Appendix D Ecological Information

Mt. Vernon Station – Hedding Station 138 kV Transmission Line Rebuild Project, Knox and Morrow Counties, Ohio

Ecological Resources Inventory Report

Prepared for:
American Electric Power
700 Morrison Road
Gahanna, Ohio 43230

Prepared by:

Stantec Consulting Services Inc.
11687 Lebanon Road
Cincinnati, Ohio 45241

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1.0 Introduction

American Electric Power (AEP) is proposing to rebuild/upgrade 63 structures on the Mt. Vernon – Hedding 138 kilovolt (kV) Transmission Line in Knox and Morrow Counties, Ohio (Figure 1, Appendix A). The Project will include the rebuild/upgrade of these structures within the existing right – of – way (ROW) and construction of associated access roads needed to perform the rebuild/upgrade activities (Figure 1, Appendix A). The existing ROW, including workspaces surrounding each of the 63 structures, and the proposed access roads were surveyed for wetlands, waterbodies, and potential threatened, endangered, and rare species habitat by Stantec Consulting Services Inc. (Stantec) biologists on August 10 through 12, 2016. The approximate locations of features located up to approximately 50 feet outside of the ROW limits were also recorded during the field surveys, where landowner access was permitted. However, no data forms were collected on features that did not extend into the ROW. These features are shown on the Figure 2 maps in Appendix A as "Approximate" wetlands, streams, and upland drainage features.

2.0 Methods

2.1 WETLAND DELINEATION

Prior to completing the field surveys, a desktop review of the Project area was conducted using U.S. Geological Survey (USGS) topographic mapping, National Wetlands Inventory (NWI) maps, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil surveys, and aerial imagery mapping. Stantec completed a wetland delineation study in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (Version 2.0) (USACE 2010). Wetland categories were classified using the Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 (Mack 2001).

2.2 STREAM DELINEATION

Streams that demonstrated a continuously defined channel (bed and bank), ordinary high water mark (OHWM), and the disturbance of terrestrial vegetation were delineated within the Project area, per the protocols outlined in the USACE's Guidance on Ordinary High Water Mark Identification (Regulatory Guidance Letter, No. 05-05) (USACE 2005). Delineated streams were classified as ephemeral, intermittent, or perennial per definitions in the Federal Register/Vol. 67, No. 10 (2002). Functional assessment of streams within the Project area was based on completion of the Ohio Environmental Protection Agency's (OEPA) Headwater Habitat Evaluation Index (HHEI) and/or Qualitative Habitat Evaluation Index (QHEI). The centerline of each waterway was identified and surveyed using a handheld sub-meter accuracy GPS unit and mapped with GIS software. Additionally, the locations of upland drainage features (which

lacked a continuously defined bed and bank/OHWM) identified within the Project area were also recorded with a sub-meter accuracy GPS unit during the field surveys.

2.3 RARE SPECIES

Prior to conducting the field surveys, Stantec contacted the Ohio Department of Natural Resources (ODNR) and the U.S. Fish and Wildlife Service (USFWS) for information regarding rare, threatened, or endangered species and their habitats of concern within the vicinity of the Project area (Appendix B – Agency Correspondence). To assess potential impacts to rare, threatened, or endangered species, Stantec scientists conducted a pedestrian reconnaissance of the proposed Project area, collected information on existing habitats within the Project area, and assessed the potential for these habitats to be used by these species.

3.0 Results

3.1 TERRESTRIAL HABITAT

Stantec completed field surveys within the Project area on August 10 through 12, 2016, for wetlands, waterbodies, and threatened and endangered species or their habitats. Figure 2 (Appendix A) shows the wetlands and waterbodies identified by Stantec within the Project area, as well as the locations of upland drainage features identified within the Project area. Figure 3 (Appendix A) shows the habitats and locations of any identified rare, threatened or endangered species habitat observed within the Project area during the rare, threatened, and endangered species habitat assessment surveys. Representative photographs of the wetlands, streams, upland drainage features, and other habitats identified within the Project area are included in Appendix C of this report (photo locations are shown on Figures 2 and 3, Appendix A). Completed wetland determination, ORAM, QHEI, and HHEI data forms are included in Appendix D.

Table 1. Vegetation Communities and Land Cover Found within the Mt. Vernon Station – Hedding Station 138 kV Transmission Line Rebuild Project Area, Knox and Morrow Counties, Ohio

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
Agricultural Row Crop	Extreme Disturbance/ Ruderal Community (dominated by planted non-native row crop species, opportunistic invaders, or native highly tolerant taxa)	No	25.3
Hay Field	Extreme Disturbance/ Ruderal Community (dominated by planted non-native herbaceous species, opportunistic invaders, or native highly tolerant taxa)	No	15.3
Pasture	Extreme Disturbance/ Ruderal Community (dominated by opportunistic invaders or native highly tolerant taxa)	No	13.8
New Field	Extreme Disturbance/ Ruderal Community (dominated by opportunistic invaders or native highly tolerant taxa)	No	0.3
Old Field	Extreme Disturbance/ Ruderal Community (dominated by opportunistic invaders or native highly tolerant taxa)	No	33.2

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
Residential Lawn	Extreme Disturbance/ Ruderal Community (dominated by opportunistic invaders, planted non-native species, and/or native highly tolerant taxa)	No	25.3
Palustrine Emergent Wetland	Moderate Disturbance/ Natural Community (dominated by native herbaceous species and/or opportunistic invaders)	No	0.53
Palustrine Scrub-Shrub Wetland	Moderate Disturbance/ Natural Community (dominated by native herbaceous species, native woody species, and/or opportunistic invaders)	No	0.02
Palustrine Forested Wetland	Moderate Disturbance/ Natural Community (dominated by native, native woody species, native herbaceous species, and/or opportunistic invaders)	No	0.02
Existing Gravel Road	Extreme Disturbance/existing gravel road	No	3.7
		Total	**117.5**

3.2 WETLANDS

Table 2. Summary of Wetland Resources Found within the Mt. Vernon Station – Hedding Station 138 kV Transmission Line Rebuild Project Area, Knox and Morrow Counties, Ohio

Wetland Name	Photo Numbers[1]	Isolated?	Wetland Classification[2]	ORAM Score[6]	ORAM Category[6]	Delineated Area (acres) within Project Area	Wetland Impacts (acres)
Wetland 1	3	No	PEM[3]	23	1	0.008	0.0
Wetland 2	6	No	PEM[3]	35	2	0.100	0.0
Wetland 3	10,11	No	PEM[3]/PFO[4]	35	2	0.073	0.0
Wetland 4	12	No	PEM[3]	28.5	1	0.052	0.0
Wetland 5	15	No	PEM[3]	33	2	0.029	0.0

Wetland Name	Photo Numbers[1]	Isolated?	Wetland Classification[2]	ORAM Score[6]	ORAM Category[6]	Delineated Area (acres) within Project Area	Wetland Impacts (acres)
Wetland 6	20	No	PEM[3]	13	1	0.045	0.0
Wetland 7	25	No	PEM[3]	33.5	2	0.060	0.0
Wetland 8	34	No	PEM[3]	21	1	0.015	0.0
Wetland 9	35	No	PEM[3]	21	1	0.040	0.0
Wetland 10	50	No	PSS[5]	28	1	0.015	0.0
Wetland 11	57	No	PEM[3]	28	1	0.017	0.0
Wetland 12	62	No	PEM[3]	26	1	0.109	0.0
					TOTAL	**0.56**	**0.0**

[1] Appendix C – Representative Photographs

[2] Wetland classification is based on Cowardin et al. (1979).

[3] PEM = Palustrine Emergent Wetland

[4] PFO = Palustrine Forested Wetland

[5] PSS = Palustrine Scrub-Shrub Wetland

[6] ORAM Score and Category are based on the Ohio Rapid Assessment Method for Wetlands v. 5.0 (Mack 2001).

3.3 STREAMS

Table 3. Summary of Stream Resources Found within the Mt. Vernon Station – Hedding Station 138 kV Transmission Line Rebuild Project Area, Knox and Morrow Counties, Ohio

Stream Name	Photo Numbers[1]	Receiving Waters	Stream Flow Regime[2]	Stream Evaluation Method	Stream Evaluation Score	OHWM Width (feet)[3]	Delineated Length (feet) within Project Area	Stream Impacts (feet)
Stream 1	1,2	Dry Run	Intermittent	HHEI	44	4.0	571	0.0
Stream 2	4,5	Dry Run	Intermittent	HHEI	39	2.0	182	0.0
Stream 3	7,8	Dry Run	Ephemeral	HHEI	44	4.0	111	0.0
Stream 4	13,14	Dry Run	Ephemeral	HHEI	22	1.3	108	0.0
Stream 5	16,17	Dry Run	Intermittent	HHEI	21	0.8	65	0.0
Stream 6	18,19	Dry Run	Intermittent	HHEI	14	0.9	47	0.0

Stream Name	Photo Numbers[1]	Receiving Waters	Stream Flow Regime[2]	Stream Evaluation Method	Stream Evaluation Score	OHWM Width (feet)[3]	Delineated Length (feet) within Project Area	Stream Impacts (feet)
Stream 7	21,22	Armstrong Run	Ephemeral	HHEI	41	3.0	402	0.0
Stream 8	23,24	Armstrong Run	Ephemeral	HHEI	14	0.8	42	0.0
Stream 9	26,27	Armstrong Run	Intermittent	HHEI	68	5.0	208	0.0
Stream 10	28,29	Armstrong Run	Ephemeral	HHEI	12	1.5	108	0.0
Stream 11	30,31	Armstrong Run	Ephemeral	HHEI	19	1.0	102	0.0
Stream 12	32,33	Armstrong Run	Intermittent	HHEI	57	5.0	257	0.0
Stream 13	36,37	Armstrong Run	Intermittent	HHEI	56	3.0	165	0.0
Stream 14	38,39	Armstrong Run	Ephemeral	HHEI	19	1.0	103	0.0
Stream 15	40,41	Armstrong Run	Intermittent	HHEI	61	3.0	180	0.0
Stream 16	42,43	Armstrong Run	Intermittent	HHEI	14	0.6	111	0.0
Stream 17	44,45	Armstrong Run	Ephemeral	HHEI	19	1.0	122	0.0
Stream 18	46,47	Armstrong Run	Intermittent	HHEI	40	3.5	3	0.0
Stream 19	48,49	Armstrong Run	Ephemeral	HHEI	13	1.0	36	0.0
Stream 20	51,52	Armstrong Run	Perennial	HHEI	54	3.0	151	0.0
Stream 21 (Armstrong Run)	53,54	Granny Creek	Intermittent	HHEI	50	6.0	260	0.0
Stream 22	55,56	Granny Creek	Ephemeral	HHEI	24	3.0	101	0.0
Stream 23	58,59	Granny Creek	Intermittent	HHEI	32	1.5	226	0.0
Stream 24	60,61	Granny Creek	Intermittent	HHEI	39	3.2	591	0.0
Stream 25	64,65	Granny Creek	Perennial	QHEI	69	16.0	118	0.0
Stream 26 (Granny Creek)	66,67	Kokosing River	Perennial	QHEI	56	7.0	133	0.0
Stream 27	68,69	Mile Run	Intermittent	HHEI	36	3.0	204	0.0
						TOTAL	**4,707**	**0**

[1] Appendix C – Representative Photographs

[2] Stream classification is based on Federal Register/Vol. 67, No. 10 (USACE 2002)

[3] OHWM = Ordinary High Water Mark

3.4 RARE, THREATENED, OR ENDANGERED SPECIES HABITAT

Table 4. Summary of Potential Ohio State-Listed Species within the Mt. Vernon Station – Hedding Station 138 kV Transmission Line Rebuild Project Area, Knox and Morrow Counties, Ohio

Common Name	Scientific Name	State[1] Listing	Known to Occur in Morrow County?[2]	Known to Occur in Knox County?[2]	Known Within One Mile of Project Area?[3]	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
Bird									
Loggerhead Shrike	*Lanius ludovicianus*	E	Yes	No	No	Breeding habitats for the loggerhead shrike are open country with scattered trees and shrubs, savanna, desert scrub and, occasionally, open woodland (NatureServe 2016)	Yes	Some potential habitat (old field; pasture; hay field) was observed within the Project area. However, this species is not known to occur within one mile of the Project area. Therefore, no impacts are anticipated.	ODNR Office of Real Estate comments are pending.
Amphibian									
Eastern hellbender	*Cryptobranchus alleganiensis alleganiensis*	E	No	Yes	No	Found mostly in unglaciated (south and east) Ohio, hellbenders prefer large, swift flowing streams where they hide during the day under large rocks. It typically feeds on crayfish, snails, minnows, insects, and worms (ODNR Division of Wildlife 2016b).	No	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	ODNR Office of Real Estate comments are pending.
Fish									
Spotted darter	*Etheostoma maculatum*	E	No	Yes	No	Habitat for the spotted darter includes large rubble and boulder areas, adjacent to or in swift deep riffles, in small to medium, clear rivers (NatureServe 2016).	No	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	ODNR Office of Real Estate comments are pending.
Mountain brook lamprey	*Icthyomyzon greeley*	E	No	Yes	No	Habitat for the mountain brook lamprey includes clean, clear, gentle or high-gradient creeks with (1-23 meters wide, 30-60 centimeters deep) with substrates generally of sand, pebbles, and small stones (NatureServe 2016).	No	No suitable habitat was observed within the Project area and no in-water	ODNR Office of Real Estate comments are pending.

Common Name	Scientific Name	State[1] Listing	Known to Occur in Morrow County?[2]	Known to Occur in Knox County?[2]	Known Within One Mile of Project Area?[3]	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
								work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	
Tippecanoe darter	*Etheostoma tippecanoe*	T	No	Yes	No	Tippecanoe darter habitat includes shallow gravel riffles of small to medium-sized rivers with moderate gradient and warm, usually clear water (NatureServe 2016).	No	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	ODNR Office of Real Estate comments are pending.
Mussels									
Black sandshell	*Ligumia recta*	T	No	Yes	No	The black sandshell is typically found in medium-sized to large rivers in locations with strong current and substrates of coarse sand and gravel with cobbles in water depths from several inches to six feet or more (NatureServe 2016).	No	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	ODNR Office of Real Estate comments are pending.
Snuffbox	*Epioblasma triquetra*	E	Yes	No	No	Occurs in medium-sized streams to large rivers generally on mud, rocky, gravel, or sand substrates in flowing water. Often deeply buried in substrate and overlooked by collectors (NatureServe 2016).	No	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	ODNR Office of Real Estate comments are pending.
Rayed Bean	*Villosa fabalis*	E	Yes	No	No	The rayed bean is generally known from smaller headwater creeks, but records exist in larger rivers. They usually are found in or near shoal or riffle areas, and the shallow wave-washed area of glacial lakes (NatureServe 2016).	No	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	ODNR Office of Real Estate comments are pending.
Northern riffleshell	*Epioblasma torulosa rangiana*	E	No	Yes	No	The northern riffleshell is found in riffles on a bottom of firmly packed and rather fine gravel, in swiftly flowing, shallow water or coarse	No	No suitable habitat was	ODNR Office of Real Estate comments are pending.

Common Name	Scientific Name	State[1] Listing	Known to Occur in Morrow County?[2]	Known to Occur in Knox County?[2]	Known Within One Mile of Project Area?[3]	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
						gravel. It prefers highly oxygenated riffles (NatureServe 2016).		observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	
Long-solid	*Fusconaia maculata maculata*	E	No	Yes	No	This species is found in medium to large rivers in gravel with a strong current (NatureServe 2016).	No	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	ODNR Office of Real Estate comments are pending.
Clubshell	*Pleurobema clava*	E	No	Yes	No	This species is generally found in clean, coarse sand and gravel in runs, often just downstream of a riffle, and cannot tolerate mud or slackwater conditions (NatureServe 2016).	No	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	ODNR Office of Real Estate comments are pending.
Rabbitsfoot	*Quadrula cylindrica cylindrica*	E	No	Yes	No	Typical habitat for this species is small to medium rivers with moderate to swift currents, and In smaller streams it inhabits bars or gravel and cobble close to the fast current. Rabbitsfoot are also Found in medium to large rivers in sand and gravel (NatureServe 2016).	No	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	ODNR Office of Real Estate comments are pending.
Mammal									
Indiana bat	*Myotis sodalis*	E	Yes	Yes	No	The Indiana bat is likely distributed over the entire State of Ohio, though not uniformly. This species generally forages in openings and edge habitats within upland and floodplain forest, but they also forage over old fields and pastures (Brack et al. 2010). Natural roost structures include trees (live or dead) with exfoliating bark, and exposure to solar radiation. Other important factors for roost trees include relative location to other trees, a permanent water source and foraging areas; Dead trees are preferred as maternity roosts; however, live trees are often used as secondary roosts depending on microclimate conditions (USFWS 2007; USFWS 2015).	No	No potential hibernacula or potential roost trees were observed within the Project area.Therefore, no adverse effects are anticipated.	ODNR Office of Real Estate comments are pending.

Common Name	Scientific Name	State[1] Listing	Known to Occur in Morrow County?[2]	Known to Occur in Knox County?[2]	Known Within One Mile of Project Area?[3]	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
						Roosts have also occasionally been found to consist of cracks and hollows in trees, utility poles, buildings, and bat boxes. Primarily use caves for hibernacula, although are also known to hibernate in abandoned underground mines (Brack et al. 2010).			
Black bear	*Ursus americanus*	E	No	Yes	No	Black bears inhabit forests and nearby openings, including forested wetlands. When inactive they occupy dens under fallen trees, ground-level or above-ground tree cavities or hollow logs, underground cave-like sites, or the ground surface in dense cover (NatureServe 2016).	Yes	Suitable habitat was observed within the Project area, but due to the mobility of this species, impacts to this species are not anticipated.	ODNR Office of Real Estate comments are pending.

[1]E=Endangered; T=Threatened
[2]According to Ohio Department of Natural Resources, State Listed Wildlife Species by County (ODNR 2016a).
[3]According to Ohio Natural Heritage Program (Appendix B)

Table 5. Summary of Potential Federally-Listed Species within the Mt. Vernon Station – Hedding Station 138 kV Transmission Line Rebuild Project Area, Knox and Morrow Counties, Ohio

Common Name	Scientific Name	Federal Listing[1]	Known to Occur in Morrow County?	Known to Occur in Knox County?	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	USFWS Comments/ Recommendations
Indiana Bat	*Myotis sodalis*	E	Yes	Yes	The Indiana bat is likely distributed over the entire State of Ohio, though not uniformly. This species generally forages in openings and edge habitats within upland and floodplain forest, but they also forage over old fields and pastures (Brack et al. 2010). Natural roost structures include trees (live or dead) with exfoliating bark, and exposure to solar radiation. Other important factors for roost trees include relative location to other trees, a permanent water source and foraging areas; Dead trees are preferred as maternity roosts; however, live trees are often used as secondary roosts depending on microclimate conditions (USFWS 2007; USFWS 2015b). Roosts have also occasionally been found to consist of cracks and hollows in trees, utility poles, buildings, and bat boxes. Primarily use caves for hibernacula, although are also known to hibernate in abandoned underground mines (Brack et al. 2010).	No	No potential hibernacula or potential roost trees were observed within the Project area. Therefore, impacts to this species are not anticipated.	If no caves or abandoned mines may be disturbed and tree removal is unavoidable, seasonal tree cutting (clearing of trees ≥3 inches diameter at breast height between October 1 and March 31) is recommended. Following this seasonal tree clearing recommendation should ensure that no adverse effects to the Indiana bat will occur.
Northern Long-eared Bat	*Myotis septentrionalis*	T	Yes	Yes	The northern long-eared bat is found throughout Ohio. This species generally forages in forested habitat and openings in forested habitat and utilizes cracks, cavities, and loose bark within live and dead trees, as well as buildings as roosting habitat (Brack et al. 2010; USFWS 2016a). The species utilizes caves and abandoned mines as winter hibernacula. Various sized caves are used providing they have a constant temperature, high humidity, and little to no air current (Brack et al. 2010).	No	No potential hibernacula or potential roost trees were observed within the Project area. Therefore, impacts to this species are not anticipated.	If no caves or abandoned mines may be disturbed and tree removal is unavoidable, seasonal tree cutting (clearing of trees ≥3 inches diameter at breast height between October 1 and March 31) is recommended. Following this seasonal tree clearing recommendation should ensure that no adverse effects to the northern long-eared bat will occur. Incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule.

[1]E=Endangered;T=Threatened
[2]According to USFWS (2015a).

4.0 Conclusions and Recommendations

Stantec conducted a wetland and waterbodies delineation and a preliminary habitat assessment for threatened and endangered species or their habitats within the Project area from August 10 – 12, 2016. During the field surveys, 10 palustrine emergent wetlands totaling approximately 0.48 acres, one palustrine scrub-shrub wetland totaling approximately 0.015 acres, and one palustrine emergent/palustrine forested wetland totaling approximately 0.07 acres were identified within the Project area. As seen in Table 2, none of the wetlands identified within the Project area were high quality (ORAM Category 3) wetlands. See Table 2 for more information regarding the wetland classifications and ORAM categories for wetlands identified within the Project area. Ten ephemeral streams totaling approximately 1,235 linear feet in length, 14 intermittent streams totaling approximately 3,070 linear feet in length, and 3 perennial streams totaling approximately 402 linear feet in length were delineated within the Project area. Perennial streams identified within the Project area included the USGS-named Granny Creek and Armstrong Run. See Table 3 for more information regarding the streams identified within the Project area.

The information provided by Stantec regarding wetland and stream boundaries is based on an analysis of the wetland and upland conditions present within the Project area at the time of the fieldwork. The delineations were performed by experienced and qualified professionals using regulatory agency-accepted practices and sound professional judgment.

The Project area includes potentially suitable habitat for the following state-listed threatened, endangered, and potentially threatened: loggerhead shrike and black bear. However, no occurrences of these species are known from the Project area or a one-mile radius of it, according to correspondence received from the ODNR Natural Heritage Database (NHD) (Appendix B). The ODNR NHD (Appendix B) response letter indicated that they have no records of state-listed or federally-listed threatened and endangered species or species of concern within the Project area or a one-mile radius of it. The ODNR NHD is also unaware of any geologic features, animal assemblages, scenic rivers, state nature preserves, parks or forests or national wildlife refuges, parks or forests within a one mile radius of the Project area.

A technical assistance request letter was submitted to the USFWS. The USFWS response letter (Appendix B) indicated that, due to the project type, size, location, if caves and mines (potential bat hibernacula) will not be disturbed and seasonal tree cutting (clearing of trees ≥3 inches diameter at breast height between October 1 and March 31) to avoid impacts to Indiana bats and northern long-eared bats is implemented, they do not anticipate adverse effects to any federally endangered, threatened, proposed or candidate species. Additionally, the USFWS indicated that there are no federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the Project area (Appendix B).

No potential Indiana bat/northern long-eared bat roost trees or hibernacula were identified within the Project area during the field surveys. Therefore, the Project may affect, but is not likely to adversely affect, the Indiana bat and northern long-eared bat.

The USFWS and ODNR recommended that impacts to wetlands and other water resources be avoided or minimized to the fullest extent possible, and that best management practices be utilized to minimize erosion and sedimentation.

A technical assistance/environmental review request letter has been sent to ODNR Office of Real Estate. However, a response has not been received as of the date of this report.

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Appendix A Figures

A.1 FIGURE 1 – PROJECT LOCATION MAP

Figure No.
1

Title
Project Location Map

Client/Project
American Electric Power
Mt. Vernon Station - Hedding Station
138 kV Transmission Line Rebuild Project

Project Location
Knox and Morrow Counties, Ohio

193704281
Prepared by HDB on 2016-08-26
Technical Review by MP on 2016-08-30
Independent Review by NN on 2016-09-02

0 1,000 2,000 Feet

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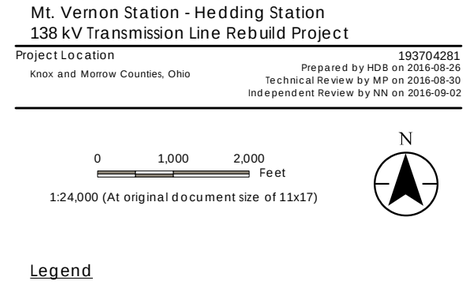
N

Legend
- Existing Substation
- 138 kV Transmission Line
- Project Area



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources Include: Stantec, AEP, NADS
3. Background: USGS 7.5' Topographic Quadrangles

Stantec

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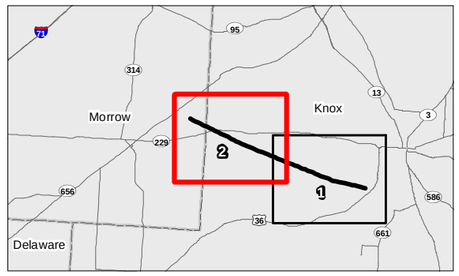

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Stantec

A.2 FIGURE 2 – WETLAND AND WATERBODY DELINEATION MAP

Figure No.
2

Title
Wetland and Waterbody Delineation Map

Client/Project
American Electric Power
Mt. Vernon Station - Hedding Station
138 kV Transmission Line Rebuild Project

Project Location
Morrow County, Ohio

193704281
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Technical Review by MP on 2016-08-30
Independent Review by NN on 2016-09-02

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N

Legend

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- Structure to be Replaced
- 138 kV Transmission Line
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- Wetland Determination Sample Point
- Existing Culvert
- Photo Location
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- Upland Drainage Feature
- Approximate Upland Drainage Feature
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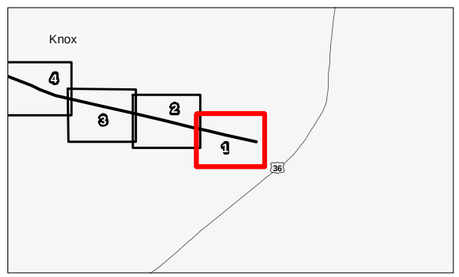

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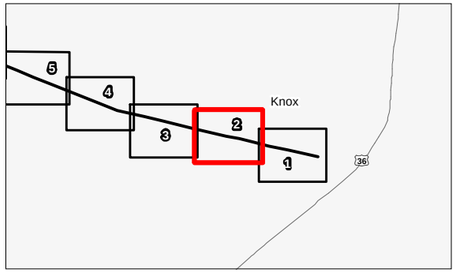

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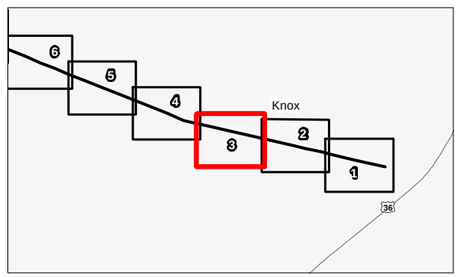

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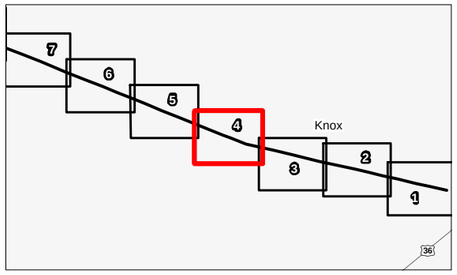

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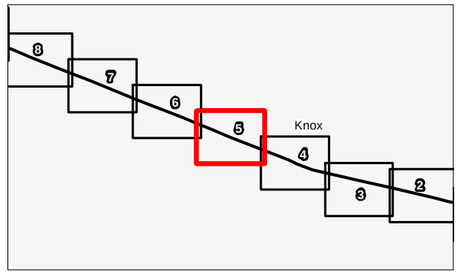

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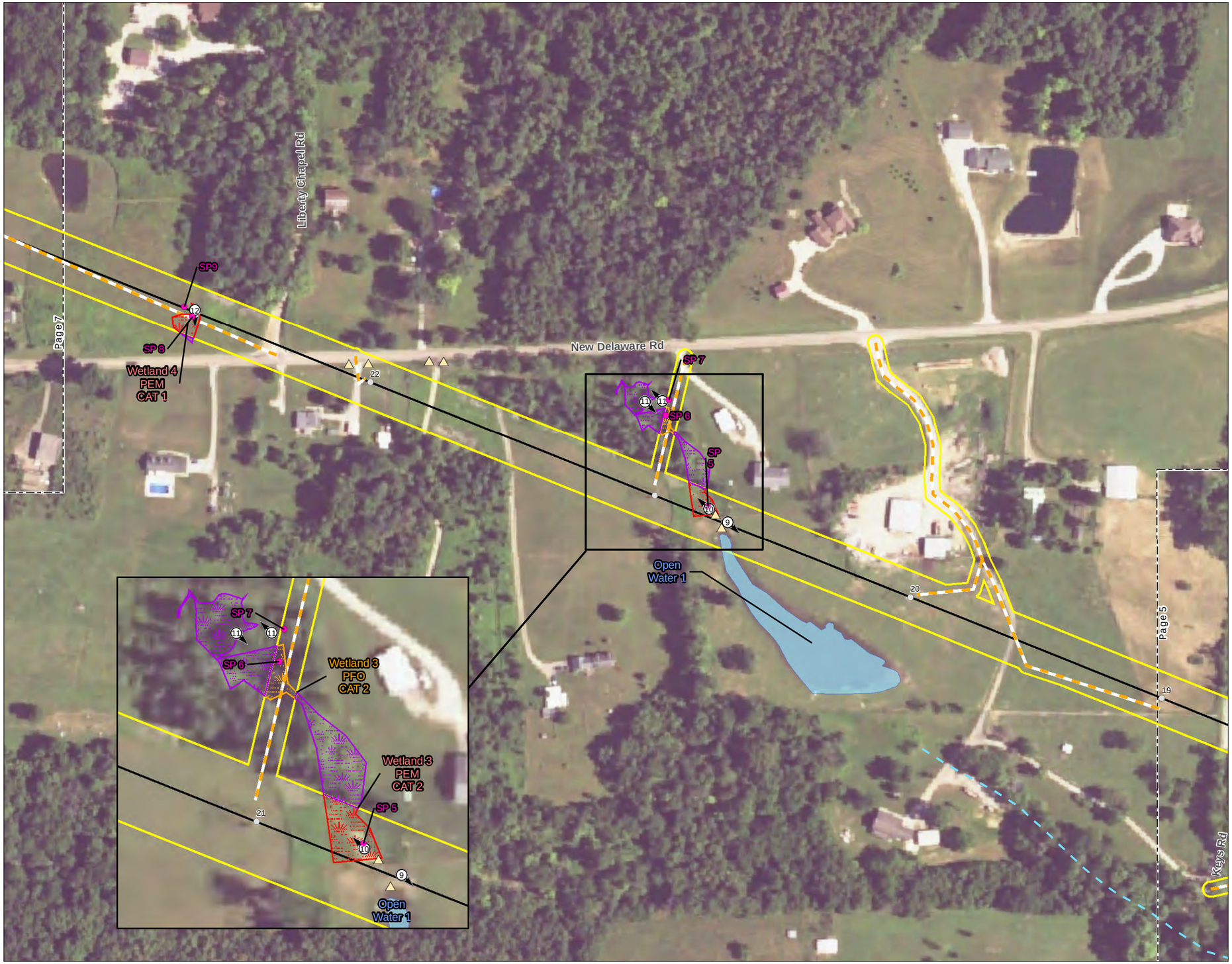

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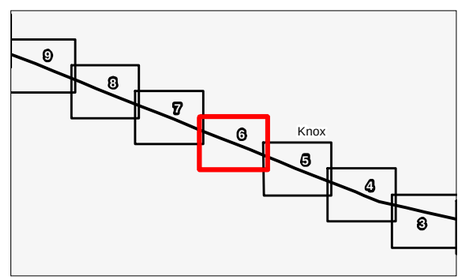

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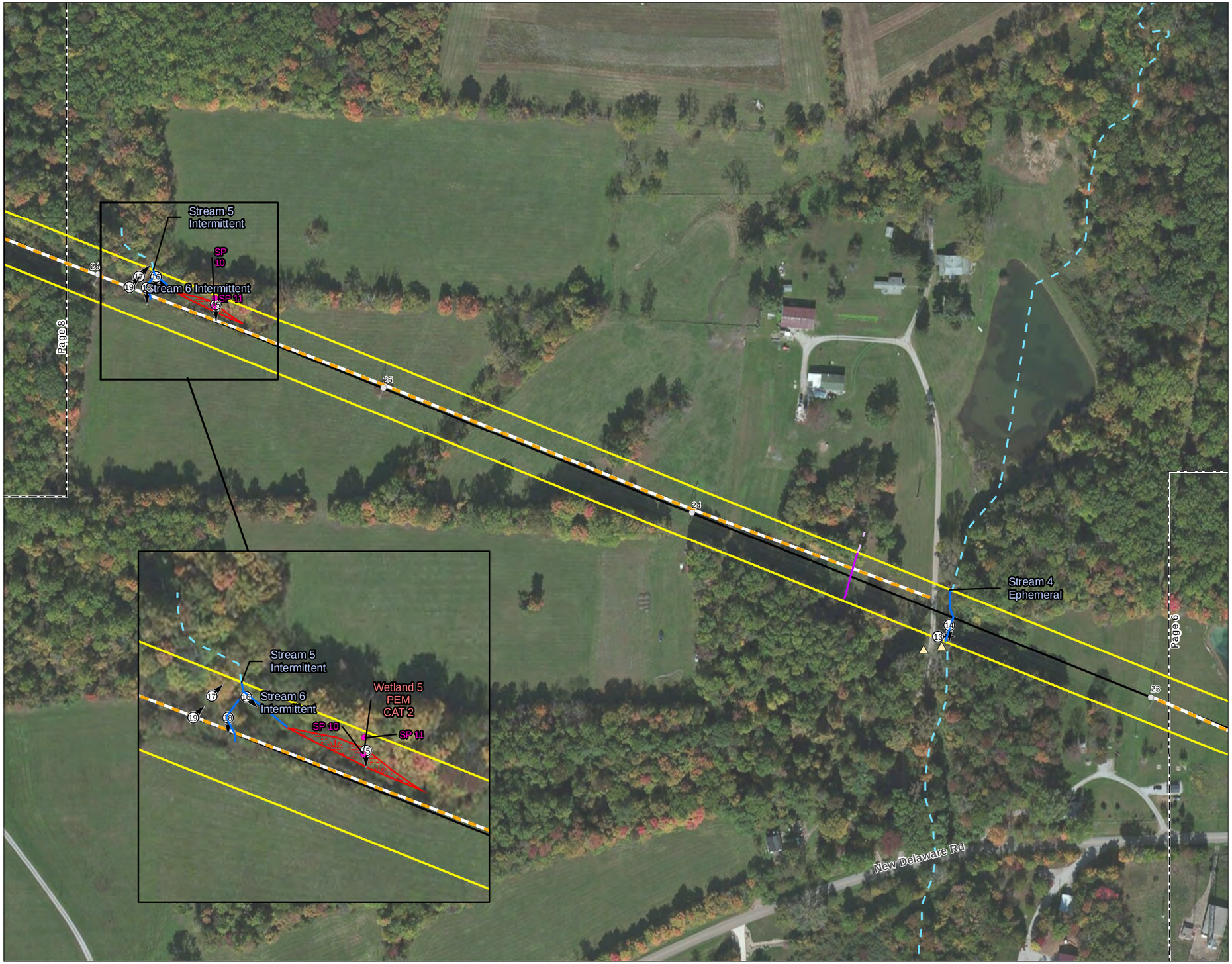

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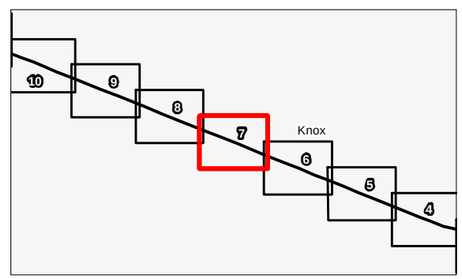

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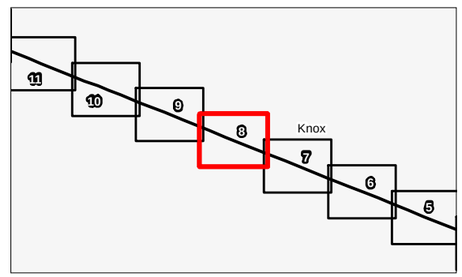

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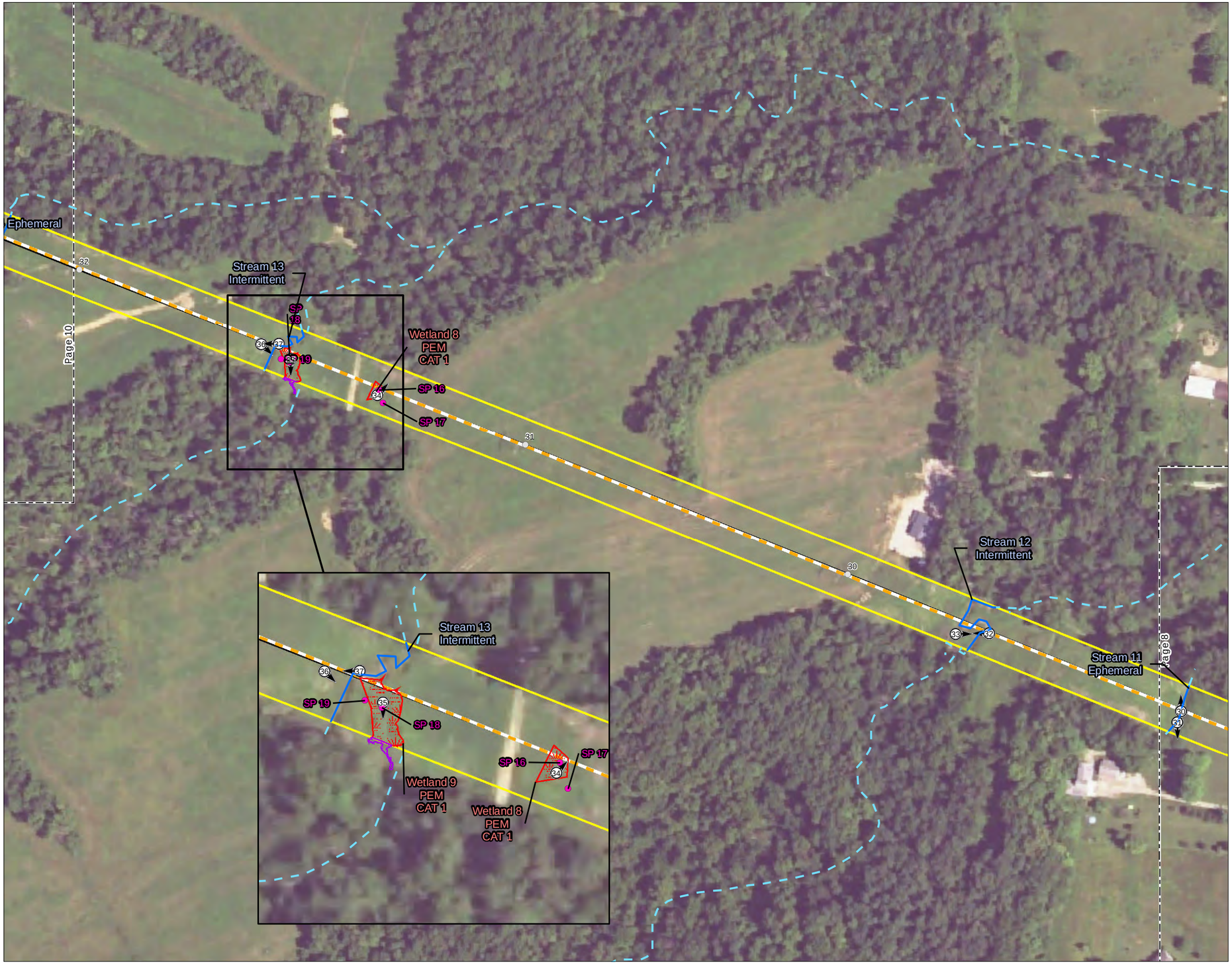

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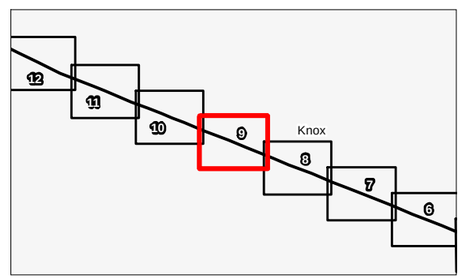

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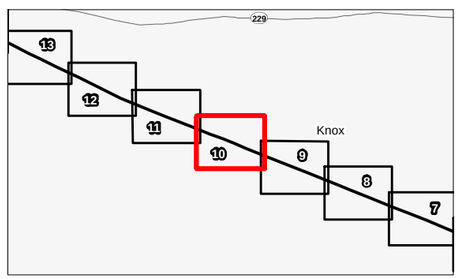

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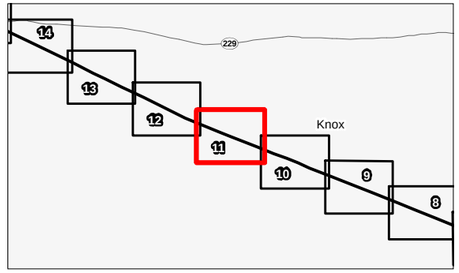

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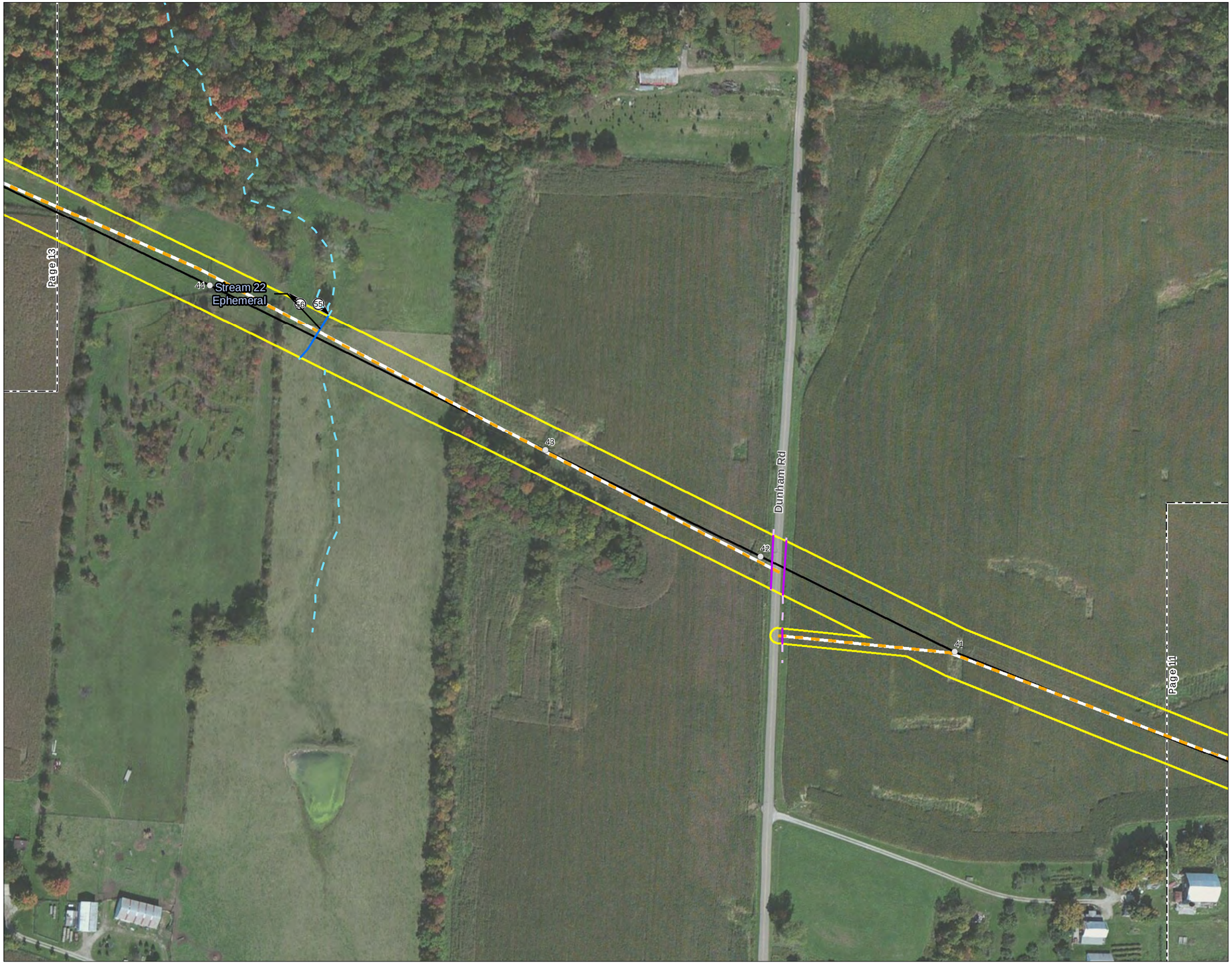

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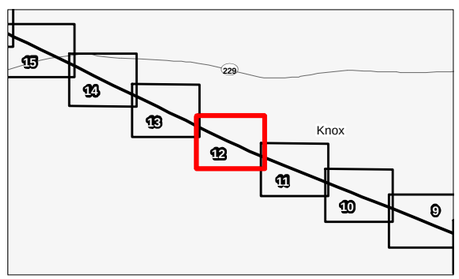

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Summary: Letter of Notification - Part 10 electronically filed by Mr. Hector Garcia on behalf of AEP Ohio Transmission Company