Appendix C: Maryland Environmental Review Document

MidAtlantic Resiliency Link Project

PREPARED FOR
NextEra Energy Transmission MidAtlantic, Inc. and NextEra Energy Transmission Virginia, Inc.

DATE
January 2026

REFERENCE
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SIGNATURE PAGE

Appendix C: Maryland Environmental Review Document

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ATTACHMENTS

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ACRONYMS AND ABBREVIATIONS

Acronym	Description
AADT	annual average daily traffic
BCC	bird of conservation concern
BioNet	Biodiversity Conservation Network
BMP	best management practice
CFR	Code of Federal Regulations
CGP-20	Maryland General Permit for Stormwater Associated with Construction Activity
CO	carbon monoxide
COMAR	Code of Maryland Regulations
CPCN	Certificate of Public Convenience and Necessity
CT	census tract
CWA	Clean Water Act
dBA	A-weighted decibel
DGA	Designated Growth Area
Dominion Energy	Virginia Electric and Power Company d/b/a Dominion Energy Virginia
E. Coli	*Escherichia coli*
EJ	environmental justice
EJSCREEN	Environmental Justice Screening and Mapping Tool
ERD	Environmental Review Document
ERM	Environmental Resources Management, Inc.
ESA	Endangered Species Act
ESC	Erosion and Sediment Control
FE	Federally Endangered
FEMA	Federal Emergency Management Agency
FIDS	Forest Interior Dwelling Species
FirstEnergy	FirstEnergy Corp.
FORI	Forest of Recognized Importance
FPE	Federally Proposed for Endangered
ft	feet
GIS	Geographic Information System
HB	House Bill
HCN	Habitat Connectivity Network
HUC	Hydrologic Unit Code
Hz	hertz
I-	Interstate
IBI	Index of Biological Integrity

Acronym	Description
in./IN	inch
INA	Irreplaceable Natural Area
IPaC	Information for Planning and Consultation System
kV	kilovolt
LiDAR	Light Detection and Ranging
LoD	limit of disturbance
MALPF	Maryland Agricultural Land Preservation Foundation
MARL Project	MidAtlantic Resiliency Link Project
MBSS	Maryland Biological Stream Survey
MBTA	Migratory Bird Treaty Act
MD	Maryland
MD	Maryland State Route
MD Code Ann.	Annotated Code of Maryland
MD NHP	Maryland Natural Heritage Program
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
MERLIN	Maryland Environmental Resources and Land Information Network
MHPW	modeled high probability wetlands
MHT	Maryland Historical Trust
MOVES	Motor Vehicle Emission Simulator
MP	milepost
NA	not applicable
NAAQS	National Ambient Air Quality Standards
NATA	National Air Toxics Assessment
ND	no data
NEET MA	NextEra Energy Transmission MidAtlantic, Inc.
NEET VA	NextEra Energy Transmission Virginia, Inc.
NFIP	National Flood Insurance Program
NHA	Natural Heritage Area
NHD	National Hydrography Dataset
NHDPlus HR	National Hydrography Dataset Plus High Resolution
NHL	National Historic Landmarks
NOAA	National Oceanic and Atmospheric Administration
NO_X	nitrogen oxide
NPS	National Park Service
NRHP	National Register of Historic Places

Acronym	Description
NRI	Nationwide Rivers Inventory
NSA	noise sensitive area
NWI	National Wetlands Inventory
ORV	Offroad vehicle
PA	Pennsylvania
PEM	Palustrine Emergent
PFO	Palustrine Forested
PJM	PJM Interconnection LLC
PM_{10}	particulate matter with a diameter of 10 micrometers or less
$PM_{2.5}$	fine particulate matter (particles with a diameter of 2.5 micrometers or less)
PSC	Public Service Commission
PSS	Palustrine Scrub-Shrub
PUB	Palustrine Unconsolidated Bottom
R2UB	Unconsolidated Bottom, Lower Perennial, Riverine
R3UB	Unconsolidated Bottom, Upper Perennial Riverine
R3UBH	Unconsolidated Bottom, Upper Perennial Riverine, Permanently Flooded
R4SB	Streambed, Intermittent, Riverine
R5UB	Unconsolidated Bottom, Unknown Perennial, Riverine
RMA	Recreation Management Area
ROW	right-of-way
RTE	rare, threatened, and endangered
SE	State Endangered
SHA	Maryland Department of Transportation State Highway Administration
SI	State in Need of Conservation
SO_2	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasures
SR	State Rare
SSPRA	Sensitive Species Project Review Area
ST	State Threatened
SWPPP	stormwater pollution prevention plan
TCP	Traffic Control Plan
TEA	Targeted Ecological Area
TMDL	Total Maximum Daily Load
TOY	time-of-year
U.S.C.	United States Code
US	U.S. Route

Acronym	Description
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UT	unnamed tributary
VA	Virginia
VOC	volatile organic compound
WHS	Wildlife and Heritage Services
WIM	Wetland Identification Model
WMA	Wildlife Management Area
WSR	Wild and Scenic Rivers
WSSC	wetlands of special state concern
WV	West Virginia

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1. INTRODUCTION AND BACKGROUND

This report includes the environmental findings of the Proposed Route that was identified in the Routing Study conducted by Environmental Resources Management, Inc. (ERM) on behalf of NextEra Energy Transmission MidAtlantic, Inc. (NEET MA) and NextEra Energy Transmission Virginia, Inc. (NEET VA). The Routing Study (Application Attachment 1) presented for the MidAtlantic Resiliency Link (MARL) Project included the following: 1) introduction and background; 2) methodology used for the routing and siting for the MARL Project; 3) Study Area and major constraints and opportunities within the Study Area; 4) route identification, including routes carried forward and dismissed for consideration; 5) comparison of routes carried forward; and 6) identification of the Proposed Route. The Routing Study evaluated the natural environment, built environment, cultural resources, social resources, and engineering constructability for the MARL Project for NEET MA's and NEET VA's proposed new 107.5-mile, 500 kilovolt (kV) transmission line that will traverse portions of Pennsylvania, West Virginia, Maryland, and Virginia, as well as the new 500/138 kV Woodside Substation to be located in Frederick County, Virginia.[1]

NEET MA and NEET VA will be filing four state siting applications with the relative state public utility commissions[2] and specifically two counties in Maryland (i.e., Garrett and Allegany Counties), pursuant to the provisions of Sections 20.79.01 and 20.79.04 of the Code of Maryland Regulations (COMAR) and Section 7-207 of the Public Utilities Article of the Annotated Code of Maryland, which requires entities constructing a transmission line greater than 69 kV to obtain a Certificate of Public Convenience and Necessity (CPCN) from the Maryland Public Service Commission (PSC). This Environmental Review Document (ERD) provides the environmental information required by COMAR 20.79.04, and Table 1-1 summarizes these CPCN filing requirements and the ERD sections in which the specific information may be found.

[1] NEET MA is responsible for constructing the portions of the MARL Project in Pennsylvania, West Virginia, and Maryland. NEET VA is responsible for constructing the portions of the MARL Project in Virginia, as well as a new 500/138 kV Woodside Substation in Frederick County, Virginia. The permitting of the substation is subject to the siting authority of Frederick County, and information in this Routing Study related to the Woodside Substation is provided for overall context of the full MARL Project.

[2] NEET MA is filing a CPCN application with the following state utility commissions: Maryland PSC and PSC of West Virginia. NEET MA is also filing a Certificate of Public Convenience and a Siting application with the Pennsylvania Public Utilities Commission. NEET VA is filing a CPCN application with the Virginia State Corporation Commission.

TABLE 1-1 CODE OF MARYLAND REGULATIONS AND PUBLIC UTILITIES ARTICLE FILING REQUIREMENTS

Filing Requirements	Application/ ERD Section(s)
COMAR 20.79.01.06 – Application Filing Requirements	
A. The name of the applicant;	See Application.
B. The address of the principal business office of the applicant;	
C. The name, title, mailing address, and email address of the person authorized to receive notices and communications with respect to the application;	
D. [*Excluded as it pertains only to Generating Stations*]	
E. The location or locations at which the public may inspect a copy of the application;	
F. A list of each local, state, or federal government agency having authority to approve or disapprove the construction or operation of the facility and containing a statement: 1. Providing the contact information for the local, state, or federal agency or unit; 2. Indicating whether the necessary approval from each agency has been obtained, with a copy of each approval or disapproval attached; 3. If necessary approval has not been obtained, specifying the reason why; 4. If the proposed project is pending review for approval before a local, state, or federal agency or unit, indicating the status and providing a summary of the review process and expected completion date for the review, if known; and 5. Indicating whether any waiver or variance has been granted or requested with a copy of each attached.	
G. [*Excluded as it pertains only to Generating Stations*]	Not applicable.
H. The information described under COMAR 20.79.04.01 for transmission lines;	See below in table.
I. A general description of the transmission line or the modification to an existing transmission line under COMAR 20.79.04.02 and 20.79.04.03;	See below in table.
J. An implementation schedule for the proposed project, including, for generating stations, the construction, operation, and expected decommissioning of the project;	See Application.
K. The environmental, natural resources, and socioeconomic information: 6. Required under COMAR 20.79.03.02 for generating stations; or 7. Required under COMAR 20.79.04.04 for transmission lines;	See below in table.
L. The EJSCREEN reports required under COMAR 20.79.03.05 for a proposed qualifying generating station;	While the Project is not a generating station, refer to Section 2.5.7, Environmental Justice.
M. [*Excluded as it pertains only to Generating Stations*]	Not applicable.
N. If the applicant believes that a requirement for a complete application under this regulation is not applicable to a project, a statement explaining why the requirement is not applicable; and	Not applicable.
O. If the applicant requests a waiver of any requirement under this regulation, a statement explaining why the applicant believes the requirement should be waived.	Not applicable.

Filing Requirements	Application/ ERD Section(s)
COMAR 20.79.04.01 – Purpose and Justification	
A. An application for a proposed transmission line or modification to an existing transmission line shall include: 1. An explanation of the need for the project in meeting demands for service; 2. A description of the effect of the project on system stability and reliability; 3. A description of the consequences if the project is delayed or not approved; 4. An explanation of the cost effectiveness of the project, including an estimate of capital cost and annual operating cost; and 5. A description of the impact of the project on the economies of the State.	See Application.
B. If requested by the Commission, an application for a proposed transmission line shall include a plan as defined under COMAR 20.79.01.02.	
COMAR 20.79.04.02 – Description of Transmission Line	
A. Engineering and construction features, including the: 1. Width, length, and total acreage of the right-of-way; 2. Line voltage; 3. Number of circuits; 4. Number of circuits per structure; 5. Structure type and dimensions; 6. Conductor configuration and size; 7. Nominal capacity (megavolt amperes); and 8. Nominal length of span between structures;	See Application and Section 1.1, MARL Project Description and Table 1.1-1.
B. Property or property right acquired or to be acquired;	See Application.
C. Access roads for construction or maintenance either existing or to be built;	See Application and Appendix C Attachment 1, Maryland ERD Resource Mapbooks.
D. Location and identification of the following sites from which the project would be clearly visible: 1. Historical; 2. Institution land; 3. Recreation area; 4. Aesthetic; 5. Archaeological; 6. Wildlife management area; and 7. Park or forest	See Section 2.3, Cultural Resources; Section 2.4, Land Use and Aesthetics; and Section 2.5, Socioeconomics, and Appendix C Attachment 1g, Resource Visibility Mapbook.
E. Location and identification of all portions of the right-of-way requiring construction within the 100-year floodplain of any stream;	See Section 2.2.4, Water Resources, and Appendix C Attachment 1c, Water Resources Mapbook.
F. Location and identification of any public airport 1 mile or less from the transmission line; and	Not applicable. See Section 2.6, Transportation Infrastructure.
G. Depiction on suitable topographic map (minimum scale: 1 inch = 2,000 feet) of §§B through F of this regulation.	See Appendix C Attachment 1, Maryland ERD Resource Mapbooks.

Filing Requirements	Application/ ERD Section(s)
COMAR 20.79.04.03 – Alternative Transmission Line Routes	
A. The description of each alternative route considered for the transmission line shall include: 8. An estimate of the capital and annual operating cost of each alternative route; and 9. A statement of the reason why each alternative route was rejected.	See Application and Application Attachment 1, Routing Study.
B. For modifications to existing transmission lines, alternative routes need not be evaluated.	Not applicable.
COMAR 20.79.04.04 – Environmental Information	
A. A general description of the physical, biological, aesthetic, and cultural features, and conditions of the site and adjacent areas;	See Section 2, Environmental Setting and Impacts for the Proposed Route.
B. A summary of the environmental and socioeconomic effects of the construction and operation of the project, including a description of the unavoidable impacts and recommended mitigation;	See Section 2, Environmental Setting and Impacts for the Proposed Route.
C. A copy of all studies of the environmental impact of the proposed project prepared by the applicant; and	See Section 2, Environmental Setting and Impacts for the Proposed Route.
D. A statement of the ability to conform to the applicable environmental standards.	See Application and Section 2, Environmental Setting and Impacts for the Proposed Route.
Md. Code Ann., Pub. Util., Section 7-207	
(e). The Commission shall take final action on an application for a certificate of public convenience and necessity only after due consideration of:	See Application.
(e)(1). the recommendation of the governing body of each county or municipal corporation in which any portion of the construction of the generating station, overhead transmission line, or qualified generator lead line is proposed to be located;	
(e)(2). the effect of the generating station, overhead transmission line, or qualified generator lead line on:	
(e)(2)(i). the stability and reliability of the electric system	
(e)(2)(ii). economics	
(e)(2)(iii). esthetics	See Section 2.4, Land Use and Aesthetics.
(e)(2)(iv). historic sites	See Section 2.3, Cultural Resources.
(e)(2)(v). aviation safety as determined by the Maryland Aviation Administration and the administrator of the Federal Aviation Administration	Not applicable. See Section 2.6, Transportation Infrastructure.

Filing Requirements	Application/ ERD Section(s)
(e)(2)(vi). when applicable, air quality and water pollution	See Section 2.2, Biophysical Environment.
(e)(3). the effect of climate change on the generating station, overhead transmission line, or qualified generator lead line based on the best available scientific information recognized by the Intergovernmental Panel on Climate Change;	See Application and Section 2.2.1, Climate and Air Quality.
(e)(4). [*Excluded as it pertains only to Generating Stations*]	Not applicable.
(f). Considerations before final action on application - For the construction of an overhead transmission line, in addition to the considerations listed in subsection (e) of this section, the Commission shall:	See Application.
(f)(1). take final action on an application for a certificate of public convenience and necessity only after due consideration of: (i) the need to meet existing and future demand for electric service; and (ii) for construction related to a new overhead transmission line, the alternative routes that the applicant considered, including the estimated capital and operating costs of each alternative route and a statement of the reason why the alternative route was rejected;	
(f)(2). require as an ongoing condition of the certificate of public convenience and necessity that an applicant comply with: (i) all relevant agreements with PJM Interconnection, L.L.C., or its successors, related to the ongoing operation and maintenance of the overhead transmission line; and (ii) all obligations imposed by the North America Electric Reliability Council and the Federal Energy Regulatory Commission related to the ongoing operation and maintenance of the overhead transmission line; and	
(f)(3). require the applicant to identify whether the overhead transmission line is proposed to be constructed on: (i) an existing brownfield site; (ii) property that is subject to an existing easement; or (iii) a site where a tower structure or components of a tower structure used to support an overhead transmission line exist.	See Application and Section 2.4, Land Use and Aesthetics.
(f)(4). for the construction of an overhead transmission line in an area specified in § 5–1203(b)(2)(ii), (y)(2), or (kk)(1)(ii) of the Natural Resources Article, require that an applicant provide wildland impact mitigation guarantees, including working with the Department of Natural Resources to acquire and replace the Type 1 State wildland acreage that is lost as a result of the transmission line with acreage that is twice the size and is suitable for designation as wildland acreage, and to develop and implement a land conservation management plan for the area affected by the transmission line that supports wildlife habitats.	See Application and Application Attachment 2, Regulatory Cross-Reference Matrix.
(g). Construction of transmission lines near airport runway	Not applicable. See Section 2.6, Transportation Infrastructure.
(g)(1). The Commission may not authorize, and a person may not undertake, the construction of an overhead transmission line that is aligned with and within 1 mile of either end of a public airport runway, unless: (i) the Federal Aviation Administration determines that the construction of an overhead transmission line will not constitute a hazard to air navigation; and (ii) the Maryland Aviation Administration concurs in that determination.	

Filing Requirements	Application/ ERD Section(s)
(g)(2). A privately owned airport runway shall qualify as a public airport runway under this subsection only if the runway has been on file with the Federal Aviation Administration for at least 2 years as being open to the public without restriction.	
Md. Code Ann., Pub. Util., Section 7-209	
(a). The Commission shall examine alternatives to the construction of a new transmission line in a service area, including the use of an existing transmission line of another company, if: (1) the existing transmission line is convenient to the service area; or (2) the use of the transmission line will best promote economic and efficient service to the public.	See Application and Application Attachment 2, Regulatory Cross-Reference Matrix.

COMAR = Code of Maryland Regulations; EJSCREEN = Environmental Justice Screening and Mapping Tool; ERD = Environmental Review Document

1.1 MARL PROJECT DESCRIPTION

PJM Interconnection LLC (PJM) has directed NEET MA and NEET VA to develop, construct, own, operate, and maintain the MARL Project to resolve significant and widespread reliability criteria violations on the Bulk Electric System that serves the PJM Region, due to load growth and anticipated resource retirements in the PJM Region. To meet this purpose and need, the MARL Project will have the following facilities:

- A new single-circuit 500 kV transmission line on lattice structures from the FirstEnergy Corp. (FirstEnergy)-owned 502 Junction Substation to the existing FirstEnergy-owned Black Oak 500/138 kV Substation to an interconnection with new 500 kV transmission lines to be constructed by FirstEnergy and Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion Energy).[3]
- A new Woodside 500/138 kV substation in Frederick County, Virginia, which will connect to existing Dominion Energy and FirstEnergy infrastructure.[4]

The proposed transmission line will generally encompass the geographic area between the endpoints of the 502 Junction Substation in Greene County, Pennsylvania, and the handoff point (a new 500 kV transmission line to be constructed by FirstEnergy) in Frederick County, Virginia. The proposed Woodside Substation site is also in Frederick County, Virginia, but approximately 11 miles to the east of the eastern terminus of the proposed transmission line handoff point. These facilities are collectively referred to as "the MARL Project." Figure 1.1-1 depicts the MARL Project Study Area and the Proposed Route.

[3] The MARL Project does not include the FirstEnergy and Dominion Energy portions of the PJM-approved West Cluster solutions.
[4] Specifically, the Woodside Substation will connect to Dominion Energy's existing 500 kV Bismark-Doubs transmission line, FirstEnergy's existing Stonewall 138 kV Substation via the Hampshire to Stonewall 138 kV line, and to FirstEnergy's upgraded Gore-Stonewall-Doubs 500 kV transmission line.

All mileposts (MPs) and distances associated with the MARL Project facilities listed above are rounded to the nearest 0.1 mile, and all land areas are rounded to the nearest 0.1 acre (unless otherwise specified). All references to MPs, distances, and acreages in this document are assumed to be approximate (e.g., a reference to "MP 1.2" or "124.3 acres" means "approximately at MP 1.2" or "approximately 124.3 acres," respectively).

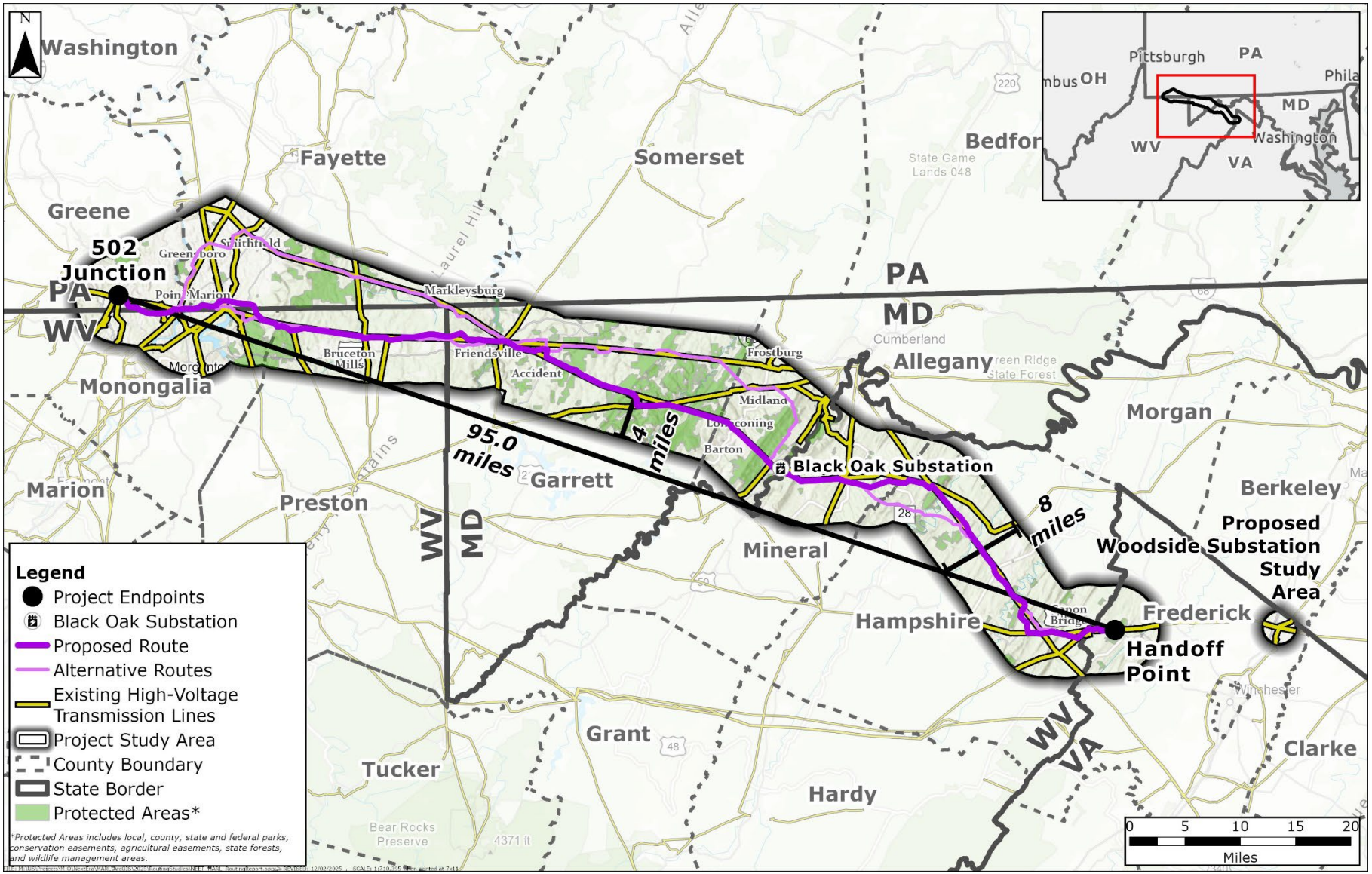
NEET MA and NEET VA identified six end-to-end route alternatives (the Proposed Route and Alternative Routes B through F) for the overall MARL Project between the 502 Junction Substation and the handoff point (Application Attachment 1, Routing Study). As identified in the Routing Study, the Routing Team has selected Alternative Route A as the Proposed Route.
Figure 1.1-2 provides an overview of the Proposed Route in Maryland. Table 1.1-1 summarizes the MARL Project features of the Proposed Route in Maryland, as well as for the overall Proposed Route. The Proposed Route would cross Garrett and Allegany Counties.

TABLE 1.1-1 MARL PROJECT FEATURES WITHIN GARRETT AND ALLEGANY COUNTIES

Project Feature	Proposed Route within Garrett and Allegany Counties	Proposed Route (Total)
Centerline length (miles)	35.4	107.5
Siting Corridor (acres)	1,991.7	6,208.6
ROW Corridor (acres)	898.0	2,669.0
ROW Corridor maintaining riparian habitat (acres)	876.9	2,642.4
Riparian habitat to be maintained (acres)	21.1	26.6
Riparian habitat to be maintained [a] (count)	16	20
Aerial easement blowout area [b] (count)	10	24
Paralleling existing transmission line ROW (miles)	25.5	56.4
Paralleling existing transmission line ROW (%)	71.8	52.5
Structures (count)	147	452
Minimum structure height (feet)	90	85
Maximum structure height (feet)	190	190
Average structure height (feet)	150	145
Average span length (feet)	1,285	1,258
Maximum span length (feet)	2,927	2,927
Spans greater than 1,600 feet (count)	14	33

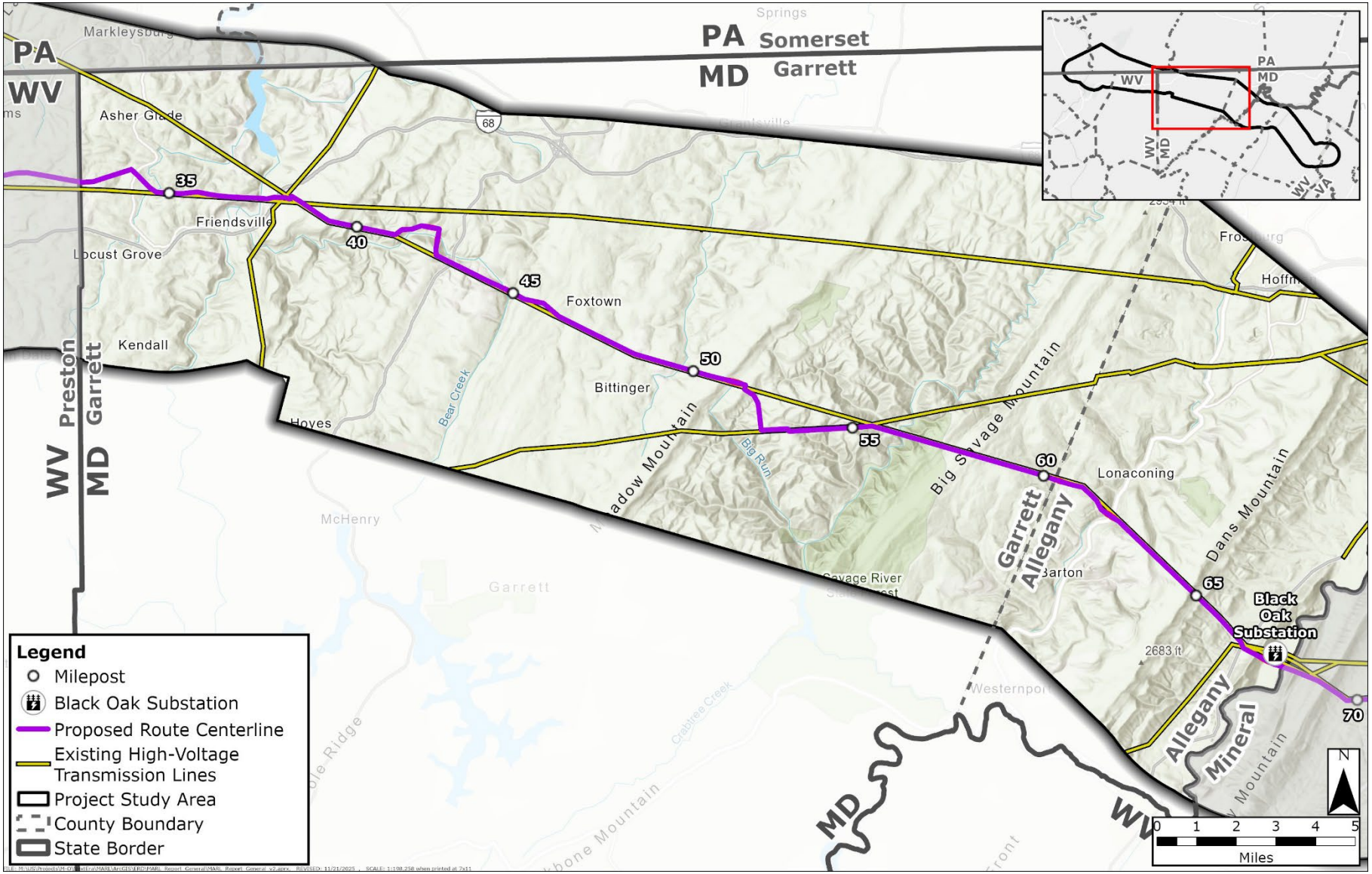
ROW = right-of-way
[a] The riparian habitat to be maintained in Maryland includes 16 locations; however, 1 location is located partially in Allegany County, Maryland, and in Mineral County, West Virginia, where the Proposed Route crosses the North Branch Potomac River.
[b] The aerial easement blowout area is a designated section within the ROW Corridor that requires additional transmission line easement area to accommodate engineering considerations (e.g., increased span lengths), which can result in greater line sway. These areas are necessary due to constraints, such as uneven terrain, steep slopes, or natural obstructions that make the standard ROW Corridor width impractical or unsafe.

FIGURE 1.1-1 MARL PROJECT OVERVIEW AND PROPOSED ROUTE



MD = Maryland; PA = Pennsylvania; VA = Virginia; WV = West Virginia

FIGURE 1.1-2 MARL PROJECT IN MARYLAND



MD = Maryland; PA = Pennsylvania; VA = Virginia; WV = West Virginia

1.2 OBJECTIVES OF THE ENVIRONMENTAL RESOURCE DOCUMENT

The Routing Study (Application Attachment 1) presented ERM's overall approach to developing route alternatives that have an endpoint in Pennsylvania and another endpoint in Virginia. In developing the end-to-end route alternatives, ERM considered state-specific requirements and data, while also recognizing that the state-specific environmental data are different in each of the four states; therefore, ERM has developed state-specific appendices to present the different information that each of the state authorities expect to see. The objective of this ERD is to detail the environmental, cultural, and social existing conditions and potential impacts associated with the MARL Project Proposed Route for the specific state of Maryland requirements. Regardless of the state, specific information that is associated with the overall MARL Project may be found in the Routing Study and is not repeated herein.

2. ENVIRONMENTAL SETTING AND IMPACTS FOR THE PROPOSED ROUTE

The following section of the ERD describes the existing environmental, cultural, and social conditions, as well as the potential impacts associated with the Proposed Route for the MARL Project within Garrett and Allegany Counties, Maryland. This information was developed using publicly available data sources and includes data obtained from relevant agencies. The information presented herein was developed by ERM based on best practices and extensive experience in transmission line routing and siting projects. While there are no published studies or formal industry standards, the approach reflects methodologies that have been applied to other greenfield projects and, in some cases, accepted by state commissions. The approach was considered and applied to the MARL Project, incorporating natural environment and built environment resources as well as land and engineering considerations. Where appropriate for a resource area, ERM provides in that resource discussion the regulatory driver that may be applicable to the MARL Project once permits are determined upon completion of the CPCN application. In addition to the publicly available data sources that are used for the ERD, a number of enhanced desktop assessments have been completed in combination with extensive agency outreach and coordination to provide a robust analysis of resource impacts in support of this CPCN application. Additional enhanced desktop assessments, in combination with select field surveys, will be conducted and submitted to the PSC as a supplemental amendment to this ERD. Full field surveys will be conducted following approval of a final route to facilitate state and federal permitting. Attachment 1, Maryland ERD Resource Mapbooks, provides detailed resource information, pursuant to the requirements in COMAR 20.79.04.02.D.

Each resource area includes a discussion of existing conditions, an assessment of potential impacts, and the identification of potential mitigation measures. Where feasible, Geographic Information System (GIS) analysis was used to quantify both existing conditions and projected impacts. In cases where quantitative data was unavailable or insufficient, qualitative information was provided to characterize certain resource areas.

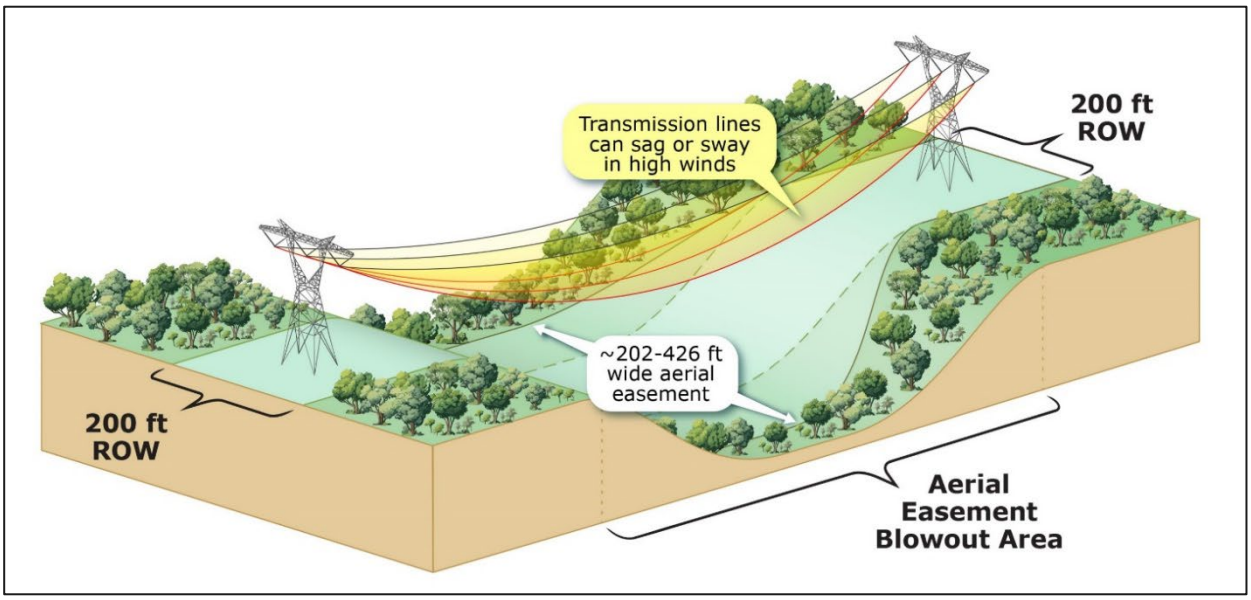
2.1 PROJECT COMPONENTS AND SITE DESCRIPTION

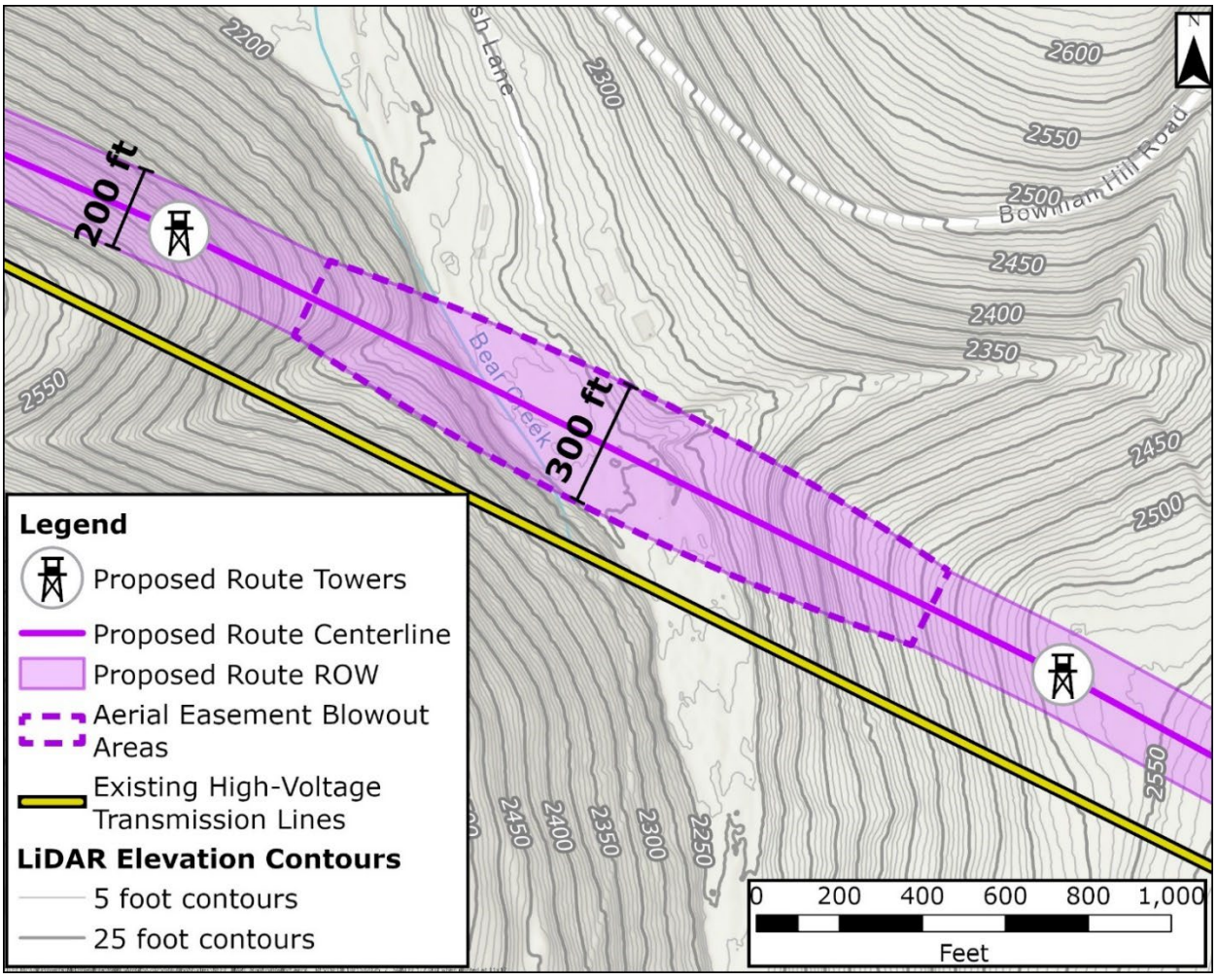
2.1.1 CORRIDOR WIDTHS

The MARL Project will be constructed in a new Right-of-Way (ROW) Corridor measuring, on average, 200 feet wide. The MARL Project will require a wider ROW Corridor in some areas where additional aerial easement rights are necessary to comply with electrical standards and requirements (Figure 2.1-1).[5] The full area of required MARL Project-specific ROW Corridor at any given point along the route is hereafter referred to as the "ROW Corridor." The number of aerial easement blowout areas for the Proposed Route is shown in Table 1.1-1, and the ROW Corridor for these areas ranges from 202 feet to 426 feet, averaging 289 feet wide (Figure 2.1-1). Attachment 1 also identifies where the MARL Project will require a wider ROW Corridor in some areas where additional aerial easement rights are necessary to comply with electrical standards and requirements.

[5] The aerial easement blowout area is a designated section within the ROW Corridor that requires additional transmission line easement area to accommodate engineering considerations (e.g., increased span lengths), which can result in greater line sway. These areas are necessary due to constraints like uneven terrain, steep slopes, or natural obstructions that make the standard ROW Corridor width impractical or unsafe.

FIGURE 2.1-1 GRAPHICAL DEPICTION OF ADDITIONAL AERIAL EASEMENT BLOWOUT AREAS





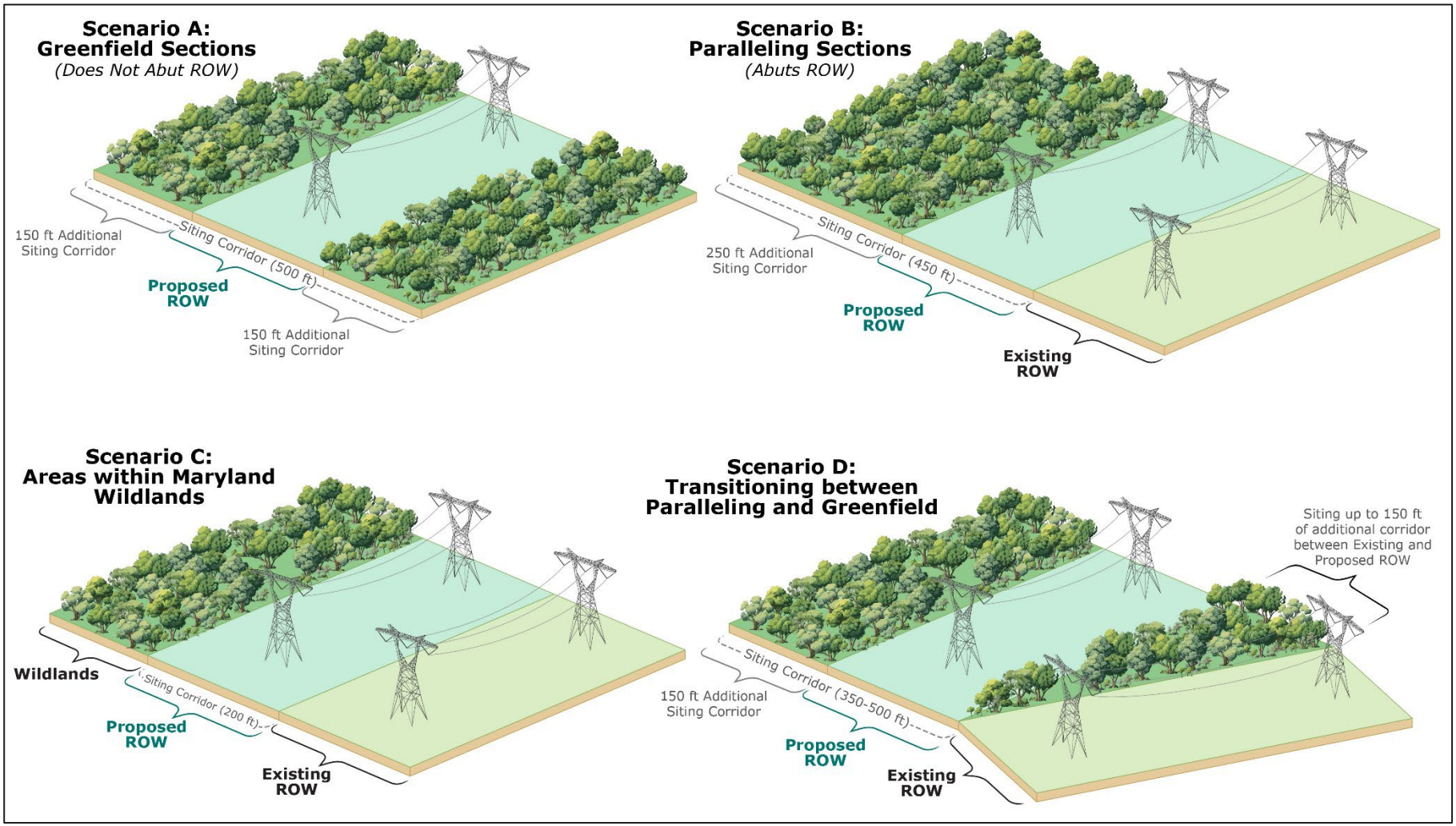
ft = feet; LiDAR = Light Detection and Ranging; ROW = right-of-way

The MARL Project developed a predefined, Project-specific Siting Corridor, hereafter referred to as the "Siting Corridor," in which existing conditions were assessed to allow for reasonable flexibility to adjust the centerline on either side of the Alternative Routes, if necessary. The Siting Corridor was designed to abut and not overlap the ROW of any existing transmission lines when paralleling. The Siting Corridor width will range from 200 to 500 feet; however, in those areas that require aerial easement blowout, the maximum width for the Siting Corridor will be 715 feet. The Siting Corridor is inclusive of the MARL Project's ROW Corridor. The width of the Siting Corridor varies based on the MARL Project's ROW Corridor width and proximity to existing transmission lines (Figure 2.1-2).

The Routing Team aimed to parallel existing transmission line corridors to the extent practicable, as this allows for minimizing visual, environmental, and access impacts. Figure 2.1-3 provides an illustration of MARL Project paralleling. Benefits to paralleling existing transmission line corridors include the following:

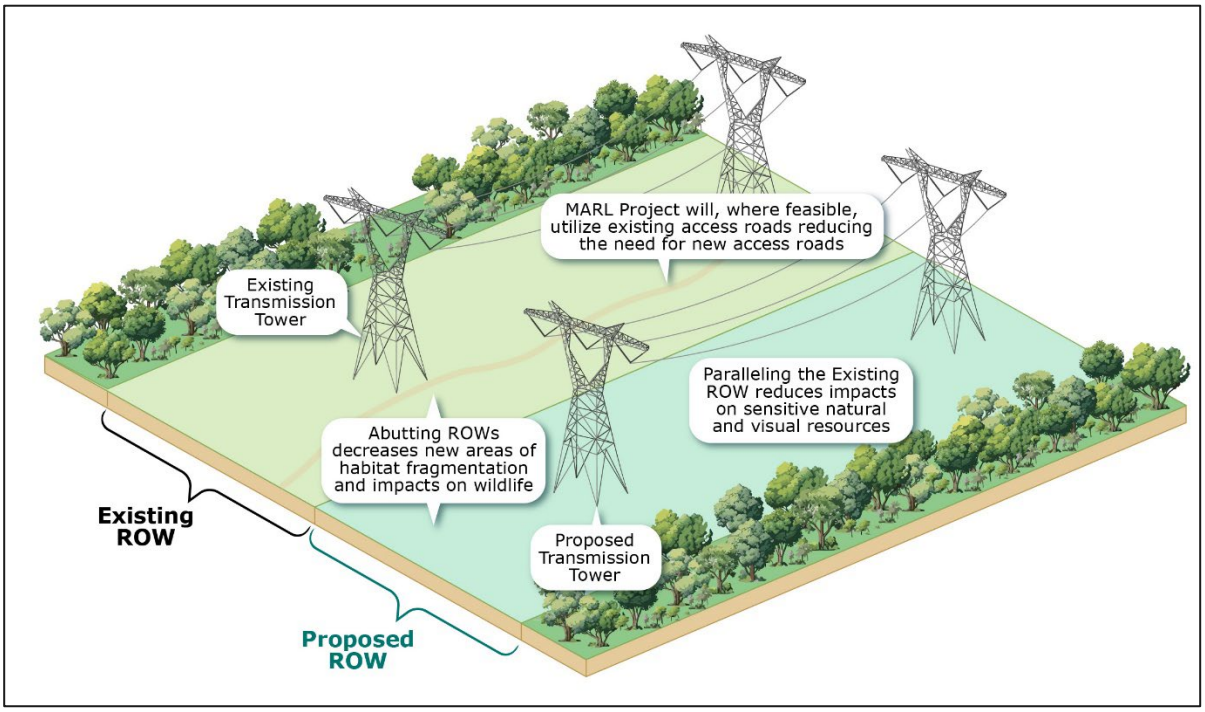
- Limits impacts on the local community;
- Provides easier construction access;
- Reduces the need for new access roads;
- Reduces impacts on sensitive natural and visual resources; and
- Decreases new areas of habitat fragmentation and impacts on wildlife.

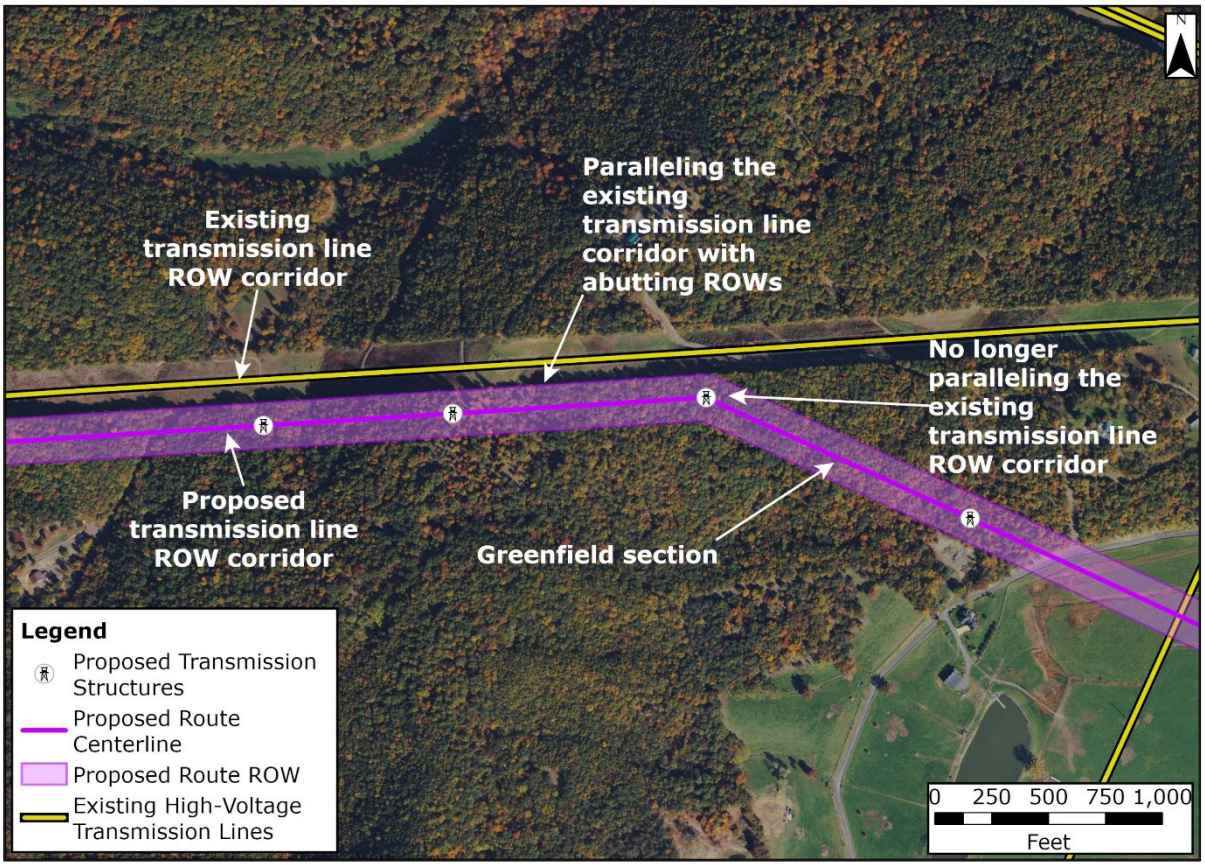
FIGURE 2.1-2 SITING CORRIDOR SCHEMATIC



ft = feet; ROW = right-of-way

FIGURE 2.1-3 ILLUSTRATION OF MARL PROJECT PARALLELING





MARL Project = MidAtlantic Resiliency Link Project; ROW = right-of-way

2.1.2 RIPARIAN HABITAT EXCLUSION ZONES

The MARL Project, in addition and where feasible, identified initial locations of riparian habitat associated with streams that could be maintained to minimize impacts where the topographic and engineering constraints allowed for such considerations along the Proposed Route (Attachment 1a, Topography Mapbook). As part of this effort, the MARL Project has identified 16 locations in Maryland where forested riparian buffers will be preserved to protect sensitive waterbodies (Table 2.1-1). At these locations—referred to as riparian habitat exclusion zones—engineering solutions were developed to retain existing riparian vegetation within 100 feet on either side of the stream. No vegetation clearing or ground disturbance will occur within these zones. These general mitigation measures reflect additional refinements made during preliminary engineering design to further avoid and minimize impacts, where feasible. As detailed MARL Project engineering continues to progress, additional areas that might be able to be maintained could be identified. If such a scenario arises, the impacts on resource areas could be reduced (see Figure 2.1-4 for a schematic of protecting riparian habitat).

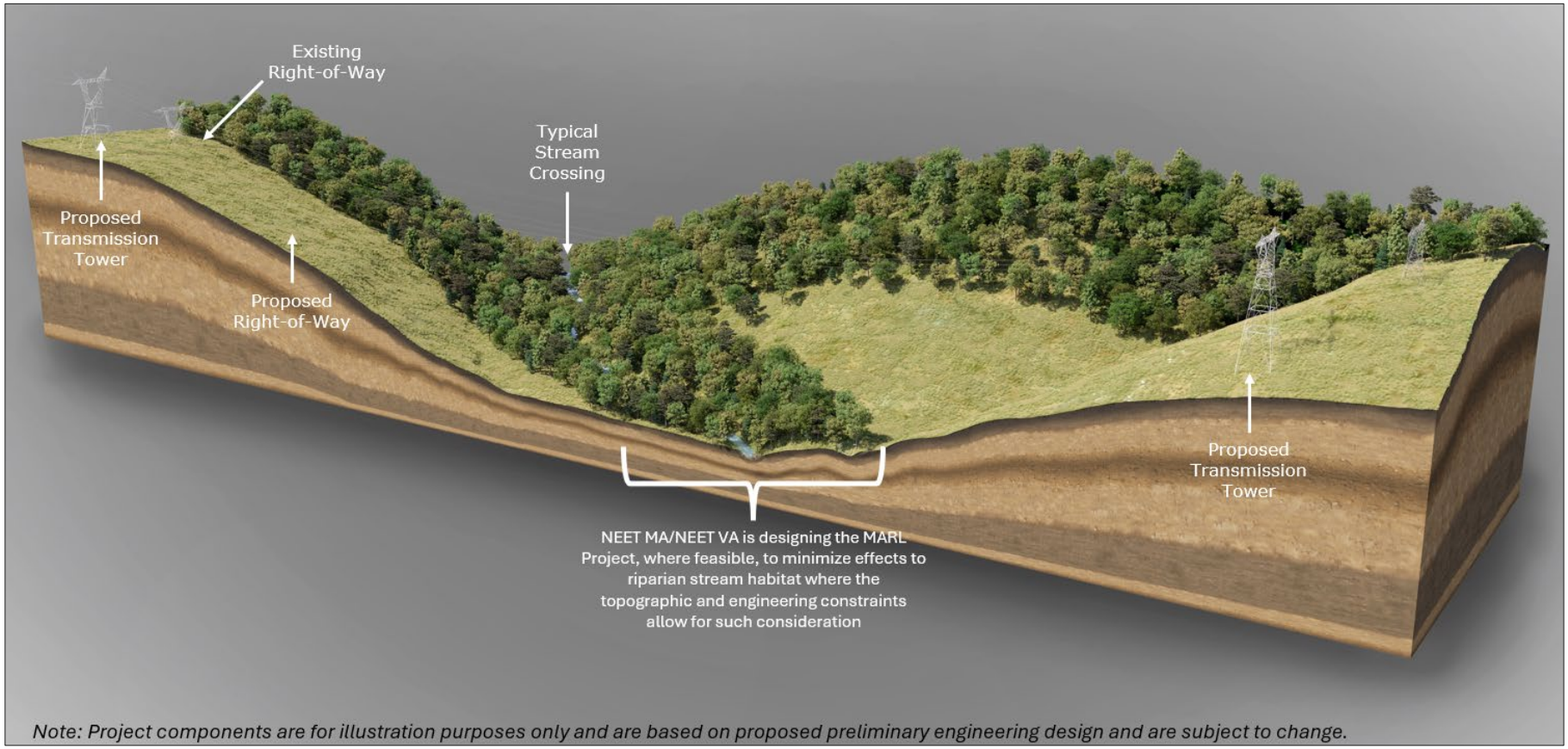
TABLE 2.1-1 MARYLAND RIPARIAN HABITAT EXCLUSION ZONES

Stream Name	Nearest MP	Riparian Habitat Exclusion Zone (acres)
Garrett County		
Youghiogheny River	37.3	1.2
Unnamed Tributary to Bear Creek	39.8	0.9
Fikes Run	40.7	1.0
Unnamed Tributary to Bear Creek	41.5	1.2
Cove Run	41.9	1.6
Bear Creek	42.4	1.5
Bear Creek	43.3	0.9
Bear Creek 4	44.8	2.9
South Branch Casselman River	49.7	1.2
Bear Pen Run 1	53.8	0.9
Silver Bell Run	54.4	0.9
Savage River	56.2	0.8
Allegany County		
Laurel Run	60.3	1.6
Georges Creek	62.1	2.1
Unnamed Tributary to Jackson Run	63.5	1.1
North Branch Potomac River [a]	67.9	1.2

MP = milepost

[a] The North Branch Potomac River is located within both Maryland and West Virginia.

FIGURE 2.1-4 PROTECTING RIPARIAN HABITAT



MARL Project = MidAtlantic Resiliency Link Project; NEET MA = Next Era Energy Transmission MidAtlantic, Inc.; NEET VA = Next Era Energy Transmission Virginia, Inc.

2.1.3 AERIAL EASEMENT LOCATIONS

There are 10 locations along the Proposed Route within Maryland that require a wider ROW Corridor, where additional aerial easement rights are necessary to comply with electrical standards and requirements (Figure 2.1-1). These locations are shown in Table 2.1-2.

TABLE 2.1-2 AERIAL EASEMENT LOCATIONS WITHIN GARRETT AND ALLEGANY COUNTIES

County	Pole Span Length (feet) [a]	Aerial Easement Beginning (MP)	Aerial Easement Ending (MP)	Maximum Width (feet) [a]	Length of Aerial Easement (feet) [a]	Stream Crossing
Garrett	1,961	37.2	37.4	264	1,234	Youghiogheny River
Garrett	2,413	41.8	42.1	323	1,860	Cove Run
Garrett	2,613	42.2	42.6	331	1,985	Bear Creek
Garrett	2,383	44.7	45.0	308	1,667	Bear Creek
Garrett	2,009	49.5	49.7	243	1,056	South Branch Casselman River
Garrett	2,927	50.9	51.3	422	2,434	Big run
Garrett	2,519	60.2	60.6	347	1,896	Laurel Run
Allegany	2,841	61.8	62.3	414	2,375	Georges Creek
Allegany	1,888	66.9	67.1	246	1,079	No stream
Allegany	2,612	67.2	67.6	394	2,126	No stream
Allegany [b]	2,228	67.9	68.2	313	1,627	North Branch Potomac River

MP = milepost

[a] All widths and lengths are presented as approximate measures.

[b] This aerial easement blowout area has a portion of the area within Allegany County, Maryland, and a portion within Mineral County, West Virginia.

2.1.4 ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR

In addition to the transmission line, the MARL Project includes ancillary facility workspaces required for both construction and long-term operation and maintenance. These ancillary facility workspaces consist of the following (Figure 2.1-5):

- Access roads;
- Structure pads at each tower location; and
- Wire work areas for conductor stringing operations.

The limit of disturbance (LoD) associated with ancillary facility workspaces is addressed exclusively within the impact sections of the ERD for the Proposed Route only. These LoD areas vary in size due to topographic constraints and ground conditions. Because the ancillary facility workspaces are located within or immediately adjacent to the Siting Corridor, the existing conditions of the Siting Corridor are considered representative of those at the ancillary facility locations. For the purposes of impact analysis, the entire extent of the LoD outside of the ROW Corridor is treated as affected.

Access roads will include both improvements to existing roads and the construction of new roads. They may be located within the ROW Corridor or extend beyond it, depending on site-specific access needs. Access roads are designated as either:

- Temporary—used solely during construction and treated as temporary impacts. Restoration is planned following construction.
- Permanent—required for ongoing operation and maintenance. These are reported in the ERD as permanent impacts.

Structure pads are constructed at each tower location to provide stable surfaces for equipment during installation and will have the appropriate dimensions to meet the terrain constraints. All structure pads are considered temporary construction impacts. The LoD associated with structure pads is variable and influenced by topography and ground conditions. These areas are treated as temporary impacts, with restoration planned post-construction.

Wire work areas are temporary work areas used for staging specialized equipment to string conductor wires between transmission structures. These sites are placed at strategic points, particularly where the transmission line changes direction. These areas are treated as temporary impacts, with restoration planned post-construction.

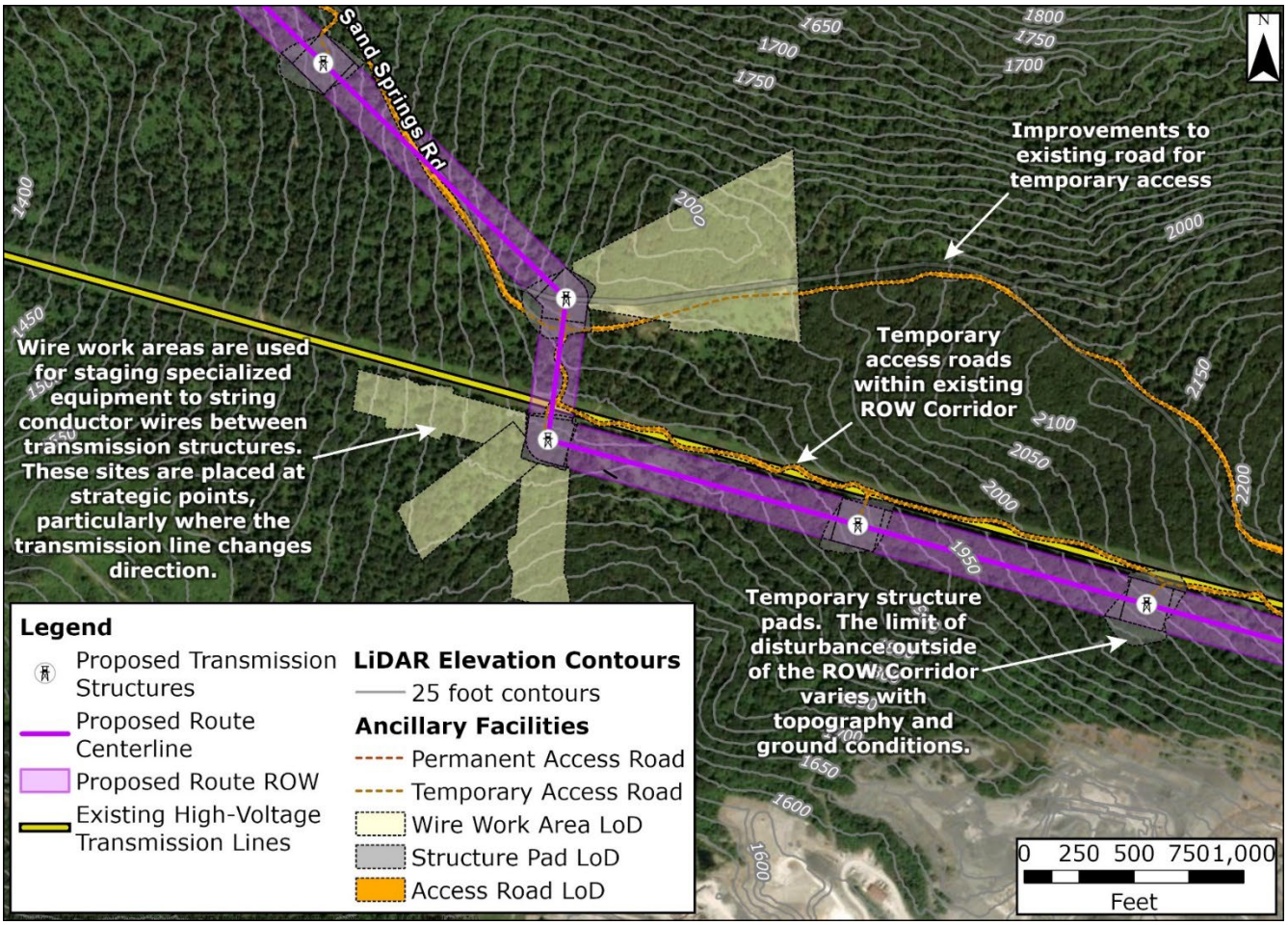
Table 2.1-3 shows the ancillary facility workspaces and associated LoD in Maryland.

TABLE 2.1-3 ANCILLARY FACILITY WORKSPACES FOR THE PROPOSED ROUTE

Measure	Permanent Access Roads		Temporary Access Roads		Structure Pads		Wire Work Areas	
	MD Counties	Total Proposed Route	MD Counties	Total Proposed Route	MD Counties	Total Proposed Route	MD Counties	Total Proposed Route
Workspace Facility (count)	NA	NA	NA	NA	147	452	40	108
LoD Outside of the ROW Corridor (acres)	1.3	7.1	64.3	231.4	40.6	123.3	92.0	233.9
Within ROW Corridor (miles)	0.1	2.7	25.9	70.7	NA	NA	NA	NA
Outside of the ROW Corridor (miles)	0.5	2.6	20.3	77.4	NA	NA	NA	NA

LoD = limit of disturbance; MD = Maryland; NA = not applicable; ROW = right-of-way

FIGURE 2.1-5 EXAMPLE MAP OF ANCILLARY FACILITY WORKSPACES



LiDAR = Light Detection and Ranging; LoD = limit of disturbance; ROW = right-of-way

2.1.5 MARYLAND SITE DESCRIPTION

The Proposed Route is 35.4 miles (out of 107.5 miles) in length through the two counties in Maryland, as shown on Figure 1.1-2. The Proposed Route crosses into the Sand Spring, Maryland, area (Garrett County) from near Evans Hill, West Virginia (Preston County), around MP 32.5 approximately 1 mile north of Interstate (I-) 68. The Proposed Route traverses through Garrett and Allegany Counties, leaving Maryland near Danville in Allegany County, and then reenters West Virginia across the North Branch of the Potomac River near Keyser in Mineral County, West Virginia, around MP 67.9. As shown in Table 1.1-1, the Siting Corridor in Maryland encompasses 1,991.7 acres, with 1,567.7 acres in Garrett County and 424.1 acres in Allegany County. In addition, the ROW Corridor in Maryland encompasses 898.0 acres, with 695.0 acres in Garrett County and 202.9 acres in Allegany County. As noted above, the MARL Project was able to maintain riparian habitat exclusion zones and, taking this into account, the ROW Corridor is 876.9 acres with 679.8 acres in Garrett County and 197.1 acres in Allegany County. Furthermore, the Proposed Route parallels existing transmission lines through 2.4 miles of state wildlands, encompassing 57.0 acres.

2.1.5.1 GARRETT COUNTY

The Proposed Route begins at the West Virginia-Maryland border at the western end of the South Branch Laurel Run stream (MP 32.5) and west of Blue Goose Road, approximately 1 mile north of I-68, then heads in northeasterly direction for 1.5 miles before crossing Route 42/Friendsville Road, turning in a southeast direction for 0.6 mile. From this point, the Proposed Route crosses Buffalo Run stream and turns in an easterly direction, paralleling the existing 138 kV transmission line corridor for 0.6 mile before deviating around some residential dwellings near MP 35.7 before paralleling the existing 138 kV transmission line corridor for 1.1 miles and crossing over the Youghiogheny River / U.S. Army Corps of Engineers (USACE) Recreation Management Area (RMA) near MP 37.3. The Proposed Route then deviates from the existing 138 kV transmission line corridor to avoid residential dwellings and crosses over I-68 around MP 37.7. At MPs 37.9 to 38.1, the Proposed Route crosses the 115 kV and 500 kV existing transmission line corridors. After crossing the two existing transmission line corridors, the Proposed Route turns in a southeasterly direction, crossing over the existing 138 kV transmission line corridor and running parallel to the existing 500 kV transmission line corridor for 2.5 miles, crossing a tributary to Bear Creek and Fikes Run. At MP 41.0, the Proposed Route deviates to avoid residential areas for 1.9 miles in a northeast-east direction from the existing transmission line corridor before heading in a southerly direction, crossing over Bear Creek and the associated challenging terrain before paralleling the existing 500 kV transmission line corridor again at MP 42.9.

The Proposed Route crosses over private lands from MP 42.9 to MP 43.8 before entering Maryland Department of Natural Resources (MDNR) State Lands, where it parallels the existing transmission line from MP 43.9 to MP 45.2, crossing the Bear Creek Hatchery parcel, Bear Creek 4, and Savage River State Forest. The Proposed Route then crosses a small area of private lands from MP 45.2 to MP 45.7. At MP 45.3, the Proposed Route deviates from the existing transmission line corridor to avoid spanning a MDNR wetlands of special state concern (WSSC) at MP 45.7 to MP 45.9, which is also located on Savage River State Forest. The Proposed Route crosses another portion of the Savage River State Forest, paralleling the existing transmission line, from MP 45.7 to 46.4. After exiting the Savage River State Forest, the Proposed Route parallels the existing transmission line corridor for 3.1 miles across private lands before crossing another portion of MDNR State Lands (i.e., Savage River State Forest) from MP 49.6 to MP 49.9 and again from MP 50.2 to MP 51.6. Between MP 50.6 and MP 51.3, the Proposed Route shifts slightly from the existing corridor to address terrain challenges and to meet the MARL Project's engineering requirements for aerial easement blowout. At MP 51.4, the Proposed Route crosses the existing 500 kV transmission line corridor, heading south to avoid the residential area near Fairview Road. The Proposed Route continues in a southeasterly direction for 1.3 miles, crossing another small section of the Savage River State Forest. Beginning at MP 52.7, the Proposed Route travels in an easterly direction, paralleling the existing 138 kV transmission line corridor crossing Savage River State Forest. At MP 53.3, the Proposed Route crosses the existing 138 kV transmission line on private property, paralleling the existing 138 kV transmission corridor on the southern side. At MP 53.5, the Proposed Route enters Savage River State Forest and Bear Pen Wildlands, crossing Bear Pen Run until MP 54.6, where it exits and crosses private lands. The Proposed Route enters Savage River State Forest and Bear Pen Wildlands at MP 55.1. At MP 55.5, the Proposed Route turns slightly in a southeasterly direction, paralleling once again the existing 500 kV transmission line corridor

crossing Savage River through Savage River State Forest and Big Savage Mountain Wildlands (MP 56.2 to MP 56.7). From MP 56.7 to MP 57.6, the Proposed Route travels across private lands and then from MP 57.6 to MP 59.0, travels while paralleling the existing transmission corridor within Savage River State Forest across Big Savage Mountain. The Proposed Route continues from MP 59.0 to MP 60.3 on private lands before crossing another small section of Savage River State Forest from MP 60.3 to MP 60.6.

2.1.5.2 ALLEGANY COUNTY

At MP 60.3, the Proposed Route enters Allegany County, Maryland, continuing to parallel the existing 500 kV transmission line corridor until MP 61.5, where the Proposed Route deviates from the existing corridor due to terrain and engineering concerns, and at MP 62.3, the Proposed Route continues to parallel the existing 500 kV transmission line corridor. At MP 64.4, the Proposed Route parallels the existing 500 kV transmission corridor through MDNR State Lands, Dans Mountain Wildlife Management Area (WMA), and Dans Mountain Wildlands, exiting the MDNR State Lands near MP 66.4. At MP 66.6, the Proposed Route deviates from the existing corridor to traverse south around Black Oak Substation. At MP 67.9, the Proposed Route crosses the North Branch Potomac River and enters back into West Virginia.

2.2 BIOPHYSICAL ENVIRONMENT

2.2.1 CLIMATE AND AIR QUALITY

The Public Utilities Article of the Annotated Code of Maryland (MD Code Ann.) includes a provision, §7-207(e)(3), that the impact of climate change on overhead transmission lines should be considered using "the best available scientific information recognized by the Intergovernmental Panel on Climate Change." This section describes the climate and air quality characteristics within and in the vicinity of the Siting Corridor, as well as the potential impact of climate change on the MARL Project.

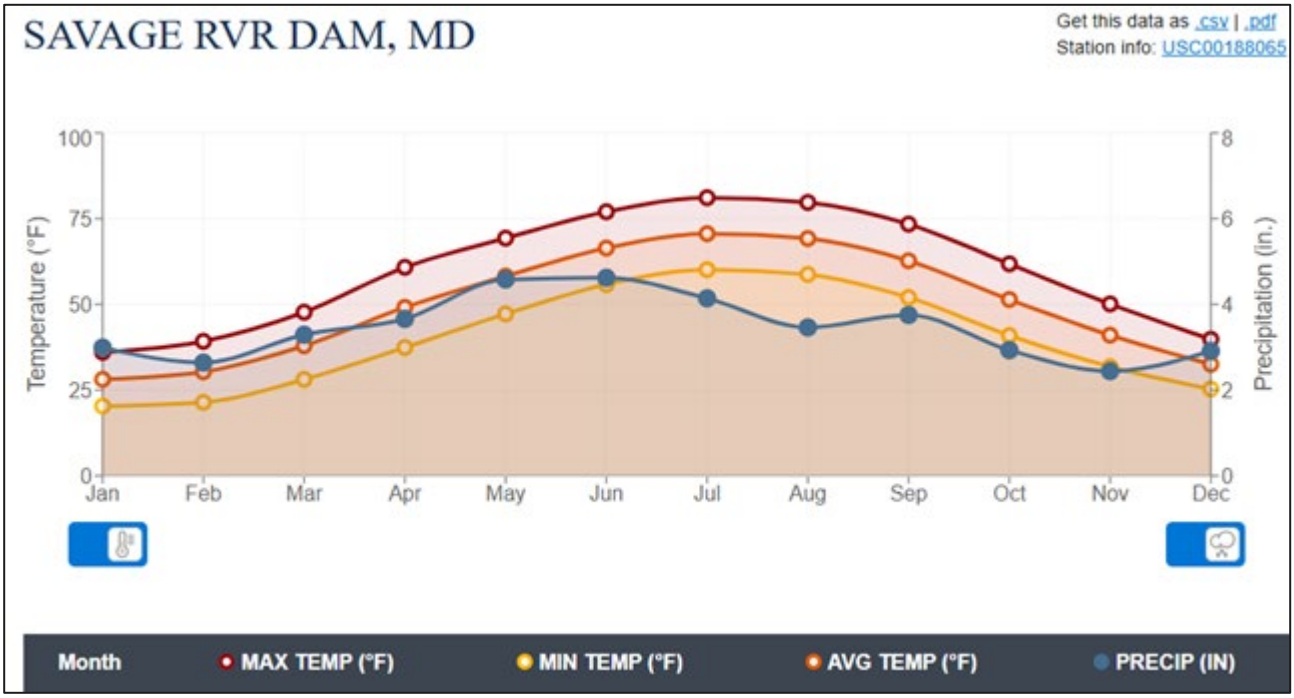
2.2.1.1 EXISTING CONDITIONS

The National Weather Service maintains weather monitoring stations across the country and makes this data publicly available online through the National Oceanic and Atmospheric Administration's (NOAA) U.S. Climate Normals Quick Access tool. The U.S. Climate Normals provide information about typical climate conditions across the U.S. and can be used as a predictor for future conditions. Normals are calculated for 30-year periods and updated every 10 years, with the most recent set of calculations being for 1991 to 2020. ERM reviewed U.S. Climate Normals data that included average maximum temperatures, average minimum temperatures, average precipitation, and the occurrences of storm events.

Garrett County

The Savage River Dam weather station provides representative data on weather patterns in Garrett County due to its central location within Garrett County. This station is also the closest weather station in Garrett County to the Siting Corridor (approximately 5 miles to the south). It has been operational since 1947, is still operational today, and has the most comprehensive data for Garrett County. Figure 2.2-1 provides the monthly average maximum temperature, monthly average minimum temperature, monthly average temperature, and monthly average precipitation recorded at the Savage River Dam weather station (1991 to 2020).

FIGURE 2.2-1 GARRETT COUNTY AVERAGE WEATHER DATA



Source: NOAA n.d.

°F = degrees Fahrenheit; in./IN = inch

The lowest average monthly temperature at this station was 20.3 degrees Fahrenheit (°F) in the month of January. The highest average monthly temperature was 70.6°F in the month of July. The annual average temperature was 49.8°F. The month with the average highest precipitation was June with 4.6 inches. The month with the average lowest precipitation was November with 2.4 inches (NOAA n.d.).

Based on wind data observations from Garrett County Airport taken between September 2011 and April 2025, the highest average wind speed was 11 miles per hour west-southwest, occurring in January and March. The lowest average wind speed was 7 miles per hour southwest, occurring in July and August. The annual average wind speed was 9 miles per hour southwest, with gusts up to 21 miles per hour (Windfinder 2025).

Severe weather events can cause reliability and resiliency problems with power systems. According to NOAA Storm Data, in the past 10 years (i.e., 2015 to 2025) Garrett County has had significant weather events including, but not limited to, extreme cold, heavy snow, ice storms, thunderstorms, hail, strong winds, flooding / flash flooding, heavy rain, and tornadoes (NOAA 2025). Table 2.2-1 lists and provides the number of occurrences for recorded significant weather events in the past 10 years in Garrett County.

TABLE 2.2-1 SIGNIFICANT WEATHER EVENTS IN GARRETT COUNTY, 2015–2025

Weather Event	Number of Occurrences in Garrett County (2015–2025)
Blizzard	2
Cold / Wind Chill	16
Dense Fog	2
Extreme Cold / Wind Chill	9
Flash Flood	9
Flood	25
Freezing Fog	0
Frost/Freeze	3
Hail	8
Heavy Rain	2
Heavy Snow	7
Heat	0
High Wind	8
Ice Storm	8
Lightning	1
Strong Wind	1
Thunderstorm Wind	63
Tornado	2
Winter Storm	43
Winter Weather	89
Total	**298**

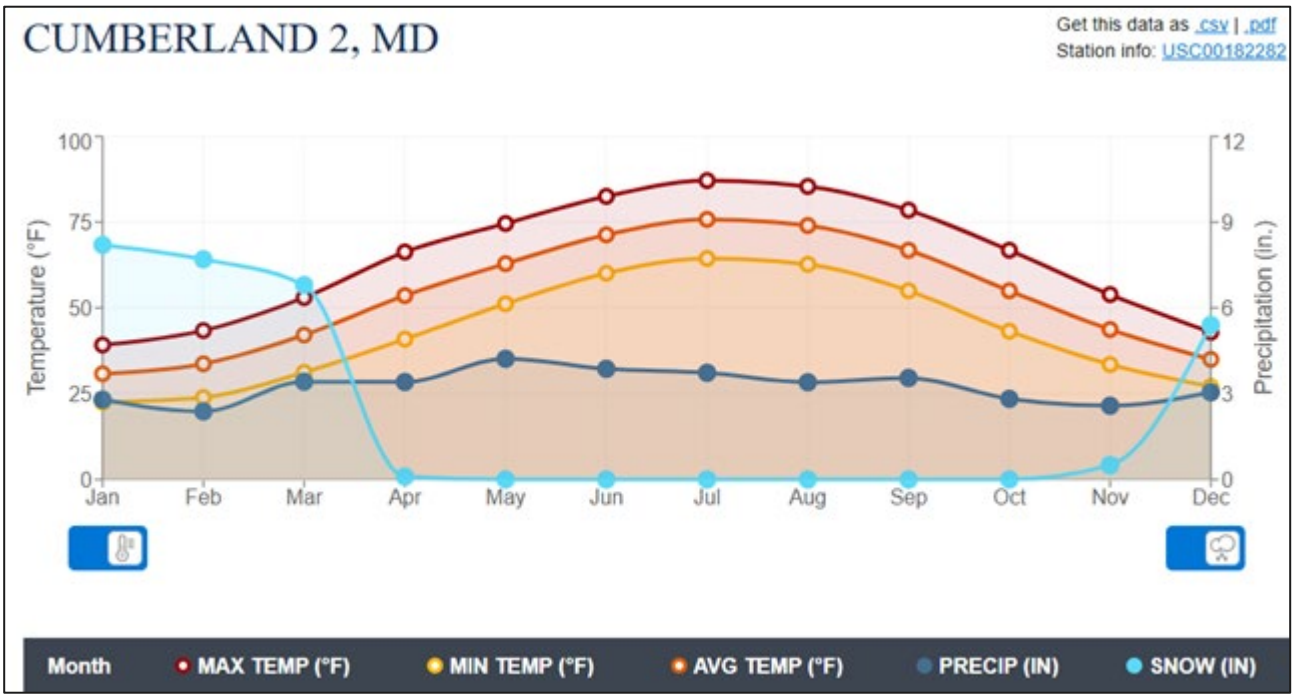
Source: NOAA 2025

Allegany County

The Cumberland 2 weather station provides representative data on weather patterns in Allegany County due to its centralized location in Cumberland, the county seat (there is another weather station in Allegany County near Frostburg with nearly identical weather data to this Cumberland station). This weather station is about 11 miles to the north of the Siting Corridor. It has monitoring data history that goes back to 1973 and is still logging and reporting presently.

Figure 2.2-2 provides the monthly average maximum temperature, monthly average minimum temperature, monthly average temperature, and monthly average precipitation recorded at the Cumberland 2 weather station (1991 to 2020).

FIGURE 2.2-2 ALLEGANY COUNTY AVERAGE WEATHER DATA



Source: NOAA n.d.

°F = degrees Fahrenheit; in./IN = inch

The lowest average monthly temperature at this station was 22.5°F in January. The highest average monthly temperature at this station was 87.1°F in July. The annual average temperature was 53.7°F. The month with the highest precipitation was May, with 4.2 inches. The month with the lowest precipitation was February, with 2.4 inches. This station additionally tracks snowfall. The highest average snowfall occurred in January with 8.2 inches of snow. Annually, this station gets an average of 28.7 inches of snow (NOAA n.d.).

Wind data observations were gathered from June 2012 to April 2025 from the Greater Cumberland Regional Airport. The highest average monthly windspeed was 9 miles per hour west-northwest in March. The lowest average monthly windspeed was 6 miles per hour west-southwest, west, and west-northwest in July, August, and September, respectively. Average annual windspeed at this location was 7 miles per hour west, with gusts up to 22 miles per hour (Windfinder 2025).

According to NOAA Storm Data, in the past 10 years (i.e., 2015 to 2025), Allegany County has had significant weather events, which have included but are not limited to extreme cold, heavy snow, ice storms, thunderstorms, hail, strong winds, flooding / flash flooding, heavy rain and tornadoes (NOAA 2025). Table 2.2-2 lists and provides the number of occurrences for recorded significant weather events in the past 10 years in Allegany County.

TABLE 2.2-2 SIGNIFICANT WEATHER EVENTS IN ALLEGANY COUNTY, 2015–2025

Weather Event	Number of Occurrences in Allegany County (2015–2025)
Blizzard	0
Cold / Wind Chill	19
Dense Fog	40
Extreme Cold / Wind Chill	6
Flash Flood	11
Flood	40
Freezing Fog	1
Frost/Freeze	18
Hail	7
Heavy Rain	0
Heavy Snow	0
Heat	11
High Wind	12
Ice Storm	9
Lightening	0
Strong Wind	0
Thunderstorm Wind	94
Tornado	0
Winter Storm	54
Winter Weather	140
Total	**462**

Source: NOAA 2025

Ambient Air Quality

The Clean Air Act requires the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The USEPA has established NAAQS for six "criteria" pollutants: carbon monoxide (CO), lead, nitrogen dioxide, ozone, particle (or particulate) pollution (fine particulate matter [particles with a diameter of 2.5 micrometers or less ($PM_{2.5}$)] and particulate matter with a diameter of 10 micrometers or less [PM_{10}]), and sulfur dioxide (SO_2). The Clean Air Act identifies two types of NAAQS. Primary standards provide public health protection, and secondary standards provide public welfare protection, such as protection against decreased visibility and damage to plants and animals.

The USEPA designates defined areas as meeting NAAQS, known as attainment, or not meeting NAAQS, known as non-attainment. Garrett and Allegany Counties are currently in attainment for all NAAQS pollutants, and do not have a history of being in non-attainment (USEPA 2025).

2.2.1.2 IMPACTS

The MARL Project will be designed to be resilient to anticipated changes in the climate, including sea level rise, increased storm intensity and frequency, and other significant weather events. The MARL Project's location in western Maryland is not at risk of sea level rise per the Maryland Environmental Resources and Land Information Network (MERLIN) (MDNR n.d.-a). The MARL Project will be designed to specifications and with materials intended to minimize impacts from severe climate and weather conditions. The MARL Project's steel structures, conductors, and other components will be designed to withstand applicable code and regulation requirements, including extreme loading conditions, including weather loads up to 100 miles per hour winds and 1.25 inches of ice on the conductors, and formulated to address environmental corrosion.

The MARL Project may result in temporary increases in fugitive dust and emissions from construction activities. These increases would be short-term (approximately 2 years) and would vary geographically as construction progresses along the ROW Corridor. Ground-disturbing activities, which would include grading, excavating pole foundations, and using vehicles and equipment on unpaved roads, may potentially contribute to an increase in fugitive dust and particulate matter during construction. The operation of diesel-powered construction vehicles and equipment, plus the increased vehicular traffic by workers, can also increase emissions during construction. These emissions may include the six primary pollutants identified under NAAQS and other hazardous air pollutants. The type and amount of emissions and air pollutants associated with burning fuel is in part dependent on the type of fuel, the types and number of equipment and vehicles in use, the duration of equipment and vehicle use, and other factors.

Pending future construction plans, dust emissions from dumping soil material and aggregate into storage piles will be estimated using *AP-42 Chapter 13.2.4 "Aggregate Handling And Storage Piles, equation (1)*." The amount of dust generated will vary based on the total amount of material transferred and specific weather conditions. In general, the worst-case scenario for dust emissions would be when the wind speed is high (15 miles per hour) and moisture content is low (0.25 percent). NEET MA plans to implement best management practices (BMPs) to minimize dust generation during construction. These BMPs will comply with COMAR 26.11.06.03D (fugitive dust regulation) and will include wetting disturbed areas, onsite speed controls, and stabilizing disturbed areas with seed and mulch in accordance with current Maryland Department of the Environment (MDE) requirements.

Emission factors for construction vehicle emissions will be modeled using the USEPA mobile source modeling software, Motor Vehicle Emission Simulator (MOVES), version 5.0.0 once construction plans have been drafted. Temporally, emissions will be modeled using January, April, July, and October to represent seasonal variability in emissions. All criteria pollutants will be modeled including nitrogen oxide (NO_x), CO, $PM_{2.5}$, PM_{10}, nonmethane hydrocarbons, SO_2, and volatile organic compounds (VOCs). MOVES emission factor results are given in grams per horsepower hour for all diesel operated construction equipment. On-road factors will be obtained for passenger trucks and single short-haul trucks (the majority of passenger trucks and short-haul vehicles will be diesel fueled). All roads will be assumed to be unrestricted urban. All pollutants mentioned above for non-road activities will also be determined for on-road in units of grams per mile traveled basis.

Table 2.2-3 includes example emission factor estimates based on typical vehicles and equipment that may be used in the construction of the MARL Project. In this example, emission factors were taken from the Bureau of Transportation Statistics dataset, "Estimated U.S. Average Vehicle Emissions Rates per Vehicle by Vehicle Type using Gasoline, Diesel, and Electric" (USDOT 2025). Factors used were taken from 2028 projections. Non-Road emission factors are based on the factors for diesel fueled heavy-duty vehicles and Road emission factors are based on gasoline fueled light-duty vehicles. The Bureau of Transportation does not provide SO_2, PM-10, or VOC emission factors. VOC emission factors were substituted with the factors for total hydrocarbons, which are approximately equal to VOC emissions. As stated earlier, once construction plans have been drafted, MARL Project-specific emissions will be estimated using available emission factors and USEPA MOVES.

TABLE 2.2-3 CONSTRUCTION VEHICLE AND EQUIPMENT EMISSIONS ESTIMATES

Pollutant	Non-Road (grams per mile traveled) [a]	Road (grams per mile traveled) [b]
CO	1.515	3.809
NO_x	2.227	0.1
SO_2	ND	ND
PM_{10}	ND	ND
$PM_{2.5}$	0.066	0.007
VOC	0.157	0.271
CO_2	1,308.0	312.0

Source: USDOT 2025

CO = carbon monoxide; CO_2 = carbon dioxide; NO_x = nitrogen oxide; ND = no data; $PM_{2.5}$ = fine particulate matter (particles with a diameter of 2.5 micrometers or less); PM_{10} = particulate matter with a diameter of 10 micrometers or less; SO_2 = sulfur dioxide; VOC = volatile organic compound

[a] Diesel fueled heavy-duty vehicles

[b] Gasoline fueled light-duty vehicles

During construction, the use of emission-emitting equipment and vehicles will be limited in sensitive areas (e.g., recreation areas, residential areas), to the extent feasible, and idling will be minimized as much as possible to help reduce emissions. Tree and other vegetation removal will be limited to the ROW Corridor to minimize new disturbed areas and limit exposed soils. New access roads will be developed only where needed to minimize unnecessary tree and vegetation clearing. Tree clearing and removal will be required as part of the MARL Project. NEET MA will use various methods of tree clearing and removal, which could include open burning; however, if required, all necessary approval will be obtained from the applicable state, county, or local jurisdictions. Other tree and vegetation management BMPs are discussed in Section 2.2.6, Vegetation and Terrestrial Species.

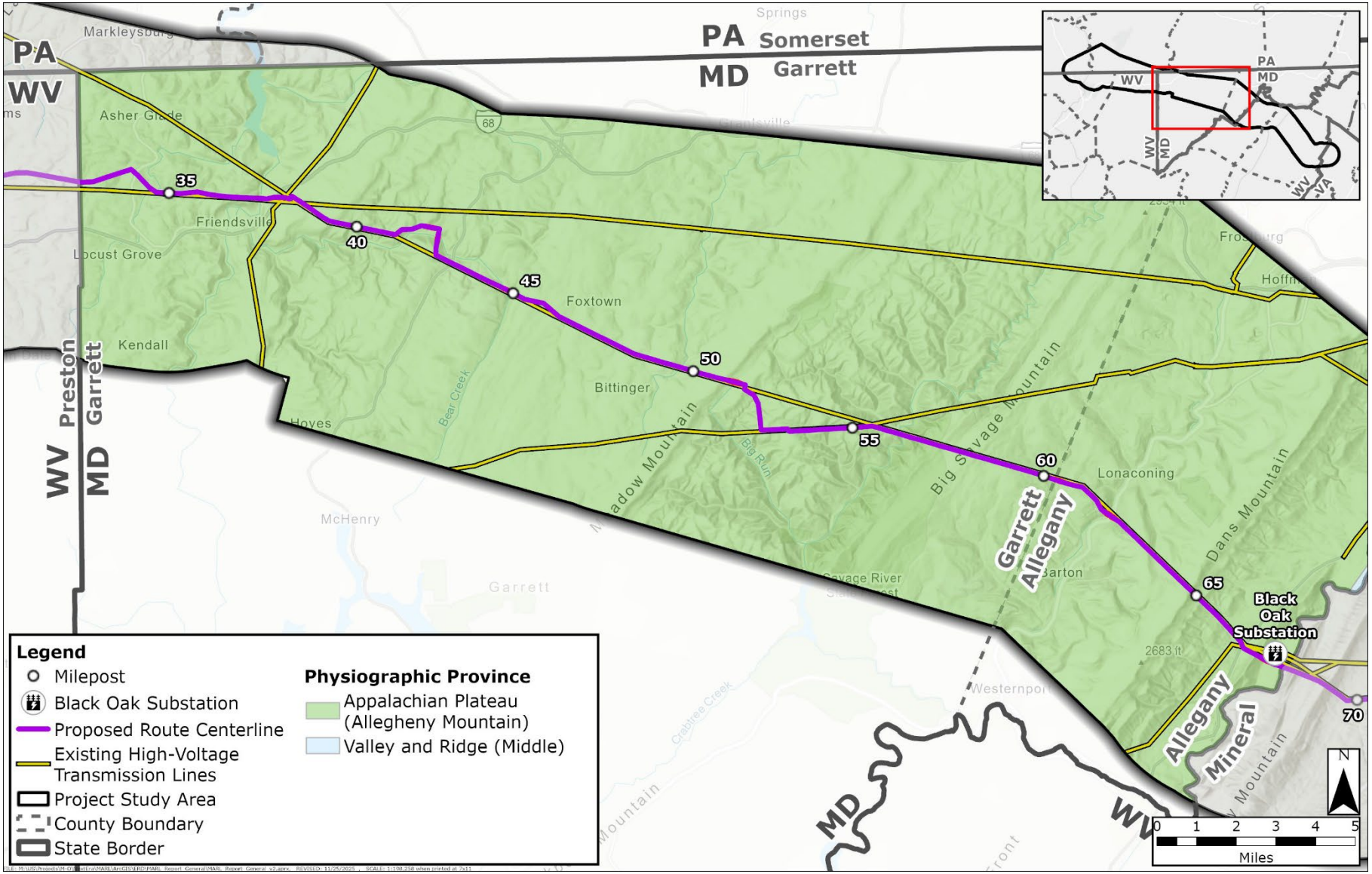
During transmission line operation and maintenance, emissions and fugitive dust would be minimal and limited to vehicular access related to periodic maintenance activities (the line itself would not generate emissions). As such, long-term impacts from the MARL Project on air quality are not anticipated.

2.2.2 PHYSIOGRAPHIC SETTING, GEOLOGY, AND GROUNDWATER

2.2.2.1 PHYSIOGRAPHIC SETTING

The Siting Corridor is in the western portion of Maryland (Garrett and Allegany Counties) within the Allegheny Mountains section of the Appalachian Plateau physiographic province (NPS 2017). The physiographic provinces located within the Siting Corridor is displayed on Figure 2.2-3.

FIGURE 2.2-3 PHYSIOGRAPHIC PROVINCES



MD = Maryland; PA = Pennsylvania; VA = Virginia; WV = West Virginia

The Appalachian Plateau province is a rugged elevated region consisting of dissected plateaus on the northwestern side of the Appalachian Mountain range (NPS 2017). The average elevation is approximately 2,500 feet above mean sea level with local northeast-southwest trending ridges and valleys within the plateau. An abrupt vertical change of approximately 2,000 feet at the Allegheny Front escarpment (approximately MP 65.0) runs parallel to and approximately 1.75 miles northwest of the Maryland / West Virginia state line.

2.2.2.2 GEOLOGY

Existing Conditions

The geology of western Maryland, and the Appalachian region in general, is complex. The region has been shaped by millions of years of deposition, folding, uplift, and erosion. The bedrock of the Allegheny Mountains region consists principally of gently folded shale, siltstone, and sandstone. Folding has produced elongated arches across the region which expose Devonian rocks at the surface. In the intervening synclinal basins, coal-bearing strata of Pennsylvanian and Permian ages are preserved (Maryland Geological Survey 1981).

Based on the Geologic Map of Maryland (Maryland Geological Survey 1968), the Siting Corridor is primarily underlain, from youngest to oldest, by the Monongahela Formation (Pm), Conemaugh Formation (PAc), Allegheny Formation and Pottsville Formation (PAap), Mauch Chunk Formation (Mmc), Greenbrier Formation (Mg), Pocono Group (Mp), and Hampshire Formation (Dh), "Chemung" Formation (Dch), Hamilton Group (Dhn), Oriskany Group (Do), Helderberg Formation (DShk), Tonoloway Limestone (Stl), Willis Creek Shale (Swb). The strata are folded throughout the corridor and generally exist as repeating sections, in opposite order, with older rocks (Devonian) exposed in the anticlines, and younger rocks (Pennsylvanian) exposed in the synclines. The following is a summary of the geologic formations:

- Monongahela Formation (PAm)—interbedded claystone, argillaceous limestone, shale, sandstone, and coal beds; Waynesburg coal at top; Pittsburgh coal at base; thickness 240 feet in west, increases to 375 feet in east.
- Conemaugh Formation (PAc)—includes the rocks between the base of the Pittsburgh coal and the top of the Upper Freeport coal; consists of two unnamed members which are separated by the Barton coal; both members are gray and brown claystone, shale, siltstone, and sandstone, with several coal beds; lower member also contains redbeds and fossiliferous marine shales; thickness 825 to 925 feet.
- Allegheny Formation and Pottsville Formation (PAap)—interbedded sandstone, siltstone, claystone, shale, and coal beds. The Allegheny Formation contains the Upper Freeport coal at the top; where present, the Brookville coal defines the base; with a thickness of 275 feet in northeast, increases to 325 feet in south and west. The Pottsville Formation contains conglomeratic orthoquartzite and protoquartzite at base; thickness 60 feet in northeast, increases to 440 feet in southwest.
- Mauch Chunk Formation (Mmc)—red and green shale, reddish-purple mudstone, and red, green, brown, and gray thin-bedded and cross-bedded sandstones; thickness 500 feet in west, increases to about 800 feet in east.

- Greenbrier Formation (Mg)—upper part consisting of red calcareous shale and sandstone interbedded with greenish-gray and reddish gray argillaceous limestone. If present the Loyalhanna Limestone Member is gray to red, cross-bedded, arenaceous calcarenite. total thickness 200 to 300 feet.
- Pocono Group (Mp)—gray, white, tan, and brown, thin- to thick-bedded, cross-bedded sandstone, locally conglomeratic; interbedded gray and reddish-brown shale, mudstone, and siltstone; fragmentary plant fossils. Undifferentiated in Garrett and western Allegany Counties. total thickness of the group is 250 feet in the west, increase to 1,700 feet in the east.
- Hampshire Formation (Dh)—interbedded red shale, red mudstone, and red to brown cross-bedded siltstone and sandstone; some thin green shale; greenish-gray sandstone and shale toward top; fragmentary plant fossils; thickness 1,400 to 2,000 feet in west, increases to 3,800 in east.
- "Chemung" Formation, Parkhead Sandstone, Brallier Formation, and Harrell Shale (Dch)—predominantly marine beds characterized by gray to olive-green graywacke, siltstone, and shale; thickness ranges from 2,000 to 3,000 feet. The Parkhead Sandstone is not present in Garrett and Allegany Counties. Brallier Formation is medium to dark gray, laminated shale and siltstone; weathers to light olive-gray; grain size coarsens upward; thickness about 2,000 feet in west, about 1,700 feet in east. Harrell Shale is dark gray laminated shale; absent in east and where Brallier lies directly on Mahantango, Tully Limestone lies near base in west, in subsurface of Garrett County; total thickness in west 140 to 300 feet.
- Hamilton Group (including Mahantango Formation and Marcellus Shale), and including Tioga Metabentontite Bed, and Needmore Shale (Dhn)—Mahantango Formation is dark gray, laminated shale, siltstone, and very fine-grained sandstone; thickness 600 feet in west, increases to 1,200 feet in east. Marcellus Shale is gray-black, thinly laminated, pyritic, carbonaceous shale; thickness 250 feet in east, increasing to 500 feet in west. Tioga Metabentonite Bed is brownish-gray, thinly laminated shale containing sand-sized mica flakes; thickness less than 1 foot. Needmore Shale is olive-gray to black shale and dark, thin-bedded, fossiliferous, argillaceous limestone; thickness ranges from 70 to 145 feet.
- Oriskany Group including Ridgeley Sandstone and Shriver Chert (Do)—Ridgeley Sandstone is white, medium- to coarse-grained, fossiliferous, calcareous orthoquartzite; thickness 160 feet in west. Medium to dark gray cherty, arenaceous limestone in east; thickness 50 feet. Shriver Chert is dark gray, brown, and black silty shales, cherty shales, and nodular and bedded black chert; fossiliferous; thickness 170 feet in west, upper boundary gradational with Ridgeley. Thickness 14 feet in east where the lower Shriver intertongues with the Licking Creek Limestone Member of the Helderburg Formation.
- Helderberg Formation and Keyser Limestone (DShk)—Licking Creek Member is present only in east. Medium gray, medium-grained limestone near top; bedded black chert and thin-bedded limestone in middle; silty argillaceous limestone and shale near base; contains tongues of Shriver and Mandata; thickness 110 feet. Mandata Shale Member is dark brown to black, thin-bedded shale; fossiliferous; thickness 20 to 30 feet in west, intertongues with Licking Creek Limestone Member in east. Corriganville Limestone Member is medium gray, medium-grained, medium-bedded limestone, interbedded with chert; fossiliferous; thickness

15 to 30 feet. New Creek Limestone Member is medium gray, thick-bedded, coarse-grained limestone; fossiliferous; thickness 9 to 10 feet. Limestone changes facies eastward into sandstone, the Elbow Ridge Sandstone Member is medium-bedded, medium- to coarse-grained, calcareous sandstone; thickness 10 to 18 feet. Keyser Limestone is dark gray, thin- to thick-bedded, fine- to coarse-grained calcarenite; contains nodular limestone, dolomitic limestone, and calcareous shale; cherty near top; fossiliferous; thickness 200 to 300 feet.

- Tonoloway Limestone (Stl)—gray, thin-bedded limestone, dolomitic limestone, and calcareous shale; thin sandstone member in east 20 feet above base; fossiliferous; thickness 400 feet in east, increases to 600 feet in west.
- Willis Creek Shale and Bloomsburg Formation (Swb)—olive to yellowish-gray, thin-bedded sandstone, calcareous shale, argillaceous limestone, and sandstone; thickness 450 feet in west, increases to 600 feet in east.

Mining

Based on the MDE Bureau of Mines Coal Division (MDE n.d.-a), both surface and underground mining is prevalent within eastern Garrett and western Allegany Counties, in the Georges Creek Coalfield associated with the coal-bearing Monongahela Formation (MDE n.d.-b, n.d.-a). However, there are no known current or historic mines within the Siting Corridor.

Karst

There are no known karst features within the Siting Corridor. Carbonate rocks are exposed at or near the surface in several areas along the Siting Corridor with the potential for karst features to develop (MDE n.d.-c). Limestone formations exposed in western Maryland and within the Siting Corridor includes the Greenbrier Formation (between MP 39.5 and MP 39.9, MP 44.9 and MP 45.2, MP 51.0 and MP 51.2, MP 57.6 and MP 57.8, and MP 64.9 and MP 65.0), the Monongahela Formation (between MP 60.6 and MP 61.9, and MP 62.5 and MP 63.1), the Oriskany Group (MP 66.8 and MP 67.3), the Helderberg Formation and Keyser Limestone (MP 67.3 and MP 67.4), and the Tonoloway Limestone (MP 67.4 and MP 67.7, and MP 67.8 and MP 67.9).

Impacts

Impacts on geology within the ROW Corridor include temporary impacts from construction activities and permanent impacts from installation of transmission structures. The Proposed Route within Maryland has 147 structures out of the total 452 for the MARL Project. Structure foundations and footers will be embedded into the ground surface. The footprint of the permanent structures is limited to a small area of the tower foundations and footers and does not extend the entire length of the ROW Corridor. The average span length between towers is 1,258 feet.

Structure foundation types are subject to final engineering design, geophysical surveys, and geotechnical investigations. Typical installation will be drilled piers with reinforced concrete; however, micropiles may be used in certain circumstances. Other foundation types will be considered, on an as-needed basis. The need for blasting is not anticipated for the MARL Project. If blasting is needed pending future engineering design and construction planning, NEET MA will prepare a Blasting Plan. If a Blasting Plan is determined to be needed, NEET MA will obtain the

necessary state and/or local permits. Drilling, if used, may have a localized impact at structure foundation locations, particularly if karst is present. BMPs will be implemented if karst features are identified during construction. Per MDE Stormwater Design Manual, Appendix D.2, BMPs in karst areas include restricting water discharge to the ground surface within 100 feet of a karst feature, using low-permeability liners for retention/detention areas, and installation of a water quality monitoring system, with monitoring wells installed upgradient and downgradient within 200 feet of the feature. Further geophysical evaluation will be required, as engineering design is advanced.

2.2.2.3 GROUNDWATER

Existing Conditions

In western Maryland, groundwater is generally found in fractures and bedding-plane partings in consolidated rock. Unconsolidated overburden covers the rock in most places, and the water table may occur above or below the overburden-rock interface. Local groundwater bearing-zones are also present in carbonate rock areas within Garrett and Allegany Counties. Depth to groundwater and well depths vary based on location as the wells are typically installed in water-bearing fractures from multiple formations rather than a single formation (Maryland Geological Survey 2025). Groundwater quality is variable depending upon the source of the groundwater but is generally usable for potable purposes (VanDerwerker et al. 2018). The U.S. Geological Survey (USGS) monitors the water levels in several wells within Garrett and Allegany Counties; however, there are no USGS groundwater monitoring locations within the Siting Corridor. Water levels are variable in the vicinity of the Siting Corridor, with groundwater reported as deep as 197 feet and as shallow as 5 feet. Overall, the average groundwater depth is approximately 45 feet below ground surface.

Based on water well data compiled by Lin et al. (2024), there are 35 water wells identified within the Siting Corridor. These wells range in depth from 60 to 670 feet deep, with 33 identified as domestic water wells, and 2 as monitoring wells. Three wells are listed as inactive, with 32 wells listed with an unknown status.

Impacts

Impacts on groundwater are not anticipated, as permanent structures will be located within the shallow subsurface, above anticipated groundwater levels. No new groundwater withdrawal wells will be installed for use during construction activities; however, NEET MA may, where necessary, use existing groundwater wells with approval from municipalities and/or landowners. BMPs for protecting groundwater include containment for leachable materials and/or chemicals, low permeability liners for liquids retention/detention, restricting discharge, and stormwater runoff control. Karst features are not anticipated, but if encountered, NEET MA will notify the MDE and conduct additional investigations, as necessary.

Drilling or other earthwork required for installation of the structural foundations will be limited to the footprint of the transmission structures and will not cover the entire length of the ROW Corridor. Groundwater extracted from within the Siting Corridor is not anticipated to be used during construction activities. Temporary construction activities are not expected to interfere with groundwater recharge, usage, or quality. No shallow unconfined groundwater or artesian

conditions are known within the ROW Corridor that would be encountered during construction activities, including drilling. If groundwater is encountered during drilling, dewatering may be required during construction as a temporary measure. Dewatering is expected to be localized to the immediate construction area. BMPs for water discharge, such as water diversion and the use of liners will be implemented, as appropriate, to minimize surface erosion. Due to the anticipated limited extent of dewatering, subsidence is not expected to affect the MARL Project or surrounding overburden.

Construction activities are not expected to affect existing water wells. If water wells are encountered during preconstruction or construction activities, the surface completion and any other aboveground appurtenances will be protected using fencing or guarding. If wells are damaged during construction, NEET MA will notify the property owner along with the MDE and the county health department.

2.2.3 SOILS

2.2.3.1 EXISTING CONDITIONS

ERM reviewed data available from the U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey (USDA NRCS 2025) for farmland classification, corrosiveness of concrete and steel, drainage class, and hydric rating. Attachment 1b, Soils Mapbook, shows soil types in detail, pursuant to the requirements in COMAR 20.79.04.02.D and 20.79.04.04.A.

In Maryland, there are 315 different soil types in the MARL Project Study Area, including 223 in Allegany County and 137 in Garrett County, and the most abundant soil types include the following:

Allegany County

- Gilpin very stony-Macove very rubbly complex, 25 to 45 percent slopes (GmE)
- Rayne silt loam, 15 to 25 percent slopes, extremely stony (ReD)
- Ernest silt loam, 15 to 25 percent slopes, very stony (EsD)
- Gilpin very stony-Macove very rubbly complex, 45 to 65 percent slopes (GmF)
- Buchanan gravelly loam, 8 to 15 percent slopes, extremely stony (BvC)
- Buchanan gravelly loam, 8 to 15 percent slopes, very rubbly (BwC)
- Lehew channery fine sandy loam, 25 to 45 percent slopes, very stony (LfE)
- Fairpoint channery loam, 8 to 15 percent slopes (FaC)
- Quarry, coal (QC)
- Berks flaggy silt loam, 25 to 45 percent slopes (BdE)
- Buchanan gravelly loam, 3 to 8 percent slopes, extremely stony (BvB)

Garrett County

- Stony land, steep (SrF)
- Dekalb and Gilpin very stony loams, 15 to 25 percent slopes (DgD)
- Cookport and Ernest very stony silt loams, 8 to 25 percent slopes (CuD)
- Gilpin channery silt loam, 10 to 20 percent slopes, moderately eroded (GnC2)
- Cookport and Ernest very stony silt loams, 0 to 8 percent slopes (CuB)
- Dekalb and Gilpin very stony loams, 0 to 15 percent slopes (DgC)
- Calvin, Ungers, and Lehew channery loams, 10 to 20 percent slopes, moderately eroded (CnC2)
- Gilpin channery silt loam, 0 to 10 percent slopes, moderately eroded (GnB2)
- Ungers, Calvin, and Lehew channery loams, 0 to 10 percent slopes (UcB)
- Dekalb and Leetonia very stony sandy loams, 0 to 15 percent slopes (DlC)
- Very stony land, rolling (VsD)
- Brinkerton and Andover very stony silt loams, 0 to 15 percent slopes (BsC)
- Dekalb-Calvin-Lehew very stony loams, 15 to 25 percent slopes (DcD)
- Calvin and Lehew channery loams, 35 to 50 percent slopes (ClE)

All the other soil types in Maryland individually account for less than 2 percent of the MARL Project Study Area in each county. Several of the most abundant soil types listed above are also among the most abundant in the Siting Corridor, including GmE, ReD, EsD, GmF, BvC, BwC, and LfE in Allegany County and all the above-listed soil types for Garrett County. Notably, dominant soil types are generally rocky along the Siting Corridor in Maryland, and steep, stony land comprises about 20 percent of the Siting Corridor in Garrett County.

Soils can be listed as prime farmland, unique farmland, or farmland of state or local importance. Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops that is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if it is treated and managed according to acceptable farming methods. Farmland of statewide or local importance does not meet all the criteria of prime farmland but is still recognized as valuable for agriculture. Table 2.2-4 summarizes farmland class within the Siting Corridor for the Proposed Route. While there are areas of prime farmland in the Siting Corridor, the MARL Project is not subject to the Farmland Protection Policy Act because its permitting, development, and operation does not involve federal funding. Per guidance from the U.S. Department of Agriculture Natural Resources Conservation Service, projects without federal funding, management, or technical assistance are not subject to the Farmland Protection Policy Act.

TABLE 2.2-4 FARMLAND SOIL CLASSES WITHIN THE SITING CORRIDOR (ACRES)

Farmland Class [a]	Garrett County	Allegany County	Total Maryland [b]
All areas are prime farmland	0.6	16.8	17.5
Farmland of statewide importance	166.8	20.2	187.0
Farmland of local importance	0.0	0.0	0.0
Not prime farmland	1,399.8	387.4	1,787.2
Total [b]	**1,567.3**	**424.4**	**1,991.7**

Source: USDA NRCS 2025

[a] Prime farmland includes the following farmland class categories: all areas are prime farmlands, farmland of statewide importance, and farmland of local importance.
[b] Totals may not match the sum of addends due to rounding.

Ratings are also given for the risk of corrosion to steel and concrete, which indicates the potential for a soil to corrode steel or concrete. The rate of corrosion of steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based primarily on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Ratings for corrosion of steel and concrete are given in qualitative terms, including as "high," "moderate," "low," and "NA." Table 2.2-5 and Table 2.2-6 summarize corrosion to steel and concrete, respectively, within the Siting Corridor for the Proposed Route.

TABLE 2.2-5 RISK RATINGS FOR CORROSION TO STEEL FROM SOIL CONTACT WITHIN THE SITING CORRIDOR (ACRES)

Risk Rating	Garrett County	Allegany County	Total Maryland [a]
High	212.2	170.3	382.5
Moderate	1,294.5	188.2	1,482.7
Low	55.3	61.1	116.4
NA	5.2	4.9	10.0
Total [a]	**1,567.3**	**424.4**	**1,991.7**

Source: USDA NRCS 2025

NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

TABLE 2.2-6 RISK RATINGS FOR CORROSION TO CONCRETE FROM SOIL CONTACT WITHIN THE SITING CORRIDOR (ACRES)

Risk Rating	Garrett County	Allegany County	Total Maryland [a]
High	1,516.4	290.9	1,807.3
Moderate	45.7	115.3	161.0
Low	0.0	16.8	16.8
NA	5.2	1.5	6.7
Total [a]	**1,567.3**	**424.4**	**1,991.7**

Source: USDA NRCS 2025

NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

Hydric soils are defined by the National Technical Committee for Hydric Soils as soils that are formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Changes in Hydric Soils of the United States, 59 *Federal Register* 133, July 13, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation. Table 2.2-7 summarizes the presence/absence of hydric soils in the Siting Corridor for the Proposed Route.

TABLE 2.2-7 PRESENCE OF HYDRIC SOILS WITHIN THE SITING CORRIDOR (ACRES)

Risk Rating	Garrett County	Allegany County	Total Maryland [a]
Yes	45.3	18.9	64.1
No	1,516.9	405.6	1,922.4
NA	5.2	0.0	5.2
Total [a]	**1,567.3**	**424.4**	**1,991.7**

Source: USDA NRCS 2025

NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

Drainage class refers to the frequency and duration of wet periods with conditions similar to those under which the soil formed. The drainage class of a soil helps determine its suitability for different types of use (e.g., agriculture, forestry, development). Table 2.2-8 summarizes drainage classification for the Siting Corridor for the Proposed Route.

TABLE 2.2-8 SOIL DRAINAGE CLASSIFICATIONS WITHIN THE SITING CORRIDOR (ACRES)

Drainage Class	Garrett County	Allegany County	Total Maryland [a]
Well-drained	1,296.2	255.2	1,551.4
Moderately well-drained	229.3	128.3	357.7
Somewhat excessively drained	0.0	20.6	20.6
Somewhat poorly drained	8.6	0.0	8.6
Poorly drained	27.2	18.9	46.1
NA	5.9	1.5	7.4
Total [a]	**1,567.3**	**424.4**	**1,991.7**

Source: USDA NRCS 2025

NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

2.2.3.2 IMPACTS

A summary of soil impacts in the ROW Corridor is outlined in Table 2.2-9 through Table 2.2-17. Of the 17.5 acres of prime farmland within the Siting Corridor, 7.3 acres are within the ROW Corridor and would potentially be affected by the MARL Project. An additional 80.7 acres of farmland of statewide importance could also be affected in the ROW Corridor. Temporary ancillary facility workspace outside of the ROW Corridor would affect less than 0.2 acre of prime farmland in Allegany County and 31.7 acres and 1.4 acres of farmland of statewide importance in Garrett and Allegany Counties, respectively. Permanent ancillary facilities outside of the ROW Corridor would affect a limited area of farmland of statewide importance, 0.4 acres, in Garrett County.

TABLE 2.2-9 FARMLAND SOIL CLASSES WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Farmland Class [a]	Garrett County		Allegany County		Total Maryland [b]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
All areas are prime farmland	0.6	0.5	16.8	6.8	17.5	7.3
Farmland of statewide importance	166.8	71.8	20.2	8.9	187.0	80.7
Farmland of local importance	0.0	0.0	0.0	0.0	0.0	0.0
Not prime farmland	1,399.8	607.5	387.4	181.4	1,787.2	788.9
Total [b]	**1,567.3**	**679.8**	**424.4**	**197.1**	**1,991.7**	**876.9**

Source: USDA NRCS 2025

[a] Prime farmland includes the following farmland class categories: all areas are prime farmlands, farmland of statewide importance, and farmland of local importance.
[b] Totals may not match the sum of addends due to rounding.

TABLE 2.2-10 FARMLAND SOIL CLASSES WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (ACRES)

Farmland Class [a]	Garrett County			Allegany County		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
All areas are prime farmland	0.0	0.0	0.0	0.0	0.1	<0.1
Farmland of statewide importance	0.4	6.8	24.9	0.0	0.8	0.6
Farmland of local importance	0.0	0.0	0.0	0.0	0.0	0.0
Not prime farmland	0.8	27.2	97.1	0.0	29.4	9.9
Total [b]	**1.3**	**34.0**	**122.0**	**0.0**	**30.3**	**10.6**

Source: USDA NRCS 2025

[a] Prime farmland includes the following farmland class categories: all areas are prime farmlands, farmland of statewide importance, and farmland of local importance.
[b] Totals may not match the sum of addends due to rounding.

The majority of the soils within the ROW Corridor have a moderate risk rating for corrosion to steel; however, of the 382.5 acres of soils with a high risk rating for corrosion to steel in the Siting Corridor, 168.4 acres (44.0 percent) are in the ROW Corridor. As noted in Table 2.2-11, 90.2 and 78.1 acres of soils with high risk ratings for corrosion to steel are in the ROW Corridor in Garrett and Allegany Counties, respectively. This represents 19.2 percent of the ROW Corridor in Maryland. Soils within the temporary and permanent ancillary facility workspaces outside of the ROW Corridor in Garrett and Allegany Counties generally pose a moderate risk of corrosion to steel (Table 2.2-12).

TABLE 2.2-11 RISK RATINGS FOR CORROSION TO STEEL FROM SOIL CONTACT WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Risk Rating	Garrett County		Allegany County		Total Maryland [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
High	212.3	90.2	170.3	78.1	382.5	168.4
Moderate	1,294.5	559.8	188.2	88.1	1,482.7	647.8
Low	55.3	28.3	61.1	28.8	116.4	57.1
NA	5.2	1.5	4.9	2.1	10.0	3.6
Total [a]	**1,567.3**	**679.8**	**424.4**	**197.1**	**1,991.7**	**876.9**

Source: USDA NRCS 2025

NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

TABLE 2.2-12 RISK RATINGS FOR CORROSION TO STEEL FROM SOIL CONTACT WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (ACRES)

Risk Rating	Garrett County			Allegany County		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
High	0.2	2.3	17.8	0.0	5.6	4.3
Moderate	0.8	27.9	89.8	0.0	20.6	4.6
Low	0.2	3.8	14.5	0.0	4.1	1.7
NA	0.0	0.0	0.0	0.0	0.0	0.0
Total [a]	**1.3**	**34.0**	**122.0**	**0.0**	**30.3**	**10.6**

Source: USDA NRCS 2025

NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

Soils within the Siting Corridor predominantly have a high risk rating for corrosion to concrete (1,807.3 acres) of which 788.7 acres are in the ROW Corridor in Maryland. As noted in Table 2.2-13, in Garrett and Allegany County, 658.1 and 130.6 acres of soils with high risk ratings for corrosion to concrete are in the ROW Corridor, respectively. This represents 89.9 percent of the ROW Corridor area in Maryland. Similarly, soils within the temporary and permanent ancillary facility workspaces outside of the ROW Corridor in Garrett and Allegany Counties generally pose a high risk of corrosion to concrete (Table 2.2-14).

TABLE 2.2-13 RISK RATINGS FOR CORROSION TO CONCRETE FROM SOIL CONTACT WITHIN SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Risk Rating	Garrett County		Allegany County		Total Maryland [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
High	1,516.4	658.1	290.9	130.6	1,807.3	788.7
Moderate	45.7	20.2	115.3	59.9	161.0	80.1
Low	0.0	0.0	16.8	6.6	16.8	6.6
NA	5.2	1.5	1.5	0.0	6.7	1.5
Total [a]	**1,567.3**	**679.8**	**424.4**	**197.1**	**1,991.7**	**876.9**

Source: USDA NRCS 2025

NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

TABLE 2.2-14 RISK RATINGS FOR CORROSION TO CONCRETE FROM SOIL CONTACT WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (ACRES)

Risk Rating	Garrett County			Allegany County		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
High	1.3	33.1	116.3	0.0	24.4	8.2
Moderate	0.0	0.9	5.7	0.0	3.1	1.8
Low	0.0	0.0	0.0	0.0	2.8	0.5
NA	0.0	0.0	0.0	0.0	0.0	0.0
Total [a]	**1.3**	**34.0**	**122.0**	**0.0**	**30.3**	**10.6**

Source: USDA NRCS 2025

NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

In the Siting Corridor, there are 64.1 acres of hydric soils, of which only 27.5 acres (3.1 percent) of the hydric soils are in the ROW Corridor in Maryland. As noted in Table 2.2-15, this includes 17.9 acres and 9.6 acres of hydric soils in the ROW Corridor in Garrett and Allegany Counties, respectively. None of the soils in the permanent ancillary facility workspaces outside of the ROW Corridor are hydric; however, there is a limited amount of hydric soils (7.2 acres) within the temporary ancillary facilities workspaces outside of the ROW Corridor (Table 2.2-16).

TABLE 2.2-15 PRESENCE OF HYDRIC SOILS WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Hydric Soil	Garrett County		Allegany County		Total Maryland [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
Yes	45.3	17.9	18.9	9.6	64.1	27.5
No	1,516.9	660.4	405.6	187.6	1,922.4	848.0
NA	5.2	1.5	0.0	0.0	5.2	1.5
Total [a]	**1,567.3**	**679.8**	**424.4**	**197.1**	**1,991.7**	**876.9**

Source: USDA NRCS 2025

NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

TABLE 2.2-16 PRESENCE OF HYDRIC SOILS WITHIN THE ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (ACRES)

Hydric Soil	Garrett County			Allegany County		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
Yes	0.0	0.7	6.3	0.0	0.2	<0.1
No	1.3	33.3	115.7	0.0	30.1	10.5
NA	0.0	0.0	0.0	0.0	0.0	0.0
Total [a]	**1.3**	**34.0**	**122.0**	**0.0**	**30.3**	**10.6**

Source: USDA NRCS 2025

NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

Most of the soils (96.9 percent) in the Siting Corridor in Maryland have well-drained classifications (including somewhat excessively drained, well-drained, and moderately well-drained). Similarly, 97.1 percent of soils in the ROW Corridor in Maryland are also in well-drained classes. As noted in Table 2.2-17, in Garrett County, this includes 663.7 acres in the ROW Corridor and 187.5 acres in the ROW Corridor in Allegany County. All soils in the permanent ancillary facilities workspaces outside of the ROW Corridor are well-drained or moderately well-drained; and the majority of the soils within the temporary ancillary facility workspaces outside of the ROW Corridor are well-drained, moderately well-drained and somewhat excessively drained, including 147.3 acres in Garrett County and 145.1 acres in Allegany County (Table 2.2-18).

TABLE 2.2-17 SOIL DRAINAGE CLASSIFICATIONS WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Drainage Class	Garrett County		Allegany County		Total Maryland [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
Well-drained	1,296.2	568.4	255.2	128.4	1,551.4	696.8
Moderately well-drained	229.3	95.3	128.3	51.3	357.7	146.7
Somewhat excessively drained	0.0	0.0	20.6	7.8	20.6	7.8
Somewhat poorly drained	8.6	2.3	0.0	0.0	8.6	2.3
Poorly drained	27.2	12.2	18.9	9.6	46.1	21.8
NA	5.9	1.5	1.5	0.0	7.4	1.5
Total [a]	**1,567.3**	**679.8**	**424.4**	**197.1**	**1,991.7**	**876.9**

Source: USDA NRCS 2025

NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

TABLE 2.2-18 SOIL DRAINAGE CLASSIFICATIONS WITHIN THE FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (ACRES)

Drainage Class	Garrett County			Allegany County		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
Well-drained	1.1	30.3	102.5	0.0	24.6	6.4
Moderately well-drained	0.2	2.7	11.8	0.0	4.8	3.5
Somewhat excessively drained	0.0	0.0	0.0	0.0	0.8	0.6
Somewhat poorly drained	0.0	0.3	2.3	0.0	0.0	0.0
Poorly drained	0.0	0.4	5.5	0.0	0.2	<0.1
Very poorly drained	0.0	0.3	0.0	0.0	0.0	0.0
NA	0.0	0.1	0.0	0.0	0.0	0.0
Total [a]	**1.3**	**34.0**	**122.0**	**0.0**	**30.3**	**10.6**

Source: USDA NRCS 2025

NA = not applicable

[a] Totals may not match the sum of addends due to rounding.

In the short term, the MARL Project would result in ground-disturbing activities from vegetation clearing in the ROW Corridor; grading, excavation, and construction of the transmission line structures; and equipment and vehicle use in the ROW Corridor. These activities would result in direct disturbance of soils, loss of prime farmland and increase the risk of immediate and long-term erosion, loss of topsoil, and compaction. The magnitude of soil impacts would depend on many factors, including existing vegetative cover, slope, and soil types. COMAR 26.17.01.05 requires that an erosion and sediment control plan be approved by the appropriate approval authority for grading activities disturbing more than 5,000 square feet of land or 100 cubic yards of earth or any project that involves any combination of private lands, county lands, state lands, or federal lands. As defined in COMAR 26.17.01.01, grading is an activity that causes the disturbance of the earth, including but not limited to excavating, filling, stockpiling of earth materials, grubbing, or root mat or top soil disturbance. Garrett Soil Conservation District and Allegany Soil Conservation District are the regulating bodies responsible for review and approval of erosion and sediment controls plans in their respective counties. To help minimize impacts on soil resources in the ROW Corridor, NEET MA will follow BMPs for the protection of topsoil and avoidance of degradation of farmland, including minimization of soil disturbance where possible, salvage of topsoil removed during grading activities for redistribution during the final reclamation of a site to facilitate the re-establishment of desirable vegetation, and stabilization of post-construction soil (i.e., re-vegetation).

A MARL Project-specific Erosion and Sediment Control (ESC) Plan and Stormwater Pollution Prevention Plan (SWPPP) will be prepared as part of the permit application. NEET MA will coordinate with state and local agencies during the development of the ESC Plan and SWPPP to incorporate and implement applicable state and local requirements. Appropriate BMPs will be used to manage stormwater runoff including silt sock, silt fence, construction entrances, temporary matting and bridges, and erosion matting. Once construction is complete, any exposed soils will be stabilized with vegetation to prevent erosion. Additional ESC permitting and BMPs related to water quality standards are addressed in Section 2.2.4, Water Resources.

Approximately 10 percent of the ROW Corridor would impact prime farmland or farmland of statewide importance. BMPs for the protection of topsoil (see above) and avoidance of degradation of farmland that should be followed in these areas include minimization of soil disturbance where possible, salvage of topsoil removed during grading activities for redistribution during the final reclamation of a site to facilitate the re-establishment of desirable vegetation, and post-construction soil stabilization.

Exposure to soils that corrode steel and/or concrete may pose a risk to MARL Project infrastructure, in particular the transmission towers (steel) and footings (concrete). More than 80 percent of soils within the ROW Corridor have a moderate to high risk of corrosion to steel and concrete. In areas where concrete and steel are planned for installation, NEET MA will test soils for corrosivity prior to construction. For tower locations with identified corrosivity based on soil tests, NEET MA will use industry best practices during construction and design for the identified soil conditions, including concrete design (e.g., type, strength, admixtures), physical barriers (e.g., sleeves, jackets, geomembranes, vaults), coatings (e.g., epoxy), sacrificial steel, and engineered soil (e.g., excavation of native soil and backfill with non-corrosive soil), among others.

During operation and maintenance of the MARL Project, impacts on soils would be minimal (assuming any construction-related impacts have been adequately addressed). There would be a limited amount of permanent reduction in prime farmland in the ROW Corridor, but soil erosion or other soil-related issues caused by operation and maintenance of the transmission line would be limited. NEET MA will periodically monitor the ROW Corridor for soil concerns and address with appropriate remedies, as needed, during the operational lifespan of the MARL Project.

2.2.4 WATER RESOURCES

This section describes existing surface water resources within the Siting Corridor and ROW Corridor for the Proposed Route, including wetlands, waterbodies, and floodplains, as well as impacts associated with the ROW Corridor and ancillary facility workspaces outside of the ROW Corridor. The wetland and waterbody desktop assessment provided in this section is comprised of a review of publicly available data and the results of deep learning wetland modeling to provide a comprehensive desktop characterization of wetland and waterbody resources and an enhanced assessment of impacts. In addition, as discussed in Section 2.2.4.2, NEET MA identified 16 locations in Maryland where forested riparian buffers will be preserved to avoid and minimize impacts on sensitive waterbodies. These areas are referred to as riparian habitat exclusion zones and are further discussed in Sections 2.2.4.2 and 2.2.4.3 related to waterbody and floodplain impacts and mitigation. Acreages and linear feet of surface water resources reported in this

section, including wetlands, waterbodies, and floodplains, exclude surface water resources that are located within the identified riparian habitat exclusion zones.

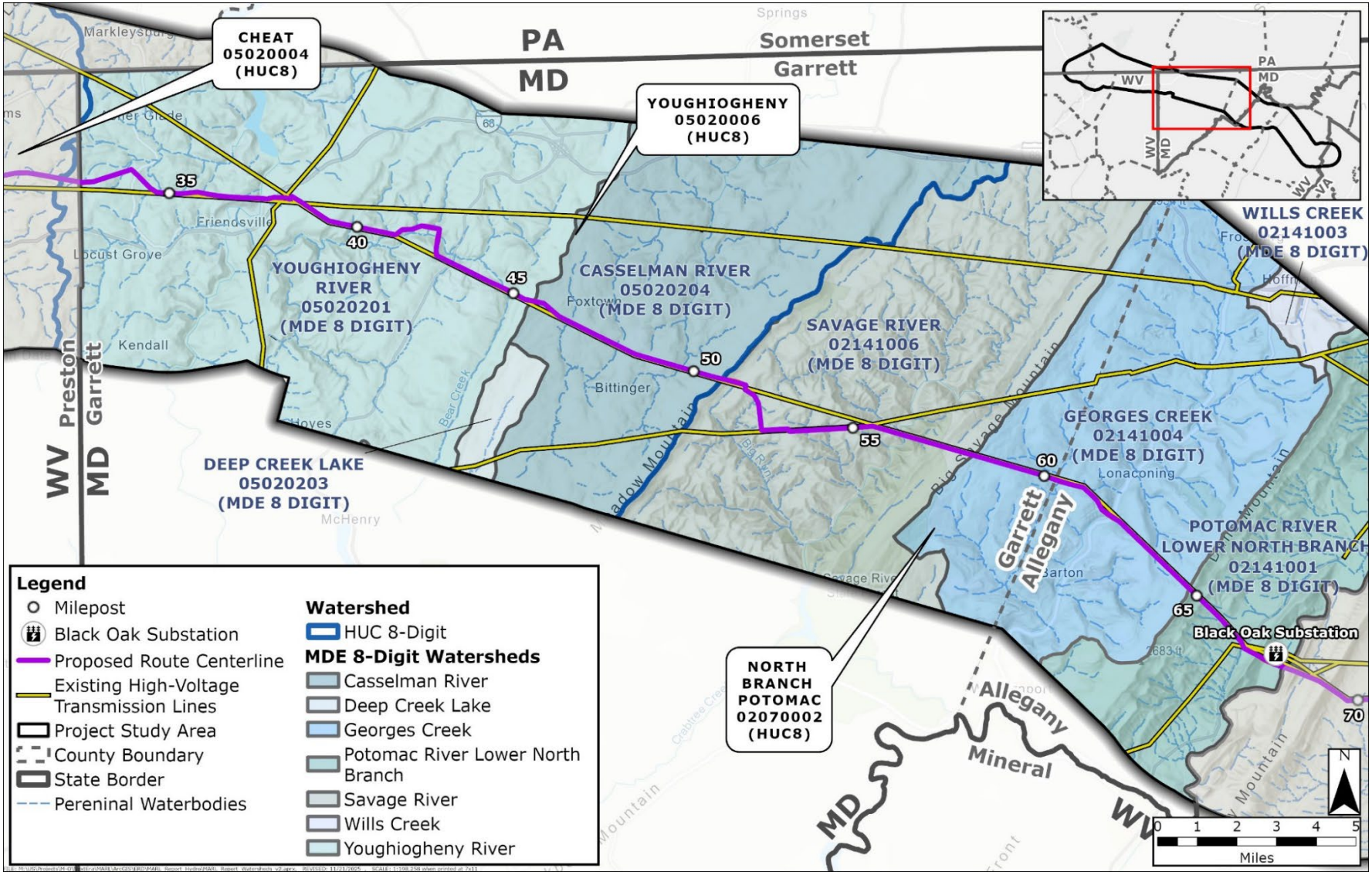
ERM evaluated data from the USGS National Hydrography Dataset Plus High Resolution (NHDPlus HR), Nationwide Rivers Inventory (NRI), National Wetlands Inventory (NWI), MDNR, MDE, and Federal Emergency Management Agency (FEMA) mapping. Attachment 1c, Water Resources Mapbook, shows water resources in detail, pursuant to the requirements in COMAR 20.79.04.02.D and 20.79.04.04.A.

The USACE has jurisdiction over wetlands and waterbodies under Section 404 of the Clean Water Act (CWA), which regulates the discharge of dredged or fill material into waters of the United States, including wetlands; and Section 10 of the Rivers and Harbors Act of 1899, which regulates work in, over, and under navigable waters of the United States. In addition, tidal and nontidal wetlands, waterways, and 100-year floodplains in Maryland are regulated by the MDE Wetlands and Waterways Protection Program, governed by COMAR 26.17.04, 26.23, 26.24, and 23.02.04.05C. COMAR 26.23 also governs the wetland "buffer," defined as a 25-foot-wide zone surrounding the boundary of a nontidal wetland or a 100-foot-wide zone in certain cases, including for wetlands of special state concern, wetlands adjacent to steep slopes or highly erodible soils (with an erodibility factor above 0.35), and areas near outstanding national resource waters (COMAR 26.23.01.01). The MDE regulates construction, alteration, or development activity in these areas. The MDE coordinates with federal agencies like the USACE through a joint permit process. Permits are required for filling or dredging in tidal wetlands, as well as most activities that alter nontidal wetlands and their associated 25-foot buffer. Ditches within the state are not regulated unless they have been excavated below the water table.

Within Maryland, the MARL Project is located within the USACE Baltimore District Regulatory boundary. The western part of Garrett County, including the Youghiogheny River, is located within the USACE Pittsburgh District Civil Works boundary, and the eastern portion of Garrett County and all of Allegany County are located in the USACE Baltimore District Civil Works boundary.

The MARL Project is within the North Branch Potomac (USGS Hydrologic Unit Code [HUC] 8-digit 02070002) and Youghiogheny (USGS HUC 8-digit 05020006) watersheds. In addition, approximately 48 acres of the westernmost end of the MARL Project in Maryland is within the Cheat (USGS HUC 8-digit 05020004) watershed (Figure 2.2-4) (USGS 2025). Maryland also uses a state-specific 8-digit watershed system to manage water resources at the state level. The MARL Project crosses the following Maryland watersheds: Youghiogheny River (Maryland [MD] HUC 8-digit 05020201), Casselman River (MD HUC 8-digit 05020204), Savage River (MD HUC 8-digit 02141006), Georges Creek (MD HUC 8-digit 0214104), and Potomac River Lower North Branch (MD HUC 8-digit 02141001).

FIGURE 2.2-4 WATERSHEDS



HUC = Hydrologic Unit Code; MD = Maryland; MDE = Maryland Department of the Environment; PA = Pennsylvania; VA = Virginia; WV = West Virginia

2.2.4.1 WETLANDS

Existing Conditions

ERM reviewed publicly available data from the U.S. Fish and Wildlife Service (USFWS) NWI and MDNR wetland and water resources mapping to assess the extent of water features within the Siting Corridor (USFWS n.d.-a; MDNR n.d.-b).

The USFWS NWI and MDNR characterize wetlands based on the Cowardin classification system, which is a system for categorizing wetlands and deepwater habitats. It classifies wetlands into five major "systems" that include Palustrine, Riverine, Lacustrine, Marine, and Estuarine. Lacustrine and Riverine waterbodies are discussed in Section 2.2.4.2, and the Siting Corridor does not cross marine and estuarine wetlands. Palustrine wetlands are inland, nontidal wetlands characterized by the presence of trees, shrubs, and emergent vegetation that are often found in areas with standing water or saturated soil. Palustrine wetlands are further classified as Palustrine Emergent (PEM), Palustrine Scrub-Shrub (PSS), and Palustrine Forested (PFO) wetlands.

PEM wetlands are characterized by erect, rooted, herbaceous hydrophytes (excluding mosses and lichens) that provide at least 30 percent aerial cover. PSS wetlands are dominated by woody vegetation less than 20 feet tall that provides at least 30 percent areal coverage. PFO wetlands are dominated by woody vegetation 20 feet tall or taller with trunk diameter at breast height of 3 or more inches that provides at least 30 percent areal coverage.

MDE WSSC are designated wetlands with rare, threatened, endangered species or unique habitat. Within the Siting Corridor, a single WSSC feature (<0.1 acre) was identified at MP 45.8 in Garrett County.

Table 2.2-19 provides a summary of NWI and MDNR wetland acreages within the Siting Corridor, Attachment 2, Waterbody Crossing Table, provides a comprehensive table for wetland crossings, and Attachment 1c provides detailed wetland mapping. There are no National Hydrography Dataset (NHD) wetland features (e.g., swamp/marsh) located within the Siting Corridor.

TABLE 2.2-19 NATIONAL WETLANDS INVENTORY AND MARYLAND DEPARTMENT OF NATURAL RESOURCES WETLANDS WITHIN THE SITING CORRIDOR (ACRES)

Cowardin Classification [a]	Garrett County	Allegany County	Total Maryland
NWI			
PEM	2.9	1.1	4.0
PFO	3.0	2.4	5.4
PSS	1.1	0.0	1.1
NWI Total [b]	**7.0**	**3.5**	**10.5**
MDNR			
PEM	2.2	0.3	2.5
PFO	2.7	0.0	2.7
MDNR Total [b]	**4.9**	**0.3**	**5.2**

Source: USFWS n.d.-a; MDNR n.d.-b

MDNR = Maryland Department of Natural Resources; NWI = National Wetlands Inventory; PEM = Palustrine Emergent; PFO = Palustrine Forested; PSS = Palustrine Scrub-Shrub; PUB = Palustrine Unconsolidated Bottom

a PUB; Riverine; and Unconsolidated Bottom, Limnetic, Lacustrine features are discussed in Section 2.2.4.2.

b Totals may not match the sum of addends due to rounding.

In addition to the review of publicly available data discussed above, a deep learning Wetland Identification Model (WIM) was used to further evaluate wetland resources within the Siting Corridor and provide a more robust and enhanced desktop analysis. The WIM was trained on and predicts all wetland types collectively and does not differentiate between Cowardin classifications (e.g., Palustrine, Riverine, Lacustrine).

The following resources were used to facilitate the WIM assessment for the Proposed Route Siting Corridor:

- MDNR wetlands / NWI wetlands;
- Light Detection and Ranging (LiDAR) Digital Elevation Models;
- Land Cover Data;
- NHD streams/waterbodies; and
- National Agriculture Imagery Program multi-spectral imagery and derivative products.

Using the base datasets above, eight predictor variables were created to help the deep learning model identify potential wetlands by recognizing complex patterns that correspond to wetland characteristics. These predictor variables consider characteristics in the Siting Corridor like hydrology, topography, and geomorphology. A more detailed discussion of the modeling assessment is presented in Appendix H, Wetland Identification Model Report, of the Routing Study.

Table 2.2-20 provides a summary of the acreage of modeled high probability wetlands (MHPW) within the Siting Corridor. MHPW were predicted using seven out of the eight variables, excluding a soil moisture index that historically overpredicts wetlands based on nearby surface water.

TABLE 2.2-20 WETLAND IDENTIFICATION MODEL HIGH PROBABILITY WETLANDS WITHIN THE SITING CORRIDOR (ACRES)

Wetland Features	Garrett County	Allegany County	Total Maryland
MHPW [a]	30.9	6.2	37.1

Source: USFWS n.d.-a; MDNR n.d.-b

MHPW = modeled high probability wetlands; PUB = Palustrine Unconsolidated Bottom; WIM = Wetland Identification Model

[a] The WIM was trained on all wetland types, including PUB, Riverine, and Lacustrine waterbodies discussed in Section 2.2.4.2. See Appendix H of the Routing Study for additional details.

Impacts

This section details the wetlands impacts associated with the ROW Corridor and associated ancillary facility workspace. Impacts on wetlands within the ROW Corridors and ancillary facility workspaces include temporary impacts on PEM and PSS wetlands from construction activities, including vegetative clearing, matting, and equipment access, as well as permanent wetland impacts associated with operation of the MARL Project. Wetland areas will be aerially spanned by transmission line conductors; however, there would be permanent conversion of some PFO wetlands to PEM and/or PSS wetlands within the ROW Corridor as a result of operational vegetative maintenance activities.

Table 2.2-21 summarizes the acreage of NWI- and MDNR-mapped wetlands within the Siting Corridor and ROW Corridor. The NWI wetland impacts associated with the ROW Corridor represent 0.2 percent of the 1,995.1 acres of NWI wetlands present within the MARL Project Study Area in Maryland. The MDNR wetland impacts associated with the ROW Corridor represent 0.1 percent of the 1,356.0 acres of MDNR wetlands present within the MARL Project Study Area in Maryland.

TABLE 2.2-21 NATIONAL WETLANDS INVENTORY AND MARYLAND DEPARTMENT OF NATURAL RESOURCES WETLANDS WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Cowardin Classification [a]	Garrett County	Allegany County	Total Maryland	Garrett County	Allegany County	Total Maryland
	Siting Corridor			ROW Corridor		
NWI						
PEM	2.9	1.1	4.0	0.9	0.6	1.5
PFO	3.0	2.4	5.4	0.9	1.3	2.2
PSS	1.1	0.0	1.1	0.2	0.0	0.2
NWI Total [b]	**7.0**	**3.5**	**10.5**	**2.0**	**1.9**	**3.9**
MDNR						
PEM	2.2	0.3	2.5	0.8	<0.1	0.8
PFO	2.7	0.0	2.7	1.0	0.0	1.0
MDNR Total [b]	**4.9**	**0.3**	**5.2**	**1.8**	**<0.1**	**1.8**

Source: USFWS n.d.-a; MDNR n.d.-b

MDNR = Maryland Department of Natural Resources; NWI = National Wetlands Inventory; PEM = Palustrine Emergent; PFO = Palustrine Forested; PSS = Palustrine Scrub-Shrub; PUB = Palustrine Unconsolidated Bottom

[a] PUB; Riverine; and Unconsolidated Bottom, Limnetic, Lacustrine features are discussed in Section 2.2.4.2.

[b] Totals may not match the sum of addends due to rounding.

Table 2.2-22 summarizes the acreage of NWI- and MDNR-mapped wetlands associated with the ancillary facility workspaces outside of the ROW Corridor. There are no temporary or permanent access road impacts on mapped wetland resources associated with the Maryland portion of the MARL Project, and there are no impacts on PSS wetlands as a result of ancillary facility workspaces outside of the ROW Corridor. The impacts associated with other temporary ancillary facility workspaces represent less than 0.1 percent of the 1,995.1 acres of NWI-mapped wetlands and less than 0.1 percent of the 1,356.0 acres of MDNR-mapped wetlands in the MARL Project Study Area in Maryland.

TABLE 2.2-22 NATIONAL WETLANDS INVENTORY AND MARYLAND DEPARTMENT OF NATURAL RESOURCES WETLANDS WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (ACRES)

Cowardin Classification [a]	Garrett County			Allegany County			Total Maryland		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
NWI									
PEM	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2
PFO	0.0	0.0	0.2	0.0	0.0	<0.1	0.0	0.0	0.2
NWI Total [b]	**0.0**	**0.0**	**0.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.4**
MDNR									
PFO	0.0	0.0	3.3	0.0	0.0	<0.1	0.0	0.0	3.3
MDNR Total [b]	**0.0**	**0.0**	**3.3**	**0.0**	**0.0**	**<0.1**	**0.0**	**0.0**	**3.3**

Source: USFWS n.d.-a; MDNR n.d.-b

MDNR = Maryland Department of Natural Resources; NWI = National Wetlands Inventory; PEM = Palustrine Emergent; PFO = Palustrine Forested; PUB = Palustrine Unconsolidated Bottom

[a] PUB; Riverine; and Unconsolidated Bottom, Limnetic, Lacustrine features are discussed in Section 2.2.4.2.

[b] Totals may not match the sum of addends due to rounding.

Table 2.2-23 summarizes the WIM MHPW acreages within the Siting Corridor and ROW Corridors. The MHPW impacts associated with the ROW Corridor represent 0.2 percent of the 5,246.5 acres of MHPW present within the MARL Project Study Area in Maryland.

TABLE 2.2-23 WETLAND IDENTIFICATION MODEL HIGH PROBABILITY WETLANDS WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Wetland Features	Garrett County	Allegany County	Total Maryland	Garrett County	Allegany County	Total Maryland
	Siting Corridor			ROW Corridor		
MHPW [a]	30.9	6.2	37.1	9.8	0.6	10.4

MHPW = modeled high probability wetlands; PUB = Palustrine Unconsolidated Bottom; ROW = right-of-way; WIM = Wetland Identification Model

[a] The WIM was trained on all wetland types, including PUB, Riverine, and Lacustrine features. See Appendix H of the Routing Study for additional details.

Table 2.2-24 summarizes the WIM MHPW wetland acreages associated with the temporary ancillary facility workspaces outside of the ROW Corridor. There are no WIM MHPW impacts associated with permanent access roads in the Maryland portion of the MARL Project. Impacts associated with temporary access roads and other temporary ancillary facility workspaces each represent less than 0.1 percent of the 5,246.5 acres of WIM MHPW wetlands in the MARL Project Study Area in Maryland.

TABLE 2.2-24 WETLAND IDENTIFICATION MODEL HIGH PROBABILITY WETLANDS WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (ACRES)

Wetland Features	Garrett County			Allegany County			Total Maryland		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
MHPW [a]	0.0	<0.1	2.7	0.0	0.2	<0.1	0.0	0.2	2.7

MHPW = modeled high probability wetlands; PUB = Palustrine Unconsolidated Bottom; WIM = Wetland Identification Model

[a] The WIM was trained on all wetland types, including PUB, Riverine, and Lacustrine features. See Appendix H of the Routing Study for additional details.

The ROW Corridor and ancillary facility workspaces have been designed to minimize impacts on wetlands, including siting structures and access roads outside of wetland areas, to the maximum extent practicable. Existing roads will be used, when feasible, to minimize new disturbance. Where equipment crossing is necessary in wetlands, construction matting will be used to minimize impacts on wetlands. Prior to construction, applicable permits will be obtained through the USACE and MDE Joint Permit Application process for authorization under Section 404 and Section 401 of the CWA and the Maryland Wetlands and Waterways Protection Program.

While PFO wetlands within the ROW will be permanently converted to PEM or PSS wetlands during operation due to long-term vegetation management requirements, PEM and PSS wetlands temporarily affected by construction will be allowed to reestablish within the ROW Corridor to the maximum extent practicable. In addition, PFO wetlands will be allowed to reestablish within ancillary facility workspaces; however, this will typically occur over a longer period of time. NEET MA will comply with the mitigation requirements and ratios of permits to compensate for unavoidable permanent impacts on wetlands, including conversion impacts. Mitigation ratios for nontidal wetlands are shown in Table 2.2-25, as per COMAR 26.23.04.03. Mitigation requirements will be determined by the USACE and MDE.

TABLE 2.2-25 NONTIDAL WETLAND MITIGATION RATIOS

Wetland Type	Replacement Ratio for Permanent Impacts (Mitigation Area: Affected Area)
Farmed	1:1
PEM	1:1
PSS	1.5:1
PFO	2:1
PSS to PEM conversion	1:1
PFO to PEM conversion	1:1
PFO to PSS conversion	1:1
PEM (of Special State Concern)	2:1
PSS (of Special State Concern)	3:1
PFO (of Special State Concern)	3:1

Source: MDNR n.d.-c

PEM = Palustrine Emergent; PFO = Palustrine Forested; PSS = Palustrine Scrub-Shrub

To comply with state stormwater requirements, NEET MA will obtain coverage under the Maryland General Permit for Stormwater Associated with Construction Activity (CGP-20), as described in Section 2.2.3, Soils. A MARL Project-specific ESC Plan and SWPPP will be developed in coordination with state and local agencies to meet applicable requirements and implement BMPs. Dewatering, if necessary, will be discharged in accordance with the practices described in the Maryland Stormwater Design Manual and comply with the applicable permit requirements. If other devices are proposed, NEET MA will obtain approval from the MDE prior to use. Implementation of these plans will further minimize impacts on wetlands within the ROW Corridor.

A Spill Prevention, Control, and Countermeasures (SPCC) Plan will be developed, if required, to avoid or minimize impacts on wetlands due to inadvertent releases of fuel or mechanical fluids in accordance with the USEPA regulations (40 Code of Federal Regulations [CFR] Part 112).

2.2.4.2 WATERBODIES

Existing Conditions

Data from the USGS NHDPlus HR, USGS topographic maps, USFWS NWI mapping, and MDNR data and mapping were reviewed to identify potential waterbodies within the Siting Corridor.
Table 2.2-26 provides a summary of perennial linear waterbodies in the Siting Corridor based on NHD data. There are no Stream/River – Intermittent NHD-mapped waterbodies within the Siting Corridor. Attachment 1c provides detailed waterbody mapping.

TABLE 2.2-26 PERENNIAL NATIONAL HYDROGRAPHY DATASET LINEAR WATERBODIES WITHIN THE SITING CORRIDOR (LINEAR FEET)

Waterbodies/Stream Segments	Garrett County	Allegany County	Total Maryland
Stream/River—Perennial	16,077.0	7,689.5	23,766.5

Source: USGS 2025

Table 2.2-27 provides a summary of perennial streams and rivers crossed by the Siting Corridor, including the MDE 8-digit watershed number for each.

TABLE 2.2-27 INDIVIDUAL PERENNIAL NATIONAL HYDROGRAPHY DATASET LINEAR WATERBODIES WITHIN THE SITING CORRIDOR (LINEAR FEET)

Feature Name	MDE 8-Digit Watershed Number	Feature Classification	Garrett County	Allegany County	Total Maryland
South Branch Laurel Run	05020201	Stream/River	601.7	NA	601.7
Unnamed waterbody	05020201	Stream/River	964.5	NA	964.5
Buffalo Run	05020201	Stream/River	1,121.3	NA	1,121.3
Unnamed waterbody	05020201	Stream/River	846.8	NA	846.8
Unnamed waterbody	05020201	Stream/River	492.9	NA	492.9
Unnamed waterbody	05020201	Stream/River	1,582.8	NA	1,582.8
Unnamed waterbody	05020201	Stream/River	238.4	NA	238.4
Unnamed waterbody	05020201	Stream/River	465.4	NA	465.4
Fikes Run	05020201	Stream/River	488.8	NA	488.8
Unnamed waterbody	05020201	Stream/River	682.4	NA	682.4
Cove Run	05020201	Stream/River	713.2	NA	713.2
Bear Creek	05020201	Stream/River	622.1	NA	622.1
Unnamed waterbody	05020201	Stream/River	465.1	NA	465.1
Bear Creek	05020201	Stream/River	190.3	NA	190.3
Bear Creek	05020201	Stream/River	678.4	NA	678.4
Unnamed waterbody	05020204	Stream/River	487.3	NA	487.3
North Branch Casselman River	05020204	Stream/River	475.8	NA	475.8
South Branch Casselman River	05020204	Stream/River	537.0	NA	537.0

Feature Name	MDE 8-Digit Watershed Number	Feature Classification	Garrett County	Allegany County	Total Maryland
Big Run	02141006	Stream/River	415.6	NA	415.6
Miller Run	02141006	Stream/River	525.9	NA	525.9
Unnamed waterbody	02141006	Stream/River	536.6	NA	536.6
Bear Pen Run	02141006	Stream/River	203.4	NA	203.4
Silver Bell Run	02141006	Stream/River	328.0	NA	328.0
Savage River	02141006	Stream/River	228.7	NA	228.7
Unnamed waterbody	02141006	Stream/River	1,478.2	NA	1,478.2
Unnamed waterbody	02141006	Stream/River	28.5	NA	28.5
Unnamed waterbody	02141006	Stream/River	206.3	NA	206.3
Unnamed waterbody	02141006	Stream/River	471.6	NA	471.6
Laurel Run	02141004	Stream/River	NA	665.4	665.4
Georges Creek	02141004	Stream/River	NA	765.7	765.7
Unnamed waterbody	02141004	Stream/River	NA	1,029.3	1,029.3
Unnamed waterbody	02141004	Stream/River	NA	2,208.8	2,208.8
Unnamed waterbody	02141004	Stream/River	NA	595.4	595.4
Unnamed waterbody	02141001	Stream/River	NA	994.1	994.1
Unnamed waterbody	02141001	Stream/River	NA	824.1	824.1
North Branch Potomac River	02141001	Stream/River	NA	606.7	606.7
Total [a]			**16,077.0**	**7,689.5**	**23,766.5**

Source: USGS 2025

MDE = Maryland Department of the Environment; NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

Table 2.2-28 provides a summary of open waterbodies (lakes, ponds, inundation areas) in the Siting Corridor based on NHD data.

TABLE 2.2-28 NATIONAL HYDROGRAPHY DATASET OPEN WATERBODIES WITHIN THE SITING CORRIDOR (ACRES)

Waterbodies/Stream Segments	Garrett County	Allegany County	Total Maryland
Lake/Pond—Perennial	3.0	0.3	3.3
Inundation Area	6.2	0.0	6.2
Total [a]	**9.2**	**0.3**	**9.5**

Source: USGS 2025

[a] Totals may not match the sum of addends due to rounding.

Table 2.2-29 provides a summary of individual lakes and ponds crossed by the Siting Corridor, including the NHD reach code for each.

TABLE 2.2-29 INDIVIDUAL PERENNIAL NATIONAL HYDROGRAPHY DATASET OPEN WATERBODIES WITHIN THE SITING CORRIDOR (ACRES)

Feature Name	NHD Reach Code	Feature Classification	Garrett County	Allegany County	Total Maryland
Unnamed open waterbody	05020201	Lake/Pond—Perennial	0.6	NA	0.6
Youghiogheny River Lake	05020201	Lake/Pond—Perennial	2.2	NA	2.2
Unnamed open waterbody	05020201	Lake/Pond—Perennial	0.1	NA	0.1
Unnamed open waterbody	02141004	Lake/Pond—Perennial	NA	0.3	0.3
Total [a]			**3.0**	**0.3**	**3.3**

Source: USGS 2025

NA = not applicable; NHD = National Hydrography Dataset
[a] Totals may not match the sum of addends due to rounding.

Table 2.2-30 provides a summary of NWI-mapped and MDNR-mapped waterbodies within the Siting Corridor based on Cowardin classification, including Palustrine Unconsolidated Bottom (PUB), Riverine, and Lacustrine features. PUB features are open waterbodies with unconsolidated bottom substrates. Riverine wetlands are wetlands directly connected to a river or stream, characterized by flowing water. The NWI and MDNR datasets provide these features as polygons. As a result, acreages are provided in Table 2.2-30 rather than measurements in linear feet. Lacustrine wetlands are wetlands directly associated with lakes and other bodies of standing water, like ponds or reservoirs.

TABLE 2.2-30 NATIONAL WETLANDS INVENTORY AND MARYLAND DEPARTMENT OF NATURAL RESOURCES WATERBODIES WITHIN THE SITING CORRIDOR (ACRES)

Cowardin Classification [a]	Garrett County	Allegany County	Total Maryland
NWI			
PUB [a]	1.5	0.2	1.7
R2UB	0.0	4.4	4.4
R3UB	6.2	0.0	6.2
R4SB	0.1	0.0	0.1
R5UB	4.4	1.1	5.5
NWI Total [b]	**12.2**	**5.7**	**17.9**
MDNR			
PUB [a]	2.6	0.6	3.2
R3UBH	2.1	1.5	3.6
MDNR Total [b]	**4.7**	**2.1**	**6.8**

Source: USFWS n.d.-a; MDNR n.d.-b

MDNR = Maryland Department of Natural Resources; NWI = National Wetlands Inventory; PUB = Palustrine Unconsolidated Bottom; R2UB = Unconsolidated Bottom, Lower Perennial, Riverine; R3UB = Unconsolidated Bottom, Upper Perennial Riverine; R3UBH = Unconsolidated Bottom, Upper Perennial Riverine, Permanently Flooded; R4SB = Streambed, Intermittent, Riverine; R5UB = Unconsolidated Bottom, Unknown Perennial, Riverine
[a] This includes Semi-Permanently Flooded, Beaver Modifier; Permanently Flooded; Permanently Flooded, Diked/Impounded; and Permanently Flooded, Excavated.
[b] Totals may not match the sum of addends due to rounding.

Water Quality Standards

Section 401 of the CWA authorizes states to establish and enforce water quality standards to protect surface waters from degradation (CWA §401, 33 United States Code [U.S.C.] §1341). Under this provision, each state must define water quality goals for its waterbodies by designating their intended uses, setting specific water quality criteria, and implementing policies to maintain and enhance water quality. The standards in Maryland are structured around three components:

1. Designated uses of the waters of this state;
2. Water quality criteria to protect the designated uses; and
3. Antidegradation Policy.

Designated Uses

According to COMAR 26.08.02.02, waterbodies are assigned a designated use, which is the water use goal for a particular stream segment, whether it is currently being attained. It can be based on the potential uses, which may be made possible by anticipated improvements in water quality. Maryland has designated the following appropriate uses for surface waters based on existing conditions (COMAR 26.08.02.02):

- Use Class I[6]—Water Contact Recreation, and Protection of Nontidal Warm Water Aquatic Life (work within water limited between March 1 through June 15);
- Use Class II[1]—Support of Estuarine and Marine Aquatic Life and Shellfish Harvesting (work within water limited between June 1 through September 30 and December 16 through March 14 but can also vary depending on species present);
- Use Class III[1]—Nontidal Cold Water (work within water limited between October 1 through April 30); and
- Use Class IV[1]—Recreational Trout Waters (work within water limited between March 1 through May 31).

Table 2.2-31 and Table 2.2-32 list the total acres and linear feet of each designated use classification for streams/rivers and lakes/ponds in the corridors, respectively.

TABLE 2.2-31 DESIGNATED USE CLASSIFICATIONS FOR PERENNIAL LINEAR WATERBODIES WITHIN THE SITING CORRIDOR (LINEAR FEET)

Waterbody Type	Designated Use Classification	Garrett County	Allegany County	Total Maryland
Stream/ River—Perennial	III	1,499.4	0.0	1,499.4
	III-P	14,841.1	6,307.4	21,148.5
	I-P	0.0	608.2	608.2
	IV-P	0.0	765.1	765.1
Total [a]		**16,340.5**	**7,680.7**	**24,021.2**

Source: MDE 2023a

[a] Totals may not match the sum of addends due to rounding.

[6] Designated use class may also include a 'P' modifier that indicates the use of the waters as a public water supply.

TABLE 2.2-32 DESIGNATED USE CLASSIFICATIONS FOR PERENNIAL OPEN WATERBODIES WITHIN THE SITING CORRIDOR (ACRES)

Waterbody Type	Designated Use Classification	Garrett County	Allegany County	Total Maryland
Lake/Pond—Perennial	III-P	2.2	0.0	2.2
Total [a]		**2.2**	**0.0**	**2.2**

Source: MDE 2023a

[a] Totals may not match the sum of addends due to rounding.

Water Quality Criteria

In accordance with Sections 305(b) and 303(d) of the CWA, Maryland is mandated to perform annual evaluations of its surface water resources and publish a list of waters that fail to meet the established water quality standards. Water quality standards include physical, chemical, and biological criteria such as dissolved oxygen, temperature, turbidity, metals, organic compounds, and bacteria. Waters that fail to meet one or more of these criteria are designated as impaired. For impaired waters, Maryland has developed Total Maximum Daily Loads (TMDLs) to establish the maximum permissible amount of an impairing substance in a body of water. TMDLs are calculations based on the relationship between sources of pollution and in-stream water quality conditions. Each TMDL addresses a single pollutant or stressor for each body of water.

The USEPA categorizes impaired waters into five categories based on whether they meet water quality standards and can achieve designated uses (USEPA 2001):

- Category 1—Waterbodies meet all water quality standards, and no use is threatened.
- Category 2—Waterbodies meet some water quality standards but with insufficient data and information to determine if other water quality standards are being met.
- Category 3—Insufficient data and information are available to determine if a water quality standard is being attained. This can be related to having an insufficient quantity of data and/or an insufficient quality of data to properly evaluate a water body's attainment status.
- Category 4—One or more water quality standards are impaired or threatened, but a TMDL is not required or has already been established.
    - Subcategory 4a—TMDLs are already approved or established.
    - Subcategory 4b—Other pollution control requirements (i.e., permits, consent decrees, etc.) are expected to attain water quality standards.
    - Subcategory 4c—Waterbody impairment is not caused by a pollutant (e.g., habitat is limiting, dam prevents attainment of use).
- Category 5—Waterbody is impaired, waterbody does not attain the water quality standard, and a TMDL or other acceptable pollution abatement initiative is required (i.e., 303[d] List).
    - Subcategory 5s—Water body impairment is caused by chloride from road salt. Waters assessed in Subcategory 5s are high priority to be addressed through pollution control requirements and restoration approaches, and lower priority for TMDL development.

Of these five categories, Maryland uses Categories 2 through 5 to assess waters in alignment with the assessment unit-parameter categories as reported in the USEPA's Assessment, TMDL Tracking and Implementation System (MDE 2024). Maryland places each pollutant (e.g., turbidity, metals, bacteria) for a single waterbody into one of the four categories. Table 2.2-33 indicates the watersheds in the Siting Corridor that are listed in Categories 4 and 5 and their respective impairment status according to Maryland's Final 2024 Integrated Report of Surface Water Quality (MDE 2024). Information in Table 2.2-33 is based on MDE 8-digit watersheds, and only certain sections of these larger watersheds (Figure 2.2-4) may be impaired. There are five additional TMDLs created for waters that are impaired with low pH, including iron, aluminum, sulfate, nitrate, and ammonium (Table 2.2-34). Nutrient input from agriculture (e.g., nitrogen and ammonium) can decrease pH in water and metals concentrations in streams can become toxic to aquatic life when pH is below 5 (MDE 2007, 2008). Table 2.2-34 indicates the watersheds in the Siting Corridor that are impaired with low pH and the additional TMDLs for iron, aluminum, sulfate, nitrate, and ammonium. TMDLs for low pH impairments are more specific to stream segments for each watershed and only those that cross the Siting Corridor are listed.

TABLE 2.2-33 WATERSHED CATEGORY 4 AND 5 IMPAIRMENTS WITHIN THE SITING CORRIDOR

Watershed	MDE 8-Digit Watershed Number	Impairment	Listing Category	Impairment Status	TMDL
Garrett County					
Savage River	2141006	pH, low	4a	Impaired—TMDL completed	See Table 2.2-34
		Mercury in fish tissue	4a	Impaired—TMDL completed	54.6 grams/year [a]
		Temperature	5	Impaired—TMDL required	NA
		Total phosphorous	5	Impaired—TMDL required	NA
Youghiogheny River	5020201	Lack of riparian buffer	4c	Impaired, but not due to water quality (i.e., habitat modification)	NA
		Total suspended solids	4a	Impaired—TMDL completed	13,700.3 tons/year [b]
		Temperature	5	Impaired—TMDL required	NA
		Mercury in fish tissue	5	Impaired—TMDL required	NA
Casselman River	5020204	pH, low	4a	Impaired—TMDL completed	See Table 2.2-34
		Chloride	5s	Salt; chloride impairments	NA
		Temperature	5	Impaired—TMDL required	NA
Allegany County					
Potomac River Lower North Branch	2141001	Temperature	5	Impaired—TMDL required	NA
		Perfluorooctane sulfonate in fish tissue	5	Impaired—TMDL required	NA
		Cause unknown	5	Impaired—TMDL required	NA
Georges Creek	2141004	Total suspended solids	4a	Impaired—TMDL completed	4,056.2 tons/year [c]
		E. coli	4a	Impaired—TMDL completed	479.7 billion Most Probable Number *E. coli* / day [d]
		pH, low	4a	Impaired—TMDL completed	See Table 2.2-34
		Sulfate	5	Impaired—TMDL required	NA
		Chloride	5s	Salt; chloride impairments	NA
		Temperature	5	Impaired—TMDL required	NA

Sources: MDiMAP n.d.-a; MDE n.d.-d

E. coli = Escherichia coli; MDE = Maryland Department of Environment; NA = not applicable; TMDL = Total Maximum Daily Load
[a] MDE 2002
[b] MDE 2006a
[c] MDE 2006b
[d] MDE 2006c

TABLE 2.2-34 TOTAL MAXIMUM DAILY LOAD FOR LOW PH LISTINGS WITHIN THE SITING CORRIDOR

Watershed	MDE 8-Digit Watershed Number	Station	TMDL for Low pH Listings					
			pH	Iron (pounds/ year)	Aluminum (pounds/ year)	Sulfate (pounds/ year)	Nitrate (pounds/ year)	Ammonium (pounds/ year)
Garrett County								
Savage River	02141006	WM-80	Minimum = 6.5 Average = 6.9 Maximum = 7.3	86	125	27,660	901	138
		WM-81	Minimum = 6.5 Average = 7.0 Maximum = 7.4	23	40	2,814	192	33
Casselman River	05020204	WM-142	Minimum = 6.5 Average = 7.0 Maximum = 7.8	19,977	15,156	276,339	10,423	2,577
Allegany County								
Georges Creek	02141004	WM-111	Minimum = 7.1 Average = 7.3 Maximum = 7.5	29,541	3,799	22,179	2,566	1,057
		WM-113	Minimum = 7.2 Average = 7.6 Maximum = 7.8	13,466	6,026	48,067	9,683	4,824
		WM-125	Minimum = 7.1 Average = 7.6 Maximum =7.8	10,564	4,592	36,906	4,632	1,712

Source: MDE 2008

MDE = Maryland Department of Environment; TMDL = Total Maximum Daily Load

Antidegradation Policy

The water quality standards set forth by the CWA include an antidegradation policy and implementation method. States are required to establish a three-tiered antidegradation program to ensure water quality continues to support designated uses. As outlined in COMAR 26.08.02.04, there are three tiers of protection:

- Tier I—Sets minimum water quality needed to maintain existing conditions.
- Tier II—Protects waters considered to possess an existing water quality that is better than the water quality standards established for them.
- Tier III—Protects high-quality waters that constitute an outstanding national resource.

All waters of the state receive Tier I protection, and there are currently no designated Tier III waters in Maryland. Table 2.2-35 summarizes the catchments designated as Tier II that are located within the Siting Corridor. There are no Tier II stream catchments within the Siting Corridor in Allegany County.

TABLE 2.2-35 TIER II CATCHMENTS WITHIN THE SITING CORRIDOR (ACRES)

Tier II Stream Catchment [a]	MDE 8-Digit Watershed Number	Garrett County	Total Maryland
Buffalo Run 1	05020201	226.6	226.6
Youghiogheny River UT 1	05020201	11.1	11.1
Bear Creek 2	05020201	389.1	389.1
Casselman River 1	05020204	165.5	165.5
S Branch Casselman River 2	05020204	132.6	132.6
Big Run 1	02141006	135.1	135.1
Savage River 2	02141006	239.7	239.7
Total [b]		**1,299.7**	**1,299.7**

Source: MDE 2023b

MDE = Maryland Department of Environment; UT = unnamed tributary

[a] The MDE implements Tier II review at the watershed level and identifies Tier II catchments whose surface areas drain to the most downstream Tier II stream segment in a collective watershed area (MDE n.d.-e). The MDE designates the catchment name based on the most downstream Tier II stream segment.

[b] Totals may not match the sum of addends due to rounding.

There are two stream segments designated as Tier II that are located within the Siting Corridor in Garrett County (Table 2.2-36). There are no Tier II stream segments within the Siting Corridor in Allegany County.

TABLE 2.2-36 TIER II STREAM SEGMENTS WITHIN THE SITING CORRIDOR (LINEAR FEET)

Tier II Stream Segment [a]	MDE 8-Digit Watershed Number	Garrett County	Total Maryland
Bear Creek 4	05020201	964.2	964.2
Bear Pen Run 1	02141006	203.5	203.5
Total [b]		**1,167.7**	**1,167.7**

Source: MDE 2023b

MDE = Maryland Department of Environment
[a] Each Tier II stream segment has a corresponding number indicating the specific site unit number (e.g., Bear Creek 4) correlating to an MDE stream sample point.
[b] Totals may not match the sum of addends due to rounding.

Section 10 Waters

Under Section 10 of the Rivers and Harbors Act of 1899, navigable waters are defined as waters subject to the ebb and flow of the tide and/or are presently used, have been used in the past, or could be susceptible for use to transport interstate or foreign commerce. The Siting Corridor crosses one Section 10 waterbody: the Youghiogheny River Lake / Youghiogheny River.

Wild and Scenic Rivers

Passed by Congress in 1968, the Wild and Scenic Rivers (WSR) Act protects the natural, cultural, and/or recreational values of designated rivers or segments of a river "for the benefit and enjoyment of future generations." There are no federally designated WSR in Maryland.

Administered by the National Park Service (NPS), the NRI is a listing of more than 4,500 free-flowing river segments in the United States that have one or more "outstandingly remarkable" natural or cultural value. NRI river segments are potential candidates for inclusion in the National WSR System. Under the WSR Act, federal agencies must seek to avoid or mitigate actions that will affect these NRI segments. The Youghiogheny River in western Garrett County, Maryland, is listed in the NRI (NPS 2024). The Siting Corridor crosses the Youghiogheny River Lake / Youghiogheny River; however, no portion of the Siting Corridor is within the limits of the NRI-designated portion of this river (the NRI-designated section ends south of I-68).

At the state level, the MDNR preserves and protects rivers designated as scenic and/or wild as part of the state of Maryland Scenic and Wild Rivers System. This state system was created in 1968 to recognize rivers with "outstanding scenic, geologic, ecologic, historic, recreational, agricultural, fish, wildlife, cultural, and other similar resource values" (MDNR n.d.-d). The Youghiogheny River is a designated Wild River within the Maryland Scenic and Wild River System; it was one of the original five rivers designated under the creation of the state system. As noted in the Youghiogheny River Management Plan, the river has "unique natural, cultural, and recreational resources that are unequaled by those of any other river in the state of Maryland" (MDNR 1996). The Siting Corridor crosses the Youghiogheny River Lake / Youghiogheny River; however, no portion of the Siting Corridor is within the limits of the scenic or wild portions of this river.[7]

[7] The wild designation of the Youghiogheny River is from Friendsville, Maryland south. In addition, the scenic designation of the river is outside of the MARL Project Study Area in Maryland.

Impacts

This section details the waterbody impacts associated with the ROW Corridor and ancillary facility workspaces. Waterbodies will be aerially spanned by the transmission line conductors, and transmission structures will not be placed within waterbodies to avoid direct impacts on waterbodies during operation of the MARL Project to the maximum extent practicable. However, due to engineering design constraints within the ROW Corridor, one structure, 56-3(A), at MP 56.6 in Garrett County will be located within the outermost portion an NWI-mapped riverine feature, which is identified as an unnamed tributary to Savage Run; however, the structure location does not intersect the NHD-mapped flowline for this waterbody. The ROW Corridor at this location is within the Big Savage Mountain Wildlands where there is a narrowly defined ROW required by legislation to be adjacent to the existing transmission line, prohibiting deviations for resource avoidance. A more detailed discussion of the Maryland Wildlands Preservation System is presented in Section 2.4.3, Protected Lands. Impacts due to structure placement in a waterbody, if required, could include increased sedimentation, flow disruption, and habitat displacement during construction and/or operation.

In some areas, forested riparian buffers adjacent to waterbodies will be cut and permanently converted to maintained scrub/shrub or herbaceous cover within the ROW Corridor during operation. Removal of forested riparian vegetation would result in indirect impacts on waterbodies, including localized increases in water temperature and decreased dissolved oxygen levels. In addition, vegetation clearing, grading or other earth-disturbing activities associated with construction in proximity to waterbodies would temporarily result in increased potential for erosion and stormwater runoff impacts, including increased nutrient loading, turbidity, and sedimentation in waterbodies. Impacts on waterbodies as a result of access road construction and/or culvert placement in waterbodies, if required, could include increased sedimentation, flow disruption, and habitat displacement. Permanent waterbody impacts are discussed below.

Table 2.2-37 summarizes the linear feet of NHD linear waterbodies within the Siting Corridor and ROW Corridor. The NHD-mapped waterbody impacts associated with the ROW Corridor represent 0.2 percent of the 2,835,396.6 linear feet of NHD waterbodies present within the MARL Project Study Area in Maryland.

TABLE 2.2-37 PERENNIAL NATIONAL HYDROGRAPHY DATASET LINEAR WATERBODIES WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (LINEAR FEET)

Waterbodies / Stream Segments	Garrett County	Allegany County	Total Maryland	Garrett County	Allegany County	Total Maryland
	Siting Corridor			ROW Corridor		
Stream/River—Perennial	16,077.0	7,689.5	23,766.5	4,364.2	1,303.4	5,667.6
Total [a]	**16,077.0**	**7,689.5**	**23,766.5**	**4,364.2**	**1,303.4**	**5,667.6**

Source: USGS 2025

ROW = right-of-way

[a] Totals may not match the sum of addends due to rounding.

Table 2.2-38 summarizes the linear feet of NHD linear waterbodies within the temporary ancillary facility workspaces outside of the ROW Corridor. There are no permanent access road impacts on NHD waterbodies associated with the Maryland portion of the MARL Project. Impacts associated with the temporary access roads and other temporary ancillary facility workspaces each represent less than 0.1 percent of the 2,835,396.6 linear feet of NHD waterbodies in the MARL Project Study Area in Maryland.

TABLE 2.2-38 PERENNIAL NATIONAL HYDROGRAPHY DATASET STREAMS LINEAR WATERBODIES WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (LINEAR FEET)

Waterbodies/ Stream Segments	Garrett County			Allegany County			Total Maryland		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
Stream/River—Perennial	0.0	6.8	<0.1	0.0	327.7	3.6	0.0	334.5	3.6

Source: USGS 2025

Table 2.2-39 summarizes the acreage of NHD open waterbodies within the Siting Corridor and ROW Corridor. Impacts associated with the ROW Corridor represent 0.3 percent of the 1,136.4 acres of NHD open waterbodies present within the MARL Project Study Area in Maryland. There are no impacts on NHD open waterbodies associated with ancillary facility workspaces outside of the ROW Corridor.

TABLE 2.2-39 NATIONAL HYDROGRAPHY DATASET OPEN WATERBODIES WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Waterbodies/ Stream Segments	Garrett County	Allegany County	Total Maryland	Garrett County	Allegany County	Total Maryland
	Siting Corridor			ROW Corridor		
Lake/Pond—Perennial	3.0	0.3	3.3	0.3	0.0	0.3
Inundation Area	6.2	0.0	6.2	2.8	0.0	2.8
Total [a]	**9.2**	**0.3**	**9.5**	**3.1**	**0.0**	**3.1**

Source: USGS 2025

ROW = right-of-way

[a] Totals may not match the sum of addends due to rounding.

Table 2.2-40 summarizes the acreage of NWI and MDNR waterbodies within the Siting Corridor and ROW Corridor. The NWI-mapped waterbody impacts associated with the ROW Corridor represent 0.1 percent of the 2,856.0 acres of NWI-mapped waterbodies present within the MARL Project Study Area in Maryland. The MDNR-mapped waterbody impacts associated with the ROW Corridor represent 0.1 percent of the 1,450.3 acres of MDNR-mapped waterbodies present within the MARL Project Study Area in Maryland.

TABLE 2.2-40 NATIONAL WETLANDS INVENTORY AND MARYLAND DEPARTMENT OF NATURAL RESOURCES WATERBODIES WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Cowardin Classification [a]	Garrett County	Allegany County	Total Maryland	Garrett County	Allegany County	Total Maryland
	Siting Corridor			ROW Corridor		
NWI						
PUB [a]	1.5	0.2	1.7	1.0	0.0	1.0
R2UB	0.0	4.4	4.4	0.0	0.5	0.5
R3UB	6.2	0.0	6.2	0.7	0.0	0.7
R4SB	0.1	0.0	0.1	0.0	0.0	0.0
R5UB	4.4	1.1	5.5	2.0	0.1	2.0
NWI Total [b]	**12.2**	**5.7**	**17.9**	**3.7**	**0.5**	**4.2**

Cowardin Classification [a]	Garrett County	Allegany County	Total Maryland	Garrett County	Allegany County	Total Maryland
	Siting Corridor			ROW Corridor		
MDNR						
PUB [a]	2.6	0.6	3.2	1.2	0.1	1.2
R3UBH	2.1	1.5	3.6	<0.1	0.0	<0.1
MDNR Total [b]	**4.7**	**2.1**	**6.8**	**1.2**	**0.1**	**1.3**

Source: USFWS n.d.-a; MDNR n.d.-b

MDNR = Maryland Department of Natural Resources; NWI = National Wetlands Inventory; PUB = Palustrine Unconsolidated Bottom; R2UB = Unconsolidated Bottom, Lower Perennial, Riverine; R3UB = Unconsolidated Bottom, Upper Perennial Riverine; R3UBH = Unconsolidated Bottom, Upper Perennial Riverine, Permanently Flooded; R4SB = Streambed, Intermittent, Riverine; R5UB = Unconsolidated Bottom, Unknown Perennial, Riverine; ROW = right-of-way

[a] This includes Semi-Permanently Flooded, Beaver Modifier; Permanently Flooded; Permanently Flooded, Diked/Impounded; and Permanently Flooded, Excavated.

[b] Totals may not match the sum of addends due to rounding.

Table 2.2-41 summarizes the acreage of NWI and MDNR waterbodies within temporary ancillary facility workspaces outside of the ROW Corridor. There are no NWI waterbody impacts associated with permanent access roads in Maryland or other temporary ancillary facilities in Allegany County. In addition, there are no MDNR waterbody impacts associated with permanent and temporary access roads. Impacts associated with temporary access roads and other temporary ancillary facilities each represent less than 0.1 percent of the 2,856.0 acres of NWI waterbodies in the MARL Project Study Area in Maryland. Similarly, impacts associated with other temporary ancillary facilities represent less than 0.1 percent of the 1,450.3 acres of MDNR waterbodies in the MARL Project Study Area in Maryland.

TABLE 2.2-41 NATIONAL WETLANDS INVENTORY AND MARYLAND DEPARTMENT OF NATURAL RESOURCES WATERBODIES WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (ACRES)

Cowardin Classification [a]	Garrett County			Allegany County			Total Maryland		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
NWI									
R5UB	0.0	<0.1	<0.1	0.0	0.2	0.0	0.0	0.2	<0.1
PUB	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
NWI Total [b]	0.0	0.1	<0.1	0.0	0.2	0.0	0.0	0.3	<0.1
MDNR									
PUB	0.0	0.0	0.0	0.0	0.0	<0.1	0.0	0.0	<0.1
MDNR Total [b]	0.0	0.0	0.0	0.0	0.0	<0.1	0.0	0.0	<0.1

Source: USFWS n.d.-a; MDNR n.d.-b

MDNR = Maryland Department of Natural Resources; NWI = National Wetlands Inventory; PUB = Palustrine Unconsolidated Bottom; R5UB = Unconsolidated Bottom, Unknown Perennial, Riverine

[a] This includes Semi-Permanently Flooded, Beaver Modifier; Permanently Flooded; Permanently Flooded, Diked/Impounded; and Permanently Flooded, Excavated.

[b] Totals may not match the sum of addends due to rounding.

Table 2.2-42 identifies the linear feet of Class III or III-P designated use linear waterbodies within the Siting Corridor and ROW Corridor. The ROW Corridor does not cross I-P or IV-P designated use streams. Impacts associated with the ROW Corridor represent 0.2 percent of the 2,556,226.5 linear feet of Class III or III-P streams within the MARL Project Study Area in Maryland.

Table 2.2-43 identifies the acreage of Class III-P designated use open waterbodies within the Siting Corridor and ROW Corridor. These areas are small areas associated with the Youghiogheny River Lake that are outside of the identified riparian exclusion zone for this waterbody. Riparian exclusion zones are further discussed below. Impacts associated with the ROW Corridor represent less than 0.1 percent of the 785.6 acres of Class III-P open waterbodies within the MARL Project Study Area in Maryland.

TABLE 2.2-42 DESIGNATED USE CLASSIFICATIONS FOR PERENNIAL LINEAR WATERBODIES WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (LINEAR FEET)

Waterbody Type	Designated Use Classification	Garrett County	Allegany County	Total Maryland	Garrett County	Allegany County	Total Maryland
		Siting Corridor			ROW Corridor		
Stream/River—Perennial	III	1,499.4	0.0	1,499.4	436.2	0.0	436.2
	III-P	14,841.1	6,307.4	21,148.5	3,921.0	1,282.0	5,203.0
	I-P	0.0	608.2	608.2	0.0	0.0	0.0
	IV-P	0.0	765.1	765.1	0.0	0.0	0.0
Total [a]		**16,340.5**	**7,680.7**	**24,021.3**	**4,357.2**	**1,282.0**	**5,639.2**

Source: USGS 2025

ROW = right-of-way

[a] Totals may not match the sum of addends due to rounding.

TABLE 2.2-43 DESIGNATED USE CLASSIFICATIONS FOR PERENNIAL OPEN WATERBODIES WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Waterbody Type	Designated Use Classification	Garrett County	Allegany County	Total Maryland	Garrett County	Allegany County	Total Maryland
		Siting Corridor			ROW Corridor		
Lake/Pond—Perennial	III-P	2.2	0.0	2.2	0.002	0.0	0.002
Total [a]		**2.2**	**0.0**	**2.2**	**0.002**	**0.0**	**0.002**

Source: USGS 2025

ROW = right-of-way

[a] Totals may not match the sum of addends due to rounding.

Table 2.2-44 summarizes the linear feet of Class III-P linear waterbodies within temporary ancillary facility workspaces outside of the ROW Corridor. There are no Class III-P waterbodies affected by permanent access roads. Impacts associated with the temporary access roads and other temporary ancillary facilities represent 0.2 percent, of the 2,556,226.5 linear feet of Class III or III-P streams designated use waterbodies in the MARL Project Study Area in Maryland. No other designated use classes are associated with the ancillary facility workspaces.

TABLE 2.2-44 DESIGNATED USE CLASSIFICATIONS FOR PERENNIAL LINEAR WATERBODIES WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (LINEAR FEET)

Waterbody Type	Designated Use Classification	Garrett County			Allegany County			Total Maryland		
		Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
Streams/ rivers - Perennial	III-P	0.0	6.5	<0.1	0.0	305.5	3.6	0.0	312.0	3.6

Source: USGS 2025

ROW = right-of-way

Table 2.2-45 identifies the acreage of Tier II catchments in the Siting Corridor and ROW Corridor. Impacts associated with the ROW Corridor represent 0.5 percent of the 118,606.9 acres of Tier II catchments in the MARL Project Study Area in Maryland. The ROW Corridor does not cross any Tier II stream segments in Allegany County.

TABLE 2.2-45 TIER II CATCHMENTS WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Tier II Stream Segment	MDE 8-Digit Watershed Number	Garrett County	Total Maryland	Garrett County	Total Maryland
		Siting Corridor		ROW Corridor	
Buffalo Run 1	05020201	226.6	226.6	92.2	92.2
Youghiogheny River UT 1	05020201	11.1	11.1	3.6	3.6
Bear Creek 2	05020201	389.1	389.1	162.3	162.3
Casselman River 1	05020204	165.5	165.5	70.6	70.6
S Branch Casselman River 2	05020204	132.6	132.6	55.3	55.3
Big Run 1	02141006	135.1	135.1	58.0	58.0
Savage River 2	02141006	239.7	239.7	125.7	125.7
Total [a]		**1,299.7**	**1,299.7**	**567.7**	**567.7**

Source: MDE 2023b

MDE = Maryland Department of Environment; ROW = right-of-way; UT = unnamed tributary
[a] Totals may not match the sum of addends due to rounding.

Table 2.2-46 summarizes the acreage of Tier II stream catchments associated with temporary ancillary facility workspaces outside of the ROW Corridor. There are no Tier II stream catchments associated with any of the ancillary facility workspaces in Allegany County. Impacts associated with permanent access roads, temporary access roads and other temporary ancillary facilities in Garrett County each represent less than 0.1 percent of the 118,606.9 acres of Tier II stream segments in the MARL Project Study Area in Maryland.

TABLE 2.2-46 TIER II CATCHMENTS WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (ACRES)

Tier II Stream Segment	MDE 8-Digit Watershed Number	Garrett County			Allegany County			Total Maryland		
		Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
Bear Creek 2	05020201	0.5	11.0	29.0	0.0	0.0	0.0	0.5	11.0	29.0
Big Run 1	02141006	0.0	2.6	28.9	0.0	0.0	0.0	0.0	2.6	28.9
Buffalo Run 1	05020201	0.0	3.3	12.1	0.0	0.0	0.0	0.0	3.3	12.1
Casselman Run 1	05020204	0.0	1.2	12.9	0.0	0.0	0.0	0.0	1.2	12.9
S Branch Casselman River 2	05020204	0.0	<0.1	2.3	0.0	0.0	0.0	0.0	<0.1	2.3
Savage River 2	02141006	0.8	7.2	21.8	0.0	0.0	0.0	0.8	7.2	21.8
Youghiogheny River UT 1	05020201	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2
Total [a]		**1.3**	**25.3**	**107.2**	**0.0**	**0.0**	**0.0**	**1.3**	**25.3**	**107.2**

MDE = Maryland Department of the Environment; UT = unnamed tributary

[a] Totals may not match the sum of addends due to rounding.

During construction, NEET MA will adhere to in-stream timing restrictions and requirements contained within applicable federal, state, and local permits for construction within waterbodies, as needed, to avoid and minimize waterbody impacts. NEET MA will coordinate with the appropriate agencies if it cannot adhere to designated time-of-year (TOY) restrictions. Additionally, where stream crossings are required for access, temporary span bridges will be used where possible to minimize impacts. If permanent stream crossings are required, NEET MA will install bridges with in-stream support and/or culverts of appropriate size, as needed, to maintain flow and comply with the Maryland Stormwater Design Manual.

In addition, NEET MA has identified 16 locations in Maryland where forested riparian buffers will be preserved to avoid and minimize impacts on sensitive waterbodies. At these locations, referred to as riparian habitat exclusion zones, the MARL Project developed engineering solutions to retain existing riparian vegetation within 100 feet on either side of the stream. No vegetation clearing or ground disturbance will occur within these exclusion zones. The riparian habitat exclusion zones that will be avoided are summarized in Table 2.1-1 and depicted on Figure 2.2-5.

TABLE 2.2-47 MARYLAND RIPARIAN HABITAT EXCLUSION ZONES

Stream Name	Nearest MP	Linear Stream Length within Riparian Habitat Exclusion Zone (feet)	Riparian Habitat Exclusion Zone (acres)
Garrett County			
Youghiogheny River	37.3	390	1.2
UT to Bear Creek	39.8	202	0.9
Fikes Run	40.7	211	1.0
UT to Bear Creek	41.5	271	1.2
Cove Run	41.9	357	1.6
Bear Creek	42.4	318	1.5
Bear Creek	43.3	206	0.9
Bear Creek 4	44.8	652	2.9
South Branch Casselman River	49.7	261	1.2
Bear Pen Run 1	53.8	203	0.9
Silver Bell Run	54.4	201	0.9
Savage River	56.2	229	0.8
Allegany County			
Laurel Run	60.3	357	1.6
Georges Creek	62.1	467	2.1
UT to Jackson Run	63.5	244	1.1
North Branch Potomac River	67.9	265	1.2

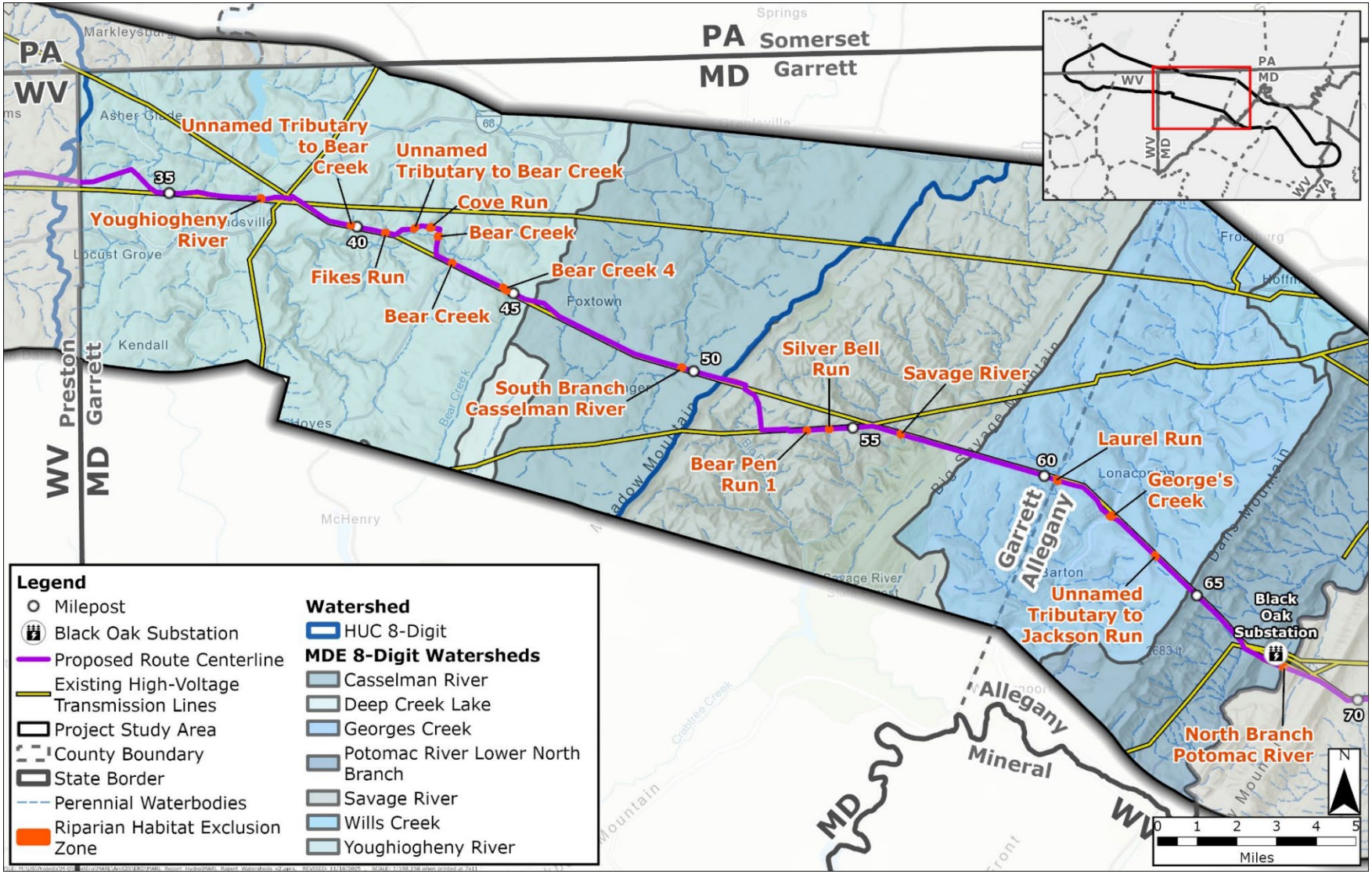
Source: USGS 2025

MP = milepost; UT = unnamed tributary

To comply with state stormwater requirements, NEET MA will obtain coverage under CGP-20, as described in Section 2.2.3.2. A MARL Project-specific ESC Plan and SWPPP will be developed in coordination with state and local agencies to meet applicable requirements and implement BMPs. Appropriate BMPs will be used to manage stormwater runoff, including silt sock, silt fence, construction entrances, temporary matting and bridges, and erosion matting. Stream protection zones will be established, as applicable, and required by the CGP-20, or additional BMPs may be established to minimize impacts on waterbodies from stormwater discharge. NEET MA will conduct an antidegradation review for any portions of the ROW that will discharge within a catchment or directly into a tributary that is designated as Tier II by the MDE or consider alternatives to divert flow from these resources.

Where stream crossings are required for access, temporary span bridges will be used where possible to minimize impacts. If permanent stream crossings are required, NEET MA will install bridges with in-stream support and/or culverts of appropriate size, as needed, to maintain flow and comply with the MDE water construction standards. Waterbodies affected by construction of the ROW Corridor, temporary access roads, or other temporary ancillary facility workspaces will be restored to preconstruction conditions to the maximum extent practicable. NEET MA will comply with the mitigation requirements of permits to compensate for unavoidable permanent impacts on waterbodies. Final mitigation requirements will be determined by the USACE and MDE.

FIGURE 2.2-5 MARYLAND RIPARIAN HABITAT EXCLUSION ZONES



HUC = Hydrologic Unit Code; MD = Maryland; MDE = Maryland Department of the Environment; PA = Pennsylvania; VA = Virginia; WV = West Virginia

2.2.4.3 FLOODPLAINS

Existing Conditions

ERM reviewed the FEMA maps to determine the extent of mapped floodplains within the Siting Corridor (FEMA n.d.). Flood hazard areas identified on the Flood Insurance Rate Map are identified as a Special Flood Hazard Area. An Special Flood Hazard Area is defined as the area that will be inundated by the flood event having a 1 percent chance of being equaled or exceeded in any given year. The 1 percent annual chance of flood is also referred to as the base flood, or 100-year flood. High risk flood zones are labeled with Zone A (with a floodplain present) or Zone AE (with a floodplain and floodway present). Moderate risk flood zones are labeled with Zone X. These flood zones are referred to as 0.2 percent annual chance of floods, or 500-year floods. Table 2.2-48 summarizes FEMA flood zones identified in each county. Attachment 1c provides detailed FEMA floodplain mapping pursuant to the requirements in COMAR 20.79.04.02.E and 20.79.04.04.A.

TABLE 2.2-48 FEDERAL EMERGENCY MANAGEMENT AGENCY CLASSIFICATION WITHIN THE SITING CORRIDOR (ACRES)

Flood Zone	Flood Zone Definition	Garrett County	Allegany County	Total Maryland
A	1% annual chance of flood	18.2	0.0	18.2
AE	1% annual chance of flood	4.5	30.9	35.4
	Regulatory floodway	2.7	2.8	5.5
X	0.2% annual chance of flood	0.2	0.8	1.0
Total [a]		**25.6**	**34.5**	**60.1**

Source: FEMA n.d.

[a] Totals may not match the sum of addends due to rounding.

The MDE is given regulatory jurisdiction over areas within a 100-year floodplain of natural, nontidal streams and rivers, coordinated through the National Flood Insurance Program (NFIP). The MDE uses the FEMA-mapped floodplain boundaries for regulation (MDE n.d.-f). All of Maryland's counties and cities and most towns participate in the NFIP.

Garrett and Allegany Counties have their own floodplain ordinances that require a permit for impacts on floodplain features.

Impacts

This section details the floodplain impacts associated with the ROW Corridor and ancillary facility workspaces. Floodplains will be aerially spanned by the transmission line conductors, and transmission structures will not be placed in floodplains to avoid direct impacts on floodplains during operation of the MARL Project to the maximum extent practicable. However, due to engineering design constraints within the ROW Corridor, two structures, 67-2(A) and 67-3(A), at MPs 67.6 and 67.8, respectively, in Garrett County will be located within a mapped floodplain.

While temporary impacts on floodplains may result from vegetative clearing and ground disturbance associated with construction activities, these areas will be restored as close to preconstruction conditions as practicable, and only minimal direct impacts on floodplains are expected during operation. Permanent impacts on floodplains as a result of structure placement may minimally affect flood storage capacity. Activities within floodplains would comply with local floodplain ordinances, state requirements, and the NFIP standards. Avoidance and mitigation strategies would be implemented where possible.

Table 2.2-49 summarizes the acres of floodplains within the Siting Corridor and ROW Corridor. The floodplain impacts associated with the ROW Corridor represent 0.3 percent of the 6,356.2 acres of floodplains in the MARL Project Study Area in Maryland.

TABLE 2.2-49 FLOODPLAINS WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Flood Zone	Flood Zone Definition	Garrett County	Allegany County	Total Maryland	Garrett County	Allegany County	Total Maryland
		Siting Corridor			ROW Corridor		
A	1% annual chance of flood	18.2	0.0	18.2	4.5	0.0	4.5
AE	1% annual chance of flood	4.5	30.9	35.4	3.0	12.8	15.8
	Regulatory floodway	2.7	2.8	5.5	0.7	0.4	1.1
X	0.2% annual chance of flood	0.2	0.8	1.0	0.2	0.1	0.3
Total [a]		**25.6**	**34.5**	**60.1**	**8.4**	**13.3**	**21.7**

Source: FEMA n.d.

ROW = right-of-way
[a] Totals may not match the sum of addends due to rounding.

Table 2.2-50 summarizes the acreage of floodplains within temporary ancillary facility workspaces outside of the ROW Corridor. There are no floodplain impacts associated with permanent access roads. Impacts associated with temporary access roads and other temporary ancillary facilities each represent less than 0.1 percent of 6,356.2 acres of floodplains in the MARL Project Study Area in Maryland.

TABLE 2.2-50 FLOODPLAINS WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (ACRES)

Flood Zone	Flood Zone Definition	Garrett County			Allegany County			Total Maryland		
		Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
A	1% annual chance of flood	0.0	0.0	<0.1	0.0	0.0	0.0	0.0	0.0	<0.1
AE	1% annual chance of flood	0.0	0.0	<0.1	0.0	<0.1	<0.1	0.0	<0.1	<0.1
	Regulatory floodway	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X	0.2% annual chance of flood	0.0	0.0	<0.1	0.0	0.0	0.0	0.0	0.0	<0.1
Total [a]		**0.0**	**0.0**	**<0.1**	**0.0**	**<0.1**	**<0.1**	**0.0**	**<0.1**	**<0.1**

Source: FEMA n.d.

[a] Totals may not match the sum of addends due to rounding.

To comply with state stormwater requirements, NEET MA will obtain coverage under the CGP-20, as described in Section 2.2.3.2. A MARL Project-specific ESC Plan and SWPPP will be developed in coordination with state and local agencies to meet applicable requirements and implement BMPs. Appropriate BMPs will be used to manage stormwater runoff, including silt sock, silt fence, construction entrances, temporary matting and bridges, and erosion matting. In addition, an SPCC Plan will be developed, if required, to avoid or minimize impacts on floodplains due to inadvertent releases of fuel or mechanical fluids in accordance with the USEPA regulations (40 CFR Part 112). Implementation of these plans will further minimize impacts on floodplains within the ROW Corridor.

2.2.5 AQUATIC SPECIES AND HABITAT

2.2.5.1 EXISTING CONDITIONS

ERM reviewed data from the MDNR and USFWS and identified aquatic species and habitat within the Siting Corridor. The Siting Corridor is located in the MDNR Western Region I Freshwater Fisheries Region, also referred to as the Highlands ecoregion, which includes Garrett and Allegany Counties. The aquatic resources of this area are characterized by coldwater streams, forested wetlands, and high-gradient headwaters that support sensitive aquatic species, including brook trout (*Salvelinus fontinalis*) and a diversity of benthic macroinvertebrates.

Habitat Quality and Function

Generally, the habitats within the Siting Corridor contain larger perennial waterbodies and their tributaries. The large perennial waterbodies typically include low-flow rivers with gravel substrate, restored rivers fed with trout, and rivers with larger flows and boulders. Submerged aquatic vegetation, oyster beds, finfish fishing grounds, and essential fish habitat are limited to the coastal area and are not applicable to the Siting Corridor.

Habitat features (e.g., riffles, pools, woody debris) for perennial waterbodies and their tributaries vary across the Proposed Route based on site-specific factors. Descriptions of aquatic species and habitat associated with some of the larger perennial waterbodies within the Siting Corridor are summarized below to provide a representative characterization of existing conditions.

The Youghiogheny River flows into the southern portion of the Youghiogheny River Lake and continues from the northern boundary of the lake into Pennsylvania. A dam was constructed in 1944 on the Pennsylvania portion of the Youghiogheny River for flood control and hydroelectric power generation, which created the Youghiogheny River Lake (MDNR n.d.-e). As stated in Section 2.2.4.2, the Siting Corridor crosses the Youghiogheny River Lake / Youghiogheny River.

Historically, the Youghiogheny River has been affected by deforestation and coal mining, which has contributed to increased water temperatures from acid mine drainage and loss of vegetative cover. As the waterbody was restored and recovered, it was established as Maryland's first state WSR in 1976; however, as stated previously, no portion of the Siting Corridor is within the limits of the scenic or wild portions of this river. Presently, the Youghiogheny River provides habitat for a number of species, including trout, smallmouth bass, river otters, mink, and osprey. The Youghiogheny River contains scour habitat of rare prairie-like grasslands found on riverbanks

composed of sand, cobble, boulder, and bedrock in frequently flooded areas where tributaries meet the mainstem (MDNR n.d.-e).

The Youghiogheny River Lake, or reservoir, provides a rich variety of fish habitats, including rocky shorelines, submerged trees and stumps, boat docks, and shallow vegetated flats, which support spawning habitat. Water levels in the reservoir are influenced by rainfall, with the lowest lake levels occurring in the fall. Fish present in this lake include smallmouth bass, walleye, crappie (*Pomoxis spp*.), northern pike (*Esox lucius*), yellow perch, carp (*Cyprinus spp.*), bluegill, pumpkinseed (*Lepomis gibbosus*), rock bass, brown bullhead (*Ameiurus nebulosus*), channel catfish, chain pickerel (*Esox niger*), hybrid striped bass (*Morone saxatilis* × *Morone chrysops*), and alewife (*Alosa pseudoharengus*) (MDNR n.d.-e).

The North Branch Casselman River is the headwater for the Casselman River, which flows into the Youghiogheny River. Historically, the North Branch Casselman River was used to transport goods between cities across the Allegheny Mountains and for coal mining. Acid mine drainage led to a decline in fish species within the river, but river pH levels are improving (MDE 2011). The North Branch Casselman River provides habitat for aquatic species such as brook trout and stonecats *(Noturus flavus)* (MDE 2011). Fast currents with riffles and rocky bottoms contribute to cooler and well-oxygenated conditions.

The South Branch Casselman River flows into the Casselman River. The South Branch Casselman River hydrology consists of deeper pools and moderate-flowing runs (MDE 2010). Surrounding agricultural use contributes to an increase in sedimentation, nutrient levels and increased temperatures within the river (MDE 2010). Aquatic habitat varies throughout the river and provides habitat for smallmouth bass *(Micropterus dolomieu*) and brown trout *(Salmo trutta)*.

The Savage River is surrounded by forested hillsides, which includes a mix of hardwoods and shrubs. Substrate generally consists of cobble and boulder with a moderate to steep river gradient. The wide and steep nature of the Savage River contributes to fish holding habitats, deep pools, pocket water, riffles, and runs (MDNR n.d.-e). The Proposed Route crosses the upper Savage River where surrounding land use is predominantly public forest land. The upper Savage River in this area supports a unique fishery resource that includes one of only a few native brook trout populations that remain well connected outside of New England. Specifically, the native trout in this area have the opportunity to move throughout more than 100 miles of connected streams which helps produce some of the largest brook trout in Maryland (MDNR 2017).

The Georges Creek watershed has historically affected by acid mine drainage, causing increased acidity, metal concentrations, and dewatering throughout the watershed. The extent of acid mine drainage impact varied throughout the watershed and lead to a decrease in aquatic habitat in some waterbodies (MDNR 2001). A restoration plan was developed in 1999 to protect and enhance water quality and habitat throughout the watershed. As a result, fish populations within the watershed have seen an increase (USEPA 2005).

The North Branch Potomac River has historically been polluted by acid mine drainage, which has reduced over time. The upper portion of the river is a high-quality trout fishery, which is stocked by the MDNR in two different management zones (MDNR n.d.-f). Waterbodies within the North Branch Potomac River basin is characterized by wide forested buffers. Stream channelization and

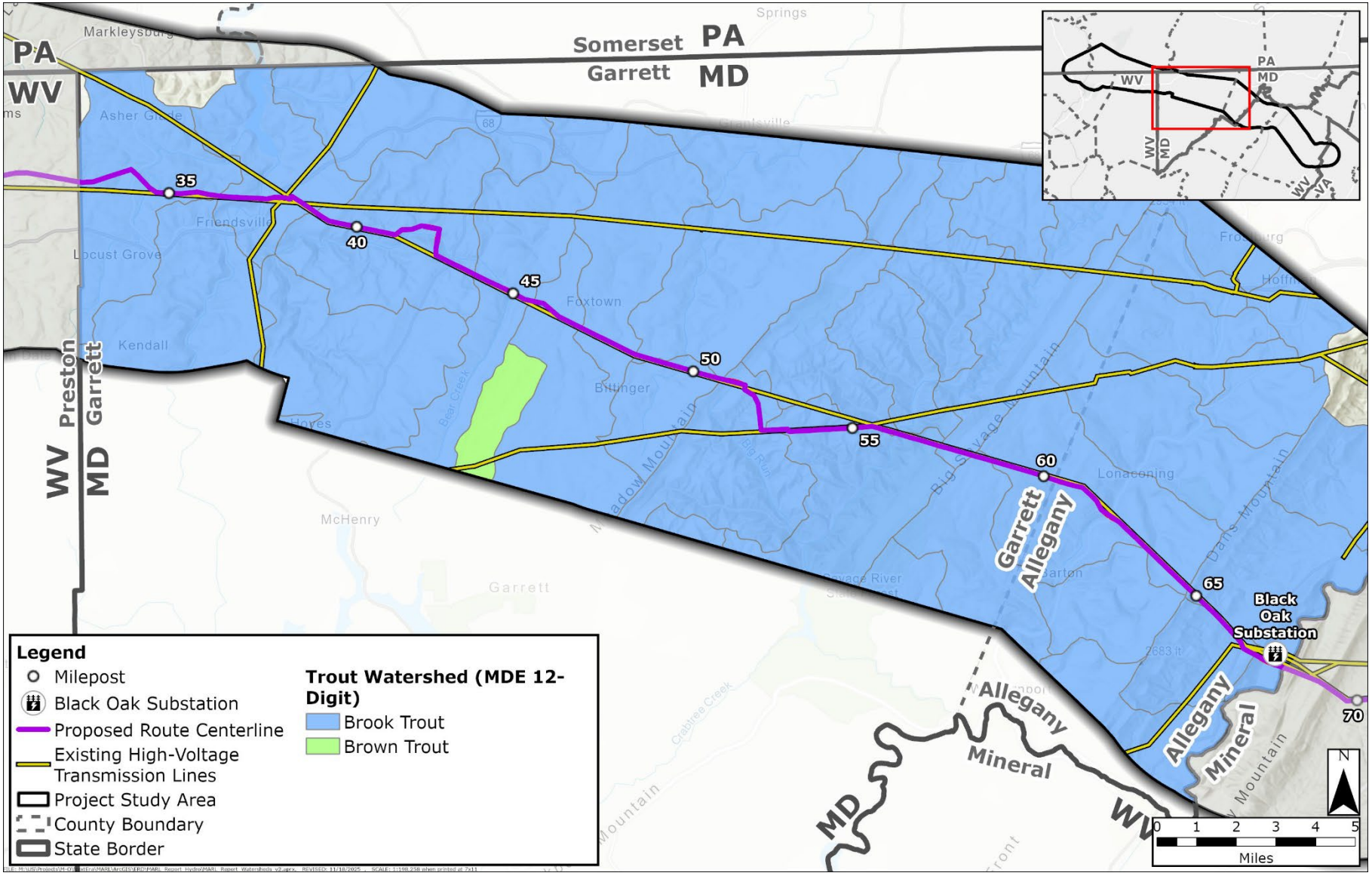
bank erosion within the watershed is minor. Aquatic life within the watershed consists of frogs, toads, salamanders, turtles, snakes, lizards, and brook trout and generally have less introduced fish than other watersheds in Maryland (USEPA 1999).

Fishery resources and benthic communities within the Siting Corridor are discussed below, and rare, threatened, and endangered (RTE) aquatic species are discussed in Section 2.2.8, Protected, Threatened, and Endangered Species.

Fisheries

Both coldwater and warmwater streams in Western Region I are primarily used for recreational fishing. Coldwater streams are stocked with rainbow trout (*Oncorhynchus mykiss*), golden trout (*Oncorhynchus aguabonita*), and brown trout. Brook trout are an archetype indicator species for healthy waters and are closely monitored and managed under the Maryland Brook Trout Fisheries Management Plan (MDNR 2006). As shown on Figure 2.2-6, all watersheds crossed by the Siting Corridor are brook trout watersheds.

FIGURE 2.2-6 TROUT WATERSHEDS



MD = Maryland; MDE = Maryland Department of the Environment; PA = Pennsylvania; VA = Virginia; WV = West Virginia

Table 2.2-51 summarizes the designated priority brook trout watersheds identified in the Siting Corridor and the MDE 12-digit watershed benthic Index of Biological Integrity (IBI) where applicable, as well as the Combined IBI that includes both fish and benthic IBIs. The IBI is determined by the Maryland Biological Stream Survey (MBSS) protocols to monitor the conditions of wadable streams (MDNR 2024a). The potential range of IBI scores is from 1.0 to 5.0 (USEPA 1999), and a higher IBI score indicates more optimal conditions (MDNR 2005). Further information on benthic macroinvertebrates is discussed in the following section.

TABLE 2.2-51 BROOK TROUT MANAGED WATERSHED BENTHIC MACROINVERTEBRATE INDEX OF BIOLOGICAL INTEGRITY AND COMBINED INDEX OF BIOLOGICAL INTEGRITY SCORES WITHIN THE SITING CORRIDOR

Watershed	MDE 8-Digit Watershed Number	MDNR 12-Digit Watershed Number	Benthic IBI [a]	Combined IBI	Garrett County (acres)	Allegany County (acres)	Total Maryland (acres)
Youghiogheny River	05020201	050202010016	4.0	3.9	96.6	NA	96.6
		050202010017	NA	2.1	0.1	NA	0.1
		050202010018	4.5	4.2	291.5	NA	291.5
		050202010019	4.4	3.4	224.6	NA	224.6
		050202010020	3.7	4.0	157.1	NA	157.1
Casselman River	05020204	050202040030	NA	2.5	80.7	NA	80.7
		050202040031	NA	3.4	99.3	NA	99.3
		050202040032	4.4	3.5	85.9	NA	85.9
		050202040033	NA	3.6	33.2	NA	33.2
Savage River	02141006	021410060077	4.7	4.5	167.5	NA	167.5
		021410060078	4.6	4.4	132.7	NA	132.7
		021410060079	4.2	3.6	27.9	NA	27.9
		021410060081	3.7	3.8	48.2	NA	48.2
Georges Creek	02141004	021410040087	2.8	1.9	29.0	0.0	29.0
		021410040088	NA	1.9	NA	3.1	3.1
		021410040089	2.8	2.3	93.3	256.9	350.2
Potomac River Lower North Branch	02141001	021410010054	4.2	3.6	NA	91.0	91.0
		021410010055	4.3	3.8	NA	73.1	73.1
Total [b]					**1,567.6**	**424.1**	**1,991.7**

Source: MDiMAP 2024; MDNR n.d.-g; MDiMAP n.d.-a, n.d.-b, n.d.-c

IBI = Index of Biological Integrity; MBSS = Maryland Biological Stream Survey; MD = Maryland; MDE = Maryland Department of the Environment; MDNR = Maryland Department of Natural Resources; NA = not applicable

[a] Score represents the mean IBI of sample points within the entirety of the MD HUC 12 over a range of years. IBI data are collected using the MBSS protocols.

[b] Totals may not match the sum of addends due to rounding.

Streams in Western Region I have a variety of popular, recreational, and non-trout species for anglers (Table 2.2-52). Western Region I has several warmwater fisheries managed by the MDNR, including smallmouth bass, largemouth bass (*Micropterus nigricans*), walleye (*Sander vitreus*), yellow perch *(Perca flavescens)*, bluegill (*Lepomis macrochirus*), crappie (*Pomoxis nigromaculatus*), and rock bass (*Ambloplites rupestris*). Warmwater and coldwater fisheries vary throughout the region; however, the information presented for the existing conditions is based solely on the Siting Corridor and is representative of the larger waterbodies intersected by that corridor.

TABLE 2.2-52 COMMON RECREATIONAL FISH SPECIES WITHIN WESTERN REGION I

Common Name	Scientific Name	Watershed(s)
Rock Bass	*Ambloplites rupestris*	Savage River
Muskellunge	*Esox masquinongy*	Potomac River Lower North Branch
Channel Catfish	*Ictalurus punctatus*	Potomac River Lower North Branch
Bluegill	*Lepomis macrochirus*	Savage River
Redear Sunfish	*Lepomis microlophus*	Savage River
Smallmouth Bass	*Micropterus dolomieu*	Savage River
Largemouth Bass	*Micropterus nigricans*	Savage River
Yellow Perch	*Perca flavescens*	Savage River
Black Crappie	*Pomoxis nigromaculatus*	Savage River
Walleye	*Sander vitreus*	Potomac River Lower North Branch; Savage River

Source: MDNR n.d.-e

Benthic Ecology

ERM reviewed the latest data available online from the MBSS. The MBSS is a long-term, statewide monitoring program that assesses the ecological health of nontidal freshwater streams (MDNR 2024b). The fourth round of sampling efforts by the MBSS were completed from 2014 to 2018 for the continued temporal assessment of stream conditions (MDNR 2024b). Additionally, the MBSS monitors a group of 30 high-quality, minimally degraded streams that make up the Maryland Sentinel Site Network, of which nine sites are located in the Highland region (MDNR 2023). The MBSS monitors stream health through the assessment of biological (e.g., benthic macroinvertebrates and fish), physical (e.g., stream habitat), and water quality (e.g., pH, specific conductivity, temperature, nutrients) changes over time.

Benthic macroinvertebrates are bottom-dwelling organisms that are frequently used to assess stream health due to their sensitivity to changes in the watershed (Klauda et al. 1998). Their sensitivity to temperature change and pollution levels allows them to function as bioindicators in watersheds. Table 2.2-51 summarizes the benthic IBI scores based on the MBSS for the coldwater benthic macroinvertebrate watersheds identified in the Siting Corridor.

2.2.5.2 IMPACTS

This section details the impacts on aquatic life and habitats associated with the ROW Corridor and associated ancillary facility workspaces. With the exception of one transmission structure, waterbodies will be aerially spanned by the transmission line conductors, and transmission structures will not be placed within waterbodies to avoid direct impacts on aquatic habitats during operation of the MARL Project. Temporary and indirect impacts on aquatic habitats within the ROW Corridor and ancillary facility workspaces may occur during construction. These impacts may result from the clearing of riparian vegetation, construction of access roads, and/or installation of bridges/culverts. Waterbody impacts and mitigation are discussed in Section 2.2.4.2.

As discussed in Section 2.2.4.2, forested riparian buffers adjacent to waterbodies in some areas would be cut and permanently converted to maintained scrub/shrub or herbaceous cover within the ROW Corridor during operation. Removal of forested riparian vegetation would result in indirect impacts on aquatic habitat, including localized increases in water temperature and decreased dissolved oxygen levels, which can affect coldwater fish species and benthic macroinvertebrate communities. In addition, vegetation clearing, grading, or other earth-disturbing activities associated with construction in proximity to waterbodies would temporarily result in an increased potential for erosion and stormwater runoff, including increased nutrient loading, turbidity, and sedimentation, which would further affect aquatic habitats. Impacts on aquatic habitats as a result of access road construction and/or culvert placement in waterbodies, if required, could also increase sedimentation, disrupt flow, and alter aquatic habitats during construction and/or operation.

Table 2.2-53 summarizes the brook trout and coldwater benthic macroinvertebrate watersheds within the Siting Corridor and the ROW Corridor. The brook trout watershed impacts associated with the ROW Corridor represent 0.4 percent of the 213,259.1 acres of brook trout watersheds within the MARL Project Study Area in Maryland. The coldwater benthic macroinvertebrate watershed impacts associated with the ROW Corridor represent 0.5 percent of the 163,176.0 acres of coldwater benthic macroinvertebrate watersheds within the MARL Project Study Area in Maryland.

TABLE 2.2-53 BROOK TROUT MANAGED WATERSHED BENTHIC MACROINVERTEBRATE INDEX OF BIOLOGICAL INTEGRITY AND COMBINED INDEX OF BIOLOGICAL INTEGRITY SCORES WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Watershed	MDE 8-Digit Watershed Number	MDNR 12-Digit Watershed Number	Benthic IBI [a]	Combined IBI	Garrett County	Allegany County	Total Maryland	Garrett County	Allegany County	Total Maryland
					Siting Corridor			ROW Corridor		
Youghiogheny River	05020201	050202010016	4.0	3.9	96.6	NA	96.6	39.6	NA	39.6
		050202010017	NA	2.1	0.1	NA	0.1	<0.1	NA	<0.1
		050202010018	4.5	4.2	291.5	NA	291.5	122.2	NA	122.2
		050202010019	4.4	3.4	224.6	NA	224.6	91.5	NA	91.5
		050202010020	3.7	4.0	157.1	NA	157.1	63.4	NA	63.4
Casselman River	05020204	050202040030	NA	2.5	80.7	NA	80.7	33.9	NA	33.9
		050202040031	NA	3.4	99.3	NA	99.3	43.7	NA	43.7
		050202040032	4.4	3.5	85.9	NA	85.9	37.2	NA	37.2
		050202040033	NA	3.6	33.2	NA	33.2	11.2	NA	11.2
Savage River	02141006	021410060077	4.7	4.5	167.5	NA	167.5	87.2	NA	87.2
		021410060078	4.6	4.4	132.7	NA	132.7	57.2	NA	57.2
		021410060079	4.2	3.6	27.9	NA	27.9	18.1	NA	18.1
		021410060081	3.7	3.8	48.2	NA	48.2	21.6	NA	21.6
Georges Creek	02141004	021410040087	2.8	1.9	29.0	0.0	29.0	12.2	0.0	12.2
		021410040088	NA	1.9	NA	3.1	3.1	NA	0.0	0.0
		021410040089	2.8	2.3	93.3	256.9	350.2	40.9	113.6	154.5
Potomac River Lower North Branch	02141001	021410010054	4.2	3.6	NA	91.0	91.0	NA	39.6	39.6
		021410010055	4.3	3.8	NA	73.1	73.1	NA	43.9	43.9
Total [b]					**1,567.6**	**424.1**	**1,991.7**	**679.8**	**197.1**	**876.9**

Source: MDiMAP 2024; MDNR n.d.-g; MDiMAP n.d.-a, n.d.-b, n.d.-c

IBI = Index of Biological Integrity; MBSS = Maryland Biological Stream Survey; MD = Maryland; MDE = Maryland Department of the Environment; MDNR = Maryland Department of Natural Resources; NA = not applicable

[a] The value represents the mean IBI of sample points within the entirety of the MD HUC 12 over a range of years. IBI data are collected using the MBSS protocols.

[b] Totals may not match the sum of addends due to rounding.

Table 2.2-54 summarizes the acreage of brook trout and coldwater benthic macroinvertebrate within ancillary facility workspaces outside of the ROW Corridor. Impacts associated with permanent access roads are all in Garrett County and represent less than 0.1 percent of the 163,176.0 acres of coldwater benthic macroinvertebrate watersheds in the MARL Project Study Area in Maryland. Impacts associated with temporary access roads and other temporary facilities each represent less than 0.1 percent of the 163,176.0 acres of coldwater benthic macroinvertebrate watersheds in the MARL Project Study Area in Maryland.

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TABLE 2.2-54 BROOK TROUT MANAGED WATERSHED BENTHIC MACROINVERTEBRATE INDEX OF BIOLOGICAL INTEGRITY AND COMBINED INDEX OF BIOLOGICAL INTEGRITY SCORES WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (ACRES)

Watershed	MDE 8-Digit Watershed Number	MDNR 12-Digit Watershed Number	Benthic IBI [a]	Combined IBI	Garrett County			Allegany County			Total Maryland		
					Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
Youghiogheny River	05020201	050202010016	4.0	3.9	0.0	0.5	3.6	NA	NA	NA	0.0	0.5	3.6
		050202010017	NA	2.1	0.0	0.3	<0.1	NA	NA	NA	0.0	0.3	<0.1
		050202010018	4.5	4.2	0.5	10.5	25.4	NA	NA	NA	0.5	10.5	25.4
		050202010019	4.4	3.4	0.0	3.1	12.1	NA	NA	NA	0.0	3.1	12.1
		050202010020	3.7	4.0	0.0	1.6	12.8	NA	NA	NA	0.0	1.6	12.8
Casselman River	05020204	050202040030	NA	2.5	0.0	1.2	12.0	NA	NA	NA	0.0	1.2	12.0
		050202040031	NA	3.4	0.0	0.1	1.4	NA	NA	NA	0.0	0.1	1.4
		050202040032	4.4	3.5	0.0	<0.1	0.9	NA	NA	NA	0.0	<0.1	0.9
		050202040033	NA	3.6	0.0	0.0	0.8	NA	NA	NA	0.0	0.0	0.8
Savage River	02141006	021410060077	4.7	4.5	0.8	5.6	16.0	NA	NA	NA	0.8	5.6	16.0
		021410060078	4.6	4.4	0.0	2.6	28.8	NA	NA	NA	0.0	2.6	28.8
		021410060079	4.2	3.6	0.0	2.1	3.4	NA	NA	NA	0.0	2.1	3.4
		021410060081	3.7	3.8	0.0	0.4	2.5	NA	NA	NA	0.0	0.4	2.5
Georges Creek	02141004	021410040087	2.8	1.9	0.0	2.2	0.2	0.0	0.0	0.0	0.0	2.2	0.2
		021410040088	NA	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		021410040089	2.8	2.3	0.0	4.0	2.1	0.0	9.9	8.1	0.0	13.9	10.2
Potomac River Lower North Branch	02141001	021410010054	4.2	3.6	NA	NA	NA	0.0	1.8	1.9	0.0	1.8	1.9
		021410010055	4.3	3.8	NA	NA	NA	0.0	18.6	0.6	0.0	18.6	0.6

Source: MDiMAP 2024; MDNR n.d.-g; MDiMAP n.d.-a, n.d.-b, n.d.-c

HUC = Hydrologic Unit Code; IBI = Index of Biological Integrity; MBSS = Maryland Biological Stream Survey; MD – Maryland; MDE = Maryland Department of the Environment; MDNR = Maryland Department of Natural Resources; NA = not applicable

[a] The value represents the mean IBI of sample points within the entirety of the MD HUC 12 over a range of years. IBI data are collected using the MBSS protocols.

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Impact avoidance and mitigation measures for aquatic species and habitat will be similar to those discussed previously related to waterbodies (Section 2.2.4.2). The MARL Project has been designed to minimize impacts on aquatic habitats to the maximum extent practicable. In particular, 16 riparian exclusion zones have been identified where forested riparian buffers will be preserved to avoid and minimize impacts on sensitive waterbodies (Table 2.1-1). Of the 16 riparian exclusion zones, 13 are designated as nontidal coldwater and public water supply waterbodies, 1 is a nontidal coldwater natural trout water, 1 is a recreational trout water and public water supply waterbody, and 1 (North Branch Potomac River) is considered a West Virginia trout stream. At these locations, existing riparian vegetation within 100 feet on either side of the stream to minimize impacts on aquatic habitats. In addition, no vegetation clearing or ground disturbance will occur within these exclusion zones. This approach serves as a key impact avoidance and minimization strategy, helping to preserve shade, bank stability, and organic input critical to supporting coldwater fish species and benthic macroinvertebrate communities. These buffers also reduce sedimentation and thermal impacts, maintaining water quality and aquatic habitat integrity.

During construction, NEET MA will adhere to in-stream timing restrictions and requirements contained within applicable federal, state, and local permits for construction within waterbodies, as applicable. Construction limitations will include no in-stream work in Designated Class III or III-P streams from October 1 to April 30 (COMAR 26.17.04.11.B.5) and no in-stream work for brook trout streams from late October to early November to minimize impacts during brook trout spawning season. If necessary to construct during these TOY restrictions, NEET MA will consult with the MDE and MDNR, as appropriate. Streams will also adhere to water quality criteria described in Section 2.2.4.2 to minimize degradation to water quality and the impacts on fish and benthic species. Additionally, where stream crossings are required for access, temporary span bridges will be used where possible to minimize impacts. If permanent stream crossings are required, NEET MA will install bridges with in-stream support and/or culverts of appropriate size, as needed, to maintain flow and comply with the Maryland Stormwater Design Manual.

As discussed in Section 2.2.4.1, coverage under the CGP-20, and implementation of SWPPP, ESC, and SPCC Plans, as applicable, will minimize impacts on aquatic species and habitats. In addition, NEET MA will comply with applicable permit requirements and conditions designed to protect aquatic resources during sensitive periods. BMPs will be implemented, as necessary, and developed in accordance with MDE standards to limit impacts during construction.

2.2.6 VEGETATION AND TERRESTRIAL SPECIES

The Siting Corridor is in western Maryland in Garrett and Allegany Counties, which includes two Level III Ecoregions and five Level IV Ecoregions (Woods et al. 1999). These ecoregions are depicted on Figure 2.2-7. The ecoregions described here are defined by the following criteria:

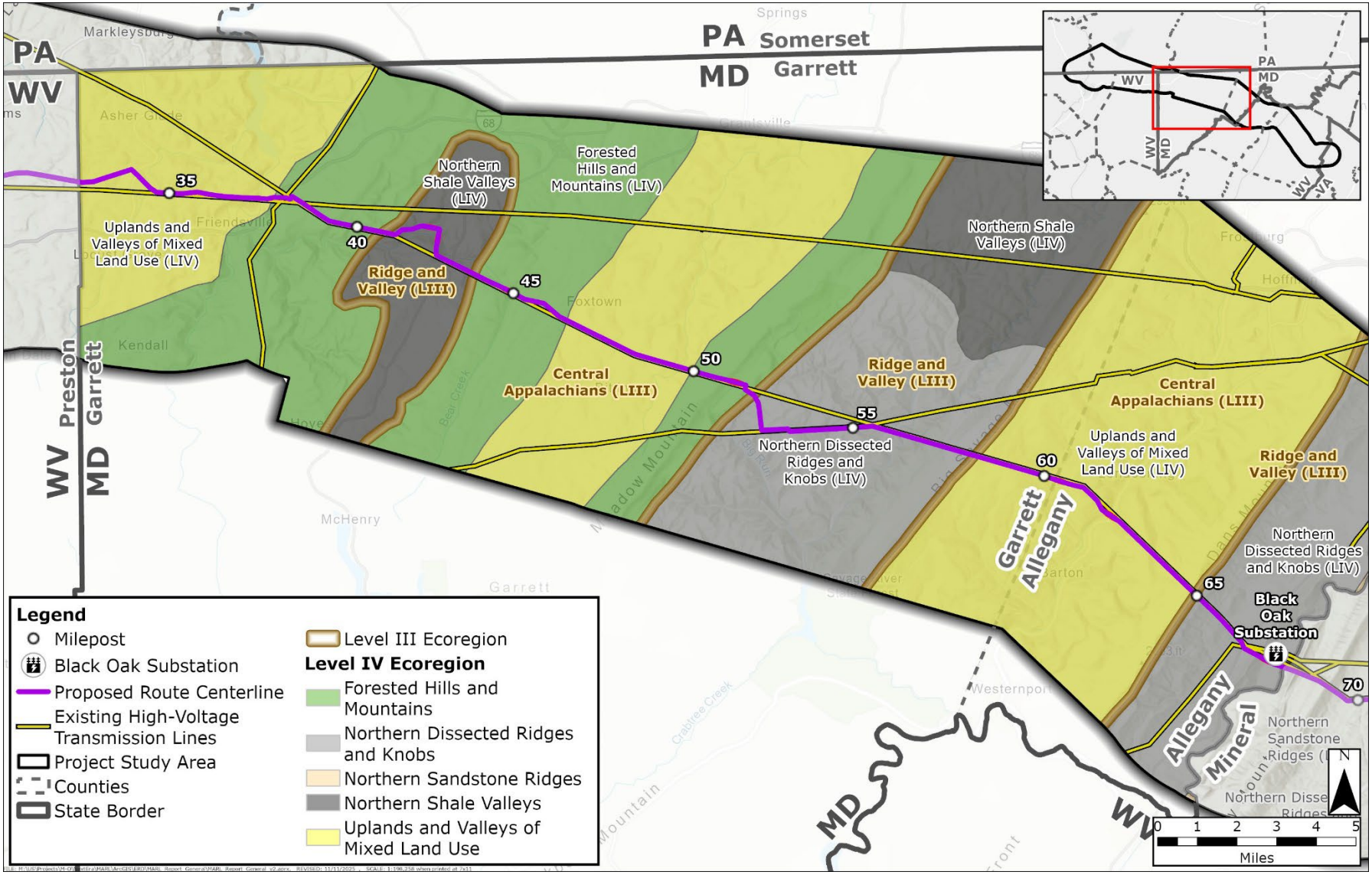
- Climate
- Elevation
- Land use / land cover
- Land form

- Potential natural vegetation
- Soil
- Structural / bedrock geology
- Surficial / quaternary geology (Woods et al. 1999)

The Siting Corridor crosses two Level III Ecoregions—Ridge and Valley (67) and Central Appalachians (69)—and five Level IV Ecoregions. The Ridge and Valley (67) Level III Ecoregion includes three Level IV Ecoregions, and the Central Appalachians (69) Level III Ecoregion includes two Level IV Ecoregions, as follows:

- Ridge and Valley (67)
  - Northern Shale Valleys (67b)
  - Northern Sandstone Ridges (67c)
  - Northern Dissected Ridges and Knobs (67d)
- Central Appalachians (69)
  - Forested Hills and Mountains (69a)
  - Uplands and Valleys of Mixed Land Use (69b)

FIGURE 2.2-7 LEVEL III AND IV ECOREGIONS



LIII = Level III Ecoregion; LIV = Level IV Ecoregion; MD = Maryland; PA = Pennsylvania; VA = Virginia; WV = West Virginia

The following describes each of the Level III Ecoregions, incorporating additional information describing Level IV Ecoregions, as applicable.

The Ridge and Valley (67) Level III Ecoregion is found in Garrett and Allegany Counties. The natural vegetation communities in this ecoregion were historically Appalachian oak forest (dominated by red oak [*Quercus rubra*] and white oak [*Quercus alba*]) and mixed mesophytic forest (dominated by American beech [*Fagus grandifolia*], basswood [*Tillia americana*], black cherry [*Prunus serotina*], black walnut [*Juglans nigra*], red oak, shagbark hickory [*Carya ovata*], sugar maple [*Acer saccharum*], and tuliptree [*Liriiodendron tulipifera*]), while the southern portion was dominated by oak-hickory-pine forest (dominated by hickory, longleaf pine [*Pinus palustrus*], shortleaf pine [*Pinus echinata*], loblolly pine [Pinus taeda], white oak, and post oak [*Quercus stellata*]). Beech, hemlock (*Tsuga canadensis*), and white pine (*Pinus strobus*), as well as other hardwoods, also occurred locally (Woods et al. 1999; Brenner 1985). Today, farming predominates in lower lying valley areas with scattered woodlands occurring in steeper terrain. The highland ridge areas of the Ridge and Valley (67) Level III Ecoregion are still dominated by the historic natural vegetation, with scattered pastures.

The Central Appalachians (69) Level III Ecoregion is found in Garrett and Allegany Counties. The natural vegetation communities in this ecoregion are dominated by forested habitats. Historically, Appalachian oak forest habitats dominated by red oak and white oak were most prevalent, with areas of northern hardwoods (dominated by sugar maple [*Acer saccharum*]), yellow birch [*Betula alleghaniensis*], beech, and hemlock), mixed mesophytic forest, oak hickory forest (dominated by red and white oak, as well as red hickory [*Caray ovails*] and shagbark hickory), and sporadic areas of northern spruce-fir forest (dominated by red spruce [*Picea rubens*] and balsam fir [*Abies balsamea*]) at higher elevations (Woods et al. 1999; Cuff et al. 1989). Stands of red oak, white oak, and sugar maple occurred on steeper slopes with limestone soils (Woods et al. 1999; Cuff et al. 1989; Wiegman 1985; Williams and Fridley 1938). Today, extensive areas of birch (*Betula* spp.), black cherry (*Prunus serotina*), hard maple (*Acer nigrum*), and red oak dominate many areas and are used as commercial woodlands. Conifer belts dominated by red spruce and hemlock are found in higher, cooler locations (Woods et al. 1999). Additionally, many areas that were cleared in the late 18th century remain productive agricultural areas.

2.2.6.1 EXISTING CONDITIONS

Vegetation

ERM used the National Land Cover Database (USGS 2024) to identify the land cover within the Siting Corridor. Table 2.2-55 summarizes the extent of land cover types by county, and Figure 2.2-8 depicts the land cover types within the Siting Corridor. Attachment 1d, Land Use Mapbook, provides a detailed mapping of the land cover within the Siting Corridor. Additional discussion of land use and aesthetics is provided in Section 2.4, Land Use and Aesthetics.

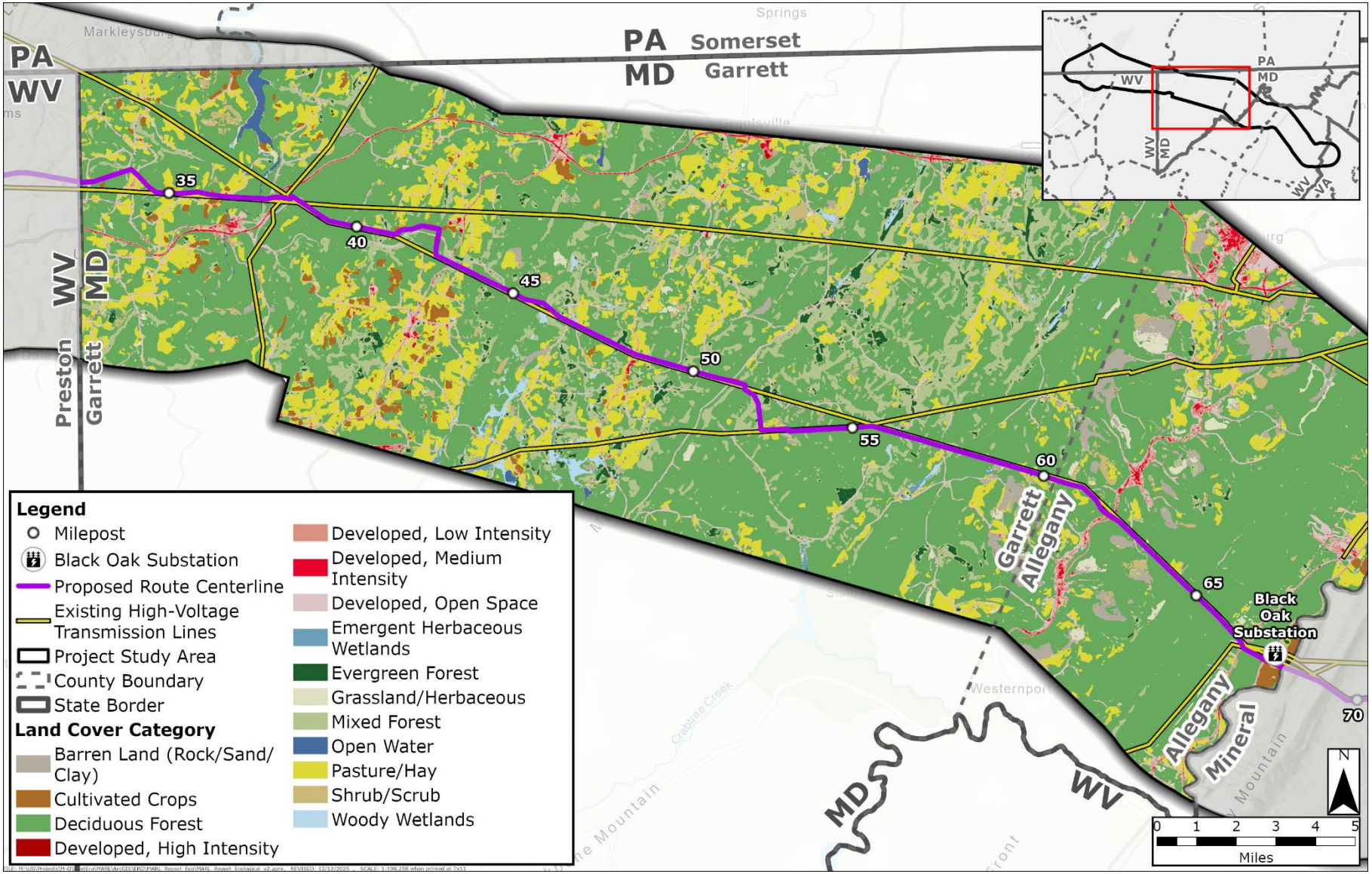
TABLE 2.2-55 LAND COVER TYPES WITHIN THE SITING CORRIDOR (ACRES)

Land Cover	Garrett County	Allegany County	Total Maryland
Barren Land (Rock/Sand/Clay)	34.6	1.3	35.9
Cultivated Crops	28.3	4.3	32.6
Deciduous Forest	1,052.0	355.9	1,407.9
Developed, High Intensity	0.0	0.6	0.6
Developed, Low Intensity	4.3	10.6	14.9
Developed, Medium Intensity	2.1	1.3	3.5
Developed, Open Space	37.4	13.0	50.3
Emergent Herbaceous Wetlands	0.0	0.0	0.0
Evergreen Forest	12.4	0.0	12.4
Grassland/Herbaceous	7.5	1.9	9.4
Mixed Forest	185.6	4.2	189.8
Open Water	4.0	0.4	4.4
Pasture/Hay	194.1	28.8	222.8
Shrub/Scrub	3.8	0.0	3.8
Woody Wetlands	1.6	1.9	3.5
Total [a]	**1,567.6**	**424.1**	**1,991.7**

Source: USGS 2024

[a] Totals may not match the sum of addends due to rounding.

FIGURE 2.2-8 LAND COVER TYPES



MD = Maryland; PA = Pennsylvania; VA = Virginia; WV = West Virginia

Existing natural vegetation within the Siting Corridor includes the following land cover types:

- Deciduous Forest
- Developed, Open Space
- Emergent Herbaceous Wetland
- Evergreen Forest
- Grassland/Herbaceous
- Mixed Forest
- Pasture/Hay
- Shrub/Scrub
- Woody Wetlands

The total acreages of natural vegetation within the Siting Corridor are 1,494.3 acres and 405.6 acres in Garrett and Allegany Counties, respectively (Table 2.2-56; Figure 2.2-8; Attachment 1d).

TABLE 2.2-56 NATURAL VEGETATION WITHIN THE SITING CORRIDOR (ACRES)

Natural Vegetation	Garrett County	Allegany County	Total Maryland
Non-forested	242.7	43.7	286.4
Forested	1,251.6	361.9	1,613.5
Total [a]	**1,494.3**	**405.6**	**1,899.9**

Source: USGS 2024

[a] Totals may not match the sum of addends due to rounding.

Terrestrial Species

This section describes the terrestrial species that may be present within the Siting Corridor. The following discussion of potentially suitable habitat for terrestrial species likely overstates the potential use of the Siting Corridor, as not all habitat provides potentially suitable habitat for all species. Further, not all potentially suitable habitat is actively, recently, or historically occupied by any particular species.

The existing land cover types present within the Siting Corridor provides potentially suitable habitat for a variety of mammals, birds, and herpetofauna. Common mammalian species that are expected to occur within the Siting Corridor include squirrels (*Sciurus* spp.), chipmunks (*Tamias striatus*), groundhogs (*Marmota monax*), rabbits (*Sylvilagus* spp.), raccoons (*Procyon lotor*), skunks (*Mephitis mephitis*), red fox (*Vulpes vulpes*), and white-tailed deer (*Odocoileus virginianus*) (iNaturalist n.d.).

ERM reviewed the Cornell Lab of Ornithology eBird Database (eBird 2025) for Garrett and Allegany Counties to understand the total quantity of birds observed in each county and identify any hotspots (areas with high frequencies of observations) within the Siting Corridor. The total species recorded in Garrett and Allegany Counties are 302 and 306 species, respectively. Some of the most common birds observed in Garrett and Allegany Counties were the American crow

(*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris)*, red-winged blackbird (*Agelaius phoeniceus*), tree swallow (*Tachycineta bicolor*), Canada goose (*Branta canadensis*), common grackle (*Quiscalus quiscula*), American robin (*Turdus migratorius*), and lesser scaup (*Aythya affinis*) (eBird 2025).

Common herpetofauna species that are expected to occur within the Siting Corridor include American toad (*Anaxyrus amercanus*), common garter snake (*Thamnophis sirtalis*), common snapping turtle, eastern newt (*Notophthalmus* viridescens), eastern red-backed salamander (*Plethodon cinereus*), ring-necked snake (*Diadophis punctatus*), and painted turtle spring peeper (*Pseudacris cricifer*) (iNaturalist n.d.).

The total acres of potentially suitable habitat within the Siting Corridor that may be used by terrestrial species can be used to describe the potential for wildlife use. Potentially suitable habitats for terrestrial species include the following land cover types:

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

A total of 1,561.2 and 411.6 acres of potentially suitable habitat is available for terrestrial species within the Siting Corridor in Garrett and Allegany Counties, respectively. These acres include a total of 1,251.6 and 361.9 acres of forested habitat in Garrett and Allegany Counties, respectively (Table 2.2-57; Figure 2.2-8; Attachment 1d).

TABLE 2.2-57 POTENTIALLY SUITABLE HABITAT WITHIN THE SITING CORRIDOR (ACRES)

Potentially Suitable Habitat	Garrett County	Allegany County	Maryland Total [a]
Non-forested	309.6	49.7	359.3
Forested	1,251.6	361.9	1,613.5
Total [a]	**1,561.2**	**411.6**	**1,972.8**

Source: USGS 2024

[a] Totals may not match the sum of addends due to rounding.

2.2.6.2 IMPACTS

Vegetation

Construction and operation would result in various temporary and permanent impacts on existing land cover types, including natural vegetation within the ROW Corridor and ancillary facility workspaces (Table 2.2-58; Figure 2.2-8; Attachment 1d).

TABLE 2.2-58 LAND COVER TYPES WITHIN THE SITING AND ROW CORRIDORS (ACRES)

Land Cover	Garrett County		Allegany County		Maryland Total [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
Barren Land (Rock/Sand/Clay)	34.6	13.6	1.3	0.9	35.9	14.4
Cultivated Crops	28.3	14.6	4.3	1.2	32.6	15.9
Deciduous Forest	1,052.0	471.2	355.9	167.5	1,407.9	638.7
Developed, High Intensity	0.0	0.0	0.6	0.0	0.6	0.0
Developed, Low Intensity	4.3	1.0	10.6	4.1	14.9	5.2
Developed, Medium Intensity	2.1	0.6	1.3	0.3	3.5	0.8
Developed, Open Space	37.4	13.9	13.0	6.0	50.3	20.0
Emergent Herbaceous Wetlands	0.0	0.0	0.0	0.0	0.0	0.0
Evergreen Forest	12.4	3.1	0.0	0.0	12.4	3.1
Grassland/Herbaceous	7.5	2.7	1.9	0.5	9.4	3.3
Mixed Forest	185.6	78.8	4.2	2.1	189.8	80.9
Open Water	4.0	0.7	0.4	0.0	4.4	0.7
Pasture/Hay	194.1	77.9	28.8	13.4	222.8	91.3
Shrub/Scrub	3.8	1.3	0.0	0.0	3.8	1.3
Woody Wetlands	1.6	0.4	1.9	1.0	3.5	1.4
Total [a]	**1,567.6**	**679.8**	**424.1**	**197.1**	**1,991.7**	**876.9**

Source: USGS 2024

ROW = right-of-way

[a] Totals may not match the sum of addends due to rounding.

Impacts on natural vegetation include 649.3 and 190.6 acres within the ROW Corridor in Garrett and Allegany Counties, respectively (Table 2.2-59). Total temporary impacts on non-forested vegetation associated within the ROW Corridors represent 0.3 percent of the 43,476.8 acres of non-forested vegetation within the MARL Project Study Area in Maryland. Similarly, total permanent impacts on forested vegetation associated with habitat conversion within the ROW Corridor represent 0.4 percent of the 161,584.8 acres of forested vegetation within the MARL Project Study Area in Maryland.

TABLE 2.2-59 NATURAL VEGETATION WITHIN THE SITING AND ROW CORRIDOR (ACRES)

Natural Vegetation	Garrett County		Allegany County		Maryland Total [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
Non-forested	242.7	95.8	43.7	20.0	286.4	115.8
Forested	1,251.6	553.5	361.9	170.6	1,613.5	724.1
Total [a]	**1,494.3**	**649.3**	**405.6**	**190.6**	**1,899.9**	**839.9**

Source: USGS 2024

ROW = right-of-way

[a] Totals may not match the sum of addends due to rounding.

Impacts on natural vegetation would be generally temporary if the existing land cover type is:

- Developed, Open Space
- Emergent Herbaceous Wetland
- Grassland/Herbaceous
- Pasture/Hay
- Shrub/Scrub

The above habitats will be restored or allowed to regenerate with select vegetation management as required by site conditions.

Permanent impacts on forested habitats would result from construction and operation, mainly from the conversion of forested habitats to maintained ROWs. Impacts on natural vegetation would be generally permanent if the existing land cover is:

- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Woody Wetlands

Impacts on land cover and natural vegetation would also occur associated with access roads and other ancillary facilities outside of the ROW Corridor, as shown in Table 2.2-60. Impacts on existing land cover types, including natural vegetation, associated with ancillary facility workspaces are shown on Figure 2.2-8 and in detail on Attachment 1d. Impacts on non-forested and forested vegetation associated with both temporary access roads and other temporary ancillary facilities represent less than 0.1 percent of the 43,476.8 acres of non-forested vegetation and less than 0.1 percent of the 161,584.8 acres of forested vegetation within the MARL Project Study Area in Maryland (Table 2.2-61). Similarly, impacts on natural vegetation associated with permanent access roads represent less than 0.1 percent of the 205,061.7 acres of natural vegetation within the MARL Project Study Area in Maryland.

TABLE 2.2-60 LAND COVER TYPES WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (ACRES)

Land Cover	Garrett County			Allegany County			Maryland Total [a]		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
Barren Land (Rock/Sand/Clay)	0.1	2.5	2.0	0.0	0.1	0.0	0.1	2.6	2.0
Cultivated Crops	0.0	0.5	6.5	0.0	0.0	<0.1	0.0	0.5	6.5
Deciduous Forest	0.9	18.6	85.3	0.0	24.0	9.5	0.9	42.6	94.7
Developed, High Intensity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Developed, Low Intensity	0.0	0.2	<0.1	0.0	1.0	<0.1	0.0	1.2	0.1
Developed, Medium Intensity	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
Developed, Open Space	<0.1	2.8	0.7	0.0	3.4	0.2	<0.1	6.2	0.9
Emergent Herbaceous Wetlands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Evergreen Forest	0.0	0.2	<0.1	0.0	0.0	0.0	0.0	0.2	<0.1
Grassland/Herbaceous	0.0	0.4	0.6	0.0	0.5	0.2	0.0	0.9	0.6
Mixed Forest	0.0	3.2	14.3	0.0	0.1	0.7	0.0	3.3	14.5
Open Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Pasture/Hay	0.2	5.4	12.5	0.0	0.8	0.0	0.2	6.2	13.2
Shrub/Scrub	0.0	0.2	<0.1	0.0	0.3	0.0	0.0	0.5	<0.1
Woody Wetlands	0.0	0.0	0.0	0.0	0.0	<0.1	0.0	0.0	<0.1
Total [a]	**1.3**	**34.0**	**122.0**	**0.0**	**30.3**	**10.6**	**1.3**	**64.3**	**132.6**

Source: USGS 2024

[a] Totals may not match the sum of addends due to rounding.

TABLE 2.2-61 NATURAL VEGETATION WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (ACRES)

Natural Vegetation	Garrett County			Allegany County			Maryland Total [a]		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
Non-forested	0.3	8.8	13.9	0.0	4.9	0.9	0.3	13.7	14.8
Forested	0.9	22.0	99.6	0.0	24.1	9.7	0.9	46.1	109.2
Total [a]	**1.1**	**30.8**	**113.5**	**0.0**	**29.0**	**10.5**	**1.1**	**59.8**	**124.1**

Source: USGS 2024

[a] Totals may not match the sum of addends due to rounding.

The MARL Project has been designed to minimize tree clearing, wetland impacts, and other vegetation impacts to the greatest extent practicable. Additionally, the MARL Project was designed to parallel existing ROWs to avoid and minimize impacts from new forested habitat fragmentation to the extent practicable, as further discussed below related to terrestrial species.

NEET MA will coordinate with applicable federal and state agencies and other stakeholders to determine avoidance and minimization measures, as appropriate, to minimize and prevent impacts on natural vegetation and the proliferation of non-native invasive species within the ROW Corridor and ancillary facility workspaces. Construction and routine maintenance activities for the MARL Project will comply with all MARL Project-specific permit requirements and conditions and will be conducted under MARL Project-specific plans and procedures to avoid impacts on natural vegetation during construction and operation. Following construction, the MARL Project will result in the establishment and maintenance of natural vegetation within the ROW Corridor and temporary ancillary facility workspaces.

Terrestrial Species

Construction and operation of the MARL Project would result in both temporary and permanent impacts on terrestrial species and/or their habitats within the ROW Corridor (Figure 2.2-8; Attachment 1d). Seasonal presence and use of the existing habitat will vary by season and species. The following discussion of potentially suitable habitat for terrestrial species likely overstates the potential for impacts, as not all habitat provides potentially suitable habitat for all species. Further, not all potentially suitable habitat is actively, recently, or historically occupied by any particular species.

The total acreage of temporary impacts on potentially suitable non-forested habitat for terrestrial species includes 124.7 and 22.1 acres in Garrett and Allegany Counties, respectively (Table 2.2-62). The non-forested habitat impacts associated with the ROW Corridor represent 0.3 percent of the 52,995.5 acres of non-forested habitat present with the MARL Project Study Area in Maryland.

The total acreage of impacts on forested terrestrial species habitats from establishment of the permanent ROW Corridor includes 553.5 and 170.6 acres within Garrett and Allegany Counites, respectively (Table 2.2-62). The forested habitat impacts associated with the ROW Corridor represent 0.4 percent of the 161,584.8 acres of forested habitat present within the MARL Project Study Area in Maryland.

TABLE 2.2-62 POTENTIALLY SUITABLE HABITAT FOR TERRESTRIAL SPECIES WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Potentially Suitable Habitat	Garrett County		Allegany County		Maryland Total [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
Non-forested	309.6	124.7	49.7	22.1	359.3	146.8
Forested	1,251.6	553.5	361.9	170.6	1,613.5	724.1
Total [a]	**1,561.2**	**678.2**	**411.6**	**192.7**	**1,972.8**	**870.9**

Source: USGS 2024

ROW = right-of-way

[a] Totals may not match the sum of addends due to rounding.

Impacts on terrestrial species would also occur associated with access roads and other ancillary facility workspaces outside of the ROW Corridor, as shown in Table 2.2-63. Impacts on existing terrestrial species habitats associated with ancillary facility workspaces are shown on Figure 2.2-8 and in detail on Attachment 1d. Impacts on non-forested vegetation associated with temporary access roads and other temporary ancillary facilities each represent less than 0.1 percent of the 52,995.5 acres of non-forested habitat within the MARL Project Study Area in Maryland. Similarly, Impacts on forested vegetation associated with temporary access roads and other temporary ancillary facilities each represent less than 0.1 percent of the 161,584.8 acres of forested vegetation within the MARL Project Study Area in Maryland. Impacts associated with permanent access roads represent less than 0.1 percent of the 214,580.3 acres of terrestrial species habitat within the MARL Project Study Area in Maryland.

TABLE 2.2-63 POTENTIALLY SUITABLE TERRESTRIAL SPECIES HABITAT WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE PROPOSED ROUTE ROW CORRIDOR (ACRES)

Potentially Suitable Habitat	Garrett County			Allegany County			Maryland Total [a]		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
Non-forested	0.3	8.8	13.9	0.0	4.9	0.9	0.3	13.7	14.8
Forested	0.9	22.0	99.6	0.0	24.1	9.7	0.9	46.1	109.2
Total [a]	**1.1**	**30.8**	**113.5**	**0.0**	**29.0**	**10.5**	**1.1**	**59.8**	**124.1**

Source: USGS 2024

[a] Totals may not match the sum of addends due to rounding.

Construction and operation would result in both temporary and permanent impacts on terrestrial species and/or their habitats. Impacts on potentially suitable wildlife habitat would be temporary if the existing land cover type is:

- Barren Land (Rock/Sand/Clay)
- Developed, Open Space
- Emergent Herbaceous Wetlands
- Grassland/Herbaceous
- Open Water
- Pasture/Hay
- Shrub/Scrub

These habitats will be restored or allowed to regenerate with select vegetation management as required by site conditions. Impacts from construction activities (e.g., noise, vibration) could cause temporary displacement of more mobile species such as mammals, birds, and some insects to areas outside of construction zones. Loss of potentially suitable habitat within the ROW Corridor will occur during construction of the MARL Project. Most displaced wildlife is expected to return to the area following construction and would be expected to use the newly established and revegetated herbaceous and shrub/scrub habitat during operation. Loss of less mobile species, such as reptiles, amphibians and plants, could occur because of ground disturbances associated with construction and routine maintenance activities.

Impacts on forested habitats and associated wildlife would result from construction, mainly from the conversion of forested habitats to maintained ROW Corridor. In addition, cutting of forested vegetation could also potentially increase forest fragmentation in some areas. The MARL Project has been designed to minimize the total amount of tree clearing to the greatest extent practicable, including the preservation of riparian buffer habitats associated with 16 sensitive waterbodies in Maryland. Additionally, the MARL Project has also been designed to minimize impacts on wetlands and associated vegetation. To the greatest extent practicable, the MARL Project was designed to parallel and abut existing transmission lines to avoid and minimize impacts from new forested habitat fragmentation. A total of 19.9 miles and 5.5 miles of the ROW Corridor parallels and abuts existing transmission lines in Garrett County and Allegany County, respectively. In total, 71.8 percent of the ROW Corridor will parallel and abut existing transmission lines in Maryland (Table 2.2-64).

TABLE 2.2-64 TOTAL LENGTH AND PERCENTAGE OF THE MARL PROJECT THAT PARALLELS EXISTING TRANSMISSION LINES IN MARYLAND

Paralleling	Garrett County		Allegany County		Maryland Total [a]	
	Miles	%	Miles	%	Miles	%
Maryland route length	27.8	78.5	7.6	21.4	35.4	100
Maryland paralleling and abutting existing transmission lines	19.9	71.6	5.5	72.6	25.4	71.8

[a] Totals may not match the sum of addends due to rounding.

NEET MA will coordinate with applicable federal and state agencies and other stakeholders to determine avoidance and minimization measures, as appropriate, to minimize and prevent impacts on terrestrial species and their habitat within the ROW Corridor and ancillary facility workspaces. Construction and routine maintenance activities for the MARL Project will comply with all MARL Project-specific permit requirements and conditions and will be conducted under MARL Project-specific plans and procedures to avoid impacts on terrestrial species and their habitats during construction and operation. Following construction, the MARL Project will result in the establishment and maintenance of natural vegetation and habitats in accordance with applicable federal, state, and local requirements that would be expected to be used by wildlife species during the MARL Project's operational life.

2.2.7 SPECIAL MANAGEMENT AREAS

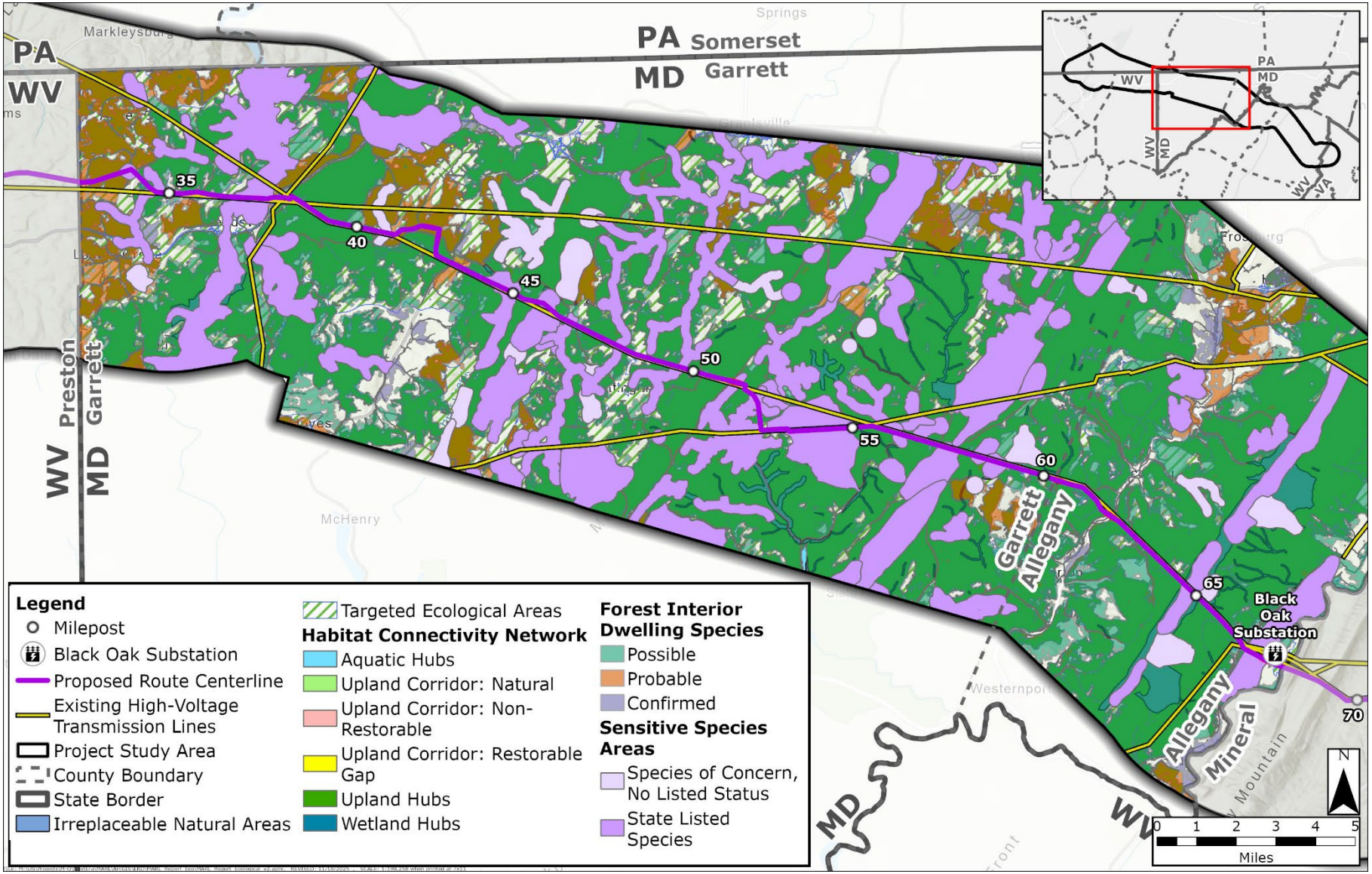
2.2.7.1 EXISTING CONDITIONS

The following sections describe the various special management areas in Maryland intersected by the Siting Corridor. The special management areas, as defined by the MDNR, include Forest Interior Dwelling Species (FIDS) and habitat, Habitat Connectivity Network (HCN) Areas, Ecologically Significant Areas, Sensitive Species Project Review Areas (SSPRAs), Targeted Ecological Areas (TEAs), Forests of Recognized Importance (FORIs), Irreplaceable Natural Areas (INAs), Natural Heritage Areas (NHAs), Rural Legacy Areas, and Protected Lands. ERM used publicly accessible data from MERLIN (MDNR n.d.-a) to document special management areas in the Siting Corridor.

Forest Interior Dwelling Species

FIDS are defined as bird species that depend on large contiguous forests for important life history traits such as breeding, reproduction, and maintaining sustainable populations. The potential occurrence of FIDS has been modeled throughout Maryland by MDNR Wildlife and Heritage Services (WHS) based on certain forest stand criteria. The model results have been developed into a GIS data layer that is publicly available on MDNR MERLIN. FIDS habitat is defined by the MDNR as "a forest tract that meets either of the following conditions: a. Greater than 50 acres in size and containing at least 10 acres of forest interior habitat (forest greater than 300 feet from the nearest forest edge); or b. Riparian forests that are, on average, at least 300 feet in total width and greater than 50 acres in total forest area" (MDNR n.d.-h). There are 1,355.8 and 383.2 acres of FIDS habitat within the Siting Corridor in Garrett and Allegany Counties, respectively (Figure 2.2-9; Attachment 1e, Ecological and Sensitive Species Mapbook).

FIGURE 2.2-9 SPECIAL MANAGEMENT AREAS



MD = Maryland; PA = Pennsylvania; VA = Virginia; WV = West Virginia

Maryland Habitat Connectivity Network

Maryland's HCN is defined by the MDNR as being comprised of hubs (large intact areas of natural, forest, wetland, and aquatic habitat) and corridors (pathways that connect hubs) that are vital to maintaining healthy wildlife populations across the state, particularly those that require habitat areas above a certain size to thrive, as well as natural corridors between habitat areas to find food and mating opportunities. The HCN also classifies hub and corridor types (forest, wetland, or aquatic), summarizes land use types, and identifies areas that could be potentially restored at a later date (MDNR 2024b).

There are 1,145.4 and 358.2 acres of HCN habitats within the Siting Corridor in Garrett and Allegany Counties, respectively (Table 2.2-65; Figure 2.2-9, Attachment 1e).

TABLE 2.2-65 HABITAT CONNECTIVITY NETWORK HABITATS WITHIN THE SITING CORRIDOR (ACRES)

HCN Habitats	Garrett County	Allegany County	Maryland Total [a]
Aquatic hub	3.1	2.4	5.5
Upland corridor: natural	3.1	NA	3.1
Upland corridor: non-restorable	2.0	NA	2.0
Upland corridor: restorable gaps	3.4	NA	3.4
Upland hubs	1,133.8	355.8	1,489.7
Wetland hubs	NA	NA	NA
Total [a]	**1,145.4**	**358.2**	**1,503.7**

Source: MDNR 2025

HCN = Habitat Connectivity Network; NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

Sensitive Species Project Review Areas

SSPRAs have been defined by MDNR WHS as areas with documented occurrences of RTE species. SSPRAs have been delineated using data for other regulated areas including nontidal WSSC, NHAs, listed species sites, locally significant habitat, colonial waterbird sites, and other geographic areas of concern. The MDNR has categorized SSPRAs into four distinct groups:

- Group 1—Areas containing federally listed species;
- Group 2—Areas containing state-listed species;
- Group 3—Areas of species or natural communities of concern to the MDNR; and
- Group 4—Areas containing bald eagle (*Haliaeetus leucocephalus*) nests (MDNR n.d.-h).

There are 551.6 and 54.8 acres of the SSPRAs within the Siting Corridor in Garrett and Allegany Counties, respectively (Table 2.2-66; Figure 2.2-9; Attachment 1e).

TABLE 2.2-66 SENSITIVE SPECIES PROJECT REVIEW AREAS WITHIN THE SITING CORRIDOR

SSPRAs	Garrett County	Allegany County	Maryland Total [a]
Group 1	NA	NA	NA
Group 2	537.1	54.2	591.3
Group 3	14.5	0.6	15.1
Group 4	NA	NA	NA
Total [a]	**551.6**	**54.8**	**606.5**

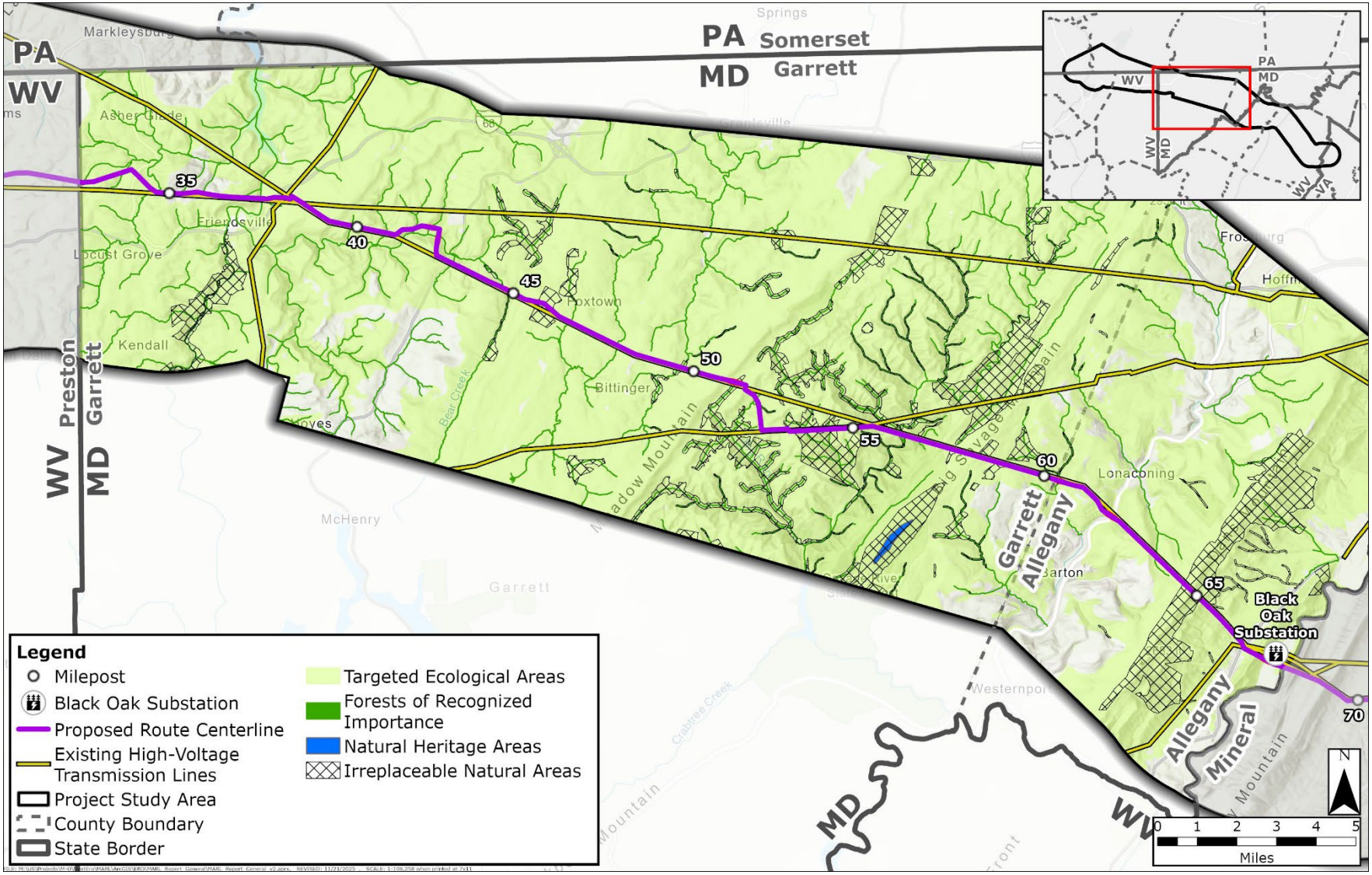
Source: MDNR 2025

NA = not applicable; SSPRAs = Sensitive Species Project Review Areas
[a] Totals may not match the sum of addends due to rounding.

Targeted Ecological Areas

TEAs are certain lands and watershed that have been identified by the MDNR as some of the most ecologically valuable areas within Maryland. These areas have high ecological value and, therefore, are conservation priorities. TEAs have been delineated by using data from green infrastructure, RTE habitat, aquatic life hotspots, water quality data, coastal ecosystems, and climate change adaptation (MDNR n.d.-a). There are 1,480.1 and 381.1 acres of TEAs within the Siting Corridor in Garrett and Allegany Counties, respectively (Figure 2.2-10; Attachment 1e).

FIGURE 2.2-10 TARGETED ECOLOGICAL AREAS, FORESTS OF RECOGNIZED IMPORTANCE, NATURAL HERITAGE AREAS, AND IRREPLACEABLE NATURAL AREAS



MD = Maryland; PA = Pennsylvania; VA = Virginia; WV = West Virginia

Natural Heritage Areas

The Maryland Natural Heritage Program (MD NHP), established in 1979 as the lead agency in the state responsible for the management and protection of nongame and RTE species and their habitats, identified 32 areas within Maryland as NHAs that have been designated in Maryland's threatened and endangered species regulations (COMAR 08.03.08). To qualify as an NHA, a site must have the following characteristics:

- Contain one or more protected resource or wildlife species in need of conservation;
- Be a unique blend of geological, hydrological, climatological, and biological features; and
- Be considered to be among the best statewide examples of its kind (MDNR n.d.-a).

No MD NHP-managed NHAs occur within the Siting Corridor.

Forest of Recognized Importance

FORI, previously known as High Conservation Value Forests, is a term used by several forest sustainability certification bodies. Defined by the Maryland Forest Service, these areas represent 100-foot buffers of stronghold watersheds, trout-bearing streams, streams feeding municipal drinking water reservoirs, and MDE Tier II High Quality Waters. A total of 76.1 and 5.8 acres of FORI are associated with 25 streams in Garrett County and 2 streams in Allegany County within the Siting Corridor (Table 2.2-67; Figure 2.2-10; Attachment 1e).

TABLE 2.2-67 FOREST OF RECOGNIZED IMPORTANCE WITHIN THE SITING CORRIDOR (ACRES)

FORI [a]	Garrett County	Allegany County	Maryland Total [b]
South Branch Laurel Run	2.0	NA	2.0
UT to South Branch Laurel Run	4.4	NA	4.4
Buffalo Run	5.1	NA	5.1
Buffalo Run	3.9	NA	3.9
UT to Buffalo Run	2.6	NA	2.6
UT to Youghiogheny River	7.4	NA	7.4
UT to Youghiogheny River	3.6	NA	3.6
UT to Bear Creek	2.1	NA	2.1
Fikes Run	2.2	NA	2.2
UT to Bear Creek	3.1	NA	3.1
Cove Run	3.3	NA	3.3
Bear Creek	2.9	NA	2.9
Bear Creek	2.1	NA	2.1
Bear Creek	4.4	NA	4.4
UT to North Branch Casselman River	2.2	NA	2.2
North Branch Casselman River	2.2	NA	2.2
South Branch Casselman River	2.5	NA	2.5
Big Run	2.3	NA	2.3
Miller Run	2.4	NA	2.4
UT to Miller Run	2.5	NA	2.5

FORI [a]	Garrett County	Allegany County	Maryland Total [b]
Bear Pen Run	0.9	NA	0.9
Silver Bell Run	2.2	NA	2.2
Savage River	1.2	NA	1.2
UT to Savage River	5.9	NA	5.9
UT to Savage River	2.8	NA	2.8
Laurel Run	NA	3.1	3.1
UT to Jackson Run	NA	2.7	2.7
Total [b]	**76.1**	**5.8**	**81.9**

Source: MDNR 2025

FORI = Forest of Recognized Importance; NA = not applicable; UT = unnamed tributary
[a] FORIs are listed west to east along the Proposed Route.
[b] Totals may not match the sum of addends due to rounding.

Irreplaceable Natural Areas

INAs were established in 2022 under the INA Program to preserve Maryland's native biodiversity and lands owned and managed by the MDNR for the current and future residents of the state. INAs are defined as an area with habitat necessary to support a unique natural community or a plant or animal species listed as threatened or endangered by the state. INAs are further characterized as areas that either have an assemblage of native plants or animals that is rare or declining in Maryland or supports an unusually pristine example of a native ecosystem type.

A total of nine and two INAs associated with Dans Mountain WMA and Savage River State Forest are within the Siting Corridor in in Garrett and Allegany Counties, respectively (Table 2.2-68). Dans Mountain WMA is Maryland's largest contiguous block of state-managed forest, encompassing a total of 9,925 acres. Savage River State Forest is the largest state forest, encompassing 55,185 acres.

TABLE 2.2-68 IRREPLACEABLE NATURAL AREAS WITHIN THE SITING CORRIDOR (ACRES)

INA Name	Management Unit	INA Total	Siting Corridor
Garrett County			
Bear Creek	Savage River State Forest	-	1.4
Bear Pen Headwaters	Savage River State Forest	1,180.6	35.3
Big Run - Savage	Savage River State Forest	1,312.6	11.3
Casselman River	Savage River State Forest	138.1	7.5
Foxtown Bog Complex	Savage River State Forest	285.1	29.8
Pine Swamp East	Savage River State Forest	23.4	8.5
Poplar Lick Run	Savage River State Forest	1,015	<0.1
Russell Road Meadow	Savage River State Forest	72.4	11.8
Savage River and Tributaries	Savage River State Forest	-	8.9
Allegany County			
Dans Mountain	Dans Mountain WMA	4,604.8	23.2
Georges Creek Tributaries	Savage River State Forest	-	3.4

Source: MDNR 2025
INA = Irreplaceable Natural Area; WMA = Wildlife Management Area
A hyphen (-) indicates that no data were provided in the MDNR INA summary.

There are 114.5 and 26.6 acres of INAs within the Siting Corridor in Garrett and Allegany Counties, respectively (Table 2.2-68; Figure 2.2-10; Attachment 1e).

Biodiversity Conservation Network

The Biodiversity Conservation Network (BioNet) was developed under MDNR's MD NHP as a digital mapping tool to systematically identify and prioritize areas for terrestrial and freshwater biodiversity conservation. It was established as an additional tool for the MD NHP and its conservation partners for proactive land conservation activities, such as targeting for acquisitions and easements, locating appropriate areas for project mitigation or habitat restoration, and planning for areas that require management to sustain dwindling species and habitats. BioNet prioritizes areas into a five-tiered system:

- Tier 1—Critically significant for biodiversity conservation;
- Tier 2—Extremely significant for biodiversity conservation;
- Tier 3—Highly significant for biodiversity conservation;
- Tier 4—Moderately significant for biodiversity conservation; and
- Tier 5—Significant for biodiversity conservation.

BioNet areas are provided in Attachment 1e. There are 1,410.7 and 383.0 acres of BioNet areas within the Siting Corridor in Garrett and Allegany Counties, respectively (Table 2.2-69).

TABLE 2.2-69 BIODIVERSITY CONSERVATION NETWORK AREAS WITHIN THE SITING CORRIDOR (ACRES)

BioNet Areas	Garrett County	Allegany County	Maryland Total [a]
Tier 1	146.5	42.5	189.0
Tier 2	155.3	NA	155.3
Tier 3	514.8	227.8	742.6
Tier 4	410.3	112.7	522.9
Tier 5	183.8	NA	183.8
Total [a]	**1,410.7**	**383.0**	**1,793.7**

Source: MDNR 2025

BioNet = Biodiversity Conservation Network; NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

2.2.7.2 IMPACTS

Construction and operation would result in various temporary and permanent impacts on special management areas. This section focuses on terrestrial impacts associated with special management areas. Impacts on aquatic species and habitat that may be present in special management areas are consistent with the discussion provided in Section 2.2.5, Aquatic Species and Habitat.

Impacts on special management areas within the ROW Corridor and ancillary facility workspaces would be similar to those described in Sections 2.2.6 and 2.2.8 related to terrestrial species and protected, threatened, and endangered species, respectively. Impacts would be temporary if current habitats are grassland, herbaceous wetlands, shrub/scrub, or similar habitats that are

compatible with maintained ROW vegetation. Following construction, natural vegetation would be allowed to reestablish within the ROW Corridor and ancillary facility workspaces, consistent with long-term maintenance requirements, and would be expected to provide habitat comparable to existing conditions.

Permanent impacts on forested habitats would result from construction and operation of the MARL Project, mainly from the conversion of forested habitats to maintained ROW. The MARL Project has been designed to minimize the total amount of tree clearing to the greatest extent practicable. Additionally, the MARL Project has also been designed to minimize impacts on wetlands and associated vegetation. To the greatest extent practicable, the MARL Project was designed to parallel existing ROWs to avoid and minimize impacts from new forested habitat fragmentation. A total of 19.9 miles and 5.5 miles of the ROW Corridor parallels and abuts existing transmission lines in Garrett County and Allegany County, respectively. In total, 71.8 percent of the ROW Corridor will parallel existing ROWs in Maryland (Table 2.2-64). Further, the MARL Project has been designed with riparian buffer exclusion zones to avoid and minimize impacts on water quality at 16 locations in Maryland, as further discussed in Section 2.2.4. Five of the 16 riparian exclusion zones are associated with an INA. In addition, 12 of the 16 riparian exclusion zones are associated with streams that are considered ecologically sensitive by MDNR WHS and have designated use classifications of Class III (nontidal cold water) and IV (recreational trout waters). See Section 2.2.4.2 for additional discussion of designated use classifications.

NEET MA will coordinate with applicable federal and state agencies and other stakeholders to determine avoidance and minimization measures, as appropriate, to minimize and prevent impacts on special management areas within the ROW Corridor and facility workspaces. Construction and routine maintenance activities will comply with all MARL Project-specific permit requirements and conditions and will be conducted under MARL Project-specific plans and procedures to avoid impacts on special management areas during construction and operation.

Temporary and permanent impacts from construction and operation of the MARL Project represent only a portion of the available special management areas within the Siting Corridor and a much smaller portion within the context of the MARL Project Study Area in Maryland. The total acreages of impacts are discussed below for each identified special management area. See Attachment 1e for detailed mapping.

Forest Interior Dwelling Species

There are 595.8 and 182.7 acres of FIDS habitat within the ROW Corridor in Garrett and Allegany Counties, respectively (Table 2.2-70). In total, this represents 0.1 percent of the 636,450.5 acres of forested habitat that meet FIDS criteria in the MARL Project Study Area in Maryland.

TABLE 2.2-70 FOREST INTERIOR DWELLING SPECIES HABITAT WITHIN THE SITING CORRIDOR AND ROW CORRIDOR

Habitat	Garrett County		Allegany County		Maryland Total [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
FIDS	1,355.8	595.8	383.2	182.7	1,739.0	778.4

Source: MDNR 2025
FIDS = Forest Interior Dwelling Species; ROW = right-of-way

[a] Totals may not match the sum of addends due to rounding.

Maryland Habitat Connectivity Network

There are 504.9 and 168.6 acres of HCN habitat types within the ROW Corridor in Garrett and Allegany Counties, respectively (Table 2.2-71). In total, this represents 0.4 percent of the 188,117.2 acres of HCN habitats in the MARL Project Study Area in Maryland.

TABLE 2.2-71 HABITAT CONNECTIVITY NETWORK HABITATS WITHIN THE SITING CORRIDOR AND ROW CORRIDOR

HCN Habitats	Garrett County		Allegany County		Maryland Total	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
Aquatic hub	3.1	1.3	2.4	0.3	5.5	1.5
Upland corridor: natural	3.1	0.5	NA	NA	3.1	0.5
Upland corridor: non-restorable	2.0	0.5	NA	NA	2.0	0.5
Upland corridor: restorable gaps	3.4	1.8	NA	NA	3.4	1.8
Upland hubs	1,133.8	500.8	355.8	168.3	1,489.6	669.1
Wetland hubs	NA	NA	NA	NA	NA	NA
Total [a]	**1,145.4**	**504.9**	**358.2**	**168.6**	**1,503.6**	**673.5**

Source: MDNR 2025
NA = not applicable; ROW = right-of-way
[a] Totals may not match the sum of addends due to rounding.

Sensitive Species Project Review Areas

There are 247.2 and 32.1 acres of SSPRAs within the ROW Corridor in Garrett and Allegany Counties, respectively (Table 2.2-72). In total, this represents 0.5 percent of the 16,794.5 acres of SSPRAs in the MARL Project Study Area in Maryland.

TABLE 2.2-72 SENSITIVE SPECIES PROJECT REVIEW AREAS WITHIN THE SITING CORRIDOR AND ROW CORRIDOR

SSPRAs	Garrett County		Allegany County		Maryland Total [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
Group 1	NA	NA	NA	NA	NA	NA
Group 2	537.1	241.7	54.2	31.4	591.3	273.1
Group 3	14.5	5.6	0.6	0.6	15.1	6.2
Group 4	NA	NA	NA	NA	NA	NA
Total [a]	**551.6**	**247.2**	**54.8**	**32.1**	**606.5**	**279.3**

Source: MDNR 2025

NA = not applicable; ROW = right-of-way; SSPRAs = Sensitive Species Project Review Areas
[a] Totals may not match the sum of addends due to rounding.

Targeted Ecological Areas

There are 643.5 and 179.8 acres of TEAs within the ROW Corridor in Garrett and Allegany Counties, respectively (Table 2.2-73). In total, this represents 0.4 percent of the 188,117.2 acres of TEAs in the MARL Project Study Area in Maryland.

TABLE 2.2-73 TARGETED ECOLOGICAL AREAS WITHIN THE SITING CORRIDOR AND ROW CORRIDOR

Management Area	Garrett County		Allegany County		Maryland Total [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
TEAs	1,480.1	643.5	381.1	179.8	1,861.2	823.3

Source: MDNR 2025

ROW = right-of-way; TEA = Targeted Ecological Areas
[a] Totals may not match the sum of addends due to rounding.

Natural Heritage Areas

No MD NHP-managed NHAs occur within the ROW Corridor.

Forest of Recognized Importance

There are 20.8 acres of FORIs within the ROW Corridor in Garrett County (Table 2.2-74). There are no FORIs within the ROW Corridor in Allegany County (Table 2.2-74). In total, this represents 0.2 percent of the 9,757.5 acres of FORIs in in the MARL Project Study Area in Maryland. Of the 16 riparian exclusion zones in Maryland incorporated into the MARL Project design, 14 are FORIs. At these locations, existing riparian vegetation within 100 feet on either side of the stream will be retained, and no vegetation clearing or ground disturbance would occur within these exclusion zones.

TABLE 2.2-74 FOREST OF RECOGNIZED IMPORTANCE WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

FORI [a]	Garrett County		Allegany County		Maryland Total [b]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
South Branch Laurel Run	2.0	<0.1	NA	NA	2.0	<0.1
UT to South Branch Laurel Run	4.4	1.6	NA	NA	4.4	1.6
Buffalo Run	5.1	1.2	NA	NA	5.1	1.2
Buffalo Run	3.9	1.1	NA	NA	3.9	1.1
UT to Buffalo Run	2.6	1.4	NA	NA	2.6	1.4
UT to Youghiogheny River [a]	7.4	1.3	NA	NA	7.4	1.3
UT to Youghiogheny River [a]	3.6	<0.1	NA	NA	3.6	<0.1
UT to Bear Creek [a]	2.1	0.0	NA	NA	2.1	0.0
Fikes Run [c]	2.2	0.0	NA	NA	2.2	0.0
UT to Bear Creek [c]	3.1	0.0	NA	NA	3.1	0.0
Cove Run [c]	3.3	0.0	NA	NA	3.3	0.0
Bear Creek [c]	2.9	<0.1	NA	NA	2.9	<0.1
Bear Creek [c]	2.1	<0.1	NA	NA	2.1	<0.1
Bear Creek [c]	4.4	0.0	NA	NA	4.4	0.0
UT to North Branch Casselman River	2.2	1.1	NA	NA	2.2	1.1
North Branch Casselman River	2.2	0.9	NA	NA	2.2	0.9
South Branch Casselman River [c]	2.5	0.0	NA	NA	2.5	0.0
Big Run	2.3	2.0	NA	NA	2.3	2.0
Miller Run	2.4	1.0	NA	NA	2.4	1.0
UT to Miller Run	2.5	1.0	NA	NA	2.5	1.0
Bear Pen Run [c]	0.9	<0.1	NA	NA	0.9	0.0
Silver Bell Run [c]	2.3	0.0	NA	NA	2.3	0.0
Savage River [c]	1.2	0.2	NA	NA	1.2	0.2
UT to Savage River	5.9	5.9	NA	NA	5.9	5.9
UT to Savage River	2.8	1.3	NA	NA	2.8	1.3
Laurel Run	NA	NA	3.1	0.0	3.1	0.0
UT to Jackson Run [c]	NA	NA	2.7	0.0	2.7	0.0
Total [b]	**76.1**	**20.8**	**5.8**	**NA**	**81.9**	**20.8**

Source: MDNR 2025

FORI = Forest of Recognized Importance; NA = not applicable; ROW = right-of-way; UT = unnamed tributary

[a] These FORIs are included in the riparian buffer exclusion zones.

[b] Totals may not match the sum of addends due to rounding.

[c] FORIs are listed west to east along the Proposed Route.

Irreplaceable Natural Areas

There are 59.0 and 23.4 acres of INAs within the ROW Corridor in Garrett and Allegany Counties, respectively (Table 2.2-75). In total, this represents 0.4 percent of the 18,711.7 acres of INAs in the MARL Project Study Area in Maryland. Of the 16 riparian exclusion zones in Maryland incorporated into the MARL Project design, 5 are associated with INAs. At these locations, existing riparian vegetation within 100 feet on either side of the stream will be retained, and no vegetation clearing or ground disturbance would occur within these exclusion zones.

TABLE 2.2-75 IRREPLACEABLE NATURAL AREAS WITHIN THE SITING CORRIDOR AND ROW CORRIDOR

INA	Garrett County		Allegany County		Maryland Total [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
Bear Creek [b]	1.4	<0.1	NA	NA	1.4	<0.1
Bear Pen Headwaters [b]	35.3	21.9	NA	NA	35.3	21.9
Big Run – Savage	11.3	7.0	NA	NA	11.3	7.0
Casselman River [b]	7.5	2.3	NA	NA	7.5	2.3
Foxtown Bog Complex	29.8	12.0	NA	NA	29.8	12.0
Pine Swamp East	8.5	4.1	NA	NA	8.5	4.1
Poplar Lick Run	<0.1	<0.1	NA	NA	0.0	<0.1
Russell Road Meadow	11.8	4.4	NA	NA	11.8	4.4
Savage River and Tributaries [b]	8.9	7.2	NA	NA	8.9	7.2
Dans Mountain	NA	NA	23.2	23.2	23.2	23.2
Georges Creek Tributaries [b]	NA	NA	3.4	0.2	3.4	0.2
Total [a]	**114.5**	**59.0**	**26.6**	**23.4**	**141.1**	**82.4**

Source: MDNR 2025

INA = Irreplaceable Natural Area; NA = not applicable; ROW = right-of-way
[a] Totals may not match the sum of addends due to rounding.
[b] These INAs are included in the riparian buffer exclusion zones.

Biodiversity Conservation Network

There are 616.5 and 182.6 acres of BioNet areas within the ROW Corridor in Garrett and Allegany Counties, respectively (Table 2.2-76). This represents 0.4 percent of the 187,162.5 acres of BioNet areas in in the MARL Project Study Area in Maryland.

TABLE 2.2-76 BIODIVERSITY CONSERVATION NETWORK AREAS WITHIN THE SITING CORRIDOR AND ROW CORRIDOR

BioNet Areas	Garrett County		Allegany County		Maryland Total [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
Tier 1	146.5	69.1	42.5	23.9	189.0	93.0
Tier 2	155.3	67.8	NA	NA	155.3	67.8
Tier 3	514.8	230.6	227.8	110.0	742.6	340.6
Tier 4	410.3	175.2	112.7	48.7	522.9	223.9
Tier 5	183.8	73.9	NA	NA	183.8	73.9
Total [a]	**1,410.7**	**616.5**	**383.0**	**182.6**	**1,793.7**	**799.1**

Source: MDNR 2025

BioNet = Biodiversity Conservation Network; NA = not applicable; ROW = right-of-way
[a] Totals may not match the sum of addends due to rounding.

Special Management Area Impacts Associated with Ancillary Facility Workspaces

Impacts on the above-described special management areas would also occur associated with access roads and other temporary ancillary facilities outside of the ROW Corridor.
Table 2.2-77 summarizes the acreage of special management areas affected by workspaces for permanent and temporary access roads and other temporary ancillary facilities. Impacts on special management areas associated with temporary access roads and other temporary ancillary facilities each represent less than less than 0.1 percent of the 1,620,490.5 acres of all special management areas within the MARL Project Study Area in Maryland. Similarly, impacts associated with permanent access roads represent less than 0.1 percent of the 1,620,490.5 acres of all special management areas within the MARL Project Study Area in Maryland.

TABLE 2.2-77 SPECIAL MANAGEMENT AREAS WITHIN ANCILLARY FACILITY WORKSPACE OUTSIDE OF THE ROW CORRIDOR (ACRES)

Special Management Area	Garrett County			Allegany County			Maryland Total [a]		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
FIDS	1.0	25.0	114.5	0.0	19.8	10.3	1.0	44.8	124.8
FIDS Total [a]	*1.0*	*25.0*	*114.5*	*0.0*	*19.8*	*10.3*	*1.0*	*44.8*	*124.8*
HCN									
Aquatic hub	0.0	<0.1	<0.1	0.0	0.q	<0.1	0.0	0.1	<0.1
Upland corridor: natural	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upland corridor: non-restorable	0.0	<0.1	0.0	0.0	0.0	0.0	0.0	<0.1	0.0
Upland corridor: restorable gaps	0.0	16.4	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Upland hubs	0.5	0.0	84.5	0.0	19.8	8.8	0.5	36.2	93.4
HCN Total [a]	*0.5*	*16.4*	*84.7*	*0.0*	*19.8*	*8.9*	*0.5*	*36.3*	*93.5*
SSPRAs									
Group 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Group 2	0.8	7.8	48.8	0.0	17.4	0.5	0.8	25.2	49.3
Group 3	0.0	<0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.2
Group 4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSPRA Total [a]	*0.8*	*7.8*	*48.9*	*0.0*	*17.4*	*0.5*	*0.8*	*25.2*	*49.5*
TEAs	1.3	31.1	120.6	0.0	25.2	9.4	1.3	56.3	130.0
TEA Total	*1.3*	*31.1*	*120.6*	*0.0*	*25.2*	*9.4*	*1.3*	*56.3*	*130.0*
NHAs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NHA Total [a]	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
FORI									
Bear Creek [b]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bear Creek [b]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bear Creek [b]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bear Pen Run [b]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Big Run	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buffalo Run	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buffalo Run	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.6
Cove Run [b]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fikes Run [b]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miller Run	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
North Branch Casselman River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Savage River [b]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Silver Bell Run [b]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Branch Casselman River [b]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Branch Laurel Run	0.0	0.0	<0.1	0.0	0.0	0.0	0.0	0.0	<0.1
UT to Bear Creek [b]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UT to Bear Creek [b]	0.0	0.0	<0.1	0.0	0.0	0.0	0.0	0.0	<0.1
UT to Buffalo Run	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UT to Miller Run	0.0	<0.1	<0.1	0.0	0.0	0.0	0.0	<0.1	<0.1
UT to North Branch Casselman River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UT to Savage River [b]	0.0	0.0	<0.1	0.0	0.0	0.0	0.0	0.0	<0.1

Special Management Area	Garrett County			Allegany County			Maryland Total [a]		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
UT to Savage River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UT to South Branch Laurel Run	0.0	0.0	<0.1	0.0	0.0	0.0	0.0	0.0	<0.1
UT to Youghiogheny River [b]	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.2
UT to Youghiogheny River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Laurel Run	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UT to Jackson Run [b]	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0
FORI Total [a]	*0.0*	*0.1*	*0.9*	*0.0*	*0.7*	*0.0*	*0.0*	*0.8*	*0.9*
INA									
Bear Creek [b]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bear Pen Headwaters [b]	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.8
Big Run - Savage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Casselman River [b]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Foxtown Bog Complex	0.0	0.0	10.9	0.0	0.0	0.0	0.0	0.0	10.9
Pine Swamp East	0.0	0.0	<0.1	0.0	0.0	0.0	0.0	0.0	<0.1
Poplar Lick Run	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Russell Road Meadow	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.1
Savage River and Tributaries [b]	0.0	0.0	<0.1	0.0	0.0	0.0	0.0	0.0	<0.1
Dans Mountain	0.0	0.0	0.0	0.0	<0.1	<0.1	0.0	<0.1	<0.1
Georges Creek Tributaries [b]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INA Total [a]	*0.0*	*0.2*	*12.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
BioNet									
Tier 1	0.8	3.8	15.4	0.0	15.6	0.5	0.8	19.5	15.9
Tier 2	0.0	1.2	12.1	0.0	0.0	0.0	0.0	1.2	12.1
Tier 3	0.0	8.6	42.2	0.0	4.7	5.0	0.0	13.3	47.2
Tier 4	0.2	8.3	24.2	0.0	5.6	4.8	0.2	13.9	29.0
Tier 5	0.0	5.4	22.4	0.0	0.0	0.0	0.0	5.4	22.4
BioNet Total [a]	*1.0*	*27.2*	*116.2*	*0.0*	*26.0*	*10.3*	*1.0*	*53.2*	*126.5*
Total [a]	**5.1**	**112.2**	**323.3**	**0.0**	**127.8**	**20.3**	**5.1**	**240.0**	**343.6**

Source: MDNR 2025

BioNet = Biodiversity Conservation Network; FIDS = Forest Interior Dwelling Species; FORI = Forest of Recognized Importance; HCN = Habitat Connectivity Network; INA = Irreplaceable Natural Area; NHA = Natural Heritage Area; SSPRA = Sensitive Species Project Review Area; TEA = Targeted Ecological Area; UT = unnamed tributary

[a] Totals may not match the sum of addends due to rounding.

[b] These special management areas are included in the riparian buffer exclusion zones.

2.2.8 PROTECTED, THREATENED, AND ENDANGERED SPECIES

2.2.8.1 EXISTING CONDITIONS

Protected species are generally defined as animal and plant species that are protected under state or federal law. ERM reviewed protected species according to the following regulations:

- Federal threatened and endangered species protected under the Endangered Species Act (ESA) enacted in 1973 and administered by the USFWS and NOAA, as well as state-listed threatened and endangered species protected under the Nongame and Endangered Species Conservation Act (MD Code Ann. § 10-2A-01) administered by the MDNR;
- RTE species protected under the Maryland Endangered Species Conservation Act (enacted in 1985; MD Code Ann. § 10-2A-01);
- Bald eagles protected under the Bald and Golden Eagle Protection Act enacted in 1940 and administered by the USFWS; and
- Migratory birds protected under the Migratory Bird Treaty Act (MBTA) enacted in 1918 and administered by the USFWS.

Additionally, ERM used the following sources to identify protected species along and near the Siting Corridor:

- USFWS Information for Planning and Consultation System (IPaC) online system (USFWS n.d.-b);
- USFWS data provided via email communication;
- MDNR MERLIN (MDNR n.d.-a);
- MDNR WHS lists of RTE plants (MDNR n.d.-i);
- MDNR WHS lists of RTE animals (MDNR n.d.-j);
- MDNR WHS data provided via email communication; and
- Maryland Bird Conservation Partnership online eagle nest map tool (MBCP 2025).

Results from the MDNR WHS lists of RTE plants and animals included species known to occur in Garrett and Allegany Counties, and the MDNR MERLIN tool provided geospatial data on SSPRAs and other biological data sets. Query results from IPaC include species that have the potential to occur in the Siting Corridor (USFWS n.d.-b). Based on the IPaC results, the Siting Corridor does not overlap with any critical habitat as defined by the USFWS (USFWS n.d.-b).

The following discussion of potentially suitable habitat for protected, threatened, and endangered species likely overstates the potential for species occurrence as not all potentially suitable habitat is actively, recently, or historically occupied by any particular species.

Federally Listed Threatened and Endangered Species

To protect and recover imperiled species and the ecosystems they depend on, U.S. Congress passed the ESA in 1973, which states that threatened and endangered plant and animal species are of "[a]esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people," and protection of these species and their habitats is required. The ESA is administered by NOAA and the USFWS, and it protects fish, wildlife, plants, and invertebrates that

are federally listed as endangered or threatened by prohibiting the "take" of these species and the interstate or international trade of the species, including their parts and products, unless permitted by federal law.

Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct" (33 U.S.C. § 1532). A federally endangered species is any species in danger of extinction throughout all or a significant portion of its range, with exceptions for certain insect pests (33 U.S.C. § 1532). A federally threatened species is any species that is likely to become endangered in the near future throughout all or a significant portion of its range (33 U.S.C. § 1532).

ERM identified multiple federally listed threatened and endangered species with the potential to occur within and adjacent to the Siting Corridor (Table 2.2-78). The terrestrial and aquatic habitats present within the Siting Corridor provide potentially suitable habitat for the federally listed species to varying degrees based upon species-specific habitat requirements and life histories.

TABLE 2.2-78 FEDERALLY LISTED SPECIES WITH POTENTIAL TO OCCUR WITHIN THE SITING CORRIDOR

Common Name	Scientific Name	Protection Status	Preferred Habitat
Eastern hellbender	*Cryptobranchus alleganiensis*	FPE	Rivers and large streams with clean, clear water Rely on highly oxygenated water with large substrate
Indiana bat	*Myotis sodalis*	FE	Old-growth or late-successional interior forests Partially dead or decaying trees are used for summer roosting and foraging Hibernation occurs primarily in caves, mines, and tunnels
Monarch butterfly	*Danaus plexippus*	FPE	Migratory Fields, roadside areas, and open fields that contain milkweed
Northern long-eared bat	*M. septentrionalis*	FE	Old-growth or late-successional interior forests Partially dead or decaying trees are used for summer roosting and foraging Hibernation occurs primarily in caves, mines, and tunnels
Tricolored bat	*Perimyotis subflavus*	FPE	Partly open landscapes with large trees and plentiful woodland edge

Source: USFWS n.d.-b

FE = Federally Endangered; FPE = Federally Proposed for Endangered

The total acreage of potentially suitable habitat for listed and proposed species within the Siting Corridor may be used to describe the potential for species use of existing habitats. Further details regarding the existing conditions and impacts on natural vegetation and terrestrial species are provided in Section 2.2.6 and Section 2.2.7, Special Management Areas. Existing conditions and impacts on aquatic species and habitats are provided in Section 2.2.5. See Attachment 1d and Attachment 1e for supporting mapping.

Bats

Indiana, northern long-eared, and tricolored bats (listed bats) require forested habitat for roosting from April 1 to October 15. Potentially suitable roosting habitats include the following land cover types:

- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Woody Wetlands

A total of 1,251.6 and 361.9 acres of potentially suitable habitat is available for roosting bats within the Siting Corridor in Garrett and Allegany Counties, respectively (Table 2.2-79; Figure 2.2-8; Attachment 1d).

TABLE 2.2-79 POTENTIALLY SUITABLE BAT HABITAT AND KNOWN OCCURRENCES WITHIN THE SITING CORRIDORS (ACRES)

Potentially Suitable Habitat	Garrett County	Allegany County	Maryland Total [a]
Potential roosting habitat	1,251.6	361.9	1,613.5
Potential foraging habitat	1,561.2	411.6	1,972.8
Known occupied maternity habitat	108.3	72.5	180.8
Staging/hibernacula/swarming habitat	0.0	0.0	0.0

Source: USGS 2024; Kathleen Cullen 2025, pers. comm.

[a] Totals may not match the sum of addends due to rounding.

During the active seasons (staging, maternity, swarming), listed bats use additional land cover types for foraging, including:

- Barren Land (Rock/Sand/Clay)
- Cultivated Crops
- Developed, Open Space
- Emergent Herbaceous Wetland
- Grassland/Herbaceous
- Open Water
- Pasture/Hay
- Shrub/Scrub
- Woody Wetlands

A total of 1,561.2 and 411.6 acres of habitat potentially suitable for use by foraging bats occurs within the Siting Corridor in Garrett and Allegany Counties, respectively (Table 2.2-79; Figure 2.2-8; Attachment 1d).

ERM coordinated with the USFWS Chesapeake Bay Ecological Services Field Office to obtain available data for listed bats' habitat buffers within the Siting Corridor. The Siting Corridor intersects two known occupied summer maternity buffers for listed bats, totaling 108.3 and

72.5 acres in Garrett and Allegany Counties, respectively (Table 2.2-79; Attachment 1d; Attachment 1e). Species are considered present for some or all the date range listed above.

The Siting Corridor does not intersect any winter hibernacula buffers in Maryland.

Monarch Butterfly

The monarch butterfly relies on open grassland and herbaceous habitats that meet the species' habitat requirements. The species is typically found in open areas where milkweed is present. Potentially suitable habitats include the following land cover types:

- Developed, Open Space
- Emergent Herbaceous Wetland
- Grassland/Herbaceous
- Pasture/Hay
- Shrub/Scrub

A total of 242.7 and 43.7 acres of potentially suitable monarch butterfly habitat occurs within the Siting Corridor in Garrett and Allegany Counties, respectively (Table 2.2-80; Figure 2.2-8; Attachment 1d).

TABLE 2.2-80 POTENTIALLY SUITABLE MONARCH BUTTERFLY HABITAT WITHIN THE SITING CORRIDOR (ACRES)

Potentially Suitable Habitat	Garrett County	Allegany County	Maryland Total [a]
Monarch butterfly habitat	242.7	43.7	286.4

Source: USGS 2024

[a] Totals may not match the sum of addends due to rounding.

Eastern Hellbender

The eastern hellbender requires streams and rivers with large substrate and clean, clear, highly oxygenated water. See Section 2.2.4 for a discussion of aquatic habitats within the Siting Corridor.

State-Listed Endangered Species

In 1975, Maryland adopted separate codes for protecting animals and plants in the state. The Nongame and Endangered Species Conservation Act (MD Code Ann. § 10-2A-01; COMAR 08.03.08) defines listing criteria for endangered, threatened, in need of conservation, and endangered extirpated species; lists the species in each category; establishes the purpose and intent of research and collection permits; and lists prohibited activities. The MDNR administers the Nongame and Endangered Species Conservation Act and maintains this list. The MDNR provided an Environmental Review letter and corresponding geospatial data regarding current known occurrences of listed species of concern and or their habitats that occur within and adjacent to the Siting Corridor. MDNR's response is provided in Attachment 3, Maryland Agency Correspondence, and is summarized in Table 2.2-81.

TABLE 2.2-81 STATE-LISTED SPECIES WITH POTENTIAL TO OCCUR WITHIN THE SITING CORRIDOR

Common Name	Scientific Name	Protection Status	Preferred Habitat
Appalachian springsnail	*Fontigens bottimeri*	SI	Freshwater springs and cave streams with leaf litter and plant debris
Arrowhead spiketail	*Zoraena obliqua*	SR	Small, spring-fed streams and seeps in forested habitats
Frosted elfin	*Callophrys irus*	SE	Variety of woodland, grassland, and herbaceous habitats
Giant swallowtail	*Papilio cresphontes*	SI	Forested habitats, gardens, and fields
Large purple fringed orchid	*Platanthera grandiflora*	ST	Variety of wet habitats, including alder thickets, bog borders, swampy woods, and wet meadows
Northern beechfern	*Phegopteris connectilis*	SR	Cliffs, balds, ledges, shores of rivers and lakes, talus and rocky slopes
Northern pygmy clubtail	*Lanthus parvulus*	SE	Clear streams and brooks with strong current over clean gravel, cobble, or bedrock
Stiff gentian	*Gentianella quinquefolia*	SE	Moist, open forest and woods, roadsides, prairies, grassy balds, and wet bluffs

Source: MDNR n.d.-b

SE = State Endangered; SI = State in Need of Conservation; SR = State Rare; ST = State Threatened

The vegetation present within the Siting Corridor provides a variety of potentially suitable habitats for state-listed species to varying degrees based on species-specific habitat requirements and life histories. Potentially suitable habitat for the above species includes the following land cover types:

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

A total of 309.6 and 49.7 acres of potentially suitable non-forested habitat for state-listed species occurs within the Siting Corridor in Garrett and Allegany Counties, respectively (Table 2.2-82; Attachment 1d). A total of 1,251.6. and 361.9 acres of potentially suitable forested habitat for state-listed species occurs within the Siting Corridor in Garrett and Allegany Counties, respectively (Table 2.2-82; Figure 2.2-8; Attachment 1d).

TABLE 2.2-82 POTENTIALLY SUITABLE RARE, THREATENED, AND ENDANGERED SPECIES HABITAT WITHIN THE SITING CORRIDOR (ACRES)

Potentially Suitable Habitat	Garrett County	Allegany County	Maryland Total [a]
Non-forested	309.6	49.7	359.3
Forested	1,251.6	361.9	1,613.5
Total [a]	**1,561.2**	**411.6**	**1,972.8**

Source: USGS 2024

[a] Totals may not match the sum of addends due to rounding.

The acreage of known occurrences and occupied habitat for state-listed species within the Siting Corridor is provided in Table 2.2-83. The Siting Corridor intersects a total of 14.2 and 0.4 acres of habitat associated with known occurrences of state-listed species in Garrett and Allegany Counties, respectively (Attachment 1e). Discussion of impacts on waterbodies and aquatic habitats that may potentially be used by some state-listed species is provided in Sections 2.2.4 and 2.2.5.

TABLE 2.2-83 KNOWN OCCUPIED STATE-LISTED SPECIES HABITAT WITHIN THE SITING CORRIDOR (ACRES)

Species	Garrett County	Allegany County	Maryland Total [a]
Appalachian springsnail	6.7	NA	6.7
Arrowhead spiketail	<0.1	NA	<0.1
Frosted elfin	5.0	NA	5.0
Giant swallowtail	NA	0.4	0.4
Large purple fringed orchid	0.7	NA	0.7
Northern beechfern	<0.1	NA	<0.1
Northern pygmy clubtail	0.3	NA	0.3
Stiff gentian	1.6	NA	1.6
Total [a]	**14.2**	**0.4**	**14.6**

Source: Lynn Davidson 2025, pers. comm.
NA = not applicable
[a] Totals may not match the sum of addends due to rounding.

Migratory Bird Treaty Act

Migratory birds are protected under the MBTA, which is administered by the USFWS. Table 2.2-84 lists the migratory bird species of concern that may occur within the Siting Corridor in each county according to the USFWS IPaC database. There are 18 species of migratory birds that have the potential to occur within the Siting Corridor, of which 16 species are birds of conservation concern (BCC) and 2 species are protected under the Bald and Golden Eagle Protection Act (further discussed below).

TABLE 2.2-84 MIGRATORY BIRDS WITH POTENTIAL TO OCCUR WITHIN THE SITING CORRIDOR

Common Name	Scientific Name	Status	Breeding Season
Bald eagle	*Haliaeetus leucocephalus*	Vulnerable [a]	September 1 to August 31
Black-billed cuckoo	*Coccyzus erythropthalmus*	BCC	May 15 to October 10
Black-capped chickadee	*Poecile atricapillus practicus*	BCC	April 10 to July 31
Bobolink	*Dolichonyx oryzivorus*	BCC	May 20 to July 31
Canada warbler	*Cardellina canadensis*	BCC	May 20 to August 10
Cerulean warbler	*Setophaga cerulea*	BCC	August 27 to July 20
Chimney swift	*Chaetura pelagica*	BCC	March 15 to August 25
Eastern whip-poor-will	*Antrostomus vociferus*	BCC	May 1 to August 20
Golden eagle	*Aquila chrysaetos*	Vulnerable [a]	NA [b]
Golden-winged warbler	*Vermivora chrysoptera*	BCC	May 1 to July 20
Henslow's sparrow	*Centronyx henslowii*	BCC	May 1 to August 31
Kentucky warbler	*Geothlypis formosa*	BCC	April 20 to August 20
Northern saw-whet owl	*Aegolius acadicus*	BCC	March 1 to July 31
Prairie warbler	*Setophaga discolor*	BCC	May 1 to July 31
Prothonotary warbler	*Protonotaria citrea*	BCC	April 1 to July 31
Red-headed woodpecker	*Melanerpes erythrocephalus*	BCC	May 10 to September 10
Rusty blackbird	*Euphagus carolinus*	BCC	NA [b]
Wood thrush	*Hylocichla mustelina*	BCC	May 10 to August 31

Source: USFWS n.d.-b

BCC = bird of conservation concern; NA = not applicable
[a] This is not a BCC but is protected under the Bald and Golden Eagle Protection Act.
[b] This bird breeds elsewhere.

Seasonal presence and use of the Siting Corridor by avian species listed in Table 2.2-84 will vary in duration and intensity by season and species, but use of the Siting Corridor is expected year-round. Potentially suitable habitats for MBTA species include:

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

A total of 309.6 and 49.7 acres of potentially suitable non-forested habitat for MBTA species occurs within the Siting Corridor in Garrett and Allegany Counties, respectively (Table 2.2-85; Attachment 1d). A total of 1,251.6 and 361.9 acres of potentially suitable forested habitat for MBTA species occurs within the Siting Corridor in Garrett and Allegany Counties, respectively (Table 2.2-85; Attachment 1d).

TABLE 2.2-85 POTENTIALLY SUITABLE MIGRATORY BIRD TREATY ACT SPECIES HABITAT WITHIN THE SITING CORRIDOR (ACRES)

Potentially Suitable Habitat	Garrett County	Allegany County	Maryland Total [a]
Non-forested	309.6	49.7	359.3
Forested	1,251.6	361.9	1,613.5
Total [a]	**1,561.2**	**411.6**	**1,972.8**

Source: USGS 2024

[a] Totals may not match the sum of addends due to rounding.

Bald Eagle and Golden Eagle Protection Act

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and MBTA. While noted on the IPaC reports, through queries of publicly available databases, it was determined there are no known bald eagle nests within a 660-foot buffer of the Siting Corridor (MBCP 2025). The lack of nest observations does not mean bald eagle nests do not exist but only that they have not been observed.

2.2.8.2 IMPACTS

Construction and operation of the MARL Project could result in temporary and/or permanent impacts on protected, threatened, and endangered species or their habitats, if present within the ROW Corridor. The terrestrial and aquatic habitats present within the ROW Corridor provide potentially suitable habitat for individual species to varying degrees based upon species-specific habitat requirements and life histories. The following discussion of potentially suitable habitat for protected, threatened, and endangered species likely overstates the potential for impacts, as not all potentially suitable habitat for individual species reported below is actively, recently, or historically occupied.

Temporary impacts on protected species and/or their habitats, if present, could occur within the ROW Corridor. Impacts on potentially suitable habitat would be temporary if the existing land cover type is:

- Barren Land (Rock/Sand/Clay)
- Developed, Open Space
- Emergent Herbaceous Wetland
- Grassland/Herbaceous
- Open Water
- Pasture/Hay
- Shrub/Scrub

These habitats would be restored or allowed to regenerate with select vegetation management as required by site conditions and would be expected to provide potentially suitable habitat for the life of the MARL Project. Other temporary impacts from construction and routine maintenance activities (e.g., noise and vibration) within the ROW Corridors could cause temporary displacement of mobile species to areas outside of construction zones. Most displaced species are expected to return to the area following construction and would be expected to use the newly established and revegetated herbaceous and shrub/scrub habitat during operation. Loss of less mobile species if present within the ROW Corridor, such as mollusks or plants, could occur as a result of ground disturbances associated with construction and routine maintenance activities.

Permanent impacts on forested habitats would result from construction, mainly from the conversion of forested habitats to maintained ROW. The permanent conversion of forested habitat to herbaceous and shrub/scrub habitat would result in the loss of potentially suitable habitat for protected species and could potentially increase forest fragmentation in the vicinity of the ROW Corridor.

The MARL Project has been designed to minimize the total amount of tree clearing to the extent practicable, as well as impacts on wetlands and associated vegetation. The MARL Project was also designed to parallel existing ROW, where possible, to avoid and minimize impacts from new forested habitat fragmentation. A total of 19.9 miles and 5.5 miles of the ROW Corridor parallels and abuts existing transmission lines in Garrett County and Allegany County, respectively. In total, 71.8 percent of the ROW Corridor will parallel and abut existing transmission lines in Maryland (Table 2.2-64). Further, the MARL Project has been designed with riparian buffer exclusion zones at 16 locations in Maryland to avoid and minimize impacts on water quality in these areas, which would provide benefits for protected, threatened, and endangered species habitat, if present in the ROW Corridor.

NEET MA will coordinate with applicable federal and state agencies and other stakeholders to determine avoidance and minimization measures, as appropriate, to minimize and prevent impacts on protected species and their habitats within the ROW Corridor and ancillary facility workspaces. Construction and routine maintenance activities will comply with MARL Project-specific permit requirements and conditions and will be conducted under MARL Project-specific plans and procedures to avoid and minimize impacts on protected species and/or their habitat during construction and operation. Following construction, natural habitats will be restored within the ROW Corridor and ancillary facility workspaces that would be expected to be used by some protected, threatened, and endangered species during the MARL Project's operational life.

The temporary and permanent impacts from construction and operation of the MARL Project represent only a portion of the available protected species habitat within the ROW Corridor and a much smaller portion within the context of the MARL Project Study Area in Maryland. Protected species impacts are further discussed below. See Attachment 1e for detailed mapping.

Federally Listed Species

Bats

Impacts on listed bat species are largely driven by the loss of potentially suitable forested habitat that is used by individuals, if present, from April 1 to October 15. The total acreage of potentially suitable roosting habitat that would be affected by construction within the ROW Corridor is provided in Table 2.2-86 (Figure 2.2-8; Attachment 1d). These acres would be converted to herbaceous and shrub/scrub habitat following construction and no longer provide potentially suitable roosting habitat. Temporary impacts on roosting individuals could occur, if present adjacent to the ROW Corridor. Disturbance associated with construction or routine maintenance activities could occur, but displaced individuals would be expected to return to forested habitats adjacent to the Proposed Route ROW Corridor. The potentially suitable roosting habitat impacts associated with the ROW Corridor represent 0.4 percent of the 161,584.8 acres of potentially suitable roosting habitat within the MARL Project Study Area in Maryland.

TABLE 2.2-86 POTENTIALLY SUITABLE BAT HABITAT AND KNOWN OCCURRENCES WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Potentially Suitable Habitat	Garrett County		Allegany County		Maryland Total [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
Potential roosting habitat	1,251.6	553.5	361.9	170.6	1,613.5	724.1
Potential foraging habitat	1,561.2	678.2	411.6	192.7	1,972.8	870.9
Known occupied maternity habitat	108.3	54.6	72.5	47.8	180.8	102.4
Staging/hibernacula/swarming habitat	0.0	0.0	0.0	0.0	0.0	0.0

Source: USGS 2024; Kathleen Cullen 2025, pers. comm.

ROW = right-of-way

[a] Totals may not match the sum of addends due to rounding.

Additional impacts on listed bats could occur from the temporary loss of foraging habitat during construction and routine maintenance activities (Table 2.2-86; Figure 2.2-8; Attachment 1d). There is a total of 678.2 and 192.7 acres of potentially suitable foraging habitat in Garrett and Allegany Counites, respectively. Temporary impacts on foraging bats would persist for the duration of MARL Project construction and periodically as part of routine maintenance activities. Displaced individuals would be expected to return to the area after construction or maintenance activities are complete. Foraging habitat quality would improve as the ROW is revegetated.

The ROW Corridor intersects known occupied summer habitat buffers for listed bats, totaling 54.6 and 47.8 acres in Garrett and Allegany Counties, respectively (Table 2.2-86; Attachment 1e). Trees within these buffers may be used by roosting and foraging bats during the summer maternity season, and species are considered present from April 1 to October 15. Temporary impacts from construction and routine maintenance activities could occur, but displaced individuals would be expected to return to forested habitats adjacent to the Proposed Route ROW Corridor.

No impacts on subterranean habitats are expected to occur.

Impacts on potentially suitable bat habitat would also occur associated with access roads and ancillary facilities outside of the ROW Corridor (Table 2.2-87; Figure 2.2-8; Attachment 1d). Impacts associated with permanent access roads, temporary access roads, and other temporary ancillary facilities outside of the ROW Corridor each represent 0.1 percent or less of the 161,584.8 acres of potentially suitable roosting habitat, 45,956.2 acres of potentially suitable summer maternity habitat, and 214,580.3 acres of potentially suitable foraging habitat present within the MARL Project Study Area in Maryland.

TABLE 2.2-87 POTENTIALLY SUITABLE BAT HABITAT AND KNOWN OCCURRENCES WITHIN ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR (ACRES)

Potentially Suitable Habitat	Garrett County			Allegany County			Maryland Total [a]		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
Potential roosting habitat	0.9	22.0	99.6	0.0	24.1	9.7	0.9	46.1	109.2
Potential foraging habitat	1.2	33.8	109.4	0.0	29.2	10.5	1.2	63.0	120.0
Known occupied maternity habitat	0.7	1.8	16.0	0.0	10.1	1.3	0.7	11.8	17.3
Staging/ hibernacula/ swarming habitat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: USGS 2024; Kathleen Cullen 2025, pers. comm.

[a] Totals may not match the sum of addends due to rounding.

Monarch Butterfly

Impacts on monarch butterfly are largely driven by the loss of open grassland and herbaceous habitats that meet the species' habitat requirements. The acreage of potentially suitable monarch butterfly habitat that would be temporarily disturbed within the ROW Corridor is 95.8 acres and 20.0 acres in Garrett and Allegany Counties, respectively, (Table 2.2-88; Figure 2.2-8; Attachment 1d). Some loss of individual larvae and/or eggs could occur, if present within the ROW Corridor. Loss of adults would not be expected given their volant nature. Following construction, the MARL Project would result in the restoration and maintenance of potentially suitable habitats within the ROW Corridor that could be used by resident and migrating monarch butterflies during operation. The potentially suitable monarch butterfly habitat impacts associated with the ROW Corridor represent 0.3 percent of the 43,476.8 acres of potentially suitable monarch butterfly habitat within the MARL Project Study Area in Maryland.

TABLE 2.2-88 POTENTIALLY SUITABLE MONARCH BUTTERFLY HABITAT WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Potentially Suitable Habitat	Garrett County		Allegany County		Maryland Total [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
Monarch butterfly habitat	242.7	95.8	43.7	20.0	286.4	115.8

Source: USGS 2024

ROW = right-of-way

[a] Totals may not match the sum of addends due to rounding.

Impacts on potentially suitable monarch butterfly habitat would also occur associated with access roads and other ancillary facilities outside of the ROW Corridor (Table 2.2-89; Figure 2.2-8; Attachment 1d). Impacts associated with permanent access roads, temporary access roads, and other temporary ancillary facilities outside of the ROW Corridor each represent less than 0.1 percent of the 43,476.8 acres of potentially suitable habitat within the MARL Study Area in Maryland.

TABLE 2.2-89 POTENTIALLY SUITABLE MONARCH BUTTERFLY HABITAT WITHIN ANCILLARY FACILITY OUTSIDE OF THE ROW CORRIDOR (ACRES)

Potentially Suitable Habitat	Garrett County			Allegany County			Maryland Total [a]		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
Monarch butterfly habitat	0.3	8.8	13.9	0.0	4.9	0.9	0.3	13.7	14.8

[a] Totals may not match the sum of addends due to rounding.

Eastern Hellbender

Impacts on eastern hellbender, if any, would be minimized and avoided through the aerial spanning of waterbodies to the extent practicable, implementation of BMPs, and adherence to applicable permit conditions and TOY restrictions associated with the aquatic habitats used by this species. As stated previously, NEET MA will coordinate with applicable federal and state agencies and other stakeholders to determine avoidance and minimization measures, as appropriate, to minimize and prevent impacts on eastern hellbender and their habitats.

State-Listed Threatened and Endangered Species

Impacts on Maryland protected species are largely driven by loss of potentially suitable habitat and direct impacts on less mobile species and/or life stage. Construction and operation could result in both temporary and permanent impacts on these species and/or their habitats. The extent of impacts on potentially suitable habitat for state-listed species, if present, that could occur within the ROW Corridors is summarized in Table 2.2-90.

Impacts would be temporary if existing land cover type is:

- Barren Land (Rock/Sand/Clay)
- Developed, Open Space
- Emergent Herbaceous Wetland
- Grassland/Herbaceous
- Open Water
- Pasture/Hay
- Shrub/Scrub

These habitats will be restored or allowed to regenerate with select vegetation management as required by site conditions. The total acreage of potentially suitable non-forested habitat that would be temporarily disturbed within the ROW Corridor during construction and routine operational maintenance activities includes 124.7 and 22.1 acres in Garrett and Allegany Counties, respectively (Table 2.2-90; Figure 2.2-8; Attachment 1d). The non-forested habitat impacts associated with the ROW Corridor represent 0.3 percent of the 52,995.5 acres of non-forested habitat present within the MARL Project Study Area in Maryland.

Permanent impacts on forested habitats within the ROW Corridor would primarily result from the conversion of forested habitats to maintained ROW and would affect species that use forested habitat. The total acreage of permanent impacts on forested habitats includes 553.5 acres and 170.6 acres within the ROW Corridor. The forested habitat impacts associated with the ROW Corridor represent 0.4 percent of the 161,584.8 acres of forested habitat within the MARL Project Study Area in Maryland.

TABLE 2.2-90 POTENTIALLY SUITABLE HABITAT FOR STATE-PROTECTED SPECIES WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Potentially Suitable Habitat	Garrett County		Allegany County		Maryland Total [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
Non-forested	309.6	124.7	49.7	22.1	359.3	146.8
Forested	1,251.6	553.5	361.9	170.6	1,613.5	724.1
Total [a]	**1,561.2**	**678.2**	**411.6**	**192.7**	**1,972.8**	**870.9**

Source: USGS 2024

ROW = right-of-way
[a] Totals may not match the sum of addends due to rounding.

There is a total of 5.9 acres of habitat associated with Appalachian springsnail, frosted elfin, and stiff gentian in the ROW Corridor in Garrett County. No habitat associated with these species was identified within the ROW Corridor in Allegany County (Table 2.2-91; Attachment 1d; Attachment 1e). Impacts, if any, on Appalachian springsnail would be minimized and avoided through the aerial spanning of waterbodies to the extent practicable, implementation of BMPs, and adherence to applicable permit conditions and TOY restrictions associated with the aquatic habitats used by the species. Loss of individual stiff gentian, if present with the ROW Corridor, would be expected during construction of the MARL Project. It is expected that the species would be allowed to recolonize the ROW Corridor following construction. Some loss of individual frosted elfin larvae and/or eggs could occur, if present within the ROW Corridor. Loss of frosted elfin adults would not be expected given their volant nature. Following construction, the MARL Project would result in the restoration and maintenance of potentially suitable habitats that could be used by frosted elfin during the MARL Project's operational life.

TABLE 2.2-91 KNOWN OCCUPIED STATE-LISTED SPECIES HABITAT WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Habitat Type	Garrett County		Allegany County		Maryland Total [a]	
	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
Appalachian springsnail	6.7	3.0	NA	NA	6.7	3.0
Arrowhead spiketail	<0.1	0.0	NA	NA	<0.1	0.0
Frosted elfin	5.0	1.4	NA	NA	5.0	1.4
Giant swallowtail	NA	NA	0.4	0.0	0.4	0.0
Large purple fringed orchid	0.7	0.0	NA	NA	0.7	0.0
Northern beechfern	<0.1	0.0	NA	NA	<0.1	0.0
Northern pygmy clubtail	0.3	0.0	NA	NA	0.3	0.0
Stiff gentian	1.6	1.6	NA	NA	1.6	1.6
Total [a]	**14.2**	**5.9**	**0.4**	**0.0**	**14.6**	**5.9**

Source: Lynn Davidson 2025, pers. comm.

NA = not applicable; ROW = right-of-way
[a] Totals may not match the sum of addends due to rounding.

Impacts on potentially suitable Maryland protected species habitat would also occur associated with access roads and ancillary facilities outside of the ROW Corridor (Table 2.2-92; Figure 2.2-8; Attachment 1d). Impacts associated with permanent access roads, temporary access roads, and other temporary ancillary facilities outside of the ROW Corridor each represent 0.4 percent or less of the 52,995.5 acres of potentially suitable non-forested habitat and 161,584.8 acres of potentially suitable forested habitat present within the MARL Project Study Area in Maryland.

TABLE 2.2-92 POTENTIALLY SUITABLE HABITAT FOR STATE-PROTECTED SPECIES WITHIN ANCILLARY FACILITY WORKSPACE OUTSIDE OF THE ROW CORRIDOR (ACRES)

Habitat Type	Garrett County			Allegany County			Maryland Total [a]		
	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities	Permanent Access Roads	Temporary Access Roads	Other Temporary Ancillary Facilities
Non-forested	0.3	8.8	13.9	0.0	4.9	0.9	0.3	13.7	14.8
Forested	0.9	22.0	99.6	0.0	24.1	9.7	0.9	46.1	109.2
Total [a]	**1.1**	**30.8**	**113.5**	**0.0**	**29.0**	**10.5**	**1.1**	**59.8**	**124.1**

[a] Totals may not match the sum of addends due to rounding.

Migratory Bird Treaty Act

Impacts on MBTA species are largely driven by loss of potentially suitable habitat and direct impacts during the nesting season when eggs or non-volant chicks are present. Construction and operation could result in both temporary and permanent impacts on MBTA species and/or their habitats. The extent of impacts on potentially suitable habitat for MBTA species, if present, that could occur within the ROW Corridor are described in Table 2.2-90.

Impacts would be temporary if existing land cover type is:

- Barren Land (Rock/Sand/Clay)
- Developed, Open Space
- Emergent Herbaceous Wetland
- Grassland/Herbaceous
- Open Water
- Pasture/Hay
- Shrub/Scrub

These habitats will be restored or allowed to regenerate with select vegetation management as required by site conditions. The total acreage of potentially suitable non-forested habitat that would be temporarily disturbed within the ROW Corridor during construction and routine maintenance activities includes 124.7 and 22.1 acres in Garrett and Allegany Counties, respectively (Table 2.2-90; Figure 2.2-8; Attachment 1d). The non-forested habitat impacts associated with the ROW Corridor represent 0.3 percent of the 52,995.5 acres of non-forested habitat present within the MARL Project Study Area in Maryland.

Permanent impacts on forested habitats within the ROW Corridor would primarily result from the conversion of forested habitats to maintained ROW and would affect species that use forested habitat. The total acreage of permanent impacts on forested habitats includes 553.5 acres and 170.6 acres within the ROW Corridor in Garrett and Allegany Counties, respectively. The forested habitat impacts associated with the ROW Corridor represent 0.4 percent of the 161,584.8 acres of forested habitat within the MARL Project Study Area in Maryland.

Impacts on potentially suitable potentially suitable MBTA habitat would also occur associated with access roads and other ancillary facilities outside of the ROW Corridor (Table 2.2-91; Figure 2.2-8; Attachment 1d). Impacts associated with permanent access roads, temporary access roads, and other temporary ancillary facilities represent 0.1 percent or less of the 52,995.5 acres of non-forested habitat within the MARL Project Study Area in Maryland. Impacts associated with permanent access roads, temporary access roads and other temporary ancillary facilities each represent less than 0.1 percent of the 161,584.8 acres of potentially suitable forested habitat within the MARL Project Study Area in Maryland.

Bald and Golden Eagle Protection Act

As discussed above, there are no known bald eagle nests within the ROW Corridor in Maryland. If nests or individuals are identified before, during, or after construction, NEET MA will coordinate with applicable stakeholders to avoid and minimize impacts on bald eagle throughout MARL Project construction and operation.

2.2.9 ENVIRONMENTAL SITE HAZARD ASSESSMENT

This section describes environmental site hazards within the Siting Corridor. This section also identifies impacts from the MARL Project on the identified environmental site hazards that are within the ROW Corridor.

2.2.9.1 EXISTING CONDITIONS

Environmentally regulated sites in the Siting Corridor that use and/or store hazardous materials or waste-producing facilities operating under regulatory permits were researched using publicly available GIS databases obtained from the USEPA and the MDE. The MDE maintains a list of sites contaminated or potentially contaminated by hazardous substances, for which the MDE oversees the assessment and/or cleanup via the Land Restoration Program (MDE n.d.-g). These databases provide information about facilities, sites, or places subject to environmental regulation or of environmental interest, including the following:

- Sites that use and/or store hazardous materials;
- Waste-producing facilities operating under permits from the USEPA or other regulatory authorities;
- Comprehensive Environmental Response, Compensation, and Liability Act sites;
- Resource Conservation and Recovery Act sites;
- Brownfield sites;
- Petroleum storage and petroleum release sites; and
- Solid waste sites.

The identification of a site in the databases does not mean that the site necessarily has contaminated soil or groundwater. There are no identified environmentally regulated sites within the Siting Corridor.

2.2.9.2 IMPACTS

Due to the lack of any reported hazardous waste releases, there are no known sites with the potential to be of concern associated with construction and operation of the Proposed Route, including within the temporary and permanent ancillary facility workspaces outside of the ROW Corridor. During construction, if NEET MA encounters hazardous substances in the soil during excavation, as determined by odor, sheen, or change in soil characteristics, work will stop at this location until the soil is characterized. Additionally, NEET MA will determine appropriate disposal requirements and implement necessary health and safety measures.

2.2.10 ACOUSTICAL ENVIRONMENT

This section describes the acoustical environment within the Siting Corridor. This section also identifies acoustical impacts from the MARL Project.

2.2.10.1 EXISTING CONDITIONS

Noise is defined as unwanted sound. Excessive noise can cause annoyance and health impacts, including sleep disturbance and speech interference. It can also distract attention and make activities more difficult to perform (USEPA 1978).

The range of pressures that cause the vibrations creating noise is large. Therefore, noise is measured on a logarithmic scale, expressed in decibels. The frequency of a sound is the "pitch." The unit for frequency is hertz (Hz), or cycles per second. Most sounds are composed of a composite of frequencies. The human ear can usually distinguish frequencies from 20 Hz (low frequency) to about 20,000 Hz (high frequency), although people are most sensitive to frequencies between 500 and 4,000 Hz. The individual frequency bands can be combined into one overall decibel level.

Noise is typically measured on the A-weighted scale (A-weighted decibels [dBA]). The A-weighting scale has been shown to provide a good correlation with the human response to sound and is the most widely used descriptor for community noise assessments (Harris 1991). The faintest sound that can be heard by a healthy ear is about 0 dBA, while an uncomfortably loud sound is about 120 dBA. As a frame of reference, common sound levels include the following:

- Pile driver at 100 feet: 90 to 100 dBA
- Chainsaw at 30 feet: 90 dBA
- Truck at 100 feet: 85 dBA
- Noisy urban environment: 75 dBA
- Lawn mower at 100 feet: 65 dBA
- Average speech: 60 dBA
- Average office: 50 dBA
- Rural residential during the day: 40 dBA
- Quiet suburban nighttime: 35 dBA
- Soft whisper at 15 feet: 30 dBA

The ambient sound level of a region is defined by the total noise generated within the specific environment and is usually comprised of sound produced by natural and artificial sources. At any location, both the magnitude and frequency of environmental noise may vary considerably over the course of the day, throughout the week, and over the course of the year. Existing noise sources in the Siting Corridor likely include transportation infrastructure (vehicular traffic), agricultural activities, and natural sounds such as wind and wildlife.

Noise sensitive areas (NSAs) can include residential uses, schools, places of worship, and hospitals. For the MARL Project, a 100-foot distance from the edge of the ROW Corridor was used to assess potential impacts on NSAs. Building footprints were digitized using high-resolution aerial imagery captured during leaf-off conditions between December 2023 and February 2024 and county property data. The footprints included residential dwellings, schools, places of worship, and hospitals. Within the 100-foot distance from the edge of the ROW Corridor, 3 NSAs were identified, and all NSAs are residential dwellings.

Noise Standards and Ordinances

Maryland has established noise level standards for various construction-related and permanent activities and land uses (COMAR 26.02.03). Noise levels associated with construction activities are limited to no greater than 90 dBA at adjoining properties provided construction occurs during daytime hours (7:00 a.m. to 10:00 p.m.). Permanent activities and construction activity per COMAR 26.20.03.B(1), if construction occurs during nighttime hours (10:00 p.m. to 7:00 a.m.), are limited to the levels provided in Table 2.2-93. No noise ordinances applicable to MARL Project construction were identified in either Garrett or Allegany Counties.

TABLE 2.2-93 MAXIMUM ALLOWABLE NOISE LEVEL FOR RECEIVING LAND USE CATEGORIES

Time of Day	Industrial (dBA)	Commercial (dBA)	Residential (dBA)
Daytime (7:00 a.m.–10:00 p.m.)	75	67	65 [a]
Nighttime (10:00 p.m.–7:00 a.m.)	75	62	55

dBA = A-weighted decibel; COMAR = Code of Maryland Regulations

[a] Per COMAR 26.02.03.B(1) "a person may not cause or permit noise levels which exceed those specified in this table except as provided in §B(2) or (3), or §(C), of this regulation." COMAR 26.02.03.B(2) states "A person may not cause or permit noise levels emanating from *construction or demolition site activities* [emphasis added] which exceed: (a) 90 dBA during daytime hours'; (b) The levels specified in Table 1 during nighttime hours." COMAR 26.02.03.C(2) includes several construction-related items that may need to be used for construction of the MARL Project that would be exempt from the above standards. For example, 26.02.03.C(2)(d) "blasting operations for demolition, construction, and mining or quarrying (daytime only)"; or §C(2)(i) "pile driving equipment during the daytime hours of 8 a.m. to 5 p.m."

2.2.10.2 IMPACTS

Construction Noise

The ROW Corridor covers 35.4 miles through Garrett and Allegany Counties. Approximately 95 percent of the route traverses forested and agricultural lands, with only approximately 3 percent traversing developed land. Three NSAs (all residential dwellings), are located within 100 feet of the edge of the ROW Corridor (Table 2.2-94).

TABLE 2.2-94 NOISE SENSITIVE AREAS IDENTIFIED WITHIN 100 FEET OF THE ROW CORRIDOR

NSA	100-Foot Distance to Edge of ROW Corridor [a]	Distance from Centerline (feet)	MP [b]
Residential dwelling	20.5	121.0	37.4
Residential dwelling	17.9	117.9	39.6
Residential dwelling	9.0	109.5	66.7

MP = milepost; NSA = noise sensitive area; ROW= right-of-way

[a] The ROW Corridor within Maryland ranges from 200 to 422 feet wide, which accounts for those areas along the Proposed Route that would need aerial easement blowout requirements.

[b] The closet MP has been provided for identification of the residential dwellings.

Construction will require the temporary use of various types of noise-generating equipment, including excavators, bulldozers, and trucks. The construction equipment will be similar to that used during typical public works projects where excavators, cranes, and trucks are used. Table 2.2-95 provides typical maximum noise levels at the reference distance of 50 feet associated with the equipment expected to be used during construction (FHWA 2006). The equipment list provided may not be comprehensive of all the equipment that will be used but provides a reasonable estimate. The noise levels are presented for the reference distance of 50 feet, then extrapolated for distances of 100 feet, 1,000 feet, and 2,000 feet. The extrapolated noise levels were developed by accounting for attenuation of sound due to distance and absorption by the atmosphere. The equipment presented could potentially be used at any location along the Proposed Route.

TABLE 2.2-95 TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment [a]	Maximum Noise Level (dBA)			
	50 feet (Reference Distance)	100 feet	1,000 feet	2,000 feet
Air compressor	78	72	49	41
All-terrain vehicle / utility task vehicle	75	69	46	38
Augers	84	78	55	47
Backhoe	78	72	49	41
Bucket truck	75	69	46	38
Bulldozer	82	76	53	45
Concrete mixer truck	79	73	50	42
Crane	81	75	52	44
Dump truck	76	70	47	39
Excavator	81	75	52	44
Front-end loaders	79	73	50	42
Fuel truck	74	68	45	37
Generator	81	75	52	44
Grader	85	79	56	48
Hydra Break Ram	90	84	61	53
Pickup truck	75	69	46	38
Rock Drill	85	79	56	48
Semitruck/trailer	74	68	45	37
Skid steer	79	73	50	42
Splicing van	75	69	46	38
Tractor	84	78	55	47
Water truck	85	79	56	48
Welder trucks	74	68	45	37

Source: FHWA 2006

dBA = A-weighted decibel

[a] Some of the above equipment noise levels were estimated based on similar equipment.

Equipment will not generally be operated continuously or at full throttle, nor will the equipment always operate simultaneously. In addition, there will be times when no equipment is operating, and noise would be at ambient levels. Construction is planned to be 7 days per week, with a minimum of 12 hours per day plus occasional nighttime work over and above the 12 hours. (e.g., typically 7 a.m. to 7 p.m. on the ROW Corridor) but may shift to have longer or shorter hours depending on the time of the year. Construction-related noise for most activities would be below the 90 dBA limit for daytime construction activities, even as close as 50 feet from the equipment (Table 2.2-95); however, some construction activities such as helicopters, could be around 100 dBA (Table 2.2-96), but would be expected to be very short-term in nature.

Helicopter usage will also occur for line stringing. Table 2.2-96 provides noise levels associated with several types of helicopters types that could be used for the MARL Project at various distances from the ROW Corridor centerline.

TABLE 2.2-96 MAXIMUM HELICOPTER NOISE LEVELS

Equipment	Maximum Noise Level (dBA)		
	100 feet (Reference Distance)	1,000 feet	2,000 feet
Light helicopter at takeoff	84	62	56
Medium helicopter at takeoff	100	80	74
Heavy helicopter at takeoff	102	82	76

dBA = A-weighted decibel

Construction is currently scheduled to occur over a period of approximately 2 years. However, construction at each structure location will be short term and temporary, with no single NSA exposed to significant noise levels for an extended period of time. Helicopter use would generate the highest noise levels. Helicopters will be used for certain activities; however, noise associated with its use would only occur for brief periods. With the exception of helicopter use, if it occurs at all near any NSA, most equipment noise levels (Table 2.2-95) are shown to be below the 90 dBA construction noise limit. Helicopter use, when used, may briefly exceed the 90 dBA limit for daytime construction.

Operational Noise

Operational noise from the MARL Project would originate from corona effects, which can produce a faint crackling or hissing sound, especially in wet weather conditions. Corona effects occur when the insulating air around the conductors breaks down partially due to high electric fields, typically during foul weather (e.g., rain, fog, or snow). Noise levels can vary over time, with statistical measures such as the noise level exceeding 50 percent of the time commonly used to describe them. Corona noise is most relevant for high-voltage lines (345 kV or higher) and may include a 120 Hz hum under certain conditions.

Corona noise for a 550 kV transmission line (slightly larger than the MARL Project's 500 kV line and, thus, more conservative) has been calculated to be 40.3 dBA at 75 feet from the centerline (K&R Consulting 2009). Expected corona noise levels at various distances were developed by

using the 75-foot noise level as a reference and accounting for a 3 dBA reduction in noise from a line source with every doubling or halving of distance.

The calculated corona noise levels are those that may occur during rainy or wet conditions. Corona noise levels will be below the Maryland noise standard limit. Natural sounds such as wind and rain help mask corona noise. Further, during fair weather, corona noise levels would be much lower. Corona noise levels are, therefore, expected to comply with the Maryland noise standard and are not anticipated to result in any substantial impacts.

At this time, no avoidance and mitigation measures are required for operational (corona) noise, as expected corona noise levels will be below the noise standard limit. Operational noise from corona would be at or below the Maryland noise level limit of 55 dBA during nighttime hours and below the noise limit of 65 dBA during daytime hours.

2.3 CULTURAL RESOURCES

A desktop review of previously recorded aboveground architectural resources, archaeological sites, cemeteries, and battlefields was conducted to evaluate constraints and opportunities to support the MARL Project with data obtained in September 2025 (ABPP n.d.; NPS 2018; NRHP 2025; MHT 2025a). Cemeteries not previously recorded as cultural resources are addressed in Section 2.5, Socioeconomics. This section presents differently than other resource sections due to the regulatory nature of cultural resources. The cultural resources existing conditions assessment discussed in this section includes archaeological sites and aboveground architectural resources within a 1-mile buffer from the Proposed Route centerline. The potential impacts assessment for the architectural resources includes those resources within a 0.5-mile buffer from the Proposed Route centerline, whereas potential impacts for archaeological resources were considered for the ROW Corridor (Attachment 1f, Cultural Resources Mapbook). For ancillary facilities, potential impacts are considered to be the footprint of the ancillary facility workspace for archaeology and up to 500 feet on either side of the ancillary facility workspace (e.g., access road) or radius around the workspace for potential visual impacts. In addition, Attachment 1g, Resource Visibility Mapbook, shows historical sites and archaeological sites, from which the transmission line would clearly be visible pursuant to the requirements in COMAR 20.79.04.02.D.

As part of the CPCN application process, the Power Plant Research Program may require further assessment of the integrity of each archaeological site and evaluation of aboveground architectural resources. Such investigations will be performed during a subsequent phase of the MARL Project.

According to the 36 CFR § 60.4, cultural resources eligible for listing on the National Register of Historic Places (NRHP) are defined as buildings, structures, objects, sites, and districts that have integrity and meet one or more of the significance criteria outlined below. Integrity can be broadly interpreted but generally refers to a resource’s location, design, setting, materials, workmanship, feeling, and/or association through which the resource’s significance is evident. Depending on the ultimate permitting needs for the MARL Project, the Maryland Historical Trust (MHT) will review or assist the federal agency in determining potential MARL Project impacts on significant cultural resources as outlined in the federal or state laws. Consideration of the criteria for evaluation of NRHP eligibility will likely guide the MHT in their determination of what constitutes a significant

cultural resource. For the purposes of this ERD, potential MARL Project impacts are generally considered adverse when they result in the loss of a resource's integrity to the point where it may no longer be eligible for the NRHP.

The following criteria for evaluation of NRHP eligibility are outlined at 36 CFR § 60.4:

- **Criterion A (Event):** Association with one or more events that have made a significant contribution to the broad patterns of national, state, or local history;
- **Criterion B (Person):** Association with the lives of persons significant in the past;
- **Criterion C (Design/Construction):** Embodiment of distinctive characteristics of a type, period, or method of construction; or representation of the work of a master; or possession of high artistic values; or representation of a significant and distinguishable entity whose components may lack individual distinction; and
- **Criterion D (Information Potential):** Properties that yield, or are likely to yield, information important in prehistory or history.

2.3.1 EXISTING CONDITIONS

The existing conditions for the Proposed Route are discussed in more detail below. Attachment 1f shows the locations of the resources within the 1-mile buffer from the Proposed Route centerline.

In many cases, the MHT Maryland Cultural Resource Information System did not include NRHP eligibility or status information for archaeological and architectural resources (MHT 2025a); therefore, ERM has presumed their status to be unevaluated for the purposes of this report.

2.3.1.1 BATTLEFIELDS

No battlefields were identified within the Siting Corridor as part of the desktop study (ABPP n.d.).

2.3.1.2 CEMETERIES

The MHT dataset does not broadly include cemeteries; rather, cemeteries may be assigned site numbers in the archaeological or architectural resource datasets. According to the research, there are no previously recorded cemeteries in the Siting Corridor within the MHT dataset.

2.3.1.3 PRESERVATION EASEMENTS, NATIONAL SCENIC TRAILS, AND HERITAGE AREAS

No preservation easements were identified within the Siting Corridor. The Siting Corridor perpendicularly crosses the Potomac Heritage National Scenic Trail in three locations, MPs 37.4, 50.8, and 57.9 for a total of 0.38 mile (NPS 2025). The trail is further discussed in Section 2.4.2, Recreational Land, and shown in Attachment 1h, Community and Recreational Resources Mapbook. The Siting Corridor crosses the Mountain Maryland Gateway to the West Heritage Area, a Maryland Certified Heritage Area, in nine locations covering 4.95 miles of the centerline and 277.88 acres of the Siting Corridor (MP 33.8 to MP 34.0; MP 36.7 to MP 37.5; MP 37.5 to MP 37.9; MP 42.8 to MP 43.7; MP 44.2 to MP 44.5; MP 48.3 to MP 48.6; MP 50.6 to MP 51.2; MP 55.7 to MP 56.2; and MP 57.5 to MP 58.0).

2.3.1.4 ARCHAEOLOGICAL RESOURCES

This section presents information on known archaeological sites within the 1-mile buffer from the Proposed Route centerline. Attachment 1f depicts the locations of these sites.

The known archaeological sites located within the 1-mile buffer from the Proposed Route centerline are listed and described in Table 2.3-1.

The extent of previous archaeological surveys encompass roughly 4 percent of the Siting Corridor (Jennifer Chadwick-Moore 2025, pers. comm.). Additional archaeological site identification efforts occurred but were not associated with reports listed in the MHT Maryland Cultural Resource Information System. Most of the previous archaeological survey coverage of the Siting Corridor is associated with reports generated in the early 1980s. These earlier surveys do not likely conform to the 2025 draft *Standards and Guidelines for Archaeological Survey and Excavation in Maryland* (MHT 2025b).

There are no known NRHP-eligible or NRHP-listed archaeological sites within the 1-mile buffer from the Proposed Route centerline. ERM identified 33 previously recorded archaeological sites and Quad files (i.e., archaeological finds reported by a member of the public) within the 1-mile buffer from the Proposed Route centerline (Table 2.3-1). Archaeological sites that are within the Proposed ROW Corridor are discussed in detail below.

TABLE 2.3-1 ARCHAEOLOGICAL SITES AND QUAD FILES WITHIN THE 1-MILE BUFFER FROM THE PROPOSED ROUTE CENTERLINE

Site Number/ Quad File Number	Site Name	Description	NRHP Status
Garrett County			
18GA103	Youghiogheny Mini Site	Pre-Contact; Short-term camp	Not Evaluated
18GA142	Swamp Road	Historic; Farmstead	Not Evaluated
18GA170	Field #305	Historic; Grist mill	Not Evaluated
18GA172	Field #307	Historic; Iron furnace complex	Not Evaluated
18GA177	Field #313	Historic; Grist mill foundation and race, mill store	Not Evaluated
18GA198	Field #335	Historic; Farmstead site	Not Evaluated
18GA200	Kolb	Pre-Contact; Short-term camp	Not Evaluated
18GA201	Kolb II	Pre-Contact; Lithic scatter	Not Evaluated
18GA202	Green	Pre-Contact; Short-term camp	Not Evaluated
18GA23	Friendsville	Pre-Contact and Historic; Village	Not Evaluated
18GA239	Field #239	Historic; Store and post office	Not Evaluated
18GA27	Fike Mounds	Pre-Contact; Cairns/stone piles	Not Evaluated
18GA272	Wall 31	Historic; Foundation ruin, possible farmstead	Not Evaluated
18GA273	Wall 32	Historic; Foundation ruin, possible farmstead	Not Evaluated
18GA297	Dorsey I	Historic; Stone foundation and pit, stone piles and stone walls	Not Evaluated

Site Number/ Quad File Number	Site Name	Description	NRHP Status
18GA306	Field Site 2	Pre-Contact; lithics, early 20th century church manse	Not Eligible
18GA307	Field Site 3	Pre-Contact and Historic; Lithics, secondary trash deposit	Not Evaluated
18GA308	Field Site 4	Pre-Contact; Lithic scatter	Not Eligible
18GA309	Field Site 5	Pre-Contact and Historic; Lithics, artifact scatter	Not Evaluated
18GA70	Frantz South	Pre-Contact; Short-term camp	Not Evaluated
18GA71	Frantz East	Pre-Contact; Short-term camp	Not Evaluated
18GA79	Frantz	Pre-Contact and Historic; Artifact scatter, historic fire pits and lime kilns	Not Evaluated
BARTON-QF01	NA	Pre-Contact; Palmer-like points reportedly found on flats in November 1975 and September 1976	Not Evaluated
FRIEND-QF01	FRIEND-QF01	Pre-Contact; Mounds per Gene Friend in May 1972	Not Evaluated
FRIEND-QF02	FRIEND-QF02	Pre-Contact; Old village	Not Evaluated
Allegany County			
18AG116	Cautious	Pre-Contact; Short-term camp	Not Evaluated
18AG170	Black Oak	Pre-Contact and Historic; Lithic scatter, artifact scatter	Not Evaluated
18AG182[a]	Hawks Nest	Pre-Contact; Lithic short-term camp	Not Evaluated
18AG42	Dans Mountain	Pre-Contact; Lithics, possible quarry/workshop	Not Evaluated
18AG82	Field #240	Pre-Contact; Short-term camp	Not Evaluated
BARTON-QF04	NA	Historic; Location of A.B. Shaw Flour Mill (or sawmill?) or Moscow Mills per 1904 postcard, historic maps, and local informant	Not Evaluated
KEYSER-QF02	NA	Pre-Contact; Points found in fields on these flats by local collector in September 1975	Not Evaluated
KEYSER-QF03[a]	NA	Pre-Contact; Points found in fields on these flats by local collector in September 1975	Not Evaluated

Source: MHT 2025

NA = not applicable; NRHP = National Register of Historic Places
[a] These site and Quad file numbers are located within the ROW Corridor, as discussed in Section 2.3.2, Impacts.

2.3.1.5 ABOVEGROUND ARCHITECTURAL RESOURCES

This section presents information on known aboveground architectural resources in the 1-mile buffer from the Proposed Route centerline. The locations of resources relevant to the route centerline are depicted in Attachment 1f.

Table 2.3-2 lists the number of previously recorded aboveground architectural resources within the 1-mile buffer from the Proposed Route centerline and the Proposed Route ROW Corridor, as well as the number of NRHP-listed and NRHP-eligible resources within the 1-mile buffer from the Proposed Route centerline. In total, there are 169 previously recorded aboveground architectural resources within the 1-mile buffer from the Proposed Route centerline (Table 2.3-3).

Eight resources are within the 1-mile buffer from the Proposed Route centerline and are NRHP-listed, NRHP-recommended eligible, or NRHP-eligible. A brief description of these NRHP-listed, NRHP-recommended eligible, and NRHP-eligible resources and their eligibility criteria are provided below.

TABLE 2.3-2 SUMMARY OF ARCHITECTURAL RESOURCES WITHIN THE 1-MILE BUFFER FROM THE PROPOSED ROUTE

Route	Architectural Resources			
	Within ROW Corridor	Within 0.5-Mile Buffer from the Route Centerline	Within 1-Mile Buffer from the Route Centerline	NRHP-Listed or NRHP-Eligible Within 1-Mile Buffer from the Route Centerline
Proposed Route	2	57	169	8

Sources: MHT 2025a; NRHP 2025

NRHP = National Register of Historic Places; ROW = right-of-way

National Register of Historic Places-Listed Architectural Resources

- Kaese Mill (G-II-B-024/NRHP #84001782): Kaese Mill is within the 0.5-mile buffer from the Proposed Route centerline. This is a 2.5-story water-powered grist mill built in 1868 and the only one of its kind in Garrett County. It is listed under Criterion A for its associations with the grist and flour industry and commerce in the area and Criterion C for its architecture.
- Shaw Mansion (AL-VI-C-118/NRHP #85001345): Shaw Mansion is within 1-mile buffer from the Proposed Route centerline. This is a 2.5-story, brick, Italianate home constructed in 1872 containing 12 rooms and is equipped with steam heat, running water, electric lighting, and a stone foundation. It is listed under Criterion C for its architecture.

National Register of Historic Places-Eligible / NRHP-Recommended Eligible Architectural Resources

- Bridge G-049 (G-I-C-200): Bridge G-049 is within 0.5-mile buffer from the Proposed Route centerline. This is a circa 1935 single span steel beam with a precast concrete panel deck bridge over Poplar Lick Trail in Garrett County. It was recommended eligible for listing on the NRHP under Criterion C for its engineering and design.
- Buffalo Run Bridge 2 (G-II-A-136): Buffalo Run Bridge 2 is within 1-mile buffer from the Proposed Route centerline. This is a single span, two-lane, concrete arch bridge over Buffalo Run in Garrett County on Old Morgantown Road West that was built in 1919. It is eligible for listing on the NRHP under Criterion C for its engineering and design.

- Bridge 11011 (G-II-A-366): Bridge 11011 is within 1-mile buffer from the Proposed Route centerline. This is a triple span steel beam bridge built in 1932 with a concrete deck and an open concrete parapet barrier wall. It is located on Maple Street, over the Youghiogheny River. It is eligible for listing on the NRHP under Criterion C as an example of a steel girder bridge from the 1930s.
- Bridge G-77 (G-II-A-367): Bridge G-77 is within 1-mile buffer from the Proposed Route centerline. This is a single span closed concrete arch bridge on Old Bear Creek Road above Bear Creek. The length of the bridge is 64 feet, 10 inches; it has a clear span of 61 feet, 6 inches. It is eligible for listing under Criterion A for its association with Maryland's "Lateral and Post Roads Loan of 1920."
- Bear Creek Bridge (G-II-A-369): Bear Creek Bridge is within 1-mile buffer from the Proposed Route centerline. This is a single span filled concrete arch bridge located on Maple Street over Bear Creek. The length of the bridge is 61 feet with a clear span of equal length. It is eligible for listing under Criteria A and C for its association with Maryland's "Lateral and Post Roads Loan of 1920" and as an example of early 20th century bridge construction.
- Bear Creek Trout Station (G-II-B-381): Bear Creek Trout Station is within 0.5-mile buffer from the Proposed Route centerline. This is a complex of buildings and structures built in 1928 along Bear Creek dedicated to fish hatchery. The complex consists of an intake from Bear Creek at the upstream end of the property, a series of 12 raceways, several support buildings, and a caretaker's residence. It is eligible for listing on the NRHP under Criteria A and C for fish conservation in Maryland and as a representative example of development of aquaculture in Western Maryland.

TABLE 2.3-3 ARCHITECTURAL RESOURCES WITHIN THE 1-MILE BUFFER FROM THE PROPOSED ROUTE CENTERLINE

Resource Number	Description	NRHP Eligibility
Garrett County		
DOE-GA-0027	Bridge No G95	Not Eligible
DOE-GA-0048	Hileman House	Not Eligible
G-I-C-056	Gerald Warnicke House	Not Evaluated
G-I-C-057	David Warnick House	Not Evaluated
G-I-C-058	Floyd MacIntyre Farm	Not Evaluated
G-I-C-066	William J. Jacobs House	Not Evaluated
G-I-C-067	Paul Colmer Farm	Recommended Not Eligible
G-I-C-068	Raymond Crawford House, site	Not Evaluated
G-I-C-069	Charles Magruder House	Recommended Not Eligible
G-I-C-091	Albertus L. Beeman Farm	Not Evaluated
G-I-C-092	Jesse Green House	Not Evaluated
G-I-C-094	Russell House, site	Not Evaluated
G-I-C-176	John C. Illig Farm	Not Evaluated
G-I-C-200[a]	Bridge G-049 (G 4910)	Recommended Eligible
G-II-A-025	Leslie Friend Store of Friendsville	Not Evaluated
G-II-A-026	First National Bank	Not Evaluated

Resource Number	Description	NRHP Eligibility
G-II-A-028	Riverside Hotel	Not Evaluated
G-II-A-029	Old Knights of Pythias Hall	Not Evaluated
G-II-A-030	Friendsville Commercial Block	Not Evaluated
G-II-A-031	Early Settler's House	Not Evaluated
G-II-A-043	Bernice Rodeheaver Farm	Not Evaluated
G-II-A-044	Fike Plank House	Not Evaluated
G-II-A-047	David Taylor Farm	Not Evaluated
G-II-A-048	W.H. Frantz House	Not Evaluated
G-II-A-059	Robert Minor House & Barn	Not Evaluated
G-II-A-060	Buffalo Run Bridge	Not Evaluated
G-II-A-102	Ivan Humberson Tenant House & Foundation	Not Evaluated
G-II-A-103	Norval O. Frazee House	Not Evaluated
G-II-A-104	Clarence E. Thornburg House	Not Evaluated
G-II-A-105	G. Victor Reuchlein House	Not Evaluated
G-II-A-106	Thomas O. & Mildred Reynolds House	Not Evaluated
G-II-A-107	Robert W. Lewis House	Not Evaluated
G-II-A-108	Foursquare House with Belvedere	Not Evaluated
G-II-A-109	Matthews Homestead	Not Evaluated
G-II-A-110	Coddington Homestead	Not Evaluated
G-II-A-111	Lawson House	Not Evaluated
G-II-A-112	Rush Baptist Chapel	Not Evaluated
G-II-A-113	Frederick Humberson House	Not Evaluated
G-II-A-114	John Burgess House	Not Evaluated
G-II-A-116	Berg Thomas House	Not Evaluated
G-II-A-117	Fearer Road Farmhouse	Not Evaluated
G-II-A-118	Fred A. Thomas House	Not Evaluated
G-II-A-119	Sand Spring Church of God	Not Evaluated
G-II-A-120	Rush Schoolhouse	Not Evaluated
G-II-A-122	Sand Spring School	Not Evaluated
G-II-A-123	Sylvia Vansicle House	Not Evaluated
G-II-A-124	Ferer Store	Not Evaluated
G-II-A-126	Danny Wampler House	Not Evaluated
G-II-A-127	Ring's Acres	Not Evaluated
G-II-A-128	Reuben Friend Farm	Not Evaluated
G-II-A-129	David Fike House	Not Evaluated
G-II-A-130	Elmer Bowser House	Not Evaluated
G-II-A-131	Jack T. Thomas House	Not Evaluated
G-II-A-132	Thomas Brothers Farm	Not Evaluated
G-II-A-133	Kenneth Savage House	Not Evaluated
G-II-A-135	Charles Humberson House	Not Evaluated
G-II-A-136	Buffalo Run Bridge 2	Eligible
G-II-A-137	Old Morgantown Road House	Not Evaluated
G-II-A-160	Selbysport Methodist Episcopal Church	Not Evaluated

Resource Number	Description	NRHP Eligibility
G-II-A-161	Scott Friend House	Not Evaluated
G-II-A-162	Wilbur E. Friend House	Not Evaluated
G-II-A-163	William Hone House	Not Evaluated
G-II-A-164	Ronald B. Westmoreland House	Not Evaluated
G-II-A-165	Selbysport School	Not Evaluated
G-II-A-166	William Jones House	Not Evaluated
G-II-A-193	Clay & Catherine Thomas House	Not Evaluated
G-II-A-208	Friendsville Historic (Survey) District	Not Evaluated
G-II-A-303	Coddington House	Not Evaluated
G-II-A-339	927 Second Avenue	Not Eligible
G-II-A-340	Funny Farm	Not Eligible
G-II-A-341	850 First Avenue	Not Eligible
G-II-A-364	Bridge G-7510 (Map Only)	Not Evaluated
G-II-A-366	Bridge 11011	Eligible
G-II-A-367	Bridge G-77	Eligible
G-II-A-369	Bridge G-085, Bear Creek Bridge	Eligible
G-II-B-018	Log House, ruin	Not Evaluated
G-II-B-019	Raymond C. Bender House	Not Evaluated
G-II-B-023	Jacob Beckett Farm	Not Evaluated
G-II-B-024/ NRHP #84001782 [a]	Kaese Mill	Listed
G-II-B-087	William Beitzell Farm	Not Evaluated
G-II-B-090	Frelinger-Harmon Farm	Not Evaluated
G-II-B-093	Frank Paugh Farm	Not Evaluated
G-II-B-094	Jenkins-Devine House	Not Evaluated
G-II-B-115	Schlosnagle Farm	Not Evaluated
G-II-B-141	Fazenbaker-Ryland House	Not Evaluated
G-II-B-146	Engle Mill Store	Not Evaluated
G-II-B-159	Collier House	Not Evaluated
G-II-B-175	Hunting Lodge	Not Evaluated
G-II-B-176	Gerald Glass Hunting Lodge	Not Evaluated
G-II-B-177	Claude Fike Farm	Not Evaluated
G-II-B-194	Donald Ringer House & Store	Not Evaluated
G-II-B-195	Pud Miller Farm	Not Evaluated
G-II-B-196	Harold Georg Farm	Not Evaluated
G-II-B-197	W. Sines House	Not Evaluated
G-II-B-198	Joseph Bowser House	Not Evaluated
G-II-B-199	Effie Georg House	Not Evaluated
G-II-B-202	Gerald Glass Tenant Farm	Not Evaluated
G-II-B-207	Frank W. Georg Farm	Not Evaluated
G-II-B-223	Mary Jenkins House	Not Evaluated
G-II-B-342	Side Gable Dwelling	Not Eligible
G-II-B-375	Tom A. Devine House	Not Eligible
G-II-B-381[a]	Bear Creek Trout Station	Eligible
G-II-C-229	Levi Resh House	Not Evaluated
G-II-C-230	Dunghill Church	Not Evaluated

Resource Number	Description	NRHP Eligibility
G-II-C-231	Holmes Wiley Farm	Not Evaluated
G-II-C-234	Sanders Farm	Not Evaluated
G-II-C-235	Ernest Bowser Farm	Not Evaluated
G-II-C-236	Owen Bowser Farm	Not Evaluated
G-III-B-077	Darius Bittinger House	Not Evaluated
G-III-C-164	Legeer Road House	Not Evaluated
G-III-C-165	Legeer-Bittinger House	Not Evaluated
G-III-C-178	Meadow Mountain House	Not Evaluated
G-III-C-179	Ashford Warnick Farm	Not Evaluated
G-III-C-180	Broadwater-Hinchy Farm	Not Evaluated
G-III-C-181	Clarence Wilt Farm	Not Evaluated
G-III-C-182	Fairview Road House	Not Evaluated
G-III-C-183	Fairview-New Germany House	Not Evaluated
G-III-C-185	S.E. Stanton House	Not Evaluated
G-III-C-186	Bear Hill School	Not Evaluated
G-III-C-187	Mae Caruthers House	Not Evaluated
G-III-C-188	Nelson Wilt House	Not Evaluated
G-III-C-189	Lutheran Church	Not Evaluated
G-III-C-190	C. Knox Farm	Not Evaluated
G-III-C-191	Maynardier Ridge Road House	Not Evaluated
G-III-C-193	Bittinger House	Not Evaluated
G-III-C-194	Lou Orendorf Farm	Not Evaluated
G-III-C-195	Owen Stanton Farm	Not Evaluated
G-III-C-196	Windmill Farm	Not Evaluated
G-III-C-200	Gilpin Farm	Not Eligible
Allegany County		
AL-VI-B-003	Purinton Log House	Not Evaluated
AL-VI-B-111	Schaidt House	Not Evaluated
AL-VI-B-112	Hughes Shingle Roof/Log House	Not Evaluated
AL-VI-B-115	Maryland Coal Company Pay Office	Not Evaluated
AL-VI-B-158	House	Not Evaluated
AL-VI-B-160	House	Not Evaluated
AL-VI-B-171	Gardner Log House	Not Evaluated
AL-VI-B-172	Charlestown Schoolhouse, site	Not Evaluated
AL-VI-B-173	Nicol Board and Batten House, site	Not Evaluated
AL-VI-B-174	Detmold Schoolhouse	Not Evaluated
AL-VI-B-175	Mine Boss's House, site	Not Evaluated
AL-VI-B-177	Stevenson Board and Batten House, site	Not Evaluated
AL-VI-B-178	Braheny Frame House, site	Not Evaluated
AL-VI-B-179	Pekin Schoolhouse	Not Evaluated
AL-VI-B-262	Frazenbaker House	Not Evaluated
AL-VI-B-263	George Crawford House	Not Evaluated
AL-VI-B-264	Green Farmhouse	Not Evaluated
AL-VI-B-270	Pekin (Nikep) Survey District	Not Eligible

Resource Number	Description	NRHP Eligibility
AL-VI-B-272	Lonaconing Survey District	Not Eligible
AL-VI-B-282	Detmold Survey District	Not Eligible
AL-VI-B-360	SHA Small Structure No. 01249X01	Not Eligible
AL-VI-C-116	Koontz Coal Company Log House, ruin	Not Evaluated
AL-VI-C-117	Detmold Farm	Not Evaluated
AL-VI-C-118/ NRHP #85001345	Shaw Mansion	Listed
AL-VI-C-181	Anderson Saltbox	Not Evaluated
AL-VI-C-182	Campbell Coal Company House	Not Evaluated
AL-VI-C-183	Patterson Frame House	Not Evaluated
AL-VI-C-184	Darnley and Stevenson Store	Not Evaluated
AL-VI-C-185	Durst Board and Batten	Not Evaluated
AL-VI-C-199	Moscow Schoolhouse	Not Evaluated
AL-VI-C-275	Charles Morgan House	Not Evaluated
AL-VI-C-278	Moscow Survey District	Not Eligible
AL-VI-C-298	Myers House	Not Evaluated
AL-VI-C-299	Farm Site	Not Evaluated
AL-VI-C-315	Bridge 1017 (Georges Creek Bridge)	Not Eligible
AL-VI-C-338	Bridge A-1016 (SHA)	Not Eligible
AL-VI-E-026	Courtney Log House	Not Evaluated
AL-VI-E-219	Black Oak Bottom Farm	Not Evaluated
AL-VI-E-365	Cumberland and Allegheny Gas Company Natural Gas Pipeline (Line 8000)	Not Eligible
DOE-AG-0103	SHA Structure No. 0107600	Not Eligible

Sources: MHT 2025a; NRHP 2025

NRHP = National Register of Historic Places; SHA = Maryland Department of Transportation State Highway Administration

[a] This indicates potentially impacted architectural resources located within 0.5-mile buffer from the Proposed Route centerline, as discussed in Section 2.3.2.

2.3.2 IMPACTS

The following section discusses the potential impacts associated with the MARL Project where the potential impacts on archaeological sites and cemeteries are associated with the ROW Corridor and potential impacts on aboveground architecture resources are associated with the 0.5-mile buffer from the Proposed Route centerline, as shown on Attachment 1f. While consultation with the MHT is ongoing, based on prior consultation and guidance in the MHT's *Standards and Guidelines for Architectural and Historical Investigations in Maryland*, the 0.5-mile buffer is expected to be the maximum extent of consideration for potential visual impacts (MHT 2023). Additionally, potential impacts for the Proposed Route ancillary facility workspaces were considered within the workspaces for archaeological sites and within a 500-feet buffer for aboveground architectural resources.

2.3.2.1 BATTLEFIELDS

The Proposed Route and ancillary facility workspaces do not cross or fall within 0.5 mile of any battlefields.

2.3.2.2 CEMETERIES

There are no cemeteries within the Proposed Route or ancillary facility workspaces. No potential impacts on previously recorded cemeteries are anticipated as a result of construction or operation of the MARL Project.

2.3.2.3 ARCHAEOLOGICAL RESOURCES

One previously identified archaeological site (18AG182; a prehistoric lithic short-term camp) and one Quad file (KEYSER-QF03; a scatter of lithic points) are within the ROW Corridor (Table 2.3-4). KEYSER-QF03 is also within a temporary ancillary facility workspace outside of the ROW Corridor, as well as 18AG170, which is within a temporary access road workspace (Table 2.3-5). Neither site has been evaluated for inclusion on the NRHP.

The MARL Project archaeological resources investigation will include a field survey of these locations and their immediate vicinity to determine site boundary, depth, and the condition and nature of any artifact assemblage to assess information potential and applicability of all NRHP eligibility criteria. Should MARL Project construction or operation potentially affect a site location, an evaluation of site eligibility for inclusion on the NRHP will be required. Should the potential impact be considered an adverse effect, NEET MA will review opportunities to avoid or minimize potential MARL Project impacts. Should an adverse effect be unavoidable, NEET MA will evaluate avoidance minimization measures, such as the use of environmental mats, or treatment options, which could include data recovery excavations. Archaeological work at these sites will be executed in coordination with the MHT.

Previous archaeological surveys account for a small portion of the ROW Corridor; therefore, NEET MA will conduct a Phase I archaeological resources investigation of the Siting Corridor in coordination with the MHT, as it is anticipated that any resource within the ROW Corridor could be directly affected. The investigation will concentrate efforts in areas of high potential for both pre-contact and historic period archaeological sites. Should the investigation result in the identification of archaeological resources, additional archaeological investigations (including Phase II site evaluations) may be required to assess each site's eligibility for inclusion on the NRHP. NEET MA will coordinate treatment of an adverse effect through avoidance, minimization, or mitigation with the MHT.

TABLE 2.3-4 ARCHAEOLOGICAL SITE AND QUAD FILES WITHIN THE ROW CORRIDOR

Site Number/ Quad File Number	Site Name	Description	NRHP Status
Allegany County			
18AG182	Hawks Nest	Pre-Contact; Lithics, short-term camp	Not Evaluated
KEYSER-QF03	NA	Pre-Contact; Points found in fields on these flats by local collector	Not Evaluated

Source: MHT 2025a

NA = not applicable; NRHP = National Register of Historic Places

TABLE 2.3-5 ARCHAEOLOGICAL SITE AND QUAD FILES RESOURCES WITHIN THE ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR

Site Number	Site Name	Description	NRHP Status	Facility Type		
				Permanent Access Road	Temporary Access Road	Other Temporary Ancillary Facility
Allegany County						
18AG170	Black Oak	Pre-Contact and Historic; Lithic scatter, artifact scatter	Not Evaluated		x	
KEYSER-QF03	N/A	Pre-Contact; Points found in fields on these flats by local collector	Not Evaluated			x

Source: MHT 2025a

NA = not applicable; NRHP = National Register of Historic Places

2.3.2.4 ABOVEGROUND ARCHITECTURAL RESOURCES

ERM conducted viewshed modeling to determine the distance of potential visual impact for architectural resources and determined that a 0.5-mile buffer from the Proposed Route centerline provided a sufficient distance to conduct a preliminary desktop impact assessment for the NRHP-listed, NRHP-recommended eligible, and NRHP-eligible architectural resources (Table 2.3-6 and Table 2.3-7).

Additionally, ERM conducted a desktop study on aboveground architectural resources within 500 feet of the Proposed Route ancillary facilities. Table 2.3-8 shows the aboveground architectural resources within 500 feet of the Proposed Route ancillary facility workspaces that area located outside of the ROW Corridor. None are listed or recommended eligible or potentially eligible for inclusion on the NRHP.

Three NRHP-listed or NRHP-eligible resources are within this 0.5-mile buffer from the Proposed Route centerline for potential impact assessment. Resources that have not yet been evaluated for NRHP eligibility may require further assessment and evaluation.

MARL Project potential impacts on NRHP-listed and NRHP-eligible architectural resources are based on visual assessment findings. These impact statements are preliminary and could change when ERM conducts the field survey.

TABLE 2.3-6 ARCHITECTURAL RESOURCES WITHIN THE 0.5-MILE BUFFER FROM THE PROPOSED ROUTE CENTERLINE

Resource Number	Description	NRHP Eligibility
Garret County		
DOE-GA-0027	Bridge No G95	Not Eligible
G-I-C-067	Paul Colmer Farm	Recommended Not Eligible
G-I-C-068	Raymond Crawford House, site	Not Evaluated
G-I-C-092	Jesse Green House	Not Evaluated
G-I-C-176	John C. Illig Farm	Not Evaluated
G-I-C-200 [a]	Bridge G-049 (G 4910)	Recommended Eligible
G-II-A-047	David Taylor Farm	Not Evaluated
G-II-A-048	W.H. Frantz House	Not Evaluated
G-II-A-111	Lawson House	Not Evaluated
G-II-A-112	Rush Baptist Chapel	Not Evaluated
G-II-A-113	Frederick Humberson House	Not Evaluated
G-II-A-114	John Burgess House	Not Evaluated
G-II-A-117	Fearer Road Farmhouse	Not Evaluated
G-II-A-118	Fred A. Thomas House	Not Evaluated
G-II-A-120	Rush Schoolhouse	Not Evaluated
G-II-A-129	David Fike House	Not Evaluated
G-II-A-130	Elmer Bowser House	Not Evaluated
G-II-A-131	Jack T. Thomas House	Not Evaluated
G-II-A-132	Thomas Brothers Farm	Not Evaluated
G-II-A-133	Kenneth Savage House	Not Evaluated
G-II-A-135	Charles Humberson House	Not Evaluated
G-II-A-208	Friendsville Historic (Survey) District	Not Evaluated
G-II-A-339	927 Second Avenue	Not Eligible
G-II-A-341	850 First Avenue	Not Eligible
G-II-A-364	Bridge G-7510 (Map Only)	Not Evaluated
G-II-B-024/ NRHP #84001782 [a]	Kaese Mill	Listed
G-II-B-094	Jenkins-Devine House	Not Evaluated
G-II-B-115	Schlosnagle Farm	Not Evaluated
G-II-B-141	Fazenbaker-Ryland House	Not Evaluated
G-II-B-146	Engle Mill Store	Not Evaluated
G-II-B-177	Claude Fike Farm	Not Evaluated
G-II-B-202	Gerald Glass Tenant Farm	Not Evaluated
G-II-B-342	Side Gable Dwelling	Not Eligible
G-II-B-375	Tom A. Devine House	Not Eligible
G-II-B-381[a]	Bear Creek Trout Station	Eligible
G-II-C-235	Ernest Bowser Farm	Not Evaluated
G-II-C-236	Owen Bowser Farm	Not Evaluated

Resource Number	Description	NRHP Eligibility
G-III-C-179	Ashford Warnick Farm	Not Evaluated
G-III-C-181	Clarence Wilt Farm	Not Evaluated
G-III-C-182	Fairview Road House	Not Evaluated
G-III-C-188	Nelson Wilt House	Not Evaluated
G-III-C-195	Owen Stanton Farm	Not Evaluated
G-III-C-196	Windmill Farm	Not Evaluated
G-III-C-200	Gilpin Farm	Not Eligible
Allegany County		
AL-VI-B-003	Purinton Log House	Not Evaluated
AL-VI-B-160	House	Not Evaluated
AL-VI-B-177	Stevenson Board and Batten House, site	Not Evaluated
AL-VI-B-178	Braheny Frame House, site	Not Evaluated
AL-VI-B-179	Pekin Schoolhouse	Not Evaluated
AL-VI-B-262	Frazenbaker House	Not Evaluated
AL-VI-B-270	Pekin (Nikep) Survey District	Not Eligible
AL-VI-B-282	Detmold Survey District	Not Eligible
AL-VI-C-117	Detmold Farm	Not Evaluated
AL-VI-C-299	Farm Site	Not Evaluated
AL-VI-C-338	Bridge A-1016 (SHA)	Not Eligible
AL-VI-E-219	Black Oak Bottom Farm	Not Evaluated
AL-VI-E-365	Cumberland and Allegheny Gas Company Natural Gas Pipeline (Line 8000)	Not Eligible

Sources: MHT 2025b; NRHP 2025

NRHP = National Register of Historic Places; SHA = Maryland Department of Transportation State Highway Administration

[a] This indicates potentially impacted architectural resources, as discussed below.

TABLE 2.3-7 SUMMARY OF ELIGIBLE AND LISTED ARCHITECTURAL RESOURCES WITHIN THE 0.5-MILE BUFFER FROM THE PROPOSED ROUTE CENTERLINE BY NATIONAL REGISTER OF HISTORIC PLACES STATUS

Resource Number	Description	Recommended Eligible	Eligible	Listed
G-I-C-200	Bridge G-049 (G 4910)	x		
G-II-B-024/ NRHP #84001782	Kaese Mill			x
G-II-B-381	Bear Creek Trout Station		x	

Sources: MHT 2025a; NRHP 2025

TABLE 2.3-8 ABOVEGROUND ARCHITECTURAL RESOURCES WITHIN 500 FEET OF ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR

Resource Number	Description	NRHP Status	Facility Type		
			Permanent Access Road	Temporary Access Road	Other Temporary Ancillary Facility
AL-VI-B-003	Purinton Log House	Not Evaluated			x
AL-VI-B-282	Detmold Survey District	Not Eligible		x	
AL-VI-B-360	SHA Small Structure No. 01249X01	Not Eligible		x	
AL-VI-C-117	Detmold Farm	Not Evaluated		x	x
AL-VI-C-299	Farm Site	Not Evaluated		x	
AL-VI-E-365	Cumberland and Allegheny Gas Company Natural Gas Pipeline (Line 8000)	Not Eligible		x	x
G-I-C-068	Raymond Crawford House, site	Not Evaluated		x	
G-I-C-176	John C. Illig Farm	Not Evaluated		x	x
G-I-C-200[a]	Bridge G-049 (G 4910)	Recommended Eligible			x
G-II-A-048	W.H. Frantz House	Not Evaluated		x	
G-II-A-111	Lawson House	Not Evaluated			x
G-II-A-112	Rush Baptist Chapel	Not Evaluated		x	
G-II-A-113	Frederick Humberson House	Not Evaluated		x	x
G-II-A-120	Rush Schoolhouse	Not Evaluated		x	
G-II-A-133	Kenneth Savage House	Not Evaluated			x
G-II-A-364	Bridge G-7510	Not Evaluated			x
G-II-B-202	N/A	Not Evaluated	x		
G-III-C-179	Ashford Warnick Farm	Not Evaluated		x	
G-III-C-182	Fairview Road House	Not Evaluated		x	
G-II-C-235	Ernest Bowser Farm	Not Evaluated			x

Sources: MHT 2025a; NRHP 2025

NRHP= National Register of Historic Places; SHA = Maryland Department of Transportation State Highway Administration

[a] This indicates potentially impacted architectural resources.

National Register of Historic Places-Listed Architectural Resources

Kaese Mill (G-II-B-024/NRHP #84001782) is located approximately 950 feet northeast of the Proposed Route centerline (near MP 43.4). The area surrounding the Proposed Route centerline consists of dense vegetation and agricultural land. It is unlikely that the transmission structures would be visible from the buildings associated with the resource due to the dense vegetation that directly abuts the mill. However, the preliminary assessment indicates the transmission line could be visible from the resource's westernmost boundary, where Fish Hatchery Road intersects with Garrett Highway; this one location is minor compared to the resource as a whole.

National Register of Historic Places-Eligible / National Register of Historic Places-Recommended Eligible Architectural Resources

The Bear Creek Trout Station (G-II-B-381) is located approximately 739 feet northeast of the Proposed Route centerline (near MP 44.4). The area surrounding the Proposed Route centerline and the resource consists of dense vegetation. The existing FirstEnergy 500 kV transmission line is located south of the Proposed Route, running parallel yet adjacent to it. The preliminary assessment indicates that the resource could have an intermittent view of the Proposed Route centerline through the trees during off-leaf seasons because of their close proximity. This would introduce additional modern elements to the southern viewshed.

Bridge G-049 (G-I-C-200) is located approximately 166 feet north of the Proposed Route centerline (near MP 56.2). The area surrounding the Proposed Route centerline consists of the existing FirstEnergy 500 kV transmission line and dense forest. As such, the preliminary assessment indicates that the construction and operation of the Proposed Route would likely have a potential minimal impact on Bridge G-049 because the existing transmission line has already diminished the historic view.

Specific avoidance and mitigation measures will be developed through consultation with the MHT following field survey and report submittal.

2.3.2.5 POTOMAC HERITAGE NATIONAL SCENIC TRAIL

The Proposed Route perpendicularly crosses the Potomac Heritage National Scenic Trail. Potential impacts on the trail are discussed in Section 2.4.

2.3.2.6 MOUNTAIN MARYLAND GATEWAY TO THE WEST HERITAGE AREA

The Mountain Maryland Gateway to the West Heritage Area, within Garrett County, is defined by natural resources and transportation history. The Proposed Route largely follows existing utility corridors that also transect the heritage area. As such, the preliminary assessment indicates that there could be views of the Proposed Route from within the heritage area that would introduce additional modern elements to the viewshed. Following field survey, engagement with the Maryland Heritage Areas Authority may be warranted to discuss potential impacts.

2.4 LAND USE AND AESTHETICS

This section describes land use and land cover, recreational lands and facilities, protected lands, comprehensive land use planning policies, and visual resources within and applicable to the MARL Project.

2.4.1 LAND USE AND LAND COVER

This section describes land use and land cover within and applicable to the MARL Project. Land use / land cover (hereafter "land cover") refers to the visible, topographic, vegetation, and human-influenced characteristics of land, whereas land use refers to the actual way that land is used, regardless of what land cover is visible. For example, an area of Developed, Medium Intensity land cover could include a variety of land use types, such as low or medium intensity residential, or other developed uses, such as commercial or industrial.

2.4.1.1 EXISTING CONDITIONS

ERM cataloged land cover within the Siting Corridor using GIS data from the National Land Cover Database (USGS 2024a).[8] Figure 2.4-1 shows land cover existing conditions, and Attachment 1d shows this information in more detail, pursuant to the requirements in COMAR 20.79.04.02.D and 20.79.04.04.A. Table 2.4-1 shows the approximate acreage of land cover classifications within the Siting Corridor.

Garrett County

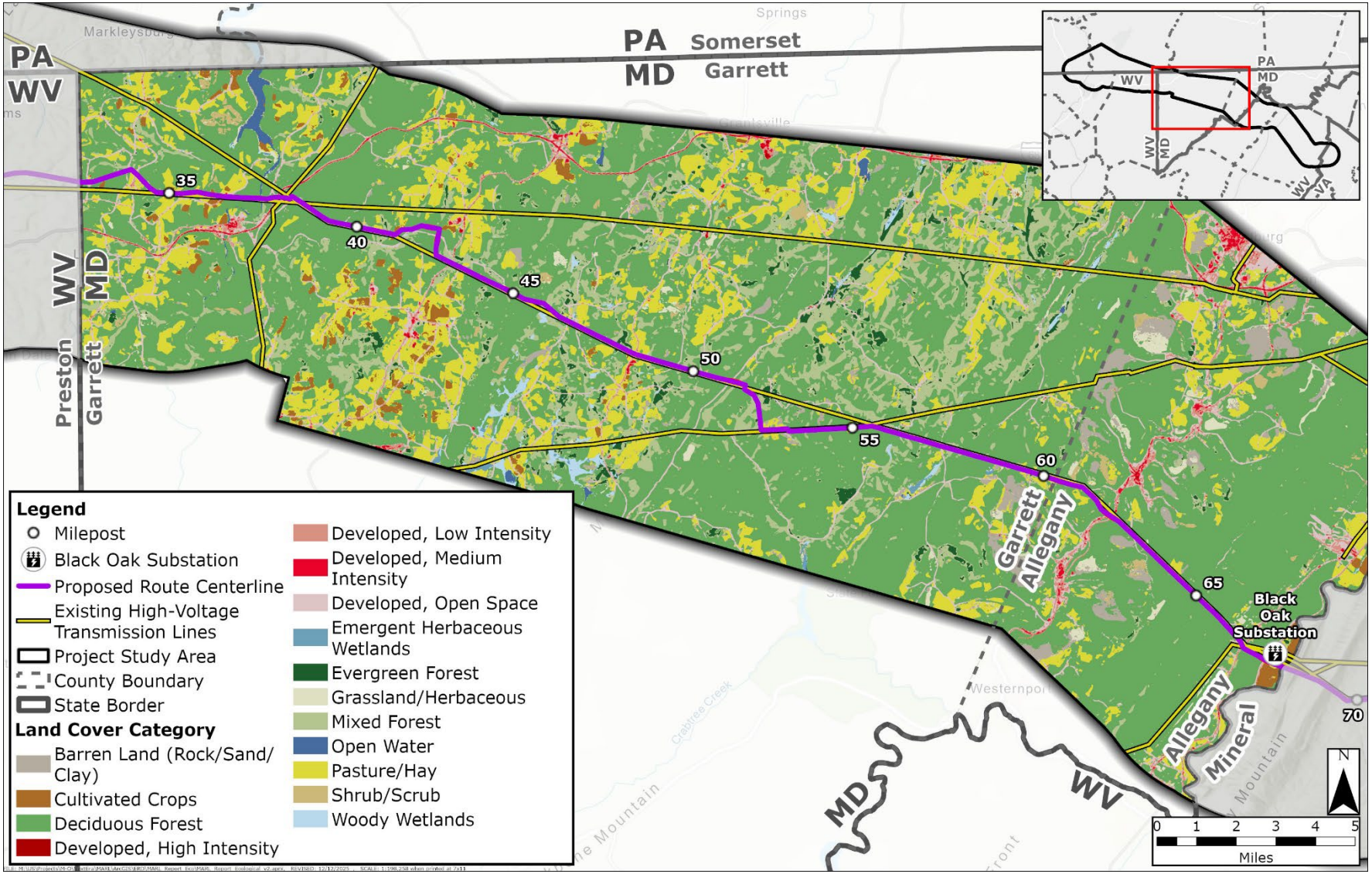
Existing land cover within Garrett County is primarily forested land, which covers approximately 80 percent of the Siting Corridor in the county (including approximately 67 percent in deciduous forest and 12 percent in mixed forest). Agriculture (mostly pasture/hay) accounts for approximately 14 percent of the Siting Corridor in Garrett County.

Developed land comprises approximately 3 percent of the Siting Corridor in Garrett County, most of which is developed open space. Because the Proposed Route covers more total area in Garrett County, it includes substantially more forest and more agricultural land than Allegany County.

Land use patterns in Garrett County are generally similar to land cover, with forest and agriculture comprising the largest share of the Siting Corridor and a limited amount of low and very low density residential.

[8] ERM also reviewed the Maryland Department of Planning's 2018 statewide land use layer (MDP 2024). This dataset provided similar findings as the National Land Cover Database summarized in this section; however, the Maryland Department of Planning data are several years older than the National Land Cover Database. As a result, National Land Cover Database (USGS 2024a) data are used throughout this section.

FIGURE 2.4-1 LAND COVER EXISTING CONDITIONS



Source: USGS 2024a

MD = Maryland; PA = Pennsylvania; VA = Virginia; WV = West Virginia

TABLE 2.4-1 LAND COVER CLASSIFICATIONS WITHIN THE SITING CORRIDOR

Land Cover Category	Garrett County		Allegany County		Total Maryland	
	Acres	%	Acres	%	Acres	%
Barren Land	34.6	2.2	1.3	0.3	35.9	1.8
Cultivated Crops	28.3	1.8	4.3	1.0	32.6	1.6
Deciduous Forest	1,052.0	67.1	355.9	83.9	1,407.9	70.7
Developed, High Intensity	0.0	0.0	0.6	0.1	0.6	<0.1
Developed, Low Intensity	4.3	0.3	10.6	2.5	14.9	0.7
Developed, Medium Intensity	2.1	0.1	1.3	0.3	3.5	0.2
Developed, Open Space	37.4	2.4	13.0	3.1	50.3	2.5
Evergreen Forest	12.4	0.8	0.0	0.0	12.4	0.6
Grassland/Herbaceous	7.5	0.5	1.9	0.5	9.4	0.5
Mixed Forest	185.6	11.8	4.2	1.0	189.8	9.5
Open Water	4.0	0.3	0.4	0.1	4.4	0.2
Pasture/Hay	194.1	12.4	28.8	6.8	222.8	11.2
Shrub/Scrub	3.8	0.2	0.0	0.0	3.8	0.2
Woody Wetlands	1.6	0.1	1.9	0.4	3.5	0.2
Total [a]	**1,567.6**	**100%**	**424.1**	**100%**	**1,991.7**	**100%**

Source: USGS 2024a

ROW = right-of-way
[a] Totals may not match the sum of addends due to rounding.

Allegany County

Existing land cover in the Siting Corridor within Allegany County is primarily forested land, which covers approximately 85 percent of the Siting Corridor in the county (nearly all in deciduous forest). Agriculture is another primary land use, covering approximately 8 percent of the Siting Corridor in Allegany County, nearly all of which is pasture/hay.

Developed land comprises approximately 8 percent of the Allegany County portion of the Siting Corridor, most of which is developed open space (such as parks or landscaped areas) and low intensity developed land. Medium and high density developed land occupy a minimal portion of the ROW Corridor in Allegany County.

Land use patterns in Allegany County are generally similar to land cover, with forest and agriculture comprising the largest share of the Siting Corridor and a limited amount of low and very low density residential.

2.4.1.2 IMPACTS

Table 2.4-2 shows land cover in the ROW Corridor, while Table 2.4-3 shows land cover within the ancillary facilities workspaces. As is the case for the Siting Corridor, the ROW Corridor would primarily affect forest (especially Deciduous Forest) and agriculture (especially Pasture/Hay). Approximately 79 percent of the land within the ancillary facilities workspaces would be forest (mostly Deciduous Forest), while Pasture/Hay would comprise approximately 10 percent of these areas.

TABLE 2.4-2 LAND COVER CLASSIFICATIONS WITHIN THE SITING CORRIDOR AND ROW CORRIDOR

Land Cover Category	Garrett County				Allegany County				Total Maryland			
	Siting Corridor		ROW Corridor		Siting Corridor		ROW Corridor		Siting Corridor		ROW Corridor	
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
Barren Land	34.6	2.2	13.6	2.0	1.3	0.3	0.9	0.4	35.9	1.8	14.4	1.6
Cultivated Crops	28.3	1.8	14.6	2.2	4.3	1.0	1.2	0.6	32.6	1.6	15.9	1.8
Deciduous Forest	1,052.0	67.1	471.2	69.3	355.9	83.9	167.5	85.0	1,407.9	70.7	638.7	72.8
Developed, High Intensity	0.0	0.0	0.0	0.0	0.6	0.1	0.0	0.0	0.6	<0.1	0.0	0.0
Developed, Low Intensity	4.3	0.3	1.0	0.2	10.6	2.5	4.1	2.1	14.9	0.7	5.2	0.6
Developed, Medium Intensity	2.1	0.1	0.6	0.1	1.3	0.3	0.3	0.1	3.5	0.2	0.8	0.1
Developed, Open Space	37.4	2.4	13.9	2.1	13.0	3.1	6.0	3.1	50.3	2.5	20.0	2.3
Evergreen Forest	12.4	0.8	3.1	0.5	0.0	0.0	0.0	0.0	12.4	0.6	3.1	0.4
Grassland/Herbaceous	7.5	0.5	2.7	0.4	1.9	0.5	0.5	0.3	9.4	0.5	3.3	0.4
Mixed Forest	185.6	11.8	78.8	11.6	4.2	1.0	2.1	1.1	189.8	9.5	80.9	9.2
Open Water	4.0	0.3	0.7	0.1	0.4	0.1	0.0	0.0	4.4	0.2	0.7	0.1
Pasture/Hay	194.1	12.4	77.9	11.5	28.8	6.8	13.4	6.8	222.8	11.2	91.3	10.4
Shrub/Scrub	3.8	0.2	1.3	0.2	0.0	0.0	0.0	0.0	3.8	0.2	1.3	0.1
Woody Wetlands	1.6	0.1	0.4	0.1	1.9	0.4	1.0	0.5	3.5	0.2	1.4	0.2
Total [a]	**1,567.6**	**100%**	**679.8**	**100%**	**424.1**	**100%**	**197.1**	**100%**	**1,991.7**	**100%**	**876.9**	**100%**

Source: USGS 2024a

ROW = right-of-way

[a] Totals may not match the sum of addends due to rounding.

TABLE 2.4-3 LAND COVER TYPES WITHIN THE ANCILLARY FACILITY WORKSPACES OUTSIDE OF THE ROW CORRIDOR

Land Use Type	Garrett County						Allegany County						Total Maryland					
	Permanent Access Roads		Temporary Access Roads		Other Temporary Ancillary Facilities		Permanent Access Roads		Temporary Access Roads		Other Temporary Ancillary Facilities		Permanent Access Roads		Temporary Access Roads		Other Temporary Ancillary Facilities	
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
Barren Land	0.1	10.9	2.5	7.4	2.0	1.6	NA	NA	0.1	0.3	0.0	0.0	0.1	10.9	2.6	4.1	2.0	1.5
Cultivated Crops	0.0	0.0	0.5	1.4	6.5	5.3	NA	NA	0.0	0.0	<0.1	<0.1	0.0	0.0	0.5	0.8	6.5	4.9
Deciduous Forest	0.9	68.5	18.6	54.6	85.3	69.9	NA	NA	24.0	79.4	9.5	89.5	0.9	68.5	42.6	66.3	94.7	71.4
Developed, High Intensity	0.0	0.0	0.0	0.0	0.0	0.0	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Developed, Low Intensity	0.0	0.0	0.2	0.6	<0.1	<0.1	NA	NA	1.0	3.4	<0.1	0.3	0.0	0.0	1.2	1.9	0.1	0.1
Developed, Medium Intensity	0.0	0.0	0.0	0.0	0.0	0.0	NA	NA	0.1	0.4	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0
Developed, Open Space	<0.1	3.6	2.8	8.2	0.7	0.6	NA	NA	3.4	11.2	0.2	1.7	<0.1	3.6	6.2	9.6	0.9	0.7
Evergreen Forest	0.0	0.0	0.2	0.6	<0.1	<0.1	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	<0.1	<0.1
Grassland/Herbaceous	0.0	0.0	0.4	1.3	0.6	0.5	NA	NA	0.5	1.5	0.0	0.0	0.0	0.0	0.9	1.4	0.6	0.5
Mixed Forest	0.0	0.0	3.2	9.4	14.3	11.7	NA	NA	0.1	0.2	0.2	1.9	0.0	0.0	3.3	5.1	14.5	10.9
Open Water	0.0	0.0	0.0	0.0	0.0	0.0	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pasture/Hay	0.2	17.0	5.4	15.9	12.5	10.3	NA	NA	0.8	2.7	0.7	6.5	0.2	17.0	6.2	9.7	13.2	10.0
Shrub/Scrub	0.0	0.0	0.2	0.5	<0.1	<0.1	NA	NA	0.3	0.9	0.0	0.0	0.0	0.0	0.5	0.7	<0.1	<0.1
Woody Wetlands	0.0	0.0	0.0	0.0	0.0	0.0	NA	NA	0.0	0.0	<0.1	0.1	0.0	0.0	0.0	0.0	<0.1	<0.1
Total [a]	**1.3**	**100.0%**	**34.0**	**100.0%**	**122.0**	**100.0%**	**NA**	**NA**	**30.3**	**100.0%**	**10.6**	**100.0%**	**1.3**	**100.0%**	**64.3**	**100.0%**	**132.6**	**100.0%**

Source: USGS 2024a

NA = not applicable—there would be no permanent access roads in Allegany County.
[a] Totals may not match the sum of addends due to rounding.

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MARL Project construction would result in temporary restrictions on access to land used for work areas within the ROW Corridor, which affects the ability to use that land. In addition, MARL Project construction would result in temporary access restrictions to land used for ancillary facility workspaces outside of the ROW Corridor, including temporary and permanent access roads, construction work areas, construction equipment staging, laydown areas, and other construction workspaces. These areas would be restricted prior to and during construction and reopened to previous uses upon completion of construction.

During construction, forested portions of the ROW Corridor will be cleared of trees, and vegetation coverage will be converted to herbaceous and scrub/shrub land cover for the life of the MARL Project. Except for 1.3 acres of permanent access roads (most of which is in Deciduous Forest), land cover within ancillary facility areas would be allowed to return to its preconstruction condition, although regrowth of trees within previously forested areas would occur over a period of 20 or more years, effectively resulting in a long-term conversion of forested land to herbaceous and scrub/shrub.

The forested acres in Table 2.4-2 exclude 22.6 acres of forest in riparian habitat exclusions zones where trees would not be removed (Attachment 1d and Table 2.1-1). To the greatest extent practicable, the MARL Project will parallel and abut existing transmission lines to avoid and minimize impacts from new fragmentation of forest habitat. New forest fragmentation resulting from the MARL Project would not likely meaningfully change the overall forest patterns in Maryland, due to the extensive remaining forested areas in the counties crossed by the Proposed Route. The 722.7 acres of forest within the ROW Corridor represent 0.4 percent of the total forested land in the MARL Project Study Area in Maryland. The 87.7 acres of forest within the ancillary facility workspaces for the Proposed Route represent less than 0.1 percent of forest in the MARL Project Study Area in Maryland.

During construction, agricultural lands within the ROW Corridor and ancillary facility workspaces will be unavailable for agricultural production, resulting in temporary impacts on farming such as crop harvesting and grazing. Additionally, the land clearing associated with the Proposed Route ROW Corridor could have impacts on soil erosion and compaction. Section 2.2.3 describes the BMPs that the MARL Project will employ to protect topsoil and avoid degradation of farmland during construction. The 107.2 acres of agricultural land within the ROW Corridor represent 0.3 percent of all agricultural land in the MARL Project Study Area in Maryland. The 26.6 acres of agricultural land within the ancillary facilities workspaces represent less than 0.1 percent of all agricultural land in the MARL Project Study Area in Maryland.

In developed areas, the ROW Corridor would avoid encroachment on residential and nonresidential structures to the greatest degree possible. Construction in developed areas would temporarily affect typical activities due to the presence of construction equipment and MARL Project components. Operation will not change the land cover categorization or land uses in developed areas, except that new third-party structures will not be permitted by NEET MA within the ROW Corridor.

During MARL Project operation, changes in land cover would occur where structures are installed, as well as where forested land is converted to herbaceous and shrub / scrub habitat to

accommodate the ROW Corridor. MARL Project operation will have minimal impact on farming operations, because livestock grazing and row crops can typically coexist with the transmission line. To the degree that the ROW Corridor crosses orchards, nurseries, tree farms, or other agricultural activities that involve trees or other vegetation with a natural mature height of greater than 10 feet, such vegetation will be replaced with herbaceous and scrub / shrub habitat. Equipment and vehicles that do not exceed 14 feet in height (including those that can be extended to no more than 14 feet in height) will also be allowed to operate within the ROW Corridor. Operation will not change the land cover categorization or land uses in developed areas, except that new third-party structures will not be permitted by NEET MA within the ROW Corridor.

To minimize permanent changes to land cover, NEET MA will use existing paved and/or gravel/dirt roads for temporary construction and long-term maintenance access within and outside of the ROW Corridor, where feasible. To minimize tree clearing in forested areas, the MARL Project will only clear trees required to establish the ROW Corridor and within the ancillary facility workspaces. NEET MA will coordinate with affected landowners prior to establishment of ROW easements and construction to negotiate measures to minimize impacts on the long-term viability of the use of the property.

2.4.2 RECREATIONAL LAND

This section describes recreational resources including designated parks, trails, scenic byways, and other recreation sites within the Siting Corridor. Protected areas, which may also be used for recreation, are addressed in Section 2.4.3. Additionally, Section 2.2.4 discusses federal and state WSR crossed by the MARL Project. It also identifies other waterbodies, including rivers that may be used for recreational purposes (e.g., angling, boating). This section also identifies impacts from the MARL Project on the identified recreation resources (Section 2.4.2.2).

2.4.2.1 EXISTING CONDITIONS

ERM compiled information on recreational resources using publicly available datasets from ArcGIS Online, USGS U.S. Protected Areas Database of the United States, and the MERLIN online mapping tool (MDNR n.d.-a). Unless otherwise noted, data on existing recreational features were obtained from these federal, state, and local GIS sources and verified using the MERLIN platform (USGS 2024b; Maryland Geological Survey 2025).

Recreational resources include publicly accessible lands that support outdoor activities such as hiking, biking, scenic driving, and wildlife observation. These resources may include:

- National, state, and local parks including public access points to natural areas (e.g., forests, waterbodies);
- National and state-designated trails (e.g., National Scenic Trails, National Historic Trails);
- Recreational roads and scenic byways; and
- Multi-use paths and greenways.

Protected lands other than parks that support recreation are discussed in Section 2.4.3. The Siting Corridor does not cross any public parks; therefore, this section focuses on recreational roads and trails. Table 2.4-4 summarizes recreational resources that cross or are within the Siting Corridor and identifies the extent of each resource located within the Siting Corridor, if known. These recreation resources are shown on Figure 2.4-2, and Attachment 1h shows this information in more detail, pursuant to the requirements in COMAR 20.79.04.02.D and 20.79.04.04.A.

TABLE 2.4-4 RECREATIONAL RESOURCES WITHIN THE SITING CORRIDOR (MILES)

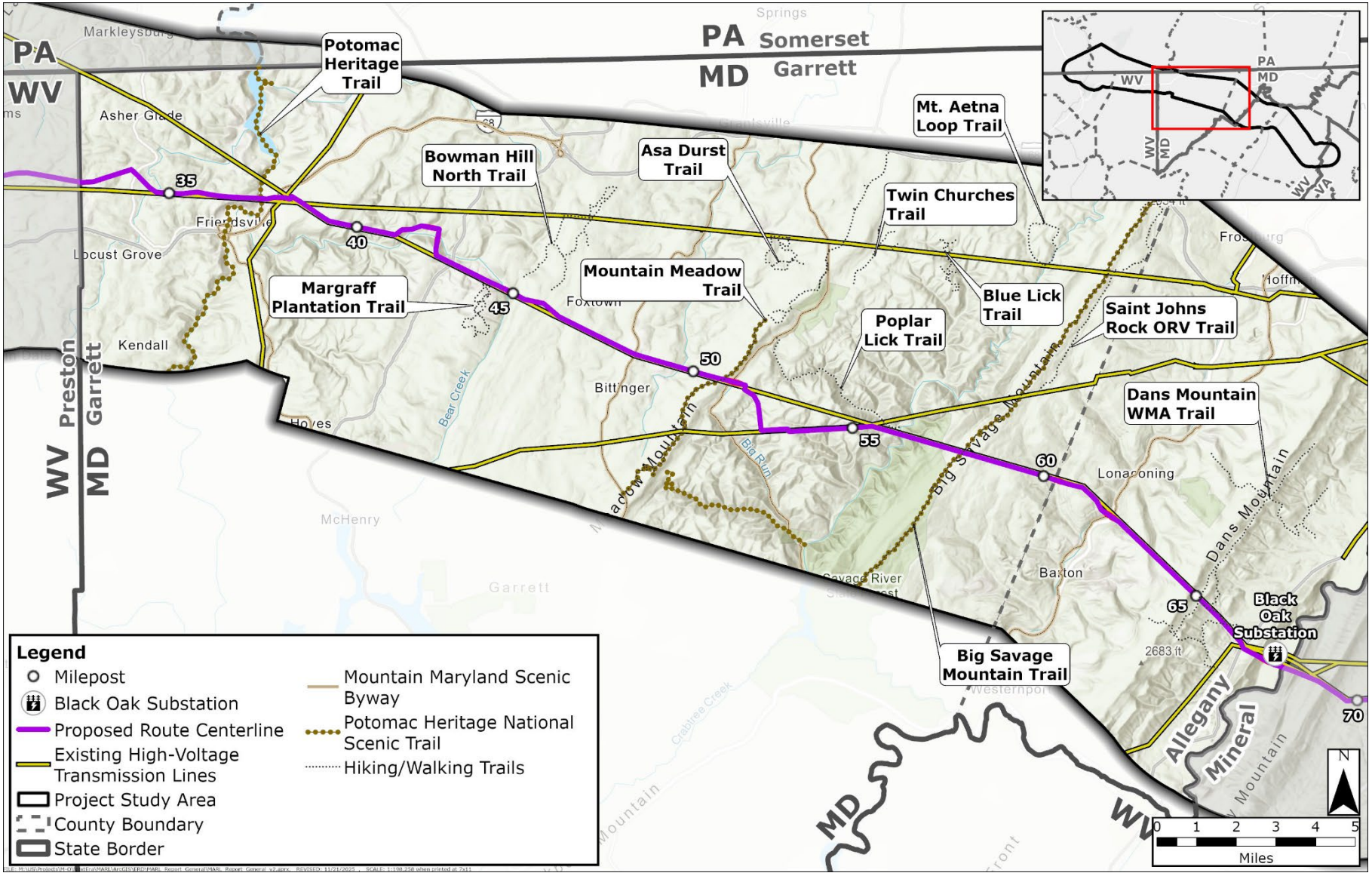
Recreational Resource	Management Entity	Recreation Type	Garrett County	Allegany County	Total Maryland [a]
Big Savage Mountain Trail / Potomac Heritage National Scenic Trail	MDNR Forest Service	Natural Surface Trail	0.1	0.0	0.1
Dans Mountain WMA Trail	MDNR Wildlife & Heritage Service	Natural Surface Trail, WMA	0.0	0.3	0.3
Meadow Mountain Trail / Potomac Heritage National Scenic Trail	MDNR Forest Service	Natural Surface Trail	0.2	0	0.2
Mountain Maryland Scenic Byway	SHA	Maryland Scenic Byway	0.4	0.2	0.5
Potomac Heritage National Scenic Trail	MDNR Park Service	Natural Surface Trail	0.1	0.0	0.1
Total [a]			**0.7**	**0.5**	**1.2**

Source: Allegany County 2022; Maryland Office of Tourism 2025; NPS n.d.

MDNR = Maryland Department of Natural Resources; NPS = National Park Service; ROW = right-of-way; SHA = Maryland Department of Transportation State Highway Administration; WMA = Wildlife Management Area

[a] Totals may not match the sum of addends due to rounding.

FIGURE 2.4-2 RECREATION RESOURCES EXISTING CONDITIONS



MD = Maryland; ORV = offroad vehicle; PA = Pennsylvania; VA = Virginia; WMA = Wildlife Management Area; WV = West Virginia

2.4.2.2 IMPACTS

Of the recreational resource types listed in Table 2.4-4, the ROW Corridor would cross 0.2 mile of trails in Garrett County and 0.3 mile of trails in Allegany County. The ROW Corridor also crosses 0.4 mile of the Mountain Maryland Scenic Byway segments (0.3 mile in Garrett County and 0.1 mile in Allegany County) that follow I-68, Maryland State Route (MD) 495, New Germany Road, and MD 36. These byways are primarily accessed and used by passenger vehicles rather than pedestrians. The ROW Corridor's potential impacts on byways would be the same as described for roads in Section 2.6, Transportation Infrastructure.

The general impacts of the ROW Corridor on recreational trails would include:

- Temporary restrictions on access to or use of trail segments during construction at each trail or resource crossing;
- Fragmentation of areas that may be suitable for new or expanded land protections, especially adjacent to existing protected lands;
- Permanent aesthetic changes within and visible from recreation lands and trails, due to the presence of new transmission infrastructure where no such infrastructure currently exists (including some previously undisturbed lands), which could affect the ability of trail users to experience natural and natural-appearing settings, especially for users whose intended recreational activities include viewing habitat, wildlife, and natural (or natural appearing) settings;
- Changes in the behavior and habitat of wildlife (one of the primary reasons for trail use) due to new aboveground transmission infrastructure, surface disturbance, and increased human access to the ROW Corridor;
- Alterations or modifications to existing trail routes to accommodate new infrastructure; and
- Opportunities for new trail routes, improved access to existing trails and recreation amenities, and support for regional trail connectivity.

During MARL Project construction, recreational trail closures or restrictions would occur during construction across a trail or other recreational resource, which would typically take no more than several days at any single location. NEET MA would coordinate with applicable land management agencies, organizations, and affected landowners to construct the Proposed Route consistent with permit requirements, or other recommended measures, to address and mitigate impacts. These measures would include (among others) early coordination with recreation agencies, such as the MDNR and Maryland Department of Transportation State Highway Administration (SHA), to discuss impacts and mitigation efforts.

2.4.3 PROTECTED LANDS

This section describes protected lands and programs designed to protect Maryland's agricultural heritage and natural resources, as well as the ROW Corridor's impacts on those lands and programs.

2.4.3.1 EXISTING CONDITIONS

Protected lands are designated for conservation and/or scenic value and are managed by federal, state, or local agencies. Information on protected lands was compiled through digital data sets and maps and publicly available information from USGS U.S. Protected Areas Database of the United States and MERLIN. These areas may include:

- National parks and monuments;
- National forests;
- State parks and forests;
- State-designated natural areas or preserves;
- Conservation easements, WMAs, and Wildlands; and
- Local (i.e., municipal or county) preserved lands.

There are 205,362 acres of federal lands in Maryland, slightly more than half of which are primarily administered through the USFWS and NPS; the U.S. Department of Defense manages most of the remaining half (Congressional Research Service 2020; MDP n.d.-a). There are 3,165 acres and 4,513 acres of federal parks and conservation lands in Garrett and Allegany Counties, respectively (MDP n.d.-a).

In addition to federal lands, the MDNR administers 696,862 acres of protected lands in the state through various land preservation programs, as well as local parks and recreation departments (MDNR 2025). This includes 112,370 acres and 78,846 acres in Garrett and Allegany Counties, respectively (MDP n.d.-a). In Maryland, Wildlands are areas of state-owned land that have "retained their wilderness character or contain rare or vanishing species" (MDNR n.d.-b). Activities in these areas are limited to passive recreation, with no new recreation improvements allowed.

Table 2.4-5 summarizes protected lands crossed by or within the Siting Corridor and identifies the extent of each resource located within the Siting Corridor, if known. Section 2.4.3.2 discusses the impacts associated with these crossings. These protected lands resources are shown on Figure 2.4-3, and Attachment 1i, Protected Lands Mapbook, shows this information in more detail, pursuant to the requirements in COMAR 20.79.04.02.D. Protected lands within the Siting Corridor include properties enrolled in the state programs listed below. ERM did not identify any local (county or municipal) protected lands within the Siting Corridor.

- The Rural Legacy Program, which preserves "large, contiguous tracts of land to enhance natural resource, agriculture, forestry and environmental protection while supporting a sustainable land base for natural resource based industries" (MDNR n.d.-c); and
- The Maryland Agricultural Land Preservation Foundation (MALPF), which preserves prime farmland and woodland through the purchase of agricultural preservation easements (MDA n.d.).

TABLE 2.4-5 PROTECTED LANDS WITHIN THE SITING CORRIDOR (ACRES)

Protected Land [a]	Management Entity	Protected Land Type	Garrett County [a]	Allegany County [a]	Total [a]
Federal					
Youghiogheny River Lake	USACE	RMA	8.2	0.0	8.2
		Subtotal [a]	*8.2*	*0.0*	*8.2*
State and Local					
Dans Mountain WMA	MDNR WHS	WMA	0.0	84.1	84.1
Dans Mountain [b]	*MDNR*	*Wildlands*	*0.0*	*23.2*	*23.2*
Savage River State Forest	MDNR Forest Service	State Forest	429.3	17.3	446.7
Bear Pen [b]	*MDNR Forest Service*	*Wildlands*	*21.7*	*0.0*	*21.7*
Big Savage Mountain [b]	*MDNR Forest Service*	*Wildlands*	*12.1*	*0.0*	*12.1*
Bear Creek Hatchery	MDNR Fishing and Boating Services	Fisheries Management Area	29.0	0.0	29.0
Rural Legacy	MDNR, private landowner	Conservation Easement	88.8	0.0	88.8
MALPF	MALPF, private landowner	Agricultural Easement	1.4	0.0	1.4
		Subtotal [a]	*548.5*	*101.4*	*649.9*
		Total [a]	**556.7**	**101.4**	**658.1**

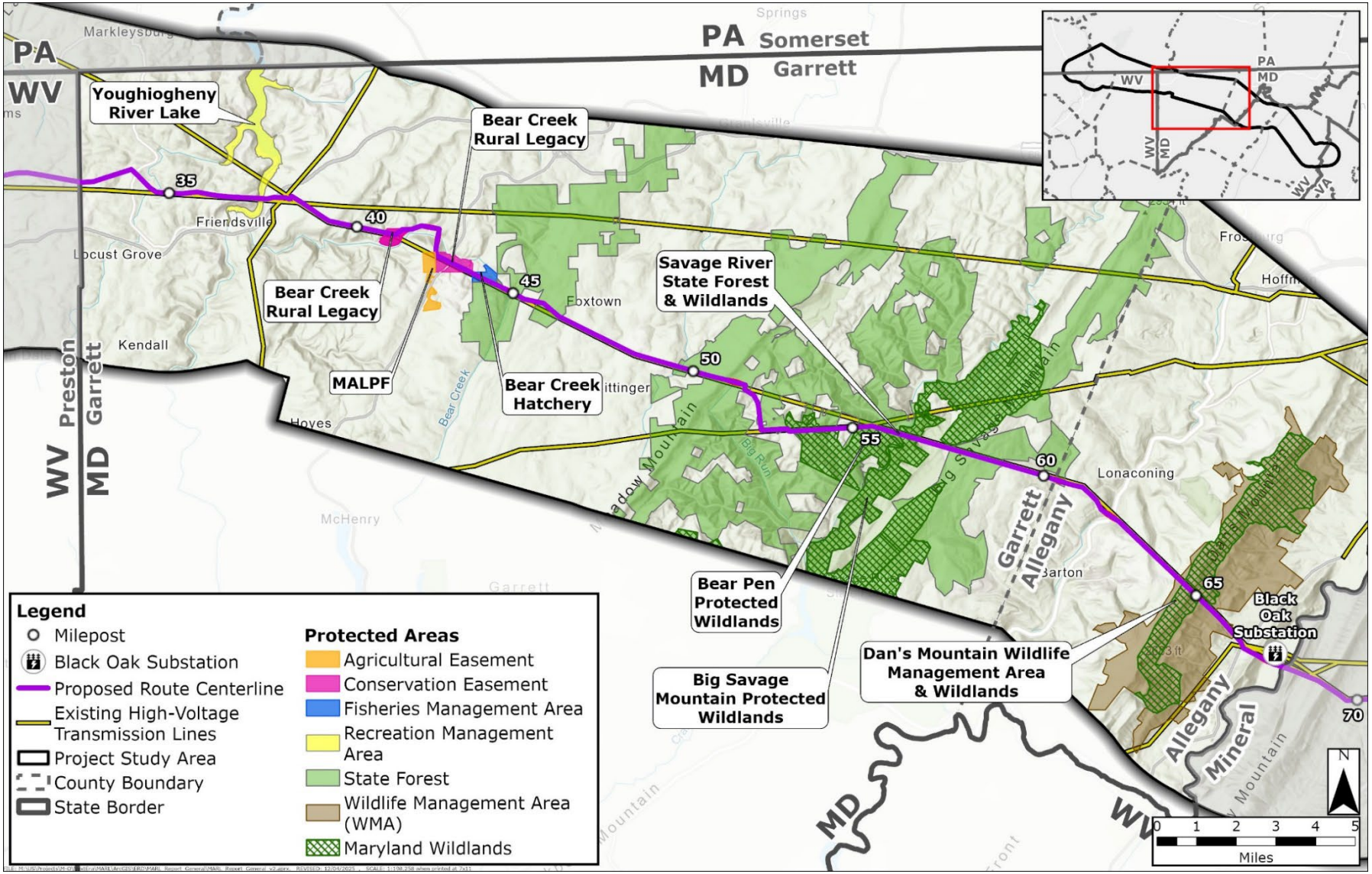
Source: USGS 2024b; MDNR n.d.-a; Maryland Geological Survey 2025

MALPF = Maryland Agricultural Land Preservation Foundation; MDNR = Maryland Department of Natural Resources; RMA = Recreation Management Area; ROW = right-of-way; USACE = U.S. Army Corps of Engineers; WHS = Wildlife and Heritage Service; WMA = Wildlife Management Area

[a] Totals may not match the sum of addends due to rounding.

[b] The Dans Mountain Wildlands are entirely contained within the Dans Mountain WMA. The Bear Pen and Big Savage Mountain Wildlands are entirely contained within Savage River State Forest. Acreages of these resources within the Siting Corridor are provided for information but are not double-counted in subtotals and totals.

FIGURE 2.4-3 PROTECTED LANDS EXISTING CONDITIONS



MALPF = Maryland Agricultural Land Preservation Foundation; MD = Maryland; PA = Pennsylvania; VA = Virginia; WMA = Wildlife Management Area; WV = West Virginia

2.4.3.2 IMPACTS

As shown in Table 2.4-6, the ROW Corridor crosses 313.5 acres of federal, state, and local protected land, including 2.7 acres of federal protected land around Youghiogheny River Lake and 310.8 acres of state and local protected lands. The portion of the ROW Corridor within Savage River State Forest accounts for 65 percent of the total protected land.

The ROW Corridor's impacts on protected lands are summarized below.

- Impacts on protected species or sensitive habitat areas, specifically through tree removal and wetland crossings (Section 2.2, Biophysical Environment).
- Loss of farmland (i.e., where transmission towers are installed), damage to agricultural irrigation infrastructure, and alteration of typical farming operations. Although a substantial portion of the ROW Corridor crosses agricultural land (Section 2.4.1, Land Use and Land Cover), the ROW Corridor would only cross 88.8 acres of land with agricultural conservation designations (two Rural Legacy properties near MPs 41.0 and 43.0 in Garrett County, of which approximately 14 acres is in agricultural use).
- Direct impacts on recreational trails (Section 2.4.2) and impacts on the experience of recreational activities in public lands through changes in the aesthetic environment (Section 2.4.5, Visual Resources).
- Fragmentation of areas that may be suitable for new or expanded land protections, especially adjacent to existing protected lands.
- Improved access to hiking or biking areas along the proposed ROW.

To address impacts on federal, state, and local protected lands, NEET MA would prepare all applicable studies and implement mitigation measures required as part of permits issued by land management agencies. Construction of the Proposed Route would comply with federal, state, and local requirements and permitting provisions.

TABLE 2.4-6 PROTECTED LANDS WITHIN THE SITING CORRIDOR AND ROW CORRIDOR (ACRES)

Protected Land [a]	Management Entity	Protected Land Type	Garrett County		Allegany County		Total Maryland	
			Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor	Siting Corridor	ROW Corridor
Federal								
Youghiogheny River Lake	USACE	RMA	8.2	2.7	0.0	0.0	8.2	2.7
		Subtotal	*8.2*	*2.7*	*0.0*	*0.0*	*8.2*	*2.7*
State and Local								
Dans Mountain WMA	MDNR WHS	WMA	0.0	0.0	84.1	49.0	84.1	49.0
Dans Mountain [b]	*MDNR*	*Wildlands*	*0.0*	*0.0*	*23.2*	*23.2*	*23.2*	*23.2*
Savage River State Forest	MDNR Forest Service	State Forest	429.3	202.6	17.3	7.6	446.7	202.6
Bear Pen [b]	*MDNR Forest Service*	*Wildlands*	*21.7*	*20.7*	*0.0*	*0.0*	*21.7*	*20.7*
Big Savage Mountain [b]	*MDNR Forest Service*	*Wildlands*	*12.1*	*11.3*	*0.0*	*0.0*	*12.1*	*11.3*
Bear Creek Hatchery	MDNR Fishing and Boating Services	Fisheries Management Area	29.0	11.9	0.0	0.0	29.0	11.9
Rural Legacy	MDNR, private landowner	Conservation Easement	88.8	39.5	0.0	0.0	88.8	39.6
MALPF	MALPF, private landowner	Agricultural Easement	1.4	0.0	0.0	0.0	1.4	0.0
		Subtotal [a]	*548.5*	*254.2*	*101.4*	*56.6*	*649.9*	*310.8*
		Total [a]	**556.7**	**256.9**	**101.4**	**56.6**	**658.1**	**313.5**

Source: USGS 2024b; MDNR n.d.-a; Maryland Geological Survey 2025

MALPF = Maryland Agricultural Land Preservation Foundation; MDNR = Maryland Department of Natural Resources; RMA = Recreation Management Area; ROW = right-of-way; USACE = U.S. Army Corps of Engineers; WHS = Wildlife and Heritage Service; WMA = Wildlife Management Area

[a] Totals may not match the sum of addends due to rounding.

[b] The Dans Mountain Wildlands are entirely contained within the Dans Mountain WMA. The Bear Pen and Big Savage Mountain Wildlands are entirely contained within Savage River State Forest. Acreages of these resources within the Siting Corridor and ROW Corridor are provided for information but are not double-counted in subtotals and totals.

2.4.4 COMPREHENSIVE LAND USE PLANNING

This section describes comprehensive land use planning, including existing and future land use, designated or proposed growth areas, and designated or proposed preservation areas within the Siting Corridor. The analysis identifies impacts from the ROW Corridor on these existing and future land use planning priorities.

2.4.4.1 EXISTING CONDITIONS

The Land Use Article of the MD Code Ann. empowers chartered counties and municipalities to develop comprehensive plans (MD Code Ann. § 1-406). Pursuant to these regulations, comprehensive or general plans should include elements related to development regulations, housing, sensitive areas, transportation, water resources, and mineral resources. The Land Use Article also empowers jurisdictions to include a Priority Preservation Area element in the comprehensive plans. The Siting Corridor is located within Garrett and Allegany Counties and do not pass through any incorporated towns.

Pursuant to the State Finance and Procurement Article of the MD Code Ann. (§§ 5-7A-01 et. seq.), Priority Funding Areas are "existing communities and places designated by local governments indicating where they want state investment to support future growth" (MDP n.d.-b). Priority Funding Areas typically designate existing developed communities and areas that municipal or county comprehensive plans have designated for concentrated future development (MDP n.d.-c).

The Maryland Department of Planning reviews draft comprehensive plans for consistency with state planning laws and policies and provides comments on such consistency. A jurisdiction may be ineligible to receive certain state funding until these comments are addressed (MD Code Ann. § 5-7B-08). There are no outstanding comments on the adopted comprehensive plans for Garrett or Allegany Counties (MDP 2025).

The remainder of this section discusses the comprehensive plans and future land use priorities for Garrett and Allegany Counties.

Garrett County

The 2022 Garrett County Comprehensive Plan provides a future growth and development framework and serves as a policy guide for resource management and conservation, primarily through a watershed-based land use planning approach (Garrett County 2022). The comprehensive plan's vision is to enhance the quality of life for residents through rural character and natural beauty preservation and guiding growth and development.

The comprehensive plan's goals include conserving forest resource and agricultural resource land, protecting state-owned lands from incompatible development, and encouraging growth in Designated Growth Areas (DGAs) or areas that incorporated municipalities have identified for future annexation, designated as future growth areas pursuant to state law (MD Code Ann. § 5-7B-03). Proposed future land use is shown on Figure 2.4-4. Sensitive areas identified in the comprehensive plan and within the Siting Corridor include the Savage River State Forest and areas along the Youghiogheny River and Bear Creek.

Within Garrett County, the Siting Corridor crosses portions of the Youghiogheny River, Bear Creek, Casselman River, Savage River, and Georges Creek watersheds. Most of the Siting Corridor overlays land with rural resource, agricultural resource, and rural future land use designations, as well as town residential and suburban future land use near Friendsville in the Youghiogheny River watershed.

Allegany County

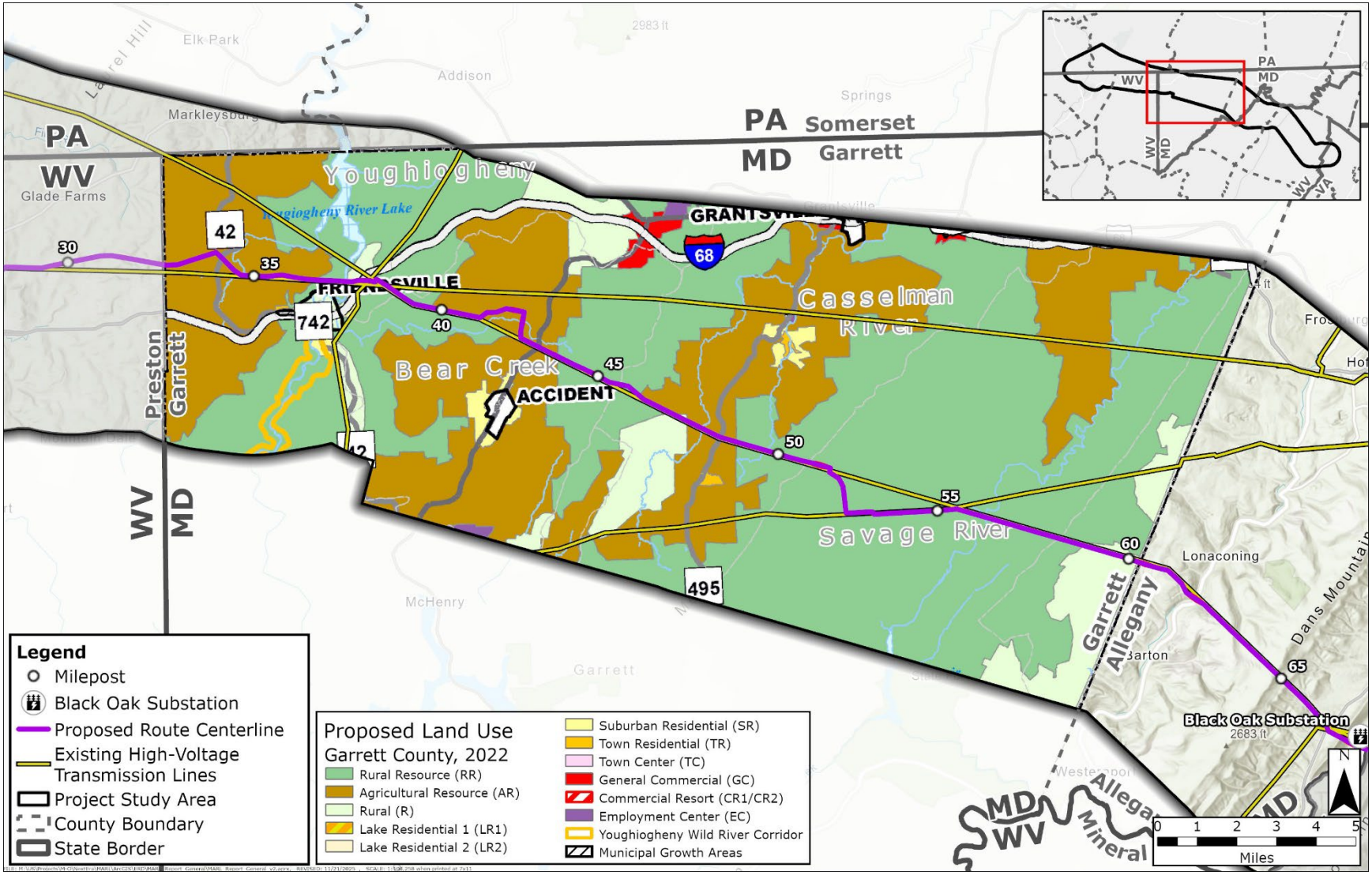
The 2014 Allegany County Comprehensive Plan (the most recently approved countywide plan) guides land use and development decisions and includes visions or goals related to quality of life and sustainability, growth areas, infrastructure, and resource conservation (Allegany County 2014). The comprehensive plan divides the county into eight planning regions, including two that are crossed by the Siting Corridor (Georges Creek and Middle Potomac), as shown on Figure 2.4-5.

The comprehensive plan identifies the Middle Potomac planning region as having a large percentage of prime development land (compared to the total area of the planning region). The comprehensive plan identifies overlay zones for critical area, scenic vistas and geologic features, and surface mining areas. As of 2025, none of these overlay zones have been incorporated into the Allegany County Land Development Ordinance (Allegany County Code, Chapter 360). If adopted, these overlay zones would result in additional standards or use regulations for development in the Georges Creek planning region, due to the scenic vistas, unique geologic features, surface mining, and other important natural and cultural resources that exist in this area.

The Georges Creek and Middle Potomac planning regions each contain a DGA. The comprehensive plan further identifies areas within the DGAs that are most suitable for growth and development, as well as preservation areas outside of the DGAs (Figure 2.4-6 and Figure 2.4-7).

The Siting Corridor crosses preservation and low density residential land in the Georges Creek and Middle Potomac planning regions and utility and proposed industry areas along the Potomac River in the Middle Potomac region.

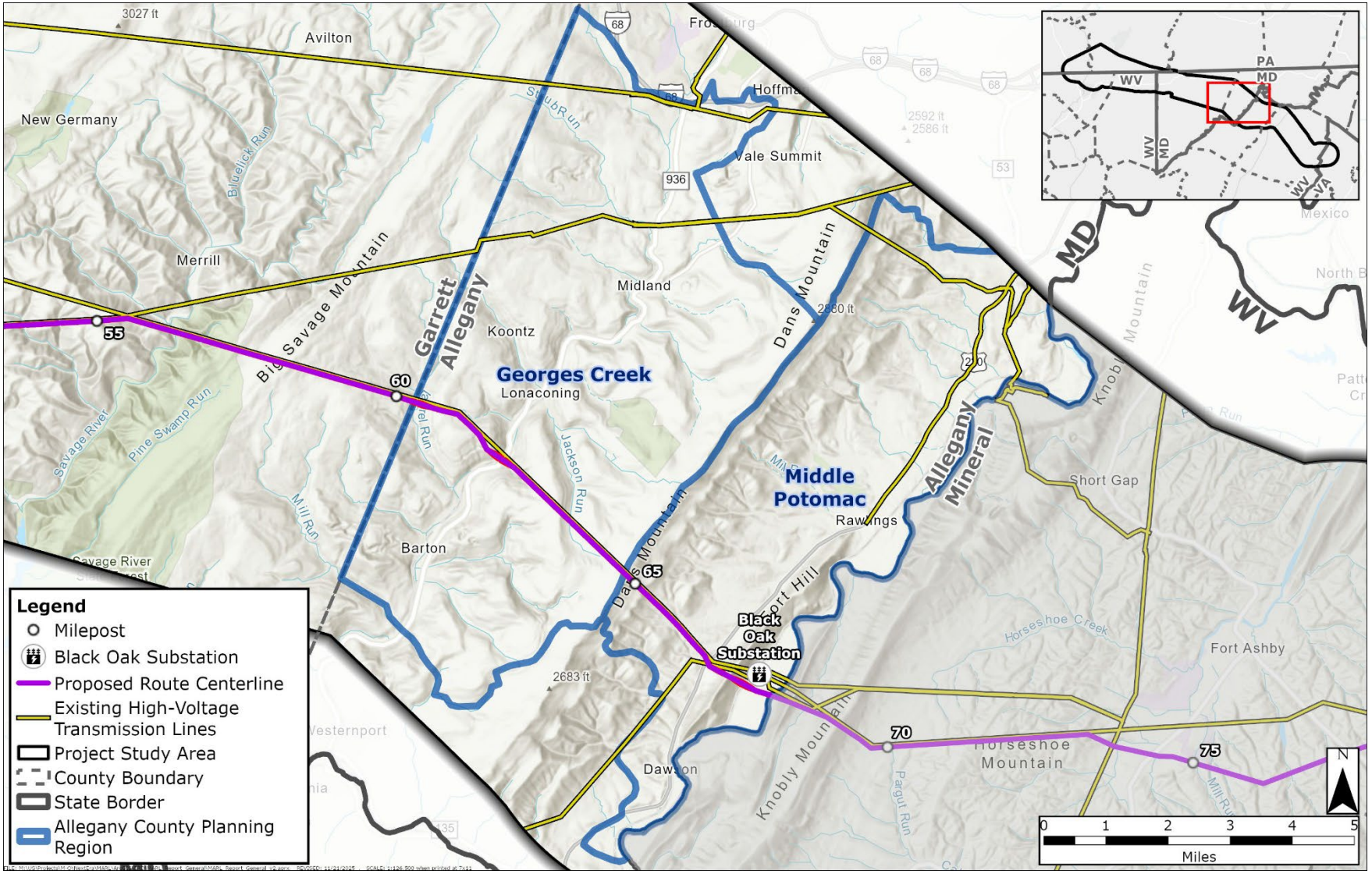
FIGURE 2.4-4 GARRETT COUNTY PROPOSED FUTURE LAND USE



Source: Garrett County 2022

MD = Maryland; PA = Pennsylvania; VA = Virginia; WV = West Virginia

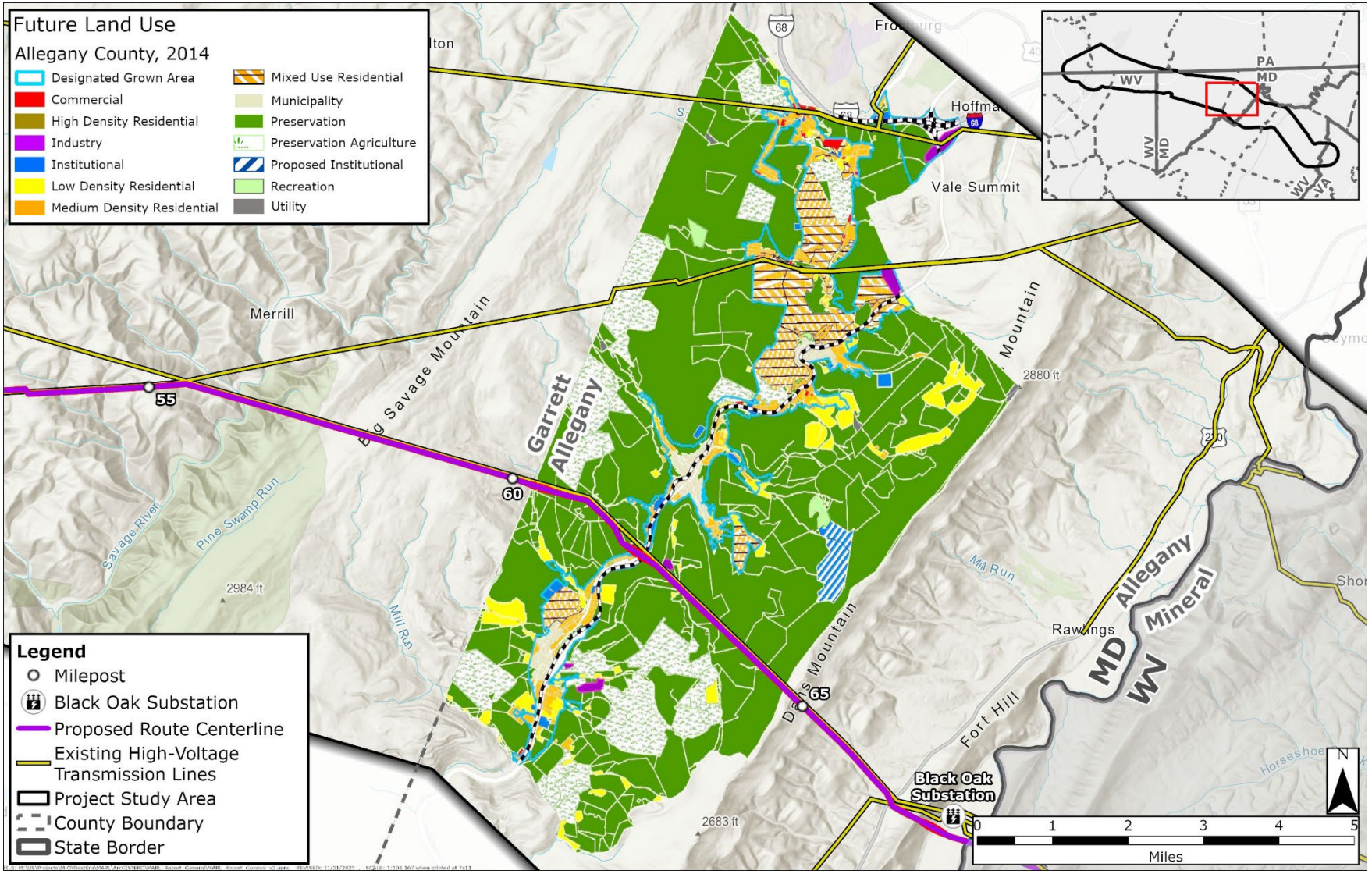
FIGURE 2.4-5 ALLEGANY COUNTY PLANNING REGIONS



Source: Allegany County 2014

MD = Maryland; PA = Pennsylvania; VA = Virginia; WV = West Virginia

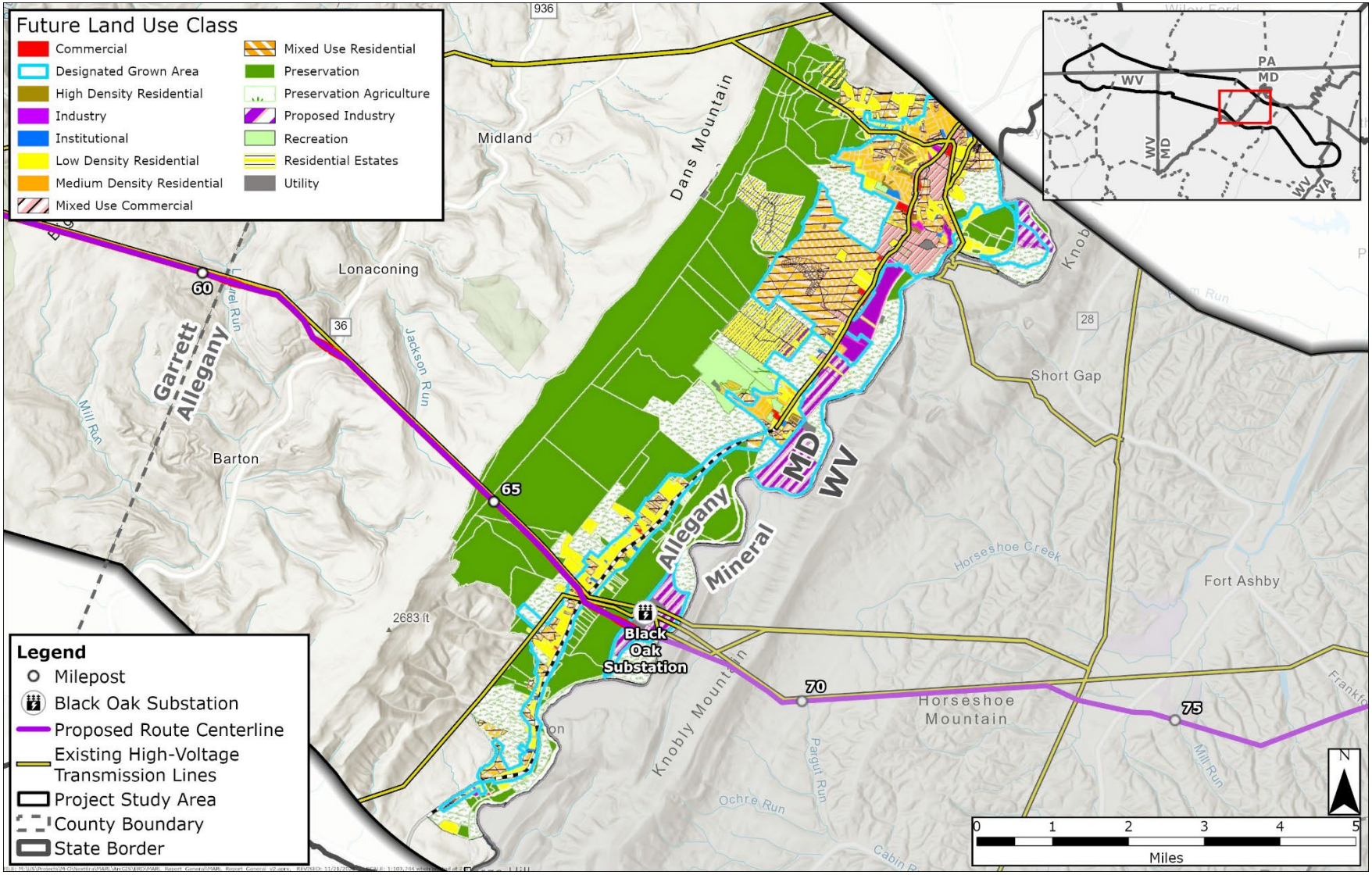
FIGURE 2.4-6 GEORGES CREEK EXISTING AND FUTURE LAND USE



Source: Allegany County 2014

MD = Maryland; PA = Pennsylvania; VA = Virginia; WV = West Virginia

FIGURE 2.4-7 MIDDLE POTOMAC EXISTING AND FUTURE LAND USE



Source: Allegany County 2014

MD = Maryland; PA = Pennsylvania; VA = Virginia; WV = West Virginia

2.4.4.2 IMPACTS

Comprehensive plans include a development regulations element for each planning jurisdiction and provide general recommendations for land use that reflect land use patterns and support the plan objective. In Garrett County, the ROW Corridor would primarily cross areas designated for rural, low density residential, agricultural, and forested uses. In Allegany County, the ROW Corridor would primarily cross areas designated for preservation, along with limited areas of low density residential, utility, and proposed industrial uses.

Within the ROW Corridor, agricultural use or other rural land uses could continue, and significant impacts on preservation of sensitive and critical areas would not be expected. The Proposed Route would not change the overall intended land use patterns along the ROW Corridor (Section 2.4.1 discusses specific land use changes along the ROW Corridor itself), would not cause urban sprawl or other development pressures, and would not prevent establishment of future land uses (such as low density residential) designated in these plans. As a result, the ROW Corridor land use is generally consistent with the future land use objectives in the comprehensive plans for Allegany County and Garrett County.

Improved reliability of the regional electrical transmission system would also support the development and future growth policies in these comprehensive plans by promoting the safety and reliability of electricity delivered to existing and future communities and businesses, including farming and other agribusinesses.

Because the ROW Corridor land use is broadly consistent with adopted comprehensive plans, no additional mitigation measures related to comprehensive land use planning are proposed.

2.4.5 VISUAL RESOURCES

The aesthetic or scenic character of a landscape refers to the overall visual qualities that give a landscape its distinct and recognizable identity. It generally captures the features (e.g., topography/terrain, vegetation, waterbodies, human development), elements (forms, lines, colors, textures), patterns and spatial relationships, and visual composition of the landscape.

This section describes the existing visual characteristics of the landscapes that the Siting Corridor crosses in Maryland, as well as the primary viewer groups and their sensitivity to landscape changes. In addition, this section describes anticipated changes (impacts) in visual characteristics, identifies sensitive visual resources, and addresses potential visibility of the MARL Project as it crosses different types of landscapes. Appendix J, Visual Impact Assessment, of the Routing Study provides a more detailed description of existing visual characteristics and the visual impacts of the MARL Project.

2.4.5.1 EXISTING CONDITIONS

The Siting Corridor crosses through portions of Garrett and Allegany Counties. The aesthetic character of these counties is visually diverse, with a mix of natural landforms, varied vegetation cover, water features, varied levels of development, and existing energy generation and transmission infrastructure. Garrett County is predominately forested with a mix of agricultural and rural development. Allegany County is a predominately forested landscape with smaller areas of agricultural land. Small communities, towns, cities, and other developed areas tend to border major roadways throughout both counties. According to the NPS (NPS 2017), both counties are within the Appalachian Plateau physiographic province (Section 2.2.2.1). This province is characterized by a gentle rising and undulating landscape compared to the steeper ridgelines and narrower valleys of the Ridge and Valley Province to the east. The mountainous and forested landscape of the region screens and limits broad, panoramic views and helps to absorb the presence of existing utility and other developed features (e.g., transmission lines, radio towers) in the area.

Neither the Garrett County Comprehensive Plan (Garrett County 2022) nor the Allegany County Comprehensive Plan (Allegany County 2014) have a scenic or visual resource section. Several scenic areas are mentioned in both, and the Allegany County plan describes the importance of scenic vistas and uninterrupted scenic viewsheds.

The Siting Corridor crosses a variety of parks, trails, and other protected areas. The scenic character of these opportunities is implicit in their designation and enhances the visitor experience. The recreation and protected lands crossed by the Siting Corridor are listed in Sections 2.4.2 and 2.4.3, respectively. Additionally, cultural/historic and archaeological sites within the Siting Corridor are addressed in Section 2.3, Cultural Resources.

In addition to parks and protected areas, Maryland has two programs intended to specifically protect scenic resources in the state: scenic byways and scenic and wild rivers. The Maryland Scenic Byways Program provides opportunities for motorists and other travelers to experience the natural, cultural, historic, recreational, and scenic qualities available throughout the state. The Siting Corridor crosses the Mountain Maryland Scenic Byway in several locations. This scenic byway uses state routes and county roads to connect the area around Keysers Ridge in Garrett County to Cumberland in Allegany County (Maryland Office of Tourism 2025). A corridor management plan, which outlines the protection and enhancement of a byway's intrinsic qualities and defining characteristics, is not available for the Mountain Maryland Scenic Byway at this time.

The Maryland Scenic and Wild River Program recognizes rivers or river segments around the state for their "outstanding scenic, geologic, ecological, historic, recreational, agricultural, fish, wildlife, cultural, and other similar resource values." The Siting Corridor crosses the Youghiogheny River, which is a Maryland Scenic and Wild River (MDNR 1996); however, the portion of the river crossed by the Siting Corridor is not within the designated Scenic and Wild River segment of the river.

Existing landscapes in the MARL Project Study Area are grouped into landscape units, which are geographic areas that share similar land cover and corresponding visual characteristics. These units are intended to capture representative visual characteristics across an entire landscape area. They provide a macro-scale framework for capturing existing conditions and identifying potential

changes in visual conditions from a proposed project. The landscape units are primarily delineated based on aerial imagery, topographic maps, and photographs from the MARL Project Study Area in Maryland. The landscape units include Rural Agricultural, River Valley, Forested Mountains, and Developed areas, which are representative of the larger Appalachian Plateau physiographic province. The landscape units found along the Siting Corridors for the Proposed Route are described in Table 2.4-7 and shown on Figure 2.4-8.

Landscape characteristics are a set of attributes, qualities, or traits that make the landscape unit identifiable or unique. Landscape characteristics are described based on the specific combination of visual features in a landscape unit, including:

- Landforms: The topography/terrain features of the landscape including any waterbodies or rivers;
- Vegetation: The variety of vegetation/vegetative communities present on the landscape; and
- Built environment: The existing structures, facilities, or other built modifications on the landscape.

These features are described in terms of their primary forms, lines, colors, and textures. These common visual elements are used to describe landscape features across many of the established visual resource management systems, including the Federal Highway Administration visual impact assessment for highway projects (FHWA 2015), the Bureau of Land Management visual resource management system (BLM 1984), the U.S. Forest Service scenery management system (USFS 1995), and others.

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TABLE 2.4-7 LANDSCAPE UNITS CROSSED BY THE PROPOSED ROUTE SITING CORRIDOR IN MARYLAND

Landscape Unit	Description	Scenic Characteristics		
		Landform/Water	Vegetation	Built Environment
Rural Agricultural	Dominated by agricultural fields, natural grass and shrublands, and pockets of dense forest; extend through the valleys between areas of forested mountains; small towns and other areas of low density development are located along roadways in these valleys	Broad, gentle slopes with a rounded, horizontal profile, with most underlying terrain obscured by vegetation and built features	Open, wide, low, regular to irregular horizontal lines; strips, vertical amorphous forms, continuous patches of uniform textures and colors; dominated by tan, green, brown, and other natural hues and subject to seasonal variation	Smooth, flat, gray strips with straight to curvilinear horizontal lines (roads); sporadic geometric forms, straight vertical, horizontal, and angular lines, multiple colors (e.g., white, gray, tan, yellow), ordered, sparse (residences, farm buildings and structures); tall, vertical geometric forms with thin, slightly undulating horizontal lines (transmission and distribution lines)
River Valleys	Similar to rural agriculture landscapes but with serpentine waterbodies as the focal feature of the valley	Broad, north-to-south oriented valleys; flat to gentle slopes, horizontal profile; sinuous, meandering form with curvilinear lines delineating transition from water to riparian vegetation; except for river, most underlying terrain obscured by vegetation and built features	Open, wide, low, regular to irregular horizontal lines; strips, vertical amorphous forms, continuous patches of uniform textures and colors; broken and contiguous tall, rounded forms along rivers; dominated by tan, green, brown, and other natural hues and subject to seasonal variation	Smooth, hard, flat, gray strips with straight to curvilinear horizontal lines (roads); geometric forms, defined straight and angular lines, multiple colors (e.g., white, gray, tan, yellow, red, blue), ordered, sparse (residences and other buildings); repeating tall, vertical geometric and linear forms with thin, slightly undulating horizontal lines (transmission and distribution lines)
Forested Mountains	Mountainous terrain dominated by native and/or managed forest cover and other vegetation, with periodic clusters of low density development and linear infrastructure	Generally obscured by vegetation, but underlying landform is gently rolling, rounded, wide, and nondirectional	Dominated by deciduous mixed forest with vertical layering, tall and amorphous forms, repeating vertical lines, irregular horizontal line across the canopy, short, rounded forms, mix of green hues with assorted browns and grays, medium to coarse textures, and seasonal variability	Low, flat, gray, lightly textured; tall, vertical geometric forms with thin, slightly undulating horizontal lines (roads and transmission and distribution lines); sporadic geometric forms with straight vertical and horizontal lines and various colors (residences and other buildings)
Developed	Dominated by cleared lands with a high level of development including residential, commercial, and/or industrial buildings and structures, aboveground infrastructure, and maintained lawns/planting areas and remnant native vegetation	Broad benches, flat to rolling areas with rounded ridgetops and steep drainage cuts; long horizontal and diagonal lines; colors and textures generally obscured by aboveground buildings and structures, as well as vegetation	Low, smooth, simple, geometric to irregular with medium to high repeated forms adding vertical context; regular horizontal and vertical, simple lines; vibrant to matte greens, tans, browns with pops of brilliant colors and subject to seasonal variation; smooth to coarse textures	Rectilinear, geometric, definite, solid, multi-height, linear forms (residences, roads and transmission lines); bold, angular, horizontal, vertical, simple, hard lines; subtle to vivid, multiple hues (gray, white, blue, green, yellow, etc.); coarse to fine, patchy, ordered, discontinuous, granular textures

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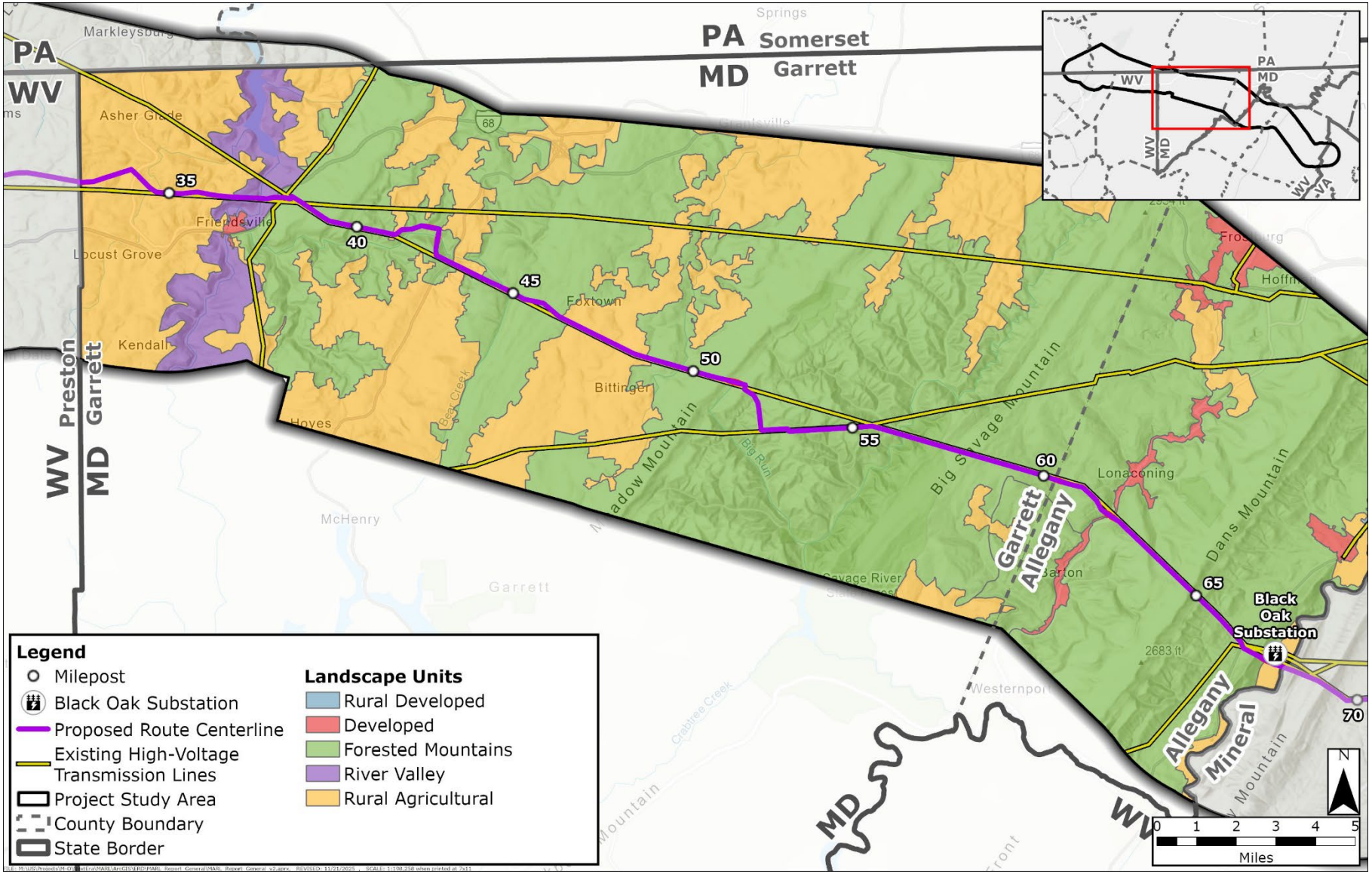
FIGURE 2.4-8 LANDSCAPE UNITS IN MARYLAND



MD = Maryland; PA = Pennsylvania; VA = Virginia; WMA = Wildlife Management Area; WV = West Virginia

Viewer groups are defined by their interaction with a landscape (e.g., residents, motorists, recreationists) and their preferences or sensitivity to changes or modifications to the landscape. The way that viewer groups perceive visual resources provides additional context for assessing a project's visual impacts. In general, viewers with a strong attachment to a landscape and/or with an expectation of scenic quality have higher sensitivity to changes on a landscape compared to viewers for which scenic resources and quality are incidental or irrelevant to their activity. Viewer groups within the landscapes crossed by the Proposed Route in Maryland are described below.

- Area residents: These viewers live in the vicinity of the MARL Project. They are more likely to be highly sensitive to potential changes in landscape characteristics, because they tend to value the scenic integrity of the landscape around their homes and may have more frequent and longer duration views from their residences. In addition, area residents tend to be most familiar with the area landscape and are, therefore, more perceptive of changes over time.
- Motorists, commuters, and other travelers: These viewers travel along major roads in the MARL Project Study Area (Section 2.6) and have multiple opportunities to view the landscape. This means that their potential exposure to views of the MARL Project changes based on speed, direction of travel, and length of trip, as well as viewing angles and screening, among other factors. Due to this variability, these viewers (particularly along high-speed roadways) are typically less sensitive to changes in scenic conditions.
- Recreationists and tourists: These viewers select area parks, recreation areas, and other tourist attractions in part based on the scenic setting and quality of these areas; therefore, they also tend to be more sensitive to changes in the landscape.

Sensitivity and perception of visual resource changes (i.e., impacts) tend to vary by setting and viewer group. Many factors influence viewer sensitivity and the perception of impacts. In general, users with static, direct, frequent, or longer duration views (e.g., area residents), as well as those viewers engaged in setting-dependent activities (e.g., some types of recreation, tourism), tend to have higher levels of sensitivity to change compared to others. Anticipating viewer sensitivity is, thus, important in the overall evaluation of impacts from a proposed project on visual resources. In Maryland, area residents and motorists are found throughout the four types of landscape units, while recreationists are associated with parks, recreation, and other protected areas found primarily in the River Valley and Forested Mountain Landscape Units.

2.4.5.2 IMPACTS

The MARL Project involves the construction and operation of a new 500 kV transmission line and associated ROW Corridor that crosses portions of Garrett and Allegany Counties. The degree to which overhead transmission lines influence and are visible on a landscape depends on a number of factors, including, but not limited to, structure height and color, existing landscape features (e.g., topography, vegetation, built environment), duration of the view, and distances from the viewer. The specific combination of these factors changes by location, contributing to a range of potential influences and impacts. The existing landscape character features and characteristics were used to evaluate the degree of visual change from the MARL Project (i.e., the degree to which the MARL Project would change the existing landscape characteristics across each landscape unit).

The Proposed Route crosses various landscape types with varying degrees of visibility. Visibility of the new transmission line will be influenced by the amount of existing screening, viewing distances, and background colors and textures, among other factors; however, visibility is not considered an impact on its own. Rather, visibility, current landscape characteristics, the degree of visual change, and viewer sensitivity are all considered holistically in determining the level of potential impact. Visibility considerations, including roads, parks and other designated natural areas, and nearby residential dwellings are described below.

Lattice structures connected by overhead conductors will be constructed within the ROW Corridor. The lattice structures would range in height from 85 feet to 190 feet, and the average conductor span lengths would be 1,258 feet. In general, visibility of these new structures would be most pronounced at shorter distances (generally under 0.5 mile). Views of the new transmission line and any permanent roads and changes to existing visual conditions will be greatest from within the cleared ROW Corridor, at and adjacent to permanent ancillary facilities, at road crossings, across open fields or other clearings, and from elevated areas. In Maryland, large segments of the Proposed Route will cross through Forested Mountain Landscape Units that generally provide a substantial amount of screening that will limit views. While the new transmission line may also be visible at greater distances (generally over 0.5 mile), including from higher elevation areas that provide panoramic views of the regional landscape, its presence on the landscape would diminish at longer distances.

Construction activities within the ROW Corridor and at ancillary facilities outside of the ROW Corridor (e.g., permanent and temporary access roads, wire work areas) would be temporary and visible during the construction period (anticipated to be approximately 24 months). The initial construction phase would involve clearing and grading portions of the ROW Corridor and ancillary facilities. Trees and other vegetation would be exposed and potentially open previously screened areas to view. Grading activities would create exposed earth surfaces, cut slopes, and fill areas that may contrast with and be visible on the landscape. Once cleared, construction activities would progress to excavating pole foundations, assembling the transmission towers, pouring concrete, and stringing the conductors, among other activities. These activities create dynamic movement on the landscape along the ROW Corridor and at temporary ancillary facilities. The presence of machines and other equipment, material stockpiles, worker vehicles, construction support facilities, and other temporary features would create visual disruptions that will be most visible within the ROW Corridor and at adjacent ancillary facilities but may also be visible in nearby locations. In particular, the use of cranes and other tall equipment that extends above the existing tree line would potentially be visible from more distant locations. Additionally, disturbed areas will be revegetated with native species to help establish similar colors and textures as the surrounding landscape.

During operation, the new transmission line would add tall, geometric structures and long, linear lines to the landscape. The transmission structures will create a series of repetitive, dominant vertical features that will extend above existing trees canopies and add new focal points that shift the vertical structure of the landscape. The conductors will appear as multiple undulating, overhead horizontal lines spanning the areas between transmission poles. The thin conductors will be most apparent in foreground views (under 0.5 mile), in particular where they span open fields

and roads with few to no screening features. In forested areas, the conductors are better absorbed into the landscape and at greater distances (into the middle ground and background) they would be harder to discern against background features and the sky. The MARL Project construction materials are not expected to result in significant glare; therefore, no visual impacts are anticipated.

A limited number of permanent access roads will also be constructed outside of the ROW Corridor. These access roads would appear as flat, smooth, curvilinear forms with distinct lines delineating the transition from adjacent vegetation to the roads. Permanent access roads would be most noticeable within the cleared ROW but would also create visual changes in some areas outside of the ROW Corridor.

Riparian habitat exclusion zones have been identified where forested riparian buffers will be preserved to avoid and minimize impacts on sensitive waterbodies (Section 2.2.4.1). While a location-specific visual resource assessment was not completed at the riparian habitat exclusion zones, it is anticipated that these areas will partially screen MARL Project infrastructure (including the cleared ROW Corridor) and enhance the recreational experience on and along the rivers in the vicinity of these zones.

The Proposed Route crosses multiple roads, including six major roads, as listed in Section 2.6. At these crossings, the Proposed Route would result in changes to vegetation forms and lines within the cleared ROW Corridor. Additionally, the tall, geometric transmission structures and overhead undulating horizontal lines of the MARL Project's towers and conductors would also be visible at these crossings. The duration of these views (structure visibility) would be dependent on the speed and direction of travel for motorists on these roads.

Where feasible, the Proposed Route and corresponding ROW Corridor was designed to maximize paralleling opportunities with existing high-voltage transmission lines in the area to the maximum extent feasible. Paralleling the ROW Corridors with these existing lines helps minimize visual impacts by repeating landscape elements that are already present and better absorbing these elements into the existing landscape. Paralleling also helps maintain existing vegetative screening, in particular in forested areas.

The Proposed Route would parallel and abut 25.4 out of 35.4 miles of existing high-voltage transmission lines in Garrett and Allegany Counties. Many of the existing high-voltage transmission lines that the Proposed Route would follow have lattice structures similar to those proposed for the MARL Project. While the MARL Project towers could be taller (depending on final engineering design) and potentially more prominent on the landscape, they add similar forms, lines, colors, and textures to existing visual conditions. In some cases, existing high-voltage transmission lines have short, paired H-frame wooden towers. In such cases, the Proposed Route would be visually distinct from existing transmission lines.

The Proposed Route would cross the following parks, outdoor recreational use areas and trails, and other designated natural resource areas (e.g., protected trails and waters) listed in Sections 2.4.2 and 2.4.3):

- Youghiogheny River Lake;
- Savage River State Forest;
- Dans Mountain WMA;
- Mountain Meadow and Big Savage Mountain trails (both are also segments of the Potomac Heritage Trail);
- Dans Mountain WMA Trail; and
- Mountain Maryland Scenic Byway.

Viewers engaged in recreation and tourism in these areas and on these trails may be more sensitive to changes in visual resource conditions, because their experience is in part dependent on the scenic quality of the setting.

Across Garrett and Allegany Counties, 40 residential dwellings are within 500 feet of the Proposed Route centerline, including 32 in Garrett County and 8 in Allegany County. While this proximity does not mean that these residents will have unobstructed views of the ROW Corridor, it increases the likelihood that there may be perceivable changes in foreground (under 0.5 mile) scenic conditions from these residences.

Appendix J of the Routing Study provides a more detailed description of visual changes and impacts from specific locations near the ROW Corridor.

2.5 SOCIOECONOMICS

This section summarizes information about population, education, health and safety services, housing, places of worship, cemeteries, economic patterns, and environmental justice (EJ) within the Siting Corridor in Garrett and Allegany Counties. Table 2.5-1 summarizes existing and projected population, educational attainment, housing, and economic information for these two counties. Data for the state of Maryland are also included for reference and show the location of community resources described in this section, including schools, places of worship, cemeteries, and public safety (e.g., police, fire) facilities. Attachment 1f and Attachment 1h show this information in more detail, pursuant to the requirements in COMAR 20.79.04.02.D.

2.5.1 POPULATION

2.5.1.1 EXISTING CONDITIONS

The Siting Corridor crosses unincorporated areas of Garrett and Allegany Counties. As shown in Table 2.5-1, both counties lost population between 2010 and 2023, compared to substantial statewide population growth over the same time period. The state projects that Garrett and Allegany Counties will regain some population through 2055, although the resulting population will still be below 2010 levels.

2.5.1.2 IMPACTS

Construction and operation of the Proposed Route would affect population in Garrett and Allegany Counties through the creation of jobs during operation. Based on observed impacts associated with linear projects such as the Proposed Route, non-local workers hired to construct the Proposed Route will be unlikely to permanently move to Garrett or Allegany Counties due to the relatively short-term nature of the construction period and the variable location of construction activities. Operation of the Proposed Route would create a small number of full-time jobs.

NEET MA will hire local workers, when feasible, to meet labor needs for construction and operation of the MARL Project. To the degree that these permanent employees choose to live in Maryland, any permanent increase in population due to the Proposed Route would be minimal and consist of only a few additional individuals and/or families.

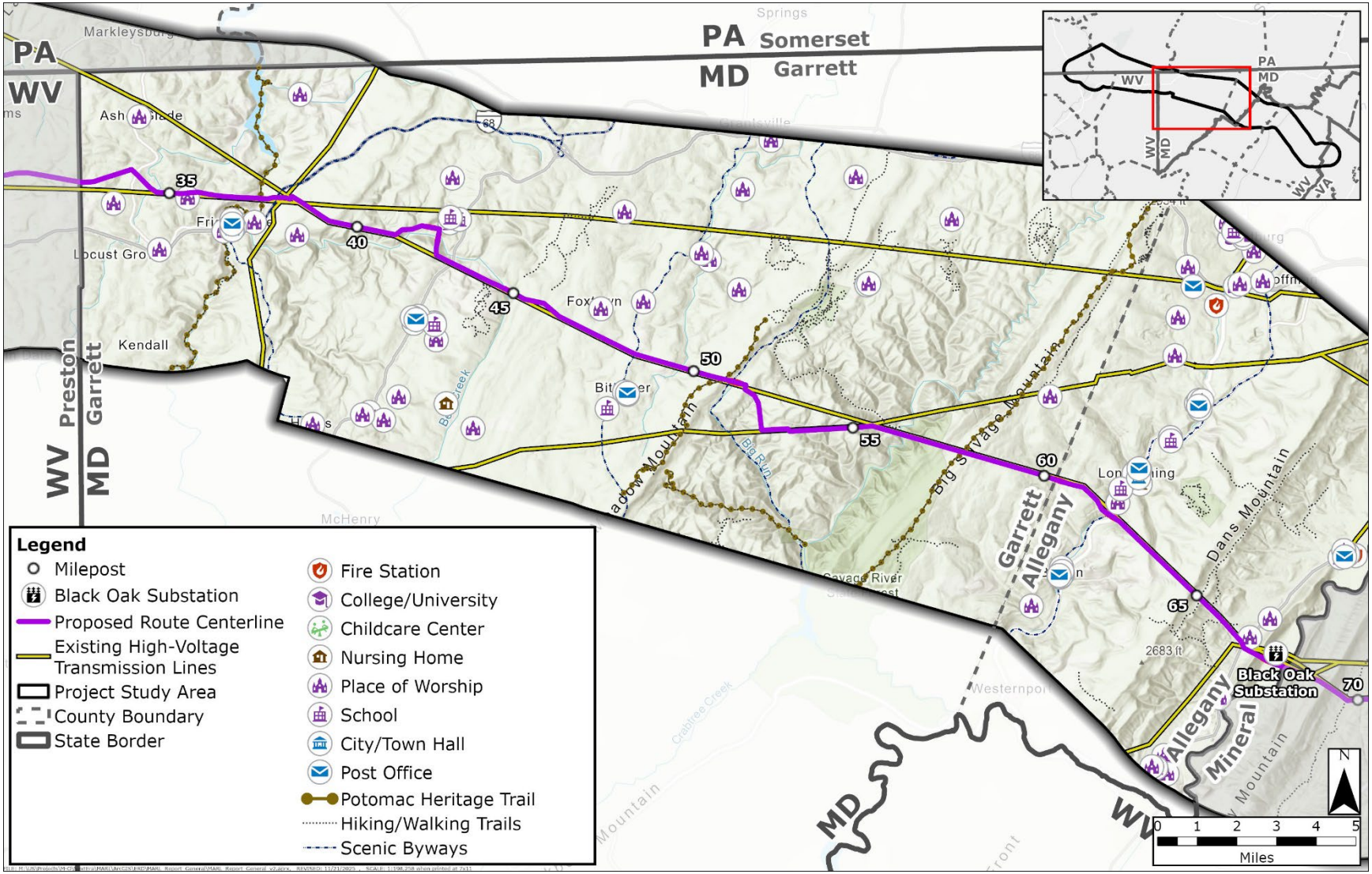
TABLE 2.5-1 POPULATION, EDUCATION, HOUSING, AND ECONOMIC INFORMATION

Demographic Characteristics	Garrett County	Allegany County	Maryland
Population			
Population, 2023	28,713	67,762	6,170,738
Population, 2010	30,097	75,087	5,773,552
Population change, 2010–2023 (total)	(1,384)	(7,325)	397,186
Population change, 2010–2023 (%)	(4.6)	(9.8)	6.9
Projected population, 2055	29,620	69,070	7,341,680
Projected population change, 2023–2055 (total)	907	1,308	1,170,942
Projected population change, 2023–2055 (%)	3.2	1.9	19.0
Educational Attainment [a]			
Population with high school diploma or higher (%)	89.9	89.7	91
Population with bachelor's degree or higher (%)	24.6	21.1	42.7
Housing			
Total housing units	18,884	32,560	2,588,397
Owner-occupied housing units (% of total)	81.0	70.3	67.5
Seasonally occupied housing units (% of total)	26.6	2.4	2.2
Single-family housing units (% of total)	82.0	80.8	73.5
Multi-family housing units (% of total)	8.2	16.1	25.3
Manufactured housing units (% of total)	9.8	3.0	1.1
Economy			
Unemployment rate (%)	4.6	5.9	4.9
Median household income ($)	69,031	57,393	101,652
Per capita income ($)	42,328	30,046	51,689

Sources: U.S. Census Bureau 2011, 2020, 2024a, 2024b, 2024c, 2024d, 2024e; MDP 2025

[a] For the population age 25 and older

FIGURE 2.5-1 COMMUNITY RESOURCES



Source: DHS 2025

MD = Maryland; PA = Pennsylvania; VA = Virginia; and WV = West Virginia

2.5.2 EDUCATION

2.5.2.1 EXISTING CONDITIONS

As shown in Table 2.5-1, the share of the population age 25 and older in Garrett and Allegany Counties with at least a high school diploma was similar to the statewide average; however, the share of the population with at least a bachelor's degree was substantially lower than the statewide average.

In 2023, approximately 64 percent of the total populations (ages 3 to 24) of Garrett and Allegany Counties were enrolled in public schools. No schools are within the Siting Corridor in Maryland. The closest schools to the Siting Corridor include the following (Figure 2.5-1):

- Friendsville Elementary School: 0.6 mile south of the Siting Corridor near MP 36.5;
- Northern Garrett High School and Northern Garrett Middle School: less than 0.2 mile northeast of the Siting Corridor at MP 42.2; and
- Westmar Middle School: 0.6 mile northeast of the Siting Corridor near MP 62.0.

2.5.2.2 IMPACTS

The ROW Corridor does not cross any school properties, although it will be within 0.2 mile of Northern Garrett High School and Middle School. Construction of the Proposed Route would result in a temporary influx of workers and vehicle and equipment traffic on roads used by buses, student drivers, faculty, and staff accessing those schools. Construction may also cause unusual traffic patterns when road closures occur as part of construction (Section 2.6). Installation of Tower 42-1 0.2 mile from the Northern Garrett school sites would result in some audible noise, although such noise would only last during construction.

As stated in Section 2.5.1, Population, construction and operation of the Proposed Route are not anticipated to meaningfully increase the number of permanent residents in Garrett or Allegany Counties; therefore, the Proposed Route would not meaningfully increase the number of new students in public schools in these counties.

Operation of the Proposed Route would not affect education facilities or activities.

As discussed, in Section 2.6, NEET MA will coordinate with state and local road management agencies to minimize traffic impacts, including impacts on school buses, during construction. Pursuant to permit requirements, NEET MA will adhere to applicable state and county noise regulations and standards for construction. In addition, NEET MA will avoid construction activities during school bus drop-off and pick-up times, as well as peak traffic times on affected roads to the degree possible.

2.5.3 PLACES OF WORSHIP AND CEMETERIES

2.5.3.1 EXISTING CONDITIONS

There are no places of worship within the Siting Corridor. One cemetery, the Humberson Cemetery near MP 35.0 northwest of Friendsville, is in the middle of open agricultural fields within the Siting Corridor. The cemetery has 77 burials, ranging from 1891 to 2021 (FindAGrave 2025), indicating that Humberson Cemetery is an actively used site. Aerial photography captured in 2016 shows that the northern half of the cemetery property has no grave markers (Google Earth, LLC 2025).

2.5.3.2 IMPACTS

While the Humberson Cemetery is within the Siting Corridor, it is approximately 200 feet north of the ROW Corridor. Because the cemetery is outside of the ROW Corridor, impacts during construction would be indirect, such as the presence of dust and/or construction noise. Construction of the Proposed Route across Fred Humberson Road, which provides access to the cemetery from Old Morgantown Road to the south, would temporarily block access to the cemetery, although such access restrictions would likely last several hours or less (Section 2.6).

The Proposed Route's transmission towers, conductors, insulators, and other electrical infrastructure would change the landscape observed in south-facing views from the cemetery during construction, as well as during operation. The Proposed Route's infrastructure will be taller than and closer to the cemetery than the existing Potomac Edison 138 kV transmission line that currently crosses Fred Humberson Road. The visible presence of the Proposed Route's transmission infrastructure would not prevent use of the cemetery but could detract from the experience of visiting the cemetery—although the presence of the existing Potomac Edison transmission line somewhat mitigates that impact.

2.5.4 HEALTH AND SAFETY

2.5.4.1 EXISTING CONDITIONS

No medical or emergency service facilities are within the Siting Corridor. The closest medical facilities to the Siting Corridor include:

- WVU Medicine Garrett Medical Group, a medical clinic in Friendsville, Maryland, 0.7 mile south of the Siting Corridor near MP 36.7;
- Grantsville Medical Center, a medical clinic in Grantsville, Maryland, 6.2 miles northeast of MP 48.5; and
- Mountain Laurel Medical Center, a medical clinic in McCoole, Maryland, 4.5 miles south of MP 67.0.

Garrett Regional Medical Center in Oakland and the University of Pittsburgh Medical Center Western Maryland in Cumberland are the closest trauma and emergency care facilities (PAHO 2021).

The Garrett County Sheriff's Office in Oakland provides police coverage for Garrett County, excluding the town of Oakland, which has its own police department (Garrett County 2022). The Maryland State Police barracks in McHenry provides additional coverage. The Allegany County

Sheriff's office in Cumberland provides coverage for unincorporated portions of the county. Police departments in Lonaconing and Frostburg provide additional coverage (Allegany County 2014).

The closest firefighting and emergency medical services providers to the Siting Corridor include the Friendsville Volunteer Fire and Rescue Department, Accident Volunteer Fire Department, and Bittinger Volunteer Fire Department in Garrett County; and Barton Hose Company No.1, Rawlings Volunteer Fire Department, Midland Fire Company, Shaft Volunteer Fire Company, Goodwill Volunteer Fire Company, and George's Creek Ambulance Service in Allegany County (Garrett County 2022; Allegany County 2014).

2.5.4.2 IMPACTS

Construction of the Proposed Route would generate potential safety risks for workers associated with heavy equipment and machinery, handling materials, and exposure to weather. During the Proposed Route construction, the interaction of construction vehicles equipment and traffic—especially at the entrances to construction zones—would increase safety risks to the public, particularly for drivers on public roads affected by the Proposed Route. These increased safety risks would incrementally increase demands on health and safety facilities and services, including hospitals (and other medical facilities), police, fire, and ambulance services. NEET MA will maintain emergency access to all MARL Project workspaces, although responders may have trouble accessing more remote construction workspaces (e.g., in mountainous, forested locations), even where temporary access roads have been installed. Increased demand for emergency response to construction workspaces along the Proposed Route would result in increased emergency response times.

During operation of the Proposed Route, typical inspection and maintenance activities could lead to increased health and safety risks related to inspection vehicles and worker activities. The types of impacts on health and safety facilities and services during operations would be the same as described for the construction phase; however, the impacts during the operations phase would be substantially lower than during construction.

To address the impacts described above, NEET MA will comply with safety-related laws and permitting requirements during construction and operation of the Proposed Route, including, but not limited to, Occupational Safety and Health Administration regulations and NEET MA's safety programs. As part of its coordination with state and local road management authorities, NEET MA will implement safety-related provisions as part of construction-related road closures (Section 2.6). In particular, NEET MA will maintain emergency vehicle access to public roads and Proposed Route workspaces at all times.

2.5.5 HOUSING

Garrett and Allegany Counties contain a greater concentration of owner-occupied housing units and a lower percentage of multi-family units than Maryland as a whole (Table 2.5-1). Seasonal housing comprises a significantly larger portion of the housing stock in Garrett County than in Allegany County and the rest of Maryland due to the popularity of the Deep Creek Lake area (approximately 5 to 10 miles from the Siting Corridor) for year-round recreational and vacation activities facilities (Garrett County 2022). Garrett County's seasonal housing supply comprises

approximately 9 percent of the total statewide seasonal housing supply, emphasizing the importance of tourism to the county's economy.

Locations of housing concentrations within and near the Siting Corridor include Friendsville, and along Bear Creek Road north of Accident, MD 36 (in and near the communities of Nikep, Lonaconing, Midland, and Moscow), and U.S. Route (US) 220 near Danville. These concentrations are shown as areas of medium and high density development on Figure 2.4-1.

2.5.5.1 IMPACTS

To the degree feasible, NEET MA intends to hire local workers for construction and operation of the Proposed Route. Based on common practices for construction of linear projects such as the Proposed Route, non-local construction workers will likely use temporary accommodations, such as hotels, motels, and recreational vehicle facilities. As a result, construction of the Proposed Route would not increase demand for housing in Garrett and Allegany Counties.

Even if the estimated one full-time worker necessary to operate the Proposed Route chose to settle in Garrett or Allegany County, it would not meaningfully affect overall housing demand or availability and would not create a need for additional housing development.

2.5.6 ECONOMY

2.5.6.1 EXISTING CONDITIONS

Table 2.5-1 summarizes unemployment and income data for Garrett and Allegany Counties. The 2023 unemployment rate in Garrett and Allegany Counties was similar to the statewide average, although the median and per capita incomes in the two counties were significantly lower. Table 2.5-2 summarizes at-place employment data (jobs located within the jurisdictions for Garrett and Allegany Counties and Maryland in 2022, the most recent year for which data are available). The largest industries by employment in both counties include healthcare and social assistance, retail trade, and accommodation and food services industries. The counties have fewer jobs as a percentage of total employment in the professional, scientific, and technical industry than the state as a whole, where this industry is the second largest by percentage.

Opportunity Zones are economically distressed areas nominated by states and certified by the U.S. Department of Treasury pursuant to federal law (Pub. L. 115-97). Within these areas, taxes are deferred on certain types of investments in order to encourage economic growth and development (IRS 2025). Figure 2.5-2 shows the federally designated Opportunity Zones in Garrett and Allegany Counties. The Siting Corridor (MP 44.8 to MP 50.8) crosses the Opportunity Zone that covers all of Census Tract (CT) 2 in Garrett County, including Grantsville.

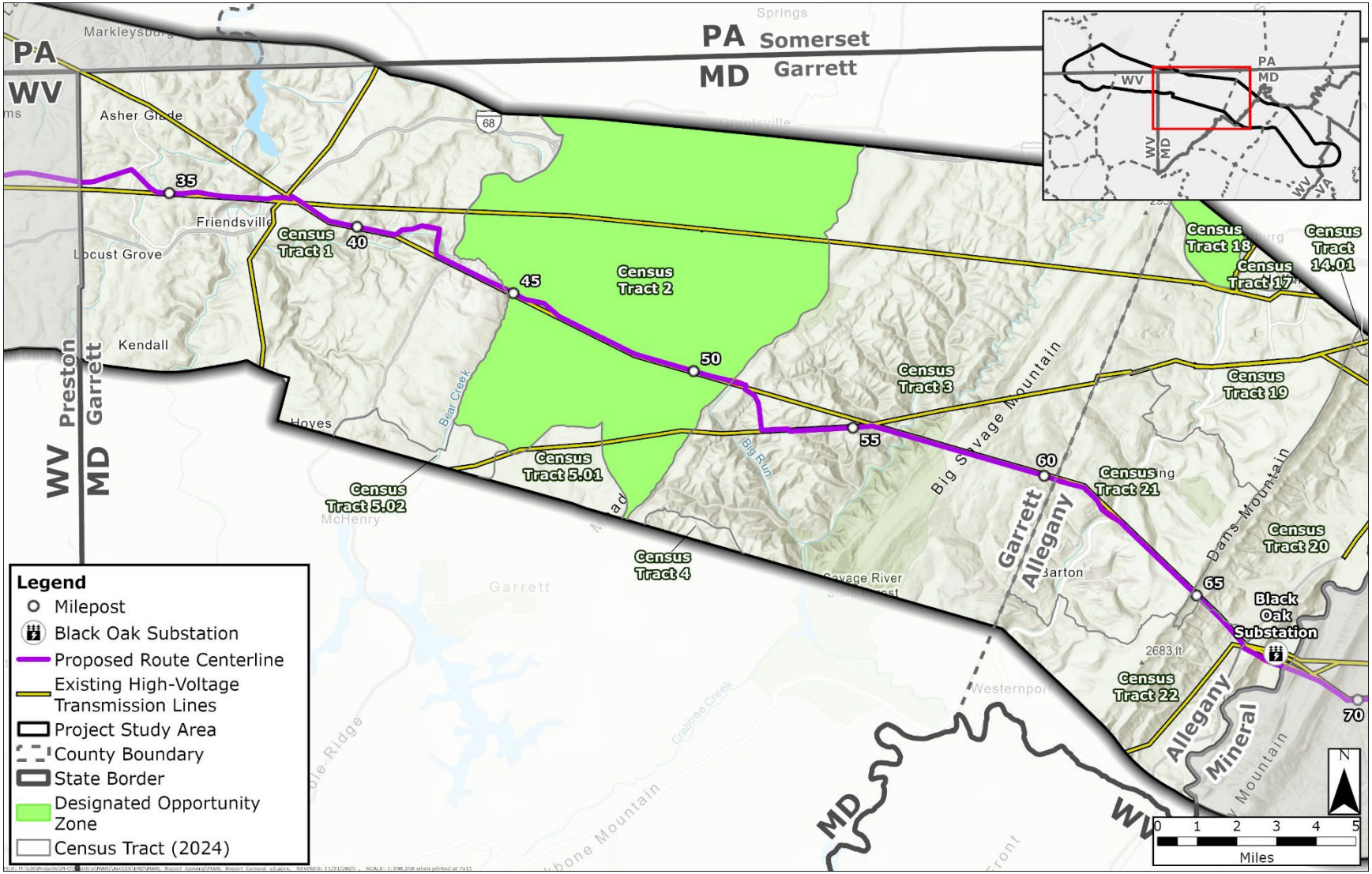
TABLE 2.5-2 EMPLOYMENT ESTIMATES

Industry	Garrett County		Allegany County		Maryland	
	Employees	% of County Total	Employees	% of County Total	Employees	% of State Total
Agriculture, forestry, fishing, hunting	98	0.9	12	0.1	946	<0.1
Mining, quarrying, oil and gas	106	1.0	84	0.4	967	<0.1
Utilities	46	0.4	147	0.7	9,477	0.4
Construction	959	9.1	964	4.5	167,451	6.8
Manufacturing	930	8.8	2,126	10.0	109,929	4.5
Wholesale trade	120	1.1	434	2.0	90,030	3.7
Retail trade	1,725	16.3	3,973	18.6	289,469	11.7
Transportation and warehousing	91	3.7	585	2.7	96,536	3.9
Information	459	4.3	420	2.0	49,309	2.0
Finance and insurance	313	3.0	689	3.2	98,329	4.0
Real estate, rental and leasing	236	2.2	168	0.8	46,725	1.9
Professional, scientific, technical	344	3.3	464	2.2	301,509	12.2
Management of companies and enterprises	75	0.7	13	0.1	61,483	2.5
Administrative, support, waste management, and remediation	423	4.0	309	1.4	256,840	10.4
Educational services	75	0.7	142	0.7	87,897	3.6
Health care, social assistance	1,784	16.9	6,071	28.4	403,945	16.4
Arts, entertainment, recreation	729	6.9	165	0.8	42,948	1.7
Accommodation, food services	1,383	13.1	3,421	16.0	241,483	9.8
Other services (except public administration)	380	3.6	1,179	5.5	112,568	4.6
Industries not classified	0.0	0.0	0.0	0.0	256	<0.1
Total [a]	**10,577**	**100%**	**21,366**	**100%**	**2,468,367**	**100%**

Source: U.S. Census Bureau 2024j

[a] Totals may not match the sum of addends due to rounding.

FIGURE 2.5-2 DESIGNATED OPPORTUNITY ZONES



Source: MD DHCD 2025

MD = Maryland; PA = Pennsylvania; VA = Virginia; and WV = West Virginia

2.5.6.2 IMPACTS

To the degree that construction of the Proposed Route would temporarily block public roads, the MARL Project would temporarily affect businesses and economic activity in Garrett and Allegany Counties. Because such interruptions would be temporary, the resultant impacts would be minimal, if any. Operation of the Proposed Route would not affect economic activity, except where transmission structures or ROWs are installed on active agricultural or commercial lands.

Construction and operation of the Proposed Route through Garrett and Allegany Counties would also result in beneficial impacts to the regional economy. These impacts include local expenditures on goods and services, such as temporary jobs during construction. Benefits may also include indirect impacts, such as goods and services supplying the direct expenditures in the form of local retail sales accommodating construction personnel.

To address adverse impacts, the routing of the Proposed Route has prioritized avoiding or minimizing impacts on agricultural and commercial lands, including minimizing the removal of existing barns, garages, and other non-residential structures and avoiding commercial buildings (while also considering other environmental and development constraints). In addition, NEET MA will provide compensation to owners of land where transmission easements, temporary workspaces, and/or temporary and permanent access roads pursuant to individual agreements with those landowners. NEET MA will hire local workers for the Proposed Route construction and operation when feasible to localize positive economic benefits.

2.5.7 ENVIRONMENTAL JUSTICE

The purpose of conducting an EJ desktop assessment is to assess if the MARL Project would result in disproportionately high and adverse environmental effects on populations of color, linguistically isolated communities, or low-income populations. This assessment uses the most current U.S. Census Bureau data available, the 2023 American Community Survey 5-Year estimates, and is consistent with Maryland state law. Specifically, two Maryland state laws define EJ and how to implement it through the permitting process: the Climate Solutions Now Act of 2022 and Maryland House Bill (HB)1200 (2022), Chapter 588 Permit Applications—Environmental Justice Screening.

As per HB1200, any project requiring public notice must use the MDEnviroScreen Tool to develop an EJ Score. Once the applicant determines the EJ Score, the MDE will review the score. The EJ Score is based on an area's existing EJ indicators. These indicators (as defined in HB1200) include pollution burden exposure, pollution burden environmental effects, sensitive populations, and socioeconomic factors (MDE 2025).

The Climate Solutions Now Act defines EJ and the parameters to determine overburdened and underserved communities.

- "Environmental Justice" means equal protection from environmental and public health hazards for all people regardless of race, income, culture, and social status.

- "Overburdened community" means any CT for which three or more of the following environmental health indicators are above the 75th percentile statewide: (i) $PM_{2.5}$; (ii) ozone; (iii) National Air Toxics Assessment (NATA) diesel PM; (iv) NATA cancer risk; (v) NATA respiratory hazard index; (v) traffic proximity; (vii) lead paint indicator; (viii) national priorities list superfund site proximity; (ix) risk management plan facility proximity; (x) hazardous waste proximity; (xi) wastewater discharge indicator; (xii) proximity to a concentrated animal feeding operation; (xiii) percent of the population lacking broadband; (xiv) asthma emergency room discharges; (xv) myocardial infarction discharges; (xvi) low-birth-weight infants; (xvii) proximity to emitting power plants; (xviii) proximity to a toxic release inventory facility; (xix) proximity to a brownfields site; (xx) proximity to mining operations; and (xxi) proximity to a hazardous waste landfill (MDE 2025).

An "underserved community" means any CT in which, according to the most recent U.S. Census Bureau survey:

- At least 25 percent of the residents qualify as low-income (making less than two times the federal poverty limit);
- At least 50 percent of the residents identify as non-white; or
- At least 15 percent of the residents identify as limited English proficiency (MDE 2025).

Data from the U.S. Census Bureau and MDEnviroScreen Tool have been used to assess demographic population details.

2.5.7.1 EXISTING CONDITIONS

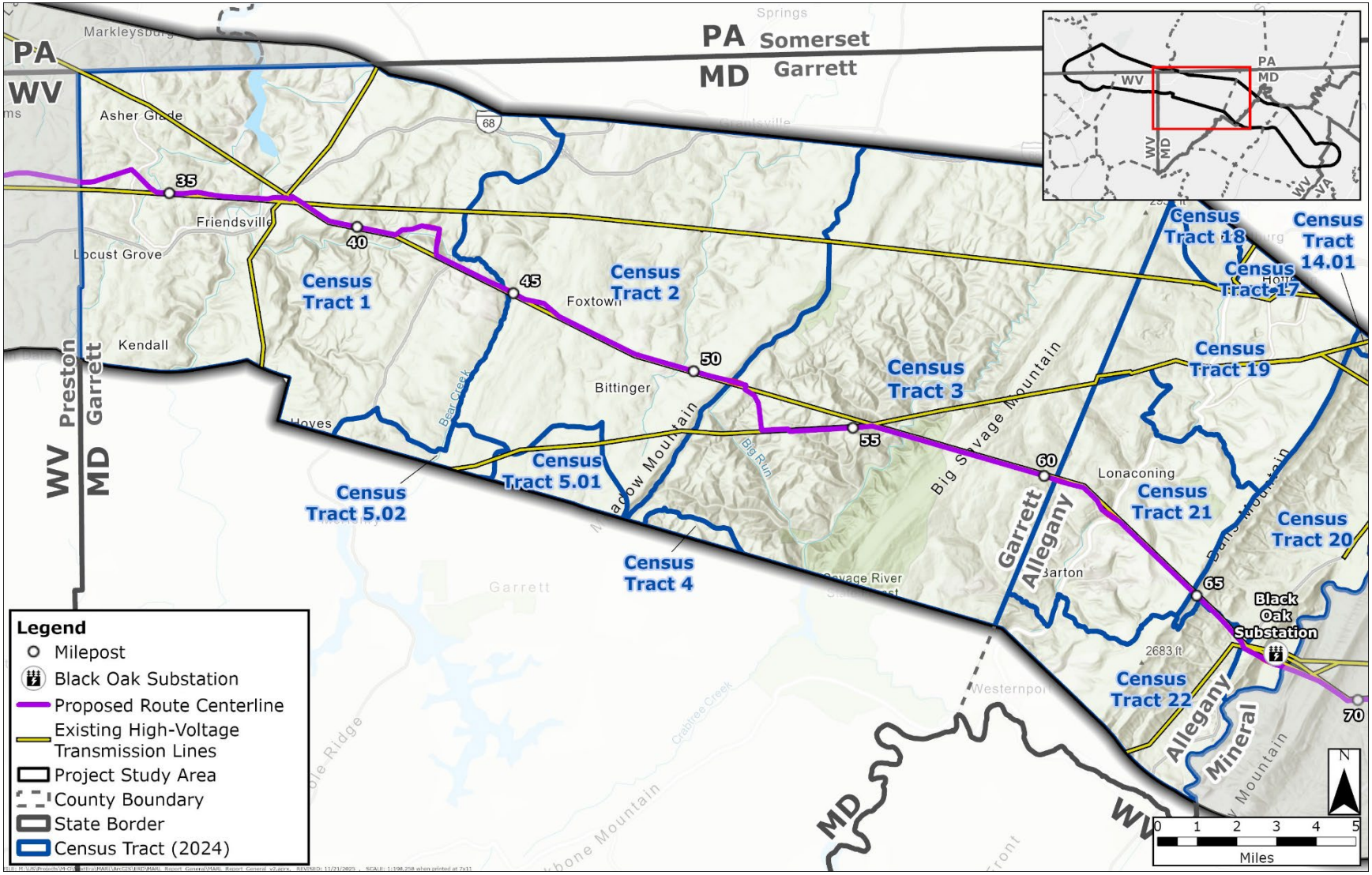
Based on requirements from the Climate Solutions Now Act, this analysis used CTs as the primary geographic unit for this EJ analysis. The area assessed for EJ included all CTs that the Siting Corridor crossed, as well as CTs in Maryland that were within 10 miles of the centerline of the Siting Corridor (the EJ analysis area), as shown on Figure 2.5-3.

This section describes existing conditions in the EJ analysis area CTs, along with demographic information for the state of Maryland. Table 2.5-3 indicates whether each CT within the EJ analysis area meets state criteria for overburdened and/or underserved community status. Table 2.5-4 provides demographic and socioeconomic data for these CTs. Garrett and Allegany Counties' data are provided for comparative purposes.

Based on Maryland's definition of an underserved community (Section 2.5.7, Environmental Justice), 16 of the 22 CTs within the EJ analysis area are considered underserved communities, including 5 of 6 CTs crossed by the Siting Corridor. For each of the CTs in the EJ analysis area, underserved status is based on the low-income population, indicating that more than 25 percent of the CT population makes less than two times the federal poverty limit. Overall, the CTs are majority white alone, not Hispanic or Latino, and with no statistical evidence of linguistic isolation (Table 2.5-4).

Based on the MDEnviroScreen Tool, 14 of the 16 CTs in the EJ analysis area are overburdened, due to environmental and/or health indicators, including 4 of the 6 CTs crossed by the Siting Corridor. Table 2.5-5 shows the source of environmental and health burdens in each CT (MDE 2025). As shown in Table 2.5-3, 12 of the 22 CTs in the EJ analysis area (including 3 of the 6 crossed by the Siting Corridor) are considered both underserved and overburdened.

FIGURE 2.5-3 CENSUS TRACTS



Source: U.S. Census Bureau 2024i

MD = Maryland; PA = Pennsylvania; VA = Virginia; and WV = West Virginia

TABLE 2.5-3 UNDERSERVED AND OVERBURDENED COMMUNITIES

CT [a]	Underserved Community	Overburdened Community
Garrett County		
CT 1*	Yes	No
CT 2*	Yes	No
CT 3*	No	Yes
CT 4	Yes	Yes
CT 5.01	Yes	No
CT 5.02	No	No
CT 6.02	No	No
Allegany County		
CT 1	Yes	Yes
CT 2	Yes	Yes
CT 8	Yes	Yes
CT 12	No	No
CT 13	Yes	Yes
CT 14.01	Yes	Yes
CT 14.02	No	No
CT 15.03	Yes	Yes
CT 16	No	Yes
CT 17	Yes	Yes
CT 18	Yes	No
CT 19	Yes	Yes
CT 20*	Yes	Yes
CT 21*	Yes	Yes
CT 22*	Yes	Yes

Source: MDE 2025

CT = census tract
[a] An asterisk (*) indicates the Siting Corridor crosses the CT.

TABLE 2.5-4 EXISTING DEMOGRAPHIC CONDITIONS WITHIN MARYLAND CENSUS TRACTS

Geography [a]	Total Population (#)	White Alone (%)	Black or African American Alone (%)	American Indian and Alaska Native Alone (%)	Asian Alone (%)	Native Hawaiian and Other Pacific Islander Alone (%)	Some Other Race Alone (%)	Two or More Races (%)	Hispanic or Latino (%)	Total Minority (%) [b]	Low-Income (%) [c]	Linguistically Isolated (%) [d]
Maryland	6,170,738	47.0	29.0	0.0	6.0	0.0	1.0	4.0	12.0	53.0	21.0	4.0
Garrett County	28,713	95.0	1.0	0.0	1.0	0.0	0.0	2.0	1.0	5.0	29.0	0.0
CT 1*	3,999	95.0	0.0	0.0	0.0	0.0	0.0	3.0	2.0	5.0	31.0	0.0
CT 2*	3,887	98.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	26.0	0.0
CT 3*	2,483	99.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	18.0	0.0
CT 4	2,665	90.4	0.8	0.8	0.7	0.0	1.1	4.9	1.3	9.6	37.0	0.0
CT 5.01	1,736	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.0	0.0
CT 5.02	2,765	90.2	3.2	0.3	1.4	0.0	0.0	1.0	3.9	9.8	16.0	0.0
CT 6.02	1,540	95.6	0.1	0.0	0.0	0.0	2.1	2.1	0.0	4.4	13.0	0.0
Allegany County	67,762	86.0	7.0	0.0	1.0	0.0	0.0	3.0	2.0	14.0	39.0	0.0
CT 1	3,153	97.7	0.7	0.0	0.0	0.0	0.0	1.1	0.6	2.3	32.0	0.0
CT 2	4,094	75.7	18.2	0.1	0.4	0.0	0.0	2.9	2.8	24.3	35.0	0.0
CT 8	1,972	88.1	1.7	0.2	0.6	0.0	0.0	5.7	3.6	11.9	64.0	0.0
CT 12	2,950	92.5	0.6	0.2	2.0	0.0	0.0	3.1	1.6	7.5	12.0	0.0
CT 13	5,030	50.2	41.5	0.3	0.6	0.0	0.0	3.9	3.5	49.8	38.0	0.0
CT 14.01	4,083	87.3	1.9	0.0	1.5	0.0	0.7	4.4	4.2	12.7	25.0	0.0
CT 14.02	1,469	92.3	3.7	0.0	1.6	0.0	0.0	1.6	0.8	7.7	24.0	0.0
CT 15.03	1,736	86.7	0.3	0.2	0.0	0.2	9.9	2.6	0.2	13.3	41.0	0.0
CT 16	1,279	95.7	0.9	0.0	3.4	0.0	0.0	0.0	0.0	4.3	23.0	0.0
CT 17	4,017	91.7	4.1	0.0	1.4	0.0	0.5	1.0	1.3	8.3	44.0	0.0
CT 18	3,959	76.4	16.1	0.0	1.8	0.0	0.0	2.9	2.8	23.6	38.0	2.0
CT 19	2,734	96.0	0.0	0.0	1.0	0.0	0.0	1.0	2.0	4.0	29.0	0.0
CT 20*	5,433	93.0	1.0	0.0	3.0	0.0	0.0	3.0	0.0	7.0	36.0	0.0
CT 21*	2,773	95.0	0.0	0.0	1.0	0.0	0.0	1.0	3.0	5.0	36.0	0.0
CT 22*	3,751	98.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.0	47.0	0.0

Source: U.S. Census Bureau 2024f, 2024g, 2024h

CT = census tract
[a] An asterisk (*) indicates the Siting Corridor crosses the CT.
[b] Percent of the population that identifies as anything other than "white alone, not Hispanic or Latino"
[c] Percent of the population making less than two times the federal poverty limit
[d] Percent of the population that speaks English less than "very well," as defined by the census
Gray shading indicates a reference population; green shading indicates an undeserved community metric is met.

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TABLE 2.5-5 ENVIRONMENTAL HEALTH INDICATOR PERCENTILES BY CENSUS TRACT

Environmental Health Indicator [a]	Garrett County							Allegany County													
	CT 1*	CT 2*	CT 3*	CT 4	CT 5.01	CT 5.02	CT 6.02	CT 1	CT 2	CT 8	CT 12	CT 13	CT 14.01	CT 14.02	CT 15.03	CT 16	CT 17	CT 18	CT 19	CT 20*	CT 21*	CT 22*
$PM_{2.5}$	3.8	0.9	0.4	0.4	0.7	1.5	2.1	10.1	7.2	6.6	5.8	4.7	3.8	4.9	3.0	1.3	2.3	0.8	1.1	1.8	0.6	0.8
Ozone	9.3	7.9	4.3	2.5	4.3	4.9	4.6	0.0	0.0	0.6	1.4	1.2	1.8	1.7	3.2	4.0	2.8	3.6	2.7	0.8	2.3	0.9
NATA Diesel Particulate Matter	0.4	0.6	0.5	0.0	0.1	0.2	0.0	3.2	10.3	19.8	13	7.1	4.3	7.6	1.0	0.9	3.0	2.9	0.7	1.3	0.3	0.6
NATA Cancer Risk	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	9.5	9.5	9.5	0.2	9.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
NATA Respiratory Hazard Index	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.9	2.9	2.9	2.9	2.9	2.9	2.9	0.2	0.2	0.2	0.2	0.2	2.9	0.2	0.2
Traffic Proximity	3.6	4.6	5.4	0.9	0.4	1.7	0.7	5.6	11.7	27.1	28.1	16.1	18.0	22.4	7.4	9.3.	14.3	11.3	9.5	12.2	4.5	4.8
Proximity to a Toxic Release Inventory Facility	24.8	64.2	77.8	81.6	13.9	0.0	0.0	20.5	94.4	77.3	37.4	69.7	33.3	22.4	63.9	24.8	46.7	19.9	82.0	78.4	71.6	93.5
Proximity to a Hazardous Waste Landfill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.1	75.1	0.0	0.0	0.0	0.0	0.0	0.0	98.4	0.0	0.0
Lead Paint Indicator	65.9	56.1	51.6	61.2	41.5	36.3	22.6	60.1	64.7	89.7	78.3	76.1	70.1	76.4	79.6	75.7	78.5	72.1	70.1	61.4	82.8	77.1
Risk Management Plan Facility Proximity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.8	76.8	85.4	65.2	63.1	55.1	57.9	35.5	0.0	36.6	0.0	36.8	51.3	0.0	0.0
National Priorities List Superfund Site Proximity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.5	89.8	82.7	72.4	76.9	65.7	65.9	0.0	0.0	47.2	0.0	50.5	88.4	47.7	44.4
Hazardous Waste Proximity	10.4	4.7	0.0	0.0	4.4	4.6	3.8	4.1	11.0	43.7	16.0	14.5	10.9	12.0	3.7	0.0	6.1	0.0	8.3	15.5	3.7	3.4
Wastewater Discharge Indicator	20.6	21.7	36.3	49.4	38.4	10.4	13.1	65.7	54.7	49.8	48.5	51.9	48.5	47.9	19.6	15.6	44.3	19.3	48.3	53.7	49.4	49.5
Proximity to a Brownfields Site	39.7	40.8	4.6	1.6	1.2	0.9	3.8	18.4	76.8	81.0	51.0	44.0	54.7	19.6	3.6	24.8	49.1	31.1	60.4	48.2	4.9	0.0
Proximity to Emitting Power Plants	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	97.8	79.0	0.0	70.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proximity to Concentrated Animal Feeding Operation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proximity to Mining Operations	97.2	94.8	100	99.6	83.7	93.4	94	96	72.7	58.6	58.0	59.5	81.9	52.8	91.9	93.6	93.7	93.9	99.7	93.1	99.8	98.4
Low-Birth-Weight Infants	13.0	2.0	5.0	34.0	6.0	6.0	45.0	54.0	67.0	42.0	26.0	8.0	72.0	5.0	92.0	9.0	25.0	61.0	58.0	43.0	22.0	31.0
Asthma Emergency Room Discharges	22.0	15.9	6.8	62.3	20.2	20.2	69.2	39.0	34.4	84.0	34.0	17.3	30.3	6.7	0.0	0.0	38.4	12.8	27.6	33.6	48.0	17.9
Myocardial Infarction Discharges	50.5	72.5	75.5	0.0	0.0	0.0	52.6	83.4	84.0	98.6	82.7	60.0	87.3	25.3	95.1	82.2	88.0	0.0	0.0	78.6	92.7	95.4
Percent of the Population Lacking Broadband	89.5	85.2	88.5	94.1	60.6	78.7	90.2	94.0	95.1	78.5	65.0	68.8	74.2	21.6	91.1	84.9	76.3	67.6	91.3	84.6	90.8	68.8
EJScore	**19.0**	**16.4**	**28.2**	**29.4**	**1.6**	**0.9**	**15.8**	**41.0**	**67.1**	**73.5**	**30.3**	**47.3**	**49.0**	**8.0**	**32.9**	**13.4**	**40.5**	**11.8**	**48.7**	**57.9**	**51.8**	**34.1**

Source: MDE 2025

CT = census tract; NATA = National Air Toxics Assessment; $PM_{2.5}$ = fine particulate matter (particles with a diameter of 2.5 micrometers or less)
[a] Percentile compared to the state of Maryland
An asterisk (*) indicates the Siting Corridor crosses the CT.
Green shading indicates that the Environmental Health Indicator is in the 75th percentile or greater.

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2.5.7.2 IMPACTS

The Proposed Route crosses the overburdened and underserved communities in Garrett and Allegany Counties identified in Section 2.5.7.1. These communities are more vulnerable and sensitive to impacts from noise, air quality, changes in visual conditions, and socioeconomic changes. As a result, the impacts described in other sections of this ERD may be felt more strongly within overburdened and underserved communities.

As discussed in Section 2.5.6, Economy, NEET MA will hire local workers, when feasible, to localize positive economic benefits. NEET MA will limit construction activities to daytime hours to the extent possible and nighttime construction will not occur unless it is determined to be critical. Additionally, during construction, the use of emission-emitting equipment and vehicles will be limited in sensitive areas (e.g., recreation areas, residential areas) to the extent feasible, and idling will be minimized as much as possible to help reduce emissions.

2.6 TRANSPORTATION INFRASTRUCTURE

2.6.1 EXISTING CONDITIONS

2.6.1.1 OVERVIEW

The Siting Corridor crosses portions of Garrett and Allegany Counties. Table 2.6-1 provides information on the major roads that cross the Siting Corridor, which include I-68, US 40, US 219, US 220, MD 36, MD 42, and MD 495. In addition to the major roads listed in Table 2.6-1, numerous smaller public roads also cross the Siting Corridor.

TABLE 2.6-1 ANNUAL AVERAGE DAILY TRAFFIC FOR MAJOR ROADS CROSSING THE SITING CORRIDOR

Road	Road Segment	County	AADT
I-68	MD 42 to US 219/US 40	Garrett	13,472
US 219	MD 42 to I-68	Garrett	3,951
MD 42	Fearer Road to Pennsylvania State Line	Garrett	902
MD 495	Legear Road to US 40 Alternate	Garrett	2,994
US 220	MD 135B (Chesapeake Avenue) to MD 956	Allegany	7,992
MD 36	West Virginia State Line to Douglas Hill Avenue	Allegany	4,822

Source: MDOT 2025

AADT = annual average daily traffic; I- = Interstate highway; MD = Maryland State Route; US = U.S. Route

The Siting Corridor would cross two CSX freight railroad lines, including a line that runs along MD 36 south of Frostburg near MP 62.0 and another line near MP 67.4 that parallels the North Branch Potomac River. There are no airports within the Siting Corridor, and the nearest public airport is Garrett County Airport, which is 4.5 miles south of the Siting Corridor.

2.6.1.2 TRANSPORTATION PLANNING CONTEXT

One of the primary economic goals in the Garrett County Comprehensive Plan (Garrett County 2022) is to leverage the existing transportation system and proximity to I-68 and US 219 to enhance the county's economy. Recommended transportation improvements to roads that cross the Siting Corridor in Garrett County are listed below.

- US 219: Reconstruction of US 219 north of Oakland and construction of a new bypass around the town of Accident.
- US 219 North Study: A joint Maryland/Pennsylvania planning study to determine ways to upgrade US 219 to allow easier access between I-68 in Maryland and the Pennsylvania Turnpike (I-76).
- MD 42: Reconstruction of MD 42 from US 219 to MD 742 (First Street).
- MD 495: Reconstruction from Dung Hill Road to south of I-68.

In Allegany County, the Siting Corridor is within the limits of the Cumberland Area Metropolitan Planning Organization. Notable transportation improvements are recommended in Cumberland Area Metropolitan Planning Organization's 2040 Long Range Transportation Plan (CAMPO 2016) and the Allegany County Comprehensive Plan (Allegany County 2014). These plans do not include any proposed upgrades of road segments crossed by the Siting Corridor.

2.6.2 IMPACTS

During MARL Project construction, crossings of the roads described in Section 2.6.1, Existing Conditions, would result in temporary impacts on traffic. These impacts would take the form of multiple, separate, short-duration (5- to 20-minute) intermittent closures for safety as the transmission lines are being installed between the structures on either side of each road crossing.

On local roads and the state roads listed in Table 2.6-1, which typically have low traffic volumes, these closures would not result in substantial traffic impacts. Closure of I-68—and to a lesser degree, US 219 and US 220—could potentially have a significant (albeit temporary) impact on traffic while the transmission line installation occurs. Cable pulling or delays of smaller roads may require longer (approximately 5- to 20-minute) closures for the crossing of I-68, US 219, and US 220.

In addition, the MARL Project will require the use and upgrade of some existing roads to access the ROW Corridor, as well as the installation of temporary construction and long-term maintenance access roads from existing public roads along the ROW Corridor. The upgrade of existing roads and installation of new temporary or permanent access roads may result in temporary traffic impacts, such as single lane or shoulder closures, especially where new access roads meet existing roads. MARL Project operation (including routine maintenance) will require minimal use of access roads, and therefore, would not meaningfully affect local traffic.

NEET MA will coordinate with state and local road authorities to implement any upgrades of existing roads or temporary closure of shoulders or lanes on public roads necessary to install temporary or permanent access roads. As part of the permitting process for the MARL Project, NEET MA will prepare a Traffic Control Plan (TCP) for all road crossings and road upgrades, in coordination with the SHA, county road officials, and other entities responsible for roads. The TCP

will include traffic management measures such as the use of road signs, flagging crews, lane closures, and detours. The TCP will also include measures to maintain access for emergency vehicles during construction. Additionally, NEET MA will avoid construction activities during school bus drop-off and pick-up times, as well as peak traffic times on affected roads to the degree possible. The TCP will also include measures to maintain access for emergency vehicles during construction. Additionally, NEET MA will avoid construction activities during school bus drop-off and pick-up times, as well as peak traffic times on affected roads to the degree possible. Other typical protective measures for transmission line installation include, but are not limited to, clearance poles, cranes, or bucket trucks placed on each side of the road to protect the roadway during cable pulling activities.

Crossing of the CSX railroad lines in Allegany County will require activities similar to those described for road crossings. NEET MA will coordinate with CSX to obtain necessary permits and to incorporate CSX-specific safety procedures. Construction across the CSX railroad lines is not expected to require railroad closures, and thus, would not affect railway operations.

MARL Project construction may require the use of helicopters to facilitate construction and for structure setting, wire pulling operations, or equipment transport on an as-needed basis due to topographic, constructability, or environmental constraints. Helicopter activity would primarily remain above the ROW Corridor and/or ancillary facilities workspaces (or between airports/heliports and the MARL Project). Helicopter flights would originate at existing public airports and heliports or possibly at temporary helipads closer to the MARL Project facilities. The frequency and duration of such flights (if any) and the location of temporary helipads (if any) would be determined as part of MARL Project design and permitting. The location of any temporary helipads in Maryland would be identified as further design of the MARL Project advances and in accordance with all necessary approvals, if any. This analysis assumes that airports or heliports used for these flights would have sufficient capacity to accommodate MARL Project-related flights. Pilots would obey relevant laws and regulations applicable to air operations.

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3. SUMMARY OF MARL PROJECT IMPACTS

To address the requirements of COMAR 20.79.04, ERM has evaluated the potential impacts of the MARL Project on individual resources within the ROW Corridor, as detailed throughout this ERD. Section 2, Environmental Setting and Impacts, of the ERD outlines the potential temporary and permanent impacts the MARL Project may have on biophysical, cultural, land use, socioeconomic, and transportation resources.

This assessment includes the following:

- A description of existing resources within the Siting Corridor;
- An evaluation of potential impacts from activities within the ROW Corridor; and
- A summary of avoidance and mitigation measures.

For each resource, the impact assessment considered the MARL Project's ROW Corridor and incorporated applicable construction BMPs, along with other feasible avoidance and mitigation strategies.

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