4906-5-05 PROJECT DESCRIPTION

(A) PROJECT AREA DESCRIPTION

The map included in this section provides a description of the project area's geography, topography, population centers, major industries, and landmarks.

(1) Project Area Map

Figures 7-1A through 7-1C provides maps at 1:24,000-scale, showing the Preferred and Alternate Routes for the Project. These maps include a 1,000-foot corridor on each side of the proposed transmission centerlines (hereafter referred to as the 2,000-foot corridor). These maps depict the proposed transmission lines, roads and railroads, major institutions, parks, and recreational areas that are publicly owned, existing gas pipeline and electric transmission line corridors, named lakes, reservoirs, streams, canals, and rivers, and population centers and legal boundaries of cities, villages, townships, and counties. The maps utilize the Macksburg (1998b), Lower Salem (1998a), and Marietta (1998c) USGS 7.5-minute topographic quadrangles as base maps.

The information on the map was updated by reviewing digital, georeferenced aerial photography, property parcel data from the Washington County Auditors, and field reconnaissances conducted between June 2016 and January 2017. The aerial photographs are georeferenced, ortho-corrected color images derived from ESRI ArcGIS Online.

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

The proposed ROW width is 100 feet. Table 5-1 provides information about the Preferred and Alternate Route ROW acreage, length, and properties crossed based on the proposed centerline.

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)	190.6	200.1
Length (in miles)	15.7	16.5
Number of properties crossed (by ROW)	123	145

(B) ROUTE OR SITE ALTERNATIVE FACILITY LAYOUT AND INSTALLATION

(1) Site Clearing, Construction, and Reclamation

The following paragraphs provide information on the proposed site clearing, construction methods, and reclamation operations for the Project.

(a) Surveying and Soil Testing

The selected transmission line route will be surveyed to establish the centerline, ROW, and pole locations. The surveying will be completed using conventional or aerial methods. Topographic features and manmade structures near the proposed route that may affect the design will be identified during the survey. Minimal clearing of small trees and brush may be required if the surveyor's line of sight is obstructed. Offsets will be used to survey around large trees and other large obstructions. Profile measurements of the topography will be obtained by conventional or aerial methods. The centerline and ROW will be staked prior to construction.

Soil and rock tests will be performed along portions of the final approved route, if foundations for poles are necessary. Augured test borings will be achieved using a machine-driven auger at least 4 inches in diameter. Soil samples will be obtained at approximately 2.5-foot intervals for the first 10 feet, 5-foot intervals below 10 feet, and at any change in subsurface strata. Sampling will include split barrel samples in non-cohesive soils and thin-walled tube samples in cohesive soils. Typically, the testing will be performed to a depth of 30 to 40 feet. If rock is encountered, a carbide-tipped bit will be drilled 5 to 10 feet into the rock.

(b) Grading and Excavation

Soil surface grading for the Project is not anticipated. Some laydown and set-up areas for construction equipment may require minor local leveling, but this will be restricted to the immediate area. It is anticipated that most self-supporting steel pole locations will be installed by direct-embed methods. Due to site-specific requirements, some self-supporting steel poles may require concrete foundations. The excavation for each foundation will be approximately 6 to 8 feet in diameter and 25 to 35 feet deep. A portion of the excavated soil will be used for backfill around the foundation, and the excess soil material will be placed around the pole or hauled offsite to an approved spoils disposal site.

(c) Construction of Temporary and Permanent Access Roads and Trenches

Construction access will be required for installation of the pole structures and stringing of the conductor cable or wire. Access roads will require the landowner's input and approval. Preliminary access roads for the Preferred Route are presented on Figures 8-2A through 8-2M. Note these access roads cannot be fully planned and identified until after a final route is approved followed by AEP Ohio Transco's contact with affected landowners for transmission line easements. Where access across wetlands or streams is necessary, timber mats or equivalent will be used to minimize the environmental impacts. If field conditions necessitate the modification of the finalized access road locations during construction, the concurrence of the property owner

will be obtained, necessary environmental field studies will be performed, and necessary permits will be updated.

(d) Stringing of Cable

During wire stringing operations, areas along the transmission line will be used as setup locations for the wire pulling equipment (such as conductor reels, groundwire reels, and the wire tensioner). Conductor installation will be accomplished using the tension stringing method. Lightweight cables or ropes will be fed through the stringing sheaves mounted on the poles. Conductors will be pulled through under sufficient tension to keep the conductor off the ground to prevent any damage to the conductor. Temporary guard or clearance poles will be used as a safety precaution at locations where the conductors could create a hazard to either crewmembers or the public. The locations and heights of clearance poles will be such that conductors are held clear of other electric distribution lines, communication cables, railroads and roadways. The stringing operation will be under the observation of transmission line construction crewmembers at all times. The observers will be in radio or visual contact with the operator of the stringing equipment.

(e) Installation of Electric Transmission Line Poles and Structures, Including Foundations

Generally, the Project will be constructed using steel poles. Most self-supporting steel pole locations will involve direct embed installation. Where necessary, due to site-specific conditions, installation of a single, excavated concrete foundation may be used. The excavation for each concrete foundation will be approximately 6 to 8 feet in diameter and 25 to 35 feet deep.

(f) Post-Construction Reclamation.

Topsoil at pole excavations will be stockpiled when necessary and protected from erosion. Topsoil will be redistributed over disturbed areas to foster re-vegetation following construction (except in wetland areas). Restoration, including temporary and permanent seeding, will be coordinated with the construction activities to provide re-vegetation and soil stabilization at the earliest reasonable time. Following construction, all pole locations, material storage sites, and temporary access roads will be restored and seeded with a suitable grass seed mixture that will be specified in the erosion and sediment control plan.

Re-vegetation techniques will enhance the ROW for use as possible wildlife habitat. Where stream banks are disturbed, they will be restored by planting of low-growing species, where necessary, in order to reduce bank erosion. Lawn or garden areas, or paved areas damaged during the construction of the transmission line, will be restored to original condition. Landscaping or landscape plantings damaged during construction will also be restored to original condition or replaced as directed by the affected property owner. After restoration is complete, AEP Ohio Transco will periodically inspect the ROW to identify areas of erosion, sedimentation, and inadequate re-vegetation conditions, if any. If such conditions are identified, corrective actions will be implemented.

(2) Facility Layout

No new associated facilities such as new substations are proposed for the Project.

(a) Transmission Line Route Map

Figures 8-2A through 8-2M and 8-3A through 8-3N show maps at 1:6,000-scale of the Preferred and Alternate Routes, respectively. These maps illustrate the data required by OAC 4906-5-05(A)(1). Although the additional information required by OAC 4906-5-05 (B)(2)(a) (for example, pole structure locations) will not be finalized until a final route is approved by the OPSB and the final engineering design is complete, preliminary locations are provided for the Preferred Route as illustrated in Figures 8-2A through 8-2M. The data and information defined in OAC 4906-5-05 (B)(2)(a) includes temporary access roads and proposed locations of transmission line poles and buildings. No fenced-in or secured areas are planned for the transmission line Project.

AEP Ohio Transco is currently identifying staging areas and laydown areas for the Project. To date, none have been identified within the project area. After sites are identified, AEP Ohio Transco will provide final locations that support this Project.

(b) Proposed Layout Rationale

A detailed description of the reasons for the proposed layout (i.e., the Preferred and Alternate Routes) are presented in the RSS (Appendix 4-1). There are no unusual features within the study area beyond the steep terrain formed by ridgetops and narrow valleys.

(c) Plans for Future Modifications

Except as otherwise described in this Application, AEP Ohio Transco currently has no plans for future modifications of the proposed Project.

(C) DESCRIPTION OF PROPOSED TRANSMISSION LINES OR PIPELINES

(1) Electric Power Transmission Lines

(a) Design Voltage

The Macksburg-Devola transmission line will be designed and operated at 138 kV.

(i) Tower Designs, Pole Structures, Conductor Size and Number per Phase, and Insulator Arrangement

The majority of the line will be composed of a tangent, braced post, delta structure (Figure 5-1) with an estimated above ground height of 80 feet. The conductor used for the new transmission line will be a 1,033 thousand circular mil (kcm) 54/7 aluminum conductor, steel-reinforced cable (ACSR) per phase. This conductor has a maximum strength of approximately 36,600 pounds. The new line will utilize one 7#8 Alumoweld shield wire. The shield wire has a maximum strength of 15,930 pounds. Both the phase conductors and the shield wire will be installed in accordance to the latest version of the National Electric Safety Code. The conductors will be supported by aluminum clamps which be attached to the insulators. Aluminum suspension clamps will support

the shield wires. At dead-end locations, compression dead-end clamps will be used on both the conductor and the shield wire.

(b) Base and Foundation Design

All angle locations will require installation of a single concrete foundation. The excavation for each concrete foundation will be approximately 6 to 8 feet in diameter and 25 to 35 feet deep.

(c) Cable Type and Size, where Underground

No underground cables are associated with this Project; therefore, this section is not applicable.

(d) Other Major Equipment or Special Structures

No other major equipment or special structures are required for the Project.

(2) Diagram of Electric Power Transmission Substations

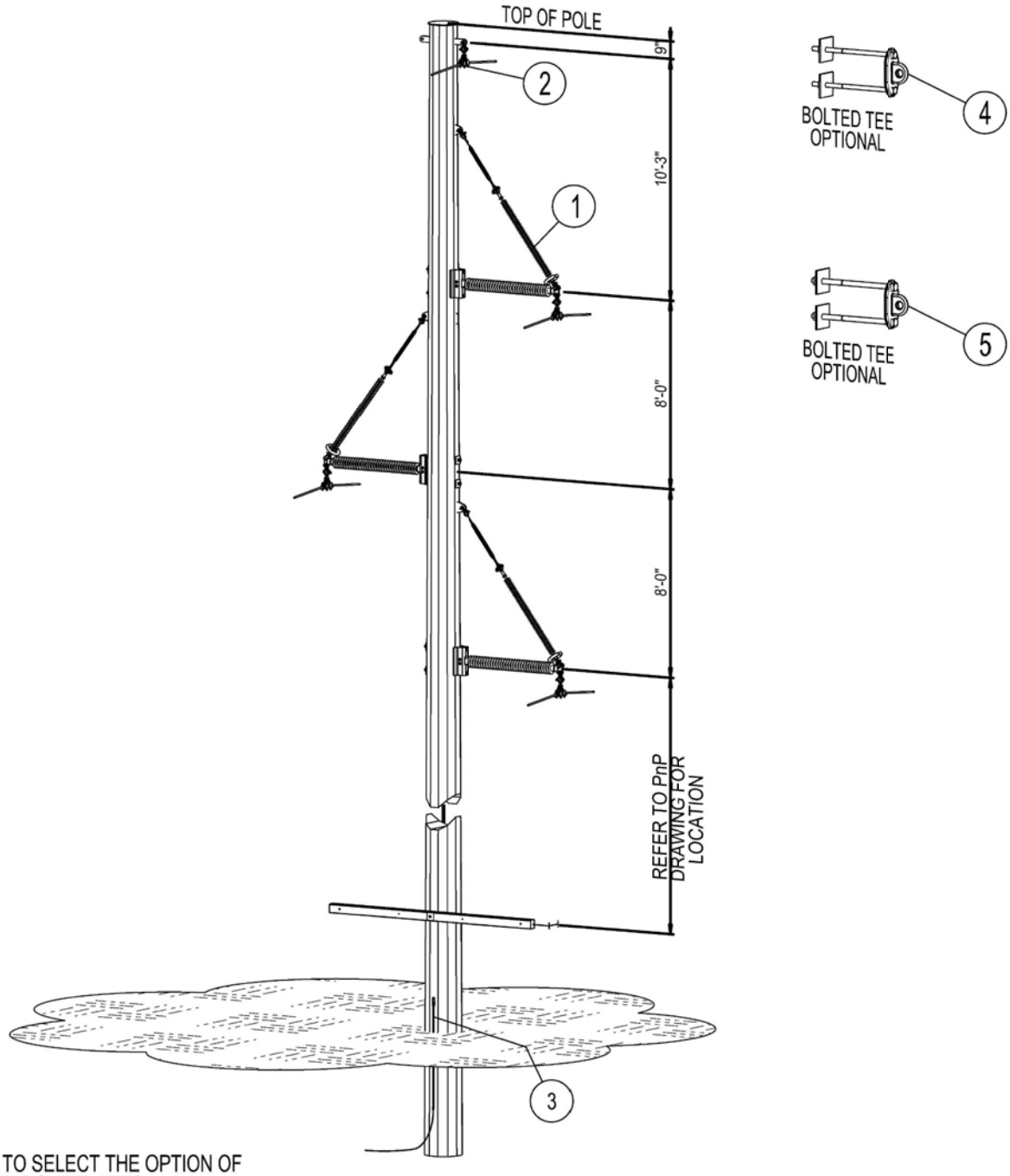
No new electric power transmission substations are proposed for this Project.

Figures

Figures

REF. DRAWINGS

ITEM	QTY.	ASSEMBLY	DESCRIPTION	
1	3	13B5-2739	138KV INSULATOR, POLYMER, 0° DEGREE BRACED POST, W/CORONA RING	
2	1	30T0-1102	OHGW, SUSPENSION, CONCRETE, STEEL OR WOOD POLE	
3	1	21SE-1456	GROUND ROD FOR DIRECT EMBEDDED STEEL POLE	
4	1	71A0-1231	3/4 IN FLAT DEAD-END TEE	
5	3	71A0-1233	7/8 IN FLAT DEAD-END TEE	



NOTES:
1. T-LINE ENGINEER TO SELECT THE OPTION OF WELDED VANGS OR BOLTED TEES.

Figure 5-1A

REV	DESCRIPTION	BY	DATE
1	REVISED STRUCTURE - SAS	McP	03/03/16

AEP AMERICAN ELECTRIC POWER

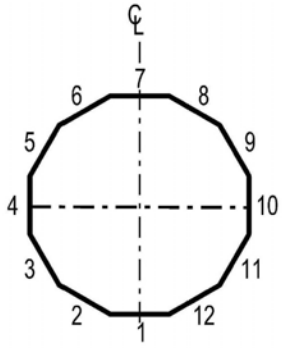
TRANSMISSION LINE STANDARDS

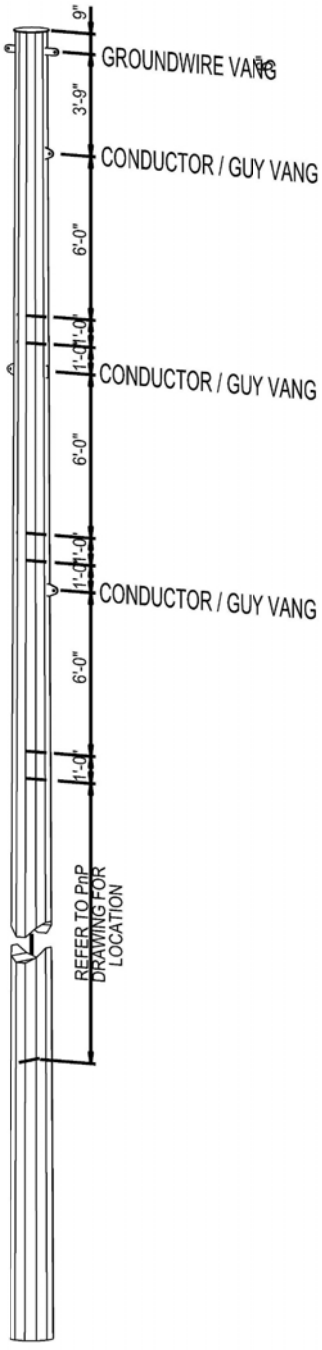
POLYMER - 138KV SINGLE CIRCUIT, ALTERNATING, ZERO DEGREE BRACED POST W/CORONA RING, STEEL

ENGR:	DRAWN: SAS	CHECKED: McP	APPROVED: JCN	DATE: 10/17/12

DRAWING No. CS11-2395 | SHEET No. 1 | REV. No. 1

Archive ID: 905-600





VANG TABLE	
16.5K	
24.75K	
33K	
49.5K	

NOTES:
1. ALL HOLES TO BE $^{15}/_{16}$"Ø.
2. ALL HOLES FOR TRANSMISSION LINES ARE ON AXIS "4-10".
3 REFER TO DRAWING NO. 01D5-1225 FOR VANG AND GROUNDING NUT DETAILS.

Figure 5-1B

REV	DESCRIPTION	BY	DATE
1	REVISED STRUCTURE - SAS	McP	03/03/16

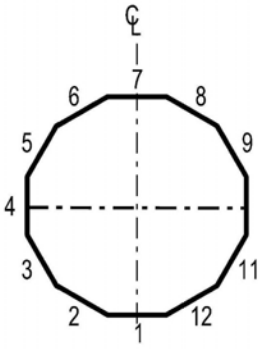
AEP AMERICAN ELECTRIC POWER

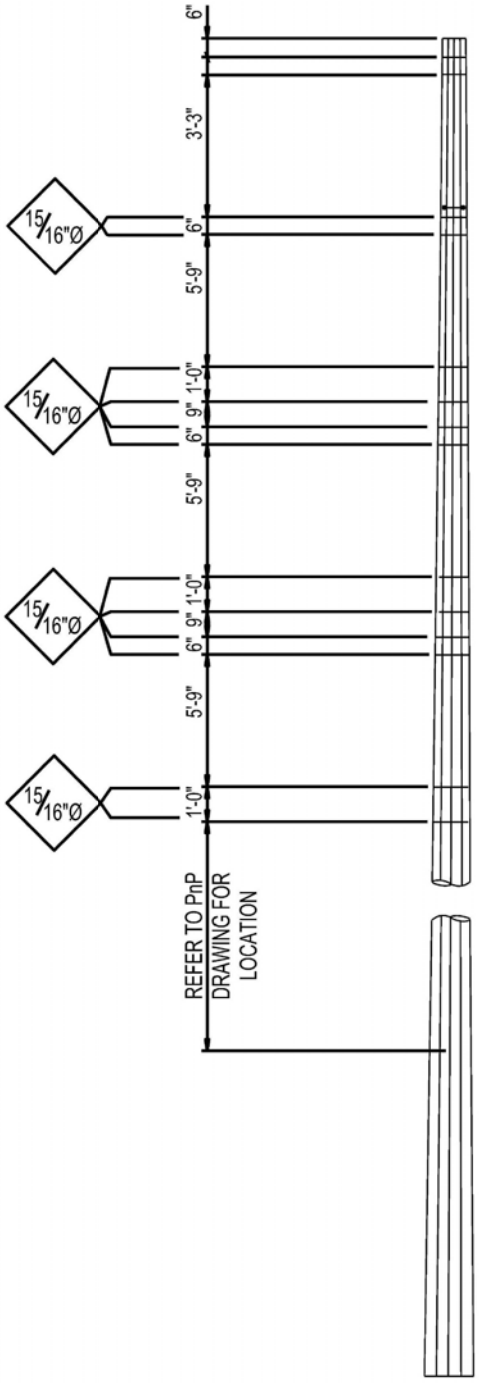
TRANSMISSION LINE STANDARDS
DRILL LOCATIONS
POLYMER - 138KV SINGLE CIRCUIT, ALTERNATING, ZERO DEGREE BRACED POST W/CORONA RING, STEEL

ENGR:	DRAWN: SAS	CHECKED: McP	APPROVED: JCN	DATE: 10/17/12

DRAWING No. CS11-2395 | SHEET No. 2 | REV. No. 1

Archive ID: 905-600





NOTES:
1. ALL HOLES SHALL BE 13/16"Ø UNLESS NOTED.
2. ALL HOLES FOR TRANSMISSION LINES ARE ON AXIS "4-10".

Figure 5-1C

REV	DESCRIPTION	BY	DATE
1	REVISED STRUCTURE - SAS	McP	03/03/16

AEP AMERICAN ELECTRIC POWER

TRANSMISSION LINE STANDARDS
DRILL LOCATIONS
POLYMER - 138KV SINGLE CIRCUIT, ALTERNATING, ZERO DEGREE BRACED POST W/CORONA RING, STEEL

ENGR:	DRAWN: SAS	CHECKED: McP	APPROVED: JCN	DATE: 10/17/12

DRAWING No. CS11-2395 | SHEET No. 3 | REV. No. 1

Archive ID: 905-600

Appendix 5-1

Appendix 5-1
Long-Term Forecast Report of AEP Ohio Transmission Company, Inc.

AMERICAN ELECTRIC POWER

Legal Department

American Electric Power
1 Riverside Plaza
Columbus, OH 43215
aep.com

April 15, 2016

Barcy F. McNeal
Docketing Division Chief
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43215-3793

Steven T. Nourse
Senior Counsel –
Regulatory Services
(614) 716-1608 (P)
(614) 716-2014 (F)
stnourse@aep.com

RE: *In the Matter of the Long-Term Forecast Report of AEP Ohio Transmission Company, Inc. and Related Matters,* Case No. 16-1501-EL-FOR.

Dear Ms. McNeal:

I am submitting the enclosed 2016 Long-Term Forecast Report (LTFR) on behalf of AEP Ohio Transmission Company, Inc., pursuant to Section 4935.04, Ohio Revised Code. I have sent a copy of AEP Ohio transmission Company, Inc.'s 2016 LTFR to the Office of the Ohio Consumers' Counsel in accordance with Rule 4901:5-1-03(F), Ohio Administrative Code.

Thank you for your attention to this matter.

Respectfully Submitted,

_/s/ Steven T. Nourse_____
Steven T. Nourse

AEP OHIO TRANSMISSION COMPANY, INC.

LONG-TERM FORECAST REPORT

TO THE

PUBLIC UTILITIES COMMISSION OF OHIO

Case No. 16-1501-EL-FOR

2016

ELECTRIC

Case No. 16-1501-EL-FOR

LONG-TERM FORECAST REPORT

TO THE

PUBLIC UTILITIES COMMISSION OF OHIO

Submitted by

AEP Ohio Transmission Company, Inc.
700 Morrison Road
Gahanna, Ohio 43230
Telephone: (614) 716-1000

April 15, 2016

CERTIFICATE OF SERVICE

I hereby certify that:

1. Pursuant to Section 4901:5-1-03(F), Ohio Administrative Code, copies of AEP Ohio Transmission Company, Inc.'s 2016 Long-Term Forecast Report have been delivered or mailed to the Office of Consumers' Counsel on the day of the filing;

2. Pursuant to Section 4901:5-1-03(G), Ohio Administrative Code, a letter of notification stating where copies of AEP Ohio Transmission Company, Inc.'s 2016 Long-Term Forecast Report to the Public Utilities Commission of Ohio may be obtained, will be sent by first class mail to the appropriate county libraries within three days of filing;

3. Pursuant to Section 4901:5-1-03(H), Ohio Administrative Code, AEP Ohio Transmission Company, Inc. will keep at least one copy of their 2016 Long-Term Forecast Report at their principal business office for public inspection during business hours; and

4. Pursuant to Section 4901:5-1-03(I), Ohio Administrative Code, AEP Ohio Transmission Company, Inc. will provide a copy of their 2016 Long-Term Forecast Report to any person upon request at a cost to cover the expenses incurred.

Steven T. Nourse
American Electric Power Service Corporation
1 Riverside Plaza
Columbus, Ohio 43215
(614) 716-1608
Attorney for AEP Ohio Transmission Company, Inc.

April 15, 2016
Dated this day in Columbus, Ohio

OH Transco 2016

STATEMENT PURSUANT TO SECTION 4901:5-1-03(D),

OHIO ADMINISTRATIVE CODE

AEP Ohio Transmission Company, Inc.'s 2016 Long-Term Forecast Report is true and correct to the best of my knowledge and belief.

Kamran Ali
Manager Regional Transmission Planning
AEP Ohio Transmission Company, Inc.

April 15, 2016
Dated this day in Columbus, Ohio

TABLE OF CONTENTS

AEP OHIO TRANSMISSION COMPANY, Inc.

LTFR TRANSMISSION FORMS

Case No. 16-1501-EL-FOR

PUCO FORM FE-T7
AEP OHIO TRANSMISSION COMPANY
CHARACTERISTICS OF EXISTING TRANSMISSION LINES

Transmission Name & Line No.[1]	Point of (Origin - Terminus)	Summer Capability		Winter Capability		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations on the Line
List Each Transmission Line of 125 kV or More	Indicate Location of Line's Beginning and Terminus	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating	Indicate Design Voltage and Operating Voltage For Each Line		Length (Miles)	Width Max./Min. (feet)	Steel Towers, Wood Poles or Underground, etc. and Number of Miles of the Line of Each Structure	Design	Installed	Substation Name
584	Hyatt (OP) - Marysville	1166	1166	1481	1481	345	345	0.45	150/150	Steel - Lattice	1	1	
593	Bixby - West Lancaster	296	413	375	464	138	138	19.04	100/100	Wood - 3 pole	1	1	PICKERINGTON RD
596	Dexter Sw. - Elliott - Poston	98	98	123	123	138	138	3.84	100/100	Wood - H-frame	1	1	MEIGS NO. 2
621	Kenny - Roberts	213	282	221	328	138	138	1.17	100/100	Steel - 1 pole	1	1	
637	Circleville - Scippo	150	219	189	243	138	138	2.79	100/100	Wood - 1 pole	1	1	EAST SCIPPO SWITCH
658	Bixby - Groves Road No. 1	145	145	183	183	138	138	4.6	100/100	Steel - 1 pole	1	1	THREE CREEKS SW
677	Corridor - Gahanna 138kV	338	456	427	517	138	345	1.59	150/150	Wood - 1 pole	1	1	
710	Greenlawn - Tiffin Center	257	360	325	404	138	138	2.95	100/100	Wood - 1 pole	1	1	
749	Southeast Canton - Sunnyside	296	398	375	452	138	138	3.06	100/100	Steel - Lattice	1	1	
758	Tidd - Wagenhals	296	296	375	375	138	138	0.35	100/100	Steel - Lattice	1	1	BROADACRE, MALVERN, EAST AMSTERDAM, PANDA ROAD
770	Lincoln - Sterling	164	167	210	210	138	138	15.71	100/100	Wood - H-frame	1	1	NORTH DELPHOS
2256	Poston - Ross	195	220	216	239	138	138	42.44	100/100	Wood - H-frame	1	1	S BLOOMINGVIL SW
2331	Bixby - Groves Road No. 2	427	601	541	675	138	138	4.41	100/100	Steel - 1 pole	1	1	
2804	Bexley - Groves	427	498	541	572	138	138	4.35	100/100	Steel - 1 pole	1	1	
4942	Globe Metal - Muskingum River	167	167	210	210	138	138	0.39	100/100	Steel - Lattice	1	1	
15238	Jug Street - Kirk 345kV	1251	1580	1579	1825	345	345	12.26	150/150	Steel - Lattice	1	1	
16797	Blue Creek - Maddox Creek	2369	2829	3019	3365	345	345	0.03	150/150	Steel - Lattice	1	1	
17718	East Leipsic - Yellow Creek	296	361	375	453	138	138	0.41	100/100	Steel - 1 pole	1	1	
18637	Corridor - Vassell No. 1	1409	1472	1781	1826	345	345	0.5	150/150	Steel - 2 pole	1	1	
18638	Corridor - Vassell No. 2	1409	1887	1781	2144	345	345	0.49	150/150	Steel - Lattice	1	1	
18657	Gahanna - West Millersport	359	520	455	581	138	345	1.6	150/150	Wood - 1 pole	1	1	
19357	Maliszewski - Vassell	4142	4142	5133	5133	765	765	1.12	200/200	Steel - 1 pole	1	1	
19358	Delaware - Vassell	338	456	427	517	138	138	3.97	100/100	Steel - 1 pole	1	1	
19359	Hyatt - Vassell	1409	1472	1781	1826	345	345	0.52	150/150	Steel - Lattice	1	1	
19397	Muskingum River - Steamtown	205	205	258	258	138	138	1.13	100/100	Wood - 1 pole	1	1	SOUTH CALDWELL
19398	Steamtown - Summerfield	191	205	255	258	138	138	2.41	100/100	Steel - Lattice	1	1	
19899	Kammer - Vassell	4047	4571	4484	4961	765	765	116.09	200/200	Steel - 1 pole	1	1	
20237	Amlin - Hyatt	564	755	712	858	138	345	0.87	150/150	Steel - Lattice	1	1	
20737	Conesville - Ohio Central	1409	1887	1781	2144	345	345	2.94	150/150	Steel - 2 pole	1	1	
20738	Bixby - Ohio Central	1409	1887	1781	2144	345	345	2.94	150/150	Wood - 1 pole	1	1	
20758	Jug Street - Kirk 138kV	564	747	712	880	138	345	12.5	150/150	Steel - 2 pole	1	1	
21117	Highland (CSP) - Hillsboro	296	413	375	464	138	138	9.5	100/100	Wood - 1 pole	1	1	
21340	Jug Street - Smiths Mill	257	360	325	404	138	138	0.16	100/100	Steel - 1 pole	1	1	
21357	Muskingum River - Wolf Creek	205	275	258	318	138	138	4.7	100/100	Steel - H-frame	1	1	LAYMAN, CORNER
21617	Biers Run - Bixby	1409	1409	1781	1781	345	345	0.07	150/150	Steel - Lattice	1	1	
21618	Biers Run - Don Marquis	1414	1414	1787	1787	345	345	0.09	150/150	Wood - H-frame	1	1	
21678	Highland (CSP) - Seaman	195	220	216	239	138	138	3.64	100/100	Steel - 1 pole	1	1	New Market Switch
22219	Firebrick - Gavin	185	185	234	234	138	138	0.09	100/100	Steel - Lattice	1	1	GAVIN 138KV
22220	Firebrick - Millbrook	185	185	234	234	138	138	0.06	100/100	Steel - 1 pole	1	1	MILLBROOK PARK
22397	North Bellville - Ohio Central	133	133	143	143	138	138	0.94	100/100	Wood - 1 pole	1	1	MILLWOOD
22417	Corwin - Elk	220	223	277	281	138	138	5.77	200/200	Steel - Lattice	1	1	
22418	Elk - Poston	164	180	191	191	138	138	9.06	100/100	Wood - H-frame	1	1	
22537	Ohio Central - Philo #2	138	179	183	213	138	138	0.92	100/100	Steel - 3 pole	1	1	

[1] Indicate with * if transmission line is an interconnection with another electric transmission owner and list the other transmission owner's name

PUCO FORM FE-T8
AEP OHIO TRANSMISSION COMPANY
SUMMARY OF EXISTING SUBSTATIONS ON TRANSMISSION LINES

Substation Name	Type Distribution (D) Transmission (T)	Voltage(s) (kV)	Line Association (FE3-T7 or FE3-T9 Notation)	Notation	Line Existing or Proposed
BIERS RUN	T	345	Biers Run - Bixby	21617	E
BIERS RUN	T	345	Biers Run - Don Marquis	21618	E
BLUE RACER	T	138	Blue Racer - Summerfield	20577	E
BLUE RACER	T	138	Blue Racer - Texas Eastern	20578	E
EMERALD SWITCH	T	138	*Kenton (LGEE) - Wildcat	18078	E
GOOD HOPE SW	T	138	Harrison (Csp) - Poston	634	E
HOLLOWAY	T	345	Beverly - Holloway	22497	E
HOLLOWAY	T	345	Holloway - Tidd	22498	E
MADDOX CREEK	T	345	Blue Creek - Maddox Creek	16797	E
NEW MARKET SWITCH	T	138	Highland (CSP) - Seaman	21678	E
S BLOOMINGVIL SW	T	138	Poston - Ross	2256	E
STEAMTOWN	T	138	Muskingum River - Steamtown	19397	E
STEAMTOWN	T	138	Steamtown - Summerfield	19398	E
TIMBER SW	T	138	Haviland - Timber Switch	16677	E
TIMBER SW	T	138	Timber Road No. 2 - Timber Switch	16817	E
VASSELL	T	138	Delaware - Vassell	19358	E
VASSELL	T	345	Corridor - Vassell No. 1	18637	E
VASSELL	T	345	Corridor - Vassell No. 2	18638	E
VASSELL	T	345	Hyatt - Vassell	19359	E
VASSELL	T	765	Maliszewski - Vassell	19357	E
VASSELL	T	765	Kammer - Vassell	19899	E
WARE ROAD	T	138	Ware Road - Waverly	18299	E
WARE ROAD	T	138	Adams - Ware Road	22118	E
YELLOW CREEK	T	138	East Leipsic - Yellow Creek	17718	E

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1. Line Name and Number:	Indicate planned line name and number.
2. Points of Origin and Termination:	Specify planned points of line origin and termination.
3. Right-Of-Way:	Specify right-of-way length, average width and number of transmission lines above 125 kV.
4. Voltage:	Specify planned design and operate voltage.
5. Application For Certificate:	Indicate the probable date for filing an application for a certificate, to the extent possible.
6. Construction:	Specify planned construction commencement and anticipated date of commercial operation.
7. Capital Investment:	Provide preliminary initial estimates of capital investment including land acquisitions, right-of-way improvements, and facilities and equipment costs, as available at the time of reporting.
8. Planned Substations:	Specify number of tentative location and names of planned substations, transmission voltages and average acreage required.
9. Supporting Structures:	Indicate preliminary structure type(s).
10. Participation with Other Utilities:	Specify the nature of participation with other utilities, if applicable.
11. Purpose of the Planned Transmission Line	Indicate the preliminary purpose of the planned line (e.g., system reliability, connection of generating facilities, load center growth, etc.).
12. Consequences of Line Construction Deferment or Termination:	Briefly describe the consequences of delay.
13. Miscellaneous	Waivers to be requested, date of pre-application conference (optional), area to be served, and other significant information.

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	**Biers Run-Hopetown**	**Hopetown-Delano**
2.	POINTS OF ORIGIN AND	Proposed Biers Run station	Proposed Hopetown Station
	TERMINATION:	Proposed Hopetown Station	Delano
	Intermediate Station		
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	5.5 miles / 100 ft / Biers Run-Hopetown	5.5 miles / 100 ft / Hopetown-Delano
4.	VOLTAGE:		
	DESIGN/OPERATE	138 kV / 138 kV	138 kV / 138 kV
5.	APPLICATION FOR CERTIFICATE:	Submitted	Submitted
6.	CONSTRUCTION:	To be completed approx. 2016	To be completed approx. 2016
7.	CAPITAL INVESTMENT:	Approx. $5.5 million	Approx. $5.5 million
8.	PLANNED SUBSTATIONS:		
	NAME -		
	TRANS. VOLTAGE -		
	ACREAGE -		
	LOCATION		
9.	SUPPORTING STRUCTURES:	Overhead	Overhead
10.	PARTICIPATION WITH OTHER		
	UTILITIES:	None	None
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Area reliability/serve increased area capacity.	Area reliability/serve increased area capacity.
12.	CONSEQUENCES OF LINE		
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:	Reduced area reliability	Reduced area reliability
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Biers Run-Circleville	Hillsboro-Highland
2.	POINTS OF ORIGIN AND	Proposed Biers Run station	Hillsboro
	TERMINATION:	Circleville	Highland
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	23.5 miles / 100 ft / Biers Run-Circleville	7.5 miles / 100 ft / Hillsboro-Highland
4.	VOLTAGE:		
	DESIGN/OPERATE	138 kV / 138 kV	138 kV / 138 kV
5.	APPLICATION FOR CERTIFICATE:	Submitted	N/A
6.	CONSTRUCTION:	To be completed approx. 2017	To be completed approx. 2016
7.	CAPITAL INVESTMENT:	Approx. $24 million	Approx. $8 million
8.	PLANNED SUBSTATIONS:		
	NAME -		
	TRANS. VOLTAGE -		
	ACREAGE -		
	LOCATION		
9.	SUPPORTING STRUCTURES:	Overhead	Overhead
10.	PARTICIPATION WITH OTHER		
	UTILITIES:	None	None
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Area reliability/serve increased area capacity.	Area reliability/serve increased area capacity.
12.	CONSEQUENCES OF LINE		
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:	Reduced area reliability	Reduced area reliability
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Highland-Seaman	Harrison-Circleville #1
2.	POINTS OF ORIGIN AND	Highland	Harrison
	TERMINATION:	Seaman	Circleville
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	16.5 miles / 100 ft / Hillsboro-Highland	15.2 miles / 100 ft / Harrison-Circleville
4.	VOLTAGE:		
	DESIGN/OPERATE	138 kV / 138 kV	138 kV / 138 kV
5.	APPLICATION FOR CERTIFICATE:	N/A	If required, to be filed in 2014-2015
6.	CONSTRUCTION:	To be completed approx. 2015	To be completed approx. 2017
7.	CAPITAL INVESTMENT:	Approx. $8 million	Approx. $16 million
8.	PLANNED SUBSTATIONS:		
	NAME -	New Market Switch	
	TRANS. VOLTAGE -	138 kV	
	ACREAGE -	Approx. 1/4 acre	
	LOCATION	Highland County	
9.	SUPPORTING STRUCTURES:	Overhead	Overhead
10.	PARTICIPATION WITH OTHER		
	UTILITIES:	None	None
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Area reliability/serve increased area capacity.	Area reliability/serve increased area capacity.
12.	CONSEQUENCES OF LINE		
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:	Reduced area reliability	Reduced area reliability
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Harrison-Circleville #2	Delano-Ross #1
2.	POINTS OF ORIGIN AND	Harrison	Delano
	TERMINATION:	Circleville	Ross
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	15.2 miles / 100 ft / Harrison-Circleville	4.7 miles / 100 ft / Delano-Ross
4.	VOLTAGE:		
	DESIGN/OPERATE	138 kV / 138 kV	138 kV / 138 kV
5.	APPLICATION FOR CERTIFICATE:	If required, to be filed in 2014-2015	To be filed in 2014-2015
6.	CONSTRUCTION:	To be completed approx. 2017	To be completed approx. 2015
7.	CAPITAL INVESTMENT:	Approx. $16 million	Approx. $5 million
8.	PLANNED SUBSTATIONS:		
	NAME -		
	TRANS. VOLTAGE -		
	ACREAGE -		
	LOCATION		
9.	SUPPORTING STRUCTURES:	Overhead	Overhead
10.	PARTICIPATION WITH OTHER		
	UTILITIES:	None	None
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Area reliability/serve increased area capacity.	Area reliability/serve increased area capacity.
12.	CONSEQUENCES OF LINE		
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:	Reduced area reliability	Reduced area reliability
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Ross-Delano #2	Bixby - Ohio Central
2.	POINTS OF ORIGIN AND	Delano	Bixby
	TERMINATION:	Ross	Ohio Central
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	4.7 miles / 100 ft / Delano-Ross	2 miles / 100 ft / Bixby - Ohio Central
4.	VOLTAGE:		
	DESIGN/OPERATE	138 kV / 138 kV	345 kV / 345 kV
5.	APPLICATION FOR CERTIFICATE:	To be filed in 2014-2015	To be filed in 2014-2015
6.	CONSTRUCTION:	To be completed approx. 2015	To be filed in 2014-2015
7.	CAPITAL INVESTMENT:	Approx. $5 million	Approx. $5 million
8.	PLANNED SUBSTATIONS:		
	NAME -		
	TRANS. VOLTAGE -		
	ACREAGE -		
	LOCATION		
9.	SUPPORTING STRUCTURES:	Overhead	Overhead
10.	PARTICIPATION WITH OTHER		
	UTILITIES:	None	None
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Area reliability/serve increased area capacity.	Support overloads in the Southeastern area due to AEP / ATSI 2015 generation retirments.
12.	CONSEQUENCES OF LINE		
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:	Reduced area reliability	Reduced area reliability
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Conesville - Ohio Central	North Bellville - Ohio Central
2.	POINTS OF ORIGIN AND	Conesville	North Bellville
	TERMINATION:	Ohio Central	Ohio Central
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	2 miles / 150 ft / Conesville - Ohio Central	2 miles / 100 ft / North Bellville - Ohio Central
4.	VOLTAGE:		
	DESIGN/OPERATE	345 kV / 345 kV	138 kV / 138 kV
5.	APPLICATION FOR CERTIFICATE:	To be filed in 2014-2015	To be filed in 2014-2015
6.	CONSTRUCTION:	To be filed in 2014-2015	To be filed in 2014-2015
7.	CAPITAL INVESTMENT:	Approx. $5 million	Approx. $1.5 million
8.	PLANNED SUBSTATIONS:		
	NAME -	Overhead	
	TRANS. VOLTAGE -		
	ACREAGE -		
	LOCATION		
9.	SUPPORTING STRUCTURES:	Overhead	Overhead
10.	PARTICIPATION WITH OTHER		
	UTILITIES:	None	None
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Support overloads in the Southeastern area due to AEP / ATSI 2015 generation retirments.	Support overloads in the Southeastern area due to AEP / ATSI 2015 generation retirments.
12.	CONSEQUENCES OF LINE		
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:	Reduced area reliability	Reduced area reliability
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Philo Sw - Ohio Central	Philo Sw - North Muskingum
2.	POINTS OF ORIGIN AND	Philo Sw	Philo Sw
	TERMINATION:	Ohio Central	North Muskingum
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	2 miles / 100 ft / Philo Sw - Ohio Central	0.5 miles / 100 ft / Philo Sw. - North Muskingum
4.	VOLTAGE:		
	DESIGN/OPERATE	138 kV / 138 kV	138 kV / 138 kV
5.	APPLICATION FOR CERTIFICATE:	To be filed in 2014-2015	To be filed in 2015-2016
6.	CONSTRUCTION:	To be filed in 2014-2015	To be filed in 2015-2016
7.	CAPITAL INVESTMENT:	Approx. $1.5 million	Approx. $1.05 million
8.	PLANNED SUBSTATIONS:		
	NAME -		
	TRANS. VOLTAGE -		
	ACREAGE -		
	LOCATION		
9.	SUPPORTING STRUCTURES:	Overhead	Overhead
10.	PARTICIPATION WITH OTHER		
	UTILITIES:	None	None
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Support overloads in the Southeastern area due to AEP / ATSI 2015 generation retirments.	PJM identified voltage deviations in 2017 for the Muskingam Area.
12.	CONSEQUENCES OF LINE		
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:	Reduced area reliability	Reduced area reliability
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Philo Sw - Crooksville	East Amsterdam - Miller Switch
2.	POINTS OF ORIGIN AND	Philo Sw	
	TERMINATION:	Crooksville	Miller Switch Station
			East Amsterdam Station
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	0.5 miles / 100 ft / Philo Sw. - Crooksville	9.7miles/100ft/East Amsterdam - Miller Sw 69kV
4.	VOLTAGE:		
	DESIGN/OPERATE	138 kV / 138 kV	138kV / 69kV
5.	APPLICATION FOR CERTIFICATE:	To be filed in 2015-2016	To be submitted July - August 2014
6.	CONSTRUCTION:	To be filed in 2015-2016	Jan. 2015 - June 2016
7.	CAPITAL INVESTMENT:	Approx. $1.05 million	$22.5 Million
8.	PLANNED SUBSTATIONS:	None	
	NAME -		
	TRANS. VOLTAGE -		
	ACREAGE -		
	LOCATION		
9.	SUPPORTING STRUCTURES:	Overhead	Overhead single circuit construction
10.	PARTICIPATION WITH OTHER		
	UTILITIES:	None	none
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	PJM identified voltage deviations in 2017 for the Muskingum Area.	Line overloads under normal conditions due to increase in shale gas activity
12.	CONSEQUENCES OF LINE	Reduced area reliability	System overload violations
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:		
13.	MISCELLANEOUS:		Construction completion delayed to June 2016

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Melmore - Tiffin Center 138 kV	Britton - Davidson 138 kV
2.	POINTS OF ORIGIN AND	Melmore and Tiffin Center	Britton Station and Davidson Station
	TERMINATION:		
		Greenlawn	
3.	RIGHT-OF-WAY:	100 Feet Standard ROW	
	LENGTH/WIDTH/CIRCUITS -		1.1 miles / 100 ft / 1 circuit
4.	VOLTAGE:	138 kV	
	DESIGN/OPERATE		138 kV / 138 kV
5.	APPLICATION FOR CERTIFICATE:	To be filed in 2013	Spring 2016
6.	CONSTRUCTION:	2014	Fall 2016
7.	CAPITAL INVESTMENT:	Approx. $5 million	$2 million
8.	PLANNED SUBSTATIONS:		
	NAME -		Britton Station
	TRANS. VOLTAGE -		138 kV
	ACREAGE -		
	LOCATION		Hilliard, Ohio
9.	SUPPORTING STRUCTURES:	Overhead	Single pole, single circuit
10.	PARTICIPATION WITH OTHER	None	
	UTILITIES:		No
11.	PURPOSE OF THE PLANNED	Relability Imrprovement	
	TRANSMISSION LINE:		Customer Service
12.	CONSEQUENCES OF LINE	Low Voltage Violations	
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:		Less reliability to customer
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Devola - Highland Ridge Switch 138 kV	Nottingham - Freebyrd 138 kV
2.	POINTS OF ORIGIN AND	Devola	Nottingham Station
	TERMINATION:	Highland Ridge Switch	Freebyrd Station
	Intermediate Station		
3.	RIGHT-OF-WAY:		4 miles / 100 ft.
	LENGTH/WIDTH/CIRCUITS -	4 miles / 100 ft / 1 circuit	
4.	VOLTAGE:		
	DESIGN/OPERATE	138 kV/138 kV	138 / 138 kV
5.	APPLICATION FOR CERTIFICATE:	To be sumbitted 2017 or 2018	LON Submitted
6.	CONSTRUCTION:	To be completed approx. June 2020	2015 / 2016
7.	CAPITAL INVESTMENT:	Approx $ 8.5 M	Approx $14M
8.	PLANNED SUBSTATIONS:		
	NAME -		
	TRANS. VOLTAGE -		
	ACREAGE -		
	LOCATION -		
9.	SUPPORTING STRUCTURES:	Single steel poles with single circuit	Steel Poles, double circuit construction
10.	PARTICIPATION WITH OTHER	None	
	UTILITIES:		None
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Increased area reliability	Serve customer load increase that otherwise would overload existing 69 kV facilities.
12.	CONSEQUENCES OF LINE		
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:	Reduced area reliability	Customer served from South Cadiz-Freebyrd could not increase to full desired load.
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Freebyrd - South Cadiz 138 kV	West Bellaire - Glencoe 138 kV
2.	POINTS OF ORIGIN AND	South Cadiz	West Bellaire
	TERMINATION:	Freebyrd Station	Glencoe Switch
	Intermediate Station		
3.	RIGHT-OF-WAY:	2 miles / 100 ft.	5.8 miles / 100 ft.
	LENGTH/WIDTH/CIRCUITS -		
4.	VOLTAGE:		
	DESIGN/OPERATE	138 / 138 kV	138 / 138 kV
5.	APPLICATION FOR CERTIFICATE:	LON Submitted	To be Submitted in 2016
6.	CONSTRUCTION:	To start in 2015 or 2016	To start in 2016 or 2017
7.	CAPITAL INVESTMENT:	Approx $7M	Approx. $20M
8.	PLANNED SUBSTATIONS:		
	NAME -		NEFFs
	TRANS. VOLTAGE -		69
	ACREAGE -		
	LOCATION		
9.	SUPPORTING STRUCTURES:	Steel Poles, double circuit construction	Steel Poles, double circuit construction
10.	PARTICIPATION WITH OTHER		
	UTILITIES:	None	None
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Serve customer load increase that otherwise would overload existing 69 kV facilities.	Solve PJM identified thermal and voltage violations.
12.	CONSEQUENCES OF LINE		
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:	Customer served from South Cadiz-Freebyrd could not increase to full desired load.	Identified violations would persist.
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Glencoe - Speidel 138 kV	Speidel - Summerfield 138 kV
2.	POINTS OF ORIGIN AND	Glencoe Switch	Speidel Switch
	TERMINATION:	Speidel Switch	Herlan Switch
	Intermediate Station		
3.	RIGHT-OF-WAY:	25.5 miles / 100 ft.	19.5 miles / 100 ft.
	LENGTH/WIDTH/CIRCUITS -		
4.	VOLTAGE:		
	DESIGN/OPERATE	138 / 69 kV	138 / 69 kV
5.	APPLICATION FOR CERTIFICATE:	To be Submitted in 2016	To be Submitted in 2016
6.	CONSTRUCTION:	To start in 2016 or 2017	To start in 2016 or 2017
7.	CAPITAL INVESTMENT:		
8.	PLANNED SUBSTATIONS:		
	NAME -	South Belmont	Barnesville, Batesville
	TRANS. VOLTAGE -	138	138, 138
	ACREAGE -		
	LOCATION		
9.	SUPPORTING STRUCTURES:	Steel Poles, single circuit on double circuit construction	Steel Poles, single circuit on double circuit construction
10.	PARTICIPATION WITH OTHER		
	UTILITIES:	None	None
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Support area shale load growth and other system upgrades. Replace deteriorated 69 kV facilities.	Support area shale load growth and other system upgrades. Replace deteriorated 69 kV facilities.
12.	CONSEQUENCES OF LINE	Continuing to serve area shale growth and obtaining outages for other required upgrades both become increasingly difficult.	Continuing to serve area shale growth and obtaining outages for other required upgrades both become increasingly difficult.
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:		
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Yager-Azalea Road 138kV	Autumn Tap 138kV
2.	POINTS OF ORIGIN AND	Yager (proposed)	Autumn Switch (proposed)
	TERMINATION:	Azalea Road (existing)	Customer station (proposed)
	Intermediate Station		
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	4.2 miles / 100 ft / 1 circuit	0.4 mile / 100 ft / 1 circuit
4.	VOLTAGE:		
	DESIGN/OPERATE	138 kV design / 138 kV operation	138 kV design / 138 kV operation
5.	APPLICATION FOR CERTIFICATE:	Approx. Oct. 2015	Approx. July 2016
6.	CONSTRUCTION:	To be completed approx. Nov. 2016	To be completed approx. June 2017
7.	CAPITAL INVESTMENT:	Approx. $10 million	Approx. $1 million
8.	PLANNED SUBSTATIONS:		
	NAME -		
	TRANS. VOLTAGE -		
	ACREAGE -		
	LOCATION		
9.	SUPPORTING STRUCTURES:	Single steel poles	Single steel poles
10.	PARTICIPATION WITH OTHER		
	UTILITIES:	May parallel a portion of FE ATSI's 138kV R-O-W	None
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Area reliability/serve increased customer loads	Customer service
12.	CONSEQUENCES OF LINE		
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:	Reduced area reliability, load curtailed at industrial customers	Lack of service for industrial customer
13.	MISCELLANEOUS:	Was formerly Yager-Tappan 138kV (Tappan Cancelled)	

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Yager-Leesville 138kV	Dennison-Yager 69kV (138kV design)
2.	POINTS OF ORIGIN AND	Yager (proposed)	Dennison
	TERMINATION:	Leesville (existing)	Yager (proposed)
	Intermediate Station		
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	4.5 miles / 100 ft / 1 circuit	7.3 miles / 100 ft / 1 circuit 6-wired
4.	VOLTAGE:		
	DESIGN/OPERATE	138 kV / 138 kV	138 kV / 69 kV
5.	APPLICATION FOR CERTIFICATE:	Approx. Dec. 2015	Approx. July 2016
6.	CONSTRUCTION:	To be completed approx. June 2017	To be completed approx. June 2017
7.	CAPITAL INVESTMENT:	Approx. $11 million	Approx. $15 million
8.	PLANNED SUBSTATIONS:		
	NAME -	Autumn Switch (proposed switch)	Irish Run Switch (existing)
	TRANS. VOLTAGE -	138kV	69kV
	ACREAGE -	0	0
	LOCATION	Leesville, Ohio (Carroll County)	Ulrichsville, Ohio (Tuscarawas County)
9.	SUPPORTING STRUCTURES:	Single steel poles with single circuit	Single steel poles with single circuit 6-wired
10.	PARTICIPATION WITH OTHER		
	UTILITIES:	None	None
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Area reliability/serve increased customer loads	Area reliability/serve increased customer loads
12.	CONSEQUENCES OF LINE		
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:	Reduced area reliability, load curtailed at industrial customers	Reduced area reliability, load curtailed at industrial customers
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Yager-Desert Road 69kV (138kV design)	South Caldwell - Macksburg 138kV
2.	POINTS OF ORIGIN AND	Yager (proposed)	South Caldwell
	TERMINATION:	Desert Road	Macksburg
	Intermediate Station		South Olive Switch
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	6.8 miles / 100 ft / 1 circuit 6-wired	11.3 miles / 100 ft / 1 circuit
4.	VOLTAGE:		
	DESIGN/OPERATE	138 kV / 69 kV	138 kV / 138 kV
5.	APPLICATION FOR CERTIFICATE:	Approx. Nov. 2016	Approx. February 2016
6.	CONSTRUCTION:	To be completed approx. Nov. 2017	To be completed approx. June 2018
7.	CAPITAL INVESTMENT:	Approx. $14 million	Approx. $16 million
8.			
	NAME -	West Bowerston Switch (existing)	South Olive Switch (proposed)
	TRANS. VOLTAGE -	69kV	138 kV
	ACREAGE -	0	0.1
	LOCATION -	Bowerston, Ohio (Harrison County)	Dexter City, Ohio (Noble County)
9.	SUPPORTING STRUCTURES:	Single steel poles with single circuit 6-wired	Single steel poles with single circuit
10.	PARTICIPATION WITH OTHER		
	UTILITIES:	None	None
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Area reliability/serve increased customer loads	Increase area reliability
12.	CONSEQUENCES OF LINE		
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:	Reduced area reliability, load curtailed at industrial customers	Reduced area reliability
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Herlan-Blue Racer 138kV	Summerfield-Berne 138kV
2.	POINTS OF ORIGIN AND	Herlan Switch & Blue Racer	Summerfield & Texas Eastern Berne
	TERMINATION:		
	Intermediate Station		Blue Racer
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	3.2 miles / 100 ft / 1 circuit	3.5 miles / 100 ft / 1 circuit
4.	VOLTAGE:		
	DESIGN/OPERATE	138kV / 138kV	138kV / 138kV
5.	APPLICATION FOR CERTIFICATE:	Estimated completion in 2016 or 2017	Estimated completion in 2017 or 2018
6.	CONSTRUCTION:	Estimated completion 2019	Estimated completion 2020
7.	CAPITAL INVESTMENT:	Approx. $7M	Approx. $7M
8.	PLANNED SUBSTATIONS:		
	NAME -		
	TRANS. VOLTAGE -		
	ACREAGE -		
	LOCATION -		
9.	SUPPORTING STRUCTURES:	Single Pole, single circuit	Single Pole, single circuit
10.	PARTICIPATION WITH OTHER		
	UTILITIES:		
11.	PURPOSE OF THE PLANNED	Area reliability/serve increased customer loads	Area reliability/serve increased customer loads
	TRANSMISSION LINE:		
12.	CONSEQUENCES OF LINE	RTEP planning critera violations, reduced reliability.	Reduced reliability due to limited thermal ratings and line deterioration.
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:		
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Macksburg - Highland Ridge Switch 138 kV	Devola - Mill Creek 138 kV
2.	POINTS OF ORIGIN AND	Macksburg	Devola
	TERMINATION:	Highland Ridge Switch	Mill Creek
	Intermediate Station		
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	11.3 miles / 100 ft / 1 circuit	0.25 miles / 100 ft / 1 circuit
4.	VOLTAGE:		
	DESIGN/OPERATE	138 kV/138 kV	138 kV/138 kV
5.	APPLICATION FOR CERTIFICATE:	Approx February 2016	To be sumbitted 2017 or 2018
6.	CONSTRUCTION:	To be completed approx. Dec. 2016	To be completed approx. June 2020
7.	CAPITAL INVESTMENT:	Approx $30 M	Approx $ 0.6 M
8.			
	NAME -		
	TRANS. VOLTAGE -		
	ACREAGE -		
	LOCATION -		
9.	SUPPORTING STRUCTURES:	Single steel poles with single circuit	Single steel poles with single circuit
10.	PARTICIPATION WITH OTHER	None	None
	UTILITIES:		
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Increased area reliability	Increased area reliability
12.	CONSEQUENCES OF LINE		
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:	Reduced area reliability	Reduced area reliability
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Lowell 138 kV extension	Lamping-Devola 138kV
2.	POINTS OF ORIGIN AND	Lowell	Lamping (proposed)
	TERMINATION:	Macksburg - Highland Ridge Switch 138 kV	Devola (proposed)
	Intermediate Station		
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	3.5 miles / 100 ft / 1 circuit	24 miles / 100 ft. / 1 circuit
4.	VOLTAGE:		
	DESIGN/OPERATE	138 kV/138 kV	138kV / 138kV
5.	APPLICATION FOR CERTIFICATE:	To be sumbitted 2017 or 2018	To be submitted between July 2016-July 2017
6.	CONSTRUCTION:	To be completed approx. June 2019	To be completed approx. June 2022
7.	CAPITAL INVESTMENT:	Approx $ 4 M	Approx. $51 million
8.	PLANNED SUBSTATIONS:		
	NAME -		Rouse Switch, Bell Ridge Switch
	TRANS. VOLTAGE -		138kV
	ACREAGE -		0.0 (switch pole)
	LOCATION -		Washington County
9.	SUPPORTING STRUCTURES:	Single steel poles with single circuit	Steel H-frames with single circuit
10.	PARTICIPATION WITH OTHER	None	None
	UTILITIES:		
11.	PURPOSE OF THE PLANNED		
	TRANSMISSION LINE:	Increased area reliability	Improved area reliability, replacing failing 23kV system
12.	CONSEQUENCES OF LINE		
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:	Reduced area reliability	Continued poor reliability in the Marietta area
13.	MISCELLANEOUS:		

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
SPECIFICATION OF PLANNED ELECTRIC TRANSMISSION LINES

1.	LINE NAME AND NUMBER:	Dilles Bottom-George Washington 138kV	Dilles Bottom-Holloway 138kV
2.	POINTS OF ORIGIN AND	Dilles Bottom & George Washington	Dilles Bottom & Holloway
	TERMINATION:		
	Intermediate Station		
3.	RIGHT-OF-WAY:		
	LENGTH/WIDTH/CIRCUITS -	1.5 miles / 100 ft / 2 circuits	1.3 miles / 100 ft / 2 circuits
4.	VOLTAGE:	138 kV/138 kV	138 kV/138 kV
	DESIGN/OPERATE		
5.	APPLICATION FOR CERTIFICATE:	Completion est. 2017	Completion est. 2017
6.	CONSTRUCTION:	Completion est. 2019	Completion est. 2019
7.	CAPITAL INVESTMENT:		
8.	PLANNED SUBSTATIONS:		
	NAME -		
	TRANS. VOLTAGE -		
	ACREAGE -		
	LOCATION -		
9.	SUPPORTING STRUCTURES:	Single Pole double circuit construction	Single Pole double circuit construction
10.	PARTICIPATION WITH OTHER		Partially feed through existing First Energy owned 138kV lines
	UTILITIES:		
11.	PURPOSE OF THE PLANNED	Service to IPP customer.	Service to IPP customer.
	TRANSMISSION LINE:		
12.	CONSEQUENCES OF LINE	Customer generation curtailment	Customer generation curtailment
	CONSTRUCTION DEFERMENT		
	OR TERMINATION:		
13.	MISCELLANEOUS:		

PUCO FORM FE-T10
AEP OHIO TRANSMISSION COMPANY
SUMMARY OF PROPOSED SUBSTATIONS

Substation Name	Voltage(s) (kV)	Type Distribution (D) Transmission (T)	Timing	Line Association(s)	Line Existing or Proposed	Minimum Substation Site Acreage
Biers Run	345/138/69	T	Estimated 6/2015	Don Marquis-Bixby 345 kV	Existing	Approx. 15 acres
Biers Run	345/138/69	T	Estimated 6/2016	Biers Run-Hopetown 138 kV	Proposed	Approx. 15 acres
Biers Run	345/138/69	T	Estimated 6/2017	Biers Run-Circleville 138 kV	Proposed	Approx. 15 acres
Emerald Switch	138	T	Estimated 12/31/2014	Hillsboro-Kenton 138 kV	Existing	Approx. ¼ acre
New Market Switch	138	T	Estimated 3/1/2015	Highland-Seaman 138 kV	Existing	Approx. ¼ acre
Melmore	138	T	Estimated 6/1/2016	Melmore - Fremont Center	Proposed	Approx. 5.0 acres
Ebersole	138	T	Estimated 12/30/2015	East Lima - Fostorial Centeral	Existing	Approx. 5.0 acres
Clouse	138/69 kV	T	43040	West Lancaster - Zanesville 138 kV ckt; New Lexington - South Fultonham 69 kV ckt	Existing	Approx. 3 acres
Hazelton	138 kV/12 kV	T	Estimated 6/01/2016	Jug - Kirk 138 kV	Proposed	Approx 1.2 acres
Nottingham Switch	138 kV	T	Estimated 12/2016	Nottingham-Freebyrd 138 kV	Proposed	Approx. 114 acres
Yager	138/69kV	T	Est. 11/1/2016	Dennison-Yager 69kV; Yager-Desert Rd 69kV; Yager-Azalea Road 138kV; Yager-Leesville 138kV; Yager-Cloverdale 138kV tie-line; Yager-Harmon 138kV tie-line; Yager-Nottingham 138kV #1 & #2	Proposed	Approx. 6 acres
Gable Switch	138kV	T	Estimated Summer 2017	Carrollton-Tidd 138kV; Gable-South Cadiz 138kV	Proposed	Approx. 2-5 acres
Herlan Switch	138kV	T	Est. 2017	Herlan-Blue Racer 138 kV	Proposed	Approx. 5.0 acres
Malaga Switch	138kV	T	Est 2017-2018	Muskingum-Somerton-Natrium 138 kV & Summerfield-Somerton-Natrium 138 kV	Existing	Approx. 5.0 acres
South Olive Switch	138 kV	T	Estimated Fall 2017	South Caldwell - Macksburg 138 kV	Proposed	Approx 0.2 acres
Macksburg	138 kV	T	Estimated Summer 2018	Macksburg - Highland Ridge Switch 138 kV	Proposed	Approx 0.2 acres
Lowell	138 kV	T	Estimated Summer 2019	Macksburg - Highland Ridge Switch 138 kV; Lowell 138 kV extension	Proposed	Approx 0.2 acres

PUCO FORM FE-T10
AEP OHIO TRANSMISSION COMPANY
SUMMARY OF PROPOSED SUBSTATIONS

Substation Name	Voltage(s) (kV)	Type Distribution (D) Transmission (T)	Timing	Line Association(s)	Line Existing or Proposed	Minimum Substation Site Acreage
Highland Ridge Switch	138 kV	T	Estimated Summer 2019	Macksburg - Highland Ridge Switch 138 kV	Proposed	Approx 0.2 acres
Devola	138 kV	T	Estimated Summer 2020	Devola - Highland Ridge Switch 138 kV; Devola - Mill Creek 138 kV	Proposed	Approx 10 acres
Tuscany	138 kV	T	Estimated Fall 2017	Delano - Scioto Trail 138 kV	Existing	Approx. 2.5 acres
Rexford Sw	69 kV (Built @ 138 kV)	T	Estimated Summer 2016	Blackhawk - Hopedale - Dillonvale 69 kV	Existing	N/A (PH/PH)
Saxony	138 kV	T	Estimated Spring 2018	East Leipsic - Yellow Creek 138 kV	Existing	Approx. 2.5 acres
Malhorn	138/69/12kV	T and D	Est. Dec. 2017	Tidd-Wagenhals 138kV; Sunnyside-Malvern 69kV; Malvern-Pekin 69kV	Existing	Approx. 3 acres
Lamping	345/138kV	T	Est. June 2018	Muskingum-Kammer 345kV; Lamping-Devola 138kV	Existing	Approx. 8 acres
Dilles Bottom	138/12 kV	T and D	Est. 2018-2019	George Washington-Dilles Bottom 138kV & Dilles Bottom-Holloway	Proposed	Approx. 4 acres
Berrywood Station	138 kV/69 kV	T	est - 12/2018	Trent - Delaware 138 kV	Existing	Approx 3 acres
Britton Station	138 kV	T	Estimated Spring 2017	Davidson - Dublin 138 kV & Britton - Davidson 138 kV	Existing & Proposed	Approx 3 acres
Sumac Station	138 kV	T	Estimated Spring 2017	Ties to Amlin Station	Existing	Approx 3 acres
Cole Station	345/138 kV	T	Estimated Fall 2017	Beatty - Hayden 345 kV & Amlin - Cole 138 kV	Existing & Proposed	Approx 10 acres
Neville Sw	138 kV	T	Estimated Fall 2016	Delano - Scioto Trail 138 kV	Existing	N/A (PH/PH)

APPENDIX

List of Libraries

ADAMS COUNTY PUBLIC LIBRARY
212 E SPARKS ST
WEST UNION OH 45693-1257

ATHENS CO PUBLIC LIBRARY
95 W WASHINGTON
NELSONVILLE OH 45764-1134

BROWN COUNTY PUBLIC LIBRARY
613 S HIGH ST
P O BOX 527
MT ORAB OH 45154

COSHOCTON PUBLIC LIBRARY
655 MAIN ST
COSHOCTON OH 43812-1697

DEFIANCE PUBLIC LIBRARY
320 FORT ST
DEFIANCE OH 43512-2186

CARNEGIE PUBLIC LIBRARY
127 S NORTH ST
WASHINGTON CH OH 43160-2283

GUERNSEY CO PUBLIC LIBRARY
800 STEUBENVILLE AVE
CAMBRIDGE OH 43725-8590

PUSKARICH PUBLIC LIBRARY
200 E MARKET ST
CADIZ OH 43907-1185

LOGAN-HOCKING CO LIBRARY
230 E MAIN ST
LOGAN OH 43138-1356

JACKSON CITY LIBRARY
21 BROADWAY ST
JACKSON OH 45640-1610

LIMA PUBLIC LIBRARY
650 W MARKET ST
LIMA OH 45801-4678

AUGLAIZE CO PUBLIC LIBRARY
203 S PERRY ST
WAPAKONETA OH 45895-1999

CARROLL CO DISTRICT LIBRARY
70 SECOND ST
CARROLLTON OH 44615-1326

BUCYRUS PUBLIC LIBRARY
200 E MAINSFIELD
BUCYRUS OH 44820-2381

DELAWARE COUNTY LIBRARY
84 E WINTER ST
DELAWARE OH 43015-1941

COLUMBUS METRO LIBRARY
96 S GRANT AVE
COLUMBUS OH 43215-4702

FINDLAY HANCOCK COUNTY PUBLIC DISTRICT LIBRARY
206 BROADWAY
FINDLAY OH 45840-3382

PATRICK HENRY SCHOOL DISTRICT PUBLIC LIBRARY
208 N EAST AVE
DESHLER OH 43516-1280

HOLMES CO PUBLIC LIBRARY
3102 GLEN DR
MILLERSBURG OH 44654-1397

PUBLIC LIBRARY OF STEUBENVILLE & JEFFERSON CO
407 S 4TH ST
STEUBENVILLE OH 43952-2942

ASHLAND CO PUBLIC LIBRARY
224 CLAREMONT AVE
ASHLAND OH 44805-3093

ST CLAIRSVILLE PUBLIC LIBRARY
108 W MAIN ST
ST CLAIRSVILLE OH 43950-1225

CARNEGIE PUBLIC LIBRARY
219 E FOURTH ST
EAST LIVERPOOL OH 43920-3143

GREENVILLE PUBLIC LIBRARY
520 SYCAMORE ST
GREENVILLE OH 45331-1438

FAIRFIELD CO DISTRICT LIBRARY
219 N BROAD ST
LANCASTER OH 43130-3098

DR SAMUEL L BOSSARD MEMORIAL LIBRARY
7 SPRUCE ST
GALLIPOLIS OH 45631-1220

MARY LOU JOHNSON-HARDIN CO DISTRICT PUBLIC LIBRARY
325 E COLUMBUS ST
KENTON OH 44326-1546

HIGHLAND CO DISTRICT LIBRARY
10 WILLETTSVILLE PIKE
HILLSBORO OH 45133-8524

HURON CO COMMUNITY LIBRARY
6 W EMERALD ST
WILLARD OH 44890-1610

PUBLIC LIBRARY OF MT VERNON & KNOX CO
201 N MULBERRY ST
MT VERNON OH 43050-2413

BRIGGS LAWRENCE COUNTY PUBLIC LIBRARY
321 S 4th ST
IRONTON OH 45638-1613

LICKING COUNTY LIBRARY
101 W MAIN ST
NEWARK OH 43055-5054

LOGAN CO DISTRICT LIBRARY
220 N MAIN ST
BELLEFONTAINE OH 43311-2228

HURT/BATTELLE MEM LIBRARY
270 LILLY CHAPEL RD
WEST JEFFERSON OH 43162-1202

MARION PUBLIC LIBRARY
445 E CHURCH ST
MARION OH 43302-4290

MEIGS CO DISTRICT LIBRARY
216 W MAIN ST
POMEROY OH 45769-1032

MONROE CO DISTRICT LIBRARY
96 HOME AVE
WOODSVILLE OH 43793-1232

KATE LOVE-SIMPSON MORGAN COUNTY LIBRARY
358 E MAIN ST
MCCONNELSVILLE OH 43756-1130

MT GILEAD FREE PUBLIC LIBRARY
41 E HIGH ST
MT GILEAD OH 43338-1429

MUSKINGUM CO LIBRARY SYSTEM
220 N FIFTH ST
ZANESVILLE OH 43701-2508

CALDWELL PUBLIC LIBRARY
517 SPRUCE ST
CALDWELL OH 43724-1289

PAULDING CO CARNEGIE LIBRARY
205 S MAIN ST
PAULDING OH 45879-1492

PERRY CO DISTRICT LIBRARY
117 S JACKSON ST
NEW LEXINGTON OH 43764-1368

PICKAWAY CO PUBLIC LIBRARY
1160 N COURT ST
CIRCLEVILLE OH 43113-1304

GARNET A WILSON PUBLIC LIBRARY OF PIKE COUNTY
207 N MARKET ST
WAVERLY OH 45690-1138

PUTNAM CO DISTRICT LIBRARY
136 PUTNAM PARKWAY
OTTAWA OH 45875

MANSFIELD-RICHLAND CO LIBRARY
43 W THIRD ST
MANSFIELD OH 44902-1218

CHILLICOTHE AND ROSS COUNTY PUBLIC LIBRARY
140-146 S PAINT ST
P O BOX 185
CHILLICOTHE OH 45601

BIRCHARD PUBLIC LIBRARY OF SANDUSKY COUNTY
423 CROGHAN ST
FREMONT OH 43420-2499

PORTSMOUTH PUBLIC LIBRARY
1220 GALLIA ST
PORTSMOUTH OH 45662-4185

TIFFIN-SENECA PUBLIC LIBRARY
77 JEFFERSON ST
TIFFIN OH 44883-2399

STARK COUNTY DISTRICT LIBRARY
715 MARKET AVE N
CANTON OH 44702-1018

AKRON-SUMMIT PUBLIC LIBRARY
60 S HIGH ST
AKRON OH 44326

TUSCARAWAS CO PUBLIC LIBRARY
121 FAIR AVE NW
NEW PHILADELPHIA OH 44663

MARYSVILLE PUBLIC LIBRARY
231 S PLUM ST
MARYSVILLE OH 43040-1596

BRUMBACK LIBRARY
215 W MAIN ST
VAN WERT OH 45891-1695

HERBERT WESCOAT MEM LIBRARY
120 N MARKET ST
MCARTHUR OH 45651-1297

WASHINGTON CO PUBLIC LIBRARY
615 FIFTH ST
MARIETTA OH 45750-1973

WAYNE CO PUBLIC LIBRARY
220 W LIBERTY ST
WOOSTER OH 44691-3514

WOOD COUNTY PUBLIC LIBRARY
251 N MAIN ST
BOWLING GREEN OH 43402-2477

UPPER SANDUSKY COMM LIBRARY
301 N SANDUSKY AVE
UPPER SANDUSKY OH 43351-1139

4906-5-06 ECONOMIC IMPACT AND PUBLIC INTERACTION

(A) OWNERSHIP OF PROPOSED FACILITY

AEP Ohio Transco will construct, own, operate, and maintain the proposed Macksburg-Devola 138 kV transmission line.

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

AEP Ohio Transco is instructed to submit estimates of applicable capital and intangible 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 intangible and capital costs for both the Preferred and Alternate Routes of the Project. The items marked as not applicable (NA) are components that do not apply to this Project.

TABLE 6-1
Estimates of Applicable Intangible and Capital Costs for Both the Preferred and Alternate Sites

FERC Account Number	Description	Preferred Route	Alternate Route
350	(1) Land and Land Rights	$8,141,820	$8,554,060
352	(2) Structures and Improvements	NA	NA
353	(3) Substation Equipment	NA	NA
354	(4) Towers and Fixtures	NA	NA
355	(5) Poles and Fixtures	$6,193,600	$6,507,200
356	(6) Overhead Conductors and Devices	$2,322,600	$2,440,200
357	(7) Underground Conductors and Insulation	NA	NA
358	(8) Underground-to-Overhead Conversion Equipment	NA	NA
359	(9) ROW Clearing and Roads, Trails or Other Access	$10,838,800	$11,387,600
	TOTAL	**$27,496,820**	**$28,889.060**

FERC = Federal Energy Regulatory Commission

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

This Application is for an electric transmission line therefore this section is not applicable.

(D) PUBLIC INTERACTION AND ECONOMIC IMPACT

This section of the Application provides information regarding public interaction and the economic impact for each of the route alternatives.

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

Both routes, including all areas within 1,000 feet of the centerlines, are located within Aurelius, Salem, Adams, and Muskingum Townships, Washington County. The Alternate Route is also located within Fearing Township. The Preferred Route is not located within any villages or cities, but is within 1,000 feet of the City of Marietta. The Alternate Route is within the City of Marietta and within 1,000 feet of the boundary of the Village of Macksburg. Both the Preferred and Alternate Routes begin at the proposed Macksburg substation and terminate at the proposed Devola substation.

(2) Public Officials Contacted

AEP Ohio Transco contacted several local officials to discuss the Project. Appendix 6-1 provides a list of the local public officials, including their office addresses and office telephone numbers, who have been contacted to date or will be provided a digital or hard copy of the Application.

(3) Planned Public Interaction

AEP Ohio Transco's planned public interaction included mailing letters to residents, tenants, and elected officials, issued a public notice and a news release to the local media, created a project website and hosted two public information open houses. During the construction of this Project, AEP Ohio Transco will maintain project updates on its website, retain ROW land agents that discuss project timelines, construction and restoration activities, and convey this information to affected owners and tenants. Copies of informational materials available at the public open houses are included in Appendix 6-2.

During any phase of this Project, the public may contact Brett Schmied, Project Outreach Specialist, at 614-552-1929 or toll free 877-215-9261, or e-mail beschmied@aep.com to ask questions or provide comments. To access the project's website, please visit http://www.aeptransmission.com/ohio/ and click the project website link.

For copies of this Application, the public can do any of the following:

- Go to the local Library
- Go to http://opsb.ohio.gov/ and search for this project's case number
- Access the project's website on http://www.aeptransmission.com/ohio/ and follow the directions to obtain a copy

On AEP Ohio Transco's website, there is information on how to contact AEP Ohio Transco to express comments or questions regarding the Project. The exact language is:

> To ask questions or submit comments about this Project please contact:
> Brett Schmied, Project Outreach Specialist at 614-552-1929 or e-mail beschmied@aep.com

AEP Ohio Transco is logging comments and information provided through its public interaction program. This information will be shared with the OPSB Staff.

At least 7 days prior to any construction activities, an AEP Ohio Transco ROW agent will notify the landowner or the tenant by mail, telephone, or in person, depending on landowner preference.

(4) Liability Insurance or Compensation

AEP's insurance program for construction and operation of the proposed facility is outlined below

- AEP Ohio Transco maintains bodily injury and property damage liability insurance with limits of at least $1,000,000 for each occurrence.
- AEP Ohio Transco is a qualified self-insuring employer under the State of Ohio Worker's Compensation law. AEP maintains insurance as required by the Industrial Commission of Ohio statutes.

(5) Tax Revenues

The Preferred and Alternate Routes are located within Washington County. Local school districts, park districts, and fire departments will receive tax revenue from the Project. AEP Ohio Transco will pay property taxes on utility facilities in each jurisdiction. The approximate annual property taxes associated with the Preferred and Alternate Routes over the first year after the Project is completed are $1,280,500 and $1,283,000, respectively.

Based on the 2015 tax rates, the following information includes preliminary estimates for these taxing authorities:

Preferred Route:

Washington County	$205,000
Caldwell Exempted Village School District	$200,000
Mid-East Ohio Joint Vocational School District	$23,000
Aurelius Township	$5,000
Aurelius Township Exc. Macksburg Corp	$8,500
Fort Frye Local School District	$350,000
Washington County Joint Vocational School District	$28,000
Salem Township Exc. Salem Corp	$14,000
Salem Township	$42,000
Adams Township Exc. Lowell Corp	$3,000
Adams Township	$500
L-A Joint Fire District	$1,500
Marietta City School District	$355,000
E/W Muskingum Township	$28,000
Muskingum Township	$17,000
	TOTAL $1,280,500

Alternate Route:

Washington County	$205,000
Caldwell Exempted Village School District	$198,000
Mid-East Ohio Joint Vocational School District	$23,000
Aurelius Township	$5,000
Aurelius Township Exc. Macksburg Corp	$8,000
Fort Frye Local School District	$285,000
Washington County Joint Vocational School District	$28,000
Salem Township Exc. Salem Corp	$4,000
Salem Township	$12,000
Adams Township Exc. Lowell Corp	$13,500
Adams Township	$3,500
L-A Joint Fire District	$7,500
Marietta City School District	$440,000
E/W Muskingum Township	$28,000
Muskingum Township	$16,000
Fearing Township	$3,500
Marietta City	$3,000
	TOTAL $1,283,000

Appendix 6-1
List of Public Official Points of Contact

APPENDIX 6-1

Macksburg-Devola 138-kV Transmission Line Rebuild Project
Public Officials Contacted and Officials to be Served
A Copy of Certified Application

Washington County Commissioners
Mr. David A. White
Mr. Ron L. Feathers
Mr. Rickie G. Walters
223 Putnam Street
Marietta, Ohio 45750
(740) 373-6623

Washington County Engineer
Mr. Roger E. White
103 Westview Avenue
Marietta, Ohio 45750
(740) 376-7430

Washington County Soil & Water Conservation District
21330 State Route 676, Suite E
Marietta, Ohio 45750
(740) 373-4857

Adams Township Board of Trustees
Mr. Jeffrey D. Anthony, Trustee
Mr. Wayne H. Isner, Trustee
Mr. Michael W. Woodford, Jr., Trustee
Ms. Carrie A. Tullius, Fiscal Officer
300 Walnut Street
Lowell, Ohio 45744
(740) 896-2083

Aurelius Township Board of Trustees
Mr. Jeffery E. Haas, Trustee
Mr. Carl R. Petry, Trustee
Mr. Denver E. Hesson, Trustee
Ms. Darla Lee Haas, Fiscal Officer
16230 State Route 821
Macksburg, Ohio 45746
(740) 783-2012

Marietta Township Trustee
Mr. Steven E. Bober
112 Brant Drive
Marietta, Ohio 45750
(740) 374-3331

Marietta Township Trustee
Dan R. Ritchey
345 Smith Drive
Marietta, Ohio 45750
(740) 374-8335

Marietta Township Trustee
Mr. John J. Lankford
1625 Sandhill Road
Marietta, Ohio 45750
(740) 373-4574

Marietta Township Fiscal Officer
Ms. B. Jeanette Gregory
250 Forshey Road
Marietta, Ohio 45750
(740) 373-5216

Muskingum Township Trustee
Ms. Carolyn O. Dempsey
108 Riverview Road
Marietta, Ohio 45750
(740) 373-2645

Muskingum Township Trustee
Mr. Kenneth J. Schilling
2775 Waterford Road
Marietta, Ohio 45750
(740) 373-7110

Muskingum Township Trustee
Mr. Gary D. Doan
1055 Huck Road
Lowell, Ohio 45744

Muskingum Township Fiscal Officer
Ms. Victoria P. Lankford
593 Highland Ridge Road
Marietta, Ohio 45750
(740) 373-3697

Salem Township Trustee
Mr. William L. Kidd
120 Main Street
Lower Salem, Ohio 45745
(740) 585-2547

Salem Township Trustee
Mr. Dennis V. Lang
1465 Whipple Eight Road
Whipple, Ohio 45788
(740) 374-9868

Salem Township Trustee
Mr. Phil A. Schott
2441 Dalzell Road
Whipple, Ohio 45788
(740) 350-9916

Salem Township Fiscal Officer
Ms. Amy J. Hoopes
98 Main Street
Lower Salem, Ohio 45745
(740) 525-8116

Mayor Jerry Williams
Village of Macksburg
216 Marietta Street
Macksburg, Ohio 45746
(740) 786-1145

Mayor Joe A. Matthews
City of Marietta
301 Putnam Street
Marietta, Ohio 45750
(740) 373-1387

Appendix 6-2

Appendix 6-2
Public Open Houses Informational Materials

Macksburg-Devola

138kV Transmission Line Rebuild Project

AEP OHIO
A unit of American Electric Power

The proposed Macksburg-Devola transmission line is part of the overall Southeast Ohio Area Improvements Project. AEP Ohio, AEP Ohio Transmission Company, Inc., Buckeye Power and Washington Electric Cooperative signed a Memorandum of Understanding that implements a long-term plan aimed at enhancing the reliability of the Marietta and surrounding area's electric transmission and distribution network. This infrastructure needs to be rebuilt and redesigned to meet the needs of the customers across this region.

WHAT

This project is a 138-kilovolt (kV) transmission line that connects the Macksburg Substation -- passing through Lowell Substation -- to Devola Substation in Washington County. This project will improve service for customers, reduce power outages and speed recovery of service when outages occur.

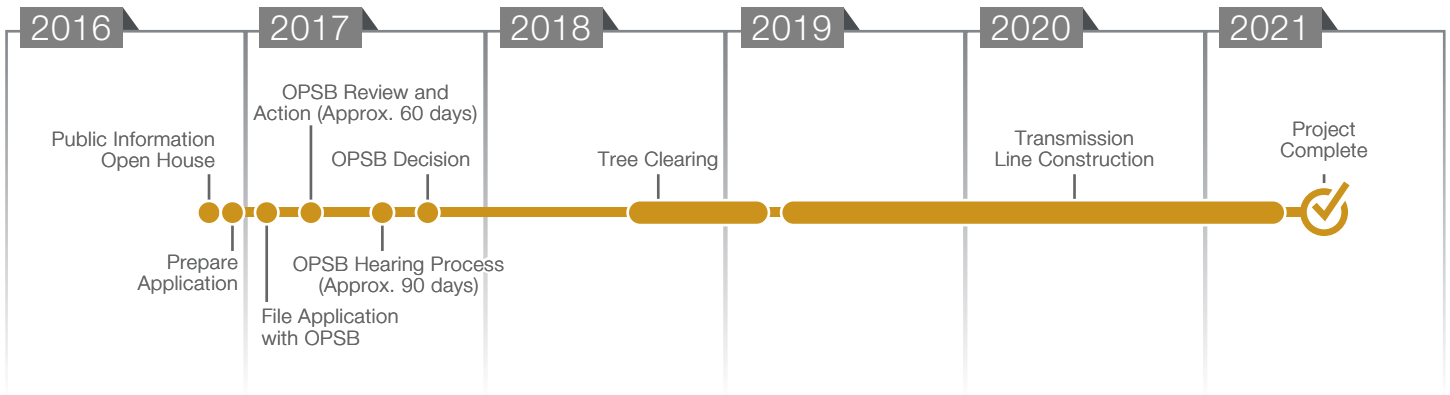
WHY

The area's aged 23-kV infrastructure needs to be rebuilt and redesigned to improve reliability for customers across the region. Bringing additional power sources into the region will improve electric reliability and provide the electrical capacity for future economic growth.

WHERE

The Macksburg-Devola line will be approximately 17 miles long, depending on the route selected. The line will likely run through Adams, Aurelius, Marietta, Muskingum and Salem townships in Washington County.

Project Schedule*



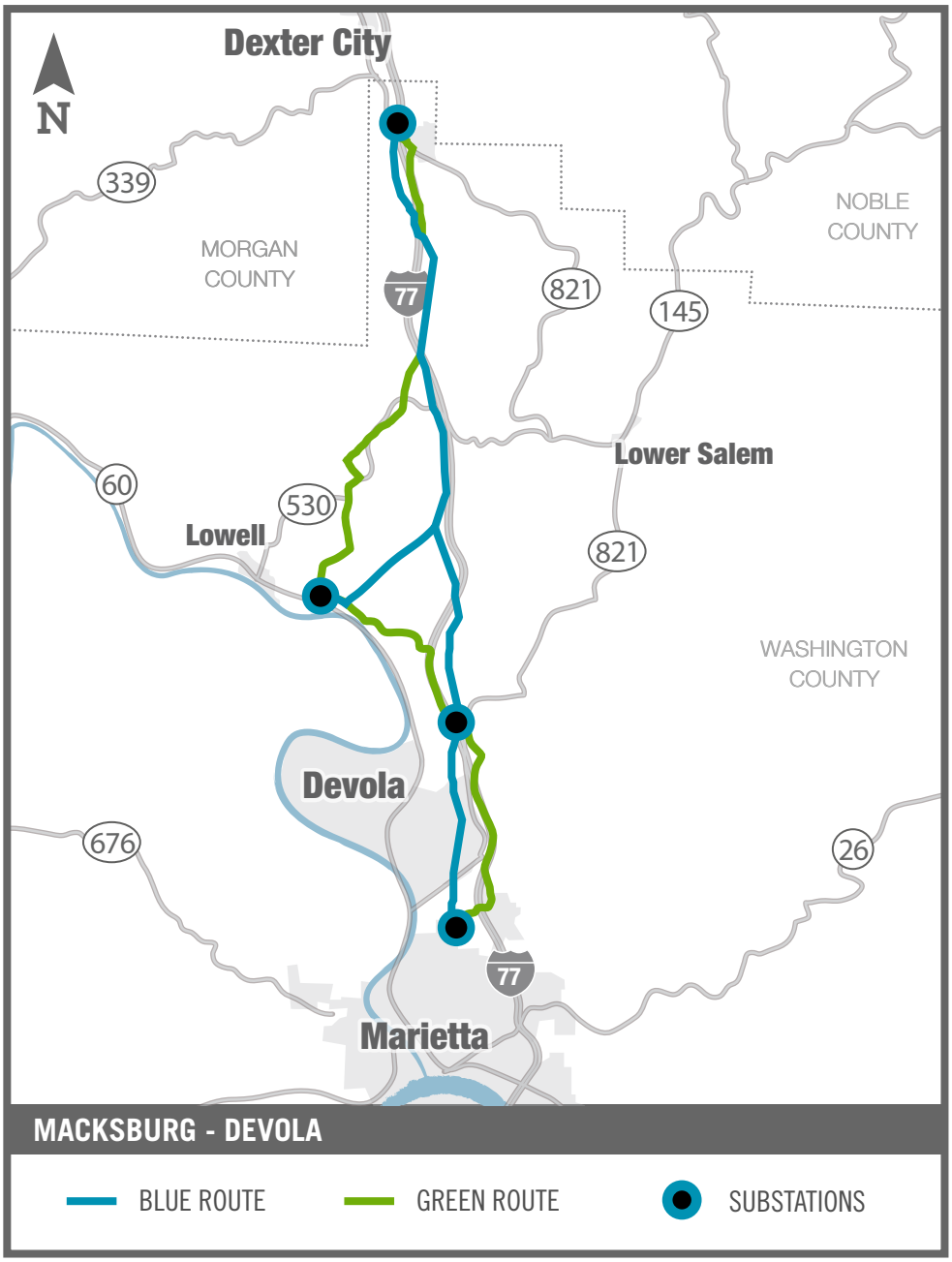
*OPSB is Ohio Power Siting Board
*Timeline is subject to change.

Typical Structures*

AEP Ohio will build new steel, single pole structures that will be about 90-feet tall. The structures will be placed in the center of an approximate 100-foot wide right-of-way corridor.

Exact structure, height and right-of-way may vary

Project Map



AEP Ohio welcomes your feedback regarding the project. Please send comments and questions to:

Contact:

AEP Ohio
c/o Brett Schmied
700 Morrison Road
Gahanna, OH 43230

beschmied@aep.com

(614) 552-1929

AEPOhio.com/Ohio/Macksburg-Devola

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A unit of American Electric Power

11/7/2016

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A unit of American Electric Power

NEWS from AEP Ohio

MEDIA CONTACT:
AEP Ohio
1-866-641-1151 or 614-883-7999
aepohiomediarelations@aep.com

Washington Electric Cooperative
Jennifer Greene, 740-373-2141
jgreene@weci.org

Buckeye Power
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FOR IMMEDIATE RELEASE

AEP OHIO SCHEDULES SECOND OPEN HOUSE TO DISCUSS ELECTRIC TRANMISSION LINE IN WASHINGTON COUNTY

GAHANNA, Ohio, Nov. 16, 2016 – AEP Ohio, a unit of American Electric Power (NYSE: AEP), AEP Ohio Transmission Company Inc., Buckeye Power and Washington Electric Cooperative are taking steps to improve electric service in Marietta and the surrounding area. The plan includes construction of a new 138-kilovolt (kV) transmission line in Washington County.

To learn more about this project, the public is invited to attend a project open house from 5:30 to 7:30 p.m. Dec. 6 at Lower Salem Elementary School, 10930 OH-821, Lower Salem, Ohio 45745. Doors open at 5:30 p.m. The informational open house provides residents the opportunity to meet and talk with project representatives. There is no formal presentation. Visitors may come and go at any time during the workshop. Washington County residents can offer input, ask questions of project team members and learn more about the new transmission line.

The Macksburg-Devola transmission line is a 138-kV transmission line that will connect Macksburg Substation to Devola Substation in Washington County. This project will improve service for customers, reduce power outages and speed restoration of service when outages occur. In addition, this line is needed to support possible future economic growth in Washington County.

“We’ve received positive input from the community since our first open house in May,” said Shawn Malone, project manager for AEP Ohio. “We are pleased to show residents our

updated transmission line route options prior to filing this project with the Ohio Power Siting Board."

The Macksburg-Devola line will be approximately 17 miles long, depending on the route selected. The line will likely run through Adams, Aurelius, Marietta, Muskingum and Salem townships in Washington County.

"The improvements to the transmission system planned by AEP will provide more reliable service, reduce power interruptions and speed the restoration of power in the event of outages to the members of Washington Electric Cooperative," said Jack Bragg, general manager and chief executive officer of Washington Electric Cooperative. "Washington Electric fully supports the replacement of this aging infrastructure by AEP and looks forward to the improved reliability afforded by this investment to our membership."

AEP Ohio plans to invest about $30 million in the Macksburg-Devola transmission line. Construction is targeted to begin in fall 2018 and be complete by summer 2021.

Additional information about the project, including maps, is available online at AEPOhio.com/Macksburg-Devola.

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AEP Ohio provides electricity to nearly 1.5 million customers of major AEP subsidiary Ohio Power Company in Ohio. AEP Ohio is based in Gahanna, Ohio, and is a unit of American Electric Power. News and information about AEP Ohio can be found at AEPOhio.com.

American Electric Power is one of the largest electric utilities in the United States, delivering electricity and custom energy solutions to nearly 5.4 million customers in 11 states. AEP owns the nation's largest electricity transmission system, a more than 40,000-mile network that includes more 765-kilovolt extra-high voltage transmission lines than all other U.S. transmission systems combined. AEP also operates 223,000 miles of distribution lines. AEP ranks among the nation's largest generators of electricity, owning approximately 31,000 megawatts of generating capacity in the U.S. AEP's utility units operate as AEP Ohio, AEP Texas, Appalachian Power (in Virginia and West Virginia), AEP Appalachian Power (in Tennessee), Indiana Michigan Power, Kentucky Power, Public Service Company of Oklahoma, and Southwestern Electric Power Company (in Arkansas, Louisiana and east Texas). AEP's headquarters are in Columbus, Ohio.

Washington Electric Cooperative, Inc., is a member-owned electric distribution cooperative serving more than 10,000 members in parts of Washington, Guernsey, Monroe, Noble, Morgan and Athens counties. www.weci.org

Buckeye Power Inc. is a member-owned generation-and-transmission cooperative providing wholesale power to the 25 distribution cooperatives serving nearly 400,000 members in 77 of Ohio's 88 counties. www.buckeyepower.com

# # #

NOTICE OF PUBLIC INFORMATION MEETING FOR PROPOSED MAJOR UTILITY FACILITY

AEP Ohio Schedules Open House to Discuss New Electric Transmission Line

AEP Ohio, a unit of American Electric Power (AEP), and the AEP Ohio Transmission Company Inc. invite residents of Washington County to attend a public informational open house regarding plans to rebuild a high-voltage 138-kilovolt (kV) electric transmission line in Washington County.

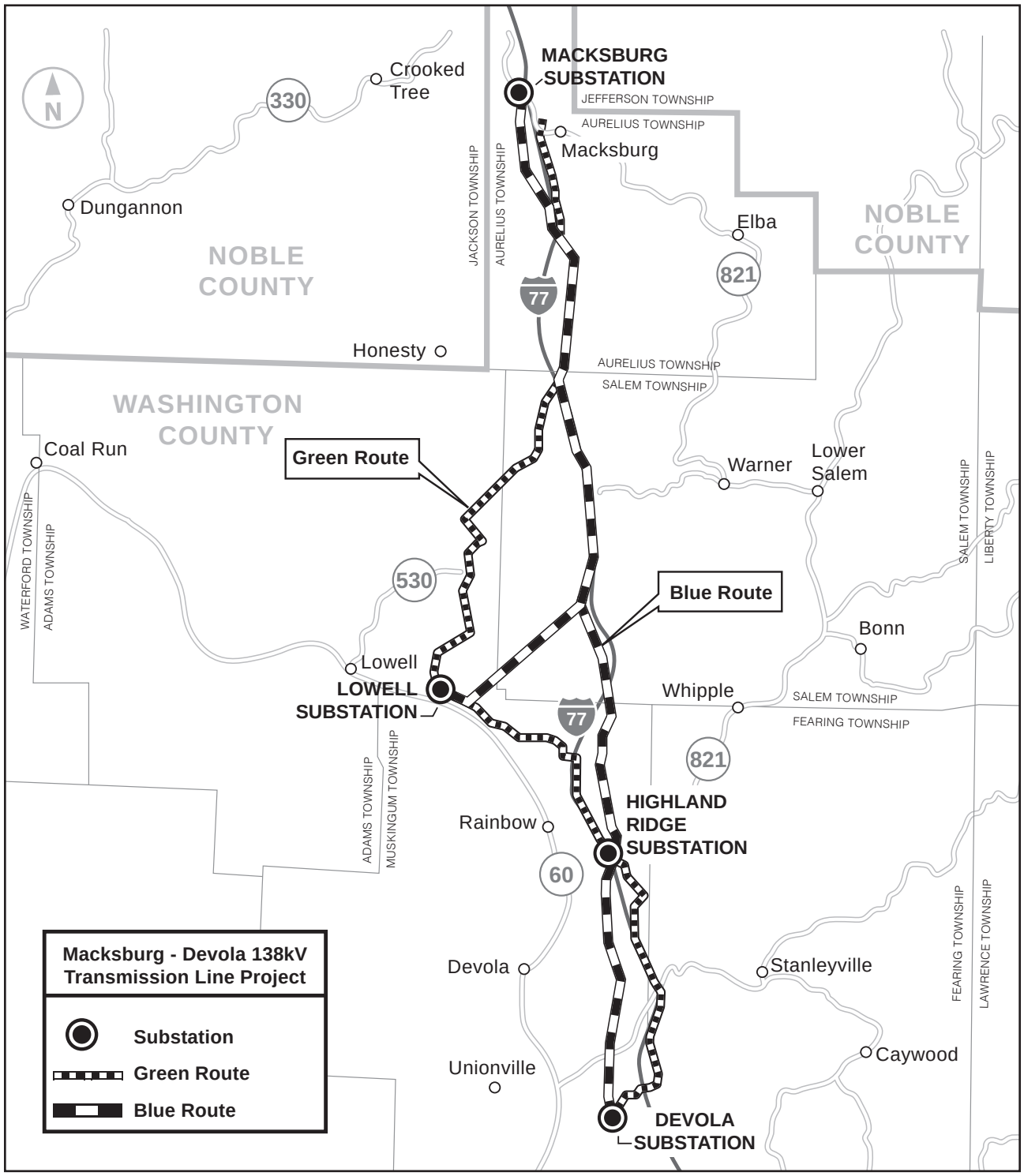
To learn more about this project, the public is invited to attend a project open house Dec. 6 at Lower Salem Elementary School, 10930 OH-821, Lower Salem, Ohio 45745. The doors open at 5:30 p.m. The open house will run until 7:30 p.m. The informational open house provides the public the opportunity to meet and talk with project representatives. There is no formal presentation. Visitors may come and go at any time during the workshop. Washington County residents can offer input, ask questions of project team members and learn more about the new transmission line.

The proposed Macksburg-Devola transmission line is part of the overall Marietta Area Improvements Project. The 23-kilovolt (kV) infrastructure has reached an age where it is in need of rebuild and redesign to improve reliability for customers across the region. Bringing additional power sources into the region will improve electric service reliability.

The Macksburg-Devola transmission line will be rebuilt to a 138-kV transmission line that connects Macksburg Substation - passing through Lowell Substation - to Devola Substation in Washington County. This project will improve service for customers, decrease power interruptions and speed recovery of service when outages occur.

The Macksburg-Devola line will be approximately 17 miles long, depending on the route selected. The line will likely run through Adams, Aurelius, Marietta, Muskingum and Salem townships in Washington County. AEP Ohio anticipates building the new transmission line primarily with single pole, steel structures.

AEP Ohio projects the Macksburg-Devola line will be an approximate $30 million investment by the company.



AEP Ohio Transmission Company expects to file its application for a Certificate of Environmental Compatibility and Public Need for the Macksburg-Devola transmission line with the state of Ohio Power Siting Board in early 2017. This application has been assigned Case Number 16-0702-EL-BTX. This number should be included in all communications with respect to this project.

The Ohio Power Siting Board is responsible for reviewing information related to the project – including input from the public – and determining whether the proposed project should be approved. AEP Ohio is required to propose two transmission line routes to the siting board. The siting board will make the final decision regarding which route is selected. The accompanying concept map depicts the proposed routes the company is likely to submit to the siting board as the preferred and alternate routes. It should be noted that due to reduced scale and limited detail, this map should be used only as a general guide.

If the application is approved, construction of the transmission line could begin as early as fall 2018 and be completed by summer 2021.

Additional information about this project can be found online at AEPOhio.com/Macksburg-Devola. The public also can ask questions or make comments about the project by calling 614-552-1929 or 877-215-9261 or sending an email inquiry to beschmied@aep.com. Mail inquiries may be sent to the following address:

AEP Ohio
Attention: Brett Schmied
700 Morrison Road
Gahanna, Ohio 43230

AEP OHIO®

A unit of American Electric Power

Macksburg-Devola 138-kV Transmission Line Rebuild Project

Please complete this questionnaire after you have reviewed the information presented at the open house.

This questionnaire is designed to help you identify issues related to the Macksburg-Devola 138-kV Transmission Line Rebuild Project. Your answers will help the project team understand public interests and concerns and will allow the team to incorporate this information in the route selection process. Thank you for your input!

Contact Information

Name:_____

Address:_____

Email:_____ Phone Number:_____

Project Need

Do you believe the purpose/need for this transmission line has been explained adequately?

_____ Yes _____ No _____ Uncertain

If "no" or "uncertain", what additional information would be helpful to you? _____

_____

Line Routing Considerations

The routing of a transmission line involves many considerations. From the list of routing factors below, please circle the number corresponding to the level of importance of that factor to you.

Factor	Rating				
	Not Important	***	Somewhat Important	***	Most Important
Maximize distance from homes	1	2	3	4	5
Maximize distance from commercial/industrial facilities/business	1	2	3	4	5
Maximize distance from public facilities (i.e. schools, parks, churches, cemeteries, etc.)	1	2	3	4	5
Minimize crossing wetlands, floodplains and streams/rivers	1	2	3	4	5
Minimize crossing cropland	1	2	3	4	5
Minimize crossing forested land	1	2	3	4	5
Minimize crossing pasture/open land	1	2	3	4	5
Minimize federal and state lands/easements	1	2	3	4	5
Maximize length along roads	1	2	3	4	5
Minimize number of private property/parcels crossed	1	2	3	4	5
Maximize distance from irrigation facilities	1	2	3	4	5
Maximize rebuilding in existing centerline/utilizing existing easements	1	2	3	4	5

Additional Information

Did you find this open house format to be informative? _____ Yes _____ No

If no, please explain:

_____

_____

Additional Comments

Please include any additional comments below:

_____

_____

_____

_____

_____

_____

_____

_____

If you wish to take this comment sheet with you, please return it to the address below prior to December 20, 2016.

AEP Ohio – Attn: Brett Schmied – 700 Morrison Road – Gahanna, Ohio 43230

You may also visit www.AEPOhio.com/Lamping-Rouse to submit your comments on the project website or by calling 614-552-1929.

AEP OHIO

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4906-5-07 HEALTH AND SAFETY, LAND USE, AND REGIONAL DEVELOPMENT

(A) HEALTH AND SAFETY

(1) Compliance with Safety Regulations

The construction and operation of the Project will comply with the requirements specified in the North American Electric Reliability Corporation mandatory Reliability Standards, the National Electrical Safety Code, the Public Utilities Commission of Ohio, and will meet all applicable safety standards established by the Occupational Health and Safety Administration (OSHA).

Safety is the highest priority for AEP Ohio Transco. Our priority towards employee and public safety is exemplified by AEP Ohio Transco's policy as stated in the Company Safety Manual:

> *The AEP Ohio Transco system holds in high regard the safety and health preservation of its employees. Accidents injure people, damage equipment, destroy materials, and cause needless personal suffering, inconvenience, and expense. We believe, "No operating condition or urgency of service can ever justify endangering the life of anyone."*
>
> *To this end, we will constantly work toward the following:*
>
> - *The maintenance of safe and healthful working conditions,*
> - *Consistent adherence to proper operating practices and procedures designed to prevent injuries and illnesses,*
> - *Conscientious observance of governmental and company safety regulations.*

AEP Ohio Transco also administers a contractor safety program. Contractors are required to maintain internal safety programs and to provide safety training.

(2) Electric and Magnetic Fields

In accordance with the OPSB requirements specified in OAC 4906-5-07(A)(2), the following subsections discuss the analysis of electric and magnetic fields (EMFs) associated with the Project.

(a) Calculated Electric and Magnetic Field Strength Levels

EMF calculations for winter normal conductor rating, emergency line loading and normal maximum loading are provided for the proposed single-circuit line configuration representative of the most common structure design planned for the Project. Refer to Section (a)(iv) below for further justification. This configuration, representing the davit arm and braced post design, is shown in Figure 5-1A through 5-1C. EMF levels were computed within the ROW of the line configuration at the point of minimum ground clearance, where EMF is the highest. Lower EMF levels are expected beyond the ROW edge. Because the line configurations associated with the Preferred and Alternate Routes are identical, EMF levels produced by these configurations in any route selected for the Project would be the same.

Factors that affect EMF include the ROW width, operating voltage, current flow magnitude, phase configuration, conductor height above ground, electrical unbalance, and other nearby objects. Nominal voltages and balanced conditions are assumed, with line conductors arranged in a modified delta configuration depicted in Figures 5-1A through 5-1C. No trees, shrubs, buildings, or other objects that can block EMF are assumed in proximity to the proposed line.

All calculations were obtained at the height of 3.28 feet (1 meter) above ground using the Electric Power Research Institute (EPRI) EMF Workstation computer program. Three loading conditions were examined: (1) normal maximum loading, (2) emergency loading, and (3) winter normal conductor rating, consistent with the OPSB requirements. Normal maximum loading represents the peak flow expected with all system facilities in service; daily/hourly flows fluctuate below this level. Emergency loading is the maximum current flow during unusual (contingency) conditions, which exists only for short periods. Winter normal conductor rating represents the maximum current flow that a line, including its terminal equipment, can carry during winter conditions. It is not anticipated that either circuit of this line would operate at its winter normal rating in the foreseeable future.

Loading levels used in the EMF calculations, along with key line design data, are presented in Tables 7-1A and 7-1B. These levels are based on the 2019 projected system conditions.

TABLE 7-1A
EMF Calculations for Macksburg to Highland Ridge and Highland Ridge to Devola

Condition	Circuit Load (amperes)	Electric Field (kV/m)*	Magnetic field (mG)*
Macksburg - Highland Ridge SW 138 kV Line 1			
(1) Normal Maximum Loading	77.4	0.2/0.8/0.2	2.0/5.2/2.2
(2) Emergency Line Loading	232.6	0.2/0.8/0.2	6.0/15.6/6.5
(3) Winter Normal Conductor Rating	1940	0.2/1.0/0.2	54.5/169.1/59.8
Macksburg - Highland Ridge SW 138 kV Line 2			
(1) Normal Maximum Loading	77.4	0.2/0.8/0.2	1.9/5.2/2.2
(2) Emergency Line Loading	232.6	0.2/0.8/0.2	5.8/15.7/6.6
(3) Winter Normal Conductor Rating	1940	0.2/1.0/0.2	53.0/169.8/61.0
Highland Ridge SW - Devola 138 kV Line			
(1) Normal Maximum Loading	77.4	0.2/0.8/0.2	1.9/5.2/2.2
(2) Emergency Line Loading	232.6	0.2/0.8/0.2	5.8/15.7/6.6
(3) Winter Normal Conductor Rating	1940	0.2/1.0/0.2	53.0/169.8/61.0

*EMF levels (Left ROW Edge/Maximum/Right ROW Edge) computed 1 meter above ground at the point of minimum ground clearance, assuming balanced phase currents and nominal voltages. ROW width is 50 feet (left) and 50 feet (right) of centerline, respectively.
kV/m = kilovolt per meter; mG = milligauss

TABLE 7-1B
EMF Calculations for Buell 138 kV Extension

Condition	Circuit Load To/From (amperes)	Electric Field (kV/m)*	Magnetic field (mG)*
(1) Normal Maximum Loading	60.4/-36.7	0.1/0.3/0.1	1.9/3.8/1.8
(2) Emergency Line Loading	232.6/-232.6	0.1/0.3/0.1	8.8/17.9/8.8
(3) Winter Normal Conductor Rating	1940/-1940	0.1/0.4/0.1	80.4/184.5/80.4

*EMF levels (Left ROW Edge/Maximum/Right ROW Edge) computed 1 meter above ground at the point of minimum ground clearance, assuming balanced phase currents and nominal voltages. ROW width is 50 feet (left) and 50 feet (right) of centerline, respectively.
kV/m = kilovolt per meter; mG = milligauss

(b) Electric and Magnetic Field Strength Values

In accordance with OAC 4905-5-07 (2)(a), EMF strength values are provided for the most utilized pole configuration for the Project. Additional pole and conductor configurations were not modeled because the seven residences located within 100 feet of the Alternate Route centerline (and one residence located within the Preferred Route centerline) do not constitute more than 10 percent of the total line length or more than 1 mile of the total line length being certificated.

(c) Current State of EMF Knowledge

Electric and magnetic fields occur naturally in the environment. An electric field is present between the earth and its atmosphere, and can discharge as lightning during thunderstorms. The earth also has a magnetic field, which provides an operating basis for the magnetic compass. EMF exists wherever there is a flow of electricity, including electrical appliances and power equipment.

Electric fields are produced by voltage or electric charge. A lamp cord that is plugged in produces an electric field even if the lamp is turned off. These fields commonly are measured in kilovolts per meter (kV/m); higher voltages produce stronger electric fields. Magnetic fields are created by the flow of current in a wire. As current increases, the magnetic field strength also increases; these fields are measured in units known as gauss, or milligauss (mG).

Electric fields are blocked by trees, shrubs, buildings, and other objects. Magnetic fields are not easily blocked; they can pass through most objects. The strength of these fields decreases rapidly with distance from the source.

Possible health effects from exposure to EMF have been studied for several decades. Initial research, focused on electric fields, found no evidence of biologic changes that could lead to adverse health effects. Subsequently, a large number of epidemiologic studies examined the possible role of magnetic fields in the development of cancer and other diseases in adults and children. While some studies have suggested an association between magnetic fields and certain types of cancer, researchers have been unable to replicate those results consistently in other studies. Similarly, inconclusive or inconsistent results have been reported in laboratory studies of

animals exposed to magnetic fields that are representative of common human exposures. A summary of such exposures, found in residential settings, is provided in Table 7-2.

TABLE 7-2
Magnetic Fields from Household Electrical Appliances and Devices

Appliance Type	Number of Devices	Magnetic Field (mG)		
		1.2 inches (0.1 feet)	12 inches (1.0 feet)	User Distance
AC Adapters	3	1.4 – 863	0 -7.5	0 – 0.8
Blood Pressure Monitors	4	4.2 – 39.6	0 – 0.3	0 -0.2
Bluetooth Headsets	3	0	0	0
Coffee Grinders	3	60.9 – 779	0.3 – 6.5	0.8 – 40.9
Compact Fluorescent Bulbs	15	0 – 32.8	0 – 0.1	0 – 0.6
Compact Fluorescent Bulb Ballast	1	8.5 – 23.5	0 – 0.1	0 -0.1
Computers, Desktop	3	3.8 – 68.9	0 – 1.1	0.1 – 0.5
Computers, Laptop	4	0 – 5.1	0	0 – 0.1
Digital Cameras	3	0	0	0
Digital Photo Frames	5	0	0	0
Digital Video Recorders	4	0 – 29.6	0 – 0.2	0
Dimmer Switches	4	11.5 – 32.1	0 – 0.8	0 – 0.8
DVD Players	5	0 – 28.9	0 – 0.5	0
Electric Lawn Mower	1	1939	156	14.1
Electric Leaf Blowers	4	272 – 4642	17.1 - 155	28.3 – 61.5
Electric Toothbrushes	5	3.6 – 742	0 – 4.8	3.6 - 742
Electric Toothbrush Chargers	5	0 – 4.2	0	0
External Hard Drives	4	0.6 – 1.7	0	0
Gaming Consoles	10	0 – 215	0 – 0.5	0 – 0.6
GPS, Handheld	5	0 – 0.1	0	0
Hobby Tools	2	126 – 438	1.4 – 2.4	1.4 – 438
Hot Glue Guns	3	0 – 0.9	0	0
LCD Computer Monitors	4	0 – 4.5	0	0
LCD Televisions	4	1.1 – 3.9	0 – 2.5	0 – 0.6
Massagers/Massage Chairs	3	81.9 – 500	0.6 – 2.3	214 – 500
MP3 Players	5	0	0	0

TABLE 7-2
Magnetic Fields from Household Electrical Appliances and Devices

Appliance Type	Number of Devices	Magnetic Field (mG)		
		1.2 inches (0.1 feet)	12 inches (1.0 feet)	User Distance
Noise Cancellation Headphones	1	0	0	0
Paper Shredders	4	11.0 – 4841	0.5 – 102	0.5 – 33.4
Plasma Televisions	2	45.1 – 73.6	1.4 – 2.2	0 – 0.1
Power Tools – Corded	3	784 – 982	8.8 – 31.3	46.8 - 123
Power Tools – Cordless	6	9.0 – 227	0 – 2.2	0 – 13.7
Printers	5	0.1 – 6.2	0 – 0.3	0 – 0.3
Scanners	3	0.6 – 6.7	0 – 0.3	0
Security System Panels	3	0 – 0.3	0	0
Tankless Hot Water Heater	1	10.1 – 21.9	1.2	0.2
Track Lighting	5	0.2 – 4.0	0 – 0.3	0
Vacuum Cleaners, Personal/Car	3	75.5 – 2226	0.6 – 23.3	0.1 – 23.1
Wireless Game Controllers	11	0	0	0
Wireless Routers	4	0 – 0.5	0	0 – 0.3

Source: Electric Power Research Institute, 2010

As part of the National Energy Policy Act of 1992, U.S. Congress enacted the Electric and Magnetic Fields Research and Public Information Dissemination (EMF RAPID) program. The National Institute of Environmental Health Sciences (NIEHS) was charged with overseeing the health research and conducting an EMF risk evaluation. In its final report to Congress, issued in 1999, NIEHS concluded that power-frequency "EMF exposure cannot be recognized at this time as entirely safe because of weak scientific evidence that exposure may pose a leukemia hazard." Nonetheless, the report stated, "this finding is insufficient to warrant aggressive regulatory concern." (NIEHS, 1999)

In 2001, the Standing Committee on Epidemiology of International Commission on Non-Ionizing Radiation Protection (ICNIRP) wrote in its review of the epidemiologic literature on EMF and health:

> "…given the methodological uncertainties and in many cases inconsistencies of the existing epidemiologic literature, there is no chronic disease outcome for which an etiological [causal] relation to EMF exposure can be regarded as established (ICNIRP, 2001)."

In addition, in 2001, International Agency for Research on Cancer (IARC) published the results of an EMF health risk evaluation conducted by an expert scientific working group, which concluded

that power frequency "magnetic fields are 'possibly carcinogenic to humans,' based on consistent statistical associations of high level residential magnetic fields with a doubling of risk of childhood leukemia" (IARC, 2001). IARC assigns its "possibly carcinogenic to humans" classification (Group 2B) if there is "limited evidence" of carcinogenicity in both humans and experimental animals, or if there is "sufficient evidence" in animals, but "inadequate evidence" in humans. Group 2B includes some 285 "agents" such as coffee, pickled vegetables, carpentry, textile manufacturing, and gasoline, among others.

A comprehensive assessment of the EMF health risks was published by the World Health Organization (WHO) in 2007. In its assessment, WHO wrote: "Scientific evidence suggesting that everyday, chronic, low-intensity (above 0.3-0.4 μT [microTeslas; 3-4 mG]) power-frequency magnetic field exposure poses a possible health risk is based on epidemiological studies demonstrating a consistent pattern of increased risk for childhood leukemia" (WHO, 2007). It added, however:

> "…virtually all of the laboratory evidence and the mechanistic evidence fail to support a relationship between low-level ELF [extremely low frequency] magnetic fields and changes in biological function or disease status. Thus, on balance, the evidence is not strong enough to be considered causal, but sufficiently strong to remain a concern (WHO, 2007)."

Regarding acute effects, WHO noted, "Acute biological effects have been established for exposure to ELF electric and magnetic fields in the frequency range up to 100 kHz [kilohertz] that may have adverse consequences on health. Therefore, exposure limits are needed. International guidelines exist that have addressed this issue. Compliance with these guidelines provides adequate protection for acute effects" (WHO, 2007).

In summary, some studies have reported an association between long-term magnetic field exposure and particular types of health effects, while other studies have not. The nature of the reported association remains uncertain as no known mechanism or laboratory animal data exist to support the cause-and-effect relationship.

In view of the scientific evidence, the Institute of Electrical and Electronics Engineers (IEEE) and other organizations have established guidelines limiting EMF exposure for workers in a controlled environment and for the public. These guidelines focus on prevention of acute neural stimulation. No limits have been established to address potential long-term EMF effects, as the guideline organizations consider the scientific evidence insufficient to form the basis for such action. For power-frequency EMF, IEEE Standard C95.6-2002 recommends the following limits as shown in Table 7-3 (IEEE, 2002).

TABLE 7-3
Recommended Power Frequency EMF Limits

	General Public	Controlled Environment
Electric Field Limit (kV/m)	5.0	20.0*
Magnetic Field Limit (mG)	9040	27,100

* 10.0 kV/m within power line ROW

To address public concerns about EMF, the Government of Canada in 2012 updated its website with the latest knowledge on the subject. It contains the following statements on the EMF health-related risks: "Health Canada does not consider that any precautionary measures are needed regarding daily exposures to EMFs at ELFs. There is no conclusive evidence of any harm caused by exposures at levels found in Canadian homes and schools, including those located just outside the boundaries of power line corridors" (Healthy Canadians, 2012). Similarly, in 2013, the updated website of the WHO concludes: "to date there is no evidence to conclude that exposure to low level electromagnetic fields is harmful to human health" (WHO, 2013).

AEP Ohio Transco has been following the EMF scientific developments worldwide, participating in and sponsoring EMF studies, and communicating with customers and employees on the subject. In addition, AEP Ohio Transco is a member of Electric Power Research Institute, an independent, non-profit organization sponsoring and coordinating EMF epidemiological, laboratory, and exposure studies.

(d) Line Design Considerations

Design alternatives were not considered because of EMF and their strength levels. Transmission lines, when energized, generate EMF. Laboratory studies have failed to establish a material correlation between exposure to EMF and effects on human health. However, some people are concerned that EMF has impacts on human health. Because of these concerns, EMF associated with the new circuits was calculated in Table 7-3. The EMF was computed assuming the highest possible EMF values that could exist along the proposed transmission line. Normal daily EMF levels will operate below these maximum load conditions. Based on studies from the National Institutes of Health, the magnetic field (mG) associated with emergency loading at the highest EMF value for this transmission line, is lower than those associated with normal household appliances like microwaves, electric shavers, and hair dryers. For additional information regarding EMF, the National Institute of Health has posted information on their website:
http://www.niehs.nih.gov/health/assets/docs_p_z/results_of_emf_research_emf_questions_answers_booklet.pdf

(e) EMF Public Inquiries Policy

Information on electric and magnetic fields is available on AEP Ohio's website (https://www.aepohio.com/info/projects/emf/); it describes the basics of EMF theory, scientific research activities, and EMF exposures encountered in everyday life. Similar material will be made available for those affected by the construction activities in this Project.

AEP Ohio Transco occasionally receives requests from customers for EMF measurements on their properties. These measurements are provided free of charge to the customers.

(3) Estimate of Radio, Television, and Communications Interference

Radio interference can be experienced in the AM broadcast band (535-1605 kHz) and FM band (88-108 megahertz [MHz]), caused by transmission line gap-type discharge (1-1000 MHz). Dielectric discharge due to air ionization, known as corona, is not a concern with 138 kV transmission planned in this Project. Gap-type discharge, such as that emitted by loose or defective transmission hardware, typically is localized and can be readily detected and corrected, or additional mitigation measures can be applied to eliminate the interference source.

Today's digital television signals react differently to interference than the pre-2009 analog signals. Common problems with analog television included ghosting of images, noise from weak signals, and other problems, which degraded the quality of the image and sound, although the programming was still watchable. With digital TV, reception of the signal must be very nearly complete. Otherwise, audio and video are not usable. Television signals, which are transmitted at frequencies above 50 MHz, can be affected by gap discharges if received from air broadcasts (by "rabbit ears"). These problems have largely been addressed with the use of cable television.

(4) Noise from Construction, Operations, and Maintenance

(a) Blasting Activities

Dynamiting and blasting activities will not be necessary during construction of the Project.

(b) Operation of Earth Moving and Excavating Equipment

During the construction phase of the transmission line installation, a temporary increase in noise will result from the construction equipment used to clear portions of the transmission line ROW and install the equipment. Standard construction techniques will be used, and procedures will comply with applicable OSHA standards. Therefore, the noise impact on nearby sensitive areas is anticipated to be minimal. The total duration of construction of the proposed Project is estimated to be approximately 8 to 12 months.

(c) Driving Of Piles, Rock Breaking or Hammering, and Horizontal Directional Drilling

Driving of piles is not anticipated during construction of the Project. If required, there will be a temporary increase in noise during construction only.

(d) Erection of Structures

Pole structures will be installed by vehicle-mounted cranes or equivalent equipment. Self-supporting steel poles will require delivery of concrete for foundation construction, including excavation work for the foundation. There will be a temporary increase in noise during construction only.

(e) Truck Traffic

An increase in truck traffic is anticipated during the construction of the Project for equipment access and equipment delivery. No other additional traffic is anticipated for the Project beyond periodic mowing or removal of dangerous trees from the ROW.

(f) Installation of Equipment

The equipment will be installed using standard practices and equipment. There will be a temporary increase in noise during construction only.

(B) LAND USE

(1) Map of the Site and Route Alternatives

An applicant for a Certificate of Environmental Compatibility and Public Need for electric transmission facilities is required to evaluate both the Preferred and Alternate Routes for the transmission line within the Application. Maps at 1:24,000-scale, including the area 1,000 feet on either side of the centerline, are presented as Figures 7-1A through 7-1C (refer to Section 4906-5-05) and include the following information:

- Centerline and ROW for the Preferred and Alternate Routes
- Proposed substation locations
- Land use types, road names, structures, and incorporated areas and population centers

(2) Impact on Identified Land Uses

Land use in the project area is primarily influenced by topography. The project area is steeply sloped and primarily forested with pockets of residential, commercial, and industrial structures. Residential, commercial, and industrial structures are mainly confined to the I-77 corridor in the southern part of the project area. Residential structures are also located along the eastern bank of the Muskingum River associated with the village of Lowell, census designated place of Devola and the city of Marietta, as well as located within the village of Macksburg.

Comparisons of the various land use types and land use features for both routes are included in Tables 7-4 through 7-6 for the Preferred and Alternate Routes. The estimates of each land use type being crossed by the transmission line, land use within the 100-foot-wide construction ROW, and the permanent ROW (linear feet, acreage, and percentages) were determined using GIS software calculations. The potential disturbance area during construction activities (vegetation clearing, pole installations, etc.) consists of the 100-foot-wide construction ROW. The 100-foot-wide permanent ROW will be restored through soil grading, seeding, and mulching, thus the permanent impact to the ROW is primarily limited to the removal of existing trees and other vegetation. Property owners may continue to utilize 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.

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
Agriculture / Agricultural District Land	1,610	2	7,455	9
Industrial/Commercial	316	0	207	0
Open Land/Pasture	7,903	9	8,076	9
Residential	1,586	2	1,611	2
Institutional	0	0	0	0
Recreational	0	0	0	0
Road Right-of-Way	2,141	3	2,048	2
Utility Right-of-Way	43,615	53	17,925	21
Woodlot	25,607	31	49,727	57
Water	146	0	292	0
Total	**82,924**	**100**	**87,341**	**100**

*Numbers in the table are for the planned potential disturbance area which is a nominal 100-foot-wide corridor centered on the route.

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

Land Use	Preferred Route*		Alternate Route*	
	Acreage	Percent	Acreage	Percent
Agriculture / Agricultural District Land	2.7	1	14.6	7
Industrial/Commercial	0.4	0	0.8	0
Open Land/Pasture	21.5	11	20.3	10
Residential	3.7	2	3.8	2
Institutional	0	0	0	0
Recreational	0	0	0	0
Road Right-of-Way	5.4	3	7.9	4
Utility Right-of-Way	73.6	39	26.5	13
Woodlot	82.9	44	125.3	63
Water	0.4	0	0.9	1
Total	**190.6**	**100**	**200.1**	**100**

***Numbers in the table are for the planned potential disturbance area which is a nominal 100-foot-wide corridor centered on the route.

TABLE 7-6
Number of Sensitive Features Within or Near the Potential Disturbance Area for the Route Alternatives

	Route Alternatives	
	Preferred	**Alternate**
Length (in miles)	15.7	16.5
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	0
Residences	0	0
Commercial Buildings	0	0
Industrial Buildings	0	0
Schools and Hospitals	0	0
Churches and Civic Buildings	0	0
State/Federal Forests and Recreational Lands	0	0
Airports	0	0
Features within 1,000 feet of Route Alternatives (centerline)		
Historic Structures (OHI)	6	15
National Register of Historic Places	0	0
Previously Identified Archaeological Sites	3	3
Residences	90	154
Commercial Buildings	37	33
Industrial Buildings	0	2
Schools and Hospitals	0	0
Churches and Civic Buildings	1	1
State/Federal Forests and Recreational Land	0	0
Airports	0	0

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

(a) Residential

Preferred Route: The Preferred Route is located within 1,000 feet of 90 residences, none of which are within the planned potential disturbance area. As shown in Table 7-5, residential land makes up 2 percent of the Preferred Route ROW (100 feet wide).

Alternate Route: The Alternate Route is located within 1,000 feet of 154 residences, none of which are within the planned potential disturbance area. As shown in Table 7-5, residential land makes up 2 percent of the Alternate Route ROW (100 feet wide).

(b) Commercial

Preferred Route: The Preferred Route is located within 1,000 feet of 37 commercial buildings, none of which are within the planned potential disturbance area. As shown in Table 7-5, industrial/commercial land makes up 0 percent of the Preferred Route ROW (100 feet wide).

Alternate Route: The Alternate Route is located within 1,000 feet of 33 commercial buildings, none of which are within the planned potential disturbance area. As shown in Table 7-5, industrial/commercial land makes up 0 percent of the Alternate Route ROW (100 feet wide).

(c) Industrial

Preferred Route: No industrial buildings are located within the planned potential disturbance area or within 1,000 feet of the Preferred Route. As shown in Table 7-5, industrial/commercial land makes up 0 percent of the Preferred Route ROW (100 feet wide).

Alternate Route: The Alternate Route is located within 1,000 feet of two industrial buildings, neither of which are within the planned potential disturbance area. As shown in Table 7-5, industrial/commercial land makes up 0 percent of the Alternate Route ROW (100 feet wide).

(d) School and Hospitals

No schools or hospitals are located within the planned potential disturbance area or within 1,000 feet of the Preferred and Alternate Route. As shown in Table 7-5, institutional land makes up 0 percent of the Preferred Route ROW (100 feet wide) and Alternate Route ROW (100 feet wide).

(e) Churches and Civic Buildings

The Preferred Route is located within 1,000 feet of one church, Good Hope Church. The Alternate Route is located within 1,000 feet of one church, Highland Ridge Community Church. Neither of these churches are located within the planned potential disturbance area. As shown in Table 7-5, institutional land makes up 0 percent of the Preferred Route ROW (100 feet wide) and Alternate Route ROW (100 feet wide).

(f) Recreational

No state or federal forest or recreational lands are located within the planned potential disturbance area or within 1,000 feet of the Preferred and Alternate Route. As shown in Table 7-5, recreational lands make up 0 percent of the Preferred Route ROW (100 feet wide) and Alternate Route ROW (100 feet wide).

(g) Agricultural

As shown in Table 7-4, approximately 2 percent (1,610 feet) of the Preferred Route and 9 percent (7,455 feet) of the Alternate Route cross agricultural fields. A discussion of agricultural land and Agricultural District Land is provided in section (C) below.

(3) Impact on Identified Nearby Structures

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

There are 21 residences within 200 feet of the Preferred Route ROW; these residences range from 25 to 150 feet from the ROW. There are 25 residences within 200 feet of the Alternate Route ROW; these residences range from 25 to 197 feet from the ROW. There are five commercial building within 200 feet of the Preferred Route ROW; these buildings range from 89 to 177 feet from the ROW. There are nine commercial buildings within 200 feet of the Alternate Route ROW; these buildings range from 5 to 111 feet from the ROW. There are 38 and 53 other structures (garage, barn, or camper) within 200 feet of the Preferred Route and Alternate Route ROW, respectively. There are no industrial, institutional, or recreational structures within 200 feet of the proposed ROW for either route.

(b) Destroyed, Acquired, or Removed Buildings

The potential removal of structures within the proposed ROW was mitigated during the RSS of the Preferred and Alternate Routes through the placement of routes away from structures. It is unlikely that construction of the Preferred or Alternate Routes will require the removal of any residential or commercial structures.

(c) Mitigation Procedures

Mitigation for the prohibition of the future installation of structures within the ROW, and vegetative clearing and maintenance activities for the transmission line, will be determined as part of AEP Ohio Transco's acquisition of the ROW for this Project, as part of the negotiated settlement between AEP Ohio Transco and the property owner, or as determined in appropriation proceedings. If an existing septic system located in the transmission ROW is impacted by construction, operation, or maintenance of the proposed Project, the septic system will be repaired or replaced by AEP Ohio Transco as necessary to meet the appropriate installation requirements.

(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. Agricultural land used for crop cultivation within the Preferred and Alternate Route ROWs is estimated at 2.7 acres and 14.6 acres, respectively. Other agricultural pastureland or other open land comprises 21.5 acres of the Preferred Route and 20.3 acres of the Alternate Route.

Soil compaction resulting from construction activities is typically a temporary issue and is resolved within a few seasons of plowing and tilling. AEP Ohio Transco will work with the agricultural landowners to resolve conflicts with drainage tiles and irrigation systems that are affected by the Project where necessary.

(1) Agricultural Land Map

The various categories of agricultural land use and Agricultural District lands are depicted on Figures 7-2A to 7-2C for both the Preferred and Alternate Routes.

(2) Impacts to Agricultural Lands and Agricultural Districts

The Washington County Auditor was contacted to obtain information on current Agricultural District lands records. The centerline of the Preferred Route cross one Agricultural District parcel. The parcel crossed is located near the middle of the Project where the Preferred Route crosses to the east side of I-77. Two additional Agricultural District parcels are located within the Preferred Route ROW and eight additional Agricultural District parcels are located within 1,000 feet of the Preferred Route. The centerline of the Alternate Route does not cross any Agricultural District parcels. Four Agricultural District parcels are located within 1,000 feet of the Alternate Route. The data was received from the Washington County Auditor on February 3, 2017. The provided data fulfills the requirement of OAC 4906-5-07 (C)(1)(b), which states this data must be collected not more than 60 days prior to submittal.

(a) Acreage Impacted

Table 7-4 provides the quantification of the acreage impacted for agricultural land use (crop cultivation, Agricultural District lands, and pasture or open land). The agricultural land use was based on aerial imagery and field observations.

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

The following subsections include an evaluation of the impact of the construction, operation, and maintenance of the proposed transmission line and the following agricultural facilities and practices within the project area, where present.

(i) Field Operations

Field operations such as plowing, planting, cultivating, spraying, and harvesting of cultivated crops will only be interrupted for a portion of the growing season or a portion of the dormant season for agricultural operations. Property owners will be compensated for crop damages resulting from AEP Ohio Transco's construction activities. No significant impacts to livestock operations or grazing areas are anticipated. Property owners may continue to utilize most of the ROW area for general uses after construction contingent upon the use having no adverse impact on the safe and reliable operation of the transmission line such as lawn maintenance, crop cultivation, and livestock.

(ii) Irrigation

There are no known irrigation systems within the proposed ROW for the either route. AEP Ohio Transco will identify the presence of any such systems through contact with landowners once the final route is approved. Any system that must be relocated will be coordinated with the landowner to avoid affecting the irrigation system's operation and avoid any cost incurred by the landowner.

(iii) Field Drainage Systems

Damage to field tile systems is unlikely given the installation of mostly direct-embed steel pole structures and a relatively short construction duration, but AEP Ohio Transco will restore damaged systems to their pre-construction condition. AEP Ohio Transco will also work with the agricultural landowners to resolve conflicts with field drainage systems and other facilities that are crossed by the Project, where necessary.

(iv) Structures Used for Agricultural Operations

There are no structures within 200 feet of the ROW that will be adversely affected by the construction and operation of the transmission line.

(v) Agricultural Land Viability for Agricultural Districts

The Preferred Route crosses one Agricultural District parcel located near the middle of the Project. At the time of survey, this land was being used for agricultural purposes. Due to the limited amount of disturbance at this location, no significant impacts on the viability of the Agricultural District lands is anticipated.

(c) Mitigation Procedures

Mitigation for damage to existing crops and the compaction of soils is provided as compensation to the property owner as specified in the easement for the ROW. The specific terms of the easement regarding crop damage or soil compaction are determined as part of AEP Ohio Transco's acquisition of the ROW for the Project, as part of the negotiated settlement between AEP Ohio Transco and the property owner, or as determined in appropriation proceedings. Additionally, AEP Ohio Transco and the contractors hired to work on the Project have extensive experience in transmission line construction. Both AEP Ohio Transco and the selected contractors will work to minimize agricultural impacts during construction of the Project.

(i) Avoidance or Minimization of Damage

In order to minimize damage to agricultural land, AEP Ohio Transco will place poles beyond or at the edges of agricultural fields and will primarily install single tangent poles to support the transmission line. This mitigation effort should limit disruption of plow patterns and minimize the creation of areas where weeds and other non-crops can grow in relation to construction of the transmission line. In instances where there is damage in the ROW, compensation for this limited impact will be provided to the property owner.

(ii) Field Tile System Damage Repairs

Concerns over interference with irrigation systems will be addressed on a case-by-case basis with the individual property owner. In general, AEP Ohio Transco will provide mitigation for damage to

underground drainage systems from construction, operation, and maintenance activities by repairing or replacing damaged sections of the drainage systems as necessary.

(iii) Segregation and Restoration of Topsoil

Excavated topsoil will be segregated and stockpiled where necessary to maintain long-term agricultural uses. Top soil will also be de-compacted and restored to original conditions, unless otherwise agreed to by the landowner.

(D) LAND USE PLANS AND REGIONAL DEVELOPMENT

This section of the Application provides information regarding land use plans and regional development.

(1) Impacts to Regional Development

This Project is expected to support regional development in Washington County through increased reliability and availability of electric power to residential, commercial, institutional, and industrial users throughout the region. No negative impacts on regional development are foreseen for this Project. A more detailed discussion of the need for this Project and how it will affect regional development is included in Section 4906-5-03 of this Application.

(2) Compatibility of Proposed Facility with Current Regional Land Use Plans

The Southeast Ohio Building Department, which serves Washington County, was contacted for information regarding regional land use plans (Folden, 2017, personal communication). AEP Ohio Transco's consultant was informed that there is no regional land use development plan for Washington County at this time. The Southeast Ohio Building Department is only aware of permit applications that have been submitted for approval to date.

(E) CULTURAL AND ARCHAEOLOGICAL RESOURCES

Cultural resource studies of the project area were conducted on behalf of AEP Ohio Transco. To date, these studies have been limited to a background records check and literature review using data files from the State Historic Preservation Office (SHPO) for both the Preferred and Alternate Routes. A summary of this effort for the Preferred Route is complete and will be filed as a confidential filing with the Board due to the sensitive nature of the location information for archaeological sites.

(1) Cultural Resources Map

Based on the cultural resources desktop study, there are no scenic rivers or scenic routes/byways (as defined by the Ohio Department of Natural Resources [ODNR] and/or the Ohio Department of Transportation [ODOT]) or registered landmarks of historic, religious, archaeological, scenic, natural, or other cultural significance within 1,000 feet of the proposed routes.

Although not registered or listed cultural resources, three cemeteries and six OHI structures are located within 1,000 feet of the Preferred Route. One cemetery and 15 OHI structures are located

within 1,000 feet of the Alternate Route. Cultural resources already in the public domain (churches, cemeteries, and OHI structures) are identified on Figures 7-1A to 7-1C.

(2) Cultural Resources in Study Corridor

Cultural resources studies to date have involved background research utilizing data files from the Ohio Historic Preservation Office (OHPO) online mapping system for both the Preferred and Alternate Routes.

For the background research, a 1-mile buffer was used around both the Preferred and Alternate Routes to identify these previously known cultural resources and to provide information on the probability of identifying cultural resources within the Project footprint. The OHPO online mapping database included a review of the Ohio Archaeological Inventory, the OHI, Determination of Eligibility files, the NRHP, historic cemeteries, historic bridges, national historic landmarks, and previous cultural resources surveys.

No known cultural resources were identified within the Project footprint of either the Preferred or the Alternate Route from the desktop review. A field investigation of the proposed disturbance area will be performed if directed by the OHPO as a result of the consultation request letter submitted to the OHPO.

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

Based on the results of the cultural resources desktop review, impacts to known cultural resources associated with the construction, operation, and maintenance of the proposed Project are not anticipated.

(4) Mitigation Procedures

Based on the results of the desktop review, no impacts to known and recorded historic properties are anticipated because of the Project; therefore, no mitigation is proposed at this time.

(5) Aesthetic Impact

(a) Visibility of the Proposed Facility

The viewsheds along both the Preferred and Alternate Routes from residences and potentially sensitive vantage points may be altered by the presence of the transmission line. The area consists of rolling forested hills. Many roads in the area are paralleled by wood poles supporting distribution lines. The addition of the proposed Project will not have a significant negative impact on the overall visual landscape. At select locations, there may be an incremental change in the viewshed, including for some residences, commercial properties, and where tree clearing is required.

(b) Facility Effect on Site and Surrounding Area

Construction of the proposed transmission line would affect the existing visual aesthetics of the area through which the transmission line passes primarily from the removal of trees from the

ROW of the transmission line and the introduction of a new man-made element in the landscape. The degree of visual impact of a new man-made element will vary with the setting; the impact can be evaluated by comparing the amount of contrast resulting from the construction of the new element and the existing landscape. For example, if the transmission line were screened from view, then the aesthetic impact would be minimal, and if the transmission line were placed in an existing open area, it would have a comparatively higher aesthetic impact. In areas where the transmission line follows or replaces similar facilities, the aesthetic impact would be reduced, because it would create an incremental visual change in the existing visual setting.

(c) Visual Impact Minimization

The ability to minimize the visual impacts of the proposed transmission line is constrained by engineering requirements, existing land use, and the Project length. AEP Ohio Transco has limited the potential aesthetic impacts of the transmission line to the extent possible through the route selection process, and where practical, paralleling or overbuilding existing transmission and distribution lines.

Figures

Figures

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Macksburg Substation

JACKSON

NOBLE CO
WASHINGTON CO

AURELIUS

Macksburg

WEST

Honesty

Crooked Tree

Duck Creek

Goose Hollow

Big Run

Cat Run

Macksburg Cems

McGinnis Cem

Shafers Ch
Cem

Atkinson Cem

Smith Ridge Ch

Gas Well

Hill Grove Cem

Liberty Hill Cem

SOUTH BOUNDARY CONGRESS LANDS EAST OF SCIOTO
NORTH BOUNDARY DONATION TRACT

LEGEND:

- Substation
- Preferred Route
- Alternate Route
- 1,000-Foot Buffer
- Cemetery
- Church
- OHI Structure
- Existing Transmission Line
- Existing Gas Pipeline

Structure

- Other
- Commercial
- Industrial
- Residence

Land Use

- Utility ROW
- Agricultural
- Cemetery
- Commercial
- Open Land\Pasture
- Residential
- Road ROW
- Water
- Woodlot

N

0 2,000 4,000

Scale in Feet

BASE MAP SOURCE:
USGS 7.5-minute Topographic Quadrangles:
Macksburg, Lower Salem, Marietta

AEP OHIO TRANSMISSION COMPANY

Macksburg to Devola 138 kV Transmission Line Project

FIGURE 7-1A
LAND USE MAP

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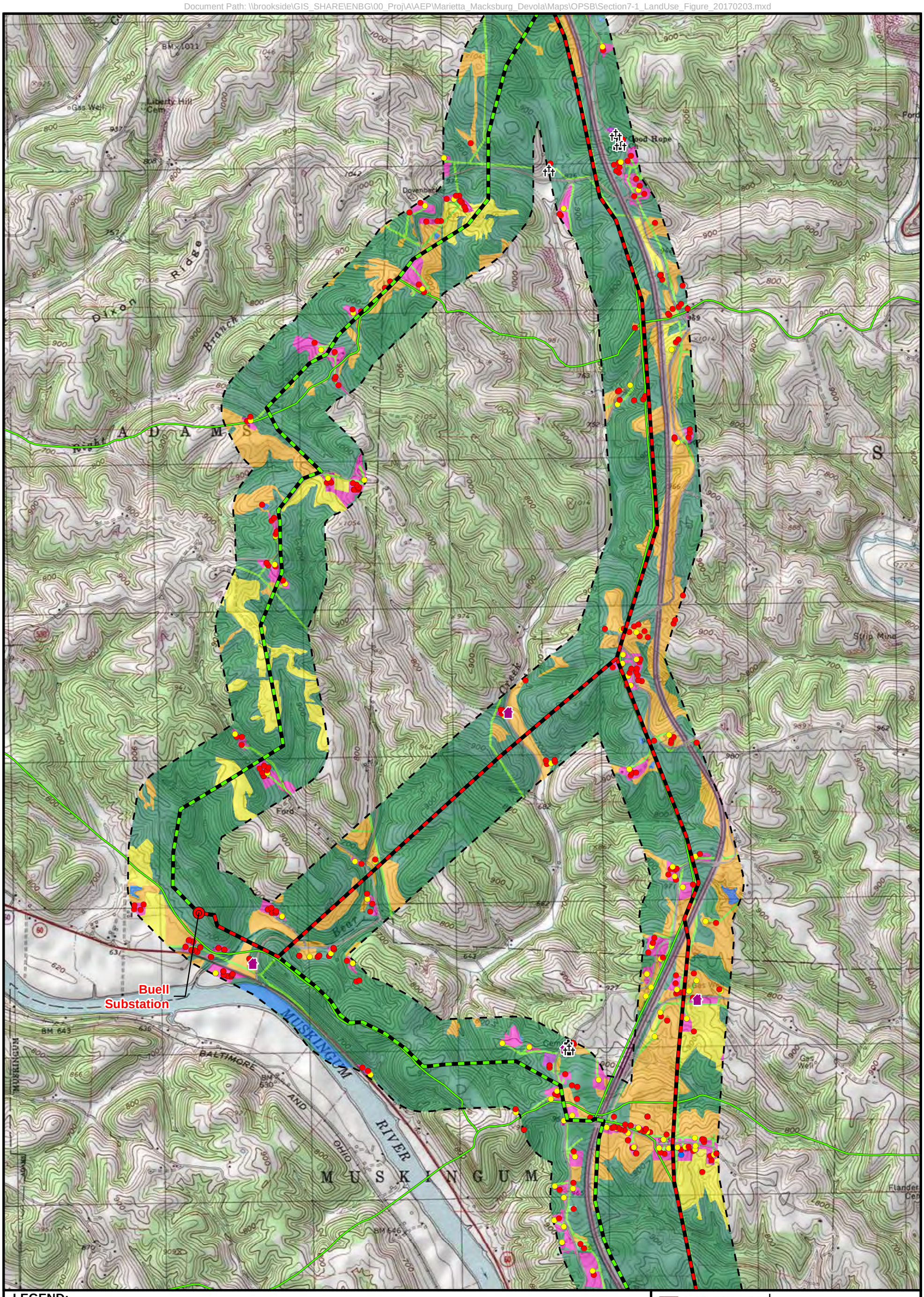

LEGEND:

- Substation
- Preferred Route
- Alternate Route
- 1,000-Foot Buffer
- Cemetery
- Church
- OHI Structure
- Existing Transmission Line
- Existing Gas Pipeline

Structure

- Other
- Commercial
- Industrial
- Residence

Land Use

- Utility ROW
- Agricultural
- Cemetery
- Commercial
- Open Land\Pasture
- Residential
- Road ROW
- Water
- Woodlot

N

0 2,000 4,000

Scale in Feet

BASE MAP SOURCE:
USGS 7.5-minute Topographic Quadrangles:
Macksburg, Lower Salem, Marietta

AEP OHIO TRANSMISSION COMPANY

Macksburg to Devola 138 kV Transmission Line Project

FIGURE 7-1B
LAND USE MAP

PN: 653627	DATE: 2/17/2017
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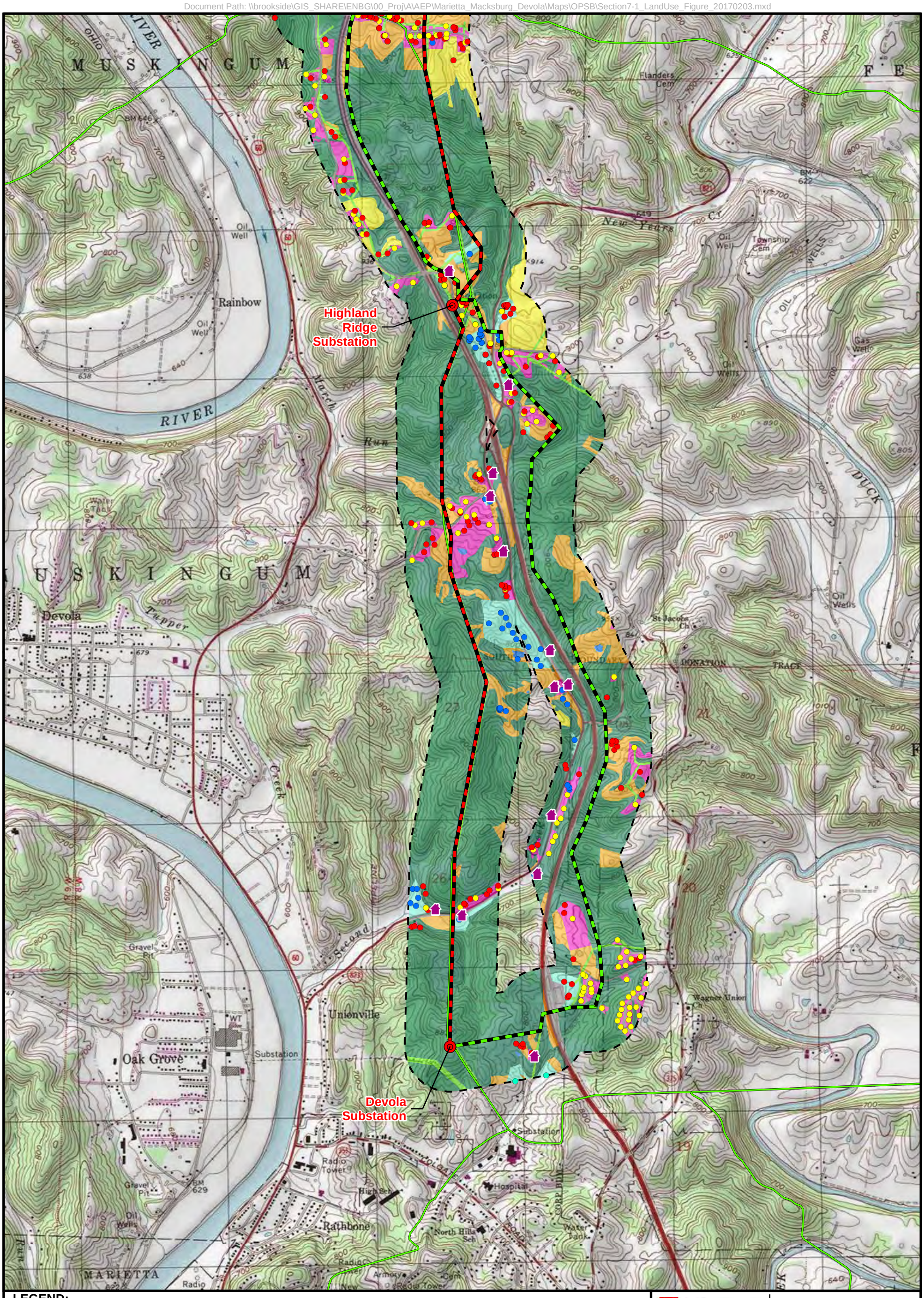

LEGEND:

- Substation
- Preferred Route
- Alternate Route
- 1,000-Foot Buffer
- Cemetery
- Church
- OHI Structure
- Existing Transmission Line
- Existing Gas Pipeline

Structure

- Other
- Commercial
- Industrial
- Residence

Land Use

- Utility ROW
- Agricultural
- Cemetery
- Commercial
- Open Land\Pasture
- Residential
- Road ROW
- Water
- Woodlot

N

0 2,000 4,000

Scale in Feet

BASE MAP SOURCE:
USGS 7.5-minute Topographic Quadrangles:
Macksburg, Lower Salem, Marietta

AEP OHIO TRANSMISSION COMPANY

Macksburg to Devola 138 kV Transmission Line Project

FIGURE 7-1C
LAND USE MAP

PN: 653627	DATE: 2/17/2017
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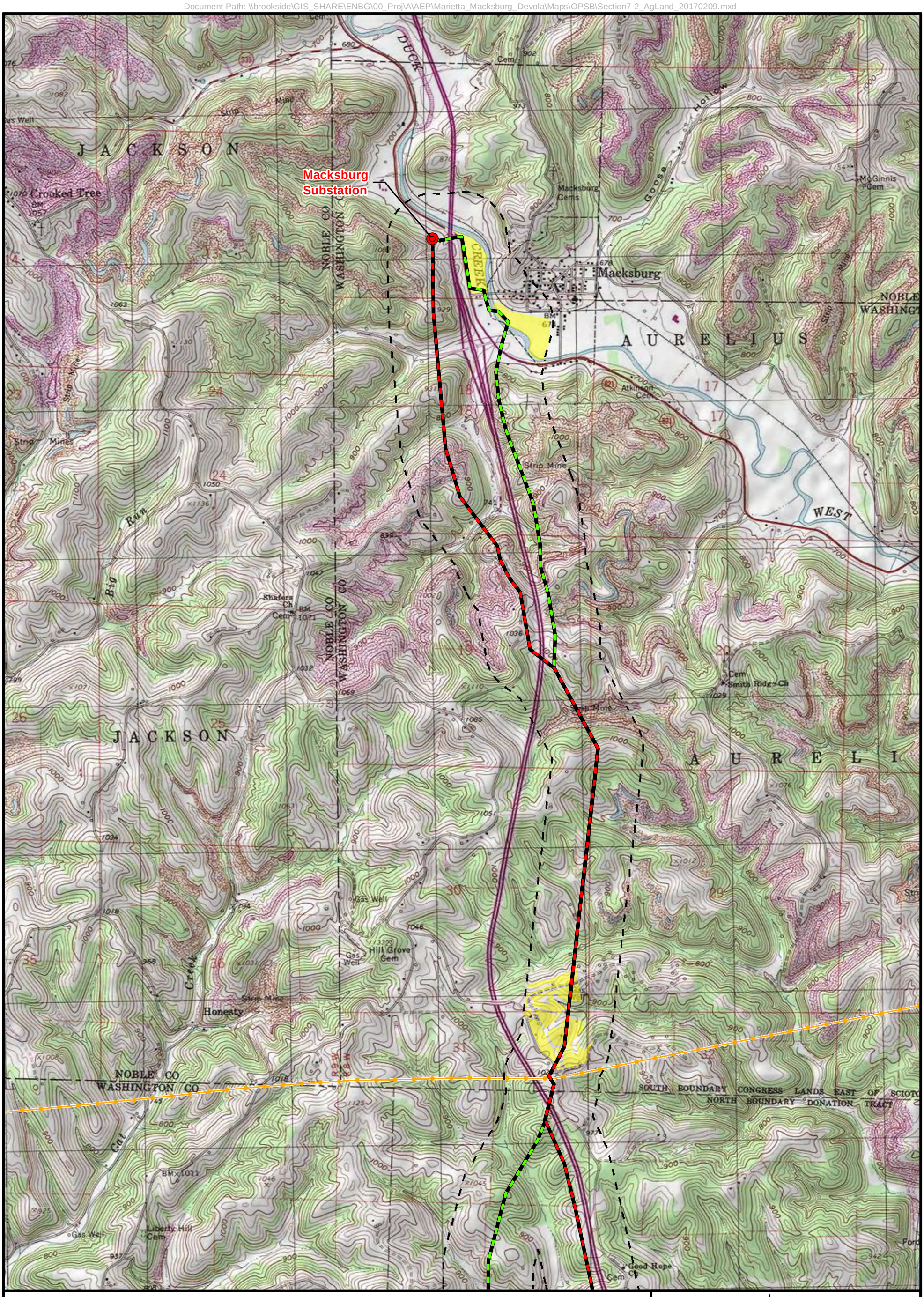

LEGEND:

- Substation
- Preferred Route
- Alternate Route
- 1,000-Foot Buffer
- Existing Transmission Line
- Agricultural District Land within 1,000 feet

Land Use

- Agricultural

N

0 2,000 4,000

Scale in Feet

BASE MAP SOURCE:
USGS 7.5-minute Topographic Quadrangles:
Macksburg, Lower Salem, Marietta

AEP OHIO TRANSMISSION COMPANY

Macksburg to Devola 138 kV Transmission Line Project

FIGURE 7-2A
AGRICULTURAL LAND USE MAP

PN: 653627	DATE: 2/28/2017
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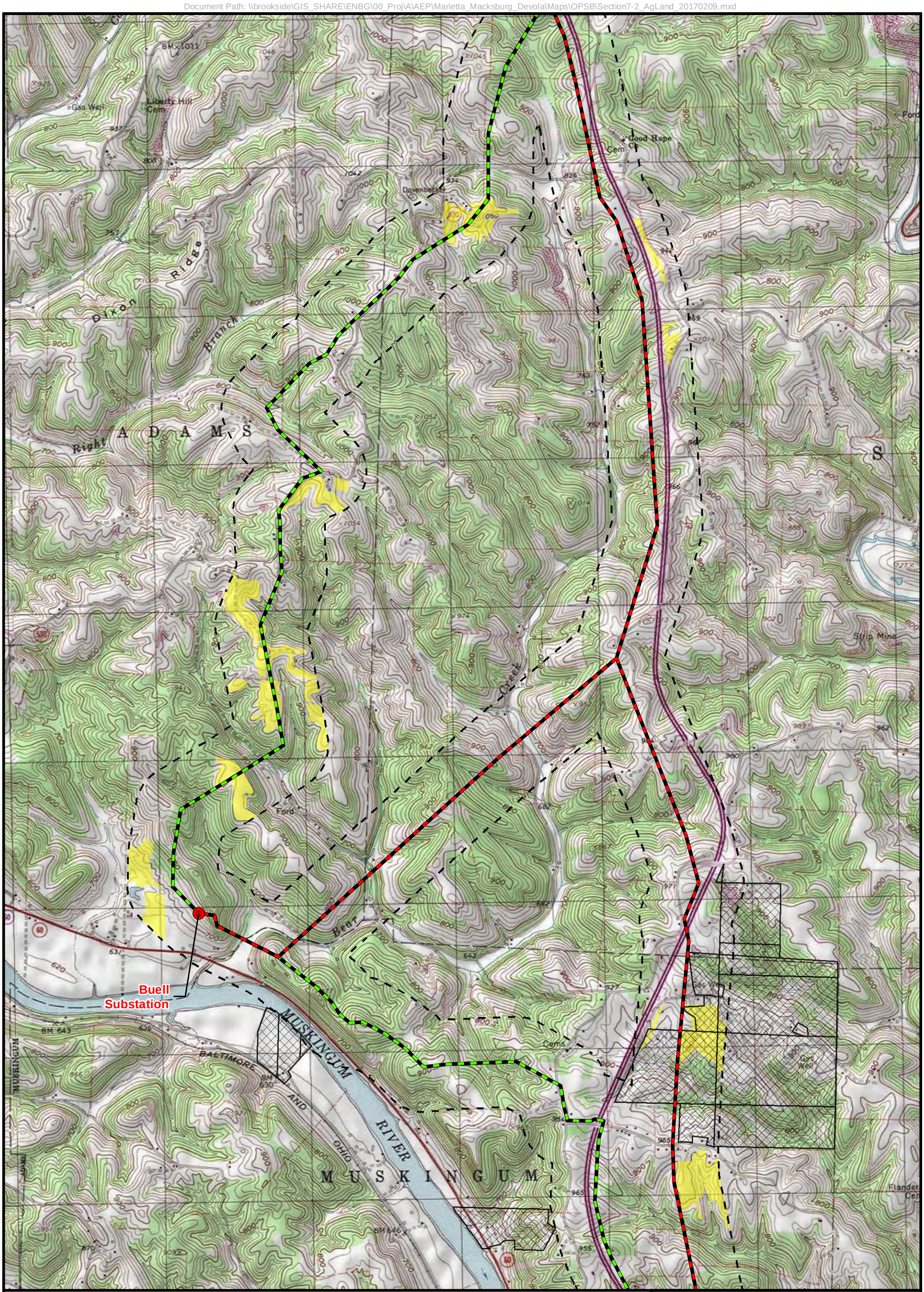

LEGEND:

- Substation
- Preferred Route
- Alternate Route
- 1,000-Foot Buffer
- Existing Transmission Line
- Agricultural District Land within 1,000 feet

Land Use

- Agricultural

N

0 2,000 4,000

Scale in Feet

BASE MAP SOURCE:
USGS 7.5-minute Topographic Quadrangles:
Macksburg, Lower Salem, Marietta

AEP OHIO TRANSMISSION COMPANY

Macksburg to Devola 138 kV Transmission Line Project

FIGURE 7-2B
AGRICULTURAL LAND USE MAP

PN: 653627	DATE: 2/28/2017
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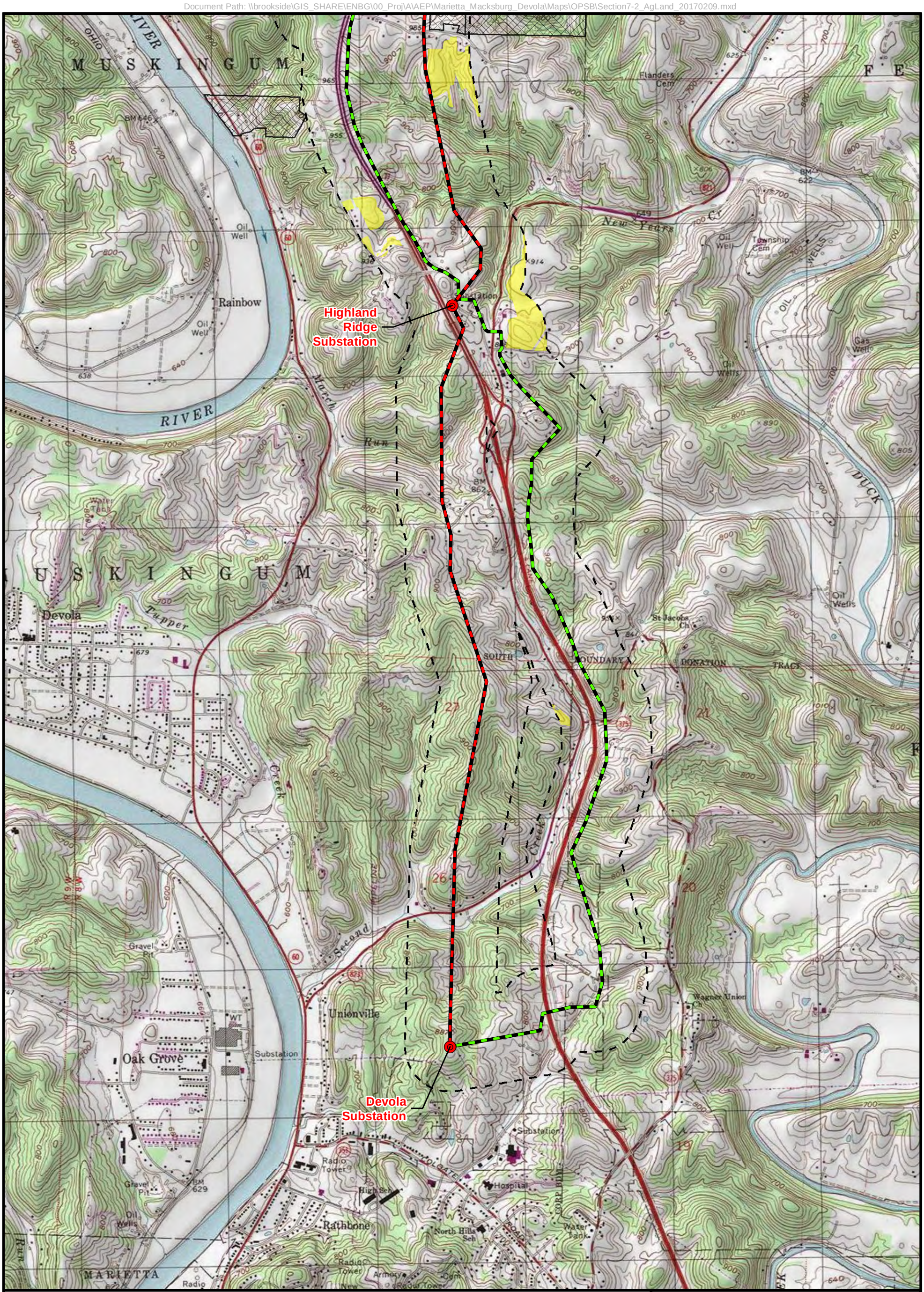

LEGEND:

- Substation
- Preferred Route
- Alternate Route
- 1,000-Foot Buffer
- Existing Transmission Line
- Agricultural District Land within 1,000 feet

Land Use

- Agricultural

N

0 2,000 4,000

Scale in Feet

BASE MAP SOURCE:
USGS 7.5-minute Topographic Quadrangles:
Macksburg, Lower Salem, Marietta

AEP OHIO TRANSMISSION COMPANY

Macksburg to Devola 138 kV Transmission Line Project

FIGURE 7-2C
AGRICULTURAL LAND USE MAP

PN: 653627	DATE: 2/28/2017
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REVIEWED BY: AC	

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

In the summer and fall of 2016 and the winter of 2017, AEP Ohio Transco conducted a study to assess the potential effects of construction and operation of the proposed Project on the ecology of the project area. A map and literature search was conducted for a 1,000-foot corridor on either side of the centerline of both the Preferred and Alternate Routes. A field survey of ecological habitat and features was performed within 150 feet on either side of the centerline for both the Preferred and Alternate Routes (hereafter referred to as the Field Survey Area). Field surveys were conducted from June 2016 through January 2017 during several mobilizations. Information in the following paragraphs addresses AEP Ohio Transco's ecological study conducted for both the Preferred and Alternate Routes.

(A) ECOLOGICAL MAP

Maps at a scale of 1:24,000 (1 inch = 2,000 feet) including the corridor 1,000 feet either side of the centerline (referred to as the 2,000-foot corridor) of the Preferred and Alternate Routes are presented as Figures 7-1A to 7-1C. These maps depict the transmission line alignments, substation locations, and land use classifications, including vegetative cover. Features within 1,000 feet of the proposed routes were identified from published data and, where accessible, verified by the field ecological survey.

An ecological overview map is provided as Figure 8-1. More detailed maps at 1:6,000 scale depicting field-delineated water features, lakes, ponds, reservoirs, slopes of 12 percent or greater, wildlife areas, nature preserves, and conservation areas within the 2,000-foot corridor are provided as Figures 8-2A through 8-2M (Preferred Route) and Figures 8-3A through 8-3N (Alternate Route).

(B) FIELD SURVEY REPORT FOR VEGETATION AND SURFACE WATERS

The ecological survey of both the Preferred and Alternate Routes, including the 300-foot Field Survey Area, was conducted in the summer and fall of 2016 and winter of 2017 by AEP Ohio Transco's consultant, CH2M HILL Engineers, Inc. The field survey was preceded by review of published mapping, aerial photography, protected federal and state-listed species, and ecological information for at least 1,000 feet on either side of the Preferred and Alternate Route centerlines. Map sources included USGS 7.5-minute quadrangle topographic maps, U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps, and U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil survey maps.

Published information regarding existing flora and fauna was requested from the ODNR - Division of Wildlife (DOW) Ohio Natural Heritage Program. This request included available GIS shapefiles of location records of state-listed species within 1 mile of the Project. The information provided by the ODNR-DOW indicated no records of federal- or state-threatened or endangered species, or species of special concern, within 1,000 feet of the Preferred and Alternate Routes. More detail on the data provided by the ODNR-DOW is provided in Section 4906-05-08(C)(1).

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

(a) Vegetative Communities

Vegetative communities and land use types within the project survey area include: agricultural and pasture fields, old fields, scrub-shrub, palustrine emergent (PEM) wetland, palustrine scrub-shrub (PSS) wetland, palustrine forested (PFO) wetland, residential, existing utility ROW, and upland forest, in addition to the identified waterbodies. Habitat descriptions are provided below. Details on the anticipated impacts from construction of the proposed Project are provided in Section 4906-05-08(B)(3)(a) below and in Table 8-5.

(i) Agricultural and Pasture Fields

Portions of both the Preferred Route and Alternate Route cross agricultural and/or pasture fields. Evidence of hay baling was observed in fields, and cattle pastures were observed along routes. Cattle pastures were dominated by grasses maintained by grazing.

(ii) Old Field and Scrub-Shrub

Herbaceous cover exists in successional old field communities. Old-field plant communities are at the earliest stages of recolonization following disturbance. This community type is typically short-lived (less than 10 years), progressively giving way to shrub and forest communities unless periodically redisturbed, in which case they remain as old fields. Old-field areas are located within some portions of the project area, usually in inactive pastures or clear-cut areas. Portions of both the Preferred and Alternate Routes have old-field and scrub-shrub communities.

Dominant plant species included:

- Common dandelion (*Taraxacum officinale*)
- White clover (*Trifolium repens*)
- Fuller's Teasel (*Dipsacus fullonum*)
- Autumn olive (*Elaeagnus umbellata*)
- Red clover (*Trifolium repens*)
- Kentucky blue grass (*Poa pratensis*)
- Tall fescue (*Festuca arundinacea*)
- American pokeweed (*Phytolacca americana*)
- Queen Anne's lace (*Daucus carota*)
- Orchard grass (*Dactylis glomerata*)
- Broom sedge (*Andropogon virginicus*)
- Groundivy (*Glechoma hederacea*)
- Blackberry (*Rubus* spp.)
- Rambler rose (*Rosa multiflora*)
- Bentgrass species (*Agrostis sp.*)
- Goldenrod (*Solidago* spp.)
- Honey Locust (*Gleditisia triacanthos*)
- Osage orange (*Maclura pomifera*)

- Rambler Rose (*Rosa multiflora*)
- Japanese Honeysuckle (*Lonicera japonica*)

(iii) Wetlands

Wetlands were observed and delineated within and beyond the proposed Preferred Route and Alternate Route. Dominant plant species typically found in wetlands crossed by the Project are listed below.

Dominant plant species observed within PEM wetlands include the following:

- Pinkweed (*Persicaria pensylvanica*)
- Deer-tongue rosette grass (*Dichanthelium clandestinum*)
- Common boneset (*Eupatorium perfoliatum*)
- Creeping-jenny (*Lysimachia nummularia*)
- Devil's beggartick (*Bidens frondosa*)
- Dark-green bulrush (*Scirpus atrovirens*)
- Japanese stilt-grass (*Microstegium vimineum*)
- Broad-leaf cat-tail (*Typha latifolia*)
- Common rush (*Juncus effuses*)
- Upright Sedge (*Carex stricta*)

Dominant plant species observed within PSS wetlands include the following:

- Box elder (*Acer negundo*) (shrub)
- Black Willow (*Salix nigra*)
- Red Maple (small tree and shrub)
- Pin Oak (*Quercus palustris*)
- Spicebush (*Lindera benzoin*)
- Jewelweed (*Impatiens capensis*)
- Hairy Hedgenettle (*Stachys pilosa*)
- Broad-leaf cat-tail

Dominant plant species observed within PFO wetlands include the following:

- Sycamore (*Platanus occidentalis*) (shrubs and trees)
- American elm (*Ulmus americana*)
- Cottonwood (*Populus deltoides*)
- Green ash (*Fraxinus pennsylvanica*)
- Creeping Jenny
- Shallow sedge (*Carex lurida*)
- Reed canary grass (*Phalaris arundinacea*)
- Green Arrow Arum (*Peltandra virginica*)
- Dark-green bulrush

- Pinkweed
- Spicebush

(iv) Residential

Residential areas were occasionally crossed within the Preferred and Alternate Route survey areas. Vegetation identified on residential property includes areas of grasses and other herbaceous species, such as fescue, common dandelion, white clover, red clover, and ground ivy maintained through mowing.

(v) Utility ROW

Several linear ROWs were identified within or adjacent to the proposed Preferred and Alternate Routes. Vegetation along the existing distribution electric ROWs and gas pipeline ROWs has been maintained by mowing and consists of grasses, herbaceous plants, and scrub-shrub vegetation. Vegetation with tall growth potential that poses a risk to the operation and maintenance of overhead electric transmission lines is typically removed periodically from the ROW. Dominant herbaceous vegetation consists of rambler rose, goldenrod (*Solidago* spp.), wingstem (*Verbesina alternifolia*), fescue, common dandelion, white clover, red clover, ground ivy, Queen Anne's lace, broom sedge, eastern daisy fleabane (*Erigeron annuus*), common milkweed (*Asclepias syriaca*), little bluestem (*Schizachyrium scoparium*), Fuller's teasel, chicory (*Cichorium intybus*), and crownvetch (*Securigera varia*).

(vi) Upland Forest

Upland early successional or second growth forest is present across much of the environmental survey area within the Preferred and Alternate Routes. Dominant canopy species includes the following:

- Northern red oak (*Quercus rubra*)
- White oak (*Quercus alba*)
- Osage-orange (*Maclura pomifera*)
- Red maple (*Acer rubrum*)
- American sycamore
- Ohio buckeye (*Aesculus glabra*)
- Sugar maple (*Acer saccharum*)
- Red Pine (*Pinus resinosa*)
- Tulip tree (*Liriodendron tulipifera*)
- Beech (*Fagus grandifolia*)

The understory included species found in the canopy, as well as honeysuckle (*Lonicera maackii* and *L. japonica*), rambler rose, greenbriar (*Smilax spp.*), Christmas fern (*Polystichum acrostichoides*), and princess pine (*Lycopodium obscurum*). The understory of the upland forest within the project area ranged from open to moderately dense.

(b) Wetlands

According to the U.S. Army Corps of Engineers (USACE), a wetland is defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation (hydrophytic) typically adapted for life in saturated (hydric) soil conditions.

AEP Ohio Transco's consultant used the onsite methodology described in the 1987 Technical Report Y-87-1, USACE Wetlands Delineation Manual and subsequent guidance documents including the 2012 *Regional Supplement to the USACE Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Version 2.0). Additionally, each identified wetland was evaluated in accordance with the Ohio Rapid Assessment Method (ORAM) developed by Ohio Environmental Protection Agency (OEPA; Mack, 2001). Wetland categorizations were conducted in accordance with the latest quantitative score calibration procedure (OEPA, 2001). To identify whether potential wetlands exist along the Preferred and Alternate Routes, a desktop study of available resources was performed prior to the field wetland delineations. Additionally, USFWS NWI maps and the NRCS soil survey and hydric soil list for Washington County was reviewed for areas within 1,000 feet of the Preferred and Alternate Routes.

(i) Summary of National Wetland Inventory Data

USFWS NWI data, including freshwater wetlands and riverine areas, were mapped within 1,000 feet of the Preferred and Alternate Routes, and reviewed to guide the field ecological survey as one factor in identifying potential wetland locations (USFWS, 2014). The NWI-mapped areas for the Preferred and Alternate Routes are shown on Figures 8-2A through 8-2M and Figures 8-3A through 8-3N, respectively. Table 8-1 summarizes the NWI data by wetland classification and habitat type. The actual extent and type of field-delineated wetlands along the routes are discussed in the next section.

TABLE 8-1
NWI Wetlands Within 1,000 feet of the Preferred and Alternate Routes

Wetland Type	NWI Code	NWI Habitat Type*	Total Number of Each Habitat Type Preferred/ Alternate
Freshwater Emergent Wetland	PEM1A	Palustrine Emergent Persistent Temporary Flooded	4 – Preferred 4 – Alternate
Freshwater Forested/Shrub Wetland	PFO1A	Palustrine Forested Broad-Leaved Deciduous Temporary Flooded	5 – Preferred 7 – Alternate
Freshwater Pond	PUBGh	Palustrine Unconsolidated Bottom Intermittently Exposed Diked/Impounded	17 – Preferred 19 – Alternate
Freshwater Pond	PUBGx	Palustrine Unconsolidated Bottom Excavated	21 – Preferred 20 – Alternate

TABLE 8-1
NWI Wetlands Within 1,000 feet of the Preferred and Alternate Routes

Wetland Type	NWI Code	NWI Habitat Type*	Total Number of Each Habitat Type Preferred/ Alternate
Riverine	R2UBH	Riverine Lower Perennial Unconsolidated Bottom Permanently Flooded	2 – Preferred 2 – Alternate
Total Number of Preferred Route NWI Wetlands:			**49**
Total Number of Alternate Route NWI Wetlands:			**52**

Notes:
Total number of PEM = 8, PFO= 12, PUB = 77, R2UBH = 4
* USFWS, 2010

(ii) Field-Delineated Wetlands

A total of 30 wetlands (totaling 4.36 acres) were delineated within the Preferred Route field survey area. Within the Alternate Route field survey area, 22 wetlands (totaling 5.87 acres) were delineated. Of these wetlands, six wetlands (WRJ009, WRJ010, WRJ011, WRJ012, WRJ013, WSM028) were delineated within both the Preferred and Alternate Routes where the routes overlapped.

A total of 1.56 acres of wetlands were delineated within the Preferred Route ROW and 2.56 acres within the Alternate Route ROW. These field-delineated wetlands for the Preferred and Alternate Routes are mapped on Figures 8-2A through 8-2M and Figures 8-3A through 8-3N, respectively.

Detailed information on each wetland is provided in Table 8-2. The anticipated temporary construction impacts, where unavoidable, on these wetlands are included in Table 8-2 and further discussed in Section 4906-05-08(B)(3)(b).

TABLE 8-2
Delineated Wetlands within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Wetland Name	Route	Figure	Cowardin Wetland Type [a]	ORAM Score	ORAM Category	Length Crossed by Centerline (feet)	Acreage within Field Survey Area [b]	Acreage within Potential Disturbance Area/ROW [c, d]
Preferred Route Wetlands								
WSM002	Preferred	8-2A	PEM	45	2	—	0.04	-
WSM003	Preferred	8-2A	PEM	42	Modified 2	52	0.05	0.05
WSM004	Preferred	8-2A	PSS	42	Modified 2	—	0.02	0.02
WSM005	Preferred	8-2A	PEM	31	1 or 2 Gray Zone	—	0.04	< 0.01
WSM006	Preferred	8-2B	PEM	48	2	—	0.05	—
WSM007	Preferred	8-2B	PFO	50	2	59	0.27	0.12
WSM008	Preferred	8-2B	PSS	49	2	8	0.06	0.02
WSM009	Preferred	8-2B	PFO	48	2	—	0.09	< 0.01
WSM010	Preferred	8-2B	PEM	35	Modified 2	—	0.01	0.01
WSM011	Preferred	8-2B	PSS	43	Modified 2	127	0.51	0.28
WSM012	Preferred	8-2B	PFO	29.5	1	—	0.06	< 0.01
WRJ009	Preferred	8-2B/C	PSS	38	Modified 2	—	0.06	—
WRJ010	Preferred	8-2B/C	PEM	38	Modified 2	225	0.93	0.43
WRJ011	Preferred	8-2C	PFO	25	1	—	0.04	—
WRJ012	Preferred	8-2C	PEM	24	1	94	0.53	0.21
WRJ013	Preferred	8-2D	PSS	41	Modified 2	—	0.05	—
WSM028	Preferred	8-2D	PSS	38	Modified 2	—	0.28	< 0.01
WSH004	Preferred	8-2E	PEM	24	1	—	0.09	0.06
WSH002	Preferred	8-2E	PEM	26	1	—	0.26	0.03

TABLE 8-2
Delineated Wetlands within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Wetland Name	Route	Figure	Cowardin Wetland Type [a]	ORAM Score	ORAM Category	Length Crossed by Centerline (feet)	Acreage within Field Survey Area [b]	Acreage within Potential Disturbance Area/ROW [c, d]
WSH003	Preferred	8-2F	PEM	23	1	—	0.09	0.06
WMJ001	Preferred	8-2F	PEM	24	1	—	0.01	< 0.01
WSM023	Preferred	8-2I	PEM	23	1	—	0.02	—
WSM022	Preferred	8-2I	PEM	23	1	—	0.03	0.03
WSM013	Preferred	8-2I	PEM	36.5	Modified 2	—	0.29	—
WSM018	Preferred	8-2I	PEM	36.5	Modified 2	26	0.06	0.05
WSM019	Preferred	8-2I	PEM	32	1 or 2 Gray Zone	28	0.25	0.08
WSM020	Preferred	8-2I	PEM	21	1	—	0.04	—
WSM021	Preferred	8-2I	PEM	23	1	—	0.01	—
WSM027	Preferred	8-2J/K	PEM	24.5	1	—	< 0.01	< 0.01
WSM026	Preferred	8-2J/K	PSS	36	Modified 2	—	0.06	—
			PEM			33	0.05	0.05
					Total	**652**	**4.36**	**1.56**
Alternate Route Wetlands								
WSM001	Alternate	8-3A	PEM	29	1	39	0.16	0.08
WRJ001	Alternate	8-3A	PEM	19	1	173	0.58	0.37
WRJ004	Alternate	8-3A	PEM	12	1	—	0.01	—
WRJ002	Alternate	8-3A	PEM	12	1	16	0.06	0.03
WRJ003	Alternate	8-3A	PEM	16	1	656	2.60	1.24
WRJ005	Alternate	8-3A	PEM	12	1	—	0.04	—

TABLE 8-2
Delineated Wetlands within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Wetland Name	Route	Figure	Cowardin Wetland Type [a]	ORAM Score	ORAM Category	Length Crossed by Centerline (feet)	Acreage within Field Survey Area [b]	Acreage within Potential Disturbance Area/ROW [c, d]
WRJ006a	Alternate	8-3A	PEM	23	1	-	< 0.01	-
WRJ006	Alternate	8-3A	PFO	23	1	-	0.04	0.01
			PSS			-	0.04	< 0.01
			PEM			30	0.07	0.05
WRJ007	Alternate	8-3B	PFO	48	2	10	0.03	0.03
WRJ008	Alternate	8-3B	PEM	28	1	—	0.02	—
WRJ009	Alternate	8-3B/C	PSS	38	Modified 2	—	0.06	—
WRJ010	Alternate	8-3B/C	PEM	38	Modified 2	225	0.93	0.43
WRJ011	Alternate	8-3C	PFO	25	1	—	0.04	—
WRJ012	Alternate	8-3C	PEM	24	1	94	0.53	0.21
WRJ013	Alternate	8-3D	PSS	41	Modified 2	—	0.05	—
WSM028	Alternate	8-3D	PSS	38	Modified 2	—	0.28	< 0.01
WTQ001	Alternate	8-3E	PEM	30	1 or 2 Gray Zone	—	0.02	—
WTQ002	Alternate	8-3E	PEM	30	1 or 2 Gray Zone	—	< 0.01	< 0.01
WRJ014	Alternate	8-3J	PEM	10	1	—	0.08	0.06
WRJ015	Alternate	8-3J/K	PEM	17	1	—	0.18	—
WMJ002	Alternate	8-3K	PEM	30	1 or 2 Gray Zone	—	0.01	—
WSM024	Alternate	8-3N	PFO	52.5	2	25	0.02	0.02
					Total	**1,268**	**5.87**	**2.56**

TABLE 8-2
Delineated Wetlands within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Wetland Name	Route	Figure	Cowardin Wetland Type [a]	ORAM Score	ORAM Category	Length Crossed by Centerline (feet)	Acreage within Field Survey Area [b]	Acreage within Potential Disturbance Area/ROW [c, d]

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.

c The width of the potential disturbance area and the final maintained ROW is planned to be 100 feet.

d All measurements listed as less than 0.01 were assumed to be 0.01 for calculations.

< = less than

(c) Waterbodies

(i) Field-Delineated Streams

Streams and drainage channels were delineated and assessed during the ecological survey of the Preferred and Alternate Routes. Streams with drainage areas greater than 1 square mile or maximum pool depths greater than 40 centimeters (cm) were assessed using the OEPA Qualitative Habitat Evaluation Index (QHEI). The QHEI is one measure that is used by OEPA, in association with biotic sampling, to determine a stream's aquatic life use designation in accordance with the Ohio water quality standards (OEPA, 2006). The QHEI method classifies streams based on their drainage area. Streams that drain greater than or equal to 20 square miles are classified as "larger streams," while those that drain less than 20 square miles are classified as "headwaters." QHEI-classified streams then receive a narrative rating based upon their score:

- Score less than 30 for both headwaters and larger streams = Very Poor
- Score between 30 and 42 for headwaters, and 30 and 44 for larger streams = Poor
- Score between 43 and 54 for headwaters, and 45 and 59 for larger streams = Fair
- Score between 55 and 69 for headwaters, and 60 and 74 for larger streams= Good
- Score greater than or equal to 70 for headwaters, and 75 for larger streams = Excellent

Nine streams (SSM008, SMJ021, SMJ015, STQ025A, STQ025, STQ032, SSM004, SRJ002, and SRJ003) were evaluated using the QHEI method. Of these streams, five had segments located in the Preferred Route, three had segments located in the Alternate Route and one stream had segments in both the Preferred and Alternate Routes where the routes overlapped. Field personnel completed the QHEI near the proposed centerline of the transmission line crossing when possible.

The OEPA's Headwater Habitat Evaluation Index (HHEI) is used to evaluate streams with a drainage area less than or equal to one square mile, and maximum pools depths less than or equal to 40 cm (OEPA, 2012). The HHEI is generally used to assess Primary Headwater Habitat (PHWH) streams that typically fall under the classification of first or second-order streams. The HHEI rates a stream based on its physical habitat and uses that information to determine the biological potential of the stream. The physical habitats scored for the HHEI are substrate type, pool depth, and bank full width. Scores for Class I PHWH Streams range from 0 to 29.9; scores for Class II PHWH Streams range from 30 to 69.9; and scores for Class III PHWH Streams range from 70 to 100. A "Modified" qualifier may be added as a prefix to any of these classes if evidence of anthropogenic alterations, such as channelization and bank stabilization, are observed. A higher PHWH class corresponds with a more continuous flow regime. The flow regime determines the physical habitat of the stream, and is therefore indicative of the biological communities it can support. Streams with scores between 30 and 69 may be classified as potential rheocrene habitat, depending on substrate type, watershed size, and stream flow. The PHWH class for these potential rheocrene streams is then identified by evaluating the biology (fish, salamanders, and benthic macroinvertebrates). Per AEP Ohio Transco's consultant's standard operating procedures, it was not necessary to perform a biotic evaluation, and potential rheocrene streams were listed in Table 8-3 as "Rheocrene Potential."

A total of 233 streams were evaluated using the HHEI method. One hundred and seven (107) streams were identified along the Preferred Route Field Survey Area and 110 streams were identified along the Alternate Route Field Survey Area. Sixteen (16) streams were identified along both the Preferred and Alternate Routes where the routes overlapped. The HHEI evaluations were completed at the proposed transmission line crossing points, if crossed by the proposed alignment.

Streams identified during the ecological survey on the Preferred and Alternate Routes are shown on Figures 8-2A through 8-2M and Figures 8-3A through 8-3N, respectively. Detailed information on each delineated stream is included in Table 8-3. Aquatic life use designations within the Central Ohio tributaries basin obtained from OAC 3745-1-09 are also provided. The Ohio River, located approximately 2.7 miles south of the proposed Devola substation, is a traditionally navigable waterway as defined by USACE.

Approximately 9,994 linear feet of stream are located within the Preferred Route ROW, while approximately 11,417 linear feet are located within the Alternate Route ROW.

The Preferred Route centerline has 69 stream crossings with all the streams being crossed once, with the following exceptions: stream SSH020 is crossed four times, stream SMJ019 is crossed twice, and stream SMJ003 is crossed three times. The length of delineated streams located within the Preferred Route Field Survey Area is approximately 29,780 linear feet. The Alternate Route centerline has 77 stream crossings with all the streams being crossed once, with the following exceptions: stream SSM004 is crossed twice, stream SSH070 is crossed twice, and SSM031 is crossed three times. The total length of streams located within the field survey area of the Alternate Route is approximately 33,619 linear feet. Construction impacts on these features are included in Table 8-3 and further discussed in Section 4906-05-08(B)(3)(c).

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
Preferred Route												
SSM001 UNT to West Fork Duck Creek	Preferred	8-2A	Intermittent	3	3	HHEI	42	—	Modified Class II PHWH	Yes	316	105
SSM002 UNT to West Fork Duck Creek	Preferred	8-2A	Ephemeral	2	0	HHEI	18	—	Modified Class I PHWH	NC	141	—
SSM003 UNT to West Fork Duck Creek	Preferred	8-2A	Ephemeral	3	0	HHEI	18	—	Class I PHWH	Yes	320	102
SSM005 UNT to West Fork Duck Creek	Preferred	8-2A	Ephemeral	2	0	HHEI	16	—	Class I PHWH	NC	28	—
SSM006 UNT to West Fork Duck Creek	Preferred	8-2A	Ephemeral	3	0	HHEI	26	—	Class I PHWH	NC	100	—
SSM007 UNT to West Fork Duck Creek	Preferred	8-2A	Ephemeral	3	0	HHEI	27	—	Modified Class I PHWH	NC	171	58

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SSM008 UNT to West Fork Duck Creek	Preferred	8-2A	Perennial	10	20	QHEI	67.5	—	Good	Yes	304	102
SSM009 UNT to West Fork Duck Creek	Preferred	8-2B	Ephemeral	3	0	HHEI	26	—	Class I PHWH	Yes	301	232
SSM010 UNT to West Fork Duck Creek	Preferred	8-2B	Perennial	8	6	HHEI	65	—	Modified Class II PHWH	Yes	346	108
SSM011 UNT to West Fork Duck Creek	Preferred	8-2B	Ephemeral	3	0	HHEI	15	—	Class I PHWH	Yes	348	105
SSM012 UNT to West Fork Duck Creek	Preferred	8-2B	Perennial	10	5	HHEI	64	—	Modified Class II PHWH	Yes	302	101
SSM013 UNT to West Fork Duck Creek	Preferred	8-2B	Ephemeral	2	0	HHEI	18	—	Modified Class I PHWH	NC	212	12

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SSM014 UNT to West Fork Duck Creek	Preferred	8-2B	Ephemeral	2	0	HHEI	18	—	Class I PHWH	NC	59	—
SSM015 UNT to West Fork Duck Creek	Preferred	8-2B	Ephemeral	2	0	HHEI	18	—	Class I PHWH	NC	40	—
SSM016 UNT to West Fork Duck Creek	Preferred	8-2B	Ephemeral	2	0	HHEI	18	—	Class I PHWH	NC	49	—
SSM017 UNT to West Fork Duck Creek	Preferred	8-2B	Ephemeral	2	0	HHEI	17	—	Class I PHWH	NC	51	—
SSM018 UNT to West Fork Duck Creek	Preferred	8-2B	Intermittent	5	0	HHEI	25	—	Modified Class I PHWH	NC	440	—
SRJ016 UNT to West Fork Duck Creek	Preferred	8-2B	Ephemeral	8	0	HHEI	30	—	Class II PHWH	NC	132	31

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SRJ017 UNT to West Fork Duck Creek	Preferred	8-2B/C	Ephemeral	6	0	HHEI	17	—	Class I PHWH	NC	147	56
SRJ018 UNT to West Fork Duck Creek	Preferred	8-2B/C	Intermittent	6	2	HHEI	32	—	Class II PHWH	Yes	301	101
SRJ019 UNT to West Fork Duck Creek	Preferred	8-2B/C	Intermittent	4	0	HHEI	22	—	Class I PHWH	NC	32	—
SRJ020 UNT to West Fork Duck Creek	Preferred	8-2B/C	Perennial	6	12	HHEI	70	—	Class III PHWH	Yes	265	137
SRJ021 UNT to West Fork Duck Creek	Preferred	8-2C	Ephemeral	6	0	HHEI	35	—	Class II PHWH	NC	230	86
SRJ022 UNT to West Fork Duck Creek	Preferred	8-2C	Ephemeral	6	0	HHEI	35	—	Class II PHWH	NC	124	21

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SRJ023 UNT to West Fork Duck Creek	Preferred	8-2C	Ephemeral	6	0	HHEI	35	—	Class II PHWH	Yes	226	106
SRJ024 UNT to West Fork Duck Creek	Preferred	8-2C	Ephemeral	4	0	HHEI	27	—	Class I PHWH	Yes	339	101
SRJ025 UNT to West Fork Duck Creek	Preferred	8-2C	Perennial	4	4	HHEI	46	—	Rheocrene Potential	Yes	270	122
SRJ026 UNT to West Fork Duck Creek	Preferred	8-2C	Intermittent	8	4	HHEI	50	—	Rheocrene Potential	NC	92	—
SRJ027 UNT to West Fork Duck Creek	Preferred	8-2C	Perennial	10	4	HHEI	57	—	Class II PHWH	Yes	418	169
SRJ028 UNT to West Fork Duck Creek	Preferred	8-2C	Perennial	20	8	HHEI	81	—	Class III PHWH	Yes	318	104
			Intermittent	15	8			—		NC	73	—

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SRJ029 UNT to West Fork Duck Creek	Preferred	8-2D	Intermittent	8	2	HHEI	46	—	Rheocrene Potential	Yes	325	124
SSM036 UNT to Bear Creek	Preferred	8-2D	Intermittent	3	2	HHEI	29	—	Class I PHWH	NC	99	—
SSH037 UNT to Bear Creek	Preferred	8-2D	Ephemeral	2	2	HHEI	15	—	Modified Class I PHWH	Yes	245	102
SSH036 UNT to Bear Creek	Preferred	8-2D	Intermittent	8	3	HHEI	46	—	Modified Class II PHWH	Yes	251	119
SSH035 UNT to Bear Creek	Preferred	8-2D	Ephemeral	10	0	HHEI	34	—	Modified Class II PHWH	Yes	265	140
SSH034 UNT to Bear Creek	Preferred	8-2D	Intermittent	10	2	HHEI	35	—	Modified Class II PHWH	Yes	132	58
SSH033 UNT to Bear Creek	Preferred	8-2D/E	Ephemeral	5	0	HHEI	21	—	Modified Class I PHWH	NC	121	18
SSH024 UNT to Bear Creek	Preferred	8-2E	Ephemeral	2	0	HHEI	13	—	Modified Class I PHWH	NC	100	11

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SSH025 UNT to Bear Creek	Preferred	8-2E	Ephemeral	2	0	HHEI	11	—	Modified Class I PHWH	NC	194	—
SSH023 UNT to Bear Creek	Preferred	8-2E	Intermittent	10	4	HHEI	56	—	Modified Class II PHWH	Yes	336	103
SSH026 UNT to Bear Creek	Preferred	8-2E	Ephemeral	5	0	HHEI	12	—	Modified Class I PHWH	NC	79	—
SSH022 UNT to Bear Creek	Preferred	8-2E	Ephemeral	2	0	HHEI	11	—	Modified Class I PHWH	NC	24	—
SSH007 UNT to Bear Creek	Preferred	8-2E	Intermittent	12	2	HHEI	43	—	Modified Class II PHWH	Yes	208	119
SSH008 UNT to Bear Creek	Preferred	8-2E	Ephemeral	5	0	HHEI	39	—	Modified Class II PHWH	Yes	181	114
SSH009 UNT to Bear Creek	Preferred	8-2E	Ephemeral	2	0	HHEI	11	—	Modified Class I PHWH	NC	88	—
SSH010 UNT to Bear Creek	Preferred	8-2E	Ephemeral	2	0	HHEI	11	—	Modified Class I PHWH	Yes	238	119

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SSH011 UNT to Bear Creek	Preferred	8-2E	Ephemeral	2	0	HHEI	11	—	Modified Class I PHWH	NC	96	—
SSH012 UNT to Bear Creek	Preferred	8-2E	Ephemeral	10	0	HHEI	23	—	Modified Class I PHWH	Yes	305	100
SSH013 UNT to Bear Creek	Preferred	8-2E	Intermittent	5	0	HHEI	12	—	Modified Class I PHWH	NC	138	33
SSH014 UNT to Bear Creek	Preferred	8-2E	Intermittent	10	2	HHEI	28	—	Modified Class I PHWH	Yes	756	138
SSH015 UNT to Bear Creek	Preferred	8-2E/F	Intermittent	20	2	HHEI	28	—	Modified Class I PHWH	Yes	186	77
SSH016 UNT to Bear Creek	Preferred	8-2F	Ephemeral	3	0	HHEI	11	—	Modified Class I PHWH	NC	60	—
SSH017 UNT to Bear Creek	Preferred	8-2F	Intermittent	5	0	HHEI	12	—	Modified Class I PHWH	Yes	330	123
SSH018 UNT to Bear Creek	Preferred	8-2F	Ephemeral	4	0	HHEI	12	—	Modified Class I PHWH	NC	152	—

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SSH019 UNT to Bear Creek	Preferred	8-2F	Intermittent	8	1	HHEI	38	—	Modified Class II PHWH	Yes	304	107
SSH020 UNT to Bear Creek	Preferred	8-2F	Intermittent	6	1	HHEI	37	—	Modified Class II PHWH	Yes	1090	672
SSH021 UNT to Bear Creek	Preferred	8-2F	Ephemeral	4	0	HHEI	24	—	Modified Class I PHWH	NC	175	75
SMJ016 UNT to Bear Creek	Preferred	8-2F	Ephemeral	5	1	HHEI	39	—	Class II PHWH	NC	204	—
			Intermittent	6	1	HHEI	42	—	Class II PHWH	NC	46	—
SMJ017 UNT to Bear Creek	Preferred	8-2F	Ephemeral	3	1	HHEI	16	—	Class I PHWH	NC	33	—
SMJ018 UNT to Bear Creek	Preferred	8-2F	Ephemeral	1	1	HHEI	12	—	Class I PHWH	NC	109	—
SMJ019 UNT to Bear Creek	Preferred	8-2F/G	Ephemeral	3	2	HHEI	27	—	Class I PHWH	Yes	177	177
			Intermittent	8	2	HHEI	45	—	Class II PHWH	Yes	554	521
SMJ020 UNT to Bear Creek	Preferred	8-2F/G	Ephemeral	2	2	HHEI	25	—	Class I PHWH	NC	135	12

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SMJ021 Bear Creek	Preferred	8-2F/G	Perennial	45	12	QHEI	71	WWH	Good	Yes	283	101
SMJ014 UNT to Bear Creek	Preferred	8-2F/G	Ephemeral	5	1	HHEI	46	—	Class II PHWH	NC	159	20
SMJ013 UNT to Bear Creek	Preferred	8-2G	Intermittent	7	2	HHEI	46	—	Class II PHWH	Yes	323	102
SMJ011 UNT to Bear Creek	Preferred	8-2G	Intermittent	6	3	HHEI	54	—	Class II PHWH	Yes	781	328
SMJ012 UNT to Bear Creek	Preferred	8-2G	Intermittent	6	1	HHEI	45	—	Class II PHWH	Yes	185	95
SMJ015 UNT to Bear Creek	Preferred	8-2G	Perennial	30	12	QHEI	70	—	Good	Yes	366	104
STQ025A Bear Creek	Preferred	8-2H	Perennial	50	20	QHEI	69	WWH	Good	Yes	403	144
STQ025 Bear Creek	Preferred	8-2H	Perennial	50	20	QHEI	69	WWH	Good	Yes	369	120
SSH006 UNT to Bear Creek	Preferred	8-2F	Intermittent	10	2	HHEI	37	—	Modified Class II PHWH	Yes	335	119

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SSH005 UNT to Bear Creek	Preferred	8-2F	Ephemeral	5	0	HHEI	13	—	Modified Class I PHWH	NC	76	—
SSH002 UNT to Bear Creek	Preferred	8-2F	Ephemeral	10	2	HHEI	45	—	Modified Class II PHWH	Yes	284	106
SSH003 UNT to Bear Creek	Preferred	8-2F	Ephemeral	1	0	HHEI	12	—	Modified Class I PHWH	NC	51	—
SSH004 UNT to Bear Creek	Preferred	8-2F	Ephemeral	1	0	HHEI	12	—	Modified Class I PHWH	NC	56	—
SSH001 UNT to Bear Creek	Preferred	8-2F	Ephemeral	2	0	HHEI	17	—	Modified Class I PHWH	NC	67	—
SMJ001 UNT to Bear Creek	Preferred	8-2F	Ephemeral	4	4	HHEI	40	—	Class II PHWH	NC	4	—
SMJ002 UNT to Bear Creek	Preferred	8-2I	Ephemeral	3	3	HHEI	31	—	Class II PHWH	NC	73	49
SMJ003 UNT to Bear Creek	Preferred	8-2I	Ephemeral	3	2	HHEI	31	—	Class II PHWH	NC	119	—
			Intermittent	6	2	HHEI	46	—	Class II PHWH	Yes	517	404

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SMJ004 UNT to Bear Creek	Preferred	8-2I	Perennial	8	3	HHEI	72	—	Class III PHWH	Yes	491	209
SMJ005 UNT to Bear Creek	Preferred	8-2I	Perennial	8	2	HHEI	62	—	Class II PHWH	Yes	196	65
SMJ006 UNT to Bear Creek	Preferred	8-2I	Intermittent	4	1	HHEI	43	—	Class II PHWH	NC	428	—
SSM019 UNT to Duck Creek	Preferred	8-2I	Intermittent	4	6	HHEI	39	—	Modified Class II PHWH	NC	185	—
SSM026 UNT to Duck Creek	Preferred	8-2I	Intermittent	1.5	1	HHEI	19	—	Modified Class I PHWH	NC	59	16
SSM027 UNT to Duck Creek	Preferred	8-2I	Ephemeral	1	0	HHEI	13	—	Modified Class I PHWH	NC	15	—
SSM028 UNT to Duck Creek	Preferred	8-2I	Intermittent	1.5	2	HHEI	19	—	Modified Class I PHWH	NC	101	1
SSM024 UNT to Duck Creek	Preferred	8-2I	Intermittent	8	3	HHEI	60	—	Class II PHWH	Yes	172	62

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SSM029 UNT to New Years Creek	Preferred	8-2I	Intermittent	4	3	HHEI	41	—	Modified Class II PHWH	NC	74	—
SRJ034 UNT to New Years Creek	Preferred	8-2I	Perennial	15	6	HHEI	75	—	Class III PHWH	Yes	311	102
SRJ033 UNT to New Years Creek	Preferred	8-2I/J	Perennial	15	8	HHEI	75	—	Class III PHWH	Yes	275	112
SRJ032 UNT to New Years Creek	Preferred	8-2J	Ephemeral	8	1	HHEI	39	—	Class II PHWH	NC	508	160
SSH027 UNT to New Years Creek	Preferred	8-2J	Ephemeral	8	0	HHEI	23	—	Modified Class I PHWH	Yes	370	116
SSH028 New Years Creek	Preferred	8-2J	Perennial	20	5	HHEI	71	—	Modified Class III PHWH	Yes	395	133
SSH032 UNT to New Years Creek	Preferred	8-2J	Intermittent	5	2	HHEI	30	—	Class II PHWH	NC	57	—
SSH031 UNT to New Years Creek	Preferred	8-2J	Ephemeral	5	0	HHEI	12	—	Modified Class I PHWH	NC	183	—

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SSH030 UNT to New Years Creek	Preferred	8-2J	Ephemeral	1	0	HHEI	12	—	Modified Class I PHWH	NC	55	—
SSH029 UNT to New Years Creek	Preferred	8-2J/K	Perennial	10	9	HHEI	57	—	Modified Class II PHWH	Yes	321	112
SRJ030 UNT to New Years Creek	Preferred	8-2J/K	Perennial	15	6	HHEI	72	—	Class III PHWH	Yes	346	122
SSM035 UNT to New Years Creek	Preferred	8-2J/K	Intermittent	3	1	HHEI	31	—	Modified Class II PHWH	Yes	322	169
SRJ031 UNT to New Years Creek	Preferred	8-2J/K	Perennial	6	3	HHEI	48	—	Rheocrene Potential	NC	228	39
SRJ052 UNT to New Years Creek	Preferred	8-2J/K	Ephemeral	15	0	HHEI	37	—	Class II PHWH	NC	159	—
SRJ063 UNT to March Run	Preferred	8-2K	Perennial	20	3	HHEI	69	—	Modified Class II PHWH	Yes	213	109
SRJ064 UNT to March Run	Preferred	8-2K	Ephemeral	6	2	HHEI	22	—	Class I PHWH	Yes	166	74

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SRJ065 UNT to March Run	Preferred	8-2K	Ephemeral	6	0	HHEI	22	—	Class I PHWH	Yes	176	87
SRJ066 UNT to March Run	Preferred	8-2K	Ephemeral	6	0	HHEI	19	—	Class I PHWH	Yes	255	125
SRJ067 UNT to March Run	Preferred	8-2K	Ephemeral	6	0	HHEI	19	—	Class I PHWH	Yes	156	65
SRJ068 March Run	Preferred	8-2K	Perennial	12	12	HHEI	76	WWH	Class III PHWH	Yes	548	188
SRJ069 UNT to March Run	Preferred	8-2K	Perennial	15	12	HHEI	76	—	Class III PHWH	Yes	421	154
SRJ070 UNT to March Run	Preferred	8-2K/L	Perennial	6	2	HHEI	34	—	Rheocrene Potential	NC	406	118
SRJ071 UNT to March Run	Preferred	8-2L	Intermittent	10	2	HHEI	24	—	Class I PHWH	NC	207	—
SSH046 UNT to Second Creek	Preferred	8-2L	Ephemeral	2	0	HHEI	11	—	Modified Class I PHWH	NC	87	—
SSH045 UNT to Second Creek	Preferred	8-2L	Intermittent	4	2	HHEI	15	—	Modified Class I PHWH	NC	119	11

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SSH044 UNT to Second Creek	Preferred	8-2L	Ephemeral	2	0	HHEI	20	—	Modified Class I PHWH	NC	49	—
STQ039 UNT to Second Creek	Preferred	8-2L/M	Intermittent	2	1	HHEI	24	—	Class I PHWH	NC	42	—
STQ040 UNT to Second Creek	Preferred	8-2M	Ephemeral	1.5	0	HHEI	12	—	Class I PHWH	NC	19	—
STQ041 UNT to Second Creek	Preferred	8-2M	Intermittent	3	2	HHEI	29	—	Modified Class I PHWH	NC	306	86
STQ042 UNT to Second Creek	Preferred	8-2M	Ephemeral	3	1	HHEI	26	—	Class I PHWH	NC	126	77
STQ043 UNT to Second Creek	Preferred	8-2M	Ephemeral	3	0	HHEI	12	—	Class I PHWH	NC	46	—
STQ044 UNT to Second Creek	Preferred	8-2M	Ephemeral	2	1	HHEI	25	—	Modified Class I PHWH	Yes	281	156
STQ045 UNT to Second Creek	Preferred	8-2M	Intermittent	3	3	HHEI	49	—	Class II PHWH	Yes	186	55

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
STQ046 UNT to Second Creek	Preferred	8-2M	Ephemeral	1	0	HHEI	12	—	Class I PHWH	NC	57	6
STQ047 UNT to Second Creek	Preferred	8-2M	Perennial	4	1	HHEI	43	—	Class II PHWH	NC	433	—
STQ032 Second Creek	Preferred	8-2M	Perennial	23	16	QHEI	64.5	—	Good	Yes	296	101
STQ031 UNT to Second Creek	Preferred	8-2M	Ephemeral	2	0	HHEI	29	—	Class I PHWH	NC	210	—
STQ030 UNT to Second Creek	Preferred	8-2M	Intermittent	3	2	HHEI	32	—	Modified Class II PHWH	Yes	208	103
STQ029 UNT to Second Creek	Preferred	8-2M	Ephemeral	1	0	HHEI	12	—	Class I PHWH	NC	54	—
STQ028 UNT to Second Creek	Preferred	8-2M	Intermittent	2	0	HHEI	28	—	Class I PHWH	NC	109	—
STQ027 UNT to Second Creek	Preferred	8-2M	Perennial	4	2	HHEI	43	—	Class II PHWH	Yes	340	104
STQ026 UNT to Second Creek	Preferred	8-2M	Ephemeral	1	2	HHEI	24	—	Modified Class I PHWH	Yes	331	244

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
										Total	**29,780**	**9,994**
Alternate Route												
SSM001 UNT to West Fork Duck Creek	Alternate	8-3A	Intermittent	3	3	HHEI	42	—	Modified Class II PHWH	NC	102	—
SSM004 West Fork Duck Creek	Alternate	8-3A	Perennial	60	36	QHEI	72.5	WWH	Good	Yes	1,252	223
SRJ002 UNT to West Fork Duck Creek	Alternate	8-3A	Perennial	20	12	QHEI	58	—	Fair	Yes	265	120
SRJ003 UNT to West Fork Duck Creek	Alternate	8-3A	Perennial	15	6	QHEI	59	—	Fair	NC	6	—
SRJ004 UNT to West Fork Duck Creek	Alternate	8-3A	Ephemeral	6	20	HHEI	62	—	Class II PHWH	Yes	184	82
SRJ006 UNT to West Fork Duck Creek	Alternate	8-3A/B	Ephemeral	8	5	HHEI	53	—	Class II PHWH	Yes	369	117

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SRJ005 UNT to West Fork Duck Creek	Alternate	8-3B	Ephemeral	6	20	HHEI	62	—	Class II PHWH	NC	80	—
SRJ007 UNT to West Fork Duck Creek	Alternate	8-3B	Ephemeral	5	0	HHEI	23	—	Class I PHWH	Yes	373	123
SRJ008 UNT to West Fork Duck Creek	Alternate	8-3B	Intermittent	8	15	HHEI	53	—	Class II PHWH	Yes	341	119
SRJ009 UNT to West Fork Duck Creek	Alternate	8-3B	Intermittent	8	15	HHEI	53	—	Class II PHWH	Yes	301	174
SRJ010 UNT to West Fork Duck Creek	Alternate	8-3B	Ephemeral	4	3	HHEI	22	—	Class I PHWH	NC	84	—
SRJ011 UNT to West Fork Duck Creek	Alternate	8-3B	Ephemeral	4	3	HHEI	22	—	Class I PHWH	NC	107	—

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SRJ012 UNT to West Fork Duck Creek	Alternate	8-3B	Ephemeral	3	0	HHEI	22	—	Class I PHWH	NC	101	—
SRJ013 UNT to West Fork Duck Creek	Alternate	8-3B	Intermittent	10	8	HHEI	40	—	Class II PHWH	Yes	326	115
SRJ014 UNT to West Fork Duck Creek	Alternate	8-3B	Intermittent	6	10	HHEI	42	—	Class II PHWH	Yes	353	101
SRJ015 UNT to West Fork Duck Creek	Alternate	8-3B	Intermittent	6	10	HHEI	42	—	Rheocrene Potential	Yes	271	108
SRJ016 UNT to West Fork Duck Creek	Alternate	8-3B	Ephemeral	8	0	HHEI	30	—	Class II PHWH	NC	132	31
SRJ017 UNT to West Fork Duck Creek	Alternate	8-3B/C	Ephemeral	6	0	HHEI	12	—	Class I PHWH	NC	147	56

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SRJ018 UNT to West Fork Duck Creek	Alternate	8-3B/C	Intermittent	6	5	HHEI	32	—	Class II PHWH	Yes	301	101
SRJ019 UNT to West Fork Duck Creek	Alternate	8-3B/C	Intermittent	4	0	HHEI	22	—	Class I PHWH	NC	32	—
SRJ020 UNT to West Fork Duck Creek	Alternate	8-3B/C	Perennial	6	30	HHEI	70	—	Class III PHWH	Yes	265	137
SRJ021 UNT to West Fork Duck Creek	Alternate	8-3C	Ephemeral	6	0	HHEI	35	—	Class II PHWH	NC	230	86
SRJ022 UNT to West Fork Duck Creek	Alternate	8-3C	Ephemeral	6	0	HHEI	35	—	Class II PHWH	NC	124	21
SRJ023 UNT to West Fork Duck Creek	Alternate	8-3C	Ephemeral	6	0	HHEI	35	—	Class II PHWH	Yes	226	106

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SRJ024 UNT to West Fork Duck Creek	Alternate	8-3C	Ephemeral	4	0	HHEI	27	—	Class I PHWH	Yes	339	101
SRJ025 UNT to West Fork Duck Creek	Alternate	8-3C	Perennial	4	10	HHEI	46	—	Rheocrene Potential	Yes	270	122
SRJ026 UNT to West Fork Duck Creek	Alternate	8-3C	Intermittent	8	10	HHEI	50	—	Rheocrene Potential	NC	92	—
SRJ027 UNT to West Fork Duck Creek	Alternate	8-3C	Perennial	10	10	HHEI	57	—	Class II PHWH	Yes	418	169
SRJ028 UNT to West Fork Duck Creek	Alternate	8-3C	Perennial	20	20	HHEI	81	—	Class III PHWH	Yes	318	104
			Intermittent	15						NC	73	—
SRJ029 UNT to West Fork Duck Creek	Alternate	8-3D	Intermittent	8	5	HHEI	46	—	Rheocrene Potential	Yes	325	124
SSM036 UNT to Bear Creek	Alternate	8-3D	Intermittent	3	4	HHEI	29	—	Class I PHWH	NC	99	—

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SSH038 Bear Creek	Alternate	8-3D	Perennial	10	22	HHEI	65	WWH	Modified Class II PHWH	Yes	491	116
SSH039 UNT to Bear Creek	Alternate	8-3D	Ephemeral	2	0	HHEI	11	—	Class I PHWH	NC	89	—
SSH040 UNT to Bear Creek	Alternate	8-3D	Ephemeral	8	0	HHEI	33	—	Class II PHWH	Yes	311	104
SSH041 UNT to Bear Creek	Alternate	8-3D	Ephemeral	2	0	HHEI	12	—	Modified Class I PHWH	NC	209	27
SSH042 UNT to Bear Creek	Alternate	8-3D	Ephemeral	5	0	HHEI	12	—	Class I PHWH	Yes	539	209
SSH043 UNT to Bear Creek	Alternate	8-3D/E	Perennial	8	22	HHEI	59	—	Class II PHWH	Yes	405	121
STQ001 UNT to Bear Creek	Alternate	8-3E	Intermittent	5	7	HHEI	54	—	Class II PHWH	Yes	390	125
STQ002 UNT to Bear Creek	Alternate	8-3E	Perennial	2	0	HHEI	12	—	Modified Class I PHWH	Yes	298	107

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SRJ039 UNT to Right Branch Cat Creek	Alternate	8-3E	Ephemeral	10	0	HHEI	21	—	Class I PHWH	NC	99	—
SRJ038 UNT to Right Branch Cat Creek	Alternate	8-3E	Ephemeral	10	0	HHEI	28	—	Class I PHWH	NC	117	13
SRJ037 UNT to Right Branch Cat Creek	Alternate	8-3E/F	Ephemeral	6	0	HHEI	19	—	Class I PHWH	Yes	251	140
SRJ036 UNT to Right Branch Cat Creek	Alternate	8-3E/F	Ephemeral	6	0	HHEI	29	—	Class I PHWH	Yes	179	105
SRJ035 UNT to Right Branch Cat Creek	Alternate	8-3E/F	Ephemeral	6	1	HHEI	24	—	Class I PHWH	NC	87	—
STQ003 UNT to Right Branch Cat Creek	Alternate	8-3F	Ephemeral	2.5	0	HHEI	26	—	Class I PHWH	NC	29	—

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
STQ004 UNT to Right Branch Cat Creek	Alternate	8-3F	Perennial	7	10	HHEI	52	—	Class II PHWH	Yes	905	163
STQ005 UNT to Right Branch Cat Creek	Alternate	8-3F	Perennial	4.5	15	HHEI	55	—	Class II PHWH	Yes	409	232
STQ006 UNT to Right Branch Cat Creek	Alternate	8-3F	Ephemeral	3	0	HHEI	21	—	Class I PHWH	NC	106	—
STQ007 UNT to Right Branch Cat Creek	Alternate	8-3F	Ephemeral	1.5	0	HHEI	13	—	Class I PHWH	NC	9	—
STQ008 UNT to Right Branch Cat Creek	Alternate	8-3F	Ephemeral	3	0	HHEI	20	—	Modified Class I PHWH	NC	52	—
STQ009 UNT to Right Branch Cat Creek	Alternate	8-3F	Ephemeral	1	0	HHEI	12	—	Class I PHWH	NC	82	—

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
STQ010 UNT to Right Branch Cat Creek	Alternate	8-3F	Perennial	6	25	HHEI	79	—	Class III PHWH	Yes	325	105
STQ011 UNT to Right Branch Cat Creek	Alternate	8-3F	Ephemeral	1	4	HHEI	25	—	Class I PHWH	NC	116	52
STQ012 UNT to Right Branch Cat Creek	Alternate	8-3F	Intermittent	1.5	0	HHEI	30	—	Class II PHWH	NC	141	—
SSH053 UNT to Bear Creek	Alternate	8-3F/G	Intermittent	10	10	HHEI	37	—	Class II PHWH	Yes	415	109
SSH054 UNT to Bear Creek	Alternate	8-3FG	Intermittent	12	10	HHEI	45	—	Class II PHWH	Yes	331	115
SSH055 UNT to Bear Creek	Alternate	8-3G	Ephemeral	4	0	HHEI	13	—	Class I PHWH	NC	459	35
STQ013 UNT to Bear Creek	Alternate	8-3G	Perennial	12	25	HHEI	80	—	Class III PHWH	Yes	357	132

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
STQ014 UNT to Bear Creek	Alternate	8-3G	Ephemeral	1.5	0	HHEI	28	—	Class I PHWH	NC	244	—
STQ015 UNT to Bear Creek	Alternate	8-3G	Intermittent	2	0	HHEI	23	—	Class I PHWH	NC	127	—
STQ016 UNT to Bear Creek	Alternate	8-3G	Intermittent	5	0	HHEI	52	—	Class II PHWH	NC	267	115
STQ017 UNT to Bear Creek	Alternate	8-3G	Ephemeral	1.5	0	HHEI	14	—	Class I PHWH	Yes	191	99
STQ018 UNT to Bear Creek	Alternate	8-3G	Perennial	10	3	HHEI	54	—	Class II PHWH	Yes	354	118
STQ019 UNT to Bear Creek	Alternate	8-3G	Intermittent	2.5	0	HHEI	24	—	Class I PHWH	NC	79	—
STQ021 UNT to Bear Creek	Alternate	8-3G/H	Intermittent	2	0	HHEI	20	—	Class I PHWH	Yes	380	361
STQ020 UNT to Bear Creek	Alternate	8-3H	Intermittent	2	0	HHEI	20	—	Class I PHWH	Yes	376	118

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
STQ022 UNT to Muskingum River	Alternate	8-3H	Intermittent	1	0	HHEI	14	—	Class I PHWH	NC	60	—
STQ023 UNT to Muskingum River	Alternate	8-3H	Ephemeral	1	0	HHEI	14	—	Class I PHWH	NC	47	—
STQ024 UNT to Muskingum River	Alternate	8-3H	Intermittent	2	0	HHEI	14	—	Class I PHWH	NC	91	—
STQ025 Bear Creek	Alternate	8-3H	Perennial	50	16	QHEI	69	WWH	Good	Yes	369	120
SDCS001 UNT to Bear Creek	Alternate	8-3H	Intermittent	6	6	HHEI	55	—	Class II PHWH	Yes	281	121
SDCS002 UNT to Bear Creek	Alternate	8-3H	Ephemeral	3	0	HHEI	24	—	Class I PHWH	NC	108	108
SDCS003 UNT to Bear Creek	Alternate	8-3H	Ephemeral	3	0	HHEI	24	—	Class I PHWH	Yes	344	226

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SDCS004 UNT to Muskingum River	Alternate	8-3I	Ephemeral	2	0	HHEI	25	—	Class I PHWH	NC	76	45
SDCS005 UNT to Muskingum River	Alternate	8-3I	Ephemeral	2	0	HHEI	35	—	Class II PHWH	NC	45	—
SDCS006 UNT to Muskingum River	Alternate	8-3I	Ephemeral	4	0	HHEI	40	—	Class II PHWH	Yes	581	173
SSH052 UNT to Bear Creek	Alternate	8-3I	Ephemeral	8	0	HHEI	20	—	Class I PHWH	NC	97	—
SSH051 UNT to Bear Creek	Alternate	8-3I	Perennial	10	18	HHEI	70	—	Class III PHWH	Yes	451	115
SSH050 UNT to Bear Creek	Alternate	8-3I	Intermittent	5	4	HHEI	17	—	Class I PHWH	Yes	465	167
SSH049 UNT to Bear Creek	Alternate	8-3I	Ephemeral	2	0	HHEI	13	—	Class I PHWH	NC	155	14

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SSH048 UNT to Bear Creek	Alternate	8-3I	Ephemeral	5	0	HHEI	31	—	Class II PHWH	Yes	307	101
SSH047 UNT to Bear Creek	Alternate	8-3I	Intermittent	6	1	HHEI	35	—	Modified Class II PHWH	NC	431	103
SRJ041 UNT to Muskingum River	Alternate	8-3I/J	Ephemeral	10	0	HHEI	20	—	Class I PHWH	NC	85	—
SRJ040 UNT to Muskingum River	Alternate	8-3I/J	Ephemeral	8	0	HHEI	35	—	Class II PHWH	NC	130	26
SRJ042 UNT to New Years Creek	Alternate	8-3J	Perennial	5	3	HHEI	37	—	Rheocrene Potential	Yes	350	230
SRJ043 UNT to New Years Creek	Alternate	8-3J	Intermittent	8	1	HHEI	32	—	Class II PHWH	Yes	386	157
SRJ044 UNT to New Years Creek	Alternate	8-3J	Perennial	10	6	HHEI	72	—	Class III PHWH	Yes	207	99
SRJ045 UNT to New Years Creek	Alternate	8-3J	Ephemeral	6	0	HHEI	45	—	Class II PHWH	NC	57	57

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SRJ046 UNT to New Years Creek	Alternate	8-3J/K	Perennial	10	6	HHEI	67	—	Modified Class II PHWH	Yes	160	54
SRJ047 UNT to New Years Creek	Alternate	8-3J/K	Perennial	4	3	HHEI	38	—	Modified Class II PHWH	NC	166	7
SRJ048 UNT to New Years Creek	Alternate	8-3J/K	Perennial	10	0	HHEI	36	—	Class II PHWH	Yes	326	217
SRJ049 UNT to New Years Creek	Alternate	8-3J/K	Ephemeral	10	0	HHEI	41	—	Class II PHWH	NC	147	—
SRJ052 UNT to New Years Creek	Alternate	8-3J/K	Ephemeral	15	0	HHEI	37	—	Class II PHWH	NC	192	—
SRJ051 UNT to New Years Creek	Alternate	8-3J/K	Intermittent	25	3	HHEI	77	—	Class III PHWH	Yes	273	157
SRJ050 UNT to New Years Creek	Alternate	8-3K	Ephemeral	6	0	HHEI	34	—	Class II PHWH	NC	83	—
SMJ022 UNT to New Years Creek	Alternate	8-3K	Ephemeral	4	0	HHEI	24	—	Modified Class I PHWH	NC	333	—
			Intermittent	9	2	HHEI	48	—	Class II PHWH	Yes	530	266

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SMJ023 UNT to New Years Creek	Alternate	8-3K	Intermittent	6	1	HHEI	53	—	Class II PHWH	Yes	206	104
SSH056 UNT to New Years Creek	Alternate	8-3K	Perennial	20	5	HHEI	66	—	Modified Class II PHWH	Yes	405	145
SSH057 UNT to New Years Creek	Alternate	8-3K	Ephemeral	4	0	HHEI	26	—	Class I PHWH	NC	67	—
SSH058 UNT to Second Creek	Alternate	8-3L	Intermittent	5	2	HHEI	26	—	Modified Class I PHWH	NC	760	239
SSH059 UNT to Second Creek	Alternate	8-3L	Ephemeral	3	0	HHEI	12	—	Modified Class I PHWH	Yes	148	91
SSH060 UNT to Second Creek	Alternate	8-3L	Ephemeral	5	2	HHEI	19	—	Modified Class I PHWH	NC	59	—
SSH061 UNT to Second Creek	Alternate	8-3L	Ephemeral	10	0	HHEI	29	—	Modified Class I PHWH	Yes	232	104
SSH062 UNT to Second Creek	Alternate	8-3L	Ephemeral	5	0	HHEI	12	—	Class I PHWH	Yes	191	91

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SSH063 UNT to Second Creek	Alternate	8-3L	Ephemeral	2	0	HHEI	12	—	Class I PHWH	Yes	249	146
SSH064 UNT to Second Creek	Alternate	8-3L	Ephemeral	2	0	HHEI	12	—	Class I PHWH	Yes	182	76
SSH065 UNT to Second Creek	Alternate	8-3L	Intermittent	8	2	HHEI	45	—	Class II PHWH	Yes	1,042	265
SSH066 UNT to Second Creek	Alternate	8-3L	Ephemeral	5	1	HHEI	16	—	Class I PHWH	NC	92	—
SSH067 UNT to Second Creek	Alternate	8-3L	Ephemeral	6	0	HHEI	12	—	Class I PHWH	NC	55	—
SSH068 UNT to Second Creek	Alternate	8-3L	Intermittent	12	2	HHEI	43	—	Class II PHWH	NC	101	—
SSH069 UNT to Second Creek	Alternate	8-3L	Ephemeral	3	0	HHEI	11	—	Modified Class I PHWH	Yes	197	100
SRJ053 UNT to Second Creek	Alternate	8-3L	Intermittent	10	4	HHEI	73	—	Class III PHWH	Yes	304	101

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SRJ054 UNT to Second Creek	Alternate	8-3L	Ephemeral	5	0	HHEI	38	—	Class II PHWH	NC	57	—
SRJ055 UNT to Second Creek	Alternate	8-3L	Ephemeral	4	0	HHEI	37	—	Class II PHWH	Yes	60	60
SRJ056 UNT to Second Creek	Alternate	8-3L	Ephemeral	10	0	HHEI	37	—	Class II PHWH	Yes	253	146
SRJ057 UNT to Second Creek	Alternate	8-3L	Ephemeral	10	0	HHEI	37	—	Class II PHWH	Yes	322	138
SRJ058 UNT to Second Creek	Alternate	8-3M	Perennial	8	6	HHEI	61	—	Class II PHWH	Yes	208	101
SRJ059 UNT to Second Creek	Alternate	8-3M	Intermittent	10	3	HHEI	56	—	Class II PHWH	Yes	346	109
SRJ060 UNT to Second Creek	Alternate	8-3M	Perennial	15	12	HHEI	87	—	Class III PHWH	Yes	470	172
SRJ061 UNT to Second Creek	Alternate	8-3M	Ephemeral	5	0	HHEI	52	—	Class II PHWH	Yes	202	96

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SRJ062 UNT to Second Creek	Alternate	8-3M	Intermittent	6	0	HHEI	52	—	Class II PHWH	Yes	362	157
SSH070 UNT to Muskingum River	Alternate	8-3M	Intermittent	10	1	HHEI	34	—	Class II PHWH	Yes	771	280
STQ034 UNT to Muskingum River	Alternate	8-3M/N	Ephemeral	2	0	HHEI	12	—	Modified Class I PHWH	Yes	497	100
STQ035 UNT to Muskingum River	Alternate	8-3M/N	Ephemeral	1	1	HHEI	17	—	Class I PHWH	NC	153	52
STQ036 UNT to Muskingum River	Alternate	8-3M/N	Intermittent	3	0	HHEI	12	—	Class I PHWH	Yes	301	127
SSM030 UNT to Second Creek	Alternate	8-3N	Ephemeral	2	1	HHEI	22	—	Class I PHWH	NC	90	35
SSM031 UNT to Second Creek	Alternate	8-3N	Intermittent	4	2	HHEI	38	—	Class II PHWH	Yes	548	402

TABLE 8-3
Streams within the Preferred and Alternate Route Environmental Field Survey Area and Potential Disturbance Area/ROW

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (inches)	Form	Score	OEPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline [a]	Length (linear feet) within Field Survey Area [b]	Length (linear feet) within Potential Disturbance Area/ROW[c]
SSM032 UNT to Second Creek	Alternate	8-3N	Ephemeral	2	0	HHEI	16	—	Class I PHWH	NC	34	—
SSM033 UNT to Second Creek	Alternate	8-3N	Ephemeral	2	0	HHEI	17	—	Class I PHWH	NC	75	50
SSM034 UNT to Second Creek	Alternate	8-3N	Ephemeral	2	0	HHEI	17	—	Class I PHWH	Yes	122	106
										Total	**33,619**	**11,417**

Notes:

a NC = Not crossed by proposed ROW.

b The width of the Field Survey Area was 300 feet.

c The width of the potential disturbance area and the final maintained ROW is planned to be 100 feet.

NC = not crossed

UNT = unnamed tributary

(ii) Lakes, Ponds, and Reservoirs

No major lakes or reservoirs were observed along the proposed Preferred or Alternate Routes. Five ponds totaling 0.35 acre were identified during the field evaluation along the Preferred Route. Eight ponds totaling 1.18 acres were identified along the Alternate Route. One pond, PRJ006, was delineated within both the Preferred and Alternate Routes where the routes overlap. Ponds within the Field Survey Area are shown on Figures 8-2A through 8-2M, and Figures 8-3A through 8-3N and are summarized in Table 8-4.

Impacts to ponds from construction, operation, or maintenance of the proposed transmission line are not anticipated. Best management practices (BMP) to control soil erosion and sedimentation (for example, using silt fencing and filter sock as appropriate during construction to minimize runoff siltation).

TABLE 8-4
Delineated Ponds within the Preferred Route and Alternate Route Environmental Field Survey Area

Feature Name	Route	Figure	Acreage within Field Survey Area	Acreage within ROW	Linear Feet Crossed by Centerline
Preferred Route Ponds					
PRJ006	Preferred	8-2C	0.05	< 0.01	-
PRJ005	Preferred	8-2C	< 0.01	0	-
PSH002	Preferred	8-2E	0.01	0	-
PSH001	Preferred	8-2F	0.12	0	-
PMJ001	Preferred	8-2F	0.16	0	-
		Total:	**0.35**	**0.01**	**0**
Alternate Route Ponds					
PRJ001	Alternate	8-3B	0.67	0.15	-
PRJ002	Alternate	8-3B	0.22	0.18	105
PRJ004	Alternate	8-3B	0.02	0	-
PRJ006	Alternate	8-3B/C	0.05	< 0.01	-
PRJ005	Alternate	8-3C	< 0.01	0	-
PTQ001	Alternate	8-3E	0.17	0	-
PRJ007	Alternate	8-3E/F	< 0.01	< 0.01	-
PRJ009	Alternate	8-3J	0.03	0	-
		Total:	**1.18**	**0.35**	**105**

Notes:

a All measurements listed as <0.01 were assumed to be 0.01 for calculations.

b "0" indicates the pond is not within the ROW.

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

Detailed maps at 1:6,000 scale depicting the delineated features, Field Survey Area, and proposed ROW for the Preferred and Alternate Routes are provided as Figures 8-2A through 8-2M and Figures 8-3A through 8-3N, respectively.

(3) Construction Impacts on Vegetation and Surface Waters

(a) Construction Impacts on Vegetation

The construction impacts on woody and herbaceous vegetation along both the Preferred and Alternate Routes will be limited to the initial clearing of vegetation within the 100-foot ROW for the proposed transmission line and access roads. Specific locations for access roads will be identified at the time of AEP Ohio Transco's transmission line easement acquisition process. Trees adjacent to the proposed ROW, that are dead, dying, diseased, leaning, significantly encroaching, or prone to failure may require clearing to allow for safe operation of the transmission line. Vegetative wastes (such as tree limbs and trunks) generated during the construction phase will be windrowed or chipped and disposed of appropriately depending on individual landowner requests. The approximate vegetation impacts along the Preferred and Alternate Route ROWs are provided in Table 8-5.

TABLE 8-5
Approximate Vegetation Impacts Along the Potential Disturbance Area/ROW

Land Use Type	Length of Route (in feet)	Length of Route (in miles)	Acreage within ROW
Preferred Route			
Agricultural	1,610	0.3	2.7
Industrial/Commercial	316	< 0.1	0.4
Open Land / Pasture	7,903	1.5	21.5
Road / Railroad ROW	2,141	0.4	5.4
Utility ROW	43,615	8.3	73.6
Water	146	< 0.1	0.4
Woodlot	25,607	4.8	82.9
Alternate Route			
Agricultural	7,445	1.4	14.6
Industrial/Commercial	207	< 0.01	0.8
Open Land / Pasture	8,076	1.5	20.3
Road / Railroad ROW	2,048	0.4	7.9
Utility ROW	17,925	3.4	26.5
Water	292	< 0.1	0.9
Woodlot	49,727	9.4	125.3

(b) Construction Impacts on Wetlands

Preferred Route: During wetland and waterbody delineations, 21 wetlands were identified along the Preferred Route within the proposed ROW, totaling 1.56 acres. Detailed information about each feature can be found in Table 8-2 in Section 4906-05-08(B)(b)(ii). Nine of these wetlands are crossed by the Preferred Route centerline, totaling 652 linear feet. Impacts to the wetlands will be avoided by placing transmission line structures outside of wetland boundaries. Where temporary construction access through a wetland cannot be avoided, the crossing will occur during dry conditions or protective construction matting will be used to minimize impacts from construction vehicles.

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

- Category 1 wetlands: Eight Category 1 wetlands with ORAM scores ranging from 23 to 29.5 were identified within the ROW, totaling 0.42 acre. Of that total, less than 0.01 acre of PFO wetland will be impacted through the clearing of trees and shrubs during construction. This will result in this PFO wetland being converted to PEM.

- Category 2 wetlands: Thirteen Category 2 wetlands with ORAM scores ranging from 31 to 50 were identified within the proposed ROW, totaling 1.14 acres. Of that total, 0.13 acre of PFO wetland and 0.33 acre of PSS wetland will be impacted through the clearing of trees and shrubs during construction. This will result in these PFO and PSS wetlands being converted to PEM.

- Category 3 wetlands: No Category 3 wetlands will be crossed; therefore, no construction impacts are anticipated.

Alternate Route: During wetland and waterbody delineations, 12 wetlands were identified along the Alternate Route ROW, totaling 2.56 acres. The delineated wetlands are shown on Figures 8-3A through 8-3N. Detailed information about each feature can be found in Table 8-2 in Section 4906-05-08(B)(b)(ii). Nine wetlands are crossed by the centerline of the proposed Alternate Route, totaling 1,268 linear feet. Impacts to wetlands will be avoided by placing transmission line structures outside wetland boundaries. Where temporary construction access through a wetland cannot be avoided, the crossing will occur during dry conditions or matting will be used to minimize impacts.

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

- Category 1 wetlands: Seven Category 1 wetlands with ORAM scores ranging from 10 to 29 were identified within the proposed ROW, totaling 2.06 acres. Of that total, 0.01 acre of PFO wetland and less than 0.01 acre of PSS wetland will be impacted through the clearing of trees and shrubs during construction. This will result in these PFO and PSS wetlands being converted to PEM.

- Category 2 wetlands: Five Category 2 wetlands with ORAM scores ranging from 30 to 52.5 were identified within the proposed ROW, totaling 0.50 acre. Of that total, 0.05 acre of PFO wetland and less than 0.01 acre of PSS wetland will be impacted through the clearing of trees and shrubs during construction. This will result in these PFO and PSS wetlands being converted to PEM.

- Category 3 wetlands: For the Alternate Route, no Category 3 wetlands will be crossed; therefore, no construction impacts are anticipated.

Through appropriate planning and permitting, care will be taken near wetlands to avoid or minimize filling and sedimentation during construction. AEP Ohio Transco will avoid the placement of pole structures 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, BMPs 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 structure 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. No fill material will be placed in any wetland area. 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 of a hole for pole installation will be performed within the wetland. In the event that pole placement is required within a wetland, no additional fill will be placed in the wetlands beyond the placement of the pole structure and borehole backfill.

Wetland areas will be clearly staked prior to the commencement of any clearing in order 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. AEP Ohio Transco will perform all construction work in accordance with the conditions and requirements of regulatory permits obtained for the Project.

(c) Construction Impacts on Waterbodies

The Preferred Route centerline crosses 69 streams. The Alternate Route centerline crosses 77 streams. Six streams (SSH020, SMJ019, SMJ003, SSM004, SSH070, and SSM031) are crossed by the centerline more than once. Detailed information about each feature can be found in Table 8-3 in Section 4906-05-08(B)(c)(i).

Approximately 9,994 linear feet of stream are located within the Preferred Route ROW, while approximately 11,417 linear feet are located within the Alternate Route ROW.

AEP Ohio Transco will not conduct mechanized clearing within 25 feet of any stream, and will only clear (using hand cutting techniques) those trees in this area that are tall enough to or have the potential to interfere with safe construction and operation of the line. No streams will be filled or permanently impacted. Some streams may have to be crossed by construction vehicles. Exact pole locations have not been fully determined to date. Access paths to proposed pole locations will be evaluated when more detailed engineering is performed and landowner negotiations progress. If a new stream crossing were necessary, it would comply with one of the following three proposed methods to cross streams:

- Temporary stream ford
- Temporary culvert stream crossings
- Temporary access bridge

Temporary stream fords are proposed for crossing low quality ephemeral and intermittent streams with a drainage basin less than 1 square mile. This will involve minimum clearing necessary to gain access to the stream and for passage of construction vehicles. Stone, rock, or aggregate of ODOT number 1 as a minimum size will be placed in the channel to provide a solid base for vehicle passage.

- Disturbance of the stream will be kept to a minimum, stream bank vegetation will be preserved to the maximum extent practical, and the stream crossing width will be kept as narrow as possible. Clearing will be done by hand cutting rather than grubbing.

- Sediment-laden runoff will be prevented from flowing from the access road directly into the stream. Diversions and swales will be used to direct runoff to stormwater management locations. Silt fences will be used as needed according to local topographic conditions.

- Aggregate stone and rock used for this type of stream crossing will not be removed. It will be formed so that it does not create an impoundment, impede fish passage, or cause erosion of the stream banks.

- Following completion of the work, the areas cleared for the temporary access crossing will be stabilized through plantings of woody species where appropriate. Areas of exposed soil will be stabilized in accordance with the stormwater pollution prevention plan (SWPPP) for the Project.

Culvert stream crossings are proposed for crossing marginal quality perennial, ephemeral, and intermittent streams with a drainage basin of less than 1 mile. These crossings may be removed or remain in place in order to provide maintenance access to the line (critical if service is to be reliable).

- Disturbance of the stream will be kept to a minimum, stream bank vegetation will be preserved to the maximum extent practical, and the stream crossing width will be kept as narrow as possible. Clearing will be done by hand-cutting techniques rather than grubbing. Roots and stumps will be left in place to aid stabilization and to accelerate re-vegetation.

- Sediment laden runoff controlled to minimize from flowing from the access road directly into the stream. Diversions and swales will be used to direct runoff to stormwater management locations. Silt fence will be used as needed according to local topographic conditions.

- Culvert pipes will be placed on the existing streambed to avoid a drop or waterfall at the downstream end of the pipe, which would be a barrier to fish migration. Crossings will be placed in shallow areas rather than pools.

- Culverts will be sized to be at least three times the depth of the normal stream flow at the crossing location. The minimum diameter culvert that will be used is 18 inches.

- There will be a sufficient number of culvert pipes to cross the stream completely with no more than a 12-inch space between each one.

- Stone, rock, or aggregate of ODOT number 1 as a minimum size will be placed in the channel, and between culverts. To prevent washouts, larger stone may be used with gabion mattresses. No soil will be placed in the stream channel.

- After completion of construction, some rock aggregate and structures such as culvert pipes used for the crossing will be left in place if approved by the landowner. Care will be taken so that aggregate does not create an impoundment or impede fish passage. Structures such as gabion mattresses will be removed.

- Stream banks will be stabilized and woody species planted as appropriate.

Temporary access bridges or culvert stream crossings will be used for high quality perennial, ephemeral, and intermittent streams and streams with a drainage basin greater than 1 square mile.

- Disturbance of the stream will be kept to a minimum, stream bank vegetation will be preserved to the maximum extent practical, and the stream crossing width will be kept as narrow as possible. Clearing will be done by hand cutting rather than grubbing. Roots and stumps will be left in place to aid stabilization and to accelerate re-vegetation.

- Sediment laden runoff will be controlled to minimize flowing from the access road directly into the stream. Diversions and swales will be used to direct runoff to stormwater management locations. Silt fence will be used as needed according to local topographic conditions.

- Bridges will be constructed to span the entire channel. If the channel width exceeds 8 feet, then a floating pier or bridge support may be placed in the channel. No more than one pier, footing, or support will be allowed for every 8 feet of span width. No footings, piers, or supports will be allowed for spans of less than 8 feet.

- No fill other than clean stone, free from soil, will be placed within the stream channel.

These crossings will be addressed in the Project SWPPP. Some of the access routes may be left in place for maintenance activity. Details regarding the proposed access road stream crossing methods will be provided to the OPSB separately.

Impacts to ponds are not anticipated by the construction, operation, or maintenance of the proposed transmission line. BMPs, including utilization of silt fence or filter sock, will be used as appropriate during construction to minimize runoff siltation.

(4) Operation and Maintenance Impacts on Vegetation and Surface Water

During operation of the transmission line along either of the proposed routes, the impacts on vegetation are anticipated to be minor. Undeveloped non-forested land not significantly disturbed by construction should retain its current vegetation composition. Periodic cutting along the proposed 100-foot-wide transmission line ROW is not expected to result in a significant environmental impact to the vegetation in these types of areas.

The potential impacts on woody and herbaceous vegetation along either of the proposed routes will be limited to maintenance activities along the proposed transmission line ROW and access roads for safe and reliable operation of the transmission line. Trees adjacent to the proposed transmission line ROW, that are dead, dying, diseased, leaning, significantly encroaching, or prone to failure may require clearing to allow for safe operation of the transmission line. Vegetative waste (such as tree limbs and trunks) that is generated during the construction phase will be windrowed or chipped and disposed of appropriately depending on individual landowner requests.

Once the transmission line is in operation, no significant impacts to streams or drainage channels are anticipated. Only periodic selective removal of vegetation that interferes with the operation of the transmission line will be required. No major lakes, ponds, or reservoirs should be affected by the operation or maintenance of the Preferred or Alternate Routes.

AEP Ohio Transco does not anticipate significant wetland impacts from the operation or maintenance of the Preferred and Alternate Routes. Vegetation that occurs within wetland areas may require periodic cutting. It is not anticipated that such activities would result in erosion or

water quality degradation. Maintenance cutting of woody vegetation in wetland areas would be hand-cut by chain saws or other non-mechanized techniques.

(5) Mitigation Procedures

The following mitigation procedures will be used during construction, operation, and maintenance of the proposed Project to minimize the impact on vegetation and surface waters. A SWPPP will also be prepared and implemented, and will be made available onsite during Project construction.

(a) Site Restoration and Soil Stabilization

A SWPPP will be developed specifically for the Project and specified BMPs will be implemented during construction to control erosion and sedimentation. Areas where soil has been disturbed will be seeded and mulched to prevent soil erosion and sedimentation. Experience shows that seeding in non-wetland and non-agricultural areas is advantageous to control erosion on areas disturbed by construction activities. In lightly disturbed wetland areas, existing seed banks are quite often capable of quickly reestablishing vegetation that is compatible with the surrounding wetland. If any unanticipated significant disturbance occurs in wetlands, topsoil will be segregated and replaced so that the existing seed banks will be allowed to revegetate the areas initially. Additional seeding will only take place if the existing seed bank does not repopulate an area. These measures should preserve the aesthetic qualities along the ROW, prevent erosion, and promote habitat diversity.

Construction access routes and staging areas will be selected to minimize impacts to wetlands and streams to the extent practical. Following construction, pole locations, material storage sites, and temporary access roads will be seeded with a suitable grass seed mixture as specified in the SWPPP for restoring these disturbed areas.

(b) Contingency Plan Stream and Wetland Crossings

The Project does not include a stream or wetland crossing by horizontal direction drill. Therefore, a detailed frac-out contingency plan will not be required for the Project.

(c) Demarcation and Protection Methods

Wetlands, streams, and any other environmentally sensitive areas will be clearly staked, flagged, or fenced in accordance with the SWPPP prior to the commencement of any clearing in order to minimize incidental impacts. BMPs such as utilization of silt fences and construction matting will be implemented as required during construction.

(d) Procedures for Inspection and Repair of Erosion Control Measures

Procedures for inspection and repair of erosion control measures, especially after rainfall events will be outlined in the SWPPP.

(e) Stormwater Runoff Measures

BMPs, including utilization of silt fence or filter socks, will be used as appropriate during construction to minimize runoff and sedimentation of streams and wetlands. Measures to divert stormwater runoff away from fill slopes and other exposed surfaces will be outlined in the SWPPP.

(f) Vegetation Protection Methods

Vegetation that occurs within wetland areas may require periodic cutting. Maintenance cutting of woody vegetation in wetland areas would be hand-cut by chain saws or other non-mechanized techniques. Cutting of woody vegetation in wetlands and near stream banks will be limited to removal of only the cut back required to safely perform construction and continue operation of the transmission line. AEP Ohio Transco will adhere to regulatory permit requirements and conditions that will be obtained or authorized for the Project, including specifying that no mechanized clearing of vegetation be performed within the prescribed distance of a wetland or waterbody as discussed below.

(g) Clearing Methods

AEP Ohio Transco will not conduct mechanized clearing within 25 feet of any stream, and will only clear (using hand cutting techniques) those trees in this area that are tall enough to or have the potential to interfere with safe and reliable construction and operation of the transmission line. Selective clearing will be required to remove woody vegetation in wetlands that might impede construction, or interfere with operation of the transmission line. Where wooded wetlands occur within the ROW, the trees will be removed. Trees adjacent to the proposed transmission line ROW that are dead, dying, diseased, leaning, significantly encroaching, or prone to failure may require clearing to allow for safe and reliable operation of the transmission line. Vegetative waste (such as tree limbs and trunks) that is generated during the construction phase will be windrowed or chipped and disposed of appropriately depending on landowner requests.

(h) Expected Use of Herbicides

AEP Ohio Transco does not anticipate the use of herbicides on the Project.

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

The project area is primarily comprised of a rural setting with few residences and businesses located on typically larger lots. The developed areas are dominated by residences, commercial uses, and existing utility or road ROW. The rural areas are mostly comprised of fields, pastures, woodlots, residences, and existing road and utility ROW. Both the Preferred and Alternate Routes have potential habitat for wildlife species. Lists of commercial and recreational species were created utilizing professional experience and the ODNR-DOW 2016-2017 Hunting and Trapping Regulations (ODNR-DOW, 2016a).

Lists of protected species are typically based on their range within Washington County, as reported in correspondence from the ODNR-DOW and the review of USFWS county species distribution lists. Details on the expected impacts of construction, operation, maintenance, and

mitigation procedures can be found following the threatened and endangered, commercial, and recreational species descriptions as follows.

(1) Project Vicinity Species Descriptions

(a) Protected Species

Coordination with ODNR-DOW was initiated to obtain Ohio Natural Heritage Database records within a 1-mile buffer area around the Preferred and Alternate Routes. ODNR records of state- and federally listed species, provided in August 2016, indicated records of 10 species located within 1,000 feet of the Project that were state or federally listed. Current information on the species provided through consultation with USFWS (USFWS, 2016) and the ODNR-DOW Ohio Natural Heritage Database is provided in Table 8-6.

A consultation request was submitted to the USFWS on June 27, 2016 and their e-mail response was received on July 19, 2016. USFWS stated that there are no federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the project area. USFWS also confirmed that two federally listed bat species listed in Table 8-6 may occur in the study area and recommended winter tree clearing to avoid take of these species. Additional recommendations were made to avoid and minimize water quality impacts and impacts to high-quality fish and wildlife habitat (for example, forests, streams, wetlands) and preserve natural buffers around streams and wetlands.

A consultation request was submitted to the ODNR on June 24, 2016, and their e-mail response was received on August 10, 2016. The ODNR-DOW recommended that habitat suitability surveys for eastern spadefoot toad be conducted if impacts are proposed to the floodplains of the Muskingum River or West Fork Duck Creek. Additionally, if suitable habitat for the eastern spadefoot toad is found, the ODNR-DOW recommended that a presence/absence survey should be conducted, or an avoidance/minimization plan should be developed by a DOW-approved herpetologist. Only the Alternate Route is located near, and crosses, a section of the West Fork Duck Creek which occurs in a developed area near I-77. The Preferred Route crosses a short section of floodplain of Bear Creek and Muskingum River. Once the final route is approved, AEP Transco's consultant will review the habitat along the route, based on observations recorded during the completed ecological survey, and coordinate with the ODNR-DOW for survey plans if necessary.

AEP Ohio Transco will utilize a 100-foot-wide permanent ROW for the Project to allow for safe and reliable construction and operation of the transmission line and prevent encroachment. AEP Ohio Transco will not conduct mechanized clearing within 25 feet of any stream, and will only clear (using hand cutting techniques) those trees in this area that are tall enough to have the potential to interfere with safe construction and reliable operation of the line.

TABLE 8-6
Listed Species in the Project County (Washington)

Common Name (Species Name)[a, b]	Federal Status [a, b]	State Status [b, c]	General Habitat Notes	Recorded Location within Project Vicinity	Potential Habitat in Project Area
Vertebrate Animals					
Indiana bat (*Myotis sodalis*)	Endangered	Endangered	Hibernacula = Caves and mines Maternity and foraging habitat = small stream corridors with well-developed riparian woods and upland forests.[c,d]	Presence assumed wherever suitable habitat occurs.[g] No Indiana bat buffer in project area.[g] No ODNR records within 1,000 feet.[b]	Yes
Northern long-eared bat *(Myotis septentrionalis*)	Threatened	Threatened	Hibernates in caves and mines; swarms in surrounding wooded areas in autumn. During late spring and summer, roosts and forages in upland forests.[c]	Presence assumed wherever suitable habitat occurs.[g] No ODNR records within 1,000 feet.[b]	Yes
Eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*)	Species of Concern	Endangered	Found mostly in unglaciated (south and east) Ohio, hellbenders prefer large, swift flowing streams where they hide during the day under large rocks.[c]	No ODNR records within 1,000 feet.[b]	Yes
Eastern spadefoot (*Scaphiopus holbrookii*)		Endangered	Exceptionally rare and is known to occur in Athens, Coshocton, Lawrence, Morgan, and Washington counties. It is found only in areas of sandy soils that are associated with river valleys in southeastern Ohio. Breeding habitats are located within these areas and may include flooded agricultural fields or other water-holding depressions.[c]	No ODNR records within 1,000 feet.[b]	Yes
Timber Rattlesnake (*Crotalus horridus*)	Species of Concern	Endangered	These snakes are a woodland species. In addition to using wooded areas, timbers also utilize sunlit gaps in the canopy for basking and deep rock crevices for overwintering (den sites).[c]	No ODNR records within 1,000 feet.[b]	Yes
Black bear (*Ursus americanus*)		Endangered	Found in a wide variety of the more heavily wooded habitats, ranging from swamps and wetlands to dry upland hardwood and coniferous forests. Although they will utilize open areas, bears prefer wooded cover with a dense understory.[c]	No ODNR records within 1,000 feet.[b]	Yes

TABLE 8-6
Listed Species in the Project County (Washington)

Common Name (Species Name)[a, b]	Federal Status [a, b]	State Status [b, c]	General Habitat Notes	Recorded Location within Project Vicinity	Potential Habitat in Project Area
Ohio lamprey (*Ichthyomyzon bdellium*)		Endangered	All parasitic lampreys require three distinctly different habitats that are connected by free flowing stretches of streams. Spawning adults are found in clear brooks with fast flowing water and either sand or gravel bottoms. Juveniles or ammocoetes are found in slow moving water buried in soft substrate of medium to large streams. Non-spawning parasitic adults are found in large bodies of water with abundant populations of large fish.[c]	No ODNR records within 1,000 feet.[b]	Yes
Western Banded Killifish (*Fundulus diaphanus menona*)		Endangered	Found in areas with an abundance of rooted aquatic vegetation, clear waters, and with substrates of clean sand or organic debris free of silt.	No ODNR records within 1,000 feet. [b]	No
Tippecanoe darter (*Etheostoma tippecanoe*)		Threatened	Found in medium to large streams and rivers in the Ohio River drainage in Ohio. They are found in riffles of moderate current with a substrate of gravel and small cobble sized rocks.[c]	No ODNR records within 1,000 feet.[b]	Yes
Channel darter (*Percina copelandi*)		Threatened	Found in large, coarse sand or fine gravel bars in large rivers.[c]	No ODNR records within 1,000 feet.[b]	Yes
River darter (*Percina shumardi*)		Threatened	Found in very large rivers typically in areas of swift current. They are found over a gravel or rocky bottom in depths of 3 feet or more.[c]	No ODNR records within 1,000 feet.[b]	No
Blue sucker (*Cycleptus elongatus*)	Species of Concern	Endangered	Found in deep, swiftly flowing chutes or channels of large rivers. They are not uncommon in fast, gravel-bottomed chutes of the lower Scioto River, the lower portions of the Great and Little Miami, Muskingum, and Hocking Rivers. They can also be found in the Ohio River.[c]	No ODNR records within 1,000 feet. [b]	No
Northern madtom (*Noturus stigmosus*)		Endangered	Found in deep swift riffles of large rivers. They usually are found in and around cobbles and boulders. In Ohio this species has a limited range	No ODNR records within 1,000 feet. [b]	Yes

TABLE 8-6
Listed Species in the Project County (Washington)

Common Name (Species Name)[a, b]	Federal Status [a, b]	State Status [b, c]	General Habitat Notes	Recorded Location within Project Vicinity	Potential Habitat in Project Area
			and is only found in a few locations in the Muskingum, Scioto, and Little Miami River drainages.[c]		
Mountain madtom (*Noturus eleutherus*)		Threatened	Found in deep swift riffles of large rivers. They usually are found in and around cobbles and boulders. Few remnant populations occur in parts of the Little Miami, Muskingum, Walhonding, and Tuscarawas Rivers.[c]	No ODNR records within 1,000 feet. [b]	Yes
Paddlefish (*Polyodon spathula*)		Threatened	Found in the Ohio River and up to the first dam on its larger tributaries. They prefer sluggish pools and backwater areas of these rivers and streams. Most common it the Ohio River from Portsmouth downstream to the Indiana state line.[c]	No ODNR records within 1,000 feet. [b]	No
Invertebrate Animals					
Fanshell (*Cyprogenia stegaria*)	Endangered	Endangered	Medium to large rivers. Found in areas with a moderate current that have sand and gravel. [a]	ODNR record location within 1,000 feet.[b]	Yes
Pink mucket pearly mussel (*Lampsilis orbiculata*)	Endangered	Endangered	Found in mud and sand in the shallow riffles of major rivers and their tributaries. [a]	ODNR record location within 1,000 feet.[b]	Yes
Butterfly (*Ellipsaria lineolata*)		Endangered	Large rivers in sand or gravel substrates.[h]	ODNR record location within 1,000 feet.[b]	Yes
Long-solid (*Fusconaia maculata maculata*)		Endangered	Found in large rivers in gravel substrates. [i]	ODNR record location within 1,000 feet.[b]	Yes
Washboard (*Megalonaias nervosa*)		Endangered	Found in large rivers, inhabiting the main channel areas of a stream. Suitable habitat consists of slow current areas with substrates composed of sand, gravel, or mud.[h]	ODNR record location within 1,000 feet.[b]	Yes

TABLE 8-6
Listed Species in the Project County (Washington)

Common Name (Species Name)[a, b]	Federal Status [a, b]	State Status [b, c]	General Habitat Notes	Recorded Location within Project Vicinity	Potential Habitat in Project Area
Elephant-ear (*Elliptio crassidens*)		Endangered	Inhabits large rivers in mud, sand or fine gravel. [h]	No ODNR record locations within 1000 feet.[b]	Yes
Sharp-ridged pocketbook (*Lampsilis ovata*)		Endangered	Inhabits large rivers in coarse sand or gravel. [i]	No ODNR record locations within 1000 feet.[b]	Yes
Pyramid pigtoe (*Pleurobema rubrum*)		Endangered	Found in medium to large rivers in sand or gravel in areas with a good current. [i]	No ODNR record locations within 1000 feet.[b]	Yes
Monkeyface (*Quadrula metanevra*)		Endangered	Found in habitats dominated by stable substrates in water over 6 ft deep. [h]	ODNR record location within 1,000 feet.[b]	Yes
Sheepnose (*Plethobasus cyphyus*)	Endangered	Endangered	Found in shallow areas of large rivers or streams. Prefers swift to moderate current. [a]	ODNR record location within 1000 feet.[b]	Yes
Snuffbox (*Epioblasma triquetra*)	Endangered	Endangered	Small to medium-sized creeks and some larger rivers, in areas with a swift current	No ODNR record locations within 1000 feet.[b]	Yes
Ohio pigtoe (*Pleurobema cordatum*)		Endangered	Inhabitant of large rivers, found in strong currents on substrates of sand and gravel.[f]	ODNR record location within 1,000 feet.[b]	Yes
Threehorn wartyback (*Obliquaria reflexa*)		Threatened	Found in large rivers in sand or gravel; may be locally abundant in impoundments. [i]	ODNR record location within 1,000 feet.[b]	Yes
Fawnsfoot (*Truncilla donaciformis*)		Threatened	Found in large rivers or the lower reaches of medium-sized streams in sand or gravel. [i]	ODNR record location within 1,000 feet.[b]	Yes

TABLE 8-6
Listed Species in the Project County (Washington)

Common Name (Species Name)[a, b]	Federal Status [a, b]	State Status [b, c]	General Habitat Notes	Recorded Location within Project Vicinity	Potential Habitat in Project Area
Black sandshell (*Ligumia recta*)		Threatened	Found in the riffle and run areas of medium to large rivers in areas dominated by sand or gravel.[h]	No ODNR record locations within 1000 feet.[b]	Yes

Notes:

a USFWS, 2017a
b ODNR-DOW, 2016b
c ODNR-DOW, 2016d
d NatureServe, 2016
e USFWS, 2007
f USDA, 2002
g USFWS, 2016
h Minnesota DNR, 2017
i Illinois Natural History Survey, 2017

(b) Commercial Species

The commercially important species along the proposed routes consist of those hunted or trapped for fur or other byproducts, including the following species. This information was obtained from ODNR-DOW Species Guide Index (ODNR-DOW, 2016d).

Beaver (*Castor canadensis*): Beavers occur in forested ponds, lakes, and rivers. In rivers, beavers make burrows with an underwater entrance in the riverbank. However, in streams, lakes and ponds, beavers usually build dams that incorporate a lodge. Based on the habitat present along the routes, beavers could potentially inhabit only a few locations.

Coyote (*Canis latrans*): Historically, coyotes prefer open territory, but in Ohio, they have adapted to various habitat types. Coyotes are a very adaptable species that has prospered despite the expanding presence of human impact. This species is likely found near or within the project area, but was not observed during field investigations.

Gray Fox (*Urocyon cinereogentus*): The gray fox prefers wooded areas and partially open brush land with little human presence. Based on habitat present along the routes, this species is likely found near or within the Project, but was not observed during field investigations. However, they are nocturnal animals.

Long-tailed weasel (*Mustela frenata*): The long-tailed weasel is an adaptable animal that can be found in terrestrial habitats near water. Based on habitat present along the routes, this species is likely found near or within the Project, but was not observed during field investigations. However, they are generally nocturnal animals.

Mink (*Mustela vison*): Mink are usually found near water, both running and standing. Minks prefer wooded or brushy areas. This species was not observed during the field investigations.

Muskrat (*Ondatra zibethicus*): The muskrat is a large freshwater rodent. This species was not observed during the field investigations, but it could inhabit select locations along the routes.

Raccoon (*Procyon lotor*): The raccoon is widespread in Ohio, even in many suburban and urban areas. Raccoons prefer wooded areas with water nearby. This nocturnal species was not observed during the field investigations, but it is likely present throughout the area.

Red fox (*Vulpes vulpes*): The red fox inhabits a wide range of habitats. This species was not observed during field surveys.

River otter (*Lontra canadensis*): River otters live in aquatic habitats such as rivers, lakes, and marshes. They prefer tributaries of large, clean drainages where there is minimal human disturbance. This species was not observed during field surveys.

Striped skunk (*Mephitis mephitis*): The skunk is an adaptable animal that occupies both rural and suburban areas. Their dens may be located under buildings, in open fields, on hillsides, or under logs

in the woods, which may have been self-created or formerly used by other animals. This primarily nocturnal species was not observed during the field investigations, but it likely exists along the routes.

Virginia opossum (*Didelphis virginiana*): This marsupial's preferred habitat is an area interspersed with woods, wetlands, and farmland; however, they are an adaptable animal that can also be found in urban and suburban areas. This species was not observed during the field investigations, but it likely exists along the routes.

(c) Recreational Species

Recreational terrestrial species consist of those hunted as game. Recreational species expected to inhabit areas along the ROW include the following. This information was obtained from ODNR-DOW Species Guide Index (ODNR-DOW, 2016d).

(i) Fowl

American crow (*Corvus brachyrhynchos*): The American crow is found in all Ohio counties. They prefer habitats with open fields and trees. American crows were observed during the field investigations along the majority of the routes.

American woodcock (*Scolopax minor*): Woodcock prefer open, interspersed, early successional habitats with moist loam soils, which provide earthworms. The largest populations occur in northeast, north-central, and central regions of Ohio. This species was not observed during field surveys.

American coot (*Fulica americana*): Coots inhabit the shallows of freshwater lakes, ponds, or marshes. It is unlikely that this species would exist along the proposed routes because they are found mostly in Lake Erie marshes. This species was not observed during surveys.

Geese: Several geese species can be found in Ohio, although typically during migration: snow geese (*Chen caerulescens*), greater white-fronted geese (*Anser albifrons*), cackling geese (*Branta hutchinsii*), and brant (*Branta bernicla*). The Canada goose (*Branta canadensis*) is commonly found throughout Ohio, both as residents and migrants. Habitat for Canada geese was observed along the routes and Canada geese were the only wild goose species observed during field surveys.

Mourning dove (*Zenaida macroura*): Mourning doves are found near rural and suburban residences, nesting in shrubs and trees. They are also frequent in rural farmlands nesting in fencerows and edge habitats. Habitat for this species is present throughout the routes. This species was observed frequently during field surveys.

Mergansers: Several merganser species can be found in Ohio, such as the common merganser (*Mergus merganser*), red-breasted merganser (*Mergus serrator*), and hooded merganser (*Lophodytes cucullatus*). Habitat for these species is present along the routes in select areas. This species was not observed during field surveys.

Northern bobwhite quail (*Colinus virginianus*): The northern bobwhite quail is a forest edge species. This species could exist in select locations along the routes; however, it was not observed during field surveys.

Ring-necked pheasant (*Phasianus colchicus*): This species can be found primarily along agricultural edges. Pheasants succeed where farming is intensive if there is adequate undisturbed cover for nesting, and sufficient food and cover during winter. This species likely inhabits select locations along the routes; however, no pheasants were observed during field surveys.

Ruffed Grouse (*Bonasa umbellus*): Grouse habitat includes mixed hardwood shrub and forest stands. Although the ruffed grouse was not observed during field surveys, there are select locations along the proposed routes that contain appropriate habitat.

Teal: Several teal species could be found in Ohio. The cinnamon teal (*Anas cyanoptera*), green-winged teal (*Anas crecca*), and blue-winged teal (*Anas discors*) are waterfowl. They are usually birds of fresh, shallow marshes and rivers instead of large lakes and bays. Habitat for these species is present along the routes in select areas. This species was not observed during field surveys.

Various duck species: Various duck species can be found in Ohio, most of which are present only during migration. The American black duck (*Anas rubripes*), redhead (*Aythya americana*), greater scaup (*Aythya marila*), lesser scaup (*Aythya affinis*), canvasback (*Aythya valisineria*), and northern pintail (*Anas acuta*) are usually only found in Ohio during migration and could be found near the proposed routes at that time. The mallard (*Anas platyrhynchos*) and wood duck (*Aix sponsa*) are two duck species that regularly reside and migrate through Ohio.

- Mallard: Most mallards occupy extensive wetlands; however, they are very adaptable. Mallards can be found inhabiting small farm ponds, ditches with flowing water, streams, lakes, and ponds in urban areas. Habitat for this species does exist throughout the Routes. This species was not observed during field surveys.

- Wood Duck: The wood duck prefers mature riparian corridors, quiet backwaters of lakes, ponds bordered by large trees, and secluded wooded swamps. Habitat for this species is present in select locations along the Routes. This species was not observed during field surveys.

Wild turkey (*Meleagris gallopavo*): Wild turkeys are adaptable animals. Although they prefer mature forests, they can thrive in areas with as little as 15 percent forest cover. This species was observed along both routes during the field surveys, but likely occurs along both routes.

(ii) Mammals

Eastern cottontail rabbit (*Sylvilagus floridanus*): This species is found in both rural and urban areas. They prefer open areas bordered by thickets or brush areas. This species prefers habitat found throughout the routes and the species and its habitat was observed during the field surveys.

Gray, red, and fox squirrels (*Sciurus carolinensis, Tamiasurius hudsonicus,* and *Sciurus niger,* respectively): The fox squirrel is primarily an inhabitant of isolated woodlots 10 to 20 acres in size

with a sparse understory. The eastern gray squirrel prefers more extensive woodland areas. The red squirrel prefers coniferous and mixed forests. Squirrels were observed during the field surveys along the routes.

White-tailed deer (*Odocoileus virginianus*): White-tailed deer are found in rural and suburban areas. Indirect evidence and several sightings of this species were observed during the field surveys along the routes.

Woodchuck (*Marmota monax*): Woodchucks live in open grasslands, pastures, and woodlands. This species was not observed during field surveys, but is likely present throughout the routes.

(iii) Game Fish

Based upon the hydrologic connectivity and the nature of the surface water habitats known to occur within the project area, diverse game fish species are anticipated to inhabit some of the streams that are crossed by the Routes. A list of game fish known to occur in Ohio was obtained from ODNR-DOW's Sport Fish of Ohio Identification Guide (ODNR-DOW, 2012). The list was narrowed to fish most likely to be found within the project area based on professional judgment and experience, and as such, the list of species presented in this section is not an exhaustive list of all species potentially present in the project area. The listed species are known to be regionally common and likely to occur on a case-by-case basis, within the surface water features proposed to be crossed or encroached. Neither aquatic species nor habitat surveys were completed as part of the field surveys.

Bluegill (*Lepomis macrochirus*): Bluegill are found throughout the state, preferring clear ponds and lakes with rooted vegetation. This species is likely to occur in streams and ponds along the routes.

Bullhead Catfish (*Ameiurus* sp.): Bullhead catfish are common throughout the state. Brown bullheads prefer clean, clear water, while black bullheads can tolerate more turbid water. Yellow bullheads prefer areas with heavy vegetation. Bullhead catfish could potentially be found within the project area.

Common Carp (*Cyprinus carpio*): Carp can be found in throughout the state, preferring turbid waters rich in organic matter. It is likely that common carp are present in streams along the routes.

Channel Catfish (*Ictalurus punctatus*): Channel catfish are found throughout the state in large streams and lakes. Channel catfish prefer areas with deep water, clean gravel, and boulder substrates with low to moderate current. This species is likely to occur in larger streams along the routes.

Flathead Catfish (*Pylodictis olivaris*): Flathead catfish are found in large rivers, a few inland lakes, and some reservoirs that are outside the project area in Ohio. They prefer deep pools with slow current and cover. As a result of the drainage area size of West Fork Duck Creek, flathead catfish are unlikely to be found along the routes.

Freshwater Drum (*Aplodinotus grunniens*): This species can be found in shallow large lakes and big rivers, typically in deeper pools. As a result of the drainage area size of West Fork Duck Creek, freshwater drum are unlikely to be found in the project area.

Green Sunfish (*Lepomis cyanellus*): Green sunfish are present in most lakes and streams throughout the state and are tolerant of turbid water. They are regularly associated with some type of structure such as brush, vegetation, or rocks. This species is likely to occur in streams and ponds along the routes.

Largemouth Bass (*Micropterus salmoides*): Largemouth bass are found in ponds, lakes, and slow sluggish streams throughout the state. This species is likely to be found in the project area.

Longear Sunfish (*Lepomis megalotis*): Longear sunfish are found in streams and lakes throughout the state. They prefer sluggish, clear streams of moderate size with beds of aquatic vegetation. This species is likely to be found in the project area.

Longnose Gar (*Lepisosteus osseus*): Longnose gar are a common Ohio fish. This species is likely to occur in larger streams along the routes.

Rock bass (*Ambloplites rupestris*): Rock bass are widespread throughout the state. They prefer clear streams with coarse gravel and boulders. This species may occur in streams along the routes.

Smallmouth Bass (*Micropterus dolomieu*): Smallmouth bass are often abundant in quarries and thrive in streams with gravel or rock bottoms with a visible current. This species may occur in larger streams along the routes.

Spotted Bass *(Micropterus punctulatus*): Spotted bass occur in low gradient streams in southern Ohio. Spotted bass could potentially be found in the project area.

White Crappie (*Pomoxis annularis*): White crappie can be found in larger ponds, lakes, and rivers. White crappie can tolerate a wide variety of habitats and conditions. This species is regularly found near structures such as fallen trees, stumps, docks, rocks, and aquatic vegetation. This species may occur in larger tributaries along the routes.

(2) Construction Impacts on Identified Species

Based on the nature of the proposed Project activities and habitat characteristics of the surrounding vicinity, construction impacts to protected species are not anticipated. Winter tree clearing and no in-water work in perennial streams from April 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. AEP Ohio Transco will coordinate with USFWS and ODNR regarding specific construction requirements, if required by these agencies. The construction impact on other specific identified species (recreational and commercial) is expected to be minor because equivalent habitat that would be impacted during construction exists immediately adjacent to the construction ROW, and the identified species are mobile.

(3) Operation and Maintenance Impacts on Identified Species

Minimal impacts are anticipated to protected wildlife during operation and maintenance of the transmission line. Clearing of secondary growth vegetation will be required along some portions of the ROW; however, approximately 57 percent of the Preferred Route and 93 percent of the Alternate

Routes are undeveloped, allowing it to retain its current vegetative community. Operational activities and periodic maintenance of the ROW are not anticipated to impact wildlife significantly because of the minimal permanent ground disturbance and available adjacent habitat available.

(4) Mitigation Procedures

If areas are identified during the informal consultation process with USFWS and ODNR that are of special concern, AEP Ohio Transco will coordinate with these agencies to develop appropriate mitigation measures. The mitigation measure will be implemented if the area of special concern is located within the route approved by the OPSB.

(D) SITE GEOLOGY

(1) Site Geology

Both routes are located within the Marietta Plateau region of the Appalachian Plateaus physiographic province (ODNR, 1998). The Marietta Plateau region is characterized by high relief and elevations between 515 and 1,400 feet above sea level. Pennsylvanian-age Upper Conemaugh Group through Permian-age Dunkard Group cyclic sequences of red and gray shales, and siltstones, sandstones, limes, and coals characterizes the geology of the area. Pleistocene-age Minford clay, red and brown silty clay loam colluvium, and landslide deposits are also notable geologic characteristics of the area (ODNR, 1998). Approximately 51 percent of the area within 1,000 feet of the Preferred Route occurs within the Monongahela Group, 43 percent within the Dunkard Group, and 6 percent within the Conemaugh Group. Approximately 55 percent of the area within 1,000 feet of the Alternate Route occurs within the Dunkard Group, 37 percent within the Monongahela Group, and 8 percent within the Conemaugh Group (USGS, 2005).

(2) Slopes and Foundation Soil Suitability

Slopes exceeding 12 percent, obtained from the NRCS, are identified in Figures 8-2A through 8-2M and Figures 8-3A through 8-3N. Approximately 73 percent of the area within 1,000 feet of the Preferred Route occurs where slopes exceed 12 percent. Slopes exceeding 12 percent occur within approximately 74 percent of the area within 1,000 feet of the Alternate Route. During construction, AEP Ohio Transco will implement a SWPPP and associated BMPs as necessary to control erosion and sedimentation in areas with slopes exceeding 12 percent. Once construction is complete, soils will be revegetated and stabilized. As a result, no erosional impacts resulting from slopes exceeding 12 percent are expected.

The bedrock geologies consisting primarily of shales and siltstones and overlaying soils consisting of primarily silt loams and silty clay loams, present along both routes, are generally expected to be suitable for foundation construction. To obtain further site-specific details on the suitability of the soils for foundation construction, AEP Ohio Transco will conduct detailed engineering design and geotechnical soil borings. Engineering design and geotechnical test drilling will likely be completed soon after the Project is certificated by OPSB and engineering plans and boring logs will be provided to the staff shortly thereafter.

At a minimum, geotechnical soil borings will provide the following information to be utilized for structure placement and foundation design engineering as needed:

(1) Subsurface Soil Properties
(2) Static Water Level
(3) Rock Quality Description
(4) Percent Recovery
(5) Depth and Description of Bedrock Contact

AEP Ohio Transco anticipates that foundations will only be required at some angle structures that will be ultimately determined during the engineering design. When required, foundations will be engineered based on the results of geotechnical soil boring and laboratory test results to ensure they are sited in locations considered suitable based on soil and rock properties and surface slope.

(E) ENVIRONMENTAL AND AVIATION REGULATION COMPLIANCE

(1) Licenses, Permits, and Authorizations Required for the Facility

AEP Ohio Transco anticipates submitting a Notice of Intent for coverage under the OEPA General National Pollutant Discharge Elimination System (NPDES) Permit. Coverage under USACE's Nationwide Permit 12 for wetland and waterbody impacts associated with Utility Line Activities may be required, but will be determined once the construction plan is finalized and therefore impacts to waters can be determined. It is also anticipated that multiple road crossing permits will be required.

(2) Construction Debris

The site will be kept clean of debris resulting from the work. Debris associated with construction of the proposed transmission line will likely include conductor scrap, construction material packaging including cartons, insulator crates, conductor reels and wrapping, and used stormwater erosion control materials. Clearance poles, conductor reels and other materials with salvage value will be removed from the construction area for reuse or salvage. Construction debris will be disposed of in accordance with state and federal requirements in an OEPA-approved landfill or other appropriately licensed and operated facility. Where vegetation must be cleared, the resulting brush will be removed or windrowed along the edge of the ROW or as requested by individual property owners. Marketable timber will generally be cut into appropriate lengths for sale or disposition by the landowner.

(3) Stormwater and Erosion Control

A SWPPP will be prepared, BMPs implemented to minimize soil erosion and sedimentation and other pollutant discharges, and these will be made available onsite during Project construction. The SWPPP will include the following General Conditions, at a minimum:

Erosion and Sediment Controls

Implementation of erosion and sediment control practices will be based on the methods and standards described in the ODNR Rainwater and Land Development Manual (ODNR, 2014); and the OEPA NPDES Permit Program for the discharge of stormwater from construction sites.

Wetlands, streams, and other environmentally sensitive areas will be clearly marked before the start of clearing or construction. No construction or access will be permitted in these areas unless clearly specified in the SWPPP.

No permanent impacts to streams or headwaters are anticipated. No poles are anticipated to be located in streams and no permanent stream crossings are anticipated. Streams, including beds and banks, if disturbed during construction, will be re-stabilized immediately after in-channel work is completed.

Grubbing activities are not anticipated. Sediment basins, traps, and perimeter sediment controls will be implemented within 7 days of grubbing activities. Sediment controls will continue to function until disturbed areas are permanently stabilized.

Silt Fence: Silt fencing or other appropriate BMPs for erosion control will be installed as needed before ground-disturbing work begins. Silt fence will be installed according to the methods recommended in the Rainwater and Land Development Manual (ODNR, 2014) before upslope land disturbance begins. In general, silt fence will be used where there is the possibility that sheet flow will carry sediment-laden water into downstream creeks or wetlands. Other methods will be used where flow in ditches, channels or gullies is anticipated. The following installation guidelines will be followed:

- Silt fence will be constructed before upslope land disturbance begins.
- All silt fences will be placed as close to the contour as possible so that water will not concentrate at low points in the fence and so that small swales or depressions that may carry small concentrated flows to the silt fence are dissipated along its length.
- Ends of the silt fences will be brought upslope slightly so that water ponded by the silt fence will be prevented from flowing around the ends.
- Silt fences will be placed on the flattest area available.
- Where possible, vegetation will be preserved for 5 feet (or as much as possible) upslope from the silt fence. If vegetation is removed, it will be reestablished within 7 days from the installation of the silt fence.

- The height of the silt fence will be a minimum of 16 inches above the original ground surface.
- The silt fence will be placed in an excavated or sliced trench cut a minimum of 6 inches deep. The trench will be made with a trencher, cable laying machine, slicing machine, or other suitable device that will ensure an adequately uniform trench depth.
- The silt fence will be placed with the stakes on the downslope side of the geotextile. A minimum of 8 inches of geotextile will be below the ground surface. Excess material will lay on the bottom of the 6-inch deep trench. The trench will be backfilled and compacted on both sides of the fabric.
- Seams between sections of silt fence will be spliced together only at a support post with a minimum 6-inch overlap prior to driving into the ground.

Soil Stabilization: Disturbed areas that remain unworked for more than 21 days will be stabilized with seed and mulch no later than 14 days after the last construction in that area.

Maintenance and Inspection: Erosion and sediment control practices will be inspected at least once every 7 days and within 24 hours after any storm event greater than 0.5 inch of rain per 24-hour period.

AEP Ohio Transco will maintain erosion control measures in good working order. If a repair is necessary, it will be initiated within 24 hours of report. Silt fencing will be inspected for depth of sediment, for tears, for assurance fabric is securely attached to the fence posts, and to ensure that the fence posts are firmly in the ground. Seeded areas will be inspected for evidence of bare spots or washouts. Permanent records of the maintenance and inspection must be maintained throughout the construction period. Records will include, at a minimum, the name of the inspector, major observations, date of inspection, certification of compliance, and corrective measures taken.

(4) Disposition of Contaminated Soil and Hazardous Materials

All materials stored onsite will be kept in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure. Products will be kept in their original containers with the original manufacturer's label. Manufacturer's recommendations for proper use and disposal will be followed. Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS) will be retained and available onsite at all times.

The following General Conditions will also be included in the SWPPP to address disposition of contaminated soil and hazardous materials generated or encountered during construction:

Spill Prevention

The following spill prevention methods and procedures are proposed:

- All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers, which are clearly labeled.
- Secondary containment will be provided for all onsite fuel storage tanks required during construction.
- All sanitary waste will be collected in portable units and emptied regularly by a licensed sanitary waste management contractor, as required by local regulations.
- All spills will be cleaned up immediately after discovery. Manufacturer's recommended methods for spill cleanup will be followed. Materials and equipment necessary for spill cleanup will be kept in a designated storage area onsite.
- Spills will be reported to the appropriate government agency as required.
- Suspected hazardous materials encountered during construction will be reported to the regional environmental coordinator by the transmission construction representative. In addition, the Project manager will be notified.

The Project requires a Spill Prevention Plan to be created and available for review onsite. This Spill Prevention Plan will cover proper handling techniques for all electrical equipment, materials and construction equipment that require a MSDS. AEP Ohio Transco also requires its employees and contractors to follow all federal and state-mandated material-handling requirements.

AEP Transmission follows an internal Spill Prevention Notification Plan that is closely aligned to AEP Ohio Transco's Spill Response and Cleanup – Field Guide. This Spill Response and Cleanup – Field Guide covers the following procedures:

- Oil/Polychlorinated Biphenyl (PCB) Spill Response and Cleanup Procedure
- When to Report an Oil/Polychlorinated Biphenyl (PCB) Spill to the Region Environmental Coordinator
- Hazardous Substance Spill Response Procedure
- Region Environmental Coordinator Contact List

This field guide outlines spill response and cleanup procedures as well as the reporting that is required. The Spill Response and Cleanup – Field Guide will be available upon request.

(5) Maximum Height of Above Ground Structures

The height of the tallest anticipated aboveground structure and construction equipment is designed to be approximately 125 feet. The nearest airport, Mid-Ohio Valley Regional Airport, is located in Wood County, West Virginia, approximately 6.5 miles south of the proposed Devola substation. The Marietta Memorial Hospital and Selby General Hospital heliports are located 1.5 miles and 0.6 miles south of the proposed Devola substation.

The Federal Aviation Administration (FAA) Form 7460-1, "Notice of Proposed Construction or Alteration," is used for FAA notification. This can be filed electronically or by standard U.S. mail. A 7.5-minute quadrangle topographic map showing the proposed construction must be attached to the completed Form 7460-1. The Form 7460-1 must be submitted 45 days prior to the proposed start of construction.

Additionally, a permit from the ODOT, Office of Aviation, must be obtained prior to the start of any construction on or near airports in Ohio that are open to the public. A duplicate of the federal filing fulfills the state permit application requirements as set forth in OAC 5501:1-10-06.

(a) Filing Criteria

The FAA Form 7460-1 must be filed for any construction or alteration of more than 200 feet in height. Additionally, any construction or alteration extending outward and upward in excess of specific slope angles in reference to aircraft take-off or landings on airport runways may require filing with the FAA. Upon completion of the final design, AEP Ohio Transco will review the need for any permitting with the FAA and will follow recommendations made by the FAA.

(6) Dusty or Muddy Conditions Plan

Dust Control

The site and surrounding areas will be kept free from dust nuisance resulting from site activities. During excessively dry periods of active construction, dust suppression will be implemented where necessary through irrigation, mulching, or application of tackifier resins.

Excessive Muddy Soil Conditions

Construction entrances will be established and maintained to a condition that will prevent tracking or flowing of sediment onto public ROW. Accumulated sediment spilled, dropped, washed, or tracked onto public ROWs will be removed as soon as practical.

4906-5-09 REFERENCES

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Summary: Application 3 of 7 Parts electronically filed by Mrs. Erin C Miller on behalf of AEP Ohio Transmission Company