21 miles. The new transmission line would be planned as a new 230 kV single circuit within a new right-of-way ("ROW") approximately 125-foot wide. Alternatively, it could be installed as a second circuit within the existing ROW of the existing single-circuit 138 kV and 115 kV transmission line network that currently connects these two substations. The Study was conducted by AECOM, in consultation with PE and MAIT, and is a component in the Application that will be submitted to the Maryland Public Service ("MD PSC") and Pennsylvania Public Utilities Commission ("PA PUC") for approval to construct the Project.

The routing study for the Carroll-Hunterstown Improvements Project was conducted using a methodology that integrates geographic information system ("GIS") technology, quantitative and qualitative evaluation, and expert judgment into the route selection process. Detailed desktop and field reviews were conducted for the Project to identify major opportunities and constraints and to better understand the landscape. The Proposed Route to be developed will still need additional detailed field reviews to finalize permitting requirements, should this Project move forward.

The purpose of this Study is to provide PE and MAIT with at least four viable alternatives for a transmission line alignment that provides connection between the existing Carroll 138/69 kV Substation and the existing Hunterstown 230/500 kV Substation and a defendable assessment of major opportunities and constraints necessary to determine a Proposed Route.

1.1 Project Need

The Project is needed to enhance transmission system reliability, accommodate growing demand for electricity by residential and commercial customers, and facilitate the connection of renewable energy sources. The Project also addresses a need identified by PJM Interconnection LLC, the grid operator for 13 states including Maryland and Pennsylvania, to address the growing demand for electricity in its territory.

2.0 METHODOLOGY OVERVIEW

The methodology of the Study is designed to identify transmission line routes that minimize the overall impacts on social development, sensitive land uses, cultural features, and ecological areas to the greatest extent practicable while considering the economic and technical feasibility to construct the line. This process relies on analysis of current land use and ecological data collected from multiple public

sources and commercial providers, which is confirmed and supplemented through field evaluations by AECOM scientists and engineers, and PE and MAIT construction, real estate, and siting staff. The field evaluation also provides an opportunity to qualitatively assess the various routes. The result of this process is a detailed and comprehensive assessment of the study area and route alternatives that is compiled and summarized in the Study. The data and analysis in the Study is presented in such a manner as to allow consideration and comparison of additional route concepts and alternatives.

The Study consists of a multi-stage suitability analysis that identifies areas of opportunity and constraint and then directly compares the resultant feasible Alternative Routes. The Study is comprised of four main steps:

1. Definition of a Project Study Area;
2. Review of the Environmental Setting;
3. Identification of Alternative Routes; and
4. Quantitative and Qualitative Analysis of the Alternative Routes to Guide Selection of the Proposed Route by PE and MAIT.

The primary goal for this siting effort was to identify a route for the Project that:

(1) reasonably minimizes adverse impacts on area land uses and the natural and cultural environment;

(2) minimizes special engineering design requirements and unreasonable costs; and

(3) can be constructed and operated in a timely, safe, and reliable manner.

Although no Proposed Route can optimally minimize impacts across all area resources, a series of general siting guidelines were used to direct the development, evaluation, and selection of routes toward this overall goal.

The following guidelines were considered for this effort:

- Maximize the use of any existing transmission line ROW and seek rebuild options;
- Maximize use of any existing unused ROW's;
- Consider parallel alignments along existing utility ROWs or other linear infrastructure
- Avoid or limit circuitous routes and special design requirements;
- Maximize the separation distance from and/or minimize impact on residential dwellings, schools, churches, cemeteries, and other socially sensitive facilities;
- Minimize visibility from populated areas, scenic roadways, and designated scenic resources;
- Minimize interference with economic activities, including agricultural practices;
- Minimize conflict with designated public resource lands such as local parks and other recreation lands, nature preserves or other conservation areas;

- Minimize environmental impact and construction/maintenance cost by selecting shorter, direct routes; route corridors through terrain where economical construction and environmental best management practices can be employed, and where line operational/maintenance is most feasible (e.g., use existing access roads where practicable);
- Minimize new crossings of large wetland complexes, critical habitat, and other unique or distinct natural resources; and
- Minimize habitat fragmentation and impacts on designated areas of biodiversity concern.

Significant barriers that should be identified, assessed, and where possible avoided, due to scenic impacts, administrative regulations, or where permitting would significantly delay the Project include:

- Crossing national and state forests or parks;
- U.S. Forest Service wilderness areas;
- National wildlife refuges;
- National Register of Historic Places ("NRHP") listed or eligible historic districts or archaeological sites;
- United States Environmental Protection Agency ("USEPA") superfund sites;
- Military bases;
- Airports;
- Wild and scenic rivers;
- Quarries and mines; and
- Sites of ritual importance.

Technical guidelines used in this analysis are driven by the physical characteristics and engineering limitations of the structures and lines themselves, and the design criteria necessary to meet PE and MAIT design standards, North American Electric Reliability Corporation ("NERC") reliability standards, National Electric Safety Code ("NESC"), and industry best practices for construction. The technical guidelines were informed by (1) the technical expertise of engineers and other industry professionals responsible for the reliable, safe and economical construction, operation, and maintenance of electric system facilities, (2) NERC reliability standards, and (3) industry best practices.

The methodology used on this analysis considered the following technical guidelines during the development, evaluation, and comparison of segments and Alternative Routes.

- Maximize paralleling existing transmission lines, roads and railroads to the extent practicable.
- Maximize co-location with existing transmission lines where feasible.
- Minimize crossing existing transmission lines.
- Minimize crossing existing interstate and multi-lane highways.
- Limit transmission line angles greater than 30 degrees.
- Limit areas across steep slopes.

- A 125-foot wide ROW is generally required to account for the clearing needed to safely operate the new 230 kV transmission line. However, reduced ROW widths may be used in places where other constraints are present or existing easements are in place.

3.0 DEFINING THE PROJECT STUDY AREA

An initial task in the Study was the definition of the Project Study Area. The Project Study Area was selected based on professional judgment and the geographic characteristics of the region, as well as the physical endpoints of the Project (i.e., existing substations). In general, a selected study area should be within reasonable distance of the end points of the transmission line, and it should provide the opportunity to identify multiple potentially feasible transmission line routes for further evaluation. In this case, the boundaries of the Project Study Area were developed based on a review of U.S. Geological Survey ("USGS") maps, state and county road maps, aerial photographs, and existing transmission line alignments. Constraints such as topography, parks, suburban/developed areas, transportation routes, existing utility corridors, and the locations of the end points played key roles in determining the boundaries of the Project Study Area and alignments of the Alternative Routes.

With these criteria in mind, the Project Study Area is bounded generally by U.S. Route 15 and Gettysburg National Military Park to the west, the suburban development of Hanover, Pennsylvania and Westminster, Maryland to the east, and the existing Carroll and Hunterstown Substations to the south and north respectively. The resulting Project Study Area comprises approximately 277 square miles and covers portions of northern Carroll County and eastern Frederick County in Maryland and southern Adams County in Pennsylvania (**Figure 3-1**).

4.0 ENVIRONMENTAL SETTING OF THE PROJECT STUDY AREA

Information contained in this section was gathered from a variety of Federal, state, and local GIS databases, published reports and maps, and windshield surveys of the Project Study Area.

4.1 Natural Environment

Features of the natural environment are an important consideration in the routing process. Transmission line routing studies attempt to minimize impacts to the natural environment by avoiding regulated features such as wetlands, streams, and floodplains. This methodology minimizes project permitting issues and costs while preserving key natural habitats. This section provides a general description of the environmental setting of the Project Study Area including the physiography, geology, soils, surface waters, vegetation, special use areas, and wildlife habitat.

4.1.1 Physiographic Region and Topography

The United States is divided into several physical geographic regions, known as physiographic provinces, which are defined based on the terrain and geologic history of the landscape. The Project Study Area is located within three sections of the Piedmont Physiographic Province that span between Maryland and

Pennsylvania, specifically the Piedmont Upland Section, the Piedmont Lowland Section, and the Gettysburg-Newark Section (Reger 2008; Sevon 2000).

- The Piedmont Upland Section consists of broad, rounded to flat topped hills and shallow valleys located on metamorphic schist, gneiss, and quartzite bedrock.
- The Piedmont Lowland Section consists of broad, moderately dissected karst valleys separated by broad low hills overlaying predominantly limestone bedrock.
- The Gettysburg-Newark Lowland Section consists of rolling low hills and valleys developed on red sedimentary rock.

Topography in the Project Study Area is composed of rolling hills and shallow valleys. Elevations range from a high of approximately 725 feet above sea level on Harpers Hill in the southeast side of the Project Study Area near Emmitsburg, Maryland to a low of approximately 300 feet above sea level in the southern side along the Monocacy River near Rocky Ridge, Maryland.

4.1.2 Bedrock Geology

The regional geology of the Project Study Area is composed primarily of metamorphic and sedimentary rock units ranging from the Cambrian Age (500 million years ago) to the Triassic Age (250 million years ago). The largest geological formation is the New Oxford formation from the Triassic Age, covering the middle of the Project Study Area. This formation consists of sandstone, limestone, quartz, and siltstone. The west side of the Project Study Area is underlain by mudstone, shale, and siltstone, associated with the Gettysburg Formation. The east side of the Project Study Area is underlain by phyllite, associated with the Marburg schist and Conestoga Formations. Information provided by the Maryland Department of Natural Resources ("MDNR") and the Pennsylvania Department of Environmental Protection's ("PADEP") EMapPA[1] website describing these bedrock units are listed in **Table 4-1a** (MDNR 2024a) and **Table 4-1b** (PADEP 2024a). PADEP also notes that an area of karst topography (surface depressions) is located on the east side of the Project Study Area near Littlestown, Pennsylvania that is in the Conestoga Formation area (PADEP 2024b).

TABLE 4-1a: Summary of Bedrock Units in the Project Study Area - Maryland

Bedrock Unit Symbol	Bedrock Unit Name	Age of Formation	Primary Composition
Ca	Antietam Formation	Cambrian	Quartzite
hf	Harpers Formation	Cambrian	Phyllite, Graywacke
if	Ijamsville	late Precambrian to early Cambrian	Phyllite
jd	Diabase Sills and Dikes	Jurassic	Diabase
ms	Marburg Schist	late Precambrian to early Cambrian	Phyllite
scm	Sams Creek Metabasalt	late Precambrian to early Cambrian	Metabasalt

[1] https://gis.dep.pa.gov/emappa/

Bedrock Unit Symbol	Bedrock Unit Name	Age of Formation	Primary Composition
srl	Silver Run Limestone	late Precambrian to early Cambrian	Limestone (Marble)
Trg	Gettysburg Shale	Triassic	Shale, Mudstone, Siltstone
Trlc-Trqc	New Oxford Formation	Triassic	Limestone Conglomerate, Quartz Conglomerate
Trno	New Oxford Formation	Triassic	Sandstone, Siltstone
wm	Wakefield Marble	late Precambrian	Marble

TABLE 4-1b: Summary of Bedrock Units in the Project Study Area - Pennsylvania

Bedrock Unit Symbol	Bedrock Unit Name	Age of Formation	Primary Composition
Ca	Antietam Formation	Cambrian	Quartzite
Cah	Antietam and Harpers Formations, undivided	Cambrian	Quartzite
Ck	Kinzers Formation	Cambrian	Shale
Cl	Ledger Formation	Cambrian	Dolomite
Occ	Conestoga Formation	Ordovician and Cambrian	Limestone
Trd	Diabase	Triassic	Diabase
Trg	Gettysburg Formation	Triassic	Silty mudstone
Trn	New Oxford Formation	Triassic	Arkosic sandstone
Trnc	New Oxford Conglomerate	Triassic	Quartz conglomerate
Xm	Marburg Schist	Probably lower Paleozoic	Phyllite

4.1.3 Soil Characteristics

Soils within the Project Study Area were reviewed using the U.S. Department of Agriculture's ("UDSA") Natural Resources Conservation Service ("NRCS") soil survey website. Hydric soils in the Maryland portion of the Project Study Area only account for approximately 20% of the area with major hydric soil units constituting approximately 5% of the area. In Pennsylvania, hydric soils account for over 50% of the area with major hydric soil units accounting for over 15% of the area (USDA/NRCS 2024a). These soils are primarily located along the broad stream valleys but also extend up the adjacent hillslopes and into many of the agriculturally active fields (**Figure 4-1a** and **Figure 4-1b**).

In an effort to identify the extent and location of important farmland soils, the USDA/NRCS has inventoried land that can be used for the production of the Nation's food supply. Important farmland soils vary in degree of productivity from prime farmland to unique farmland to farmland of statewide or local importance. Prime farmland is defined by the USDA/NRCS as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. These soils could be cultivated land, pastureland, forestland, or other land, that is not urban or built-up land or water areas. Review of the USDA/NRCS soil survey website indicates

that approximately 50% of the Project Study Area in Maryland and approximately 40% of the Project Study Area in Pennsylvania are classified as prime farmland soils (USDA/NRCS 2024b).

4.1.4 Surface Waters

The Project Study Area is located within the Monocacy River watershed (USGS Hydrologic Unit Code 02070009) which spans the majority of the study area in both Pennsylvania and Maryland. The northeast corner of the Project Study Area is within the Lower Susquehanna watershed (USGS Hydrologic Unit Code 02050306). The study area is made up of many minor waterways, the most prominent being the Monocacy River, which flows from the western side of the study area in Pennsylvania, south into Maryland.

Surface water resources mapped within the Project Study Area include streams, floodplains, and open waters (**Figure 4-2a** and **Figure 4-2b**). The information presented in this section is based upon publicly available data provided by the MDNR, PADEP, USGS, Federal Emergency Management Agency ("FEMA"), and the U.S. Fish and Wildlife Services ("USFWS").

Streams

The MDNR classifies rivers that are notable in ecological, recreational, and agricultural value as Scenic and Wild Rivers. Within the study area, the Monocacy River is classified by MDNR as a Scenic and Wild River (MDNR 2024b). The Pennsylvania Department of Conservation and Natural Resources ("PADCNR") Scenic Rivers Program does not list any scenic rivers within the Project Study Area (PADCNR 2024a). None of the rivers in the Project Study Area are considered federally listed wild and scenic rivers according to the National Wild and Scenic Rivers Program managed by the U.S. National Park Service ("USNPS") (USNPS 2024a).

Maryland

According to Code of Maryland Regulations ("COMAR") Sections 26.08.02.02 and 26.08.02.02-1, Maryland Department of the Environment ("MDE") has established narrative and numeric water quality criteria necessary to support a variety of protected water uses, which include protection uses for aquatic life (MDE 2024a). These include:

- **Use Class I:** Water Contact Recreation, and Protection of Nontidal Warmwater Aquatic Life
- **Use Class I-P:** Water Contact Recreation, Protection of Aquatic Life, and Public Water Supply
- **Use Class II:** Support of Estuarine and Marine Aquatic Life and Shellfish Harvesting
- **Use Class II-P:** Tidal Fresh Water Estuary – includes applicable Use II and Public Water Supply
- **Use Class III:** Nontidal Cold Water
- **Use Class III-P:** Nontidal Cold Water and Public Water Supply
- **Use Class IV:** Recreational Trout Waters
- **Use Class IV-P:** Recreational Trout Waters and Public Water Supply

MDE assigns all streams in the State a Designated Use Class, which is the water use goal for a particular stream segment, whether or not it is currently being attained. A component of the designated use is the stream's Existing Use ("EU"). The EU is the use actually attained by existing water quality. MDE's

State water quality standards require existing uses, and the level of water quality necessary to protect existing uses, to be maintained and protected. Use classes include consideration of existing conditions and potential uses which may be made possible by anticipated improvements in water quality (MDE 2024b).

Maryland also assesses streams based on the Antidegradation Regulations provided in COMAR Sections 26.08.02.04, 26.08.02.04-1, and 26.08.02.04-2 (MDE 2024c). These regulations classify streams based on two tiers:

- **Tier 1** specifies the minimum standard that must be met—support of balanced indigenous populations and support of contact recreation—this is often referred to as "fishable-swimmable."
- **Tier 2** protects water that is better than the minimum specified for that designated use.

All of the stream segments in the Maryland portion of the Project Study Area are assigned Use Class IV-P and are classified as Tier 1 features. Review of the MDNR's Trout Stocking Locations Map shows that there is one trout stocked pond, Taneytown Pond, and one trout stocked stream, Little Pipe Creek in Union Bridge, in the Project Study Area (MDNR 2024c). These stream classifications are detailed within **Table 4-2a.**

Table 4-2a: Water Quality Designations - Maryland

Stream Name	Use Class	Antidegradation Tier
Alloway Creek	Use Class IV-P	Tier I
Bear Branch	Use Class IV-P	Tier I
Beaver Branch	Use Class IV-P	Tier I
Beaver Dam Creek	Use Class IV-P	Tier I
Big Pipe Creek	Use Class IV-P	Tier I
Broad Run	Use Class IV-P	Tier I
Cattail Branch	Use Class IV-P	Tier I
Cherry Branch	Use Class IV-P	Tier I
Copps Branch	Use Class IV-P	Tier I
Deep Run	Use Class IV-P	Tier I
Double Pipe Creek	Use Class IV-P	Tier I
Flat Run	Use Class IV-P	Tier I
Little Pipe Creek	Use Class IV-P	Tier I
Log Cabin Branch	Use Class IV-P	Tier I
Long Arm Creek	Use Class IV-P	Tier I
Marsh Creek	Use Class IV-P	Tier I
Meadow Branch Big Pipe Creek	Use Class IV-P	Tier I

Stream Name	Use Class	Antidegradation Tier
Middle Creek	Use Class IV-P	Tier I
Monocacy River	Use Class IV-P	Tier I
Motters Run	Use Class IV-P	Tier I
Owens Creek	Use Class IV-P	Tier I
Piney Creek	Use Class IV-P	Tier I
Priestland Branch	Use Class IV-P	Tier I
Rattlesnake Branch	Use Class IV-P	Tier I
Renner Branch	Use Class IV-P	Tier I
Rock Creek	Use Class IV-P	Tier I
Roop Branch	Use Class IV-P	Tier I
Saint Mary Run	Use Class IV-P	Tier I
Sams Creek	Use Class IV-P	Tier I
Silver Run	Use Class IV-P	Tier I
Stony Branch	Use Class IV-P	Tier I
Toms Creek	Use Class IV-P	Tier I
Wolf Pit Branch	Use Class IV-P	Tier I

The MDEs 2024 Integrated Water Quality Report (303(d) and 305(b)) summarizes the water quality conditions of surface water in Maryland. The report classifies streams under one of five different categories:

- Category 1: Waters attaining all standards.
- Category 2: Waters attaining some standards.
- Category 3: Waters with insufficient information to determine if water quality standards are attained.
- Category 4: Impaired or threatened waters that do not need or have already completed a Total Maximum Daily Load ("TMDL").
- Category 5: Impaired waters for which a TMDL is required.

Within the Project Study Area, the following streams are classified as impaired in the MDE Integrated Water Quality Report (MDE 2024d):

- Bear Branch – The Maryland 2024 Integrated Report categorized this stream as a level 5 impaired water due to temperature;
- Beaver Branch – The Maryland 2024 Integrated Report categorized this stream as a level 5 impaired water due to temperature;
- Middle Creek – The Maryland 2024 Integrated Report categorized this stream as a level 5 impaired water due to temperature;
- Owens Creek – The Maryland 2024 Integrated Report categorized this stream as a level 5 impaired water due to temperature.

Pennsylvania

According to Pennsylvania Code, Title 25, Chapter 93 *Water Quality Standards*, PADEP has established narrative and numeric water quality criteria necessary to support a variety of protected water uses, which include protection uses for aquatic life (e.g., Cold Water Fishes ["CWF"], Warm Water Fishes ["WWF"], Trout Stocked Fishery ["TSF"], and Migratory Fishes ["MF"]) and special protection waters (e.g., High Quality ["HQ"] and Exceptional Value ["EV"]). PADEP assigns all streams in the Commonwealth a Designated Use, which is the water use goal for a particular stream segment, whether or not it is currently being attained. In contrast, a stream's Existing Use is the use actually attained by existing water quality. PADEP's antidegradation policy requires existing uses, and the level of water quality necessary to protect existing uses, to be maintained and protected. As such, the water quality of a stream segment with an existing use that exceeds its designated use may not be degraded below the water quality levels protective of that existing use (PADEP 2024c).

Further, the Pennsylvania Fish and Boat Commission ("PFBC") provides additional protection (i.e., seasonal restrictions) to streams that support trout populations. These streams can be listed as an Approved Trout Stream (stocked) (PFBC 2024a), Class A Wild Trout Waters (PFBC 2024b), Wilderness Trout Waters (PFBC 2024c), or Wild Trout Waters (Natural Reproduction) (PFBC 2024d). None of the streams in the Project Study Area are listed as protected waters by the PFBC. The classification of the streams in Pennsylvania is provided in **Table 4-2b**.

Table 4-2b: Water Quality Designations - Pennsylvania

Stream Name	Chapter 93 Designated Use	*Special PFBC Designations
Alloway Creek	WWF, MF	NO
Beaverdam Creek	WWF, MF	NO
Brush Run	WWF	NO
Chicken Run	WWF	NO
Indian Run	WWF MF	NO
Littles Run	WWF	NO
Long Arm Creek	WWF MF	NO
Lousy Run	WWF	NO
Marsh Creek	CWF, MF	NO
Middle Creek	CWF, MF	NO
Monocacy River	WWF, MF	NO
Piney Creek	WWF, MF	NO
Plum Creek	WWF, MF	NO

Stream Name	Chapter 93 Designated Use	*Special PFBC Designations
Plum Run	WWF, MF	NO
Rock Creek	WWF, MF	NO
South Branch Conewago Creek	WWF, MF	NO
Swift Run	WWF, MF	NO
White Run	WWF	NO

CWF = Cold Water Fishes; MF = Migratory Fishes; WWF = Warm Water Fishery
*Special PFBC designations include Wild Trout Waters (Natural Reproduction).

PADEP's 2024 Integrated (303(d) and 305(b)) Water Quality Report summarizes the water quality conditions of surface water in the Commonwealth of Pennsylvania. The report classifies streams as impaired or non-impaired and further identifies the standards based on four designated uses: aquatic life, fish consumption, recreation use, and potable water supply (PADEP 2024d). Within the Project Study Area, the following streams are classified as impaired:

- Beaverdam Creek within Straban Township – located at the north end of the Project Study Area with impairment due to siltation and pathogens.
- Brush Run within Mount Pleasant Township – located in the northern section of the Project Study Area with impairment due to organic enrichment, flow regime modification, and pathogens.
- Middle Creek within Freedom Township – located at the western end of the study area with impairment due to pathogens.
- Plum Run within Mount Pleasant Township – running through the northwest section of the study area with impairment due to residential areas, dams or impoundments.
- Rock Creek within Straban Township – located in the northwest section of the Project Study Area with impairment due to agriculture and municipal point source discharges.
- South Branch Conewago Creek within Union, Oxford, and Mount Pleasant townships – located in the northeast section of the Project Study Area with impairment due to siltation, pathogens, flow regime modification, and habitat alterations.
- Swift Run within Mount Pleasant Township – located in the northern section of the Project Study Area with impairment due to organic enrichments, flow regime modifications, and pathogens.

Floodplains

100-year floodplains are areas adjacent to streams which would be inundated by a flood elevation that has a 1-percent chance of being equaled or exceeded each year. FEMA delineates the extent of most 100-year floodplains. The 100-year floodplain boundaries are illustrated on **Figures 4-2a/b** (FEMA 2024). Floodplains are located primarily along all of the named streams and several of their larger tributaries.

Lakes and Ponds

Numerous small agriculture-based ponds (0.5 to 2.0 acres) are located within the Project Study Area. The USFWS National Wetlands Inventory ("NWI") categorizes surface water resources such as open waters (e.g. streams, ponds, and lakes) and wetlands in accordance with the Cowardin system (Cowardin *et al.* 1979). These ponds are categorized by the NWI as palustrine unconsolidated bottom, permanently flooded, ("PUBH") features, or freshwater ponds (USFWS 2024). These surface water features are illustrated on **Figures 4-2a/b**.

4.1.5 Wetlands

Review of the NWI wetland maps indicates that numerous small (0.5 to 2.0 acres) and several moderate (2.0 to 80 acres) sized palustrine wetlands are located within the Project Study Area, primarily within floodplain areas (**Figures 4-2a/b**). Palustrine systems include all non-tidal vegetated wetlands and are further classified based on the dominant plant type. These classifications include palustrine emergent ("PEM") herbaceous systems, palustrine scrub-shrub ("PSS") systems, and palustrine forested ("PFO") systems. Wetlands classified as PEM or PSS are considered less of a constraint since the new transmission line may be able to span these areas or limit impacts to the proposed structure locations, whereas PFO wetlands are considered a constraint area because the tree clearing that would be required in these areas is considered an impact by the state and federal permitting agencies that would require mitigation.

Wetlands depicted on the NWI maps are based primarily on interpretation of aerial photographs taken in the 1980's and were not field verified or delineated in accordance with standard methodologies. Hence, these data are suitable for planning purposes only.

4.1.6 Vegetation Communities

The Project Study Area lies within the Northern Appalachian Piedmont Section of the Eastern Broadleaf Forest Province (McNab 2007). This province has a continental-type climate of cold winters and warm summers. Annual precipitation is greater during summer and water deficits are infrequent. Vegetation is a mixture of oak-hickory deciduous trees and short-leaf pines. According to Rhoads' and Block's *Trees of Pennsylvania*: *A Complete Reference Guide* (Rhoads & Block 2005), the Project Study Area is within the Appalachian Oak Forest, which is the dominant forest type in Pennsylvania. This forest type is characterized by the presence of red oak (*Quercus rubra*), white oak (*Quercus alba*), tulip tree (*Liriodendron tulipifera*), red maple (*Acer rubrum*), and hickory trees (*Carya* species). It also generally has a dense layer of shrubs including mountain laurel (*Kalmia latifolia*) and black huckleberry (*Gaylussacia baccata*). The Appalachian Oak Forest community extends across north-central Maryland.

The vegetation of the Project Study Area has been altered considerably by human disturbance. As a result, the landscape is a patchwork of agricultural fields, open meadows, residential and commercial areas, and pockets of forested areas. Vegetation within the socially developed areas around Taneytown, Littlestown, and Gettysburg consists of a wide variety of native and ornamental trees and shrubs planted by various property owners or part of municipal street scape design. Agricultural areas

are noted across the entire Project Study Area and are dominated by crop species such as corn, wheat, or soybean; some agricultural areas are used for horses, cows, or other livestock. Most of the forested areas parallel the stream networks, but several large tracts of forest are noted along the western and eastern boundaries of the Project Study Area. All of these forested areas are second and third growth forests; there are no known areas of old-growth forest in the area.

4.1.7 Wildlife

Typical wildlife species found within the Project Study Area include those found in wetlands, forested habitats, and open/agricultural lands. These habitats contain a diverse population of amphibians, fish, reptiles, and birds, but have a limited diversity of mammals. Common mammals within these habitats include raccoon (*Procyon lotor*), eastern cottontail rabbit (*Sylvilagus floridanus*), and white-tailed deer (*Odocoileus virginianus*) (Fergus 2000).

Important Bird Areas ("IBA") are the most critical regions for conserving bird diversity and abundance. The National Audubon Society has identified two IBA's that are located within the Project Study Area, the Monocacy Grasslands IBA and the Southern Adams County Grasslands IBA (National Audubon Society 2024). The Monocacy Grasslands IBA extends from U.S. Route 15 to MD Route 97, spanning Carroll County and almost the entirety of the Maryland portion of the Project Study Area. This IBA is a host for a diversity of grassland species and is known for significant populations of Red-Headed Woodpeckers (*Melanerpes erythrocephalus*), Dickcissels (*Spiza americana*), and Grasshopper Sparrows (*Ammodramus savannarum*).

The Southern Adams County Grasslands IBA is composed of extensive pastures, hayfields, and large yards that form open grassland habitat suitable for a diversity of grassland birds including upland sandpiper (*Bartramia longicauda*), loggerhead shrike (*Lanius ludovicianus*), and eastern meadowlark (*Sturnella magna*). Several large cattle-grazing operations have maintained the open, untilled agriculture features attractive to grassland birds. This IBA extends east to west across most of Adams County and covers almost all of the Project Study Area within Pennsylvania. IBAs are illustrated on **Figures 4-2a/b**.

4.1.8 Threatened and Endangered Species

A review of the MDNR Natural Heritage Program Rare, Threatened, and Endangered Species List and the PADCNR Pennsylvania Natural Diversity Inventory ("PNDI") were conducted to determine the potential presence of threatened or endangered ("T&E") species in the Project Study Area. The searches evaluated for state (MDNR, PADCNR, PFBC, and Pennsylvania Game Commission ("PGC")) listed species, with the PADCNR PNDI coordination also including federal (USFWS) evaluation. In Maryland, the federal review was conducted through the USFWS's Information for Planning and Consultation ("IPAC") process. The PNDI search resulted in the need for PADCNR-related botanical surveys for potential T&E plants in Pennsylvania, which will be conducted during the 2025 growing season. The PGC noted that habitat for the tri-colored bat (*Perimyotis subflavus*) may be within the Proposed Route corridor. Information on seasonal restrictions for tree clearing was provided that will allow for the clearing of any

trees during specific time frames that will limit impacts on the bats. No T&E surveys are required in Maryland based on the response from MDNR and the USFWS's IPaC reviews.

MDE has identified Targeted Ecological Areas ("TEAs") across the state that consist of lands and watersheds of high ecological value that are considered conservation priorities by MDNR for natural resource protection. TEAs consist of large, contiguous blocks of significant forests and wetlands that provide important ecosystem services such as biodiversity, which includes habitat for rare plant and wildlife species. Two MDE-identified TEAs are located in the Project Study Area, specifically a 10,810 acre area bordering the Monocacy River in the western portion and a 2,464 acre area bordering Big Pipe Creek in the central portion (MDE 2024e). MDNR does not identify any specific natural areas in the Project Study Area (MDNR 2024d).

The Natural Heritage Inventory of Adams County, developed by The Nature Conservancy ("TNC"), identifies specific natural areas in the county that may provide habitat for state or federal-listed T&E species. Review of these natural areas notes that the Storm Store Bridge Woods natural area is located within Mount Pleasant Township (TNC 2002). This natural area consists of a moderately disturbed floodplain forest along Conewago Creek that supports a small aging population of an endangered tree species that was not defined in the report for protective purposes.

The TEA's and TNC identified natural area are illustrated in **Figures 4-2a/b**.

4.1.9 Special Use Areas

Special use areas are defined as governmentally owned or controlled lands that are publicly accessible and provide special conservations value and social service. Scenic vistas, wilderness areas, state game lands, and public parks are several examples of these lands.

Scenic Areas

Maryland does not identify any specific scenic areas in the state. The Maryland Department of Transportation ("MDOT") does identify two scenic byways that cross the Project Study Area, specifically "Old Main Streets" and "Journey Through Hallowed Ground" (MDOT 2024). Old Main Streets is a 111 mile route that crisscrosses the Maryland portion of the Project Study Area. This route extends along country roads connecting small towns including Emmitsburg, Mount Airy, and Westminster as well as portions of SR 140 through Taneytown and Union Bridge. Journey Through Hallowed Ground is a 57 mile route that roughly parallels U.S. Route 15 including a section between Emmitsburg and Gettysburg. Journey Through Hallowed Ground is also considered a National Scenic Byway by the Federal Highway Administration ("FHA") (FHA 2024).

Pennsylvania does identify specific scenic vistas and overlooks in the state, but none are located in the Project Study Area (PADCNR 2024b). The Pennsylvania Department of Transportation ("PennDOT") does not identify any specific scenic byways in the Project Study Area (PennDOT 2024). Portions of the FHA-Identified Journey Through Hallowed Ground byway extends into Pennsylvania along the western edge of the Project Study Area.

Wilderness Areas

The Project Study Area is not located within a National Wilderness Preservation System ("NWPS") defined area (NWPS 2024).

State Game Lands

No MDNR identified Wildlife Management Areas are located in the Project Study Area (MDNR 2024e). In Pennsylvania, State Game Lands are managed by the PGC for hunting, trapping, and fishing. No State Game Lands are located in the Project Study Area (PGC 2024).

Park Lands

There is one national park within the Project Study Area, Gettysburg National Military Park. A portion of this park is located east of Gettysburg near the Lake Heritage community in the northern section of the Project Study Area (USNPS 2024b). This approximately 350 acre area consists of agricultural fields that commemorate military activities during the battle.

Within the Maryland portion of the Project Study Area, there are seven local parks. These parks are centered around residential areas, specifically Taneytown and Union Bridge. Review of MDNR state parks indicates that none are located in the Project Study Area (MDNR 2024f).

Within Pennsylvania, there are seven local parks that are also focused in residential areas, specifically Bonneauville, Littlestown, and Gettysburg. There are also five golf courses within the Pennsylvania Project Study area, the Quail Valley Golf Course, located west of Littlestown, the Flatbush Golf Course located east of Littlestown, Meadow Brook Golf Course and Cedar Ridge Golf Course located near U.S. Route 15, and Links at Gettysburg located near the Pennsylvania-Maryland border, on the west end of the Project Study Area. There are no state parks located within the Pennsylvania portion of the Project Study Area (PADCNR 2024c).

These federal and local park features are illustrated in **Figure 4-3a and Figure 4-3b**.

Natural Areas

MDNR does not identify any specific natural areas in the Project Study Area (MDNR 2024d). There are also no state-listed Natural Areas located within the Pennsylvania portion of the Project Study Area (PADCNR 2024d).

4.2 Built Environment

Human impacts on the natural environment are represented by a number of land use patterns and development types. Evaluation of the built environment land uses considered conventional classifications such as developed, forested, and agricultural uses. Additional evaluation assessed conserved lands, agricultural easements, comprehensive plans, historic and cultural resources, and hazardous material sites.

4.2.1 Land Use/ Land Cover

Land use within the Project Study Area is composed primarily of agricultural lands with pockets of residential and commercial development and forest (**Figures 4-4a/b**). In both Maryland and

Pennsylvania, the pattern is similar with residential and commercial development radiating from the intersections of local, state, and other transportation corridors that bisect the surrounding agricultural lands. Narrow forested stream valleys further bisect the area.

Residential Development

The agricultural land that makes up the majority of the Project Study Area is disrupted by scattered residential developments, the largest of these being Union Bridge and Taneytown in Maryland, and Littlestown, Bonneauville, and the residential community around Lake Heritage in Pennsylvania.

Moderately less dense residential development is noted along the main highways specifically State Route ("SR") 140 (SR 140) which extends west to east across the Maryland portion of the Project Study Area and SR 97 which extends west to east across the Pennsylvania portion of the Project Study Area. Scattered lower density residential development is located along many of the secondary roads that crisscross the area.

Residential facilities account for approximately 20% of the Project Study Area.

Institutional/Industrial/Commercial Development

Institutional facilities generally include schools, which are closely tied into the residential development pattern. In Maryland, The Taneytown Elementary School and Northwest Middle School are located within the Taneytown municipal area, whereas the Francis Scott Key High School is located in a more rural portion of Carroll County between Taneytown and Union Bridge (**Figure 4-5a**). The Elmer Wolfe Elementary School is located within the Union Bridge municipal area. In Pennsylvania, a large complex consisting of an elementary, middle, and high school is located on the north side of Littlestown (**Figure 4-5b**). These facilities involve large main building structures and surrounding open areas that contain ball fields. Other institutional lands include municipal facilities such as maintenance yards, office buildings, and water treatment areas.

Industrial lands in the Project Study Area include a cement plant owned by Heidelberg Materials, which is located outside of Union Bridge, Maryland, at the southern end of the Project Study Area. In Pennsylvania, Industrial lands are limited to a small industrial park located on the southeast side of Littlestown. No mining operations or refineries are located in the area.

Commercial lands generally include common retail shops such as restaurants, gas stations, and markets, which are noted in concentrated areas in Taneytown and Union Bridge in Maryland, and in Bonneauville, Littlestown, and along U.S. Route 30 near Gettysburg. Other sporadic commercial lands are located along the state and local roadways.

Institutional, industrial, and commercial lands account for approximately 3% of the Project Study Area.

Agricultural Land

Agricultural land is a dominant land use in the Project Study Area. As discussed in **Section 4.1.6** (Vegetation Communities), agricultural lands are generally used for the production of crops, but some areas are used for grazing. Many of these agricultural lands are associated with single farm complexes that may include several hundred acres; numerous others are smaller plots that may be used for grazing.

Agricultural lands account for approximately 60% of the Project Study Area.

Forested Lands

Forested lands are predominately located in the western and eastern sections of the Project Study Area. Large tracts of forest are located along the U.S Route 15 corridor near Emmitsburg and along SR 97 near Union Mills. Other large, forested tracts also rim the streams that meander through the surrounding agricultural lands. Some forested areas are in the uplands between agricultural fields. These forests may not have been converted to agriculture due to steep slopes, rocky soils, or the presence of wetlands.

Forested lands account for approximately 15% of the Project Study Area.

Transportation and Utilities

The largest highways in the Project Study Area are U.S. Route 15 and U.S. Route 30. U.S. Route 15 runs north to south across the Pennsylvania/Maryland border and serves as the Project Study Area western edge for approximately 13 miles. U.S. Route 30 runs west to east along the northern portion of the Project Study Area near Gettysburg. Other major roadways include SR 140 and SR 97, which extend west to east across the Maryland and Pennsylvania portions of the Project Study Area respectively. These main roads are supplemented with a network of secondary, residential, and agricultural roads.

Two active freight railroad lines intersect in Keymar in the southwest portion of the Project Study Area. A Western Maryland Railway line extends west to east through Keymar and onto Union Bridge. A Maryland Midland Railway line extends south to north through Keymar and onto Taneytown, where the line ends. In Pennsylvania, a Western Maryland Railway line extends southwest to northeast from Gettysburg and parallels the north side of U.S. Route 30.

According to the National Pipeline Mapping System (“NPMS”), there are four known pipelines within the Project Study Area. All of these are within Pennsylvania, three of which are gas transmission pipelines and one is a hazardous liquid pipeline (NPMS 2024). Two of the gas pipelines and the hazardous liquid pipeline extend west to east across the Project Study Area, with one of the gas pipelines and the hazardous liquid pipeline generally paralleling U.S. Route 30, and the other gas line crossing agricultural lands north of Littlestown. The fourth gas pipeline extends north to south into the Hunterstown Power plant.

There are three main electrical transmission line corridors in the Project Study Area. In Maryland, a 230 kV line extends north into the Carroll Substation from Mount Airy and then continues west from the substation toward the Catoctin area. In Pennsylvania, the Conastone-Hunterstown 500 kV Transmission

Line extends from northwest to southeast through the eastern edge of the area. The existing single-circuit Hunterstown-Lincoln-Germantown 115 kV line extends from the Hunterstown Substation west to the Lincoln Substation near Gettysburg, then turns southeast to the Germantown Substation, near Littlestown. This line converts to 138 kV and extends south to the Carroll Substation in Union Bridge. A few smaller 69 kV lines extend from the Carroll Substation and the Lincoln Substation. In addition to these existing features, FirstEnergy also owns an approximate 5 miles of unused ROW that parallels the west side of the Hunterstown-Conastone 500 kV line that extends along the eastern perimeter of Littlestown.

There are no major public airports within the Project Study Area. Based on review of Federal Aviation Administration ("FAA") information, several small private airports are scattered across the area. In Maryland, four grass runway-based airfields are located within three to four miles of Taneytown, including two Greer Airports, Keymar Airpark, and Mayberry Run Airport. In Pennsylvania, Kingsdale Air Park is located to the southwest of Littlestown and the Waltz Airport is located south of the U.S. Route 15 and SR 97 interchange. Based on Google Earth review, some of these airfields appear unused. Coordination with the FAA may be required around these facilities.

Transportation and utilities account for approximately 2% of the Project Study Area.

All of the aforementioned linear features are included in **Figures 4-5a/b**.

4.2.2 Conservation Lands

Conservation lands include a diversity of local, county, state, or federal easements, as well as lands preserved through land trust organizations such as The Nature Conservancy. Most of the easements in the Project Study Area are agricultural conservation easements that are coordinated either through the county or state. Options to cross agricultural conservation easements with new transmission lines is generally acceptable due to the limited effect of the lines on the agricultural use of the lands, unless the some of the funding was provided by a federal source such as the USDA/NRCS. Other easement types and land trust protected lands are generally more protective and can restrict transmission lines and other utilities from crossing the lands.

Agricultural conservation easements restrict and limit the conversion of farmland to nonagricultural use. Money for this program is allocated from both the county and the state, with some federal funding from the USDA/NRCS. Within Maryland, the Maryland Agricultural Land Preservation Foundation ("MALPF"), which is part of the Maryland Department of Agriculture ("MDA"), provides state-based funding for agricultural conservation easements in order to preserve and protect agricultural lands (MDA 2024). The Carroll County Agricultural Land Preservation Program and the Frederick County Agricultural Land Preservation office also administer county-based agricultural conservation easements within their respective counties (Carroll County 2024; Frederick County 2024). Within the county-based agricultural conservation easements, landowners also have the option to voluntarily having the development rights of the parcel transferred or purchased. Transfer Development Rights ("TDR") allows landowners to sell development rights from their land to a developer or other interested party who then can use these rights to increase the density of development at another designated location.

Purchase Development Rights ("PDR") also allows landowners to sell development rights from their land but they are not used to offset development elsewhere in the county. Approximately 80% of the Maryland portion of the Project Study Area is protected by a MALPF or county-based agricultural conservation easement (**Figure 4-3a**). Of the county-based easements, approximately 20% are involved in the PDR program and none are involved in the TDR program.

Through the MDNR, Maryland also preserves agricultural and forested lands through other means including the Maryland Environmental Trust ("MET"), the Forest Conservation Act, and the Rural Legacy Program. The Maryland Environmental Trust program focuses on conserving and maintaining Maryland's natural, agricultural, scenic, and cultural resources (MDNR 2024g). The Forest Conservation Act focuses on preserving the state's trees and forests with primary interest in areas adjacent to streams or wetlands, those on steep or erodible soils or those within or adjacent to large contiguous blocks of forest or wildlife corridors (MDNR 2024h). The Rural Legacy Program provides funding to preserve large, contiguous tracts of land and to enhance natural resource, agricultural, forestry and environmental protection while supporting a sustainable land base for natural resource-based industries (MDNR 2024i). Several MET protected parcels are located within the Project Study Area predominantly near Union Bridge and along the Monocacy River along the Frederick and Carroll County boundary. Numerous small Forest Conservation Act easements are located throughout the Project Study Area with a few larger parcels located north of Taneytown. Rural Legacy Program easements are noted along the Little Pipe Creek in the southern portion of the Project Study Area (**Figure 4-3a**).

Within Pennsylvania, the Adams County Agricultural Land Preservation Program ("ACALPP") oversees the terms and conditions of the permitted agricultural activities, as well as restrictions that are established by an easement. Such restrictions include development of buildings and other structures not related to agricultural production, subdivision of the parcel, and mining activities (ACALPP 2024). Based on easement information provided by Adams County, utilities are a permitted use within the ACALPP easements. Adams County agricultural conservation easements protect approximately 20% of the Pennsylvania portion of the Project Study Area (**Figure 4-3b**).

Other conserved lands in the Project Study Area are preserved through the Land Conservancy of Adams County ("LCAC"). Since their funding is provided by a variety of sources other than county, state or federal agencies, the LCAC provides more flexibility in the lands being preserved relative to the ACALPP. Based on information provided by the LCAC, their focus is on preserving the rural lands and character of Adams County (LCAC 2024). Most of the land conservancy parcels consist of natural environments and forested areas, with some areas being primarily agricultural in use. As previously noted, a portion of Gettysburg National Military Park is located near the Lake Heritage community in the northern section of the Project Study Area. Two adjacent parcels also involve an easement with Gettysburg National Military Park. Land conservancy parcels account for approximately 10% of the Pennsylvania portion of the Project Study Area (**Figure 4-3b**).

4.2.3 Comprehensive Plans

Carroll County Board of Commissioners ("CCBOC") adopted a master plan on February 26, 2015 that was amended in January 2020 (CCBOC 2020) and the Adams County Planning Commission ("ACPC") approved a comprehensive plan in 1991 that has not been updated since that time (ACPC 1991). These plans identify specific concerns for these counties including future development patterns, preservation of physical and environmental characteristics, and the coordination of growth management. The plans offer a series of goals identified by the counties to be used as guides to minimize the impact of proposed growth and maximize the preservation of the natural and cultural aspects of the area. Specific goals provide strong support for the development of growth areas that will serve as the focus for infrastructure development and consequently direct residential, commercial, and industrial growth. The plans address utilities such as water supply and wastewater but do not address the need for additional electrical power.

In 2010, Adams County adopted the *Adams County Greenways Plan* that encourages "identifying areas that are inappropriate for development and areas that are already protected or publicly owned in order to develop an interconnecting system of greenways (Adams County Office of Planning and Development 2010)." The Greenways Plan complemented several of the goals identified in the comprehensive plan that were focused on defining a widespread pattern of parks, forests, game lands, protected environmental features, open space, and conservation areas to be preserved as the backbone of a permanent open space system. Although the focus of many potential greenway trails is on abandoned railroads and scenic byways, the plan does acknowledge that utility corridors, including electrical transmission lines, are options to be considered.

Aside from these county plans, the local municipalities within the Pennsylvania portion of the Project Study Area have adopted their own comprehensive plans. In 2003, Mount Pleasant Township coordinated with Bonneauville Borough in the development of the *Bonneauville Borough and Mount Pleasant Township Comprehensive Plan* (Bonneauville Borough and Mount Pleasant Township 2003), in 2008, Germany and Union townships coordinated with the Littlestown Borough in the development of the *Southeast Adams County Comprehensive Plan* (Germany Township, Littlestown Borough, and Union Township 2008), and in 2015, Freedom Township coordinated with five adjacent townships in the development of the *Southwest Adams County Joint Comprehensive Plan* (Carroll Valley Borough, Fairfield Borough, Hamiltonban Township, Highland Township, Liberty Township, and Freedom Township 2015). Similar to the county-based plans, these documents focus on growth patterns, transportation networks, economic development, and the preservation of cultural and natural resources and provide further resolution to address the goals of the plans through local zoning changes and multi-municipality coordination. These plans do not discuss the potential need for additional transmission lines, or any potential effect new lines may have on the surrounding environment. The plan also acknowledges that utility corridors, including electrical transmission lines, are options to be considered for walkways or trail systems.

4.2.4 Cultural Resources

A review of cultural resources within the Project Study Area is required by various state agencies to ensure their preservation. A desktop survey of existing historic structures, properties, and districts within the Project Study Area was conducted by accessing the Maryland Historical Trust's ("MHT") National Register of Historic Places and the Pennsylvania Historical and Museum Commission's ("PHMC") Bureau of Historic Preservation's State Historic and Archaeological Resource Exchange ("PA-SHARE") website to review available information on these historic resources (MHT 2024; PHMC 2024). Archaeological information was not included in this assessment due to the sensitive nature of disclosing the site locations. Evaluation for archaeological resources will be required regardless of the route chosen for the Project.

Twenty National Register of Historic Places ("NRHP")-listed or eligible historic properties or districts were identified in Maryland and six NRHP-listed properties or districts were identifies in Pennsylvania within the Project Study Area. Historic properties are defined as buildings, structures, objects, sites, and linear historic sites aged 50 years or more. Historic districts are groups of buildings, properties, or sites that are recognized for being historically or architecturally significant. These properties and districts and their MHT inventory number or PHMC resource number are listed in **Table 4-3a** and **Table 4-3b** respectively. These resources are illustrated in **Figures 4-5a/b**.

Table 4-3a: NRHP-listed or Eligible Historic Properties in the Project Study Area - Maryland

MHT Inventory #	NRHP REF#	Resource Name	Resource Address/ Location	NRHP Status/ SHPO Opinion Date	Town	County
CARR-4	75000876	Weaver-Fox House	3411 Main St.	Listed 11/20/1975	Uniontown	Carroll
CARR-213	80001802	Rudisel Ludwick Tannery House	65 Frederick Street,	Listed 11/10/1980	Taneytown	Carroll
CARR-8	77000687	Trevanion	3 mi. NW of Uniontown on Trevanion Rd.,	Listed 9/15/1977	Taneytown	Carroll
CARR-13	76000984	Union Bridge Station	Main St.	Listed 11/7/1976	Union Bridge	Carroll
CARR-14	76000983	Pipe Creek Friends Meetinghouse	Quaker Hill Rd.	Listed 11/7/1976	Union Bridge	Carroll
CARR-26	73000911	Uniontown Academy	Uniontown Rd.	Listed 8/14/1973	Uniontown	Carroll
CARR-945	98001260	Mt. Pleasant, Clemson Family Farm	200 West Locust Street	Listed 11/4/1998	Taneytown	Carroll
CARR-936	01000338	Appler-Englar House	916 Winter's Church Rd.	Listed 4/5/2001	New Windsor	Carroll

MHT Inventory #	NRHP REF#	Resource Name	Resource Address/ Location	NRHP Status/ SHPO Opinion Date	Town	County
CARR-1684	06000743	Winemiller Family Farm	1909 Francis Scott Key Hwy (MD 194)	Listed 8/30/2006	Taneytown	Carroll
CARR-839	07001286	Keefer-Brubaker Farm	2719 Roop Rd.	Listed 12/20/2007	Taneytown	Carroll
CARR-113	11000306	Koons, Jacob, Farm	1151 Otterdale Mill Rd.	Listed 5/25/2011	Taneytown	Carroll
F-6-8	78001461	Bullfrog Road Bridge	NW of Taneytown off MD 97	Listed 11/21/1978	Taneytown	Frederick
F-6-7	78001457	Fourpoints Bridge	SE of Emmitsburg	Listed 11/29/1978	Emmitsburg	Frederick
CARR-2	78001449	Terra Rubra	1 mile S of Keysville	Listed 7/24/1978	Keymar	Carroll
CARR-22	71000371	Union Mills Homestead Historic District	Jct. of U.S. 140 and Deep Run Rd.	Listed 1/25/1971	Westminster	Carroll
F-6-20	76000994	St. Joseph's College and Mother Seton Shrine	MD 806	Listed 1/1/1976	Emmitsburg	Frederick
CARR-158	80001801	Linwood Historic District	McKinstry's Mill Rd.	Listed 9/27/1980	Linwood	Carroll
CARR-179	86000059	Uniontown Historic District	Uniontown and Trevanion Rds.	Listed 1/3/1986	Uniontown	Carroll
CARR-1196	86002850	Taneytown Historic District	MD 140 and 194	Listed 10/9/1986	Taneytown	Carroll
CARR-1317	94000820	Union Bridge Historic District	Roughly bounded by Bellevue, E. Locust, Buttersburg Alley, Church, Whyte, W. Locust and the Western Maryland RR tracks	Listed 8/17/1994	Union Bridge	Carroll
CARR-1486	97000338	McKinstry's Mills Historic District	1494, 1498, and 10904 McKinstry's Mill Rd., 4500 and 4504 Sam's Creek Rd.	Listed 4/16/1997	Union Bridge	Carroll

Table 4-3b: NRHP-listed or Eligible Historic Properties in the Project Study Area - Pennsylvania

PHMC KEY#	NRHP REF#	Resource Name	Resource Address/ Location	NRHP Status/ SHPO Opinion Date	Township	County
1992RE00299	07000468	Horner House and Barn	20 Horner Rd.	Listed 5/24/2007	Cumberland	Adams
2001RE00313	12000603	Pleasant Grove School	4084 Baltimore Pike	Listed 03/14/2024	Mount Joy	Adams
1974RE00072	74001731	John's Burnt Mill Bridge	SW of New Oxford on T 428	Listed 12/16/1974	New Oxford	Adams
1998RE00129	00000520	Rock Creek – White Run Union Hospital Complex	Baltimore Pike, Goulden Rd. and White Church Rd.	Listed 5/18/2000	Mount Joy	Adams
1975RE00197	75000155	Gettysburg Battlefield Historic District	Town of Gettysburg and its environs	Listed 3/19/1975	Gettysburg	Adams
1992RE00058	92001493	Spangler Benner Farm	230 Benner Rd.,	Listed 10/29/1992	Mount Joy	Adams

4.2.5 Hazardous Material Sites

A desktop review of the U.S. Environmental Protection Agency's ("USEPA") Superfund National Priority List ("NPL") indicated that there are two sites within the Project Study Area (USEPA 2024). The Hunterstown Road Superfund site is located in Adams County, Pennsylvania, on Hunterstown Road, west of U.S. Route 15. This site is a 22-acre superfund site that was listed on June 10, 1986, due to the previous dumping of liquid wastes and hazardous materials, which contaminated the soil, surface water, and groundwater. Active treatment of the soil and groundwater is addressing the contamination, and a 2020 review of the site indicated that these treatment methods are effective and that current controls are effectively protecting human health and the environment.

A second superfund site, Keystone Sanitation Landfill Site, is located in Union Township, Adams County, Pennsylvania. This 40-acre site was listed in 1987, after volatile organic compounds were detected in nearby wells due to the improper lining of the landfill. Ongoing remediation includes treatment of groundwater up to one mile from the site. A review of the site conducted in 2020 determined that current remediation is protective of human health and the environment but noted ongoing issues that require new remediation methods.

These sites are illustrated in **Figure 4-5b**.

5.0 IDENTIFICATION AND ANALYSIS OF ALTERNATIVE ROUTES

The goal of the Study was to identify viable alternative routes based on reasonable physical placement of the proposed transmission line that avoided or limited impacts to sensitive land uses and ecological, social, and cultural features in the Project Study Area. In evaluating the routing criteria, it is generally considered desirable to maximize certain criteria along a given route, for instance, paralleling existing railroad or utility corridors. These more favorable criteria are known as opportunities. Undesirable criteria for routing, such as residences, wetlands, and historic properties, are generally referred to as constraints and the Study seeks to avoid or minimize their proximity to the Project where practicable.

When siting transmission lines, three main routing opportunities are generally focused on where viable. These opportunities include:

- Replacing or upgrading existing transmission lines,
- Corridor sharing/paralleling existing linear utilities or ROWs, or using existing unbuilt ROWs, and
- Crossing undeveloped lands.

Replacing or upgrading existing transmission lines typically minimizes natural and social impacts by using existing ROW corridors, thus eliminating, or reducing additional ROW clearing. For the Carroll-Hunterstown Improvements Project, options for replacing or upgrading existing lines include the Hunterstown-Lincoln 115 kV, Germantown-Lincoln 115 kV, and Germantown-Carroll 138 kV transmission lines, which extend north to south through the Project Study Area. These lines are currently single-circuit design and could be upgraded to double-circuit. MAIT determined that this was a viable option to be evaluated as part of the Study.

The corridor sharing scenario pairs the transmission line with an existing linear feature that it can parallel, which can include highways, railroads, gas pipelines, or other existing or unbuilt transmission line ROWs. These corridors are considered opportunity areas because locating a new transmission line parallel to them may require less ROW, concentrates linear land uses thus reducing fragmentation of the landscape, and creates an incremental impact rather than a new impact. Opportunity areas within the Project Study Area for the development of the new 230 kV transmission line included paralleling a portion of the Hunterstown-Conastone 500 kV Transmission Line south from the Hunterstown Substation or using the existing unused ROW that extends parallel to a portion of this line. Another linear resource that could be parallelled is U.S. Route 15, which extends generally north to south along the western edge of the Project Study Area. The few pipelines and railroads in the Project Study Area generally extend in an east to west alignment or have an irregular route that would not be practicable to follow.

The third opportunity is to use undeveloped areas such as fields, agricultural, or forested areas to identify routes that cross open lands. Identifying these routes involves assessment of parcel boundaries, residential structure locations, and land use practices to define routes that minimize potential impacts to private properties and any agricultural or other farming activities such as orchards. Extensive portions of the Project Study Area consist of agricultural crop lands and fields that provide opportunities

for potential cross-country routes. However, these areas are also dotted with residential development that will constrain options.

Using these fundamental considerations as guidance, information obtained during the environmental field reviews was used to develop an opportunity and constraint map of the Project Study Area using GIS software. Georeferenced data layers of the identified opportunities and constraints obtained from published State and Federal materials and local planning documents were superimposed on available current aerial photography. Evaluation of this desktop data in conjunction with field reviews of the Project Study Area resulted in the identification of four viable alternative routes that provide the required connectivity between the Carroll Substation and the Hunterstown Substation. These routes include:

- A cross-country route that extends partially along U.S. Route 15 (West Route);
- A cross-country route that extends across agricultural lands in Carroll and Adams counties (Central Route),
- A rebuild option that includes upgrading existing single-circuit 115 kV and 138 kV transmission lines to double-circuit (Rebuild Route), and
- A cross-country route that parallels portions of the Hunterstown-Conastone 500 kV transmission line and unused PE ROW (East Route).

5.1 Description of the Alternative Routes

The four alternative routes are described below and illustrated in **Figure 5-1**.

5.1.1 West Route (Alternative Route A)

West Route is approximately 24.83 miles in length.

- From the Carroll Substation, the West Route extends to the northwest for 1.07 miles (5,651 feet) across forested and agricultural lands to a crossing of Bucher Jones Road. One of the farms crossed is protected by an agricultural conservation easement with the MALPF and another is the NRHP-listed Mount Pleasant, Clemson Family Farm. This section also spans Little Pipe Creek and Cherry Branch, which are classified by MDE as Class IV-P streams (Recreational Trout Waters and Public Water Supply), the adjacent FEMA floodplains, and a NWI listed pond. An active freight railroad (Maryland Midland) is also spanned.

- Turning to the north, the route extends 3.03 miles (15,982 feet) to a crossing with Crouse Mill Road. This section spans Big Pipe Creek (Class IV-P) and several tributaries, as well as associated FEMA floodplains. Land use is predominantly agricultural with some rural residential areas at the crossings of several roads including Middleburg Road and Hapes Mill Road. Several of the farms crossed are protected by an agricultural conservation easement with the MALPF and one farm is protected by a Carroll County agricultural conservation easement.

- From this point, the West Route turns to the northwest and extends 3.47 miles (18,336 feet) to a turning point north of Keysville Road. This section spans several small tributaries to Big Pipe

Creek and crosses predominantly agricultural lands, a few of which are protected by an agricultural conservation easement with the MALPF and a few others with Carroll County. One of the Carroll County easements is also part of the PDR program. Another section of active freight railroad (Maryland Midland) is also spanned as well as SR 196 (Francis Scott Key Highway). North of the Keysville Road crossing, the route turns sharply north then west to account for new residential development in the area.

- Turning north, the route extends for 4.88 miles (25,768 feet) across forested and agricultural lands to the Maryland/Pennsylvania state border, located north of Harney Road. Piney Creek and Monocacy River, both Class IV-P streams, are spanned along this section. A Maryland TEA borders the Monocacy River at the river crossing and several farms protected by agricultural conservation easement with the MALPF or Carroll County are also crossed. One of the Carroll County easements is also part of the PDR program. SR 140 (Taneyville Pike) and several rural residential lines local roads are also spanned.
- Continuing north into Pennsylvania, the West Route extends across agricultural lands for 3.07 miles (16,215 feet) to Barlow Greenmount Road. This section spans Marsh Creek, which is classified by PADEP as a CWF stream, and tributaries to Rock Creek, which is classified as a WWF stream. Several farms protected by an agricultural conservation easement with Adams County are also crossed.
- At this point, the route turns to the northeast and parallels U.S. Route 15 for 7.32 miles (35,648 feet) to the crossing of U.S. Route 30 near Gettysburg. This section crosses over some agricultural lands that quickly changes to mixed commercial, residential, and forested land uses adjacent to the highway. Focused commercial development is noted at the crossing of several major roadways including SR 134 (Taneytown Road), SR 97 (Baltimore Pike), SR 116 (Hanover Road), and near U.S. Route 30 (Lincoln Highway). A Columbia gas pipeline is spanned near the SR 134 intersection. Dense areas of residential development border U.S. Route 15 that require the route to cross back and forth across the highway three times (total six crossings). Rock Creek (WWF) and several of its tributaries are also spanned. Elements of Gettysburg National Military Park, specifically the Rock Creek--White Run Union Hospital Complex and the Gettysburg Battlefield Historic District, may be crossed along this section.
- Continuing to the northeast, the West Route crosses U.S. Route 30 and extends 1.99 miles (10,532 feet) to the Hunterstown Substation. The area around U.S. Route 30 is a mix of commercial and residential development that converts to agricultural land uses closer to the Hunterstown Substation. Several rural residential lined local roads are spanned as well as an active freight railroad (Western Maryland), a Columbia gas pipeline, and three existing transmission lines including the Hunterstown-Conemaugh 500 kV line. Tributaries to Rock Creek (WWF) are also spanned along this section.

5.1.2 Central Route (Alternative Route B)

Central Route is approximately 24.04 miles in length.

- The initial 2.23 miles (11,756 feet) mirrors the West Route that extends from the Carroll Substation to the north side of Middleburg Road. This section spans Little Pipe Creek and Cherry Branch, which are classified as Class IV-P streams, the adjacent FEMA floodplains, and a NWI listed pond. An active freight railroad (Maryland Midland) is also spanned. Several of the farms crossed are protected by an agricultural conservation easement with the MALPF. One of the properties includes the NRHP-listed Mount Pleasant, Clemson Family Farm.
- From this point, the Central Route continues to the north for 5.47 miles (28,903 feet) to the SR 140 (Taneytown Pike) crossing located on the west side of the town of Taneytown. This section spans across mostly agricultural lands that become mixed with some denser residential areas close to Taneytown. The route also spans SR 194 (Francis Scott Key Highway), a freight railroad line (Maryland Midland), and a 69 kV transmission line. Big Pipe Creek and Piney Creek (Class IV-P), plus several tributaries are also spanned. Several of the farms crossed are protected by agricultural conservation easements with the MALPF or Carroll County.
- Turning to the northeast, the route extends 4.50 miles (23,781 feet) to the Maryland/Pennsylvania state border, located just north of the Frock Road crossing. This section crosses predominantly agricultural lands and several forested stream valleys. The streams spanned include Piney Creek and tributaries to Alloway Creek (Class IV-P). Piney Creek and an Alloway Creek tributary are bordered by MDNR identified forested wetlands. One of the parcels crossed is part of the Rural Legacy program and several of the farms crossed are protected by agricultural conservation easements with the MALPF or Carroll County. One of the Carroll County easements is also part of the PDR program.
- Continuing to the northeast, the Central Route extends 3.55 miles (18,738 feet) across agricultural and rural residential lands to the SR 97 (Baltimore Pike) crossing. This section spans Alloway Creek and tributaries to Plum Creek, which are classified by PADEP as WWF streams. Three farms are spanned that are protected by agricultural conservation easements, one through Adams County and two through Mount Joy Township.
- Turning to the north, the route extends for 3.99 miles (21,055 feet) to the SR 116 (Hanover Road) crossing. This section is predominantly agricultural but only includes two agricultural conservation easements through Adams County. This section will span a Columbia gas pipeline and cross over an existing 115 kV transmission line. Several rural residential lined local roads, Alloway Creek and tributaries to White Run (WWF) are also spanned in this section.
- Continuing north, the Central Route extends 2.67 miles (14,111 feet) to the U.S. Route 30 (Lincoln Highway) crossing. This section crosses over White Run and several of its tributaries as well as a NWI identified scrub-shrub wetland complex along one of the tributaries. Several farms that are protected by agricultural conservation easements with Adams County are also crossed.
- After crossing U.S. Route 30, the route extends north for 1.63 miles (8,603 feet) to the Hunterstown Substation. The area around the U.S. Route 30 crossing is predominantly

residential with an undeveloped forested area south of the road. This section will span a few tributaries of Rock Creek (WWF), an active freight railroad (Western Maryland), a Columbia gas pipeline, and two existing transmission lines including the Hunterstown-Conemaugh 500 kV line.

5.1.3 Rebuild Route (Alternative Route C)

Rebuild Route is approximately 24.21 miles in length.

- From the Carroll Substation, the Rebuild Route follows the existing 138 kV transmission line ROW to the northeast for 2.34 miles (12,353 feet) to the Middleburg Road crossing. Land use is predominantly agriculture, but some residential development is located near Union Bridge, which is the site of the Carroll Substation. Two of the farms crossed are protected by agricultural conservation easements with the MALPF and one is protected by an easement with Carroll County. The route is also located on the NRHP-listed Mount Pleasant, Clemson Family Farm property and close to the NRHP-listed Union Bridge Historic District. This section also spans Little Pipe Creek and Cherry Branch (Class IV-P), the adjacent FEMA floodplains, and an active freight railroad (Maryland Midland).
- Continuing to the northeast, the route extends for 3.84 miles (20,279 feet) to the SR 140 (Taneytown Pike) crossing located east of Taneytown. Land use is agricultural in the southern half of this section but becomes increasingly residential and commercial in the northern section near Taneytown. One of the farms crossed is protected by an agricultural conservation easement with the MALPF and two have easements with Carroll County. One of the Carroll County easements is also part of the PDR program. Along this section, Big Pipe Creek (Class IV-P) and several of its tributaries are also spanned, as well as SR 832 (Old Taneytown Road), which is located near SR 140.
- After crossing SR 140, the Rebuild Route extends north for 5.14 miles (27,151 feet) to the Maryland/Pennsylvania border. This section crosses predominantly agricultural lands and several of the farms crossed are protected by agricultural conservation easements with the MALPF or Carroll County. One of the Carroll County easements is also part of the PDR program. The route also spans Piney Creek (Class IV-P) and several tributaries as well as SR 194 (Francis Scott Key Highway) and a few local roads. An abandoned railroad corridor is crossed just south of SR 194.
- Turning to the northeast, the route extends for 2.80 miles (14,800 feet) to the SR 97 (Baltimore Pike) crossing located adjacent to the Germantown Substation, which is where the 138 kV line changes over to 115 kV. This section spans across a mix of residential and agricultural lands, with one of the agricultural parcels being protected by a land trust easement with the Land Conservancy of Adams County. Alloway Creek (WWF) and a few of its tributaries are spanned in this section.

- At this point, the Rebuild Route crossed SR 97 and turns to the northwest for 7.48 miles (39,512 feet) to the Lincoln Substation located near Gettysburg. Land use is agricultural in the southern half that becomes more residentially and commercially developed in the northern half near Gettysburg. This section crosses two farms protected by Adams County agricultural conservation easements, one farm protected by a Mount Joy Township easement, and one farm protected by a Land Conservancy of Adams County easement. Littles Run, and Whites Run (WWF streams), a few of their tributaries, and several tributaries of Rock Creek (WWF) are spanned in this section. Lake Heritage, which is part of Plum Run (WWF), and the densely developed Lake Heritage development are also crossed. The route also spans SR 116 (Hanover Road), U.S. Route 15, and U.S. Route 30. A portion of the Gettysburg Battlefield Historic District may be crossed along this section.
- From the Lincoln Substation, the route turns to the east and extends for 2.61 miles (13,755 feet) to the Hunterstown Substation. This section crosses over agricultural and rural residential land uses. The route spans U.S Route 15 again, an active freight railroad (Western Maryland), a Columbia gas pipeline, and two existing transmission lines including the Hunterstown-Conemaugh 500 kV line. Tributaries to Rock Creek are also spanned in this section.

5.1.4 East Route (Alternative Route D)

East Route is approximately 31.74 miles in length.

- From the Carroll Substation, the East Route mirrors the Rebuild Route by extending along the existing 138 kV transmission line ROW to the northeast for 2.18 miles (11,985 feet) to the south side of Middleburg Road. Land use is predominantly agriculture, but some residential development is located near Union Bridge. Two of the farms crossed are protected by agricultural conservation easements with the MALPF and one is protected by an easement with Carroll County. The route is also located on the NRHP-listed Mount Pleasant, Clemson Family Farm property and close to the NRHP-listed Union Bridge Historic District. This section also spans Little Pipe Creek and Cherry Branch (Class IV-P), the adjacent FEMA floodplains, and an active freight railroad (Maryland Midland).
- Turning to the northeast, the route extends 4.68 miles (24,722 feet) to the SR 832 (Old Taneytown Road) crossing located east of Taneytown. The route would span Big Pipe Creek (Class IV-P) and several of its tributaries. Land use along this section is predominantly agricultural with increasing residential and commercial development closer to Taneytown. Several farms protected by agricultural conservation easements with the MALPF or Carroll County are crossed with one of the MALPF easements also involving federal funding. One of the Carroll County easements is also part of the PDR program. Another Carroll County easement parcel that is also protected by an easement with the Nature Conservancy and a small, forested area adjacent to Big Pipe Creek that is part of the Forest Conservation Act lands (Fiddles Green Forest Bank) would also be spanned. The area bordering the Big Pipe Creek crossing area is also part of the Maryland TEA program.

- After spanning SR 832, the East Route turns to the east-northeast for 4.97 miles (26,289 feet) to the south side of Silver Run (Class IV-P). The route would span Big Pipe Creek (Class IV-P) twice and several of its tributaries, with portions of the route extending through a large Maryland TEA bordering Big Pipe Creek. This stream is also bordered by a MDNR identified forested wetland at the crossing area. Several farms protected by MALPF agricultural conservation easements, and two Forest Conservation Act lands (John Kirby and Wells Forest Banks) are also crossed along this alignment.
- At this point, the route turns to the east and northeast for 4.30 miles (22,708 feet) to the Maryland/Pennsylvania border. The route would parallel and then span Silver Run (Class IV-P) as well as cross through several MDNR identified forested wetlands located adjacent to Silver Run. Most of the land use is agricultural and several farms protected by MALPF or Carroll County agricultural conservation easements are crossed.
- After crossing the state line, the route zigzags to the northwest and northeast for 3.30 miles (17,401 feet) to the SR 194 (Hanover Pike) crossing located east of Littlestown. This section crosses a mix of agricultural and rural residential lands that become increasingly residential near Littlestown. One of the farms crossed is protected by a Adams County agricultural conservation easement. Several tributaries to the South Branch Conewago Creek (WWF) are also crossed. A 1.64 mile section of the route would be located in a FirstEnergy owned unused ROW that parallels the west side of the Hunterstown-Conastone 500 kV line that extends along the eastern perimeter of Littlestown.
- Crossing to the east side of the Hunterstown-Conastone 500 kV line and continuing generally to the northwest, the East Route extends for 4.54 miles (23,957 feet) to the SR 116 (Hanover Street) crossing. This section consists of predominantly agricultural land uses with pockets of congested residential development along some of the local roads. The route crosses several tributaries of Alloway Creek (WWF) and the South Branch Conewago Creek (WWF) as well as farms protected by an Adams County agricultural conservation easement and a Land Conservancy of Adams County easement.
- After crossing SR 116, the route continues to the northwest for 5.88 miles (31,049 feet) across agricultural lands to the U.S. Route 30 (Lincoln Highway) crossing. This section crosses Brush Run (WWF), Swift Run (WWF), and White Run (WWF), several of their tributaries, and some tributaries to the South Branch Conewago Creek (WWF). Two of the farms crossed are protected by Adams County agricultural conservation easements. The route crosses back to the west side of the Hunterstown-Conastone 500 kV line close to the U.S. Route 30 crossing.
- From the U.S. Route 30 crossing, the East Route continues in a northwesterly direction for 1.89 miles (9,965 feet) to the Hunterstown Substation. Land use around U.S. Route 30 is a mix of commercial and residential uses that becomes more agricultural closer to the substation. This section mirrors most of the alignment of the Central Route and involves spanning a few tributaries of Rock Creek (WWF), an active freight railroad (Western Maryland), a Columbia gas

pipeline, and two existing transmission lines including the Hunterstown-Conemaugh 500 kV line.

5.2 Evaluation of the Alternative Routes

The Alternative Routes were evaluated and compared against each other to determine the Proposed Route. Evaluation of the Alternative Routes included a combination of *quantitative analysis* and *qualitative review*. This section describes the evaluation metrics and comparative analyses used to assess the four Alternative Routes. The quantitative analysis included evaluating the raw number counts to assess the potential impacts in accordance with three perspectives: built/social environment, natural environment, and engineering considerations. The qualitative analysis included an assessment of non-quantifiable factors such as visual concerns; community concerns; special permit requirements; construction, maintenance, and accessibility issues specific to each Alternative Route; and risk of schedule delay.

5.2.1 Evaluation Metrics

The process for identifying the Proposed Route involved quantitatively evaluating the advantages and disadvantages of the Alternative Routes. To evaluate and compare these routes, a table of metrics was developed which focused on the potential impacts of the Project to three general perspective areas: built/social environment, natural environment, and engineering considerations (**Table 5-1**). Examples of the built/social environment include factors such as number of parcels crossed by the Alternative Route ROW and length across conserved lands. The natural environment includes factors such as number of stream crossings and acres of forested wetland cleared. Comparative factors for engineering include, for example, the number of roadway crossings and the number of hard angle turns, which may involve larger and stronger structures.

The quantitative evaluation process also addressed the opportunity scenarios such as paralleling roadways or utility corridors and proximity to roads. Construction along these corridors concentrates potential impacts into an already affected area and has the potential to reduce environmental impacts by overlapping ROWs where feasible and using existing access roads in undeveloped areas and hard top roads in developed areas. The relative ease of accessibility and potential lower level of permitting involved typically makes these conditions more favorable compared to being further from these features.

Initial steps in this process involved determining the raw number values for each Alternative Route for each metric. These data were then summarized by state in tabular form organized by evaluation metrics for each of the Alternative Routes and by the three perspectives (**Tables 5-2a/b, 5-3a/b,** and **5-4a/b**). A table of cumulative metric values is provided in **Table 5-5**.

5.2.2 Review of Alternative Routes

The following provides a comparative review of the quantitative metrics determined for each Alternative Route for each of the perspectives evaluated. A qualitative assessment of the Alternative

Routes is also incorporated into this review to address the non-tangible factors involved in the transmission line routing process including community concerns, visual impacts, ROW easement acquisition, permitting, constructability, and long-term accessibility and maintenance.

TABLE 5-1: Quantitative Routing Metrics

Social/Built Metrics
Number of Schools, Churches, or Cemeteries within 1,000 feet of Transmission Center Line: Sensitive receptors (e.g., schools, churches) within 1,000 feet of the Alternative Route.
Number of National Register of Historic Places (NRHP) - listed Sites within 1,000 feet of Transmission Center Line: Number of archaeological or historic sites/structures/districts located within 1,000 feet of the Alternative Route.
Number of Residential Structures on Parcels Currently Crossed or within 300 feet of an Existing Utility ROW (Current): Identifies the number of residences on parcels currently crossed or located adjacent to an existing utility ROW.
Number of Residential Structures on Parcels Proposed to be Crossed or within 300 feet of the Transmission Center Line (Proposed): Identifies the number of residences on parcels that would be crossed or located adjacent to the new transmission line ROW.
Number of Parcels Crossed by the Transmission Line ROW: Number of parcels that would be crossed by the proposed ROW of the Alternative Route.
Number of Commercial Buildings within 300 feet of Transmission Center Line: Number of structures in close proximity to the Alternative Route, including retail stores, restaurants, and service garages.
Length of State-owned and Conserved Lands Crossed: Identifies the length (miles) of parks or other conserved lands crossed by the proposed Alternative Route.
Natural/Ecological Metrics
Area of Natural Forests Crossed: Acres of forest requiring clearing that are crossed by the Alternative Route.
Area of Potential PFO Wetlands Crossed: Acres of forested (PFO) wetlands requiring clearing that are crossed by the Alternative Route. Forested wetlands were determined based on USFWS NWI mapping.
Area of Potential PEM or PSS Wetlands Crossed: Acres of potential emergent (PEM) or shrub (PSS) wetlands that would be crossed by the Alternative Route. Potential wetlands were determined based on USFWS NWI mapping
Number of Stream/River Crossing: Number of streams that would be crossed by the Alternative Route. Values were based upon use of USGS National Hydrography Dataset (NHD) stream data. Smaller tributaries are often not identified in the GIS database; thus, the actual number of crossings may be higher than indicated.
Area of FEMA 100-year Floodplain Crossed: Acres of floodplains that would be crossed by the Alternative Route. Values based on GIS-mapped FEMA floodplains, as available in state databases.
Engineering Metrics
Length Parallel to an Existing Utility Corridor (Inverted): Length (miles) of the Alternative Route located parallel to the ROW of an existing pipeline or transmission/distribution line. These areas may have fewer impacts compared to developing completely new right-of-way but require additional coordination and may involve more engineering analysis to ensure safe co-location with the other utility.
Length Parallel to a Road (Inverted): Length (miles) of the Alternative Route adjacent to (within 100 feet) of roadways. These areas have easier access for construction and maintenance. Conversely, lines routed distant from these features have higher engineering constraints.
Length of Rebuild of Existing Transmission Line (Inverted): Length (miles) of the Alternative Route that involves rebuilding an existing transmission lines. Rebuilding within an existing transmission line corridor reduces potential social and environmental impacts.
Number of Road Crossings: Number of public roads crossed by the Alternative Route. These areas would have engineering constraints due to height and other requirements.
Number of Turns Greater Than 60 Degrees: Number of times the Alternative Route would need to make a turn greater than 60 degrees. Turns place tension on the tower structures, which may require additional support or engineering to support the stress.
Length Along Future Use ROW: Length (miles) that the Alternative Route is within an existing future use ROW easement area
Length of Route (miles): Longer route lengths will involve more structures and increase the potential for impacts to the social and natural environments.

5.2.2.1 Built/Social Environment Review

The results of the comparative review of the built/social metrics for Maryland are listed in **Table 5-2a** and for Pennsylvania in **Table 5-2b**.

TABLE 5-2a: Built/Social Metric Summary – Maryland

	MATRIX/CORRIDOR	Alternative Route A (West Route)	Alternative Route B (Central Route)	Alternative Route C (Rebuild Route)	Alternative Route D (East Route)
BUILT/SOCIAL	Schools, Churches, and Cemeteries,within 1,000 feet of Transmission Center Line (#)	1	2	2	2
	NRHP (Listed & Eligible) Properties and Districts within 1,000 feet of Transmission Center Line (#)	3	2	3	2
	Number of Residential Structures on Parcels Currently Crossed or within 300 feet of the Transmission Center Line (#)	1	1	52	3
	Number of Residential Structures on Parcels Proposed to be Crossed or within 300 feet of the Transmission Center Line (#)	11	14	0	5
	Number of Parcels Crossed by the Transmission Line ROW (#)	57	46	67	69
	Commercial/Industrial Buildings within 300 feet of the Transmission Center Line (#)	6	12	11	11
	Length of State-owned and Conserved Lands Crossed (miles)	6.67	8.15	4.48	10.03

TABLE 5-2b: Built/Social Metric Summary – Pennsylvania

	MATRIX/CORRIDOR	Alternative Route A (West Route)	Alternative Route B (Central Route)	Alternative Route C (Rebuild Route)	Alternative Route D (East Route)
BUILT/SOCIAL	Schools, Churches, and Cemeteries,within 1,000 feet of Transmission Center Line (#)	0	1	2	1
	NRHP (Listed & Eligible) Properties and Districts within 1,000 feet of Transmission Center Line (#)	2	1	1	0
	Number of Residential Structures on Parcels Currently Crossed or within 300 feet of the Transmission Center Line (#)	0	0	81	0
	Number of Residential Structures on Parcels Proposed to be Crossed or within 300 feet of the Transmission Center Line (#)	13	4	0	21
	Number of Parcels Crossed by the Transmission Line ROW (#)	59	43	92	74
	Commercial/Industrial Buildings within 300 feet of the Transmission Center Line (#)	12	1	12	11
	Length of State-owned and Conserved Lands Crossed (miles)	1.86	2.89	1.56	1.45

Review of the metrics notes that the Rebuild Route would be in close proximity to four churches or cemeteries, whereas the East Route would be near the fewest (1) of these sensitive areas. Each of the routes will be in close proximity to the Union Bridge Church of the Brethren located adjacent to the Carroll Substation.

The metrics also note that the West Route would be in close proximity to the most (5) NRHP-listed or eligible properties or districts, whereas the East Route would be near the fewest (2) of these areas. Each of the routes would be near the Union Bridge Historic District and Mount Pleasant/Clemson Family Farm

historic property located near the Carroll Substation. The West Route would also be located within the Gettysburg Battlefield Historic District and the Rock Creek-White Run Union Hospital Complex that are located near Gettysburg. Additional permit coordination with the USNPS may be required for the West Route that can make this option more difficult to obtain approval.

The metrics also note that the Rebuild Route would be in close proximity to the most residential structures (133). In Maryland, this route extends near 52 residential structures, many of which are located in the Carroll Vista development in Taneytown that was constructed adjacent to this existing line. Similarly in Pennsylvania, the route extends near 81 residential structures, with a large number being part of the Lake Heritage development that was also constructed adjacent to this existing line. The other alternatives would be located near fewer residential structures due to the rural nature of the landscape that is being crossed in both Maryland and Pennsylvania. Of these alternatives, the East Route would be near the most residential structures (26), which includes a few of the residential structures located along the Rebuild Route where these two routes are co-located near Union Bridge.

Further review notes that the Rebuild Route would cross the most parcels (159). ROW easements are currently in place for the parcels along the Rebuild Route, but the other routes would need to acquire new easements. The East Route would cross the most parcels (143) with the Central Route crossing the fewest (89) that will require new ROW easements. Acquisition of new ROW easements along these other routes can be complex and a source of social concern as landowners decide whether to negotiate or oppose the request for easement rights, with each landowner's decision putting additional pressures on their neighbors. Due to the relatively high number of parcels crossed by these alternatives, public opposition may be further elevated by the anticipated visual impact of the new line across these private lands where no large transmission infrastructure currently exists. The process of securing the necessary easements can also affect the Project schedule if public opposition and legal processes slow down the negotiations.

Both the East Route and Central Route would cross long lengths of conserved lands (11.48 and 11.04 miles respectively), whereas the Rebuild Route would cross the least length of conserved lands (6.04 miles). Most of the conserved lands crossed by all of the route options involve agricultural conservation easements. Most agricultural conservation easements are managed by a county agency that works in conjunction with the state agricultural department to purchase the development rights on specifically defined agricultural lands. The process of securing agricultural conservation easements involves assessment of soils, review of the annual production of a farm, and evaluation of the farming means and methods. The farmer benefits from the lower land assessment which results in lower taxes, but they are limited by what can be done with the land including excluding subdivision of the land and no construction of new residential structures. Crossing these lands with public utilities is often considered permissible since the utility does not affect the ability of the land to be used for agricultural production. The alignment of the Rebuild Route was in place prior to the implementation of the farm preservation easements, but the other routes would need to negotiate with the various conservation easement holders to acquire a new ROW easement.

The East Route however would also cross sections of conserved forest protected by the Maryland Forest Conservation Act and two areas of conserved farmland in Pennsylvania managed by the Land Conservancy of Adams County. Similarly, the Central Route would cross a Rural Legacy Easement along its alignment in Maryland. These conserved lands are managed by state agencies or local conservancies, who focus on protecting agricultural and natural lands to preserve the character of the area. There are differences between these easements and the agricultural conservation easements discussed above specifically in terms of approval and funding sources, but the benefits and restrictions are similar. A key difference in terms of the siting process is that some of the protected lands are forested and crossing these lands with a transmission line ROW would have an effect on its ability to function as desired. Acquisition of new rights across privately or publicly conserved lands may involve legal review of the easement language and negotiations with the easement holders, which may delay the Project schedule.

From a built/social perspective, the Rebuild Route provides the best opportunity as the Proposed Route. Although this route crosses the most parcels and is located in close proximity to the most residential structures, upgrading the existing transmission line will be considered an incremental social impact relative to the new social and visual impact the alignment would have along any of the other three greenfield alternative routes. The Rebuild Route is also located within an existing ROW, whereas the other alternatives would require new easement agreements from all the landowners crossed. In terms of conserved lands, the Rebuild Route predates the agricultural conservation easements that have been placed on some of the farms that it crosses. Each of the other options would involve new alignments across considerably more conserved lands, potentially including some privately and state-based conserved lands.

5.2.2.2 Natural/Ecological Review

The results of the comparative review of the natural/ecological metrics for Maryland are listed in **Table 5-3a** and for Pennsylvania in **Table 5-3b**.

In terms of cumulative forest clearing across Maryland and Pennsylvania, review of the metrics notes that the East Route (42.84 acres) and the Central Route (42.17 acres) would involve the most clearing as these alignments extend for longer distances or across less developed sections of the Project Study Area. The West Route would involve less forest clearing (31.28 acres) but it would be significantly more than the Rebuild Route, which will not require any forest clearing.

The East Route would extend across the most emergent (PEM) or shrub (PSS) based wetland areas (6.19 acres) as well as the most forested (PFO) wetland area (9.79 acre). Most of the PEM/PSS wetland crossing (4.40 acres) and most of the PFO crossing (9.00 acres) would be in Maryland. The Rebuild Route would involve crossing the second most PEM/PSS wetland area (2.33 acres) but will not involve any PFO crossing. Most of the PEM/PSS crossing for the Rebuild Route would be in Pennsylvania. The West Route and Central Route would involve approximately 1 acre each of PEM/PSS and PFO crossings with all of the PEM/PSS crossing in Pennsylvania and most of the PFO crossing in Maryland.

TABLE 5-3a: Natural Metric Summary - Maryland

	MATRIX/CORRIDOR	Alternative Route A (West Route)	Alternative Route B (Central Route)	Alternative Route C (Rebuild Route)	Alternative Route D (East Route)
NATURAL ENVIRONMENT	Area of Natural Forests Crossed (acres)	11.94	19.53	0.00	35.72
	Area of Potential PFO Wetlands Crossed (acres)	0.46	0.89	0.00	9.00
	Area of Potential PEM or PSS Wetlands Crossed (acres)	0.00	0.00	0.94	4.40
	Number of Stream/River Crossing (#)	12	10	13	25
	Area of FEMA 100-year Floodplain Crossed (acres)	11.66	17.56	9.53	49.04

TABLE 5-3b: Natural Metric Summary - Pennsylvania

	MATRIX/CORRIDOR	Alternative Route A (West Route)	Alternative Route B (Central Route)	Alternative Route C (Rebuild Route)	Alternative Route D (East Route)
NATURAL ENVIRONMENT	Area of Natural Forests Crossed (acres)	19.34	22.64	0.00	17.12
	Area of Potential PFO Wetlands Crossed (acres)	0.68	0.09	0.00	0.79
	Area of Potential PEM or PSS Wetlands Crossed (acres)	0.84	0.95	1.39	1.79
	Number of Stream/River Crossing (#)	20	21	18	15
	Area of FEMA 100-year Floodplain Crossed (acres)	7.94	7.91	7.38	4.28

The East Route would also cross the most streams (40) and involve the most floodplain area (53.32 acres). Each of the other alternatives would cross fewer streams (31-32) and involve less than half the floodway crossing area, with the Rebuild Route involving the least area (16.91 acres). Stream and floodplain crossings for the Rebuild Route would occur within the cleared ROW for the Project so would involve limited riparian impact, whereas the other alternatives would require all new riparian clearing in these areas.

The environmental impact of the East Route is considerably more than the other alternatives and may trigger the need for extensive state and federal permitting, which may delay the project schedule. Constructability and long-term access to this route option may also be complicated by these environmental constraint areas.

From a natural environment perspective, the Rebuild Route provides the best opportunity as the Proposed Route. This route option would involve the least forest clearing, the least impact to forested wetlands, and the least stream and floodplain crossing. Construction activities for the Rebuild Route would also be less impactful to the environment as most of the work can be completed using existing

access roads, whereas the potential environmental impact of the other three options would be further increased by the need to develop a new access road system along the length of the Project corridor.

5.2.2.3 Engineering Considerations Review

The results of the comparative review of the engineering metrics for Maryland are listed in **Table 5-4a** and for Pennsylvania in **Table 5-4b**.

TABLE 5-4a: Engineering Metric Summary - Maryland

MATRIX/CORRIDOR		West Route (Alternative Route A)	Central Route (Alternative Route B)	Rebuild Route (Alternative Route C)	East Route (Alternative Route D)
ENGINEERING	Length Parallel to an Existing Utility Corridor (Inverted) (miles)	0.15	0.15	0.00	2.14
	Length Parallel to a Road (Inverted) (miles)	0.00	0.74	0.00	0.00
	Length of Rebuild of Existing Transmission Line (Inverted) (Miles)	0.00	0.00	11.27	2.16
	Number of Road Crossings (#)	14	15	18	19
	Number of Turns Greater Than 60 Degrees (#)	3	2	1	11
	Length Along Existing Unused ROW (Inverted) (miles)	0.00	0.00	0.00	0.00
	Length of Route (Miles)	12.47	12.20	11.27	16.08

TABLE 5-4b: Engineering Metric Summary - Pennsylvania

MATRIX/CORRIDOR		West Route (Alternative Route A)	Central Route (Alternative Route B)	Rebuild Route (Alternative Route C)	East Route (Alternative Route D)
ENGINEERING	Length Parallel to an Existing Utility Corridor (Inverted) (miles)	0.00	0.00	0.00	1.64
	Length Parallel to a Road (Inverted) (miles)	4.68	0.00	0.00	0.00
	Length of Rebuild of Existing Transmission Line (Inverted) (Miles)	0.00	0.00	12.94	0.00
	Number of Road Crossings (#)	20	11	25	21
	Number of Turns Greater Than 60 Degrees (#)	3	2	3	12
	Length Along Existing Unused ROW (Inverted) (miles)	0.00	0.00	0.00	1.64
	Length of Route (Miles)	12.36	11.84	12.94	15.66

Review of the metrics notes that the East Route would parallel the longest length of existing utility corridor in Maryland (2.14 miles) and Pennsylvania (1.64 miles) for a total of 3.78 miles. This accounts for the East Route's co-location with the existing Germantown-Carroll 138 kV line near Union Bridge, Maryland and the use of a portion of MAIT's unused ROW corridor near Littlestown, Pennsylvania.

The West Route would parallel the longest length of roadway (4.68 miles), which predominantly involves U.S. Route 30 and U.S. Route 15 in Pennsylvania. Most of the area around the short section of U.S. Route 30 that is paralleled consists of commercial development, whereas the section along U.S.

Route 15 is longer and consist of a mix of forest, commercial, and residential development. Although paralleling a linear feature such as a highway is preferential, this option will involve sections of forest clearing and, due to the residential development on both sides of the highway, the highway would need to be crossed six times. Crossing over the highway will require additional coordination and permits from PennDOT.

The entire length of the Rebuild Route (24.21 miles) will involve rebuilding an existing transmission line within an existing ROW corridor. A short portion of the West Route (2.16 miles) will be co-located with the existing Carroll-Germantown 138 kV line near the Carroll Substation. The other two greenfield alternatives do not involve any rebuild opportunities. Rebuilding within an existing transmission line corridor reduces potential social and environmental impacts such as new ROW easement requirements, changes to land use, and forest clearing activities.

Roadway crossings can affect the engineering of the transmission line by complicating the pole placement, modifying the pole spacing, and adjusting pole heights to avoid other utilities, such as electric distribution lines and underground gas, water, and sewer lines, that are generally focused along roadway corridors. Cumulatively, the Rebuild Route crosses the most roadways (43) whereas the Central Route crosses the least (26). The number of roadways crossed by the Rebuild Route is relatively higher than the other alternative routes due to the indirect arrangement of the existing transmission lines as it connects into three existing substations along the route. These roadways are currently spanned by the existing transmission line and are not anticipated to be as challenging as the new roadway crossings required for the other three greenfield options. Conversely, the few roads crossed by the Central Route indicates that the alignment may be comparatively isolated and that accessibility to portions of the alignment may be challenging without the use of extensive off-ROW access roads.

Hard angles place more tension on the electrical wires, which then need to be supported by stronger and more complex structures. Alignments with multiple hard angles are more difficult to construct as they may require more frequent tensioner and pull pad areas which are used to pull the new conductor wires through the various hard turns. Review of the metrics indicates that the East Route would involve significantly more hard turns (23) relative to the other three options, which consist of 4 to 6 hard turns. Overall, the East Route is also considerably longer (31.74 miles) compared to the other options, which range from 24.04 to 24.83 miles in length.

From an engineering considerations perspective, the Rebuild Route provides the best opportunity as the Proposed Route. This route is relatively direct with limited sharp turns. It is also located within an existing ROW that will not require new forest clearing and includes an existing access road system that will aid in minimizing construction related impacts. The other greenfield routes will be more difficult to engineer and construct due to the features to be crossed (U.S. Route 15 crossings for West Route), the complexity of the alignment (hard turns for East Route), and the potentially isolated and difficult access options (Central Route).

6.0 PROPOSED ROUTE DISCUSSIONS AND DETERMINATION

A summary of the cumulative metrics identified for the Project is located in **Table 6-1**. Based on the quantitative and qualitative review provided in **Section 5.2.2**, PE and MAIT has determined that the Rebuild Route is the Proposed Route for the Project (**Figure 6-1**). The rationale for dismissing the West, Central, and East Routes and identifying the Rebuild Route as the Proposed Route is as follows:

TABLE 6-1: Project Metric Summary

MATRIX/CORRIDOR		West Route (Alternative Route A)	Central Route (Alternative Route B)	Rebuild Route (Alternative Route C)	East Route (Alternative Route D)
BUILT/SOCIAL	Schools, Churches, and Cemeteries,within 1,000 feet of Transmission Center Line (#)	1	3	4	3
	NRHP (Listed & Eligible) Properties and Districts within 1,000 feet of Transmission Center Line (#)	5	3	4	2
	Number of Residential Structures on Parcels Currently Crossed or within 300 feet of the Transmission Center Line (#)	1	1	133	3
	Number of Residential Structures on Parcels Proposed to be Crossed or within 300 feet of the Transmission Center Line (#)	24	18	0	26
	Number of Parcels Crossed by the Transmission Line ROW (#)	116	89	159	143
	Commercial/Industrial Buildings within 300 feet of the Transmission Center Line (#)	18	13	23	22
	Length of State-owned and Conserved Lands Crossed (miles)	8.53	11.04	6.04	11.48
NATURAL ENVIRONMENT	Area of Natural Forests Crossed (acres)	31.28	42.17	0.00	42.84
	Area of Potential PFO Wetlands Crossed (acres)	1.14	0.98	0.00	9.79
	Area of Potential PEM or PSS Wetlands Crossed (acres)	0.84	0.95	2.33	6.19
	Number of Stream/River Crossing (#)	32	31	31	40
	Area of FEMA 100-year Floodplain Crossed (acres)	19.60	25.47	16.91	53.32
ENGINEERING	Length Parallel to an Existing Utility Corridor (Inverted) (miles)	0.15	0.15	0.00	3.78
	Length Parallel to a Road (Inverted) (miles)	4.68	0.74	0.00	0.00
	Number of Road Crossings (#)	34	26	43	40
	Number of Turns Greater Than 60 Degrees (#)	6	4	4	23
	Length Along Existing Unused ROW (Inverted) (miles)	0.00	0.00	0.00	1.64
	Length of Route (Miles)	24.83	24.04	24.21	31.74

- **West Route (Alternative Route A)**: This Alternative Route was not considered the Proposed Route due to the following:
    - The alignment would require new ROW easements across 116 parcels;
    - The alignment would be in close proximity to 24 residential structures that currently are not located near a transmission line;
    - The alignment would be located within the Gettysburg Battlefield Historic District and the Rock Creek--White Run Union Hospital Complex that are located near Gettysburg;
    - The alignment would involve a large area of forest clearing (31.28 acres), portions of which are potentially forested wetlands (1.14 acres);
    - The alignment would need to cross back and forth across U.S. Route 15 six times, which will require additional coordination and permits from PennDOT
- **Central Route (Alternative Route B)**: This Alternative Route was not considered the Proposed Route due to the following:
    - The alignment would require new ROW easements across 89 parcels;
    - The alignment would be in close proximity to 18 residential structures that currently are not located near a transmission line;
    - The alignment would cross the second longest area across conserved lands (11.04 miles) and involve a parcel protected by a Maryland Rural Legacy program easement;
    - The alignment would involve the second largest area of forest clearing (42.17 acres), portions of which are potentially forested wetlands (0.98 acres);
- **East Route (Alternative Route D)**: This Alternative Route was not considered the Proposed Route due to the following:
    - The alignment would require new ROW easements across the most parcels (143);
    - The alignment would be in close proximity to the most residential structures (26) that currently are not located near a transmission line;
    - The alignment would cross the longest area across conserved lands (11.48 miles) and involve parcels protected by a Nature Conservancy and Land Conservancy of Adams County easement;
    - The alignment would involve the largest area of forest clearing (42.84 acres) and potentially the most forested wetlands (9.79 acres);
    - The alignment would span the most streams (40) and involve the largest area of FEMA floodplains (52.32 acres) which may generate large riparian impacts;
    - The alignment is the longest of the alternative options (31.74 miles) and will involve the most hard angle turns (23), which may make this option the most difficult to construct.

Qualitatively, the West, Central, and East Routes were considered potentially more problematic based on the following:

- These new greenfield alignments may lead to a high level of community concerns regarding easement acquisitions, as well as new land use impacts and viewshed concerns.
- These new greenfield alignments may generate impacts to environmental and cultural features that may result in complex permitting conditions or local approval processes.
- These new greenfield alignments will be more difficult to construct, as well as involve more complex accessibility issues.

The Rebuild Route (Alternative Route C) was selected by PE and MAIT as the Proposed Route. This route option was selected because of the following:

- Although the alignment crosses more parcels, many of these parcels are the result of sub-divisions that were build up against the existing transmission line and associated ROW. As such these are parcels that already have a ROW easement in place and any new route would require the acquisition of additive easements across new properties. Since the existing transmission line would have to remain in place, a new transmission line built outside of this existing ROW would lead to a net increase in the total number of parcels crossed with new easements, rather than a reduction.
- Similarly to the parcel consideration, although the proposed route is closer to more residential structures, it is noted that the existing line has been in place for decades and is the result of land subdivisions placing more homes up against the transmission line. Any new ROW would result in more residential properties in proximity to a transmission line rather than a reduction, as the existing line would have to remain in place, and a new transmission line would need to be constructed along a route which includes other residential properties.
- The alignment involves rebuilding an existing line within an existing ROW consistent with PUC preference. Additionally, this reduces the number of new easements needed and does not increase the number of residences in proximity to the transmission line.
- The alignment will cross the shortest length of conserved lands (6.04 mile) and the conservations easements across these lands were acquired after the transmission line was constructed;
- The alignment will not involve any forest clearing;
- The alignment will not involve any forested wetland (PFO) clearing;
- The alignment will be less complex for engineering to design as it will be relatively direct with few heavy angled turns.

Based on these observations, the Rebuild Route was determined to be the Proposed Route for the Carroll-Hunterstown Improvements Project as this alignment will have the least impact on the social/built and natural environment and be feasible to construct.

6.1 Public Open House Summary

Having determined the Proposed Route for the Project, PE and MAIT initiated the coordination of a public open house event to announce the Project to the landowners and local communities. Close consideration was given to which routes would be presented at the open house. Due to the potential

magnitude of impacts of the East, Central, and West Routes, PE and MAIT decided that the focus of the open house would be on the Rebuild Route (Proposed Route). Project related information was provided to the general public through a public open house forum that was conducted at local venues, as well as a virtual open house forum that was accessible via the internet. PE and MAIT accumulated contact information for landowners within 500 feet of the Rebuild Route and sent letters to these landowners to introduce the Project, provide information on the open house venue and times, and provide guidance on accessing the virtual open house presentation. Open house information was also publicly advertised in local newspapers including Carroll County Times in Carroll County, Maryland and the Gettysburg Times in Adams County, Pennsylvania.

Public open houses were conducted on November 20 ,2024 at the Northwest Middle School in Taneytown, Maryland and on November 21, 2024, at the Littlestown High School in Littlestown, Pennsylvania. Sixty-five residents attended the open house at Northwest Middle School and fifteen residents attended the open house at the Littlestown High School. Residents were informed of the Project activities that will involve rebuilding the existing single-circuit 138 kV or 115 kV lines to be a double-circuit system with a new 230 kV line and that this upgrade will require replacement of the existing wood structures with taller, steel structures. Most residents were interested in understanding what the new structures would look like and several voiced complaints about viewshed changes or concerns about electromagnetic fields (EMF). Some of the landowners reviewed information on specific structure locations and worked with engineering and real estate members to determine possible shifts on their lands. Comment cards were provided but none were filled put by the attendees.

On November 20, 2024, PE and MAIT also placed the virtual public open house presentation on the internet for public review at https://firstenergy.consultation.ai/carroll-hunterstown/. The presentation included a series of stations that provided information on the Project needs, engineering and design, vegetation management, real estate, environmental permitting, a Project schedule, and contact information. Also included was a link to an interactive map that illustrated the Proposed Route and parcel boundary information so that landowners could identify their location relative to the Project. Other links provided the public with options to download maps and project information as well as leave a comment. No comments were left by any public viewer. The virtual public open house forum will remain active for a formal comment period of 60 days extending to January 20, 2025; however, information will remain available for the public to view on the website throughout the duration of the Project.

6.2 Proposed Route Assessment and Summary

The following provides an assessment of the Proposed Route in regard to compliance with zoning, comprehensive plans, and permitting requirements. The Carroll-Hunterstown Improvements Project will cross 9.26 miles of Carroll County, Maryland, including 0.37 miles of Union Bridge municipality and 0.71 miles of Taneytown municipality. In Pennsylvania, the Project will cross 12.9 miles of Adams County, including2.91 miles of Germany Township, 3.17 miles of Mount Joy Township, 1.49 miles of Mount Pleasant Township, and 6.30 miles of Straban Township.

6.3 Review of Proposed Route

Per PA PUC guidelines found at 52 Pa. Code, § 69.1101 (2)(3) and § 69.3104 (1), a review of the potential effect of the Proposed Route on local comprehensive plans and zoning ordinances was conducted (**Section 6.3.1**). Based on the requirements of § 69.3106 (1), an assessment of the potential environmental and cultural mitigation measures and permit requirements anticipated for the Proposed Route is also provided (**Section 6.3.2**). PA PUC regulation § 69.3105 (2) also requires that the status of the property acquisition process be provided as part of the route selection study (**Section 6.3.3**). PA PUC regulation § 57.72 (c)(8) requires that a report of the efforts to locate and identify archaeological, geologic, historic, scenic, and wilderness areas within 2 miles of the Proposed Route also be submitted as part of the route selection study (**Section 6.3.4**).

Transmission line routing and construction guidelines provided by the MD PSC are contained with COMAR Sections 20.79.01.05 (Application Filing), 20.79.04.02 (Description of Transmission Line), 20.79.04.03 (Alternative Transmission Line Routes), and 20.79.04.04 (Environmental Information). These guidelines require that specific social and environmental factors are included in the routing analysis and that detailed information on the Proposed Route is provided in the filing application. COMAR Section 20.79.01.05 (Application Filing) provides details on the filing process and defines the other COMAR items that need to be addressed for the filing for an overhead transmission line. COMAR Section 20.79.04.02 (Description of Transmission Line) requests information on the potential effect of the transmission line on specific social and environmental features that will be reviewed below (**Sections 6.3.2 and 6.3.3**). Information required for COMAR Section 20.79.04.03 (Alternative Transmission Line Routes) related to the description of the alternative routes reviewed and the reasons for the rejection of specific routes has been provided in this Study. For COMAR Section 20.79.04.04 (Environmental Information), the general description of the physical, biological, aesthetic, and cultural features, and conditions of the study area have also been provided in this Study, but other requested information will be provided below (**Sections 6.3.1 and 6.3.2**).

6.3.1 Review of Zoning and Comprehensive Plans

Public utility features, such as transmission lines are generally exempt from local municipal authority. To further the Commonwealth's goal of making agency actions consistent with sound land use planning by considering the impact of its decision upon local comprehensive plans and zoning ordinances, the PA PUC adopted a policy that requires the public utility to review local zoning ordinances and comprehensive land use plans to evaluate the impact of proposed projects on these items (52 Pa. Code § 69.1101). Local zoning ordinances and comprehensive land use plans for Maryland and Pennsylvania were reviewed to evaluate the impact of the proposed Carroll-Hunterstown Improvements Project on these local ordinances and plans.

The route selection study for the Carroll-Hunterstown Improvements Project has concluded that the new 230 kV transmission line should extend approximately 24.21 miles north to south from the existing Carroll Substation to the existing Hunterstown Substation as part of a double-circuit system within a ROW that varies between 100 and 200-foot wide. The transmission line alignment will cross portions

of Carroll County, Union Bridge municipality, and Taneytown municipality in Maryland, and Germany Township, Mount Joy Township, Mount Pleasant Township, and Straban Township in Pennsylvania.

In adherence to PA PUC and MD PSC regulations, PE and MAIT evaluated the Project's consistency with the zoning ordinances and comprehensive plans of the government entities through which the Proposed Route would pass.

Zoning

In Maryland, most of the alignment of the Proposed Route extends through a Carroll County defined Agricultural Zoning District, where agriculture is the intended primary land use. Shorter sections of the Proposed Route cross onto low density development, industrial, and conservation zoned areas within Union Bridge and Taneytown municipal areas. Local and county ordinances indicate that construction of a public utility such as an overhead utility line can be approved in these districts.

In Pennsylvania, three of the four townships located within the Project Study Area have adopted local zoning ordinances; one township (Germany Township) is currently using the Adams County Zoning ordinances for their zoning review process. Generally, these ordinances are used to guide future land use in the townships by encouraging development of desirable residential, commercial, agricultural, and industrial areas with appropriate groupings of compatible and related land uses.

These ordinances normally define the allowances and restrictions associated with the various zoning districts and typically identify "Essential Services" or "Public Utilities", which include distribution, transmission, or collection systems associated with utilities such as water, gas, and electric, to be conditionally exempt from local regulations, as long as the required actions are approved by the PA PUC. In townships that lack local zoning ordinances, county-level land use regulations regarding subdivision and land development supervene.

A list of the zoning districts that will be crossed by the Proposed Route in each of the municipalities is provided in **Table 6-2**. Although the zoning district naming conventions vary by township, the predominant zoning category that will be crossed is agriculture, with other areas zoned as residential, industrial, or conservation. Also included in **Table 6-2** is a summary of the counties' and municipalities' policy regarding public utilities within these specific zoning districts.

Based on this review, the proposed Carroll-Hunterstown Improvements Project will not have any effect on zoning within any of the municipal areas crossed.

Comprehensive Plans

Carroll County Board of Commissioners (CCBOC) adopted a master plan on February 26, 2015 that was amended in January 2020 (CCBOC 2020) and the Adams County Planning Commission (ACPC) approved a comprehensive plan in 1991 that has not been updated since that time (ACPC 1991). In general, comprehensive plans are intended to serve as a means to review the assets and pressures within the county and provide guidance for future development and preservation; they are not intended to regulate and have no official authority. According to the *Adams County Comprehensive Plan*, "*The Comprehensive Plan is a blueprint for the future for Adams County, showing how growth can be*

managed - to preserve farmland, to conserve historic and rural landscapes, and to provide new economic opportunities.

Goals identified by these plans focus on addressing development patterns, area economics, housing, circulation, natural resource protection, agricultural resources, and community services. Implementation strategies focus on a Land Use Plan that incorporates a growth-area concept to provide for an orderly extension of development.

TABLE 6-2: Zoning Summary

Area	Zoning District	Length (mi)	Zoning Summary
Carroll County	Conservation	0.48	Carroll County ordinances indicate that utility equipment and towers are allowed in any district.
	R-10,000	0.38	
	Agriculture	8.40	
Union Bridge	Restricted Industrial	0.10	Union Town ordinances do not address transmission lines or towers in zoning districts.
	Conservation	0.08	
	R-10,000	0.19	
Taneytown	R-10,000	0.71	Taneytown ordinances do not address public utilities in zoning districts.
Germany	Land Conservation (LC)	2.82	Germany Township (Adams County Zoning) does not address public utilities in zoning districts
	Single Family Residential (SFR)	0.09	
Mount Joy	Baltimore Pike Corridor (BPC)	0.35	Mount Joy Township defines “Public Utility” and notes that development of electrical power lines that are approved by the Pennsylvania PUC are exempt from local zoning requirements.
	Agricultural (A)	2.82	
Mount Pleasant	Agricultural Preservation (AP)	0.54	Mount Pleasant Township defines "Essential Public Utility Services" and notes that development of electrical power lines that are approved by the Pennsylvania PUC are exempt from local zoning requirements.
	Single Family Residential 2 (SFR 2)	0.49	
	Land Conservation (LC)	0.46	
Straban	Residential High-Density (R-2)	0.66	Straban Township notes that "Public Utilities" are permitted uses in these zoning districts.
	Residential Low-Density (R-1)	1.12	
	Residential-Rural (R-R)	1.42	
	Mixed Use Neighborhood (MU-2)	0.35	
	Economic Development (EC-1)	1.93	
	Economic Development Intense (EC-2)	0.82	

Review of the proposed Land Use Plan maps provided in these plans indicates that the Proposed Route would be located within the Agriculture land use category as it extends across Carroll County and in short area of the Designated Growth Areas around Union Bridge and Taneytown. In Adams County, the Proposed Route crosses the Agriculture, Resource Conservation & Very Low Residential, Parks, Permanent Open Space & Preservation, and Residential Medium-Low Density land use categories. The Proposed Route will be located within an existing ROW across these areas and will result in no or incremental impacts to the proposed land uses.

The Proposed Route will not affect local cultural or historic resources, the expansion of community and economic opportunities, or the availability of community services and facilities. The alignment of the Proposed Route avoids as many dense residential and culturally sensitive areas as possible. Potential effects of the Proposed Route on the natural resources within Carroll County and Adams County have been minimized through the identification of a Proposed Route that avoids potential environmental impacts by using an existing transmission line corridor.

Each of the counties have identified streams, wetlands, and woodlands as key components of its natural resources. Development of the Proposed Route will require temporary crossings of streams and wetlands but will avoid the need for any forest clearing. During construction, PE and MAIT are aware that it will also be required to develop and implement stormwater erosion and control plans that will protect these waterways from runoff that could negatively affect water quality.

The municipal based comprehensive plans reviewed do not provide any specific guidance or objection for the development of electrical transmission lines. Similar to the county comprehensive plans, these municipal plans focus on growth planning, resource protection, and preservation of the agricultural character of the area. Goals and objectives noted in these plans focus on the means of controlling growth and protecting resources primarily through the use of ordinances and zoning policies.

Based on this review, the proposed Carroll-Hunterstown Improvements Project will not affect the ability of the counties or townships from meeting the goals of their comprehensive plan.

6.3.2 Compliance with Potential Permit and Mitigation Requirements

The following is a discussion of the anticipated Project impacts and potential permit and mitigation requirements of the proposed Carroll-Hunterstown Improvements Project. This discussion is based upon the engineering design of the Proposed Route that was developed in October 2024.

Efforts were made during the transmission line engineering design and constructability review processes to avoid sensitive natural resources such as wetlands and streams, as well as minimize impacts on existing and future land uses. The natural resources avoidance effort was supported through the completion of a delineation that defined the boundaries of the wetlands and streams along the alignment of the Proposed Route. Engineering processes focused on a structure for structure replacement but also assessed for opportunities to optimize span lengths that resulted in the elimination of a structure along the alignment. Several existing structures are located within a wetland could not be removed due to the extent of the wetland or the position of the structure in the alignment such as a turn structure, which has limited flexibly. Construction activities will also require the use of timber matting to temporarily cross short sections of wetlands or span small streams to reach and work on structures. No new permanent wetland or stream impacts are anticipated for the Project.

As part of the permitting process, any required wetland or stream encroachment permits will be obtained from MDE or PADEP and the U.S. Army Corps of Engineers (“USACE”) prior to construction. PE and MAIT will comply with all special conditions placed on the permits. Due to the assumed minimal

temporary stream and wetland impacts anticipated for the Project, the need for mitigation is not expected. In addition, to address water quality standards within the watersheds crossed by the Project corridor, PE and MAIT will comply with the regulations of the National Pollutant Discharge Elimination Systems ("NPDES") permit program, obtain the required soil erosion and sedimentation control permits within Maryland and Pennsylvania, and follow the specified conditions required for the permit.

Land Use

Siting analysis for the Proposed Route was conducted with acknowledgement of existing and proposed land uses. Some impact on existing and future land use may occur including reducing potential areas for agricultural uses. The existing ROW easement areas located along the Proposed Route corridor currently preclude certain uses such as constructing structures, installing swimming pools, or establishing fruit orchards and tree farms within the easement area.

The Proposed Route was also designed to avoid conflicts with the existing transportation network and other utilities currently located or proposed along the route. Several major roadways including SR 140, SR 97, U.S. Route 15, and U.S. Route 30 will be spanned by the Project. MDOT and PennDOT permits will be acquired by PE and MAIT for work that may need to be done within these highway ROW areas and all other state road access points prior to construction. MDOT and PennDOT permit processes will be followed to coordinate the actual crossing of these highways with the conductor wires, which may require the temporary closure of the highway.

If required, aviation coordination will be conducted through the FAA, the Maryland Aviation Administration, and the Pennsylvania Aviation Association. To assure that the poles are properly recorded by these agencies, information on the location and height of the new poles will be provided to these agencies as required. PE and MAIT will comply with any additional lighting or other visual aids that may be required by these agencies to assure aviation safety in the region.

Natural Features

Vegetation clearing may be required along the edges of the Proposed Route to ensure the safe and reliable operation of the transmission lines. PE and MAIT's routine vegetation management practices will allow for the re-generation of compatible species of low growing trees, shrubs, and grasses where practicable. Herbicides that may be used on the ROW will be USEPA-approved and will be applied selectively in accordance with all label instructions.

Wetlands along the Proposed Route have been delineated. This task was accomplished using MDE, PADEP, and USACE approved methodologies based on the "*Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region*" (USACE 2012). Most of the wetlands along the Proposed Route consist predominantly of emergent vegetation that will be spanned by the conductor wires and possibly crossed by temporary timber-matted access roads during construction. Based on the wetland delineation information, development of the Proposed Route will not require the clearing of PFO wetlands. None of the wetlands in Pennsylvania are

considered Exceptional Value (EV) wetlands since the waterways are not classified by PADEP as EV nor are they PFBC-classified wild trout streams.

Streams along the Proposed Route have also been delineated using MDE, PADEP and USACE approved methodologies. No long-term impacts to these watercourses are expected, as they will be spanned perpendicularly by the transmission line and in an area already cleared for the ROW. A 20-CP NPDES Permit is anticipated for Maryland and a similar General NPDES permit will be required in Pennsylvania to mitigate any potential short-term impacts of erosion and sedimentation during construction. As part of the General NPDES process, Best Management Practices ("BMPs") are required during construction to maintain the water quality levels in the watersheds.

FEMA and state-identified 100-year floodplains and floodways are found adjacent to watercourses and identify the areas that routinely flood during heavy rain events. Encroachment within a floodplain area is discouraged by the regulatory agencies due to the potential of the structure to increase the flooding hazard in the local area. All Maryland counties and municipalities participate in the National Flood Insurance Program (NFIP), which is the program that makes flood insurance available to property owners in participating communities. The NFIP requires counties and towns in Maryland to issue permits for all development in the 100-year floodplain. Development is broadly defined to include any man-made change to land, including grading, filling, dredging, extraction, storage, subdivision of land, and the construction or improvement of structures. In addition to local permits, activities in the 100-year nontidal floodplain require State Waterway Construction Permits, and activities within 25 feet of or in nontidal wetlands require wetland permits from MDE (MDE 2024f). No construction activities will occur in a FEMA defined floodway in either Maryland or Pennsylvania. The Project will require some work with a FEMA defined floodplain in Maryland and Pennsylvania. Presently in Maryland, the proposed temporary access roads and work pads will involve the placement of 76,840 square feet (1.76 acres) of timber matting in the FEMA floodplain of Little Pipe Creek and Piney Creek. The replacement of four existing structures and installation of two new structures in the FEMA floodplain of these streams will result in 400 square feet (0.009 acres) of permanent impact to these floodplains.

According to PADEP's Title 25, Chapter 105 *Dam Safety and Waterway Management*, floodways are more specifically "*The channel of the watercourse and those portions of the adjoining floodplains which are reasonably required to carry and discharge the 100-year flood. The boundary of the 100-year floodway is as indicated on the maps and flood insurance studies provided by FEMA. In an area where neither FEMA maps nor studies have defined the boundary of the floodway, it is assumed, absent evidence to the contrary, that the floodway extends from the stream to 50 feet landward from the top of the bank of the stream*" (PADEP 2024e). Where practicable, transmission structures in Pennsylvania are constructed outside the FEMA floodplain and PADEP 50-foot floodway areas. For those locations where the FEMA floodplains were not avoidable, additional analysis of the proposed structures may be required by PADEP to confirm the activity will not create flooding conditions in the local area. Due to the shallow valleys associated with the waterways along the Proposed Route, the FEMA floodplains and PADEP 50-foot floodways are relatively narrow and can be spanned by the transmission line. Presently in Pennsylvania, proposed temporary access roads and work pads will involve the placement of timber

matting in the FEMA floodplain of Alloway Creek, which is located next to the existing Germantown Substation. This work will involve the replacement of three existing structures and removal of a wooden 3-pole structure that will not be replaced. Five existing structures that are currently located within a PADEP 50-foot floodway will be replaced in kind. Work related to these, and other adjacent structures will involve temporary impacts to the PADEP 50-foot floodway. No new permanent impacts to the PADEP 50-foot floodway are anticipated.

All required permits for impacts to these regulated resources will be obtained from the MDE, PADEP, and the USACE prior to construction.

Threatened and Endangered Species

Coordination with state and federal agencies regarding potential threatened and endangered (T&E) species along the Proposed Route was completed. Responses from the various state and federal agencies have been received through coordination with the MDNR, submission of a Pennsylvania Natural Diversity Inventory (PNDI) review process, and though the USFWS's Information for Planning and Consultation (IPAC) process. No T&E species under their jurisdiction pf MDNR or USFWS are known to be located near the Proposed Route. The PNDI process did indicate that potential T&E plant species under the jurisdiction of PADCNR may be located in the Project area. Further coordination with PADCNR will be conducted to obtain the required clearances.

Cultural Resources

Cultural resource coordination with the MHT and the PHMC will be initiated in early 2025. In Maryland, initial coordination will involve the submission of project information through the e106 Online Project Submittal System. In Pennsylvania, initial coordination will involve the submission of an Environmental Review Initial Submission document. These submissions will provide information about the Project and summarize the known aboveground and belowground cultural resources within a 0.5 mile radius of the Project. PHMC will review the information and either conclude that the Project will not have any effect on these resources or request that additional studies be conducted to determine if potential effects to a resource may occur. PE and MAIT are committed to working with the MHT and PHMC to complete any required studies and address any potential impacts and required mitigation activities.

Community Features and Conserved Lands

Community features, which include schools, churches, and cemeteries, were identified during the Study. The Proposed Route will be located within an existing ROW that currently passes a few of these features but will have no effect on their use.

Conserved lands involve areas preserved as private or public open space. In Maryland, the Proposed Route will cross several MALPF and Carroll County agricultural conservation easements and in Pennsylvania cross several Adams County and two Land Conservancy of Adams County easements. Since the transmission line and ROW were in place prior to the implementation of these conservation easements, no effect is anticipated to these conserved lands.

Anticipated Agency Requirements and Permits

In summation of the items reviewed above, coordination with MHT and PHMC will be conducted in the near future that may provide information on possible avoidance and impact areas along the Proposed Route. Limited impacts are anticipated for the temporary stream and wetland crossings required for the Project, which may be permitted through the use of various MDE or PADEP General Permits. As a result of the limited water quality standards of the streams in the Project Study Area, a General NPDES permit is expected from MDE and PADEP for erosion and sedimentation control during construction.

6.3.3 Sensitive Features within 2 Miles

Desktop and field efforts were conducted to locate and identify archaeological, geologic, historic, scenic, and wilderness areas within 2 miles of the Proposed Route. These resources were addressed during the analysis of the Project Study Area and were discussed in the Study. No Project related impacts are anticipated to any of these resources. **Figure 6-2** provides an overview of the culturally and environmentally sensitive features within 2 miles of the Proposed Route.

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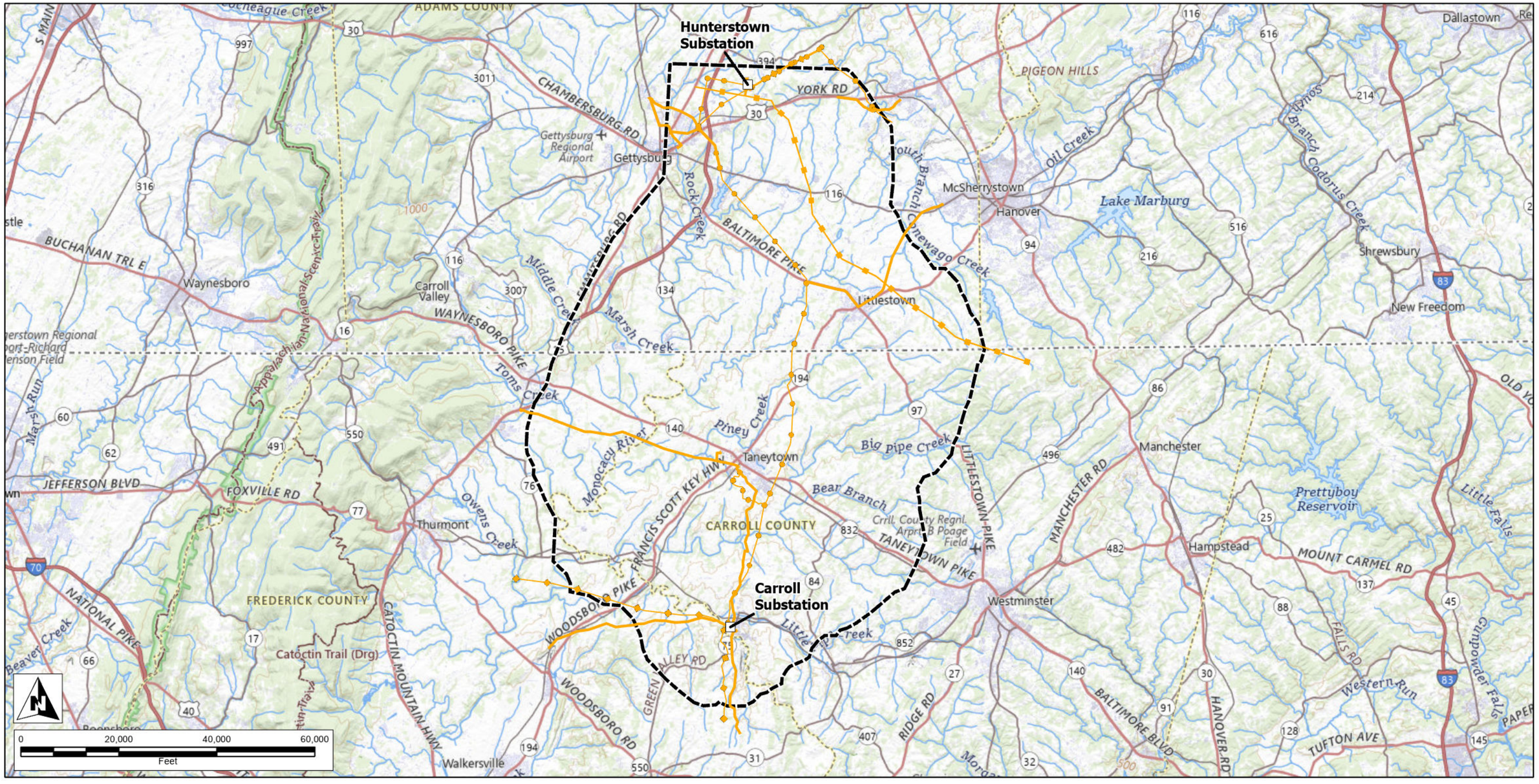
FIGURES



LEGEND:

Project Study Area

Existing Transmission Lines

- 500kV - 525kV
- 115kV - 161kV
- 220kV - 315kV
- Below 100kV

NOTES:

REFERENCES:

PA County Boundaries (2024)
MD County Boundaries (2024)
Existing Transmission Network (PowerMap 2012)
USGS Topo Basemap (ESRI)

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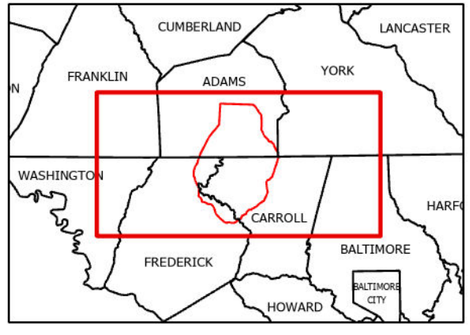
Projection: Lambert Conformal Conic: Units: Foot US



AECOM

Figure 3-1: Project Study Area
Route Selection Report
Carroll-Hunterstown Improvements Project

FirstEnergy
Adams County, Pennsylvania and Carroll and Frederick Counties, Maryland

Prepared By: MKB	Checked By: DY
Job: 60735645	Date: 12/5/2024

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LEGEND:

- Project Study Area
- State Border

Hydric Soils

- Non Hydric Soil
- Minor Hydric Soil
- Major Hydric Soil

Existing Transmission Lines

- 500kV - 525kV
- 115kV - 161kV
- 220kV - 315kV
- Below 100kV

NOTES:

REFERENCES:
SSURGO Soils (NRCS 2024)
Existing Transmission Network (PowerMap 2012)
Google Maps Satellite (2024)

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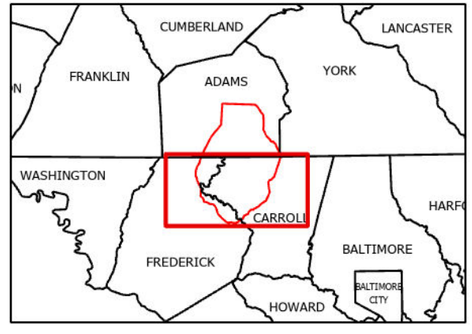
Feet

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic: Units: Foot US



AECOM

Figure 4-1a: Hydric Soils - Maryland
Route Selection Report
Carroll-Hunterstown Improvements Project

FirstEnergy
Adams County, Pennsylvania and
Carroll and Frederick Counties, Maryland

Prepared By: MKB	Checked By: DY
Job: 60735645	Date: 12/5/2024

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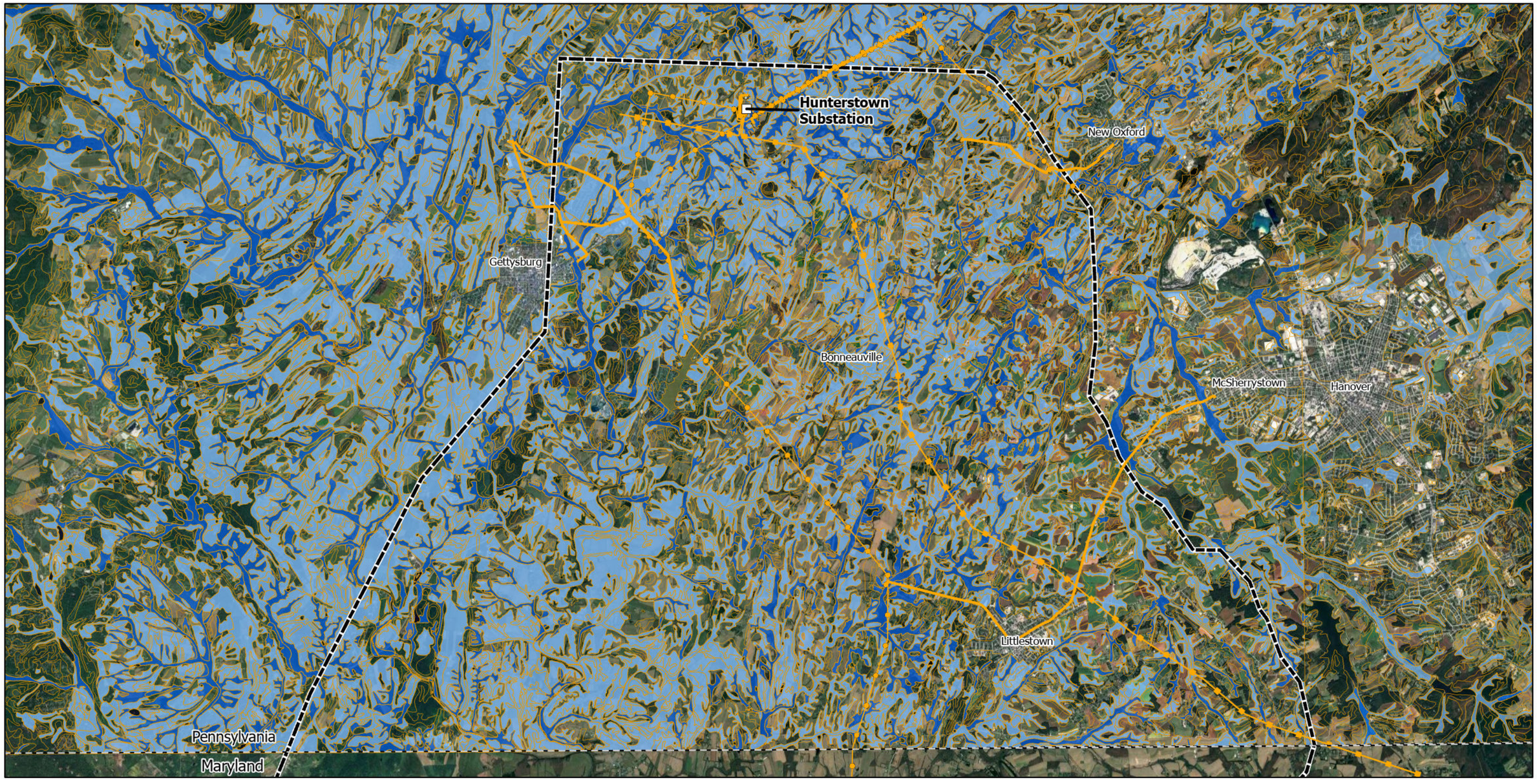

LEGEND:

- Project Study Area
- State Border

Hydric Soils

- Non Hydric Soil
- Minor Hydric Soil
- Major Hydric Soil

Existing Transmission Lines

- 500kV - 525kV
- 115kV - 161kV
- 220kV - 315kV
- Below 100kV

NOTES:

REFERENCES:
SSURGO Soils (NRCS 2024)
Existing Transmission Network (PowerMap 2012)
Google Maps Satellite (2024)

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Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
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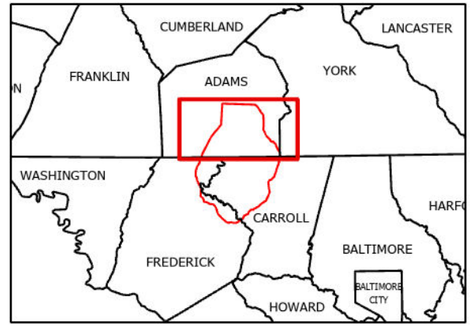

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Figure 4-1b: Hydric Soils - Pennsylvania
Route Selection Report
Carroll-Hunterstown Improvements Project

FirstEnergy
Adams County, Pennsylvania and
Carroll and Frederick Counties, Maryland

Prepared By: MKB	Checked By: DY
Job: 60735645	Date: 12/5/2024

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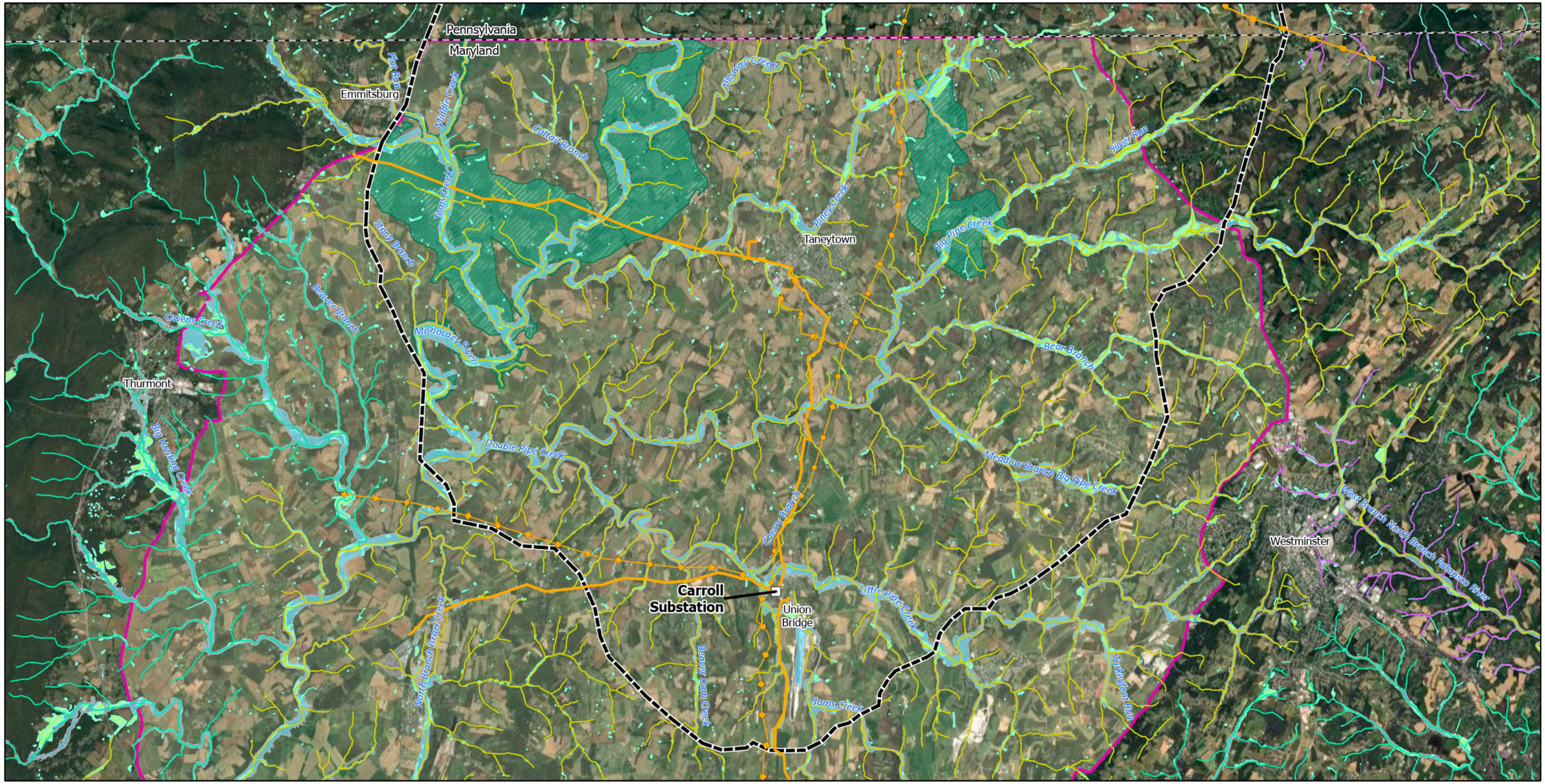

LEGEND:

- Project Study Area
- State Border

Existing Transmission Lines

- 500kV - 525kV
- 115kV - 161kV
- 220kV - 315kV
- Below 100kV

- Important Bird Areas
- MD Targeted Eco Areas
- NWI Wetland
- 100 Year Floodplain

Maryland Designated Use Streams

- I
- I-P
- III
- III-P
- IV-P

NOTES:

REFERENCES:

Maryland Targeted Eco Areas (Maryland DNR 2017)
National Wetlands Inventory (USFWS 2024)
Important Bird Areas (National Audubon Society 2024)
100 Year Floodplain (FEMA 2024)
Maryland Designated Use Streams (Maryland Department of the Environment 2019)
Existing Transmission Network (PowerMap 2012)
Google Maps Satellite (2024)

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Feet

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic: Units: Foot US

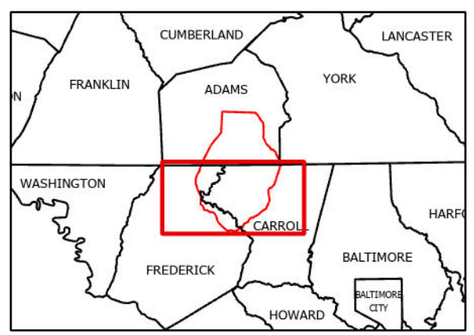

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Figure 4-2a: Natural Environment - Maryland
Route Selection Report
Carroll-Hunterstown Improvements Project

FirstEnergy
Adams County, Pennsylvania and Carroll and Frederick Counties, Maryland

Prepared By: MKB	Checked By: DY
Job: 60735645	Date: 12/9/2024

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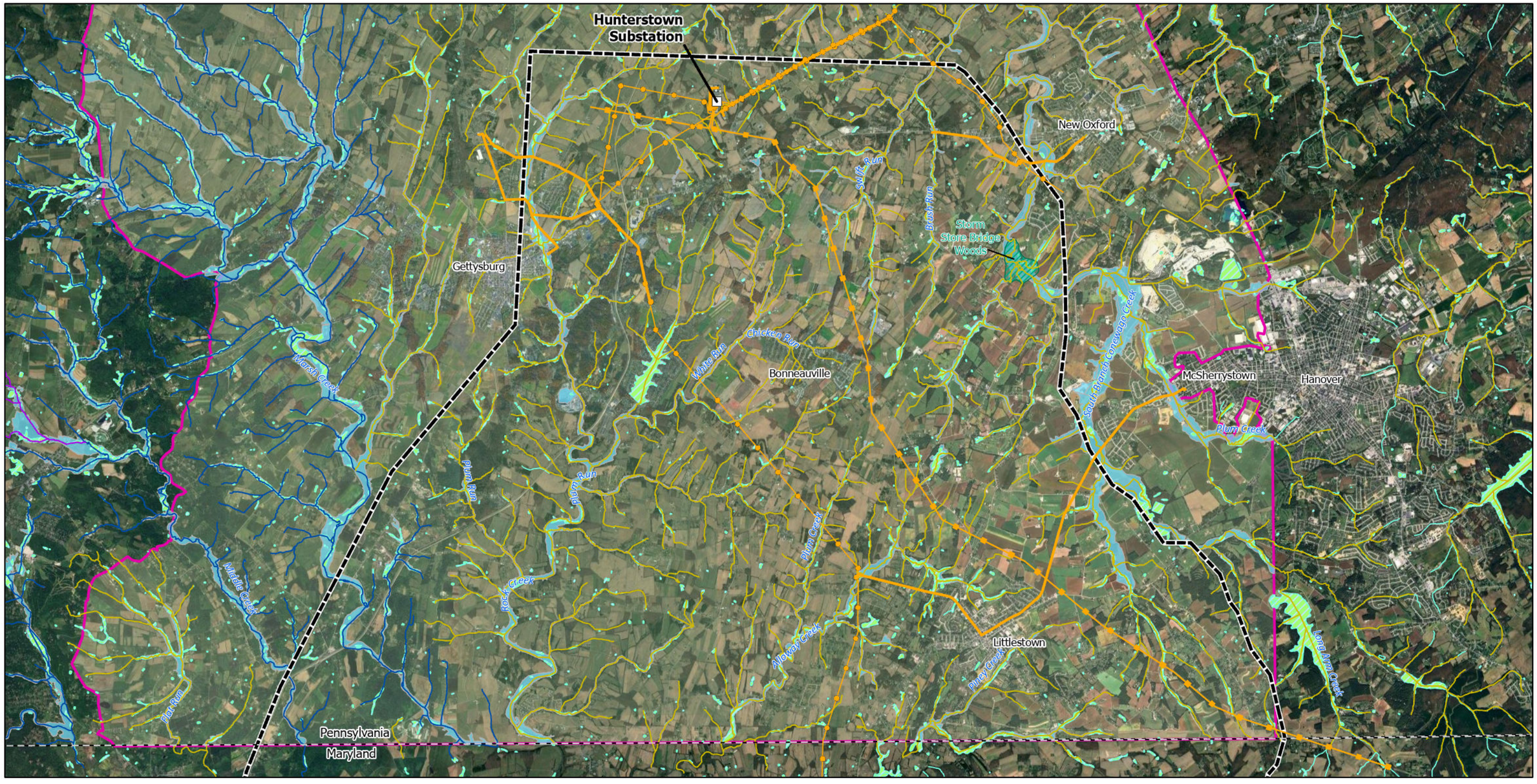


LEGEND:

- Project Study Area
- State Border

Existing Transmission Lines

- 500kV - 525kV
- 115kV - 161kV
- 220kV - 315kV
- Below 100kV

- Important Bird Areas
- PA Core Areas
- NWI Wetlands
- 100 Year Floodplain

Pennsylvania Ch. 93 Streams

- COLD WATER FISHES
- HIGH QUALITY-COLD WATER FISHES
- WARM WATER FISHES

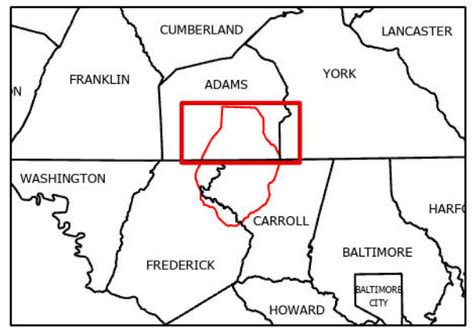
NOTES:

REFERENCES:

Existing Transmission Network (PowerMap 2012)
Important Bird Areas (National Audubon Society 2024)
Pennsylvania Core Areas (TNC 2002)
National Wetlands Inventory (USFWS 2024)
100 Year Floodplains (FEMA 2024)
Chapter 93 Designated Use Streams (PADEP 2024)
Google Maps Satellite (2024)

0 10,000 20,000 30,000
Feet

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic: Units: Foot US



AECOM

Figure 4-2b: Natural Environment - Pennsylvania
Route Selection Report
Carroll-Hunterstown Improvements Project

FirstEnergy
Adams County, Pennsylvania and Carroll and Frederick Counties, Maryland

Prepared By: MKB	Checked By: DY
Job: 60735645	Date: 12/9/2024

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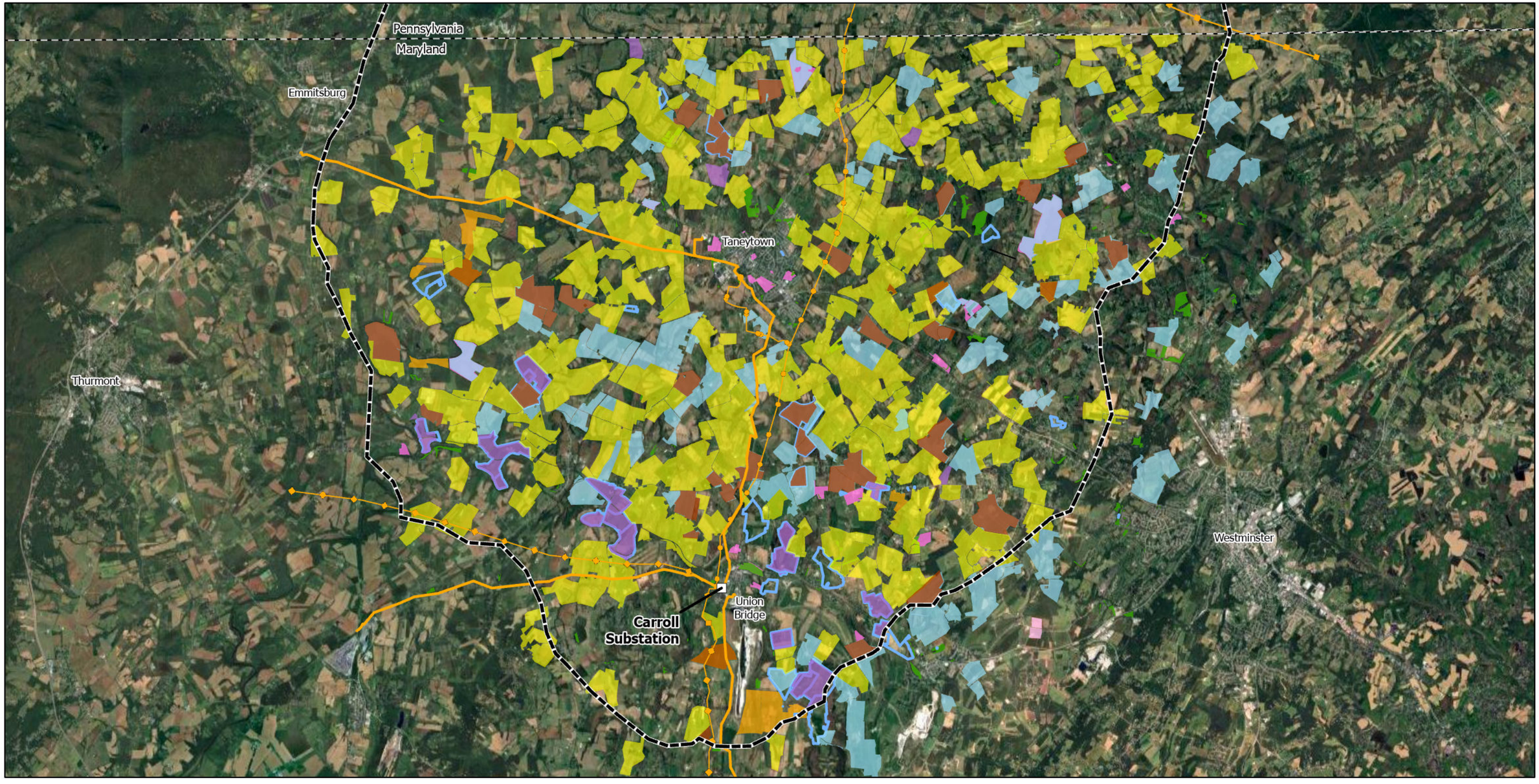

LEGEND:

- Project Study Area
- State Border

Existing Transmission Lines

- 500kV - 525kV
- 115kV - 161kV
- 220kV - 315kV
- Below 100kV

MD Protected Lands Transfer

- Purchase Development Rights
- Transfer Development Rights
- MD Environmental Trust Easements
- MD Local Protected Lands
- MD Forest Conservation Act Easements
- MD Targeted Ecological Areas
- NCED Easements
- MD Agricultural Land Preservation Foundation Easements
- Carroll County Ag Preservation Easement
- Rural Legacy Properties
- Carroll County Transfer Development Rights

REFERENCES:

Existing Transmission Network (PowerMap 2012)
MD Protected Lands (MALPF 2019)
MD Environmental Trust Easements (MDNR 2019)
MD Rural Legacy Program (MDNR 2021)
MD Forest Conservation Act Easements (MDNR 2020)
MD Agricultural Land Preservation Foundation (MDA 2024)
National Conservation Easement Database (2024)
Carroll County Agricultural Land Preservation Program (2024)
Frederick County Agricultural Land Preservation Office (2021)
Google Maps Satellite (2024)

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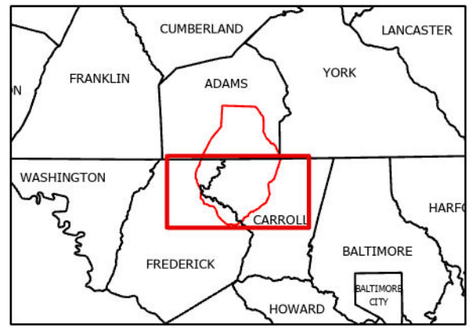
Feet

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic: Units: Foot US



AECOM

Figure 4-3a: Conserved Lands - Maryland
Route Selection Report
Carroll-Hunterstown Improvements Project

FirstEnergy
Adams County, Pennsylvania and Carroll and Frederick Counties, Maryland

Prepared By: MKB	Checked By: DY
Job: 60735645	Date: 12/5/2024

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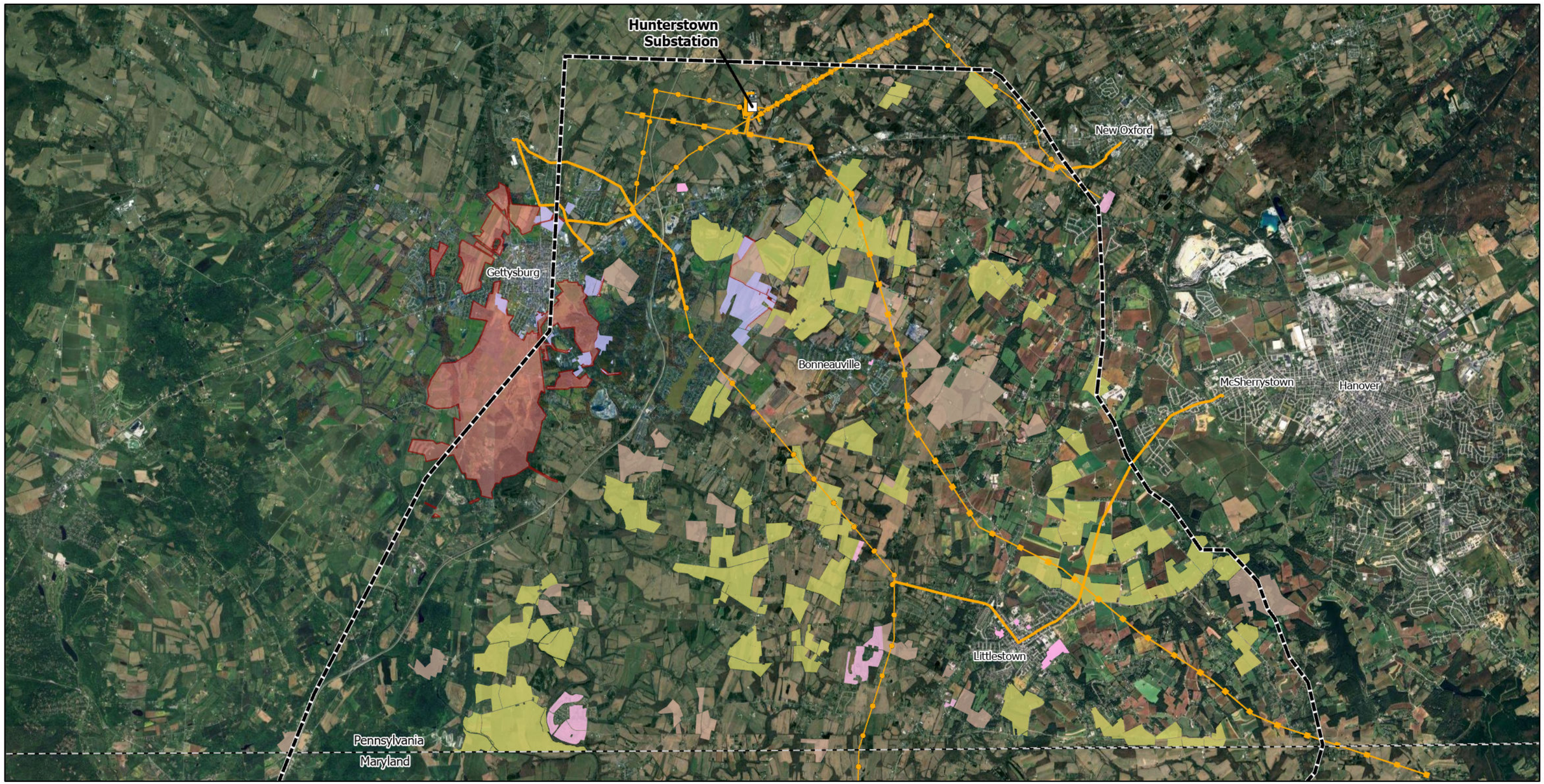

LEGEND:

- Project Study Area
- State Border

Existing Transmission Lines

- 500kV - 525kV
- 115kV - 161kV
- 220kV - 315kV
- Below 100kV

- PA Conservation Easements
- PA Farm Easements
- PA Federal Lands
- Federal Lands
- PA Local Lands
- PA Local Parks

NOTES:

REFERENCES:

Existing Transmission Network (PowerMap 2012)
Land Conservancy of Adams County (2024)
Adams County Agricultural Land Preservation Program (2024)
United States National Park Service (2024)
Google Maps Satellite (2024)

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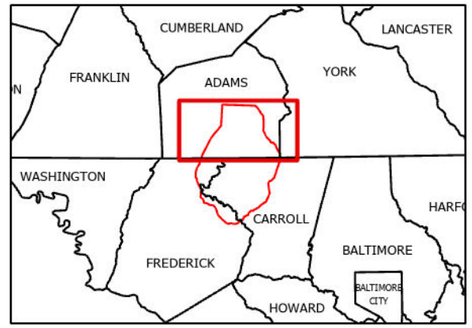
Feet

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic: Units: Foot US



AECOM

Figure 4-3b: Conserved Lands - Pennsylvania
Route Selection Report
Carroll-Hunterstown Improvements Project

FirstEnergy
Adams County, Pennsylvania and Carroll and Frederick Counties, Maryland

Prepared By: MKB	Checked By: DY
Job: 60735645	Date: 12/5/2024

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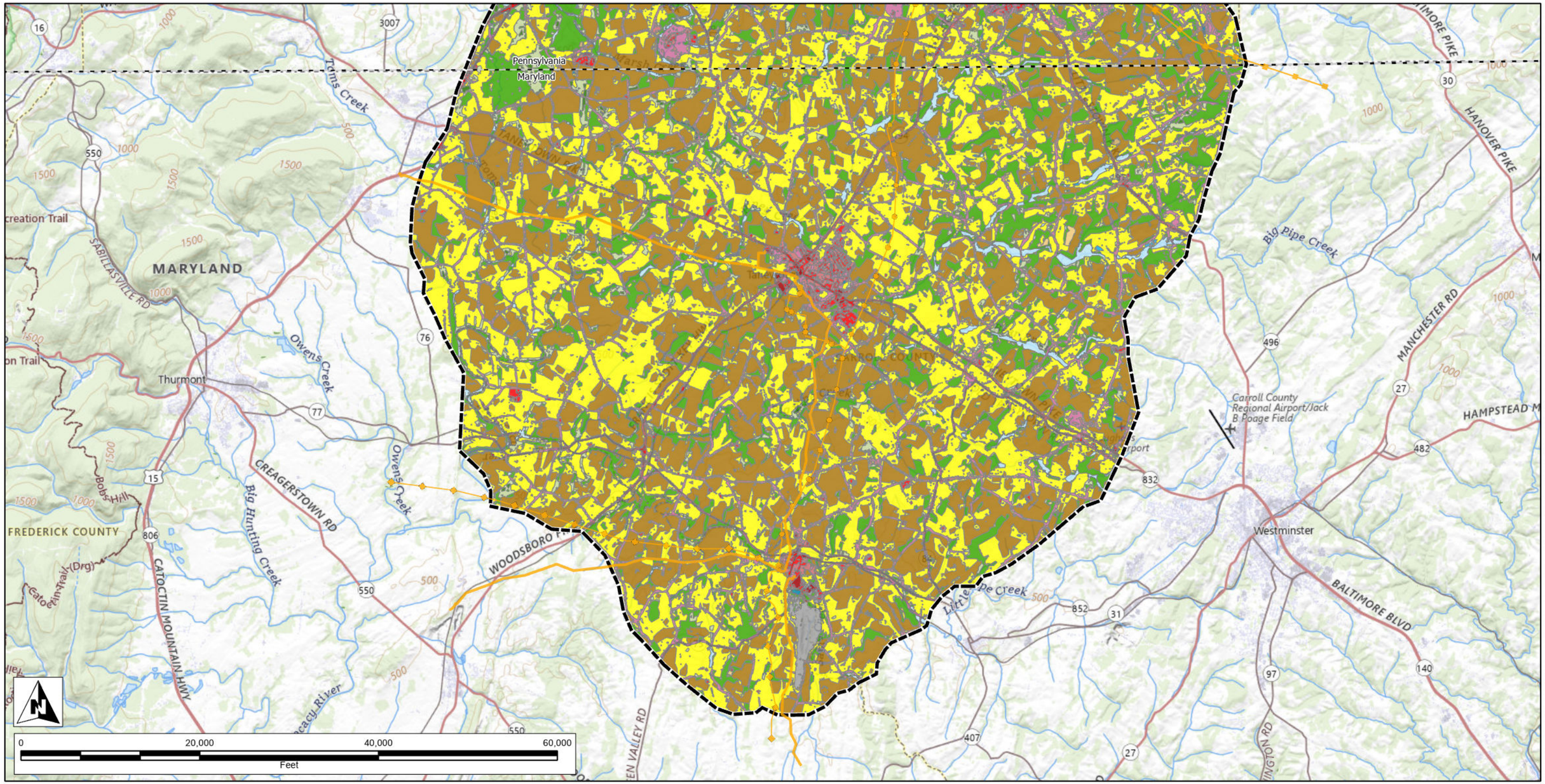


LEGEND:

- Project Study Area
- State Border

Existing Transmission Lines

- 500kV - 525kV
- 115kV - 161kV
- 220kV - 315kV
- Below 100kV

Land Cover

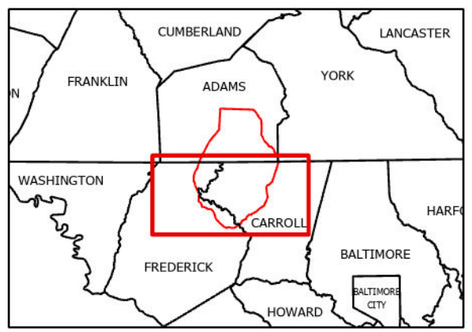
- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Barren Land (Rock/Sand/Clay)
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrub/Scrub
- Grassland/Herbaceous
- Pasture/Hay
- Cultivated Crops
- Woody Wetlands
- Emergent Herbaceous Wetlands

NOTES:

REFERENCES:

Land Use/Land Cover (NLCD 2023)
PA Municipality & County Boundaries (2024)
MD Municipality & County Boundaries (2024)
USGS Topographic Basemap (ESRI)

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic: Units: Foot US



AECOM

Figure 4-4a Land Use/Land Cover MD
Route Selection Report
Carroll-Hunterstown Improvements Project

FirstEnergy
Adams County, Pennsylvania and
Carroll and Frederick Counties, Maryland

Prepared By: MWC	Checked By: DY
Job: 60735645/60735671	Date: 12/5/2024

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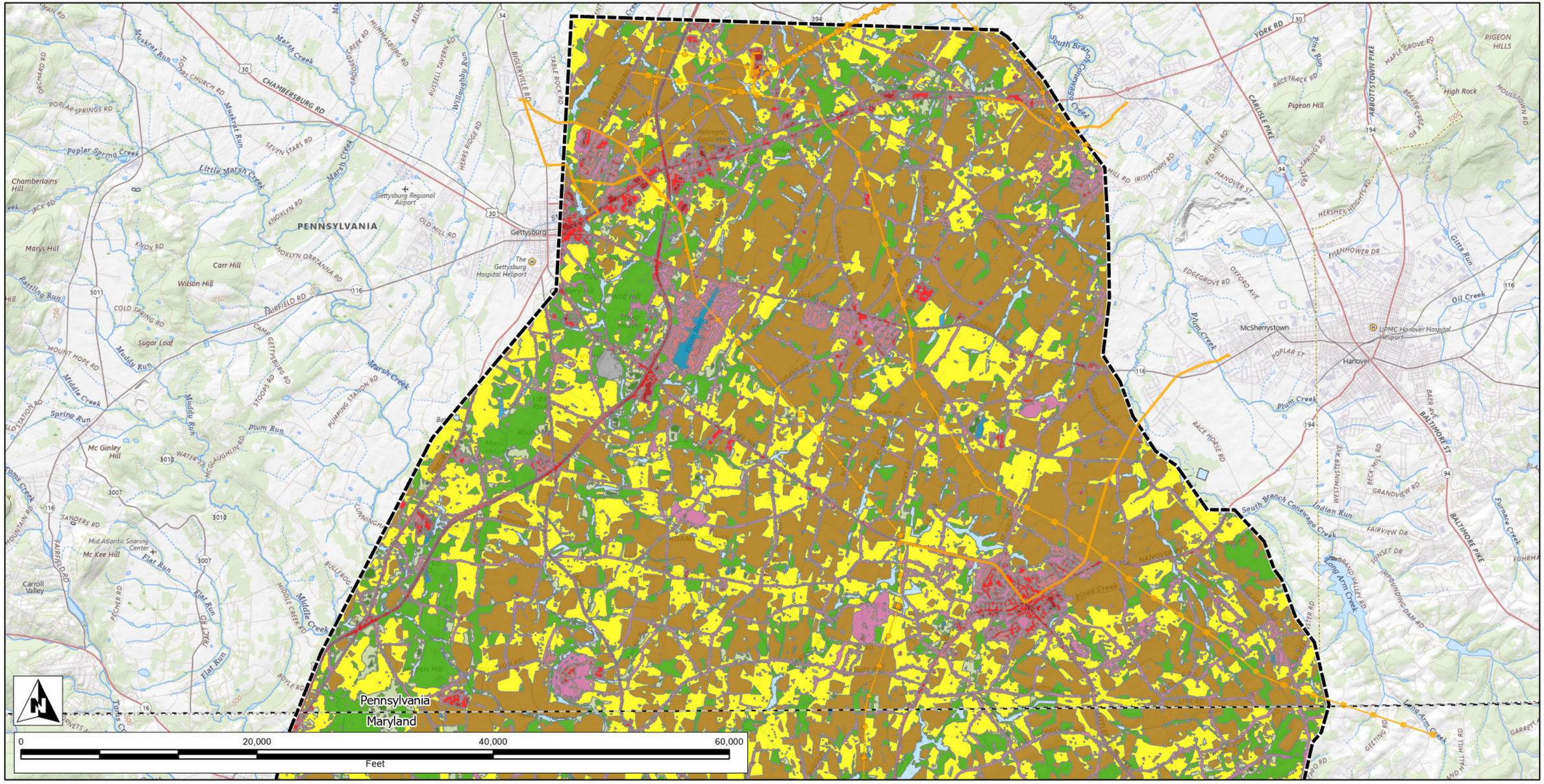


LEGEND:

- Project Study Area
- State Border

Existing Transmission Lines

- 500kV - 525kV
- 115kV - 161kV
- 220kV - 315kV
- Below 100kV

Land Cover

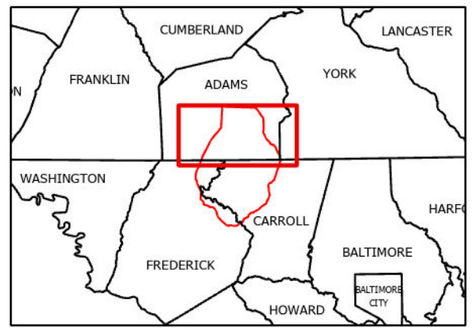
- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Barren Land (Rock/Sand/Clay)
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrub/Scrub
- Grassland/Herbaceous
- Pasture/Hay
- Cultivated Crops
- Woody Wetlands
- Emergent Herbaceous Wetlands

NOTES:

REFERENCES:

Land Use/Land Cover (NLCD 2023)
PA Municipality & County Boundaries (2024)
MD Municipality & County Boundaries (2024)
USGS Topographic Basemap (ESRI)

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic: Units: Foot US



AECOM

Figure 4-4b Land Use/Land Cover PA
Route Selection Report
Carroll-Hunterstown Improvements Project

FirstEnergy
Adams County, Pennsylvania and
Carroll and Frederick Counties, Maryland

Prepared By: MWC	Checked By: DY
Job: 60735645/60735671	Date: 12/5/2024

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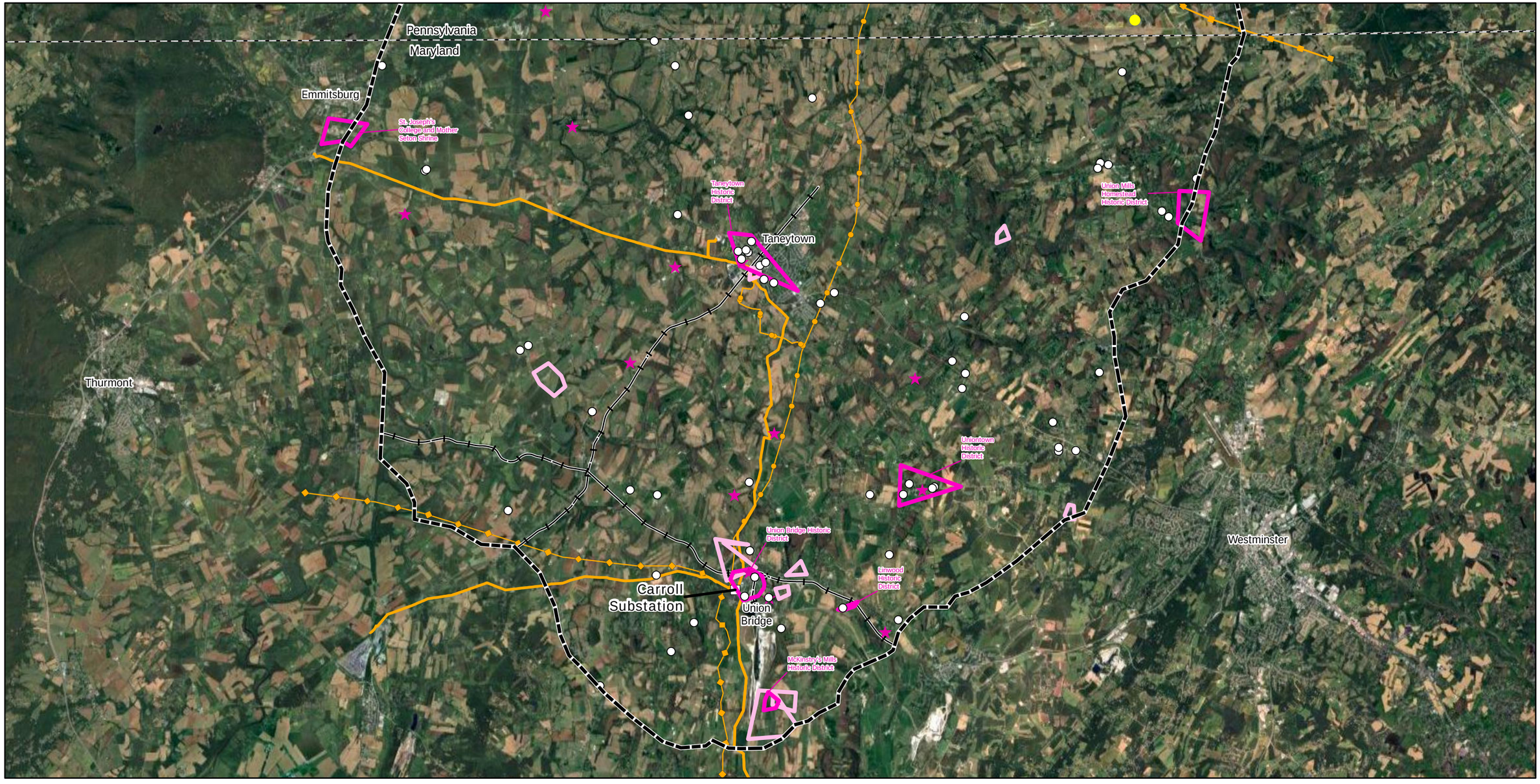

LEGEND:

- Project Study Area
- State Border

Existing Transmission Lines

- 500kV - 525kV
- 115kV - 161kV
- 220kV - 315kV
- Below 100kV

- EPA Superfund Sites
- Railroads
- Churches, Schools, and Cemeteries Point
- Cultural Resource Building Point (Eligible or Listed)
- Cultural Resource Building Polygon (Eligible or Listed)
- Cultural District Resources (Eligible or Listed)

NOTES:

REFERENCES:
Existing Transmission Network (PowerMap 2012)
Cultural Resources (National Register of Historic Places 2024)
Google Maps Satellite (2024)

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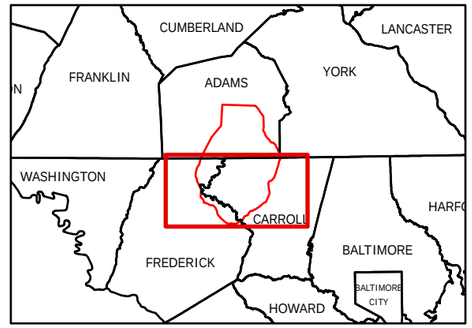
Feet

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic: Units: Foot US



AECOM

Figure 4-5a: Social Environment and Cultural/Historic Resources - Maryland Route Selection Report Carroll-Hunterstown Improvements Project

FirstEnergy
Adams County, Pennsylvania and Carroll and Frederick Counties, Maryland

Prepared By: MKB	Checked By: DY
Job: 60735645	Date: 12/5/2024

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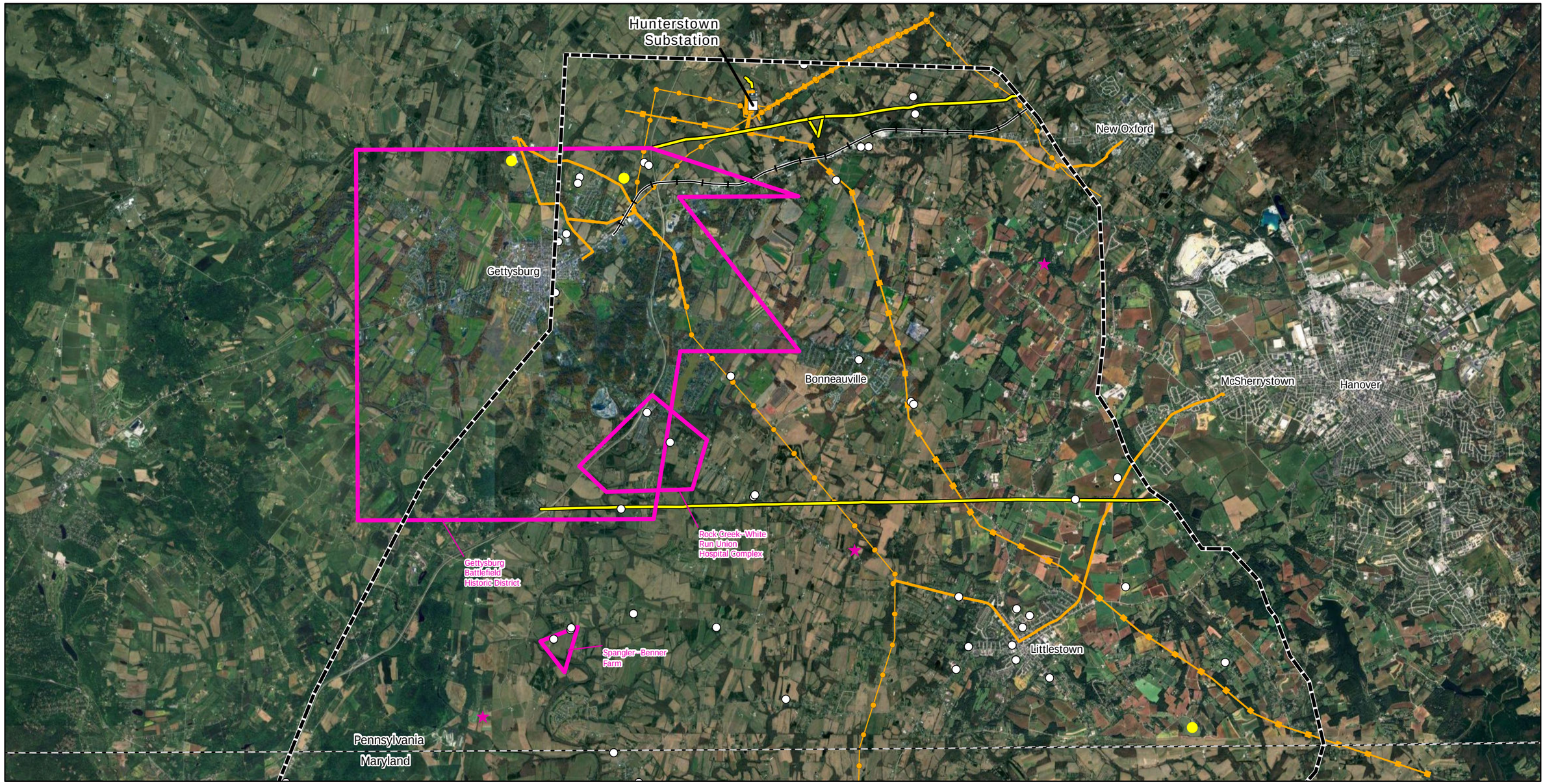

LEGEND:

- Project Study Area
- State Border
- Existing Transmission Lines
  - 500kV - 525kV
  - 115kV - 161kV
  - 220kV - 315kV
  - Below 100kV
- EPA Superfund Sites
- Gas Pipeline
- Railroads
- Churches, Schools, and Cemeteries Point
- Cultural Resource Building Point
- Cultural Resource Building Polygon (Eligible or Listed)
- Cultural District Resources (Eligible or Listed)

NOTES:

REFERENCES:

Existing Transmission Network (PowerMap 2012)
Cultural Resources (National Register of Historic Places 2024)
Superfund National Priorities List (EPA 2024)
Google Maps Satellite (2024)

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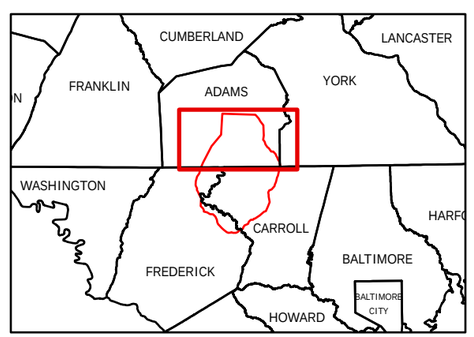
Feet

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic: Units: Foot US



AECOM

Figure 4-5b: Social Environment and Cultural/Historic Resources - Pennsylvania Route Selection Report Carroll-Hunterstown Improvements Project

FirstEnergy
Adams County, Pennsylvania and Carroll and Frederick Counties, Maryland

Prepared By: MKB	Checked By: DY
Job: 60735645	Date: 12/5/2024

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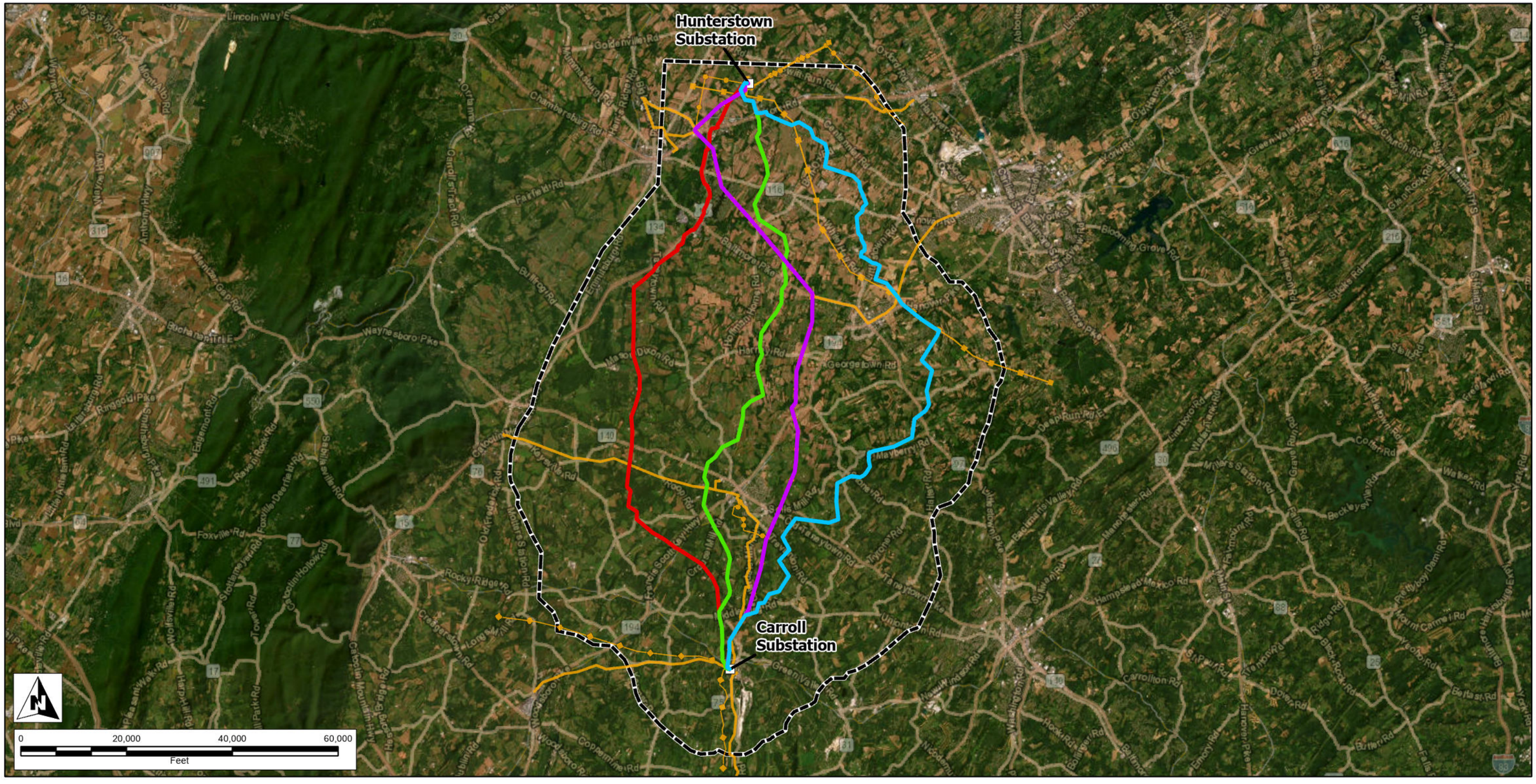


LEGEND:

Project Study Area

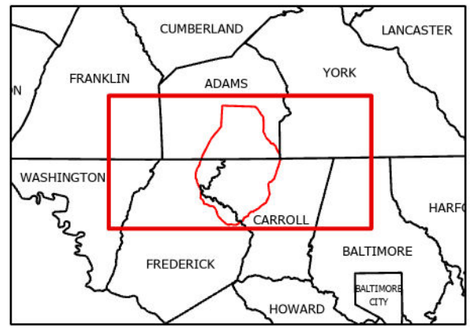
Alternative Routes
- A - West
- B - Central
- C - Rebuild
- D - East

Existing Transmission Lines
- 500kV - 525kV
- 115kV - 161kV
- 220kV - 315kV
- Below 100kV

NOTES:

REFERENCES:
Existing Transmission Network (PowerMap 2012)
PA Municipality & County Boundaries (2024)
MD Municipality & County Boundaries (2024)
World Imagery Basemap (ESRI)

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic: Units: Foot US



AECOM

Figure 5-1 Alternative Routes
Route Selection Report
Carroll-Hunterstown Improvements Project

FirstEnergy
Adams County, Pennsylvania and
Carroll and Frederick Counties, Maryland

Prepared By: MWC	Checked By: DY
Job: 60735645/60735671	Date: 12/5/2024

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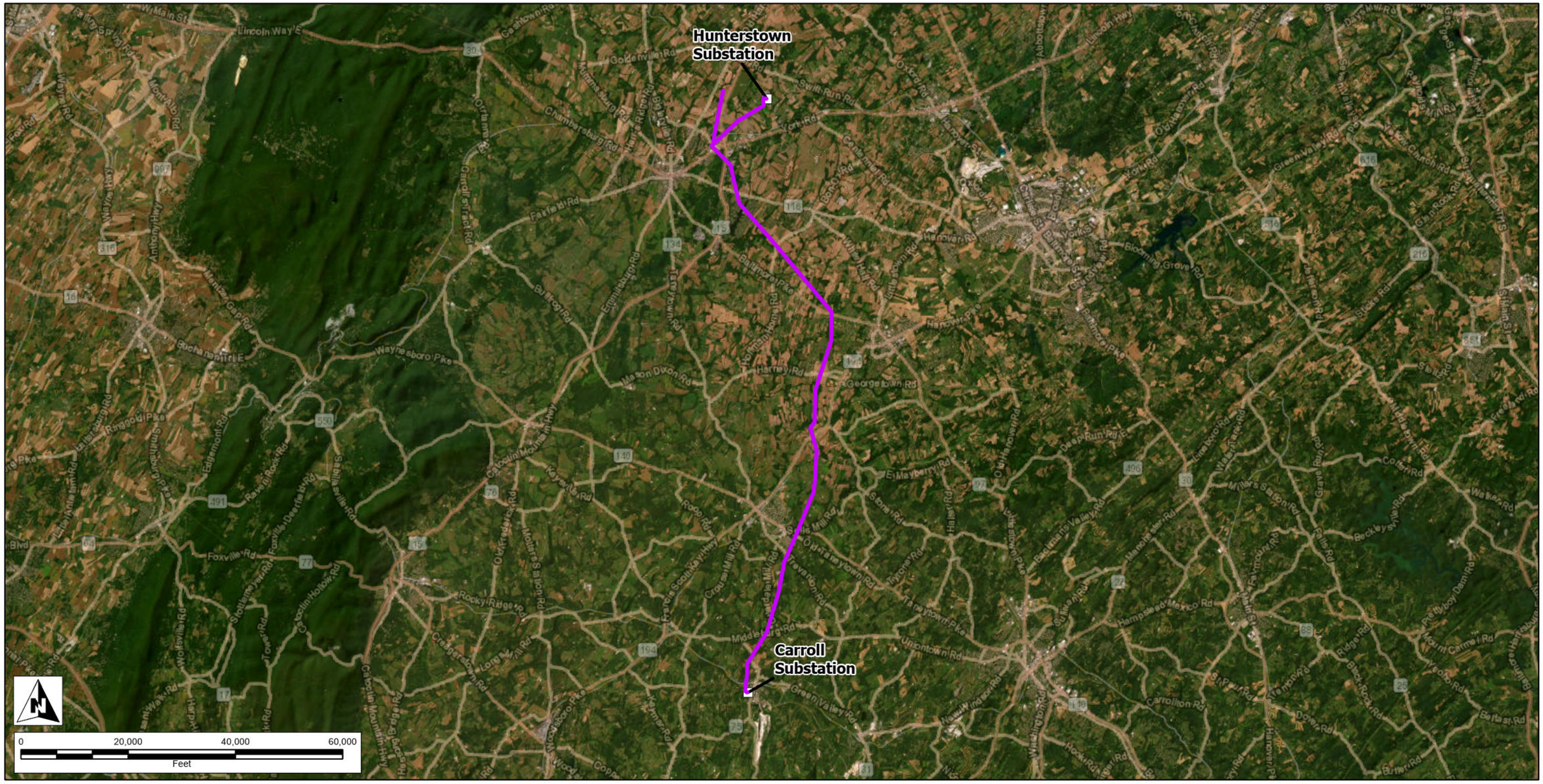


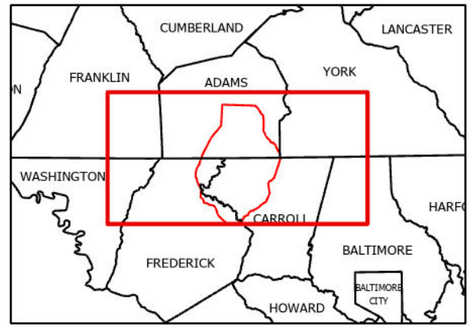
LEGEND:

- Proposed Route

NOTES:

REFERENCES:
PA Municipality & County Boundaries (2024)
MD Municipality & County Boundaries (2024)
World Imagery Basemap (ESRI)

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic: Units: Foot US



AECOM

Figure 6-1 Proposed Route
Route Selection Report
Carroll-Hunterstown Improvements Project

FirstEnergy
Adams County, Pennsylvania and
Carroll and Frederick Counties, Maryland

Prepared By: MWC	Checked By: DY
Job: 60735645/60735671	Date: 12/5/2024

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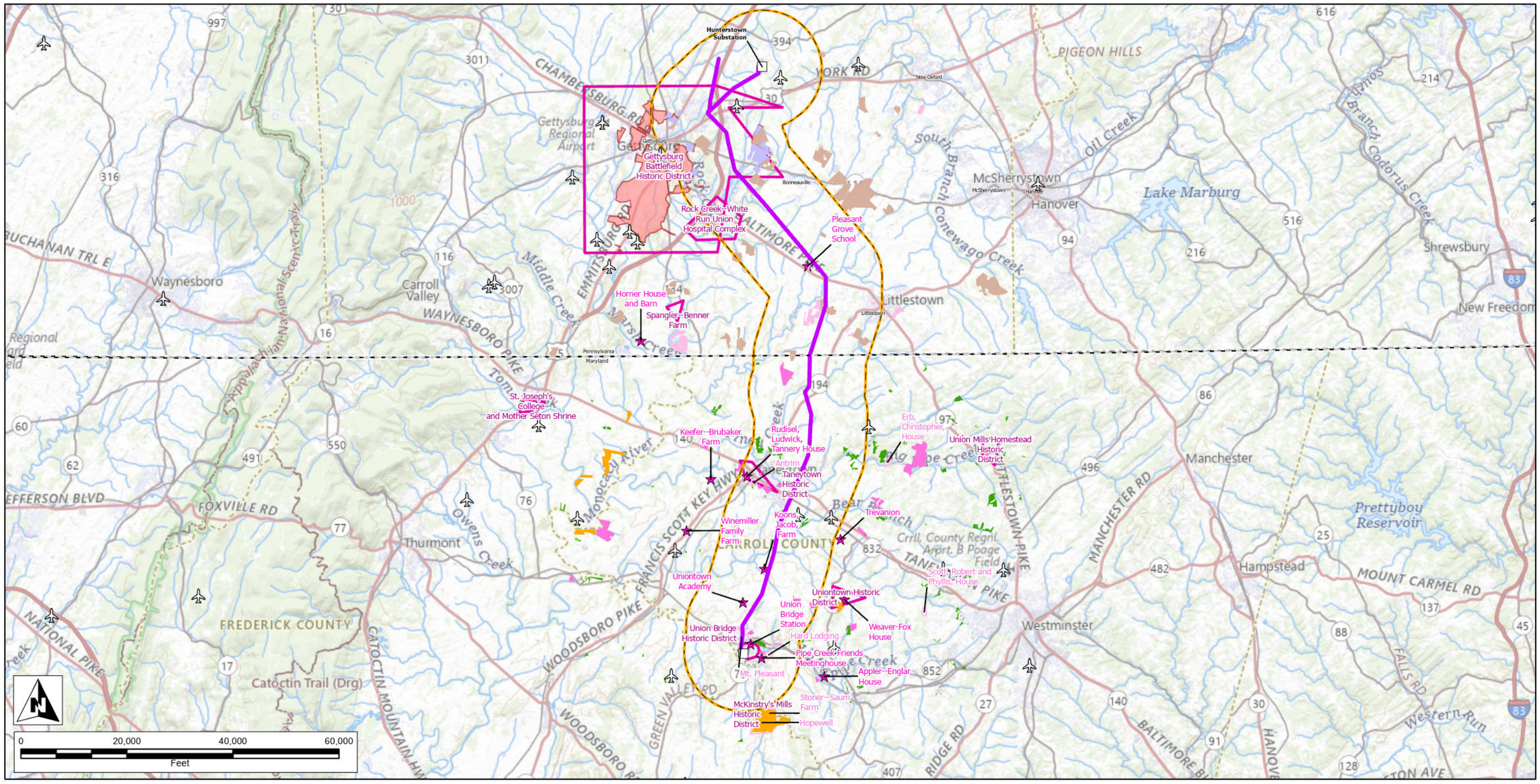


LEGEND:

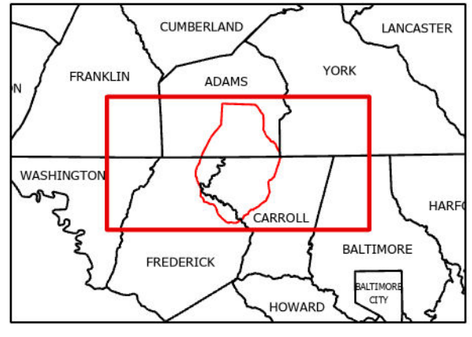
- Proposed Route
- 2-Mile Buffer
- State Border
- Airports and Helipads
- MD Forest Conservation Act Easements
- MD Local Protected Lands
- MD Environmental Trust Easements
- PA Conservation Easements
- PA Local Lands
- PA Local Parks
- PA Federal Lands
- Federal Lands
- Cultural Resource Building Point (Eligible or Listed)
- Cultural Resource Building Polygon (Eligible or Listed)
- Historic District Resources (Eligible or Listed)

NOTES:

REFERENCES:

Airports and Helipads (Federal Aviation Administration 2024)
Cultural Resources (National Register of Historic Places 2024)
United States National Park Service (2024)
MD Protected Lands (MALPF 2019)
MD Environmental Trust Easements (MDNR 2019)
MD Forest Conservation Act Easements (MDNR 2020)
Land Conservancy of Adams County (2024)
PA Municipality & County Boundaries (2024)
MD Municipality & County Boundaries (2024)
USGS Topographic Basemap (ESRI)

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic: Units: Foot US



AECOM

Figure 6-2 Proposed Route
Route Selection Report
Carroll-Hunterstown Improvements Project

FirstEnergy
Adams County, Pennsylvania and
Carroll and Frederick Counties, Maryland

Prepared By: MWC	Checked By: DY
Job: 60735645/60735671	Date: 12/5/2024

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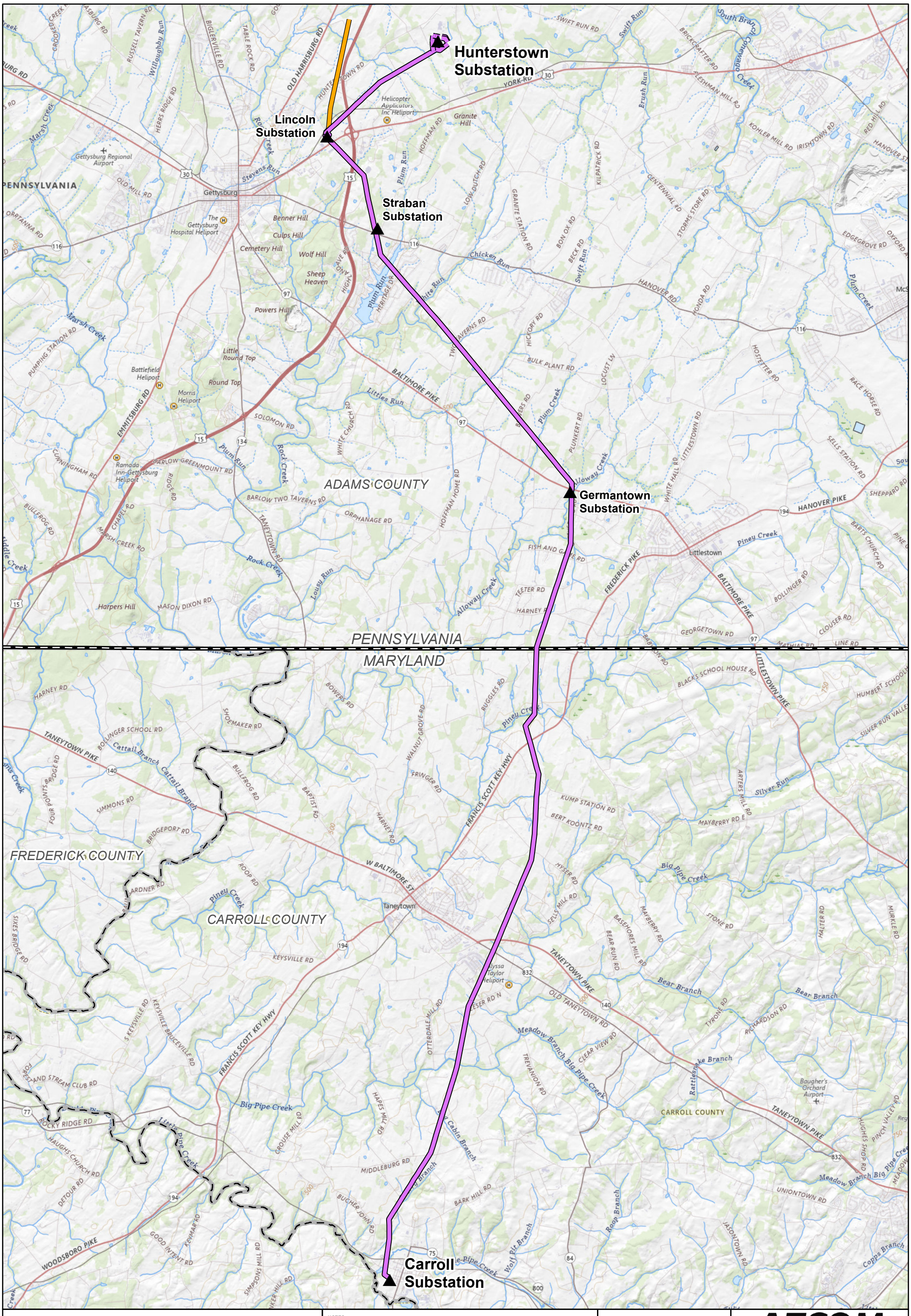
EXHIBIT NO. 12



Legend

- EXISTING SUBSTATION
- PROPOSED ROUTE
- LINCOLN-ORRTANNA REBUILD

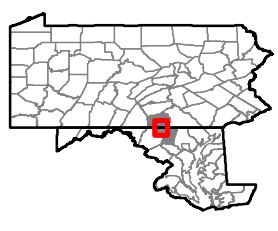
NOTES:

REFERENCES:
PA State & County Boundaries (PennDOT 2024)
MD State & County Boundaries (MD iMap 2016-2019)
USGS Topographic Basemap

N

0 1.5 3 Miles

Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
Projection: Lambert Conformal Conic: Units: Foot US



AECOM

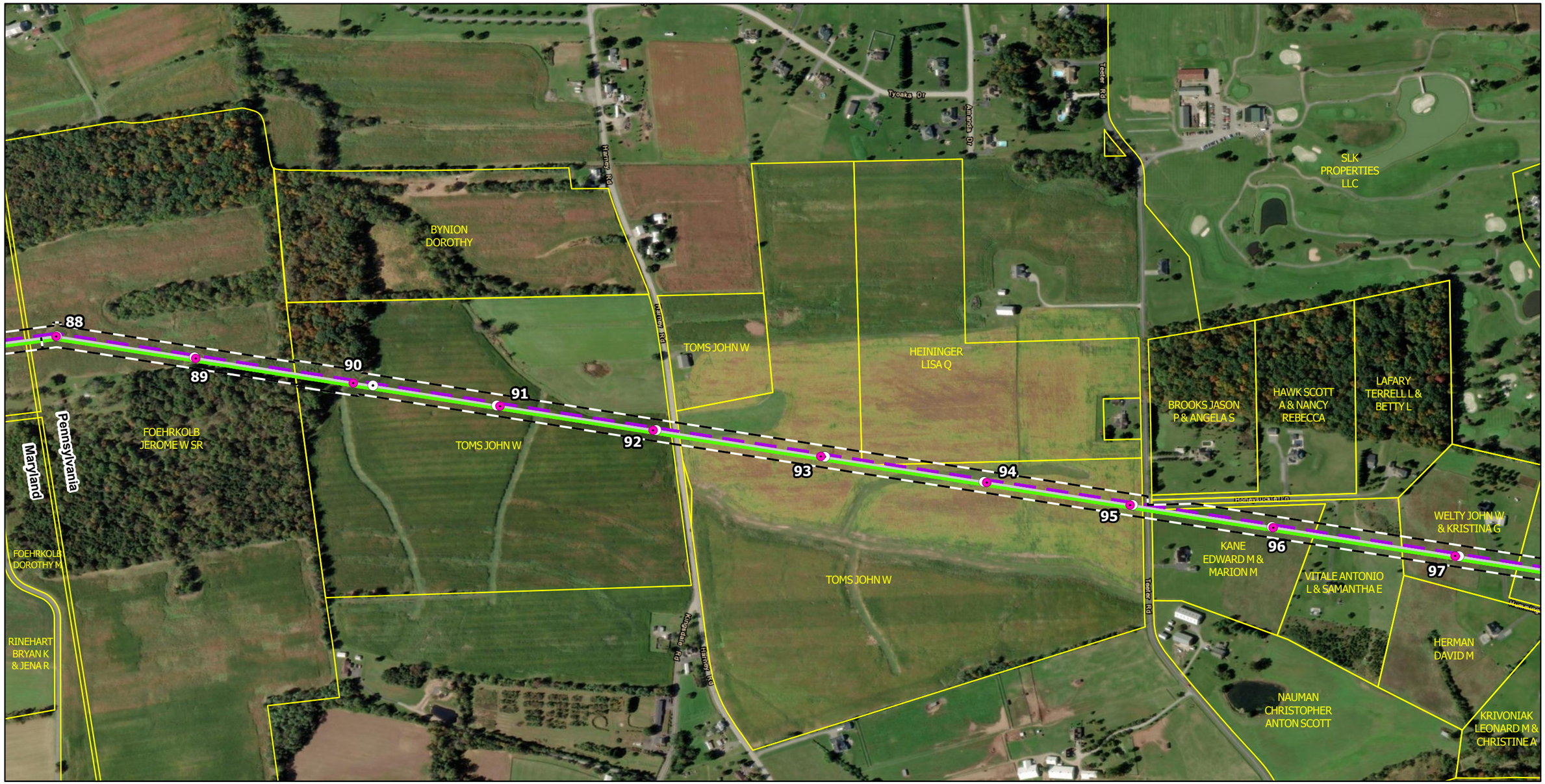
Topographic Overview Map

Carroll - Hunterstown Improvements Project
Adams County, Pennsylvania and Carroll County, Maryland

Prepared For: FirstEnergy Corporation
Akron, Ohio

Created By: BSF	Checked By: BB/DY
Job: CARR-HUNT	Date: 2/19/2025

EXHIBIT NO. 13



Legend

- Existing Structure Locations
- Proposed Structure Locations
- ROW Corridor
- 115kV Transmission Line
- 230kV Transmission Line
- 138kV Transmission Line
- Existing Transmission Line
- Property Boundary

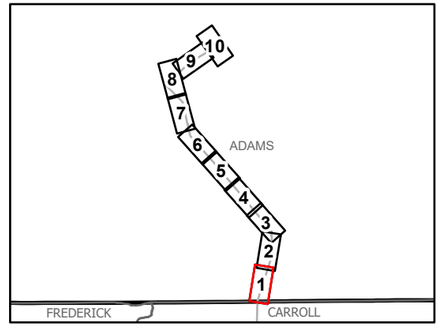
Notes

1. Existing structure locations provided by FirstEnergy 7/16/2024.
2. Proposed structure locations provided by FirstEnergy 9/25/2024.
3. ROW corridors are approximate based on field survey and record plans.
4. Proposed circuit alignment provided by FirstEnergy 5/21/2025.

Pennsylvania State Plane South
Datum: North American 1983
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Google Imagery Basemap

0 200 400 800
Feet



AECOM

Exhibit 13
Aerial General Layout Map
Carroll-Hunterstown Improvements Project

Page 1 of 10

Adams County, Pennsylvania
FirstEnergy Corporation: Akron, Ohio

Prepared By: MC	Checked By: DY
Job: 60735729	Date: 7/24/2025

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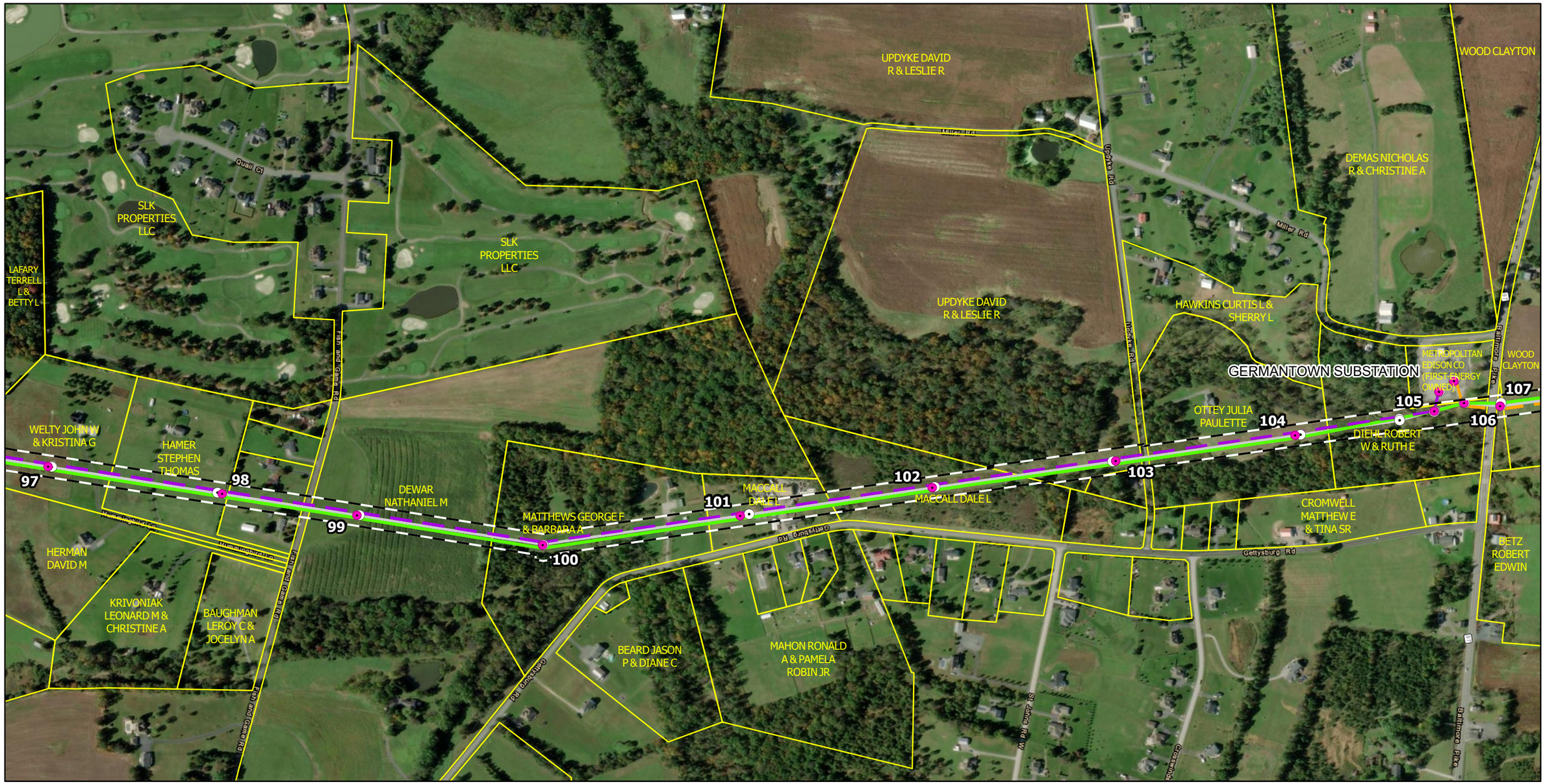


Legend

- Existing Structure Locations
- Proposed Structure Locations
- ROW Corridor
- 115kV Transmission Line
- 230kV Transmission Line
- 138kV Transmission Line
- Existing Transmission Line
- Property Boundary

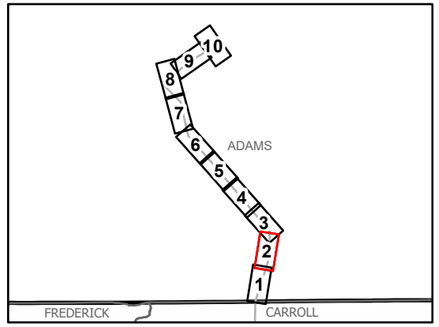
Notes

1. Existing structure locations provided by FirstEnergy 7/16/2024.
2. Proposed structure locations provided by FirstEnergy 9/25/2024.
3. ROW corridors are approximate based on field survey and record plans.
4. Proposed circuit alignment provided by FirstEnergy 5/21/2025.

Pennsylvania State Plane South
Datum: North American 1983
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Google Imagery Basemap

0 200 400 800
Feet



AECOM

Exhibit 13
Aerial General Layout Map
Carroll-Hunterstown Improvements Project

Page 2 of 10

Adams County, Pennsylvania
FirstEnergy Corporation: Akron, Ohio

Prepared By: MC	Checked By: DY
Job: 60735729	Date: 7/24/2025

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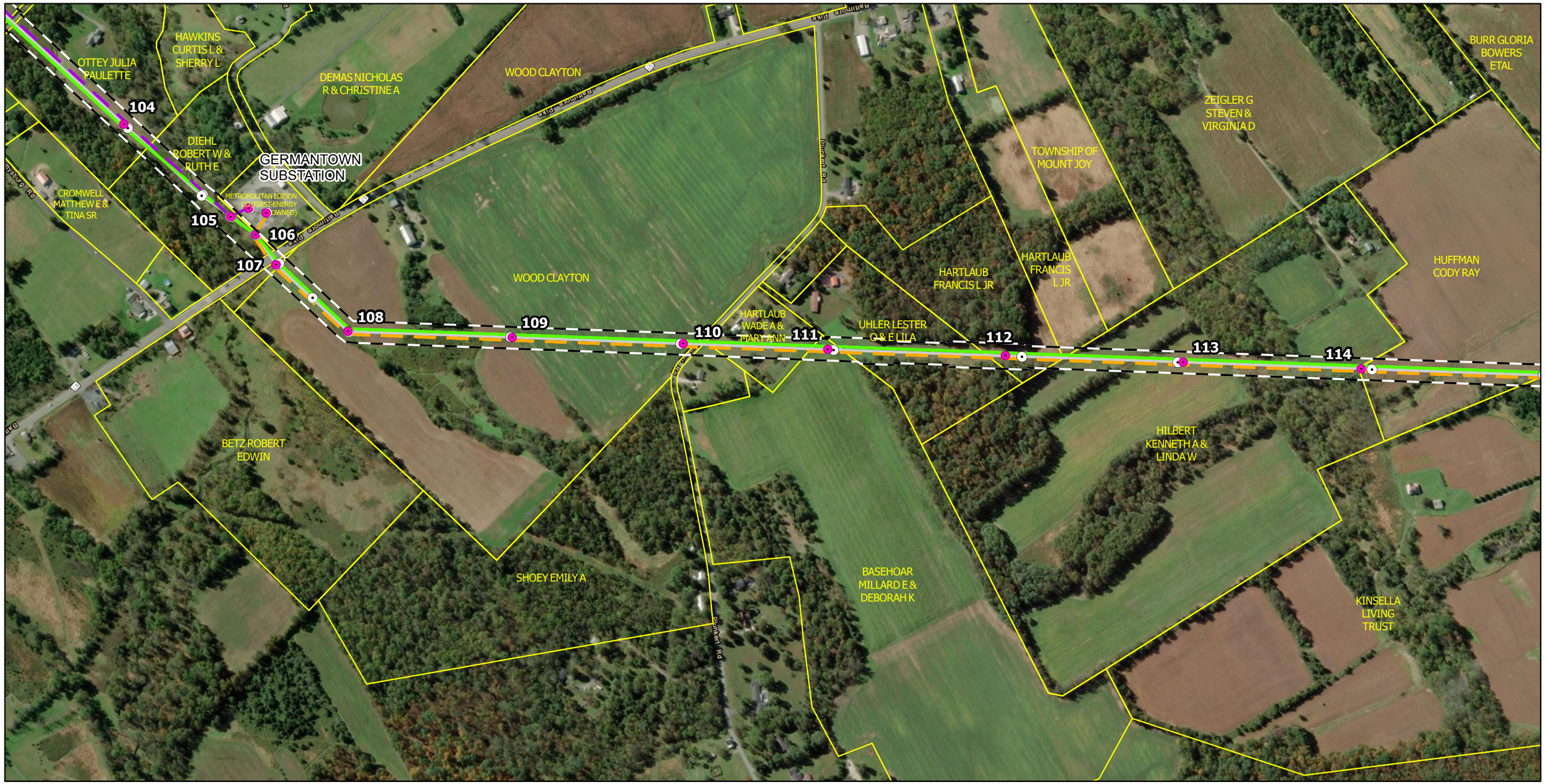

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Pennsylvania State Plane South
Datum: North American 1983
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Google Imagery Basemap

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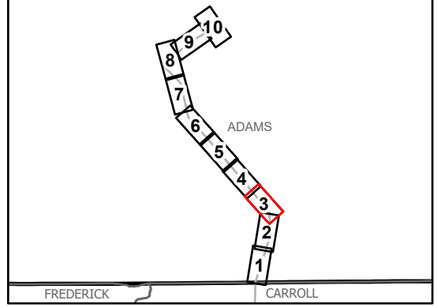

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Aerial General Layout Map
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Adams County, Pennsylvania
FirstEnergy Corporation: Akron, Ohio

Prepared By: MC	Checked By: DY
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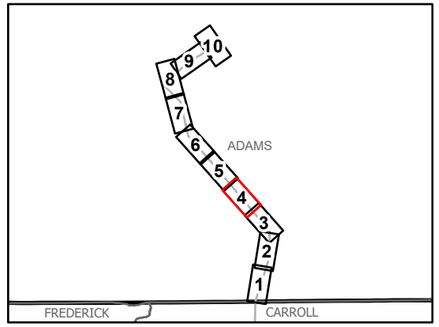

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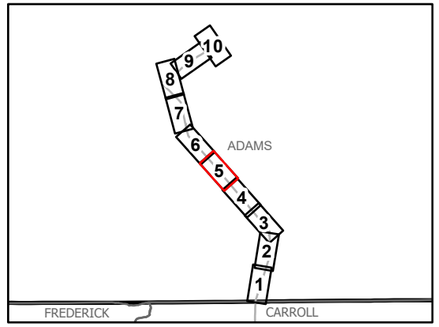

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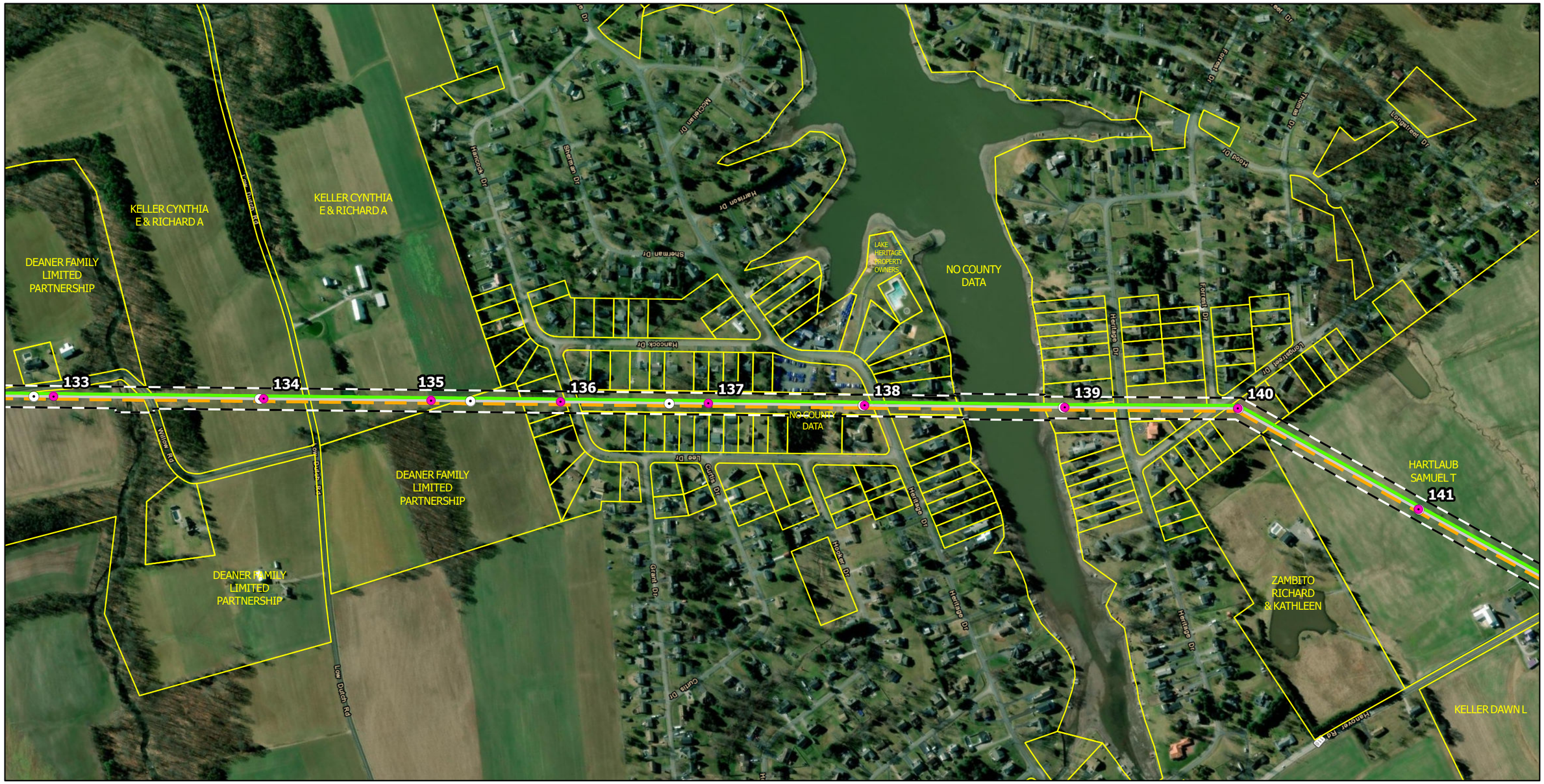

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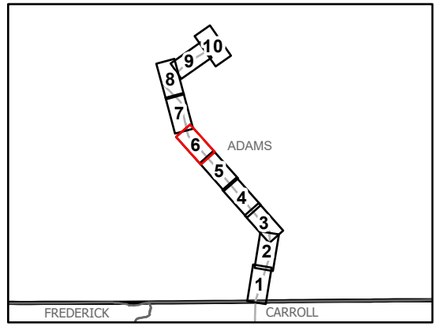

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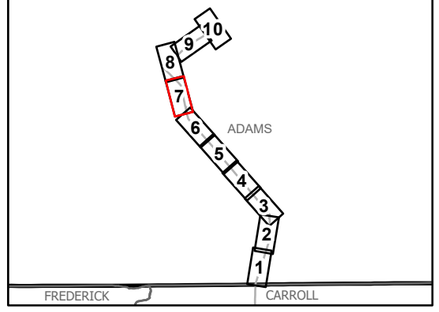

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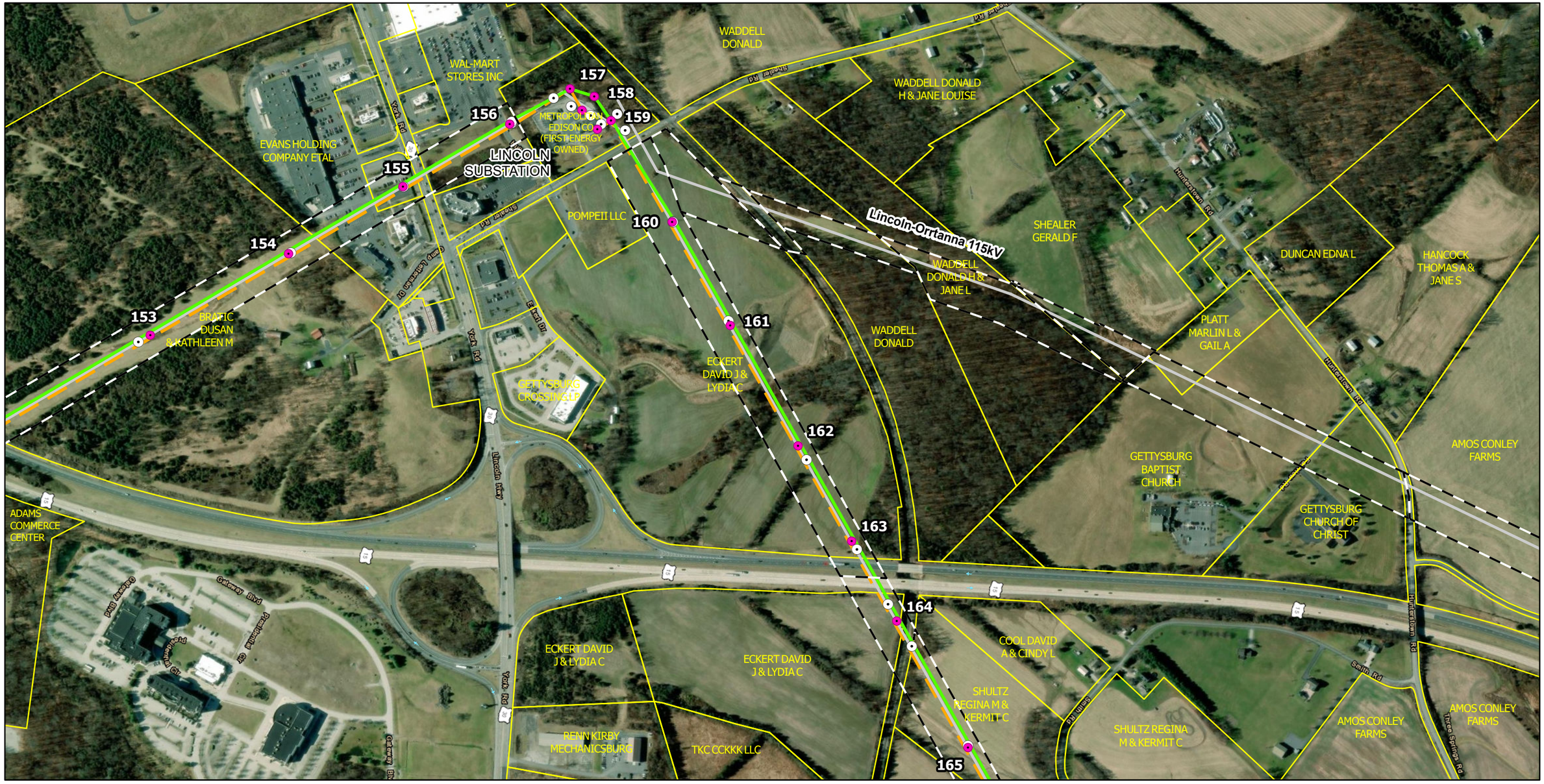

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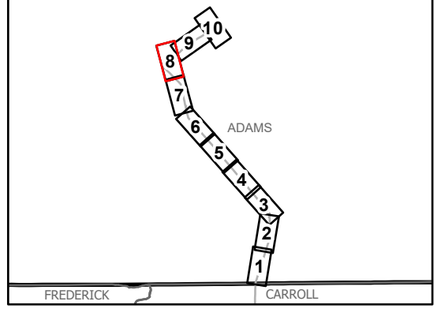

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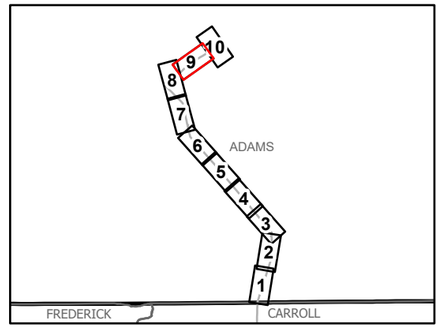

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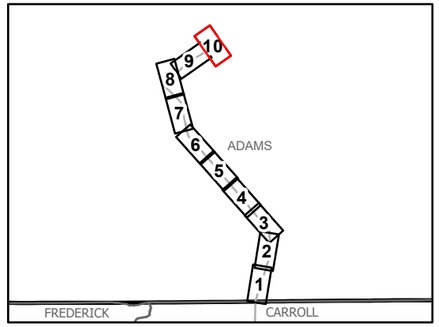

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EXHIBIT NO. 14

EXHIBIT 14
LIST OF GOVERNMENTAL AGENCIES CONTACTED FOR APPROVALS TO CONSTRUCT AND MAINTAIN THE LINE

FEDERAL – a list of federal permit/approval requirements is provided in the matrix below

U.S. Army Corps of Engineers (USACE)
Baltimore District Office
2 Hopkins Plaza
Baltimore, MD 21201
Contact: Mike Danko, Chief Pennsylvania Section

U.S. Fish and Wildlife Service (USFWS)
Pennsylvania Field Office
110 Radnor Rd, Suite 101
State College, PA 16801-4850
Contact: Robert Anderson

STATE – a list of state permit/approval requirements is provided in the matrix below

Pennsylvania Department of Environmental Protection (PADEP)
South-central Regional Office
909 Elmerton Avenue
Harrisburg, PA 17110
Contact: Nathan Phillips, P.E. – Permits Section

Pennsylvania Department of Conservation and Natural Resources (PADCNR)
Rachel Carson State Office Building
PO Box 8552
Harrisburg, PA 17105-8767
Contact: Rebecca Bowen

Pennsylvania Fish and Boat Commission (PFBC)
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823-9620
Contact: Chris Urban

Pennsylvania Game Commission (PGC)
2001 Elmerton Avenue
Harrisburg, PA 17110-9797
Contact: Stephen Smith

Pennsylvania Historical and Museum Commission (PHMC)
Bureau for Historic Preservation
Commonwealth Keystone Building, Second Floor
400 North Street
Harrisburg, PA 17120-0053
Contact: Emma Diehl, Division Manager

Pennsylvania Department of Transportation (PennDOT)
Commonwealth Keystone Building
400 North Street, 6th Floor
Harrisburg, Pennsylvania 17120
Contact: Jeffrey Spotts, Chief Counsel

COUNTY – a list of county permit/approval requirements is provided in the matrix below

Adams County Conservation District
670 Old Harrisburg Road
Suite 201
Gettysburg, Pennsylvania 17325
Contact: Adam McClain – District Manager

LIST OF AGENCY PERMIT/APPROVAL REQUIREMENTS

Agency	Permits, Approvals, or Documentation	Anticipated Approval Date	Status of Permit or Approval	Regulated Activity
Federal Permits & Authorizations				
U.S. Army Corps of Engineers (USACE)	Clean Water Act Section 404/401 permits for regulated waters/wetlands encroachments (State Programmatic General Permits [PASPGP-6] from USACE and PADEP).	August 2026	Not yet submitted – planned for August 2025.	Dredge and fill in Waters of the U.S.
U.S. Fish & Wildlife Service (USFWS)	Federal threatened and endangered species reporting and compliance with Section 7 of Endangered Species Act for federal permits.	2/27/2025	USFWS clearance provided.	Determination of potential impact to Federal listed and candidate threatened and endangered species and habitat if present and impacted.
State Permits & Authorizations				
Pennsylvania Department of Environmental Protection (PADEP)	Waters/wetland obstruction and encroachment permits or waivers (PA code, Title 25, Chapter 105).	July 2026	Not yet submitted – planned for August 2025.	Activities in watercourses, floodways, bodies of water (incl. wetlands).

Agency	Permits, Approvals, or Documentation	Anticipated Approval Date	Status of Permit or Approval	Regulated Activity
Pennsylvania Department of Environmental Protection (PADEP)	General NPDES Permit and Post-Construction Stormwater Review (PA code, Title 25, Chapter 92, 93, 96, 102, and 106.)	August 2026	Not yet submitted – planned for September 2025	Activities that require earth disturbance must institute practices that minimize accelerated erosion and resulting sediment pollution to the waters of the Commonwealth or U.S. Discharge of storm water associated with construction activities.
Pennsylvania Department of Conservation & Natural Resources (PADCNR) – Bureau of Forestry	State rare threatened & endangered species (T&E) consultation and approvals.	10/4/2024	PNDI Coordination Underway. Botanical survey for nine species of concern to be conducted in 2025.	Determination of potential impact to state listed and candidate threatened and endangered species and habitat if present and impacted (plants only.)
Pennsylvania Fish and Boat Commission (PFBC)	State rare threatened & endangered species (T&E) consultation and approvals.	10/7/2024	PNDI Coordination Complete. No species of concern in project area and no additional coordination required.	Determination of potential impact to state listed and candidate threatened and endangered species and habitat if present and impacted (reptiles, amphibians, fish)

Agency	Permits, Approvals, or Documentation	Anticipated Approval Date	Status of Permit or Approval	Regulated Activity
Pennsylvania Game Commission (PGC)	State rare threatened & endangered species (T&E) consultation and approvals.	10/29/2024	PNDI Coordination Complete. Seasonal restriction for tree clearing to avoid impacts to tri-colored bats.	Determination of potential impact to state listed and candidate threatened and endangered species and habitat if present and impacted (birds and mammals only)
Pennsylvania Historical and Museum Commission (PHMC)	Consultation, cultural resources (archaeology & historic structures) investigation and associated approvals as part of federal and state permits; compliance with Section 106 of National Historic Preservation Act; Federal and state listed or eligible cultural resources consultation.	August 2026	PHMC coordination has been initiated. Archaeological surveys are required but aboveground resource surveys are not required. Archaeological surveys to be completed in Spring/Summer 2025	Historic and cultural resources listed or eligible for listing on the State and/or Federal National Register of Historic Places.
Pennsylvania Department of Transportation (PennDOT)	PennDOT Access Road Permits	August 2026	Not yet submitted – planned for March 2026.	Construction access off of state highways.
Pennsylvania Department of Transportation (PennDOT)	PennDOT Aerial Crossing Permits	August 2026	Not yet submitted – planned for March 2026.	Construction of an aerial crossing over a limited-

Agency	Permits, Approvals, or Documentation	Anticipated Approval Date	Status of Permit or Approval	Regulated Activity
				access state highway.
County				
Local Conservation Districts (CCDs)	General NPDES Permit and Post-Construction Stormwater Review (PA code, Title 25, Chapter 92, 93, 96, 102, and 106)	August 2026	Not yet submitted – planned for September 2025.	Activities that require earth disturbance must institute practices that minimize accelerated erosion and resulting sediment pollution to the waters of the Commonwealth or U.S. Discharge of storm water associated with construction activities.