
Amendment to an Application for Certificate of
Environmental Compatibility and Public Need

Althea - Sweetgum 138-kV Transmission Line Project

OPSB Case No. 24-0484-EL-BTA



Submitted to
Ohio Power Siting Board

May 2024

BEFORE THE OHIO POWER SITING BOARD

Amendment for Application to the Althea - Sweetgum 138-kV Transmission Line Project

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Acronyms and Abbreviations

AEP	American Electric Power
AEP Ohio Transco Company	AEP Ohio Transmission Company, Inc. Ohio Power Company
Field Survey Area	200 feet on either side of the centerline for the Preferred Route and 50-200 feet on either side of the centerline for the Alternate
GIS	geographic information system
HHEI	Headwater Habitat Evaluation Index
ID	identification
kV	kilovolt
OEPA	Ohio Environmental Protection Agency
OHI	Ohio Historic Inventory
OHPO	Ohio Historic Preservation Office
OHWM	ordinary high water mark
OPSB	Ohio Power Siting Board
ORAM	Ohio Rapid Assessment Method
Project	Althea – Sweetgum 138-kV Transmission Line Project
QHEI	Qualitative Habitat Evaluation Index
ROW	right-of-way
USACE	U.S. Army Corps of Engineers

MODIFICATION CHANGE SUMMARY

AEP Ohio Transmission Company, Inc. (the “Company”) submitted a Certificate Application to the Ohio Power Siting Board (“OPSB”) for the Project on January 11, 2023, in Case Number 22-0857-EL-BTX (the “Application”). The Application was issued a Certificate of Environmental Compatibility and Public Need (“Certificate”) by the OPSB on January 18, 2024, to construct the Preferred Route.

The purpose of this filing is to document modifications to the Preferred Route since the approval of the Application. There are no changes to the Alternate Route under this amendment; therefore, information provided for the Alternate Route in the original certificate application remains unchanged

Between the submittal date of the Application and the issuance of the Certificate, a water booster station was installed in proximity to the Preferred Route. The Company identified this installation during the right-of-way (ROW) acquisition process following the OPSB’s approval of the Application and the Preferred Route. The water booster station is located on the west side of State Route 522 near the intersection of County Highway 257. To avoid interference with the water booster station, an alignment adjustment is needed to increase horizontal clearance between the transmission line and the water booster station. An overview of this change is provided in Exhibit 1.

The alignment adjustment begins on the west side of State Route 522, north of a parcel operated as a gas station. The alignment crosses State Route 522 diagonally to the southeast and turns east along the south side of Hayport Street. The alignment continues south along Gallia Pike Road, connecting with the original alignment. The reroute segment is approximately 0.2 mile in length. The alignment adjustment does not impact any new property owners.

Exhibit 1: Map Illustration of the Revised Preferred Route



4906-5-02 PROJECT SUMMARY AND APPLICANT INFORMATION**(A) PROJECT SUMMARY**

Text provided in the January 11, 2023 Application filing remains unchanged.

(1) General Purpose of the Facility

Text provided in the January 11, 2023 Application filing remains unchanged.

(2) General Location, Size, and Operating Characteristics

The Project is approximately two miles south of the city of Wheelersburg in Scioto County, Ohio. The northern endpoint of the Project is the Company's proposed Sweetgum Substation, located adjacent to Mill Road and approximately 0.20 mile east of SR-522. The southern endpoint of the Project is the Company's proposed Althea Substation, located on the east side of US-52/Ohio River Scenic Byway and west of OH-1/Gallia Pike. Hayport Switch is approximately halfway between the northern and southern end point. Althea Substation and Sweetgum Substation are both non-jurisdictional assets to the OPSB. The Project is approximately ~~3.2~~ 3.3 miles to 3.6 miles in length, depending on the route selected. The proposed transmission line will be a single circuit 138-kilovolt (kV) transmission line from Sweetgum Substation to the existing Hayport Road Switch, and a double circuit line with one side operating at 69-kV and the other operating at 138-kV from Hayport Road Switch to Althea Substation. Figure 2-1 shows the Project area, Sweetgum Substation, Hayport Switch, Althea Substation, and the Preferred and Alternate Routes identified by the Company.

(3) Suitability of Preferred and Alternate Routes

Text provided in the January 11, 2023 Application filing remains unchanged.

(i) Preferred Route

The Preferred Route is approximately ~~3.2~~ 3.3 miles in length, extending from the proposed, non-jurisdictional Sweetgum Substation to the proposed, non-jurisdictional Althea Substation.

The ~~3.2-mile~~ 3.3-mile route exits the Sweetgum Substation to the northwest then runs down the east side of SR-522. The single circuit 138-kV transmission line then cuts east to run south along OH-1 before cutting back west along a parcel boundary of an agricultural field to International Lane. The Preferred Route then runs south along the east side of US-52 before crossing US-52 and connecting to the Hayport Road Switch. From the Hayport Road Switch, the Preferred Route is a double circuit 69/138-kV transmission line as it travels south along the east side of the Norfolk Southern railroad corridor and west side of US-52 before cutting back over US-52 and connecting to the Althea Substation.

(ii) Alternate Route

Text provided in the January 11, 2023 Application filing remains unchanged.

(4) Schedule

The current Project schedule is illustrated in the diagram below.

	2021	2022	2023	2024	2025	2026	2027	2028
PJM Approval May 2021	●							
Preparation of OPSB Application September 2022 – January 2023		●●						
Submittal of OPSB Application January 2023			●					
Approval of OPSB Application January 2024				●				
Final Engineering Design August 2022 - August 2023		●	●					
Submittal of OPSB Application Amendment May 2024				●				
Transmission Line Construction October 2026 – March 2028						●	●	
Project In-Service March 2028								●
Land Reclamation June 2028								●

(B) APPLICANT DESCRIPTION

Text provided in the January 11, 2023 Application filing remains unchanged.

4906-5-03 REVIEW OF NEED AND SCHEDULE**(A) NEED FOR PROPOSED FACILITY**

Text provided in the January 11, 2023 Application filing remains unchanged.

(B) REGIONAL EXPANSION PLANS

Text provided in the January 11, 2023 Application filing remains unchanged.

(C) SYSTEM ECONOMY AND RELIABILITY

Text provided in the January 11, 2023 Application filing remains unchanged.

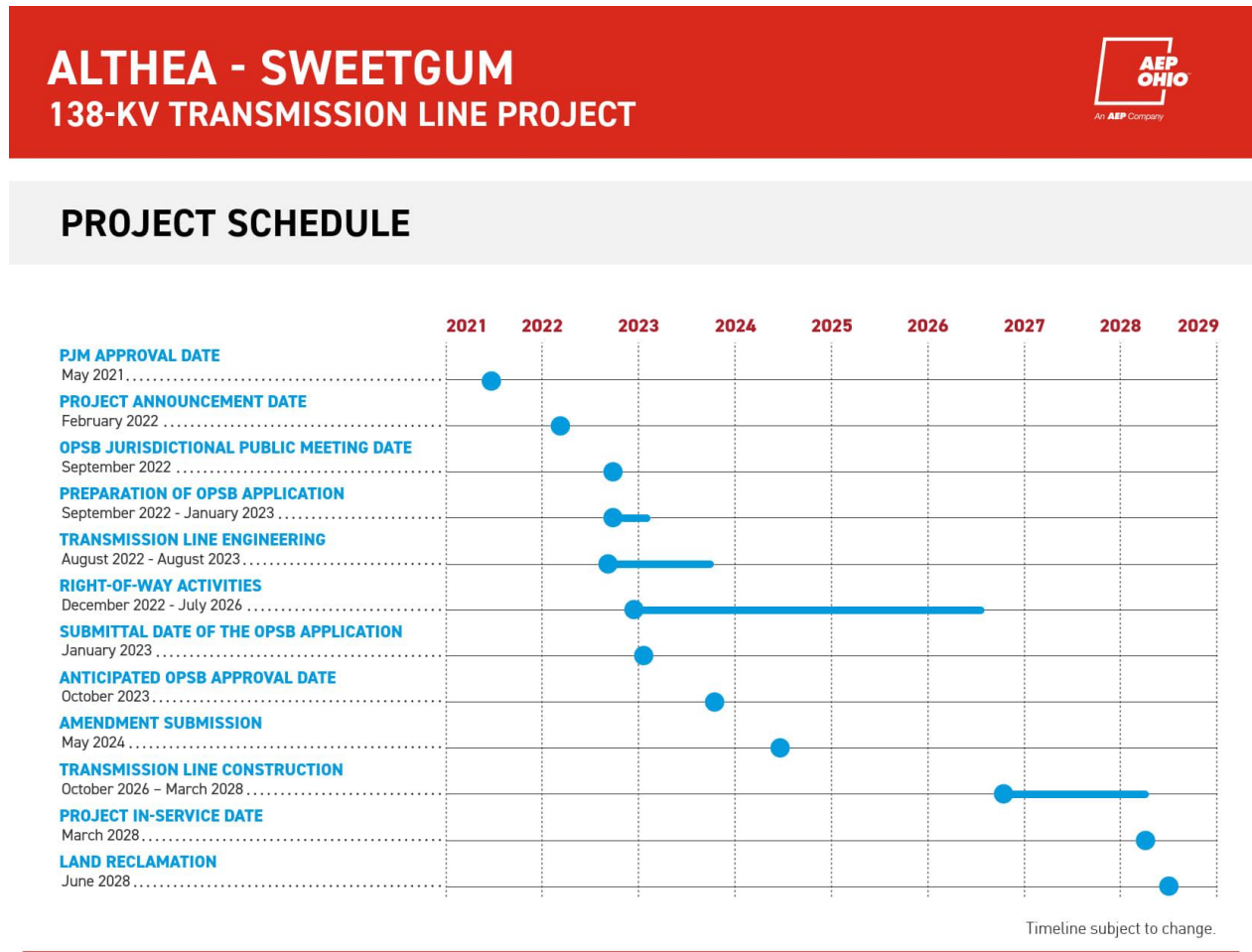
(D) OPTIONS TO ELIMINATE THE NEED FOR THE PROPOSED PROJECT

Text provided in the January 11, 2023 Application filing remains unchanged.

(E) FACILITY SELECTION RATIONALE**(F) PROJECT SCHEDULE****(1) Gantt Schedule Bar Chart**

Figure 3-5 on the following page provides the project schedule as a Gantt bar chart. Construction of the Project is planned to begin in October ~~2023~~ 2026, and the anticipated in-service date is March ~~2026~~ 2028.

Figure 3-5. Project Schedule

**(2) Impact of Critical Delays**

Text provided in the January 11, 2023 Application filing remains unchanged.

4906-5-04 ROUTE ALTERNATIVES ANALYSIS

Text provided in the January 11, 2023 Application filing remains unchanged.

4906-5-05 PROJECT DESCRIPTION**(A) PROJECT AREA DESCRIPTION**

Text provided in the January 11, 2023 Application filing remains unchanged.

(1) Project Area Map – DID NOT CHANGE

Text provided in the January 11, 2023 Application filing remains unchanged.

(2) Proposed Right-of-Way, Transmission Length, and Properties Crossed

The proposed ROW width along the Preferred Route is 100 feet. However, the ROW width to be obtained along the Alternate Route may vary between 80 to 100 feet depending on the constraints of the particular area. The ROW width on the Alternate Route may be reduced as the alignment travels through Allentown, notably as it crosses Park Street, due to residential structures within proximity to the alignment. The ROW width for the Preferred Route may be reduced to 80 feet as the alignment travels south of Hayport Switch between the Norfolk Southern railroad and US-52 and Kenyon Road, due to the existing road and railroad ROW abutting the proposed transmission line ROW. The ROW width for these constrained areas will be determined during detailed engineering phases.

Table 5-1 provides information about the Preferred and Alternate Route ROW acreage, length, and properties crossed based on the proposed centerline for a 100-foot ROW. The information presented in Table 5-1 reflects updated information based on detailed engineering for the proposed transmission line .

Table 5-1. Right-of-way Area, Length, and Number of Properties Crossed for the Preferred and Alternate Routes

	Route Alternatives	
	Preferred	Alternate
Proposed ROW area (in acres)	39.4 <u>39.6</u>	43.5
Length (in miles)	3.2 <u>3.3</u>	3.6
Number of properties crossed (by ROW)	30	44
Number of easements required (by property owner)	20 <u>16</u>	28

(B) ROUTE OR SITE ALTERNATIVE FACILITY LAYOUT AND INSTALLATION

Text provided in the January 11, 2023 Application filing remains unchanged.

4906-5-06 ECONOMIC IMPACT AND PUBLIC INTERACTION**(A) OWNERSHIP OF PROPOSED FACILITY**

Text provided in the January 11, 2023 Application filing remains unchanged.

(B) CAPITAL AND INTANGIBLE COSTS ESTIMATE FOR ELECTRIC POWER TRANSMISSION FACILITY ALTERNATIVES

The Company developed estimates of applicable capital and tangible costs for a variety of components of the Project. Each of the enumerated components is included in Table 6-1. The table also includes estimates of applicable tangible and capital costs for both the Preferred and Alternate routes of the Project.

Table 6-1. Estimates of Applicable Intangible and Capital Costs for Both the Preferred and Alternate Routes

FERC Account Number	Description	Preferred Route	Alternate Route
350	(1) Land and Land Rights	\$1,037,560 <u>\$815,441</u>	\$1,098,255
352	(2) Structures and Improvements	\$0	\$0
353	(3) Substation Equipment	\$0	\$0
354	(4) Towers and Fixtures	\$0	\$0
355	(5) Poles and Fixtures	\$4,285,156 <u>\$5,272,215</u>	\$8,008,215
356	(6) Overhead Conductors and Devices	\$1,968,856 <u>\$1,378,236</u>	\$2,683,616
357	(7) Underground Conductors and Insulation	\$0	\$ \$0
358	(8) Underground-to-Overhead Conversion Equipment	\$0	\$0
359	(9) ROW Clearing and Roads, Trails or Other Access	\$3,207,331 <u>\$2,344,268</u>	\$3,906,661
TOTAL		\$10,498,903 <u>\$9,810,160</u>	\$15,696,747

FERC = Federal Energy Regulatory Commission

(C) CAPITAL AND INTANGIBLE COSTS ESTIMATE FOR GAS TRANSMISSION FACILITY ALTERNATIVES

Text provided in the January 11, 2023 Application filing remains unchanged.

(D) PUBLIC INTERACTION AND ECONOMIC IMPACT

Text provided in the January 11, 2023 Application filing remains unchanged.

(1) Counties, Townships, Villages, and Cities within 1,000 feet

Text provided in the January 11, 2023 Application filing remains unchanged.

(2) Public Officials Contacted

Text provided in the January 11, 2023 Application filing remains unchanged.

(3) Planned Public Interaction

Text provided in the January 11, 2023 Application filing remains unchanged.

(4) Liability Insurance or Compensation

Text provided in the January 11, 2023 Application filing remains unchanged.

(5) Tax Revenues

The Preferred and Alternate routes are in Scioto County. Local school districts, park districts, and fire departments will receive tax revenue from the Project. The Company will pay property taxes on utility facilities in each jurisdiction. The approximate annual property taxes associated with the Preferred Route over the first year the Project is completed is ~~\$575,400~~ \$516,000. The approximate annual property taxes associated with the Alternate Route over the first year the Project is completed is \$765,100. Based on the 2022 tax rates, the following information includes preliminary estimates for these taxing authorities:

Preferred Route:

Portsmouth Public Library	\$8,600 <u>\$7,700</u>
Green Township	\$29,700 <u>\$57,200</u>
Scioto City Career Tech Center	\$46,200 <u>\$41,500</u>
Green LSD (Scioto Co.)	\$92,200 <u>\$177,500</u>
Scioto County	\$94,400 <u>\$100,800</u>
Porter Township	\$105,400 <u>\$46,200</u>
Wheelersburg LSD	\$198,900 <u>\$85,000</u>

TOTAL ~~\$575,400~~ \$516,000

Alternate Route:

Portsmouth Public Library	\$11,500
Green Township	\$39,400
Scioto City Career Tech Center	\$61,400
Green LSD (Scioto Co.)	\$122,600
Scioto County	\$125,500
Porter Township	\$140,200
Wheelersburg LSD	\$264,500

TOTAL \$765,100

4906-5-07 HEALTH AND SAFETY, LAND USE, AND REGIONAL DEVELOPMENT**(A) HEALTH AND SAFETY**

Text provided in the January 11, 2023 Application filing remains unchanged.

(B) LAND USE**(1) Map of the Site and Route Alternatives**

Text provided in the January 11, 2023 Application filing remains unchanged.

(2) Impact on Identified Land Uses

Land use in the Project area is primarily agricultural with pockets of residential and commercial use. Rural agricultural/pasture areas are along US-52/Ohio River Scenic Byway and towards the Ohio River. Residential and commercial use consists primarily of single-family residential structures and commercial structures on small lots within Allentown, and larger acreage lots along OH-1/Gallia Pike, as well as some commercial structures along OH-1/Gallia Pike.

Comparisons of the various land use types and land use features for both routes are included in Tables 7-4 to 7-6 for the Preferred and Alternate Routes. The estimates of each land use type being crossed by the transmission line, and the permanent ROW (linear feet, acreage, and percentages) were determined using geographic information system (GIS) software calculations.

The potential disturbance area during construction activities (excavation for concrete foundations, equipment traffic, etc.) consists of the 100-foot-wide construction ROW. The construction ROW will be restored through soil grading, seeding, and mulching where vegetation impacts occur. Thus, the permanent impact to the ROW is primarily limited to the removal of existing trees and other vegetation. Property owners may continue to use most of the ROW area for general uses that will not affect the safe and reliable operation of the transmission line, such as lawn maintenance. The information presented in Table 7-4, 7-5, and 7-6 reflects updated information based on detailed engineering for the proposed transmission line.

Table 7-4. Length and Percent of Land Uses Crossed by Route Alternatives

Land Use	Preferred Route*		Alternate Route*	
	Linear Feet	Percent	Linear Feet	Percent
Agricultural	7,061 7,049	41% 40%	13,322	70%
Commercial	741.36 1,017	4% 6%	2,792	15%
Industrial	0	0%	0	0%
Institutional	0	0%	0	0%
Recreational	0	0%	0	0%
Residential	795	5%	600	3%
Road Right-of-Way	8,494 8,605	50% 49%	2,189	12%
Vacant	0	0%	0	0%
Total	17,092 17,467	100%	18,905	100%

* Numbers in the table are for the route centerlines.

Table 7-5. Acreage and Percent of Land Uses Crossed by Route Alternatives

Land Use	Preferred Route*		Alternate Route*	
	Acreage	Percent	Acreage	Percent
Agricultural	14.6 14.1	37% 36%	29.7	68%
Commercial	1.9 2.4	5% 6%	5.4	12%
Industrial	0.0	0%	0.0	0%
Institutional	0.0	0%	0.0	0%
Recreational	0.0	0%	0.0	0%
Residential	2.1 2.0	5%	2.4	6%
Road Right-of-Way	20.8 21.0	53%	5.9	14%
Vacant	0	0%	0	0%
Total	39.4 39.6	100%	43.5	100%

* The potential disturbance area is a 100-foot-wide corridor centered on the route.

Table 7-6. Number of Sensitive Features Within or Near the ROW for the Route Alternatives

	Route Alternatives	
	Preferred	Alternate
Length (in miles)	3.2 <u>3.3</u>	3.6
Features within the Potential Disturbance Area of Route Alternatives*		
Historic Structures (OHI)	0	0
National Register of Historic Places	0	0
Previously Identified Archaeological Sites	0	9
Residences	0	4
Commercial Buildings	0	0
Industrial Buildings	0	0
Schools and Hospitals	0	0
Churches and Civic Buildings	0	0
Recreational Lands	0	0
Airports	0	0
Features within 1,000 feet of Route Alternatives (centerline)		
Historic Structures (OHI)	1	1
National Register of Historic Places	0	0
Previously Identified Archaeological Sites	25 <u>23</u>	27
Residences	83 <u>139</u>	77
Commercial Buildings	14 <u>16</u>	14
Industrial Buildings	0	0
Schools and Hospitals	1 <u>0</u>	1
Churches and Civic Buildings	1	2
Recreational Land	1 <u>0</u>	1
Airports	0	0

* The potential disturbance area is a 100-foot-wide corridor centered on the route.

OHI = Ohio Historic Inventory

(a) Residential

Preferred Route: The Preferred Route is within 1,000 feet of ~~83~~ 139 residences, none of which are within the ROW. As shown in Table 7-5, residential land makes up 5 percent of the Preferred Route ROW.

Alternate Route: The Alternate Route is within 1,000 feet of 77 residences, four of which are within the ROW. As shown in Table 7-5, residential land makes up 6 percent of the Alternate Route ROW.

The Alternate Route proposes a greater impact to residences as four residences are within the potential disturbance area. However, the ROW width may be reduced from 100-feet to lessen impacts to these residences.

(b) Commercial

Preferred Route: The Preferred Route is within 1,000 feet of ~~14~~ 16 commercial buildings, none of which are within the ROW. As shown in Table 7-5, commercial land makes up ~~5~~ 6 percent of the Preferred Route ROW.

Alternate Route: The Alternate Route is within 1,000 feet of 14 commercial buildings, none of which are within the ROW. As shown in Table 7-5, commercial land makes up 12 percent of the Alternate Route ROW.

As there are no commercial properties within the potential disturbance area, the Company anticipates minimal impacts to commercial land uses as a result of the Project.

(c) Industrial

Text provided in the January 11, 2023 Application filing remains unchanged.

(d) Institutional (School, Hospitals, Churches, and Civic Buildings)

Preferred Route: The Preferred Route is within 1,000 feet of ~~one school and one church, none of which are~~ which is not in the ROW. As shown in Table 7-5, institutional land makes up 0 percent of the Preferred Route ROW.

Alternate Route: The Alternate Route is within 1,000 feet of one school, one church, and one civic building, none of which are within the ROW. As shown in Table 7-5, institutional land makes up 0 percent of the Alternate Route ROW.

As there are no institutional properties within the potential disturbance area, the Company anticipates minimal impacts to institutional land uses as a result of the Project.

(e) Recreational

Preferred Route: ~~The Preferred Route is within 1,000 feet of one recreational land, none of which are in the ROW.~~ No recreational land occurs within 1,000 feet of the Preferred Route. As shown in Table 7-5, recreational land makes up 0 percent of the Preferred Route ROW.

Alternate Route: The Alternate Route is within 1,000 feet of one recreational land which is not within the ROW. As shown in Table 7-5, recreational land makes up 0 percent of the Alternate Route ROW.

As there are no recreational properties within the ROW, the Company anticipates minimal impacts to recreational land uses as a result of the Project.

(f) Agricultural

Preferred Route: The Preferred Route crosses ~~7,061~~ 7,049 linear feet of agricultural land. As shown in Table 7-5, agricultural land makes up ~~14.6~~ 14.1 acres and ~~37~~ 36 percent of the Preferred Route ROW.

Alternate Route: The Alternate Route crosses 13,322 linear feet of agricultural land. As shown in Table 7-5, agricultural land makes up 29.7 acres 68 percent of the Alternate Route ROW.

Both routes propose to impact agricultural land uses. However, permanent impacts to agricultural land will be kept to the structure footprint. The Alternate Route proposes a greater impact to this land use as the majority of the route ROW is within agricultural lands.

(g) Vacant

Text provided in the January 11, 2023 Application filing remains unchanged.

(3) Impact on Identified Nearby Structures

(a) Structures within 200 feet of Proposed Right-of-Way

There are ~~eight~~ 11 residences within 200 feet of the Preferred Route ROW and 11 residences within 200 feet of the Alternate Route ROW. There are ~~four~~ five commercial buildings within 200 feet of the Preferred Route ROW and two commercial buildings within 200 feet of the Alternate Route ROW. There are no churches, civic buildings, schools, industrial structures, or recreational lands within 200 feet of the Preferred Route and Alternate Route ROW.

(b) Destroyed, Acquired, or Removed Buildings

Text provided in the January 11, 2023 Application filing remains unchanged.

(c) Mitigation Procedures

Text provided in the January 11, 2023 Application filing remains unchanged.

(C) AGRICULTURAL LAND IMPACTS

The potential impacts of the Project on agricultural land use include potential damage to crops that may be present, disturbance of underground field drainage systems, compaction of soils and potential for temporary reduction of crop productivity. As observed by desktop data, agricultural land uses make up ~~14.6~~ 14.1 acres of the Preferred Route ROW, and 29.3 acres of the Alternate Route ROW.

(1) Agricultural Land Map

Text provided in the January 11, 2023 Application filing remains unchanged.

(2) Impacts to Agricultural Lands and Agricultural Districts

Text provided in the January 11, 2023 Application filing remains unchanged.

(a) Acreage Impacted

Text provided in the January 11, 2023 Application filing remains unchanged.

(b) Evaluation of Construction, Operation, and Maintenance Impacts

Text provided in the January 11, 2023 Application filing remains unchanged.

(i) Field Operations

Text provided in the January 11, 2023 Application filing remains unchanged.

(ii) Irrigation

Text provided in the January 11, 2023 Application filing remains unchanged.

(iii) Field Drainage Systems

Text provided in the January 11, 2023 Application filing remains unchanged.

(iv) Structures Used for Agricultural Operations

There are ~~seven~~ 14 structures that are potentially used for agricultural operations within 200 feet of the Preferred Route, and 10 structures that are potentially used for agricultural operations within 200 feet of the Alternate Route. These structures are comprised of barns, sheds, and outbuildings. The exact use of these ancillary structures is unknown prior to communicating with property owners. As these structures are not within the ROW, adverse impacts are not expected by the construction and operation of the Project. Any impact to these structures will be coordinated with the property owner.

(v) Agricultural Land Viability for Agricultural Districts

The Scioto County Auditor's office has provided that there are no Agricultural District lands present within the Study Area. As observed by desktop data, the Preferred Route ROW is comprised of ~~14.6~~ 14.1 acres of agricultural land, making up ~~37%~~ 36% of the ROW. The Alternate Route ROW is comprised of 29.3 acres of agricultural land, making up 68% of the ROW. As the agricultural land impacted by the ROW is not part of an Agricultural District, nor are there Agricultural Districts nearby, no significant impacts on the viability of the Agricultural District lands are anticipated.

(c) Mitigation Procedures

Text provided in the January 11, 2023 Application filing remains unchanged.

(D) LAND USE PLANS AND REGIONAL DEVELOPMENT

Text provided in the January 11, 2023 Application filing remains unchanged.

(E) CULTURAL AND ARCHAEOLOGICAL RESOURCES

Cultural resource studies of the Project area were conducted on behalf of the Company. To date, these studies have included a background records check and literature review using data files from the Ohio Historic Preservation Office (OHPO) for the Preferred and Alternate Routes and the completion of the Phase I cultural resource survey for the Preferred Route. The field reviews have been completed and results of the Preferred Route was submitted to OHPO. A summary of this effort will be provided directly to the OPSB because of the sensitive nature of the location information for archaeological sites.

Based on the desktop literature review, there are no registered landmarks of historic, religious, archaeological, scenic, natural, or other cultural significance listed on the National Register of Historic Places within 1,000 feet of the proposed routes. However, the Preferred and Alternate Routes align along US-52, which also serves as the Ohio River Scenic Byway. As there is an existing transmission line adjacent to this byway, this Project does not introduce a new visual impact. The Company has coordinated with the SHPO and will coordinate with the Ohio Department of Transportation to assess the impacts to this scenic byway.

Although there are no NHRP listed cultural resources, there are ~~25~~ 23 archaeological sites and one architectural resource within 1,000 feet of the Preferred Route and 27 archaeological sites and one architectural resource within 1,000 feet of the Alternate Route. There are two cemeteries within 1,000 feet the Preferred Route, and one cemetery within 1,000 feet of the Alternate Routes. Cultural resources already in the public domain (OHI structures) are identified on Figure 7-1.

(1) Cultural Resources in Study Corridor

Text provided in the January 11, 2023 Application filing remains unchanged.

(2) Construction, Operation, and Maintenance Impacts on Cultural Resources

Text provided in the January 11, 2023 Application filing remains unchanged.

(3) Mitigation Procedures

Text provided in the January 11, 2023 Application filing remains unchanged.

(4) Aesthetic Impact

Text provided in the January 11, 2023 Application filing remains unchanged.

4906-5-08 ECOLOGICAL INFORMATION AND COMPLIANCE WITH PERMITTING REQUIREMENTS

Text provided in the January 11, 2023 Application filing remains unchanged.

(A) ECOLOGICAL MAP

Text provided in the January 11, 2023 Application filing remains unchanged.

(B) FIELD SURVEY REPORT FOR VEGETATION AND SURFACE WATERS

Text provided in the January 11, 2023 Application filing remains unchanged.

(1) Vegetative Communities, Wetlands, and Streams in Study Area**(a) Vegetative Communities**

Text provided in the January 11, 2023 Application filing remains unchanged.

(b) Wetlands

Text provided in the January 11, 2023 Application filing remains unchanged.

(i) Summary of National Wetland Inventory Data

Text provided in the January 11, 2023 Application filing remains unchanged.

(ii) Field-Delineated Wetlands

Seven wetlands are within the Field Survey Area of the Preferred Route. A total of ~~3.18~~ 3.06 acres of wetlands were delineated within the Preferred Route ROW. Eleven wetlands were delineated with the Alternate Route Field Survey Area. A total of 1.56 acre of wetlands were delineated within the Alternate Route ROW. These field-delineated wetlands for the Preferred and Alternate Routes are mapped on Figures 8-2A through 8-2C.

Detailed information on each wetland is provided in Table 8-1A and Table 8-1B. The anticipated temporary construction impacts, where unavoidable, on these wetlands are included in Table 8-1A and Table 8-1B and further discussed in Section 4906-05-08(B)(3)(b). The information presented in Table 8-1A reflects updated information based on detailed engineering for the proposed transmission line.

Table 8-1A. Delineated Wetlands within the Preferred Route Environmental Field Survey Area and ROW

Wetland Name	Crossed by Route	Figure	Cowardin Wetland Type ^a	ORAM Score	ORAM Category	Acreage within Field Survey Area ^b	Acreage within the Preferred Route ROW ^c	Length Crossed by Preferred Route Centerline (feet)
Wetland 1	Preferred/Alternate	8-2C	PEM	47	2	0.19	0.09	64
Wetland 2	Preferred/Alternate	8-2C	PEM	33	2	0.12	0.04	20
Wetland 4	Preferred/Alternate	8-2C	PEM	19	1	0.02	0.01	N/A
Wetland 5	Preferred	8-2C	PSS	19	1	0.02	0.02	N/A
Wetland 5a	Preferred	8-2C	PEM	28	1	0.02	0.02	N/A
Wetland 5b	Preferred	8-2C	PEM	29	1	0.03	0.03	N/A
Wetland 6	Preferred	8-2C	PEM	20	1	0.06	0.06	N/A
Wetland 7	Preferred	8-2C	PEM	20	1	0.02	0.02	N/A
Wetland 7a	Preferred	8-2C	PEM	28	1	0.24	0.24	N/A
Wetland 8	Preferred	8-2C	PEM	24	1	0.39	0.39	N/A
Wetland 9	Preferred	8-2B	PEM	20	1	0.07	0.07	N/A
Wetland 9a	Preferred	8-2B	PEM	25	1	0.03	0.03 0.02	N/A
Wetland 10	Preferred	8-2B	PEM	35	2	1.12	1.11 1.12	1109
Wetland 11	Preferred/Alternate	8-2B	PEM	20	1	0.05	0.02	9
Wetland 12	Preferred/Alternate	8-2B	PEM	19	1	0.02	0.01	N/A
Wetland 13	Preferred/Alternate	8-2B & 8-2A	PEM	37	2	2.19	0.67 0.64	415
Wetland 14	Preferred	8-2A	PEM	34	2	0.17	0.07 0.11	N/A
Wetland 15	Preferred/Alternate	8-2A	PEM	31	2	0.09	0.04 0.08	N/A

Table 8-1A. Delineated Wetlands within the Preferred Route Environmental Field Survey Area and ROW

Wetland Name	Crossed by Route	Figure	Cowardin Wetland Type ^a	ORAM Score	ORAM Category	Acreage within Field Survey Area ^b	Acreage within the Preferred Route ROW ^c	Length Crossed by Preferred Route Centerline (feet)
Wetland 16c	Preferred	8-2A	PEM	30.5	2	0.12	0.10 <u>0.05</u>	28
Wetland 16d	Preferred	8-2A	PEM	7	1	0.12	0.12 <u>0.00</u>	103
Wetland 17	Preferred/Alternate	8-2A	PEM	45	2	0.10	0.02 <u>0.00</u>	N/A
Total						5.19	3.18 <u>3.06</u>	1747

Notes:

a Wetland Type: PEM = palustrine emergent, PSS = palustrine scrub/shrub, PFO = palustrine forested.

b The width of the Field Survey Area was 300 feet for the Preferred and Alternate Route.

c The width of the final maintained ROW is planned to be 100 feet.

ORAM = Ohio Rapid Assessment Method

Table 8-1B. Delineated Wetlands within the Alternate Route Environmental Field Survey Area and ROW

Text provided in the January 11, 2023 Application filing remains unchanged.

(c) Waterbodies**(i) Field-Delineated Streams**

A total of eleven (11) streams were delineated in the Preferred Route and Alternate Route Field Survey Area. Jurisdictional streams were identified as those waters that possessed a continuously defined bed and bank, ordinary high water mark (OHWM) indicators, and lacked a dominance of upland vegetation in the channel. Per U.S. Army Corps of Engineers (USACE) guidance, the OHWM is defined as the “line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (USACE, 2005). Channels that parallel a roadway or railroad were identified as upland drainage features and were not considered to be jurisdictional unless they had an identifiable OHWM, were identified on the U.S. Geological Survey topographic map, or represented a presumed relocation of a natural channel.

Functional stream assessments are typically performed if streams are found, which would be conducted using the methods described in the Ohio Environmental Protection Agency’s (OEPA’s) *Methods for Assessing Habitat in Flowing Waters: Using OEPA’s Qualitative Habitat Evaluation Index (QHEI)* (OEPA, 2006) and in the OEPA’s *Field Evaluation Manual for Ohio’s Primary Headwater Habitat Streams* (OEPA, 2020). The QHEI, would be used to characterize larger streams (drainage areas greater than 1 square mile), while the Primary Headwater Habitat Evaluation Index (HHEI) would be appropriate for first-order and second-order headwater streams (drainage areas less than 1 square mile).

Streams identified during the ecological survey on the Preferred and Alternate Routes are shown on Figures 8-2A through 8-2C. Detailed information on each delineated stream is included in Table 8-2A and Table 8-2B.

The Preferred Route centerline has six stream crossings and approximately 1152 linear feet of stream are located within the Preferred Route ROW. The Alternate Route centerline has six stream crossings and approximately 860 linear feet are located within the Alternate Route ROW. Construction impacts on these features are included in Table 8-2A and Table 8-2B and further discussed in Section 4906-05-08(B)(3)(c). The information presented in Table 8-2A reflects updated information based on detailed engineering for the proposed transmission line.

Table 8-2A. Streams within the Preferred Route Environmental Field Survey Area and ROW

Stream ID Waterbody Name	Crossed by Route	Figure	Flow Regime	Bankfull Width (feet)	OHWM Width (feet)	Form	Score	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by the Preferred Route Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within the Preferred Route ROW ^b
Stream 1 UNT to Ohio River	Preferred/ Alternate	8-2C	Ephemeral	5	3	HHEI	40	Modified Class II PHW	Y	151 <u>177</u>	101 <u>102</u>
Stream 2 UNT to Ohio River	Preferred/ Alternate	8-2C	Intermittent	8	6	QHEI	43	Fair	Y	470 <u>62</u>	44
Stream 2a UNT to Ohio River	N/A	8-2C	Ephemeral	8	3	HHEI	32	Modified Class II PHW	N/A	1163 <u>1403</u>	N/A <u>0</u>
Stream 2b UNT to Ohio River	N/A	8-2C	Ephemeral	8	3	HHEI	36	Modified Class II PHW	N/A	762	N/A <u>0</u>
Stream 3 UNT to Ohio River	N/A	8-2C	Ephemeral	2	1	HHEI	25	Class I PHW	N/A	84	84
Stream 4 UNT to Ohio River	Preferred/ Alternate	8-2C	Intermittent	7	4.5	HHEI	65	Modified Class II PHW	Y	353 <u>85</u>	58
Stream 5 Patton Run	Preferred/ Alternate	8-2B	Perennial	20	16	QHEI	44	Fair	Y	529 <u>343</u>	103 <u>113</u>
Stream 6 UNT to Ohio River	Preferred/ Alternate	8-2B	Intermittent	10	4.5	HHEI	59	Modified Class II PHW	Y	198 <u>364</u>	86 <u>101</u>

Table 8-2A. Streams within the Preferred Route Environmental Field Survey Area and ROW

Stream ID Waterbody Name	Crossed by Route	Figure	Flow Regime	Bankfull Width (feet)	OHWM Width (feet)	Form	Score	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by the Preferred Route Centerline	Length (linear feet) within Field Survey Area ^a	Length (linear feet) within the Preferred Route ROW ^b
Stream 6a UNT to Ohio River	N/A	8-2A	Intermittent	8	3.5	HHEI	40	Modified Class II PHW	N/A	370 <u>90</u>	N/A <u>0</u>
Stream 7 UNT to Ohio River	Preferred	8-2A	Intermittent	4	2.5	HHEI	47	Modified Class II PHW	¥ <u>N/A</u>	632 <u>577</u>	281 <u>370</u>
Stream 8 UNT to Ohio River	Alternate	8-2A	Intermittent	7.5	3	HHEI	47	Modified Class II PHW	<u>N/A</u> <u>Y</u>	2069	103 <u>154</u>
			Perennial	12	9		62	PHW		<u>545</u>	292 <u>349</u>
				12.6	13.5		87	Class III PHW		<u>470</u>	
Total										6781 <u>4492</u>	1152 <u>1375</u>

Notes:

a The width of the Field Survey Area was 300 feet for Preferred and Alternate Route

b The width of the final maintained ROW is planned to be 100 feet.

UNT = unnamed tributary

ID = identification

Table 8-2B. Streams within the Alternate Route Environmental Field Survey Area and ROW

Text provided in the January 11, 2023 Application filing remains unchanged.

(ii) Lakes, Ponds, and Reservoirs

Text provided in the January 11, 2023 Application filing remains unchanged.

Table 8-3. Delineated Open Water Features within the Preferred Route and Alternate Route Environmental Field Survey Area

Text provided in the January 11, 2023 Application filing remains unchanged.

(2) Map of Facility, Right-of-Way, and Delineated Resources

Text provided in the January 11, 2023 Application filing remains unchanged.

(3) Construction Impacts on Vegetation and Surface Waters**(a) Construction Impacts on Vegetation**

Text provided in the January 11, 2023 Application filing remains unchanged.

(b) Construction Impacts on Wetlands

There are thirty-three (33) wetlands delineated within the Project area. During wetland and waterbody delineations, 21 wetlands were identified along the Preferred Route within the proposed ROW, totaling ~~3.18~~ 3.06 acres. Seven of these wetlands are crossed by the Preferred Route centerline, totaling 1,747 linear feet. Sixteen (16) wetlands were identified along the Alternate Route within the proposed ROW, totaling 1.56 acres. Ten of these wetlands are crossed by the Alternate Route centerline, totaling 408 linear feet.

Wetland ORAM categories delineated in the Preferred Route ROW are detailed below:

- Category 1 wetlands: Thirteen (13) Category 1 wetlands with ORAM scores ranging from 7 to 28 were identified within the ROW, totaling ~~1.04~~ 0.92 acres of the ROW. Two of these wetlands are crossed by the centerline by 112 linear feet.
- Category 2 wetlands: Eight Category 2 wetlands with ORAM scores ranging from 30.5 to 45 were identified within the ROW, totaling 2.14 acres of the ROW. Five of these wetlands are crossed by the centerline by 1,636 linear feet.

Wetland ORAM categories delineated in the Alternate Route ROW are detailed below:

- Category 1 wetlands: Six Category 1 wetlands with ORAM scores ranging from 11 to 20 were identified within the ROW, totaling 0.07 acre of the ROW. Four of these wetlands are crossed by the centerline by 35 linear feet.
- Category 2 wetlands: Ten (10) Category 2 wetlands with ORAM scores ranging from 31 to 51 were identified within the ROW, totaling 1.49 acres of the ROW. Six of these wetlands are crossed by the centerline by 373 linear feet.

The delineated wetlands are shown on Figures 8-2A through 8-2C. Detailed information about each feature can be found on Table 8-1A and Table 8-1B in Section 4906-05-08(B)(b)(ii). According to the Ecological Survey Report (Attachment 8-2), temporary and permanent impacts to wetlands are “To be Determined”. It is assumed that Best Management Practices for erosion and sediment control will be utilized by the construction operator to limit disturbances to wetlands. Consultation with U.S. Army Corps of Engineers and Ohio EPA for Clean Water Act section 404 and 401 permit requirements will occur if the project proposes to impact wetlands.

Through appropriate planning and permitting, care will be taken near wetlands to avoid or minimize filling and sedimentation during construction. There are no current plans to place structures within wetland boundaries, and the Company will avoid the placement of poles within wetlands to the extent practical. Selective clearing will be required to remove specific types of woody vegetation in wetlands that might impede construction or interfere with operation of the transmission line. Where wooded or forested wetlands occur within the ROW, the trees will be removed.

To minimize soil erosion and sedimentation during construction, best management practices such as utilization of silt fences and construction matting will be implemented as required during construction. Sedimentation potential at wetlands is unlikely because of the plans for pole placement outside of wetlands, and the fact that construction equipment will only cross wetlands if necessary, and will do so using construction matting if wet conditions require.

Disturbance of soils in wetland areas during construction will be minimized. Placement of permanent fill material in wetland areas will be avoided to the extent practical. Although not anticipated, if it is necessary to place a pole or guy wires within a wetland, they will be accessed using construction matting if wet conditions exist at the time of construction. No excavation other than the boring or excavation of a hole for pole installation will be performed within wetland areas. If pole placement is required within a wetland, no additional fill will be placed in the wetlands beyond the placement of the pole and borehole backfill.

Wetland areas will be clearly staked prior to the commencement of any clearing to minimize incidental vehicle impacts. Other than the remote possibility of pole locations within wetlands discussed above, operation of heavy mechanized equipment is not planned within any identified wetland areas, although some construction equipment may need to cross wetland areas on construction matting if wet conditions exist at the time. Woody vegetation in wetlands will be hand-cut by chain saws or other non-mechanized techniques. When necessary, rubber-wheeled vehicles, or vehicles equipped with tracks, will be used to remove vegetation debris. The Company will perform all construction work in accordance with the conditions and requirements of regulatory permits obtained for the Project.

(c) Construction Impacts on Waterbodies

Text provided in the January 11, 2023 Application filing remains unchanged.

(4) Mitigation Procedures

Text provided in the January 11, 2023 Application filing remains unchanged.

(C) LITERATURE SURVEY OF PLANT AND ANIMAL LIFE POTENTIALLY AFFECTED

Text provided in the January 11, 2023 Application filing remains unchanged.

(D) SITE GEOLOGY

Text provided in the January 11, 2023 Application filing remains unchanged.

(E) ENVIRONMENTAL AND AVIATION REGULATION COMPLIANCE

Text provided in the January 11, 2023 Application filing remains unchanged.

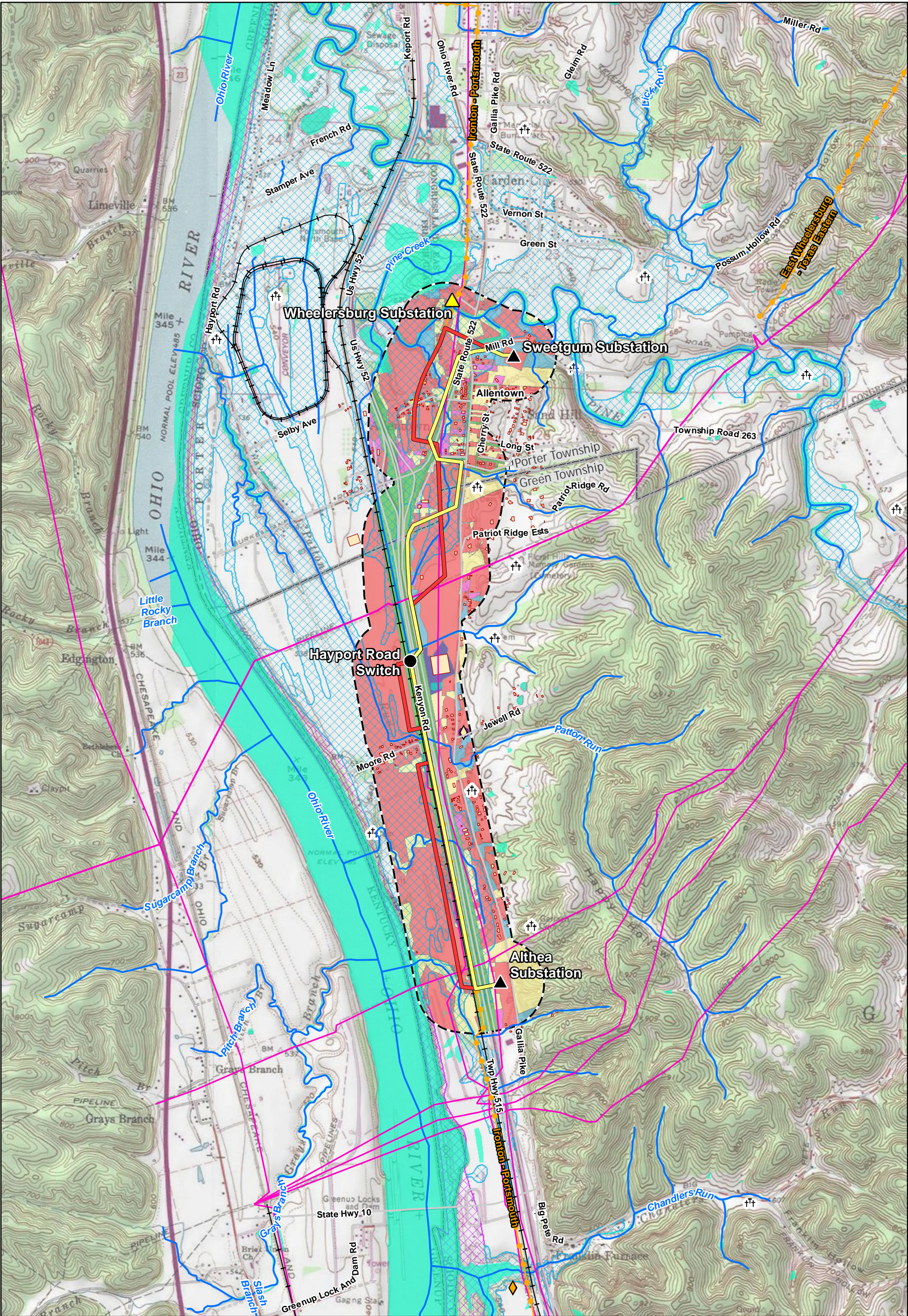
REFERENCES

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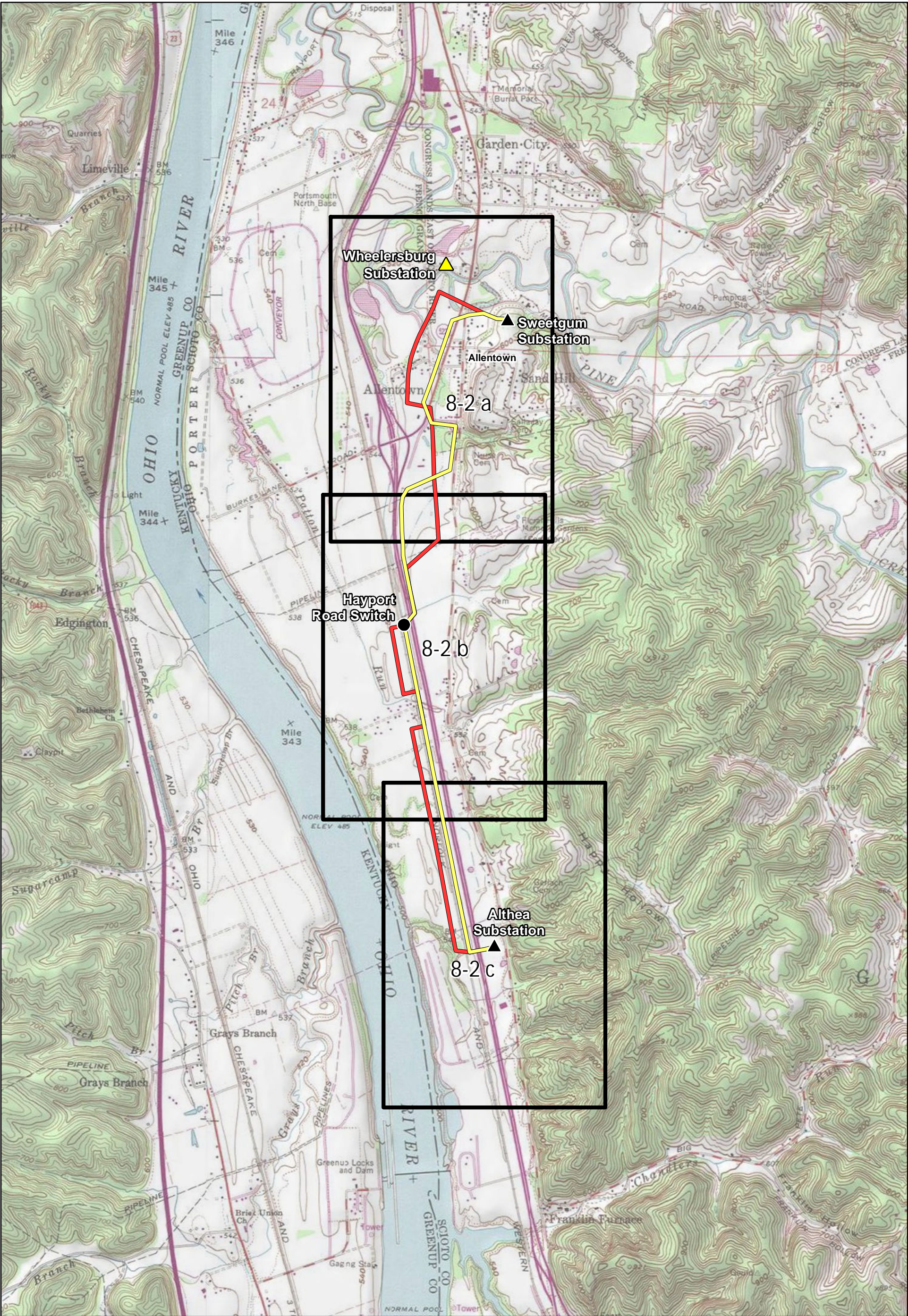
FIGURES



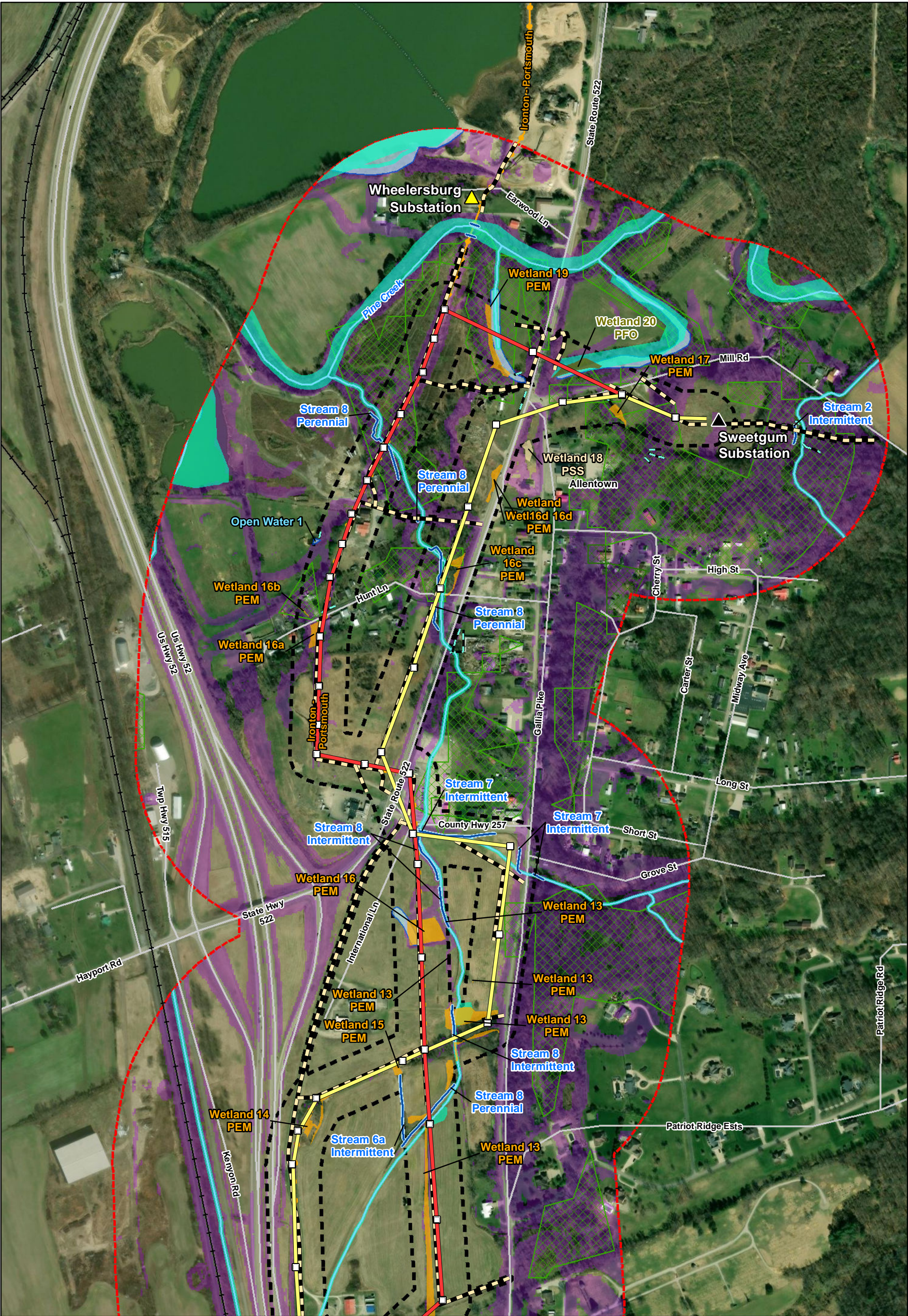
<div><div><div>▲</div><div>Proposed Substation</div></div><div><div>●</div><div>Existing Switch</div></div><div><div>▲</div><div>Existing Substation</div></div><div><div>⊕</div><div>Water Booster Station</div></div><div><div>—</div><div>Revised Preferred Route</div></div><div><div>—</div><div>Alternate Route</div></div><div><div>—</div><div>Existing Transmission Line</div></div></div> <div><div><div>—</div><div>Roadway</div></div><div><div>—+—</div><div>Railroad</div></div></div>	<div><div>Base Map Source: ESRI World Imagery (2021)</div><div><div>Coordinate System: State Plane Ohio South FIPS 3402 (US Feet) Datum: NAD 1983 1:15,000</div><div><div>March 12, 2024</div></div></div></div>	<div><div><div><div>OHIO</div><div>Project Location</div></div></div></div>	<div><div><div>Figure 2-1 Project Overview</div><div><div><div>AEP OHIO TRANSMISSION COMPANY</div><div><small>an AEP Company</small> BOUNDLESS ENERGY™</div></div><div><div>Althea-Sweetgum 138-kV Transmission Line Project Scioto County, OH</div></div><div><div>01,0002,000</div><div>Feet</div></div></div></div></div>
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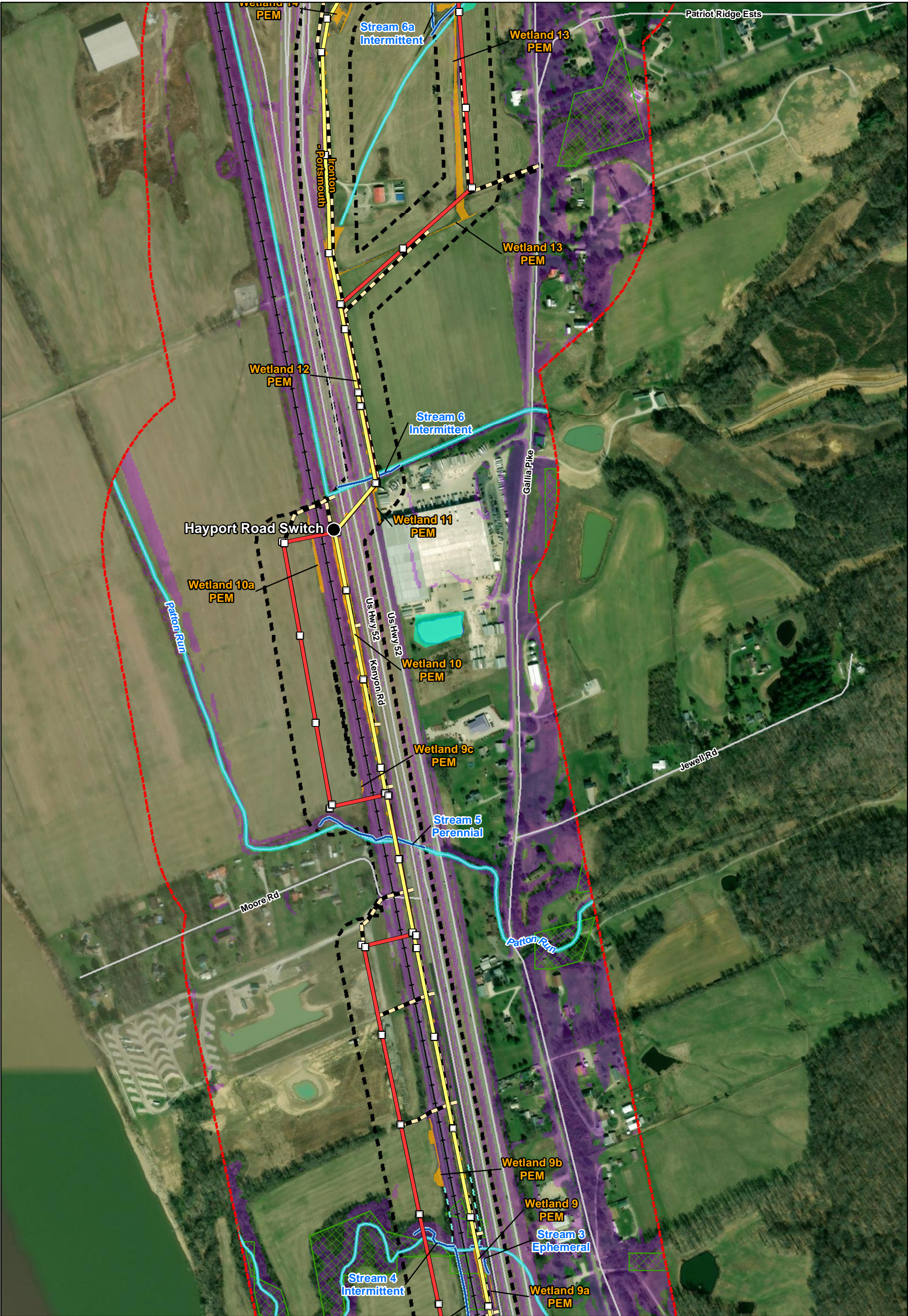
<ul style="list-style-type: none">▲ Proposed Substation● Existing Switch▲ Existing Substation● Historic Structures◆ NRHP Structure◆ OHI Structure†† Cemetery— Revised Preferred Route— Alternate Route— Existing Transmission Line— Pipeline— Roadway— Railroad— NWI Wetland— 100-yr Floodplain— Floodway■ Building■ 1000' Buffer■ Land Cover<ul style="list-style-type: none">■ Agricultural■ Commercial■ Industrial■ Residential■ Roal/Rail ROW	<p>Base Map Source: ESRI World Imagery (2021)</p> <p>Coordinate System: State Plane Ohio South FIPS 3402 (US Feet) Datum: NAD 1983 1:24,000</p> <p>March 12, 2024</p>		<p>Figure 7-1 Land Use Map</p> <p>Althea-Sweetgum 138-kV Transmission Line Project Scioto County, OH</p> <p>AEP OHIO TRANSMISSION COMPANY <small>AEP Company</small> <small>BOUNDLESS ENERGY</small></p> <p>0 1,000 2,000 Feet</p>
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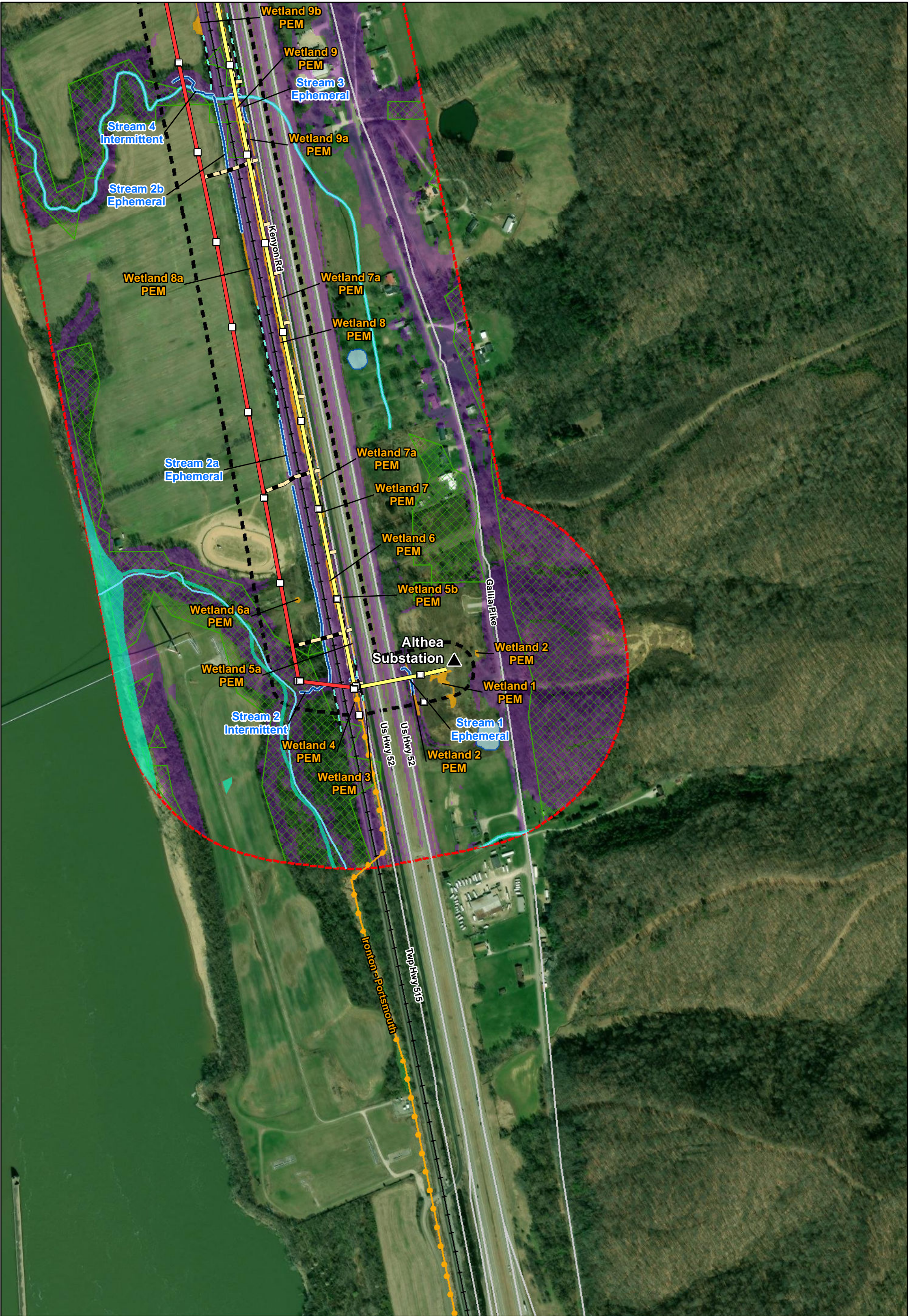
<p>Legend</p> <ul style="list-style-type: none">▲ Proposed Substation● Existing Switch▲ Existing Substation— Revised Preferred Route— Alternate Route□ Index Page	<p>Base Map Source: ESRI World Imagery United States Geological Service (USGS)</p> <p>Coordinate System: State Plane Ohio South FIPS 3402 (US Feet) Datum: NAD 1983 1:24,000</p> <p>March 12, 2024</p>		<p>Figure 8-1 Ecological Overview Map</p> <p>AEP OHIO TRANSMISSION COMPANY <small>AEP Company</small> <small>BOUNDLESS ENERGY</small></p> <p>Althea-Sweetgum 138-kV Transmission Line Project Scioto County, OH</p> <p>0 1,000 2,000 3,000 Feet</p>
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<ul style="list-style-type: none">▲ Proposed Substation▲ Existing Substation□ Proposed Structure Location— Revised Preferred Route— Alternate Route— Preliminary Access Road— Existing Transmission Line— Roadway	<ul style="list-style-type: none">— Railroad— NHD Stream— Delineated Stream Centerline— Drainage Feature— NWI Wetland— Delineated PEM Wetland— Delineated PFO Wetland— Delineated PSS Wetland— Survey Area	<ul style="list-style-type: none">▨ Deciduous Forest Area▨ Herbaceous Area▨ Slopes Greater than 12%▨ 1000' Buffer	<p>Base Map Source: ESRI World Imagery United States Geological Service (USGS)</p> <p>Coordinate System: State Plane Ohio South FIPS 3402 (US Feet) Datum: NAD 1983 1:6,000</p> <p>March 12, 2024</p>		<p>Figure 8-2 a Delineated Wetlands and Waterbodies Map</p> <p>Althea-Sweetgum 138-kV Transmission Line Project Scioto County, OH</p> <p>AEP OHIO TRANSMISSION COMPANY <small>AEP Company</small> BOUNDLESS ENERGY</p> <p>0 250 500 750 1,000 Feet</p>
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<ul style="list-style-type: none">Existing SwitchProposed Structure LocationRevised Preferred RouteAlternate RoutePreliminary Access RoadExisting Transmission LineRoadwayRailroad	<ul style="list-style-type: none">NHD StreamDelineated Stream CenterlineDrainage FeatureNWI WetlandDelineated PEM WetlandSurvey AreaDeciduous Forest AreaSlopes Greater than 12%1000' Buffer	<p>Base Map Source: ESRI World Imagery United States Geological Service (USGS)</p> <p>Coordinate System: State Plane Ohio South FIPS 3402 (US Feet) Datum: NAD 1983 1:6,000</p> <p>March 12, 2024</p>		<p>Figure 8-2 b Delineated Wetlands and Waterbodies Map</p> <p>Althea-Sweetgum 138-kV Transmission Line Project Scioto County, OH</p> <p>AEP OHIO TRANSMISSION COMPANY <small>AEP Company</small> BOUNDLESS ENERGY</p> <p>0 250 500 750 1,000 Feet</p>
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<p>▲ Proposed Substation</p> <p>□ Proposed Structure Location</p> <p>— Revised Preferred Route</p> <p>— Alternate Route</p> <p>— Preliminary Access Road</p> <p>— Existing Transmission Line</p> <p>— Roadway</p> <p>— Railroad</p>	<p>— NHD Stream</p> <p>— Delineated Stream Centerline</p> <p>— Drainage Feature</p> <p>— NWI Wetland</p> <p>— Delineated PEM Wetland</p> <p>— Delineated PSS Wetland</p> <p>— Survey Area</p> <p>— Deciduous Forest Area</p> <p>— Slopes Greater than 12%</p>	<p>1000' Buffer</p>	<p>Base Map Source: ESRI World Imagery United States Geological Service (USGS)</p> <p>Coordinate System: State Plane Ohio South FIPS 3402 (US Feet) Datum: NAD 1983 1:6,000</p> <p>March 12, 2024</p>		<p>Figure 8-2 c Delineated Wetlands and Waterbodies Map</p> <p>Althea-Sweetgum 138-kV Transmission Line Project Scioto County, OH</p> <p>AEP OHIO TRANSMISSION COMPANY</p> <p>in AEP Company BOUNDLESS ENERGY</p> <p>0 250 500 750 1,000 Feet</p>
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in

Case No(s). 24-0484-EL-BTA

Summary: Amended Application Althea-Sweetgum 138 kV Transmission Line
Project electronically filed by Hector Garcia-Santana on behalf of AEP Ohio
Transmission Company, Inc..