

**AMERICAN TRANSMISSION SYSTEMS, INCORPORATED  
A FIRSTENERGY COMPANY**

**AMENDMENT TO THE  
WOOD COUNTY REINFORCEMENT PROJECT**

**OPSB CASE NO.: 23-0844-EL-BTA**

**September 26, 2023**

**American Transmission Systems, Incorporated  
76 South Main Street  
Akron, Ohio 44308**

BEFORE THE OHIO POWER SITING BOARD

Application for Amendment to the Wood County 138 kV  
Reinforcement Project Certificate

Table of Contents for Amended Sections of Original Application 18-1335-EL-BTX

**Project Route Shift Summary.....1-1**

**4906-5-02 Project Summary and Applicant Information.....2-1**

(A) Project Summary..... 2-1

(1) General Purpose of the Facility ..... 2-1

(2) General Location, Size, and Operating Characteristics ..... 2-1

(3) Suitability of Preferred and Alternate Routes ..... 2-2

(4) Schedule **(REVISED)**..... 2-3

(B) Applicant Description..... 2-3

(1) Company History ..... 2-3

(2) Current Operations and Affiliate Relationships ..... 2-4

**4906-5-03 Review of Need and Schedule.....3-1**

(A) Need for Proposed Facility ..... 3-1

(1) Purpose of the Proposed Facility ..... 3-2

(2) System Conditions, Local Requirements, and Other Pertinent Factors ..... 3-3

(3) Load Flow Studies and Contingency Analyses..... 3-3

(4) System Performance Transcription Diagrams..... 3-8

(B) Regional Expansion Plans..... 3-8

(1) Proposed Facility in Long-Term Forecast ..... 3-8

(C) System Economy and Reliability ..... 3-8

(D) Options to Eliminate the Need for the Proposed Project ..... 3-9

(E) Facility Selection Rationale ..... 3-11

(F) Project Schedule **(REVISED)** ..... 3-11

(1) Gantt Schedule Bar Chart **(REVISED)**..... 3-11

(2) Impact of Critical Delays..... 3-11

**4906-5-04 Route Alternatives Analyses .....4-1**

(A) Route Selection Study ..... 4-1

(1) Study Area Description and Rationale..... 4-1

(2) Study Area Map..... 4-2

(3) Map of Study Area, Routes, and Sites Evaluated ..... 4-2

(4) Siting Criteria..... 4-2

(5) Siting Process for Preferred and Alternate Routes ..... 4-2

(6) Route Descriptions and Rationale for Selection..... 4-3

(B) Comparison Table of Routes, Route Segments, and Site ..... 4-4

(C) Public Involvement..... 4-4

(1) Official Public Information Open House..... 4-5

**4906-5-05 Project Description.....5-1**

- (A) Project Area Description **(REVISED)**..... 5-1
  - (1) Project Area Map **(REVISED)** ..... 5-1
  - (2) Proposed Right-of-Way, Transmission Length, and Properties Crossed **(REVISED)** ..... 5-1
- (B) Route or Site Alternative Facility Layout and Installation..... 5-2
  - (1) Site Clearing, Construction, and Reclamation..... 5-2
  - (2) Facility Layout..... 5-4
- (C) Description of Proposed Transmission Lines ..... 5-5
  - (1) Electric Power Transmission Lines **(REVISED)** ..... 5-5
  - (2) Diagram of Electric Power Transmission Substations ..... 5-6

**4906-5-06 Economic Impact and Public Interaction.....6-1**

- (A) Ownership of Proposed Facility ..... 6-1
- (B) Capital and Intangible Costs Estimate for Electric Power Transmission Facility Alternatives..... 6-1
- (C) Capital and Intangible Costs Estimate for Transmission Facility Alternatives..... 6-2
- (D) Public Interaction and Economic Impact ..... 6-2
  - (1) Counties, Townships, Villages, and Cities within 1,000 feet ..... 6-2
  - (2) Public Officials Contacted ..... 6-2
  - (3) Planned Public Interaction ..... 6-2
  - (4) Liability Insurance or Compensation..... 6-3
  - (5) Tax Revenues..... 6-3

**4906-5-07 Health and Safety, Land Use, and Regional Development .....7-1**

- (A) Health and Safety ..... 7-1
  - (1) Compliance with Safety Regulations..... 7-1
  - (2) Electric and Magnetic Fields..... 7-1
  - (3) Estimate of Radio, Television, and Communications Interference ..... 7-5
  - (4) Noise from Construction, Operations, and Maintenance ..... 7-6
- (B) Land Use..... 7-6
  - (1) Map of the Site and Route Alternatives..... 7-6
  - (2) Impact on Identified Land Uses **(REVISED)** ..... 7-7
  - (3) Impact on Identified Nearby Structures **(REVISED)** ..... 7-9
- (C) Agricultural Land Impacts ..... 7-9
  - (1) Agricultural Land Map **(REVISED)**.....7-10
  - (2) Impacts to Agricultural Lands and Agricultural Districts .....7-10
- (D) Land Use Plans and Regional Development.....7-12
  - (1) Impacts to Regional Development.....7-12
  - (2) Compatibility of Proposed Facility with Current Regional Land Use Plans..7-12
- (E) Cultural and Archaeological Resources.....7-12
  - (1) Cultural Resources Map ..... 7-12
  - (2) Cultural Resources in Study Corridor ..... 7-13

(3) Construction, Operation, and Maintenance Impacts on Cultural Resources ..... 7-13

(4) Mitigation Procedures..... 7-13

(5) Aesthetic Impact ..... 7-13

**4906-5-08 Ecological Information and Compliance with Permitting Requirements....8-1**

(A) Ecological Map **(REVISED)** ..... 8-1

(B) Field Survey Report for vegetation and surface waters..... 8-1

(1) Vegetative Communities, Wetlands, and Streams in Study Area **(REVISED)** 8-2

(2) Map of Facility, Right-of-Way, and Delineated Resources **(REVISED)** ..... 8-6

(3) Construction Impacts on Vegetation and Surface Waters **(REVISED)**..... 8-7

(4) Operation and Maintenance Impacts on Vegetation and Surface Water... 8-10

(5) Mitigation Procedures..... 8-10

(C) Literature Survey of Plant and Animal Life Potentially Affected..... 8-12

(1) Project Vicinity Species Descriptions ..... 8-12

(2) Construction Impacts on Identified Species..... 8-21

(3) Operation and Maintenance Impacts on Identified Species ..... 8-21

(4) Mitigation Procedures..... 8-21

(D) Site Geology ..... 8-22

(1) Site Geology ..... 8-22

(2) Slopes and Foundation Soil Suitability ..... 8-22

(E) Environmental and Aviation Regulation Compliance ..... 8-22

(1) Licenses, Permits, and Authorizations Required for the Facility ..... 8-22

(2) Construction Debris ..... 8-23

(3) Stormwater and Erosion Control ..... 8-23

(4) Disposition of Contaminated Soil and Hazardous Materials..... 8-25

(5) Maximum Height of Above Ground Structures..... 8-25

(6) Dusty or Muddy Conditions Plan..... 8-26

**REFERENCES .....8-27**

**TABLES**

2-2 PJM 2017 Load Forecast..... 3-4

2-3 2022 Case Evaluation of Power Flows..... 3-5

2-4 2022 Case Evaluation of System Voltages..... 3-5

5-1 Right-of-way Area, Length, and Number of Properties Crossed for the Preferred and Alternate Routes **(REVISED)** ..... 5-1

6-1 Estimates of Applicable Intangible and Capital Costs for Both the Preferred and Alternate Routes **(REVISED)** ..... 6-1

7-1 Transmission Line Loadings ..... 7-2

7-2 EMF Calculations For a Typical Tangent-Tangent Span Configuration Preferred Route (Midway-Brim) ..... 7-2

7-3 EMF Calculations For a Typical Tangent-Tangent Span Configuration Alternate Route (Lemoynes-Brim) ..... 7-3

7-4 EMF Calculations For a Typical Tangent-Deadend Span Configuration Preferred Route (Midway-Brim)..... 7-3

7-5 EMF Calculations For a Typical Tangent-Deadend Span Configuration Alternate Route (Lemoynes-Brim) ..... 7-3

7-6 Length and Percent of Land Uses Crossed by Route Alternatives **(REVISED)** ..... 7-7

7-7 Acreage and Percent of Land Uses within ROW of Route Alternatives **(REVISED)** ..... 7-8

7-8 Number of Land Use Features Near the Route Alternatives **(REVISED)** ..... 7-8

8-1 NWI Wetlands Within 1,000 feet of the Preferred and Alternate Routes ..... 8-3

8-2 Streams within the Preferred and Alternate Route Environmental Field Survey Area and ROW **(REVISED)**..... 8-5

8-3 Delineated Ponds within the Preferred Route and Alternate Route Environmental Field Survey Area ..... 8-6

8-4 Approximate Vegetation Impacts Along the ROW **(REVISED)**..... 8-7

8-5 Federally-Listed Species within 1,000 feet of the Project Area..... 8-14

8-6 State-Listed Species within 1,000 feet of the Project Area ..... 8-15

**FIGURES**

3-1 Project Schedule **(REVISED)**

3-2 Aerial Constraint Map

3-3 Topographic Constraint Map

5-1A to 5-1J Transmission Structure Diagrams **(REVISED)**

7-1 Land Use Map **(REVISED)**

7-2 Agricultural Land Use Map **(REVISED)**

8-1 Overview Map **(REVISED)**

8-2A to E Preferred Route Wetland and Waterbodies Delineation Map **(REVISED)**

8-3A to E Alternate Route Wetland and Waterbodies Delineation Map

**APPENDICES**

4-1 Route Selection Study

6-1 List of Public Official Points of Contact

6-2 Public Open Houses Informational Materials

7-1 Typical Cross-Section Profiles of Calculated Electric Fields and Magnetic Fields

8-1 Wetland Delineation Report **(REVISED)**

**Acronyms and Abbreviations**

ATSI	American Transmission Systems, Inc.
BES	ATSI’s Bulk Electric System
BMP	Best management practice
CEII	Critical Energy Infrastructure Information
CETL	Capacity Emergency Transfer Limit
cm	centimeter
DOE	Determination of Eligibility
DR	Demand Response
DSM	Demand-Side Management
EE	Energy efficiency
ELF	extremely low frequency
EMF	electromagnetic field
EPRI	Electric Power Research Institute
FAA	Federal Aviation Administration
FERC	Federal Energy Regulatory Commission
GIS	geographic information system
HHEI	Headwater Habitat Evaluation Index
ID	identification
kV	kilovolt
MSDS	Material Safety Data Sheet
NA	not applicable
NERC	North American Electric Reliability Corporation
NESC	National Electric Safety Code
NHL	National Historic Landmarks
NIEHS	National Institute of Environmental Health Sciences
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
OAC	Ohio Administrative Code
OAI	Ohio Archaeological Inventory
ODNR	Ohio Department of Natural Resources
ODNR-DOW	Ohio Department of Natural Resources - Division of Wildlife
ODOT	Ohio Department of Transportation
OEPA	Ohio Environmental Protection Agency
OHI	Ohio Historic Inventory
OHPO	Ohio Historic Preservation Office

OPSB	Ohio Power Siting Board
ORAM	Ohio Rapid Assessment Method
OSHA	Occupational Safety and Health Administration
PADUS	Protected Areas Database of the United States
PEM	palustrine emergent
PHWH	Primary Headwater Habitat
PRD	Price-Response Demand
PUCO	Public Utilities Commission of Ohio
Project	Wood County 138-kV Reinforcement Project
QHEI	Qualitative Habitat Evaluation Index
RAPID	Research and Public Information Dissemination
RFI	Radio frequency interference
ROW	right-of-way
RPM	Reliability Pricing Model
RSS	Route Selection Study
RTEP	Regional Transmission Expansion Plan
SDS	Safety Datasheet
SR	State Route
SWPPP	stormwater pollution prevention plan
T&E	Threatened and endangered
TEAC	Transmission Expansion Advisory Committee
TNW	traditionally navigable waterway
TPL	Transmission Planning Limits
TVI	Television interference
UNT	unnamed tributary
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

## WOOD COUNTY REINFORCEMENT PROJECT ROUTE SHIFTS SUMMARY

American Transmission Systems, Incorporated (“ATSI”) (“Applicant”), submitted a Certificate Application to the Ohio Power Siting Board (OPSB) for the Wood County Reinforcement Project (“Project”) on December 19, 2018, in Case Number 18-1335-EL-BTX (the “Application”). The OPSB approved the Application and issued a Certificate of Environmental Compatibility and Public Need (“Certificate”) for the Project on January 16, 2020.

Since then, ATSI has continued negotiations with landowners which resulted in the need to adjust the OPSB approved Preferred Route in two areas. These adjustments were made at the request of the affected landowners and results in a 0.1-mile reduction in the total preferred route length, bringing the total length to 6.0-miles. New field surveys were completed due to the location of the route adjustments outside of the original survey corridor presented in the Application. ATSI has redlined changes to the relevant Application text.

An overview of the proposed route changes is shown in Exhibit 1. Table 1 identifies the structure shifts associated with this Amendment Application.

**Table 1. Amendment Structure Shifts**

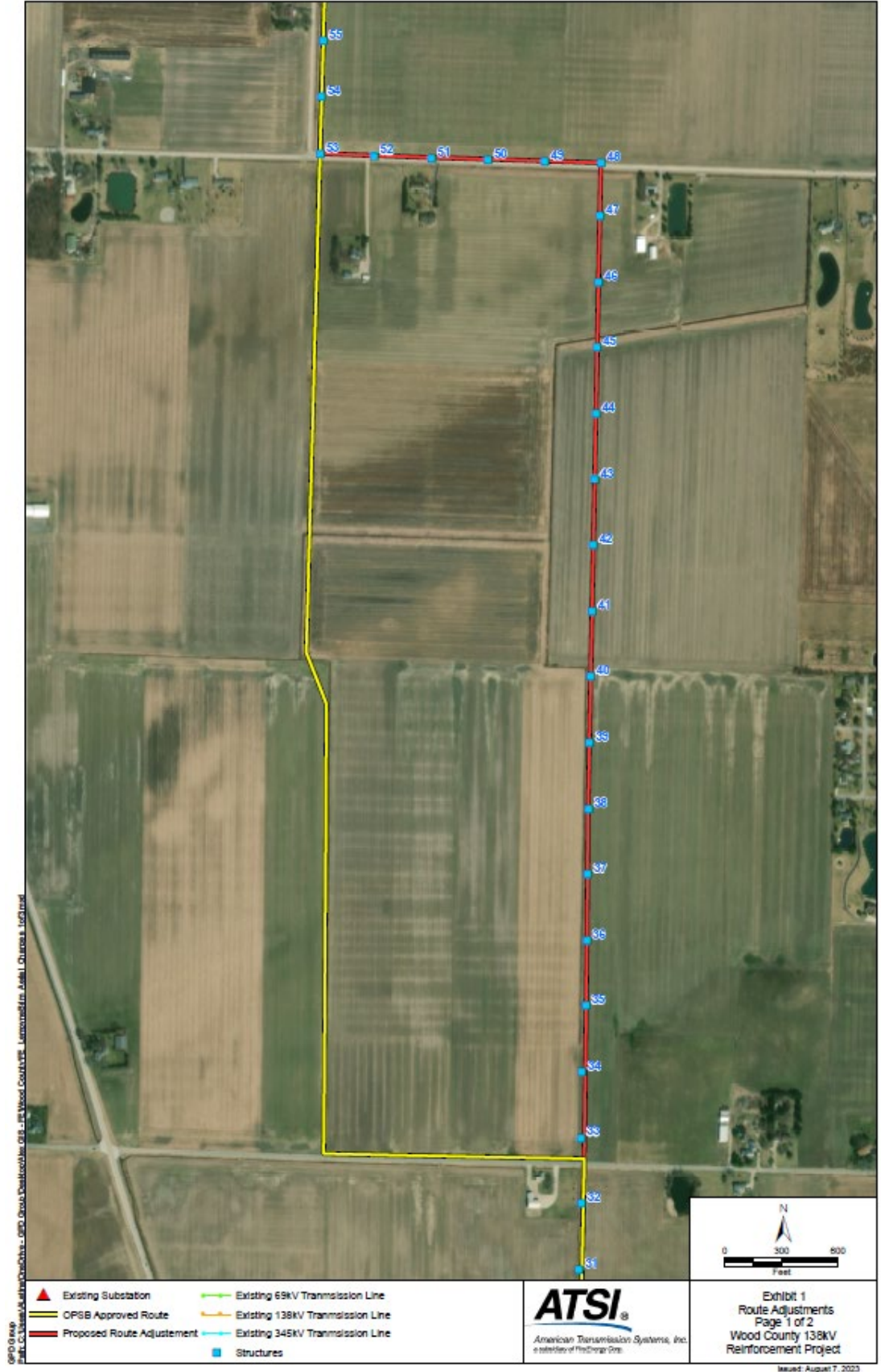
Structure Number	Distance from OPSB-Approved Centerline (feet)
3	149
4	315
5	310
6	1862
7	1864
8	1866
9	1868
10	1870
11	1872
12	1869
13	1561
14	1210
15	861
16	510
17	159



18	114
19	114
20	111
21	54
22	50
23	112
24	113
25	109
33	111
34	1370
35	1376
36	1383
37	1390
38	1395
39	1400
40	1460
41	1512
42	1510
43	1507
44	1504
45	1502
46	1499
47	1496
48	1494
49	1194
50	894
51	594
52	288

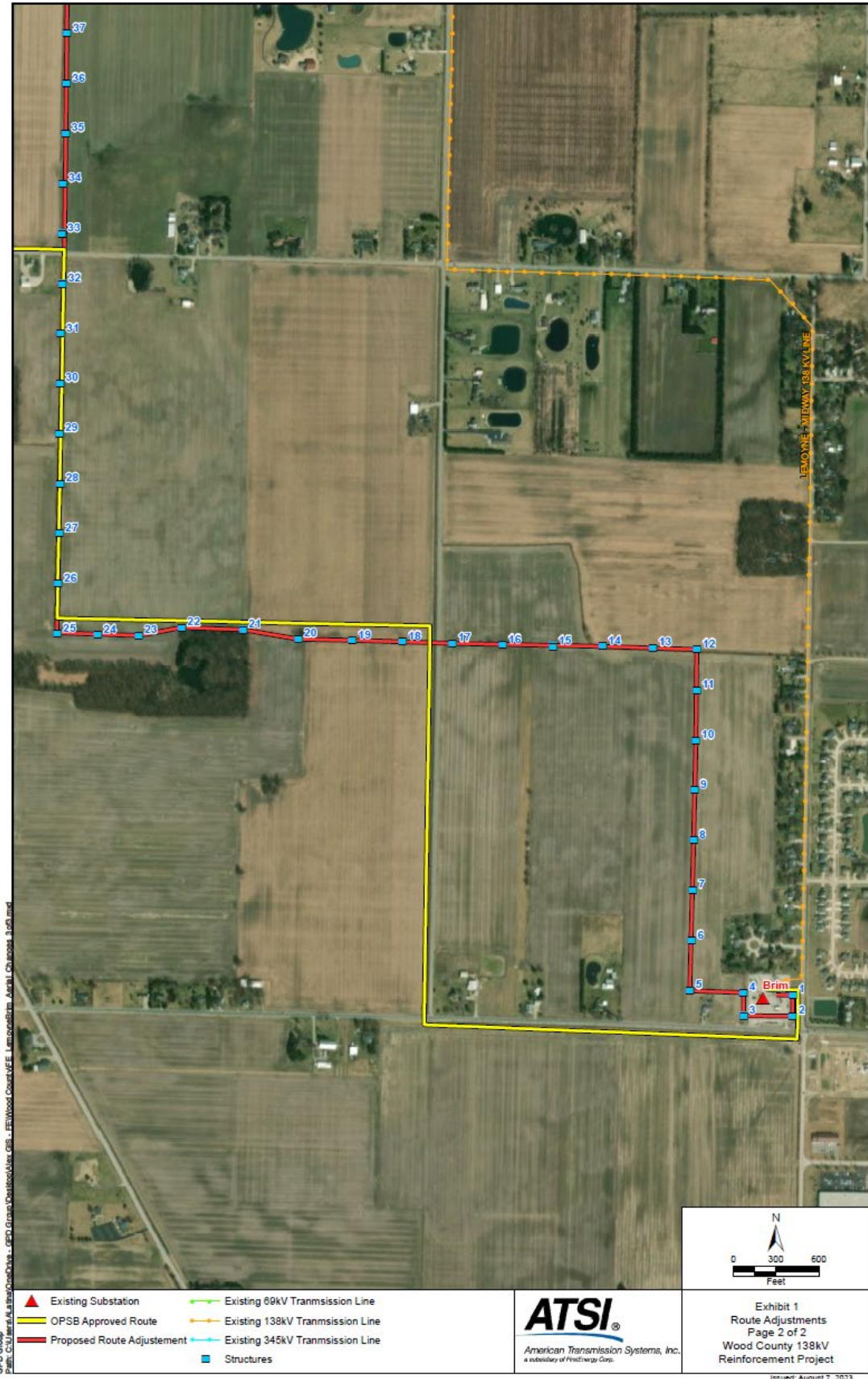
### **Route Change Section 1 of 2**

The first proposed route shift is approximately 1.3 miles long, beginning at Structure 33, just north of Hannah Rd and extending to Structure 53 located on the northeast corner of the intersection of Cross Creek and Asmus roads. As shown on Exhibit 1, Page 1 of 2, the route adjustment extends the route due north from Structure 33 rather than shifting west and paralleling Hannah Rd. The adjustment brings the route north for approximately 1-mile, before turning west and paralleling the north side of Cross Creek Rd for 0.3-miles. The route then rejoins the OPSB-approved route and heads north along Asmus Rd. This proposed change impacts one fewer landowner compared to the OPSB-approved route.



## **Route Change Section 2 of 2**

As shown on Exhibit 1, Page 2 of 2, the second proposed route shift begins at Brim Substation and extends to Structure 25. The new route exits Brim on the east side, then closely hugs the substation perimeter clockwise around the substation, finally exiting toward the west. From Structure 4, the route extends north for approximately 0.46 miles, crossing a drainage ditch, then turning west for approximately 0.85 miles, crossing over Hull Prairie Rd and reconnecting with the OPSB approved route just north of Structure 25. The section west of Hull Prairie Rd is located approximately 100-feet south of the OPSB approved route, staying closer to property lines and the edge of existing cropland. This change impacts one additional landowner, but removes impact from two previously impacted landowners, for a net reduction of one landowner impact.



GPO Group  
 File: C:\Users\jg\OneDrive - GPO Group\Desktop\Map\_GPO\_EE\Wood County\EE\_Lemore\Brim\_Aerial\_Chicago\_345.mxd

- ▲ Existing Substation
- Existing 60kV Transmission Line
- OPSB Approved Route
- Existing 138kV Transmission Line
- Proposed Route Adjustment
- Existing 345kV Transmission Line
- Structures

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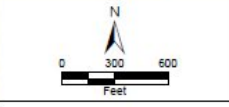


Exhibit 1  
 Route Adjustments  
 Page 2 of 2  
 Wood County 138kV  
 Reinforcement Project  
Issued: August 7, 2023

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

Amendment does not materially affect this section of the Application.

**(1) General Purpose of the Facility**

Amendment does not materially affect this section of the Application.

**(2) General Location, Size, and Operating Characteristics**

Amendment does not materially affect this section of the Application.

**(3) Suitability of Preferred and Alternate Routes**

Amendment does not materially affect this section of the Application.

**(i) Preferred Route**

Amendment does not materially affect this section of the Application.

**(ii) Alternate Route**

Amendment does not materially affect this section of the Application.

**(4) Schedule (Revised)**

With the exception of the segments subject to amendments proposed, herein, construction of the Project ~~is anticipated to begin in February 2020~~ began March 2022 with an anticipated in-service date of ~~June 2020~~ December 2023, subject to amendment approval. The current Project schedule, including all major activities and milestones, is illustrated in a Gantt schedule bar chart provided in 4906-5-03(F)(1).

**(B) APPLICANT DESCRIPTION**

Amendment does not materially affect this section of the Application.

**4906-5-03 REVIEW OF NEED AND SCHEDULE****SECTION SUMMARY**

Amendment does not materially affect this section of the Application.

**(A) NEED FOR PROPOSED FACILITY**

Amendment does not materially affect this section of the Application.

**(1) Purpose of the Proposed Facility**

Amendment does not materially affect this section of the Application.

**(2) System Conditions, Local Requirements, and Other Pertinent Factors**

Amendment does not materially affect this section of the Application.

**(3) Load Flow Studies and Contingency Analyses**

Amendment does not materially affect this section of the Application.

**(4) System Performance Transcription Diagrams**

Amendment does not materially affect this section of the Application.

**(5) Base Case System Data**

Amendment does not materially affect this section of the Application.

**(B) REGIONAL EXPANSION PLANS**

Amendment does not materially affect this section of the Application.

**(1) Proposed Facility in Long-Term Forecast****(a) Reference in Recent Long-Term Forecast**

Amendment does not materially affect this section of the Application.

**(b) Explanation if Not Referenced**

Amendment does not materially affect this section of the Application.

**(c) Reference in Regional Expansion Plans**

Amendment does not materially affect this section of the Application.

**(2) Gas Pipeline Long-Term Forecast Reference**

Amendment does not materially affect this section of the Application.

**(C) SYSTEM ECONOMY AND RELIABILITY**

Amendment does not materially affect this section of the Application.

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

Amendment does not materially affect this section of the Application.

**(E) FACILITY SELECTION RATIONALE**

Amendment does not materially affect this section of the Application.

**(F) PROJECT SCHEDULE (REVISED)****(1) Overview Schedule (Revised)**

It is anticipated that the overall project will require 24 months to permit, site, design, and build the 138 kV transmission lines from the time of approval. With the exception of the segments subject to the amendments proposed herein, construction on the Project is expected to begin on approximately February 2020 ~~approximately February 2020~~ began March 2022 and ~~is expected to be completed and placed in-service by June 2020~~ December 2023. A detailed Project schedule is included as Figure 3-1 (Revision 1).

**(2) Impact of Critical Delays**

Amendment does not materially affect this section of the Application.





**4906-5-04 ROUTE ALTERNATIVES ANALYSES**

**(A) ROUTE SELECTION STUDY**

Amendment does not materially affect this section of the Application.

**(B) COMPARISON TABLE OF ROUTES, ROUTE SEGMENTS, AND SITE**

Amendment does not materially affect this section of the Application.

**(C) PUBLIC INVOLVEMENT**

Amendment does not materially affect this section of the Application.

**4906-5-05 PROJECT DESCRIPTION**

**(A) PROJECT AREA DESCRIPTION (REVISED)**

The revised map provided in 4906-5-07 (Figure 7-1) includes a description of the Project Area’s geography, topography, population centers, major industries, and landmarks.

**(1) Project Area Map (REVISED)**

**Figure 7-1 (Revision 1)** provides a map at 1:24,000-scale, showing the ~~Preferred and Alternate Routes~~ OPSB Approved Route and proposed route adjustments for the Project. This map includes a 1,000-foot corridor on each side of the proposed transmission centerlines (hereafter referred to as the 2,000-foot corridor). This map depicts the proposed transmission line, roads and railroads, major institutions, parks, and recreational areas that are publicly identified and 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 map utilizes the Bowling Green North (2016) U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle as a base map.

The information on the map was updated by reviewing digital, georeferenced aerial photography, property parcel data from the Wood County Auditor’s Office, and field reconnaissance conducted in October 2018 and July 2021. 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 permanent ROW width is 60 feet wide, with 30 feet on either side of the centerline of the proposed routes. **Table 5-1 (Revision 1)** provides the Preferred and Alternate Routes 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 (Revised)

	Route Alternatives	
	Preferred	Alternate
Proposed ROW area (in acres)	<del>44.4</del> 43.6	43.6
Length (in miles)	<del>6.1</del> 6.0	6.0
Number of properties crossed (by ROW)	<del>43</del> 41	25

**(B) ROUTE OR SITE ALTERNATIVE FACILITY LAYOUT AND INSTALLATION**

Amendment does not materially affect this section of the Application.

**(C) DESCRIPTION OF PROPOSED TRANSMISSION LINES****(1) Electric Power Transmission Lines**

Amendment does not materially affect this section of the Application.

**(a) Design Voltage**

Amendment does not materially affect this section of the Application.

**(b) Tower Designs, Pole Structures, Conductor Size and Number per Phase, and Insulator Arrangement (REVISED)**

The proposed new transmission line will be supported on multiple structure types. The general features of these structures are described in the following sections.

1. For tangent configurations on the OPSB Approved Route and proposed route adjustments Preferred and Alternate routes, **Figure 5-1A** conceptually shows a typical single wood pole tangent structure. These typical structures will consist of a single wood pole with three horizontal post insulators to support the transmission conductors on each side of the pole. These tangent structures will have optional distribution underbuild and/or communication facilities.
2. For structures with a light angle configuration on the OPSB Approved Route and proposed route adjustments Preferred and Alternate routes, **Figure 5-1B (REVISED)** conceptually shows a single wood pole structure, with three horizontal post insulators and down guys may be utilized. These structures will have optional distribution underbuild and/or communication facilities. **Figure 5-1C** conceptually shows a single steel structure equivalent that may be used to eliminate the need for guying.
3. **Figure 5-1D** conceptually shows a single wood pole structure, with three suspended insulators and down guys that may be used for structures with a light angle configuration on the Preferred and Alternate routes. These structures will have optional distribution underbuild and/or communication facilities. **Figure 5-1E** conceptually shows a single steel structure with foundation equivalent that may be used to eliminate the need for guying.
4. For deadend structures, **Figure 5-1F (REVISED)** conceptually shows a single wood pole deadend structure with down guys that may be used for structures on the Preferred and Alternate routes. **Figure 5-1G** conceptually shows a single wood pole deadend structure with a stub pole and down guys. **Figure 5-1H (REVISED)** shows a steel pole deadend structure and concrete foundation. These structures will have optional distribution underbuild and/or communication facilities.
5. **Figure 5-1I** conceptually shows the wood pole tap structure that would be utilized for the OPSB Approved Route and proposed route adjustments Preferred and Alternate routes. This structure will have optional distribution underbuild and/or communication facilities.

6. **Figure 5-1J** conceptually shows a double circuit steel pole deadend structure that may be utilized to replace the existing steel lattice tower in the existing Lemoyne-Midway (Brim) 138 kV corridor.
7. **FIGURE 5-1K (NEW)** conceptually shows a single circuit steel pole deadend structure and concrete foundation.
8. **FIGURE 5-1L (NEW)** conceptually shows a single circuit wood pole structure with brace post insulators to be used in tangent configurations.

Although it is not anticipated, the design or ROW conditions may dictate that other types of structures need to be utilized. If these unanticipated conditions arise, they will be addressed on a case-by-case basis.

The conductor used for both the OPSB Approved Route and proposed route adjustments Preferred and Alternate routes will be designed and constructed for 138-kV operation and will be 556.5 26/7 ACRS per phase. This conductor has a maximum strength of approximately 22,600 pounds. Optical Ground Wire (OPGW) will be installed on both the Preferred and Alternate routes. The phase conductors and overhead ground wires will be installed in accordance with the latest version of the National Electrical Safety Code (NESC). The conductors will be supported by aluminum clamps attached to the polymer horizontal post insulators. Aluminum clamps will support the overhead ground wire. At deadends, bolted-type deadend clamps will be used on the conductor and on the ground wire.

**(c) Base and Foundation Design**

Amendment does not materially affect this section of the Application.

**(d) Cable Type and Size, where Underground**

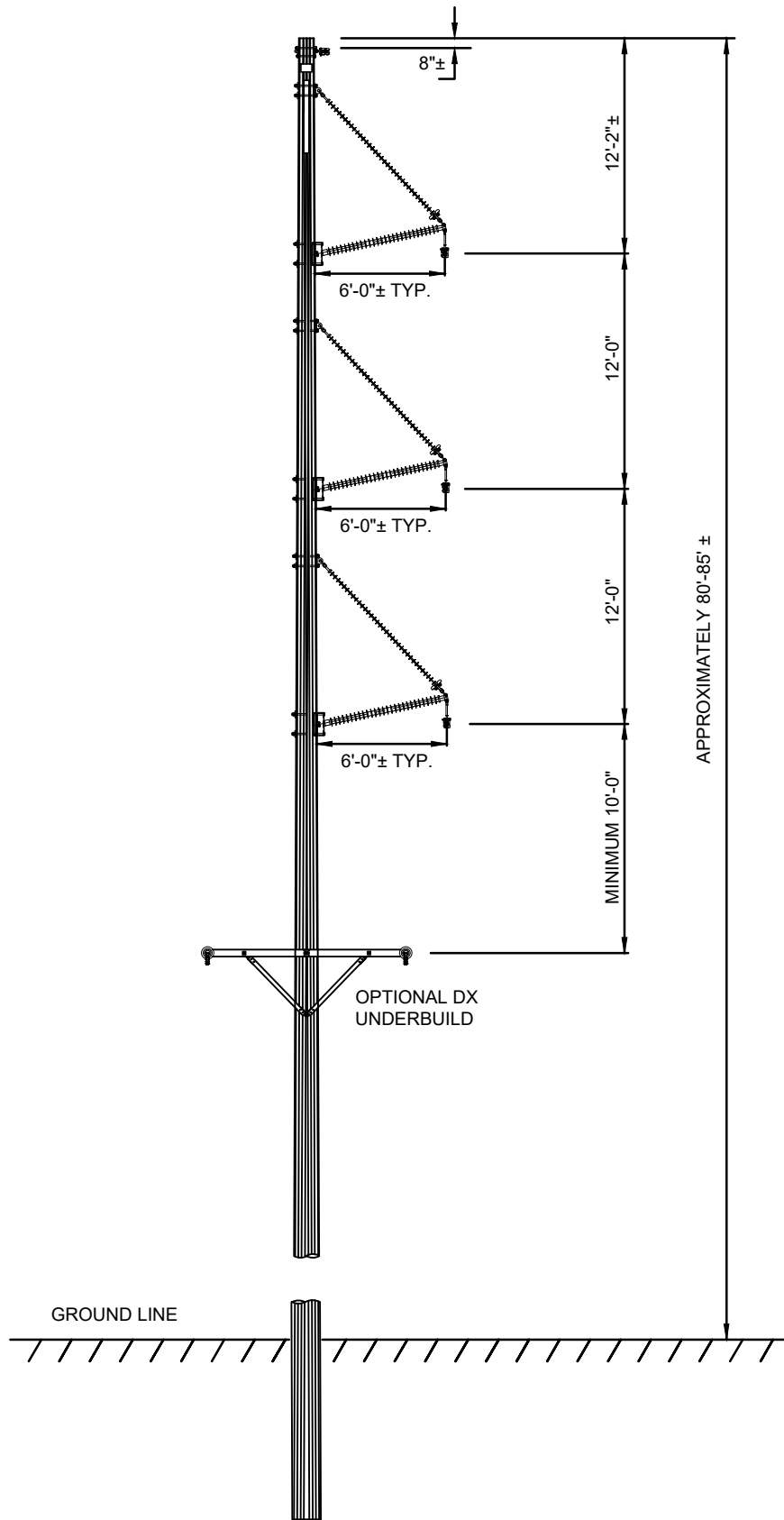
*Amendment does not materially affect this section of the Application.*

**(e) Other Major Equipment or Special Structures**

*Amendment does not materially affect this section of the Application.*

**(2) Diagram of Electric Power Transmission Substations**

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



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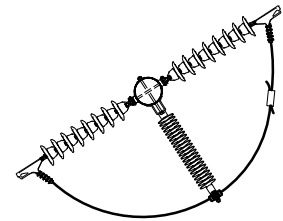
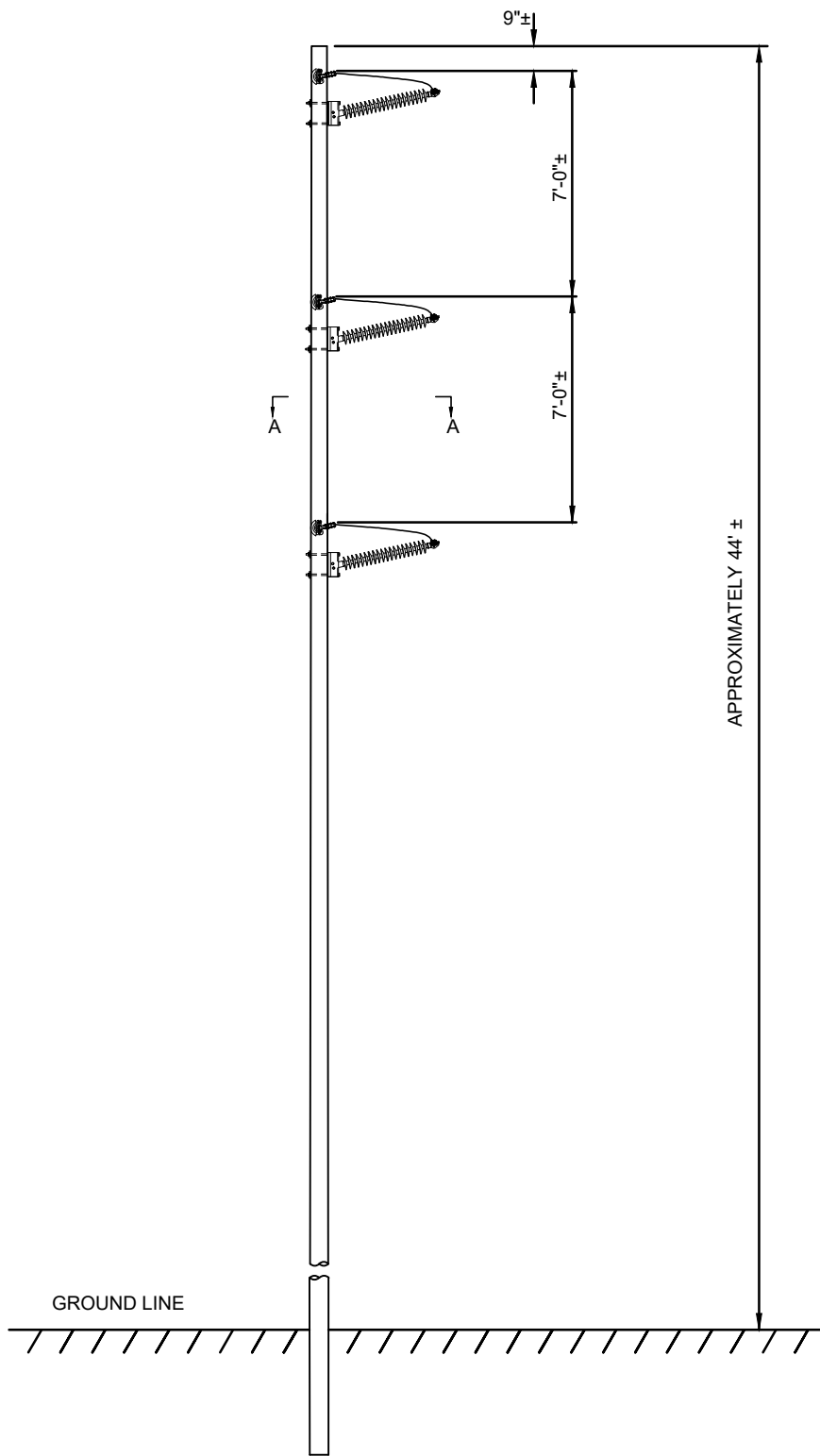
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138kV SINGLE CIRCUIT LAMINATE POLE STR  
 LINE HORIZONTAL POST VERTICAL SINGLE POLE

FIGURE 5-1B REVISED



SECTION A-A

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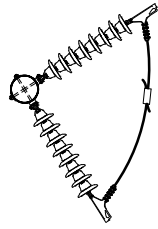
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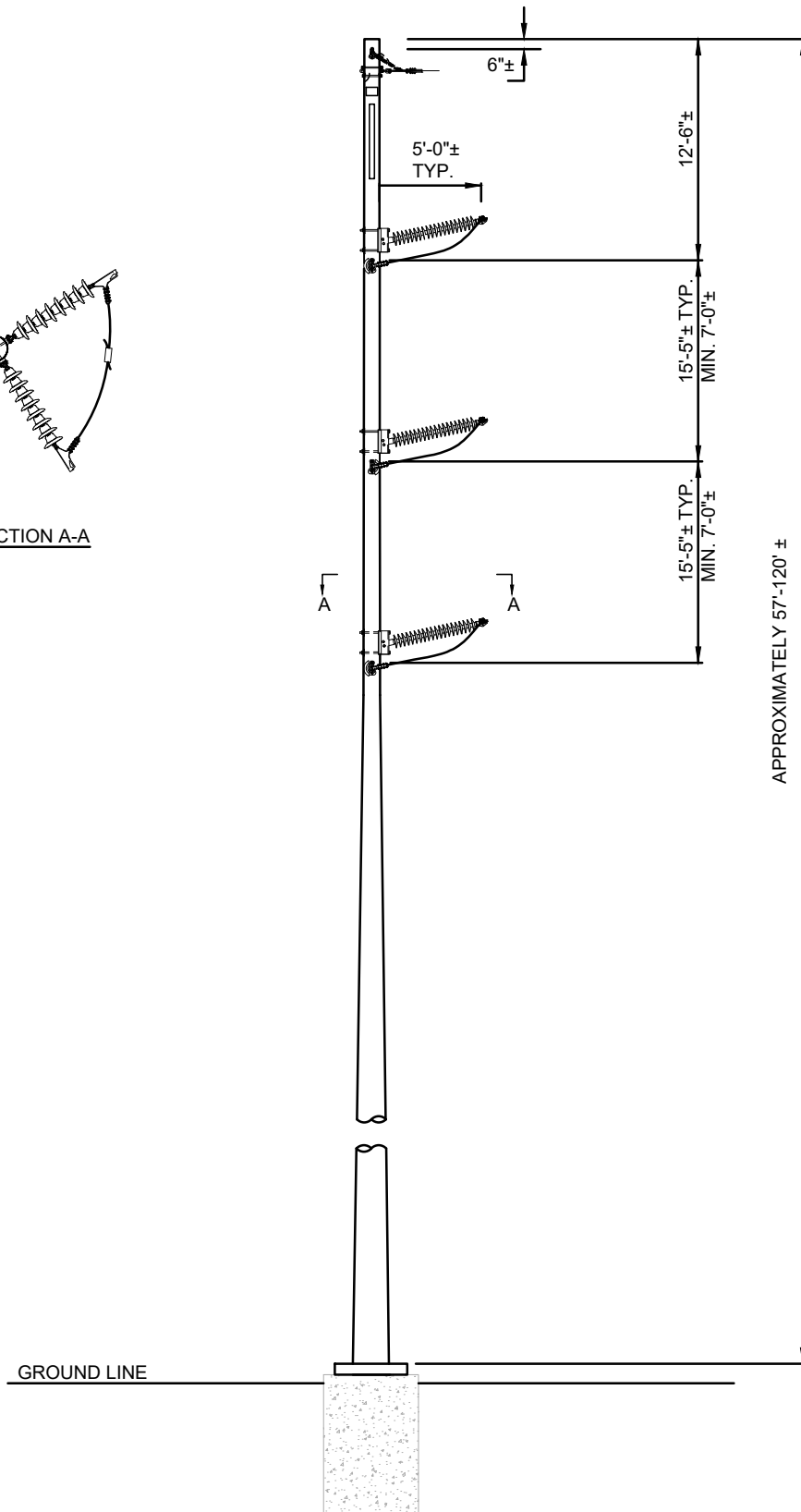
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D138kV SINGLE CIRCUIT WOOD POLE STRUCTURE  
 DEADEND VERTICAL SINGLE POLE

FIGURE 5-1F REVISED



SECTION A-A



APPROXIMATELY 57'-120" ±

GROUND LINE



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138 KV REINFORCEMENT PROJECT

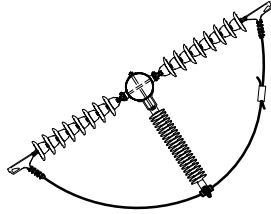
138kV SINGLE CIRCUIT STEEL POLE STRUCTURE  
DEADEND VERTICAL SINGLE POLE

FIGURE 5-1H REVISED

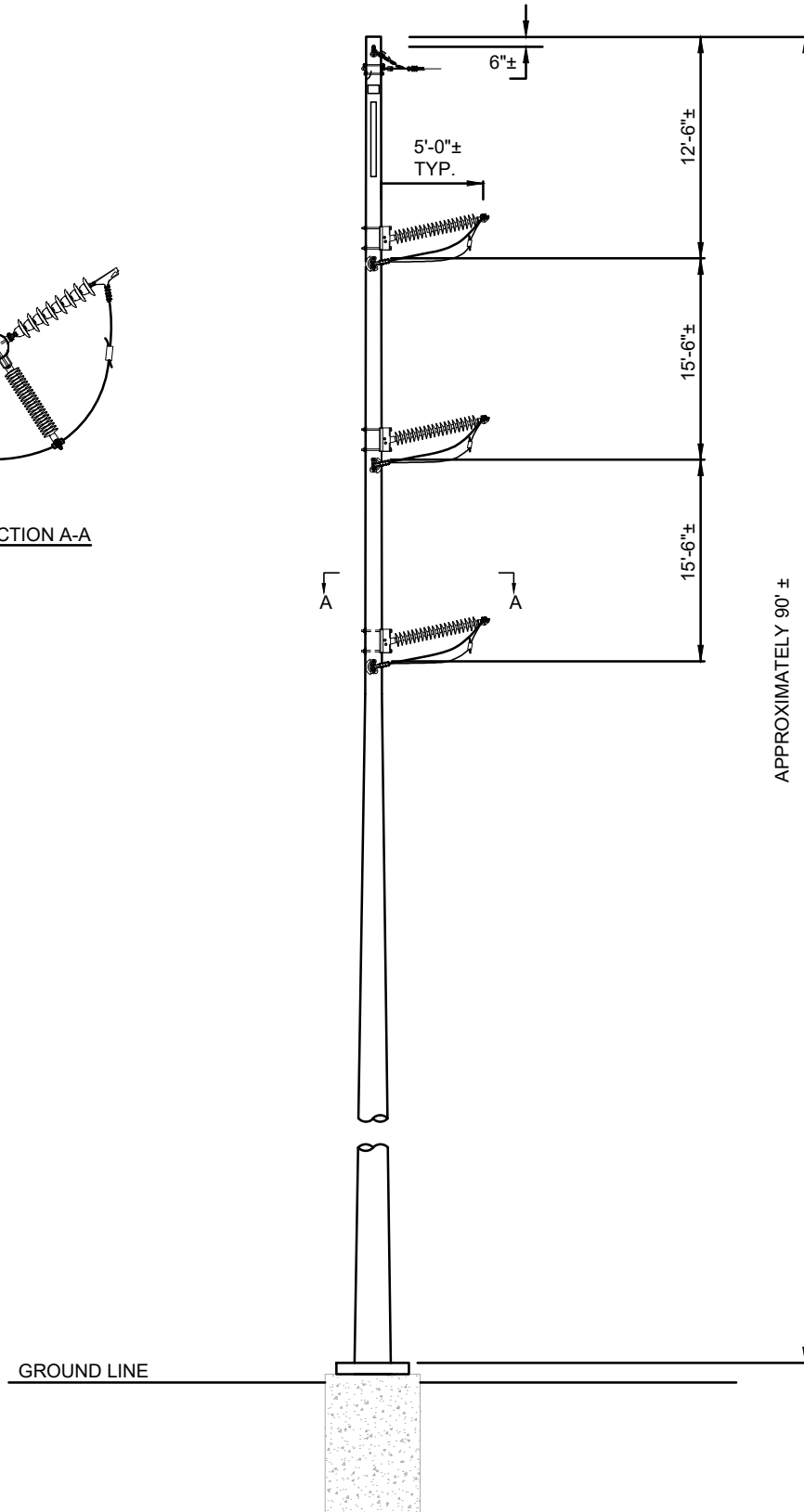
PAPER SIZE: 8.5X11

SCALE: NTS





SECTION A-A



PAPER SIZE: 8.5X11

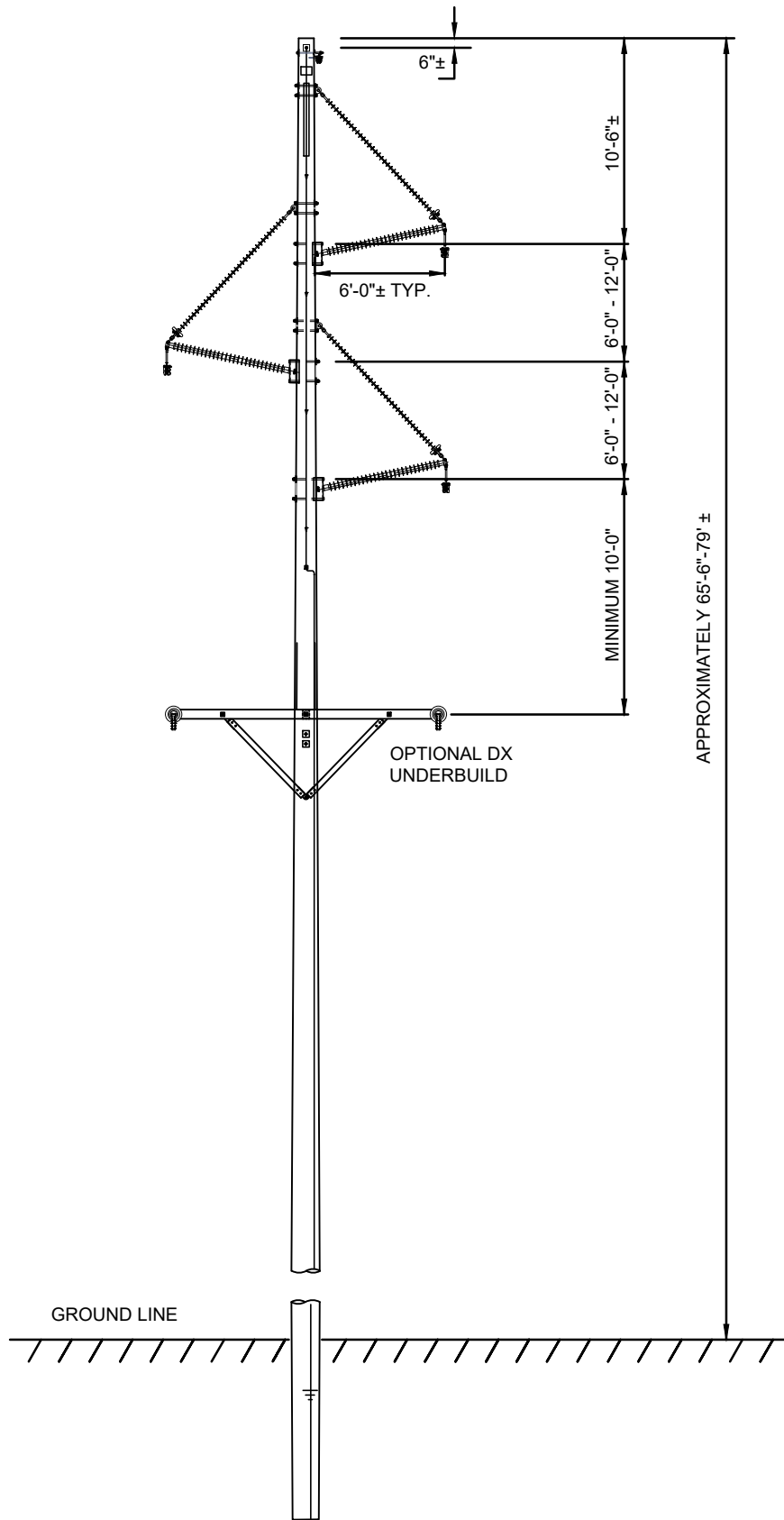
SCALE: NTS

**ATSI**  
 American Transmission Systems, Inc.  
 A subsidiary of DrexelCorps.com

AMENDMENT TO THE WOOD COUNTY  
 138 KV REINFORCEMENT PROJECT

138kV SINGLE CIRCUIT STEEL POLE STRUCTURE  
 DEADEND VERTICAL SINGLE POLE

FIGURE 5-1K NEW



PAPER SIZE: 8.5X11

SCALE: NTS

**ATSI**  
 American Transmission Systems, Inc.  
 A subsidiary of Drexel Corp.

AMENDMENT TO THE WOOD COUNTY  
 138 kV REINFORCEMENT PROJECT

138kV SINGLE CIRCUIT WOOD POLE STRUCTURE  
 HORIZONTAL POST DELTA SINGLE POLE

FIGURE 5-1L NEW

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

Amendment does not materially affect this section of the Application.

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

Amendment does not materially affect this section of the Application.

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

Amendment does not materially affect this section of the Application.

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

Amendment does not materially affect this section of the Application.

**(D) PUBLIC INTERACTION AND ECONOMIC IMPACT**

Amendment does not materially affect this section of the Application.

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

Amendment does not materially affect this section of the Application.

**(2) Public Officials Contacted**

Amendment does not materially affect this section of the Application.

**(3) Planned Public Interaction**

Amendment does not materially affect this section of the Application.

**(4) Liability Insurance or Compensation**

Amendment does not materially affect this section of the Application.

**(5) Tax Revenues**

Amendment does not materially affect this section of the Application.

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

**(A) HEALTH AND SAFETY**

Amendment does not materially affect this section of the Application.

**(B) LAND USE**

**(1) Map of the Site and Route Alternatives**

Amendment does not materially affect this section of the Application.

**(2) Impact on Identified Land Uses (REVISED)**

Land use in the Project Area (i.e., within 1,000 feet of each transmission line) consists of agriculture, industrial/commercial, residential, existing roadway right-of-way, and institutional (i.e. charitable organization, publicly owned lands, etc.). Comparisons of the various land use types and land use features for both proposed routes are included in **Tables 7-6 through 7-8**. The estimates of each land use type being crossed by the transmission line or land use within the 60-foot wide permanent ROW (linear feet, acreage, and percentages) were determined using geographic information system (GIS) software.

The potential disturbance area during construction activities (vegetation clearing, pole installations, etc.) is limited to the 60-foot wide permanent ROW. The ROW will be restored through soil grading, seeding, and mulching; thus the permanent impact to the ROW will be 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, crop cultivation, and livestock.

**TABLE 7-6  
Length and Percent of Land Uses Crossed by Route Alternatives (Revised)**

Land Use	OPSB Approved Route and proposed route adjustments		Alternate Route	
	Preferred Route		Linear Feet	Percent
	Linear Feet	Percent		
Agricultural	<del>30,941.9</del> 29,200	<del>96.5</del> 93	28,077.4	88.3
Industrial/Commercial	<del>474.4</del> 0	<del>1.5</del> 0	455.6	1.4
Residential	<del>654.9</del> 1,630	<del>2.0</del> 5	3,209.9	10.1
Road/Railroad Right-of-Way	<del>0.0</del> 600	<del>0.0</del> 2	60.0	0.2
<b>Total</b>	<del><b>32,071.2</b></del> <b>31,430</b>	<b>100.0</b>	<b>31,802.9</b>	<b>100.0</b>

**TABLE 7-7**  
**Acreage and Percent of Land Uses within ROW of Route Alternatives (Revised)**

Land Use	OPSB Approved Route and proposed route adjustments		Alternate Route	
	Preferred Route		Acreage	Percent
	Acreage	Percent		
Agricultural	<del>42.0</del> 40.4	<del>95.3</del> 93	38.6	88.2
Industrial/Commercial	<del>0.7</del> 0	<del>1.5</del> 0	0	0
Residential	<del>1.4</del> 2.2	<del>3.2</del> 5	4.0	9.0
Road/Railroad Right-of-Way	<del>0</del> 1	<del>0</del> 2	0.6	1.3
<b>Total</b>	<del>44.1</del> <b>43.6</b>	<b>100.0</b>	<b>43.8</b>	<b>100.0</b>

**TABLE 7-8**  
**Number of Land Use Features Near the Route Alternatives (Revised)**

	Route Alternatives	
	OPSB Approved Route and proposed route adjustments	Alternate
	Preferred	
Length (in miles)	<del>6.1</del> 6.0	6.0
<b>Features within the Potential Disturbance Area of Route Alternatives</b>		
Threatened and Endangered Species (ODNR records) <sup>c</sup>	8	8
Historic Structures (OHI)	0	0
Previously Identified Archaeological Sites	<del>0</del> 1	1
NWI Wetlands	0	0
Residences	<del>0</del> 1	0
Commercial/Industrial Properties	0	0
Other Sensitive Land Uses <sup>b</sup>	0	0
<b>Features within 1,000 feet of Route Alternatives (centerline)</b>		
Threatened and Endangered Species	8	8

**TABLE 7-8  
Number of Land Use Features Near the Route Alternatives (Revised)**

	Route Alternatives	
	<u>OPSB Approved Route and proposed route adjustments</u>	Alternate
	<b>Preferred</b>	
(ODNR records) <sup>c</sup>		
Historic Structures (OHI)	0	0
National Register of Historic Places	0	0
Archaeological Sites	1	4
NWI Wetlands	7	12
Residences	<del>83</del> 79	104
Commercial/Industrial Properties	0	25
Other Sensitive Land Uses <sup>b</sup>	0	0

Notes:

- <sup>a</sup> Potential disturbance area is defined as the construction workspace (in this case 60-ft wide ROW)
- <sup>b</sup> Other sensitive land uses include airports, parks, state forests, schools, hospitals, churches, golf courses, and cemeteries.
- <sup>c</sup> Current ODNR feedback indicates one species is present within 1-mile of the proposed route and seven species are considered to be within range; however, their presence/absence within 1,000-ft is unknown and is pending further information from ODNR. For purposes of this submission the presence of eight species is assumed within 1,000-ft pending further information from ODNR. Additional discussion regarding these species and information from ODNR is found in 4906-5-08 (C)(1)(a).

**(3) Impact on Identified Nearby Structures**

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

There are ~~24~~ 20 structures (buildings) within 200 feet of OPSB Approved Route and proposed route adjustments ~~the Preferred Route ROW~~, including ~~17~~ 24 residential structures. These range from ~~55~~ 25 to ~~190~~ 200 feet from the nearest edge of the ROW. There are 27 structures within 200 feet of the Alternate Route ROW, including 19 residential structures. These structures range from 35 to 191 feet from the ROW.

**(b) Destroyed, Acquired, or Removed Buildings**

Amendment does not materially affect this section of the Application.

**(c) Mitigation Procedures**

Amendment does not materially affect this section of the Application.

**(C) AGRICULTURAL LAND IMPACTS (REVISED)**

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~~ OPSB Approved Route ROWs is estimated at ~~42.0~~ 40.4 acres and ~~39.6~~ acres, respectively.

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

**(1) Agricultural Land Map (REVISED)**

Agricultural land use categories and Agricultural District lands are depicted on **Figure 7-2 (Revision 1)** for ~~both the Preferred and Alternate Routes~~ the OPSB Approved Route and proposed route adjustment.

**(2) Impacts to Agricultural Lands and Agricultural Districts**

Amendment does not materially affect this section of the Application.

**(a) Acreage Impacted**

Amendment does not materially affect this section of the Application.

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

Amendment does not materially affect this section of the Application.

**(i) Field Operations**

Amendment does not materially affect this section of the Application.

**(ii) Irrigation**

Amendment does not materially affect this section of the Application.

**(iii) Field Drainage Systems**

Amendment does not materially affect this section of the Application.

**(iv) Structures Used for Agricultural Operations**

Amendment does not materially affect this section of the Application.

**(v) Agricultural Land Viability for Agricultural Districts**

Amendment does not materially affect this section of the Application.

**(c) Mitigation Procedures**

**Amendment does not materially affect this section of the Application.**

**(i) Avoidance or Minimization of Damage**

Amendment does not materially affect this section of the Application.

**(ii) Field Tile System Damage Repairs**

Amendment does not materially affect this section of the Application.

**(iii) Segregation and Restoration of Topsoil**

Amendment does not materially affect this section of the Application.

**(D) LAND USE PLANS AND REGIONAL DEVELOPMENT**

Amendment does not materially affect this section of the Application.

**(E) CULTURAL AND ARCHAEOLOGICAL RESOURCES (REVISED)**

Research on cultural resources in the Project area of the adjusted route were conducted on behalf of ATSI by GPD Group in June 2023. This research has included records check and literature review for the OPSB Approved Route and proposed route adjustments ~~both the Preferred and Alternate Routes~~ using the Ohio History Connection (OHC) online mapping database. ~~A summary of this effort will be submitted to the OHPO and OPSB under separate cover.~~

**(1) Cultural Resources Map (Revised)**

Based on the cultural resources desktop study, there are five sites recorded in the Project Area. with none recorded within the proposed ROW. These sites are recorded from local artifact collections and their significance has not been officially established or evaluated. These sites were identified on sandy, former beach deposits that are scattered in this area. There are no sites recorded in the vicinity of the Preferred Route.

There are no recreational areas or trails, scenic rivers, scenic routes or byways, or registered landmarks of historic, religious, archaeological, scenic, natural, or other cultural significance within 1,000 feet of the proposed routes.

**(2) Cultural Resources in Study Corridor (Revised)**

The cultural resources review has involved background research utilizing data files from the OHPO online mapping database for the OPSB Approved Route and proposed route adjustments ~~both the Preferred and Alternate Route.~~

For background research, a 0.5-mile buffer was used around the Preferred Route to locate previously identified cultural resources and to provide information on the probability of identifying cultural resources within the Project area. The OHPO online mapping database included a review of the Ohio Archaeological Inventory (OAI), the Ohio Historic Inventory (OHI), Determination of Eligibility (DOE) files, the National Register of Historic Places (NRHP), historic cemeteries, historic bridges, National Historic Landmarks (NHLs), and previous cultural resources surveys.

No known cultural resources or cultural resources investigations were identified within the Project area of the Preferred Route from the desktop review. A summary of resources and studies within 1-mile of the proposed Project was completed and will be submitted to the OHPO and OPSB under separate cover.



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

Amendment does not materially affect this section of the Application.

**(4) Mitigation Procedures**

Amendment does not materially affect this section of the Application.

**(5) Aesthetic Impact****(a) Visibility of the Proposed Facility**

Amendment does not materially affect this section of the Application.

**(b) Facility Effect on Site and Surrounding Area**

Amendment does not materially affect this section of the Application.

**(c) Visual Impact Minimization**

Amendment does not materially affect this section of the Application.

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

Following the identification of the primary route options for the Project, and in conjunction with the identification of the Preferred and Alternate Routes as described in the Route Selection Study (**Appendix 4-1**), in the fall of 2018, an iterative study to assess the potential ecological impacts of the Project was conducted. This study included an initial map and literature review of a 1,000-foot corridor on either side of the centerline of what were ultimately determined to be the Preferred and Alternate Routes as well as the assessment of other ecological features within the Project area and other route options being considered at the time. Following the further refinement of route options for the Project, a field survey of ecological habitat and features was performed within 130 feet on either side of the anticipated ROW for both the Preferred and Alternate Route (“field survey area”).

Information in the following sections provide the detailed findings of this ecological study as applied to only the Preferred and Alternate Routes.

**(A)      ECOLOGICAL MAP (REVISED)**

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 **Figure 7-1 (Revision 1)**. These maps depict the transmission line alignments, substation location, 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 (Revision 1)**. More detailed maps at 1:6,000 scale depicting field-delineated water features, lakes, ponds, reservoirs, highly erodible soils and 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 8-2E (Revision 1)** and **Figures 8-3A through 8-3E** (Alternate Route).

**(B)      FIELD SURVEY REPORT FOR VEGETATION AND SURFACE WATERS (REVISED)**

The ecological survey of both the OPSB Approved Route and proposed route adjustments Preferred and Alternate Routes, consisting of the 260-foot wide field survey area, was conducted in the fall of 2018 and summer of 2023. The field survey was preceded by review of published mapping, aerial photography, protected federal and state-listed species (e.g., threatened or endangered), and ecological information for at least 1,000 feet on either side of the Preferred and Alternate Routes centerlines. Map sources included USGS 7.5-minute quadrangle topographic maps, U.S. Fish and Wildlife Service (USFWS) 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 (ODNR-DOW) Ohio Natural Heritage Program. This request included records

of state-listed species within 1 mile of the Project area. The information provided by the ODNR-DOW indicated one record of federal or state threatened or endangered species, within 1,000 feet of the OPSB Approved Route and proposed route adjustments Preferred and Alternate Routes. More detail on the data provided by the ODNR-DOW is provided in Section 4906-5-08(C)(1).

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

**(a) Vegetative Communities**

Amendment does not materially affect this section of the Application.

**(b) Wetlands**

Amendment does not materially affect this section of the Application.

**(c) Waterbodies**

**(i) Field-Delineated Streams (REVISED)**

Streams and drainage channels were delineated and assessed during the ecological survey.

The OEPA's Headwater Habitat Evaluation Index (HHEI) can be used to evaluate streams with a drainage area less than or equal to one square mile, and maximum pool depths less than or equal to 40 cm (OEPA, 2012). When used, the HHEI is typically used to assess Primary Headwater Habitat (PHWH) streams that 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 estimate the biological potential of the stream. The physical habitats scored for the HHEI are substrate type, pool depth, and bank full width. Within the context of the HHEI, streams can be classified generally as Class I PHWH Streams for scores from 0 to 29.9; Class II PHWH Streams for scores from 30 to 69.9; an Class III PHWH Streams for scores 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).

Four streams were evaluated using the HHEI method (identified in **Table 8-2 (Revision 1)**). Three of these streams were identified along the OPSB Approved Route and proposed route adjustments Preferred Route field survey area and one along the Alternate Route field survey area.

Streams identified during the ecological survey on the OPSB Approved Route and proposed route adjustments Preferred and Alternate Routes are shown on **Figures 8-2A through 8-2E**

**(Revision 1)** and **Figures 8-3A through 8-3E**, respectively. Detailed information on each delineated stream is included in **Table 8-2 (Revision 1)**.

The OPSB Approved Route and proposed route adjustments ~~Preferred Route~~ centerline crosses three streams for a total of four crossings. The length of streams located within the OPSB Approved Route and proposed route adjustments ~~Preferred Route~~ field survey area is approximately 19,774 linear feet. The Alternate Route centerline crosses one stream only one time. The total length of streams located within the field survey area of the Alternate Route is approximately 260 linear feet. Details of these features are provided in **Table 8-2 (Revision 1)** and further discussed in Section 4906-5-08(B)(3)(c).

Approximately ~~14,038~~ 10,701 linear feet of streams are located within the planned OPSB Approved Route ~~Preferred Route~~ ROW, while approximately 60 linear feet are located within the planned ~~Alternate Route~~ ROW.

TABLE 8-2 (REVISED)

Streams within the OPSB Approved Route and proposed route adjustments Preferred and Alternate Route Environmental Field Survey Area and 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	Length (linear feet) within Field Survey Area <sup>a</sup>	Length (linear feet) within ROW <sup>b</sup>
<b>OPSB Approved Route and proposed route adjustments Preferred Route</b>												
Stream 1 (1011-11)	Preferred	2A-B	Perennial	20	2	HHEI	27	NA	Modified Class I PHWH	Yes	13,284	7,896
Stream 2 (1011-10)	Preferred	2C	Perennial	20	7	HHEI	51	NA	Modified Class II PHWH	Yes	826	692
Stream 3 (1010-03)	Preferred	2E	Perennial	25	8	HHEI	48	NA	Modified Class II PHWH	Yes	5,664 <u>260</u>	5,450 <u>60</u>
Stream 5	Preferred	2E	Perennial	3	6	HHEI	44	NA		Yes	945	745
Stream 6	Preferred	2C	Perennial	3	6	HHEI	47	NA		Yes	4,409	2000
<b>Total</b>											<b>19,774</b> <b>18,898</b>	<b>14,038</b> <b>10,701</b>
<b>Alternate Route</b>												
Packer Creek (1024-01)	Alternate	3B	Perennial	15	4	HHEI	39	NA	Modified Class II PHWH	Yes	260	60
<b>Total</b>											<b>260</b>	<b>60</b>

Notes:

- a The width of the field survey area was 260 feet.
- b The width of the construction workspace and the final maintained ROW is planned to be 60 feet.

**(ii) Lakes, Ponds, and Reservoirs**

Amendment does not materially affect this section of the Application.

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

Detailed maps at 1:6,000 scale depicting the delineated features, field survey area, and proposed ROW are provided as **Figures 8-2A through 8-2E (Revision1)** for the OPSB Approved Route and the proposed route adjustment and **Figures 8-3A through 8-3F** for the Preferred and Alternate Route, respectively.

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

**(a) Construction Impacts on Vegetation**

The construction impacts on woody and herbaceous vegetation along both the OPSB Approved Route and the Proposed Route Adjustment ~~Preferred and Alternate Routes~~ will be limited to the initial clearing of vegetation within the 60-foot ROW for the proposed transmission line and access roads. Specific locations for access roads will be identified at the time of ATSI’s transmission line easement acquisition process. 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 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, and applicable permit requirements. The approximate vegetation impacts along the Project ROW are provided in **Table 8-4 (Revision 1)**.

**TABLE 8-4 (Revision 1)  
Approximate Vegetation Impacts Along the ROW**

Land Use Type	Length of Route (in feet)	Length of Route (in miles)	Acreage within ROW
<b>OPSB Approved Route and proposed route adjustments <del>Preferred Route</del></b>			
Agricultural	<del>30,941.9</del> <u>29,200</u>	<del>5.9</del> <u>5.5</u>	<del>42.0</del> <u>39.1</u>
Residential	<del>654.9</del> <u>1,630</u>	<del>0.1</del> <u>0.3</u>	<del>1.4</del> <u>4.2</u>
<b>Alternate Route</b>			
Agricultural	28,077.4	5.3	38.6
Residential	3,209.9	0.6	4.0
Roadway ROW	60.0	<0.1	0.6

**(b) Construction Impacts on Wetlands**

Amendment does not materially affect this section of the Application.

**(c) Construction Impacts on Waterbodies (REVISED)**

The ~~Preferred Route~~ OPSB Approved Route and proposed route adjustment centerline crosses three streams a total of four times. The Alternate Route centerline crosses one stream one time. The length of these streams within the ROW are reported in **Table 8-2 (Revision 1)** and further discussed in Section 4906-5-08(B)(3)(c).

Approximately ~~14,038~~ 10,701 linear feet of streams are located within the Preferred Route ROW, while approximately 260 linear feet are located within the planned Alternate Route ROW.

ATSI will not conduct mechanized clearing within 25 feet of any stream, and will only clear those trees in this area that are tall enough to or have the potential to interfere with safe construction and operation of the transmission line. No streams will be filled or permanently impacted. Some streams may have to be crossed by construction vehicles. Access paths to proposed pole locations will be evaluated when final engineering design is completed and landowner negotiations completed. If a new stream crossing is necessary, Applicant will use 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 during periods of low flow. This will involve minimum clearing necessary to gain access to the stream and for passage of construction vehicles.

- 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. Any necessary clearing will leave stumps and roots in-place to aid stabilization and to accelerate re-vegetation.
- 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.
- Following completion of the work, the areas cleared for the temporary access crossing will be stabilized in accordance with the stormwater pollution prevention plan (SWPPP) approved for the Project.

**Culvert stream crossings** may be 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 if needed to provide maintenance access to the transmission line to ensure reliable service. All necessary permits will be secured prior to installation.

- 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. Any necessary clearing will leave stumps and roots in place to aid stabilization and to accelerate re-vegetation.
- Sediment laden runoff will be controlled to minimize flow 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 embedded into 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, culvert crossings will either be removed completely and restored, or left in place for future maintenance access.
- Stream banks will be stabilized as appropriate.

**Temporary access bridges or culvert stream crossings** will be used for higher 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. Any necessary clearing will leave stumps and roots in place to aid stabilization and to accelerate re-vegetation.
- Sediment laden runoff will be controlled to minimize flow 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 proposed access road stream crossing methods will be provided to the OPSB separately, if deemed necessary.

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**

Amendment does not materially affect this section of the Application.

#### **(5) Mitigation Procedures**

**Amendment does not materially affect this section of the Application.**

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

The Project area is primarily rural with few residences and businesses located on larger lots. The developed areas are dominated by residences and existing utility or road ROW. The rural areas are mostly comprised of fields, pastures, woodlots, residences, and existing road and utility ROW. The OPSB Approved Route and proposed route adjustments ~~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 2018-2019 Hunting and Trapping Regulations (ODNR-DOW, 2018a).

Lists of protected species are based on information showing their range within Wood County, as reported in correspondence from the ODNR-DOW (ODNR-DOW, 2018b) and the review of USFWS county species distribution lists (USFWS, 2018a). 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 that follows.

##### **(1) Project Vicinity Species Descriptions**

###### **(a) Protected Species**

Coordination with ODNR-DOW was initiated in March 2018 to obtain Ohio Natural Heritage Database records within a 1-mile area around the Project area for the preferred and the alternate routes. A database records search of a larger area allows for potential shifts in the alignments to remain covered by the initial requested area. Although ODNR records of state and federally listed species were provided in March 2018, prior to route selection, the Preferred and Alternate Routes were located entirely within the area covered by the data request. ODNR data indicated that one protected species is known to occur within 1-mile of the Preferred and Alternate Routes and seven species are within the range of the project location. Presence of the species listed within range is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Current information on a species list obtained from USFWS county lists and the ODNR-DOW Ohio Natural Heritage Database is provided in **Tables 8-5 and 8-6**.

A consultation request was submitted to the USFWS on ~~November 12, 2018~~ July 13, 2023. A response letter was received dated ~~November 19, 2018~~ July 14, 2023. The USFWS confirmed that ~~two~~ three federally listed bat species listed in **Table 8-5** may occur in the field survey area, as in Ohio, presence of the Indiana bat, northern long-eared bat, and tri-colored bat is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. The USFWS also recommended winter tree clearing to avoid take of these species. ATSI will coordinate any habitat assessments or surveys with the USFWS. The USFWS does not anticipate adverse effects to federally endangered, threatened, proposed, or candidate species due to the project type, size, and location.

Likewise, a consultation request was submitted to the ODNR-DOW on November 12, 2018. To date, a response has not been received. When received, OPSB will be notified of the response.

**TABLE 8-5**  
**Federally Listed Species potentially within 1,000 feet of Proposed Routes**

Common Name/Species Name <sup>a</sup>	Federal Status <sup>b, c</sup>	General Habitat Notes	Recorded Location within Project Vicinity	Potential Habitat in Project Area
<b>Vertebrate Animals</b>				
Indiana bat / <i>Myotis sodalis</i>	Endangered	Hibernacula = Caves and mines Maternity and foraging habitat = small stream corridors with well-developed riparian woods and upland forests. <sup>d</sup>	Wood County, Ohio <sup>e</sup> . No ODNR records in vicinity of the Project area <sup>b</sup> .	No
Northern long-eared bat / <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During late spring and summer, roosts and forages in upland forests. <sup>d</sup>	Wood County, Ohio <sup>e</sup> . No ODNR records in vicinity of the Project area <sup>b</sup> .	No
Tri-colored bat <i>Perimyotis Subflavus</i>	Endangered	Hibernacula – Caves and mines in the winter months, live and dead hardwood trees & leaf clusters in the spring, summer, and fall months.	Wood County, Ohio. No ODNR records in vicinity of the Project area.	No

Sources:

a NatureServe Explorer, 2018      b ODNR-DOW, 2018b      c USFWS, 2018a      d USFWS, 2018b      e ODNR, 2018c      f ODNR, 2008

**TABLE 8-6**  
**State-listed Species within 1,000 feet of Proposed Routes**

Common Name/Species Name <sup>a</sup>	State Status <sup>b</sup>	General Habitat Notes	Recorded Location within Project Vicinity <sup>b</sup>	Potential Habitat in Project Area
<b>Vertebrate Animals</b>				
Indiana bat / <i>Myotis sodalis</i>	Endangered	Hibernacula = Caves and mines Maternity and foraging habitat = small stream corridors with well-developed riparian woods and upland forests. <sup>d</sup>	Range is within Wood County, Ohio.	No
Western banded killifish / <i>Fundulus diaphananus menona</i>	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. <sup>e</sup>	Range is within Wood County, Ohio.	No
Spotted turtle / <i>Clemmys guttata</i>	Threatened	Prefers shallow, sluggish waters of ditches, small streams, marshes, bogs, and pond edges where vegetation is abundant. It occasionally wanders away from water and lives in wet woods and meadows. <sup>e</sup>	Range is within Wood County, Ohio.	Yes
Northern Harrier / <i>Circus cyaneus</i>	Endangered	Hunt low over grasslands. A common migrant and winter species; nesters are much rarer, although they occasionally breed in large marshes and grasslands. <sup>e</sup>	Range is within Wood County, Ohio.	No
Lark sparrow / <i>Chondestes gramacus</i>	Endangered	Nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. <sup>e</sup>	Range is within Wood County, Ohio.	Yes
Upland sandpiper / <i>Bartramia longicauda</i>	Endangered	Breed in grasslands, pastures, and unkempt agricultural land with a mosaic of old fields and crop lands, and sometimes the grassy expanses of airports. <sup>e</sup>	Range is within Wood County, Ohio.	Yes
<b>Invertebrate Animals</b>				
Pondhorn / <i>Uniomerus tetralasmus</i>	Threatened	Inhabits slow-moving, shallow waters of sloughs, borrow pits, ponds, ditches, and streams. Tolerant of poor water conditions and can be found in a substrate of fine silt and/or mud. <sup>a</sup>	Range is within Wood County, Ohio.	Yes
<b>Plants</b>				
Bushy horseweed / <i>Conyza ramosissima</i>	Potentially Threatened	Dry, open, often disturbed areas: prairie remnants, fields, grazed pastures, along roadsides and railroads and in waste places. <sup>f</sup>	ODNR records within 1-mile of the Preferred and Alternate Routes.	Yes

Sources:

a NatureServe Explorer, 2018      b ODNR-DOW, 2018b      c USFWS, 2018a      d USFWS, 2018b      e ODNR, 2018c      f ODNR, 2008

**(b) Commercial Species**

The commercially important species along the OPSB Approved Route and proposed route adjustments ~~proposed routes~~ consist of those hunted or trapped for fur or other products, include the following species. This information was obtained from the ODNR-DOW 2018-2019 Hunting and Trapping Regulations (ODNR-DOW, 2018a) and the ODNR-DOW Species Guide Index (ODNR-DOW, 2018c).

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, this species is unlikely to inhabit locations along the route. This species was not observed during the field investigations.

Coyote (*Canis latrans*): Historically, coyotes prefer open territory, but in Ohio, they have adapted to various habitat types, including forests, clearcuts, and woodlots in rural and urban areas. 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, but was not observed during field investigations.

Gray Fox (*Urocyon cinereoogentus*): 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.

Least Weasel (*Mustela nivalis*): The least weasel inhabits open areas such as meadows, marshes, brushy areas and agricultural fields. 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.

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 species is likely found near or within the Project, but was not observed during field investigations.

Red Fox (*Vulpes vulpes*): The red fox inhabits a wide range of habitats. This generally nocturnal species was not observed during the field investigations, but it could inhabit select locations along both the Preferred and Alternate Routes.

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. Based on the habitat present along the routes, this species is unlikely to inhabit locations along the route. This species was not observed during the field investigations.

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 species is likely found near or within the Project, but was not observed during field investigations.

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 is likely found near or within the Project, but was not observed during field investigations.

**(c) Recreational Species**

Recreational species consist of those hunted as game. Recreational species expected to inhabit areas along the proposed ROW include the following. This information was obtained from the ODNR-DOW 2018-2019 Hunting and Trapping Regulations (ODNR-DOW, 2018a) and the ODNR-DOW Species Guide Index (ODNR-DOW, 2018c).

**(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 both of the routes.

American Woodcock (*Scolopax minor*): Woodcock prefer open, interspersed, early successional habitats, brushy pastures, and woodland borders with moist loam soils. The largest populations occur in northeast, north-central, and central regions of Ohio. This species could inhabit select locations along the routes. No American woodcocks were observed during the field investigations.

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. No Canada geese were observed during the field investigations.

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*). Mergansers are found in deep, open waters of lake and rivers. Habitat for these species is not present along the routes. 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.

Rail: Several rail species can be found in Ohio, such as Yellow rail (*Coturnicops noveboracensis*), black rail (*Laterallus jamaicensis*), king rail (*Rallus elegans*), and Virginia rail (*Rallus limicola*). Rails

are found in densely vegetated wetlands and marshes. Habitat for these species is not present along the routes. This species 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 various 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. Habitat for these species is not present along the routes. This species was not observed during field surveys.

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 not present along the routes. This species was not observed during field surveys.

Various duck species: Various duck species can be found in Ohio, most of which 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. Although this species was not observed during field surveys, habitat for this species does exist throughout the routes.
- 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 not present within the vicinity of 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. Although this species was not observed during the field surveys, it is likely present throughout the 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.

Feral Swine (*Sus scrofa*): Feral swine (wild boar) are not native to Ohio, but have established breeding populations in several locations, occupying a wide variety of habitats, including forests, cropland, and shrubland. Distribution maps (ODNR, 2016) indicate that feral swine have not been recorded in the vicinity of the Project Area.

Squirrel (Gray, Red, and Fox) (*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 (groundhogs) live in open grasslands, pastures, and woodlands. This species was observed during field surveys and is likely present throughout the routes.

### (iii) Game Fish

Based upon the hydrologic connectivity and the nature of the surface water habitats present within the field survey area, game fish species may 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 in streams located within the field survey 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 field survey area. The listed species are known to be regionally common and may occur within the surface water features proposed to be impacted.

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 along the routes.

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.

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 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 occur in streams along the routes.

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 may occur in streams along the routes.

Redear Sunfish (*Lepomis microlophus*): Redear sunfish are not native to Ohio. They are found primarily in clear, warm waters with vegetation. This species may occur in streams along the routes.

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 streams along the routes.

### Construction Impacts on Identified Species

Based on the nature of the proposed Project and habitat characteristics of the surrounding vicinity, the potential for construction impacts to spotted turtles will need to be further evaluated. ATSI will coordinate with USFWS and ODNR to avoid or minimize construction impacts to the associated habitat of the spotted turtle to the extent possible. The construction impact to other identified species (recreational and commercial) is expected to be minor because equivalent habitat to habitat that may be impacted during construction exists immediately adjacent to the construction ROW, and the identified species are mobile.

### Operation and Maintenance Impacts on Identified Species

Minimal impacts are anticipated to wildlife during operation and maintenance of the transmission line as agricultural row crops comprise a majority of the area along both routes. ATSI will not conduct mechanized clearing within 25 feet of any stream, and will only clear those trees in this area that are tall enough to have the potential to interfere with safe construction and reliable operation of the line. 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.

#### Mitigation Procedures

Consultation will be performed with the USFWS and ODNR to determine if the Preferred Route, and Alternate Route, or portions of these routes, contain areas due to the presence of specific habitat or other factors that would require the use of special mitigation measures for the aforementioned affected wildlife. If such conditions are recognized in the consultation process, the condition will be mitigated appropriately on a site by site basis for the individual species.

#### **(D) SITE GEOLOGY**

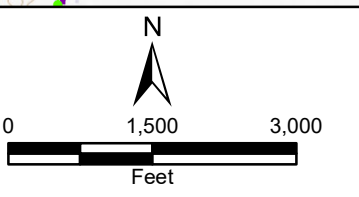
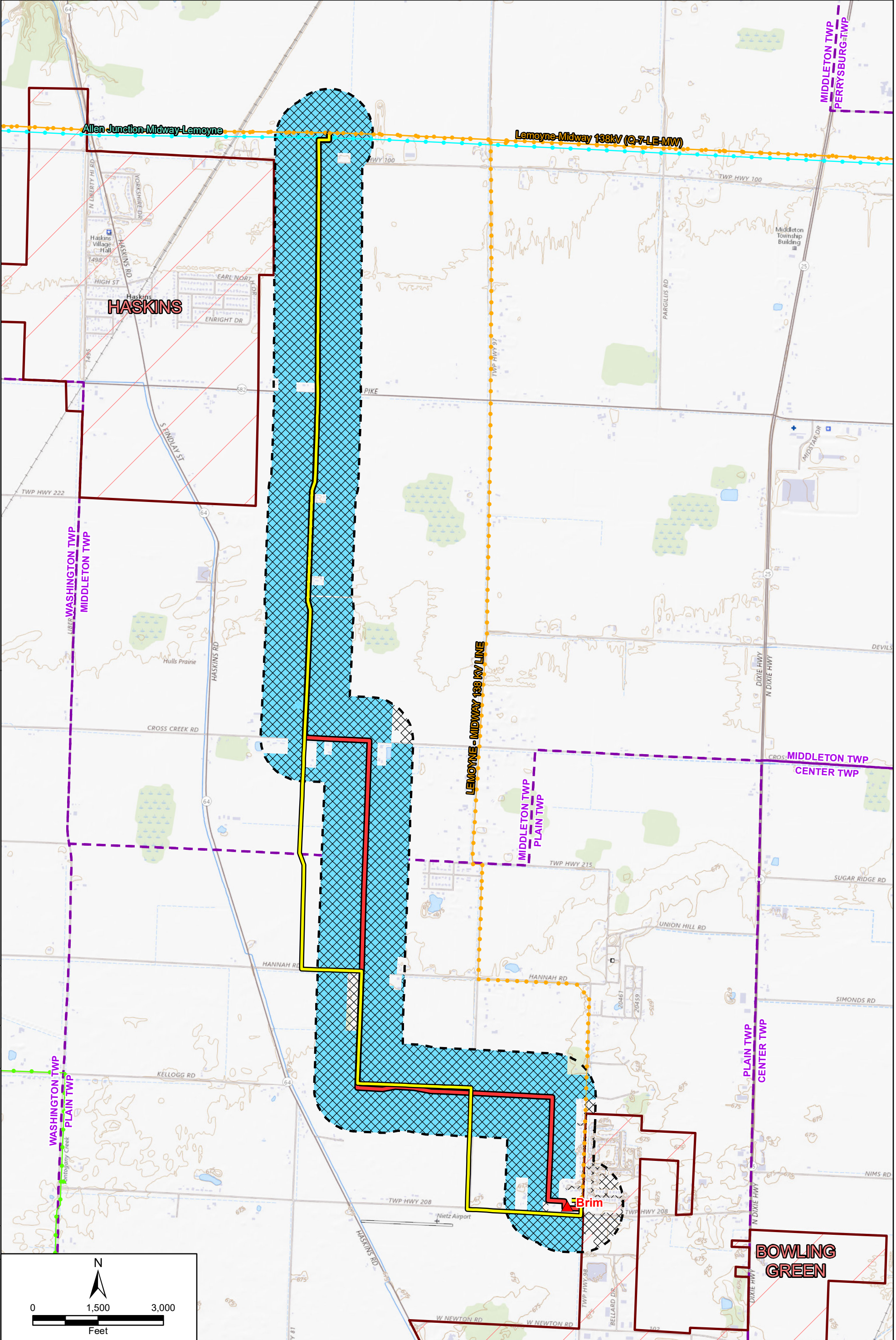
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#### **(E) ENVIRONMENTAL AND AVIATION REGULATION COMPLIANCE**

Amendment does not materially affect this section of the Application.



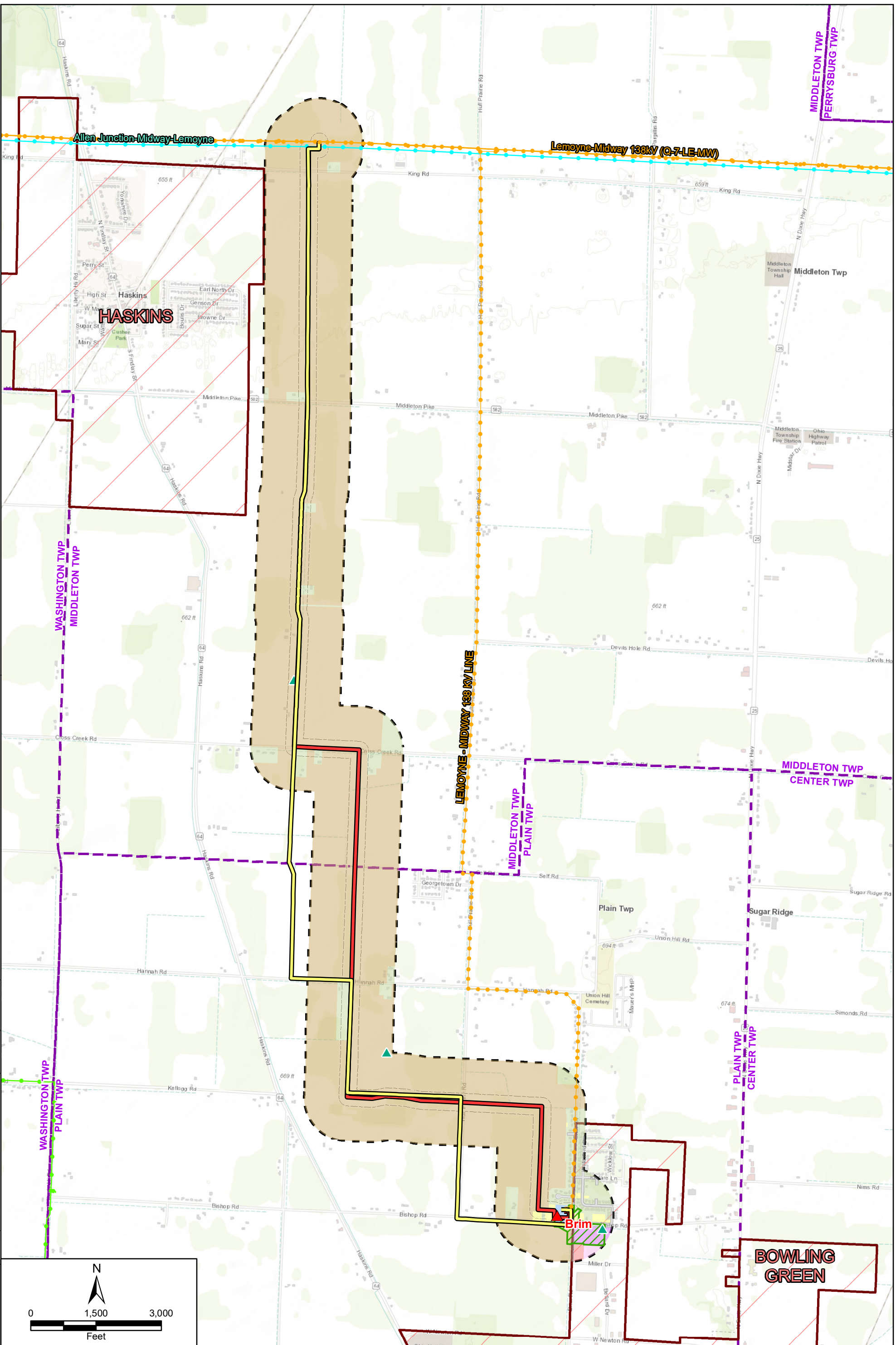
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- ▲ Existing Substation
- Existing 69kV Transmission Line
- Existing 138kV Transmission Line
- Existing 345kV Transmission Line
- 1000ft Buffer
- Agricultural District
- Cultivated Land
- Township
- City



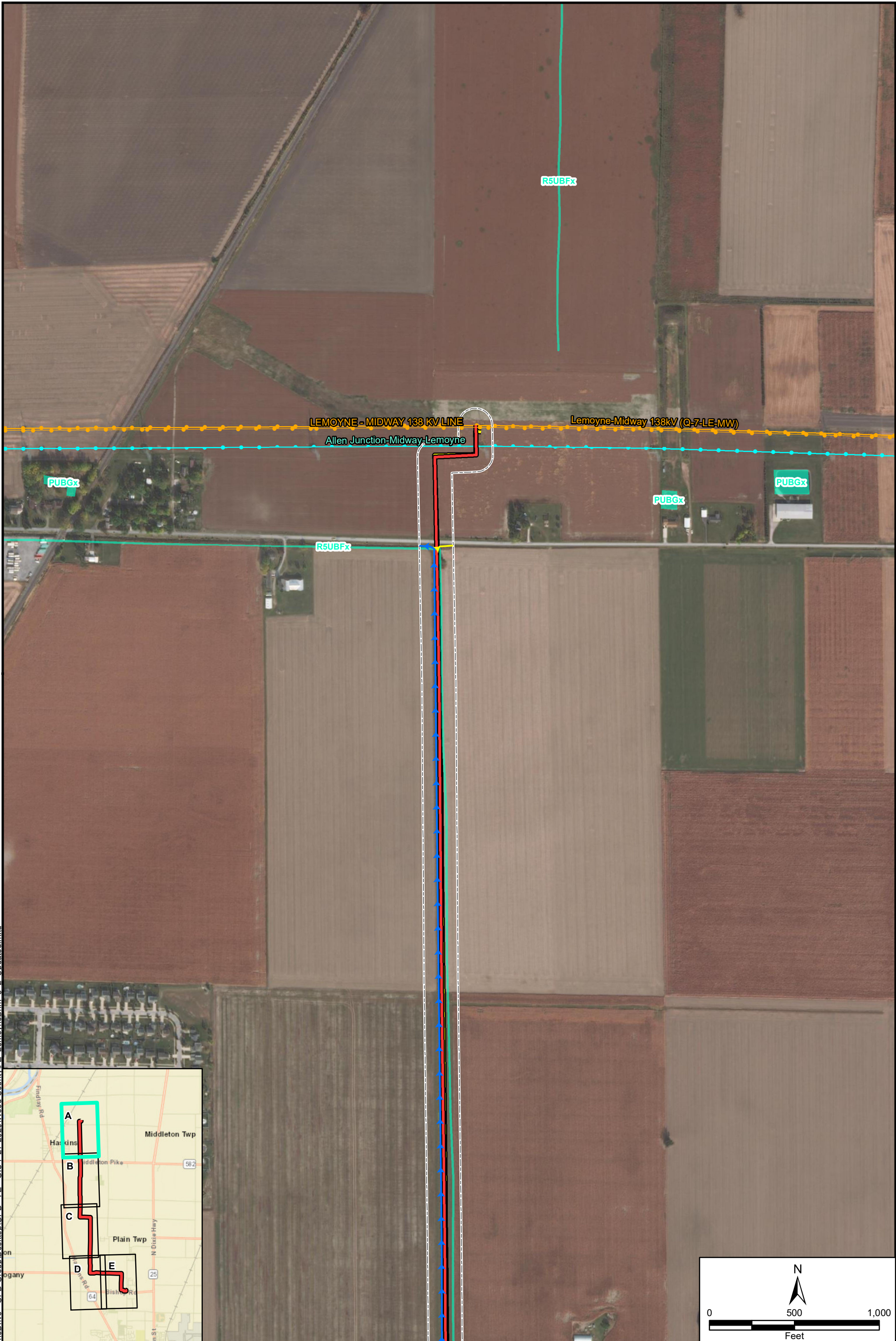
Figure 7-2 - Revision 1  
 Agricultural Land Use Map  
 Wood County 138kV  
 Reinforcement Project



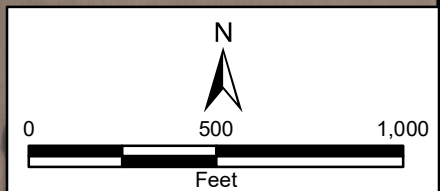
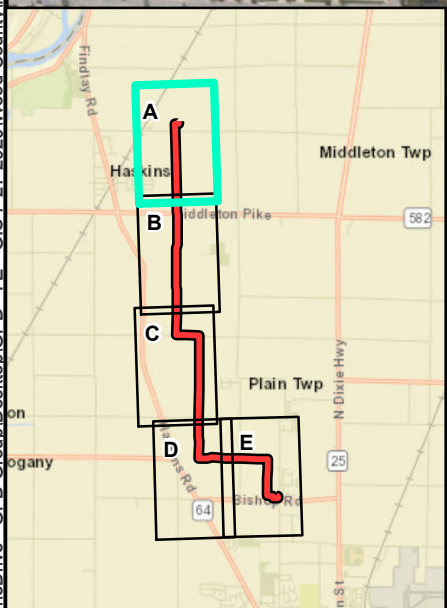
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Proposed Route Adjustment	Existing 138kV Transmission Line	Agricultural	Residential	City
OPSB Approved Route	Existing 345kV Transmission Line	Industrial Vacant	Publicly Owned	
1,000 Foot Buffer	OAI Archaeological Site	Industrial	Charitable Organization	
200 Foot Buffer	Previous Cultural Resource Survey	Commercial		



Figure 7-1 - Revision 1  
 Land Use Map  
 Wood County 138kV  
 Reinforcement Project



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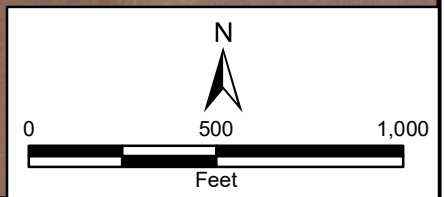
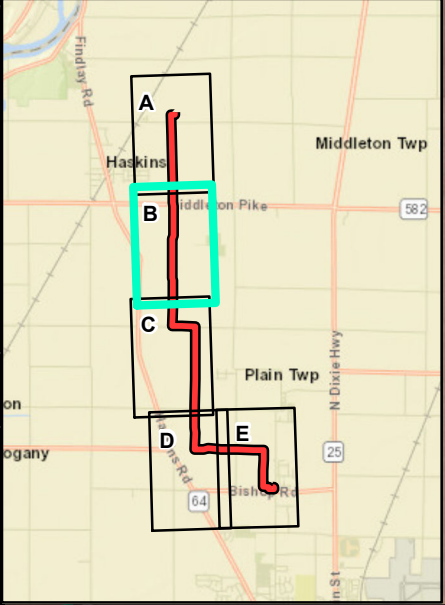
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| Proposed Route Adjustment | Existing Substation              | Delineated Stream        |
| OPSB Approved Route       | Existing 69kV Transmission Line  | Non-Jurisdictional Ditch |
| Survey Corridor           | Existing 138kV Transmission Line | NWI Wetlands             |
|                           | Existing 345kV Transmission Line |                          |



Figure 8-2A - Revision 1  
Aquatic Features Location Map

Wood County 138kV  
Reinforcement Project

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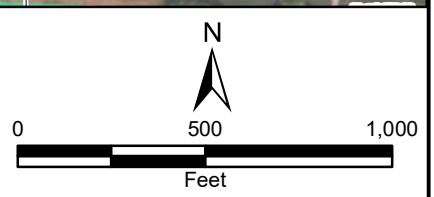
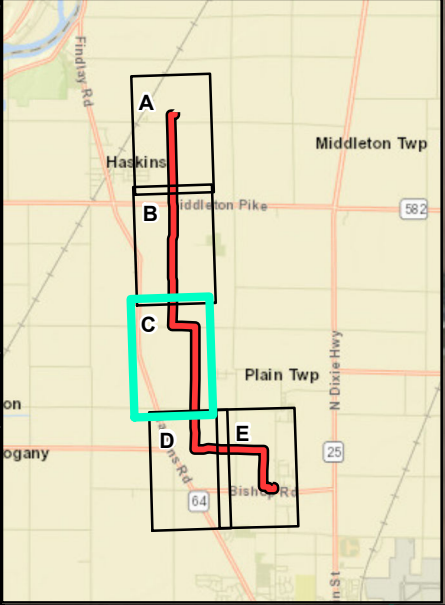
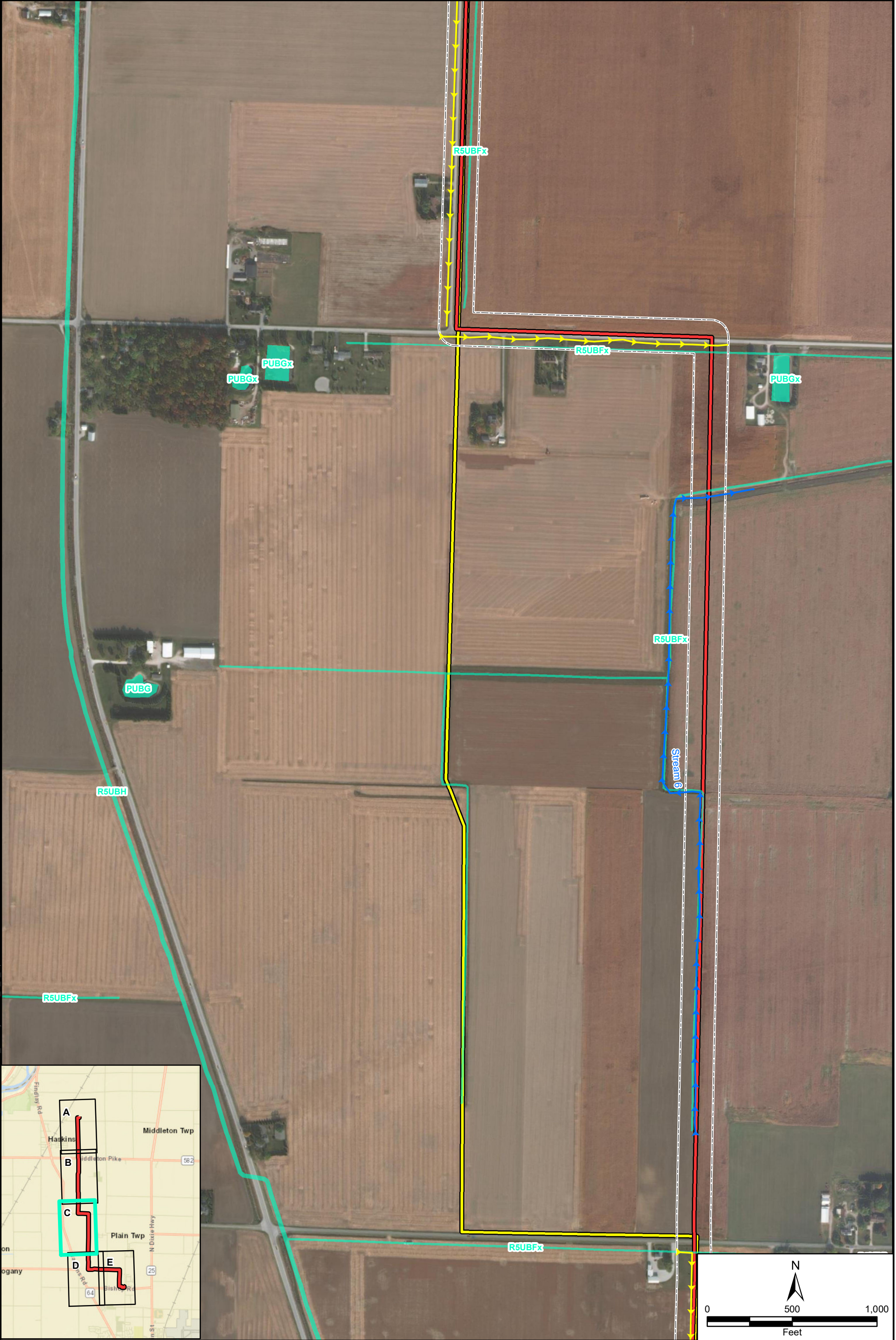


- Proposed Route Adjustment
- OPSB Approved Route
- Survey Corridor
- Existing Substation
- Existing 69kV Transmission Line
- Existing 138kV Transmission Line
- Existing 345kV Transmission Line
- Delineated Stream
- Non-Jurisdictional Ditch
- NWI Wetlands

**ATSI**  
American Transmission Systems, Inc.  
a subsidiary of FirstEnergy Corp.

Figure 8-2B - Revision 1  
Aquatic Features Location Map  
Wood County 138kV  
Reinforcement Project

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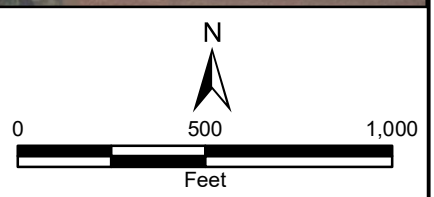
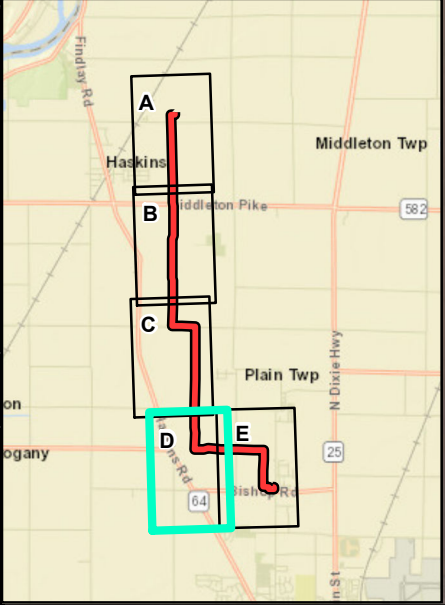
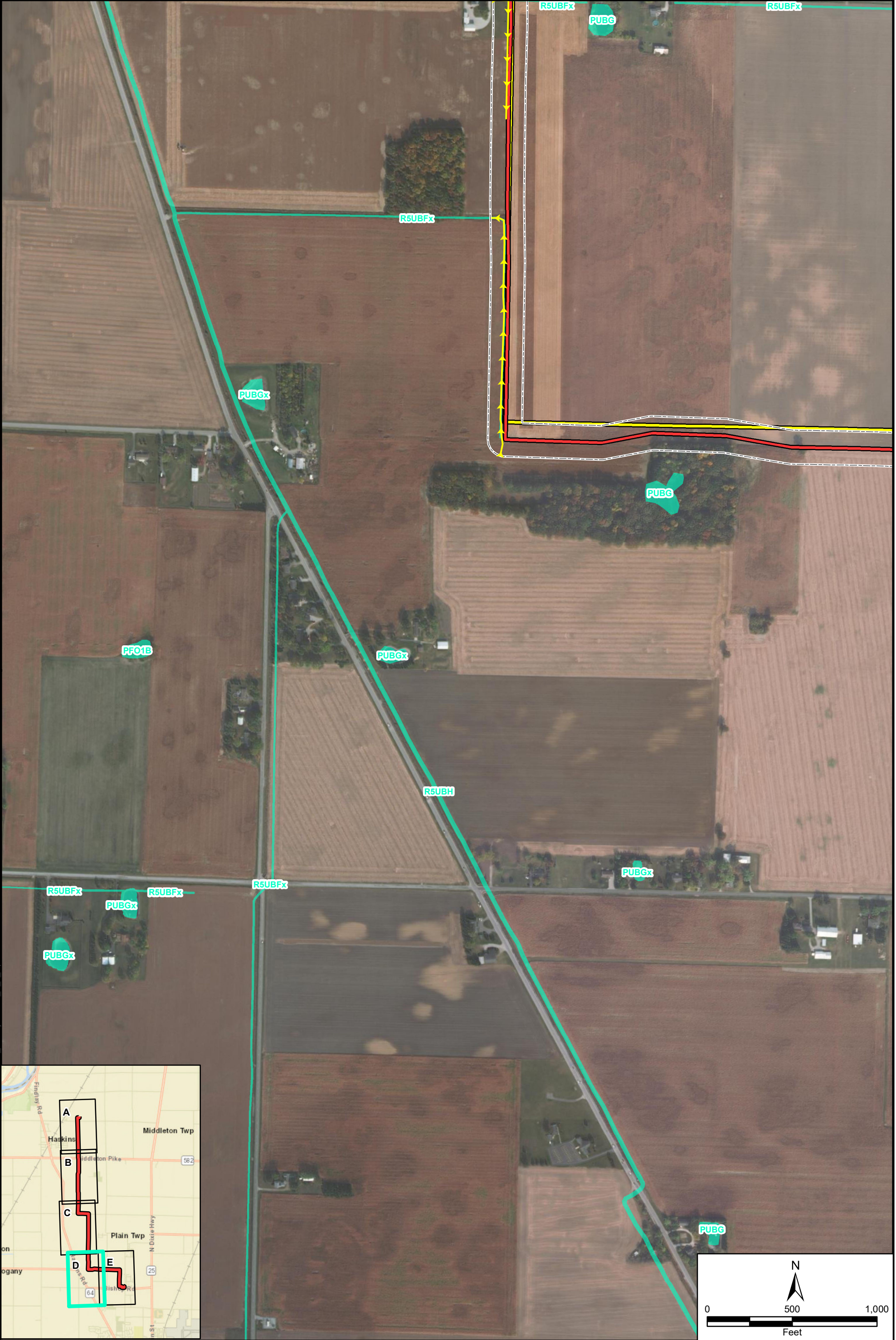


- Proposed Route Adjustment
- OPSB Approved Route
- Survey Corridor
- ▲ Existing Substation
- Existing 69kV Transmission Line
- Existing 138kV Transmission Line
- Existing 345kV Transmission Line
- Delineated Stream
- Non-Jurisdictional Ditch
- NWI Wetlands



Figure 8-2C - Revision 1 Aquatic Features Location Map  
Wood County 138kV Reinforcement Project

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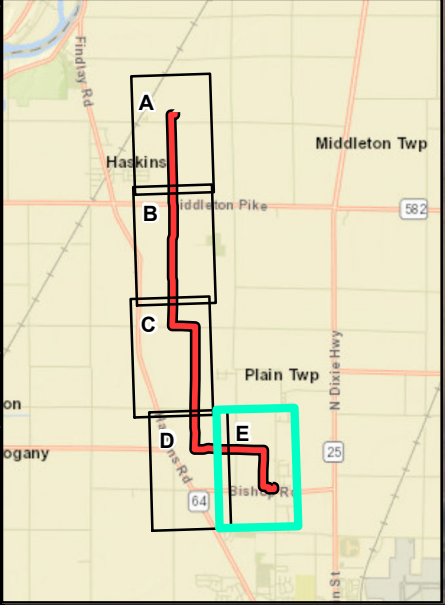
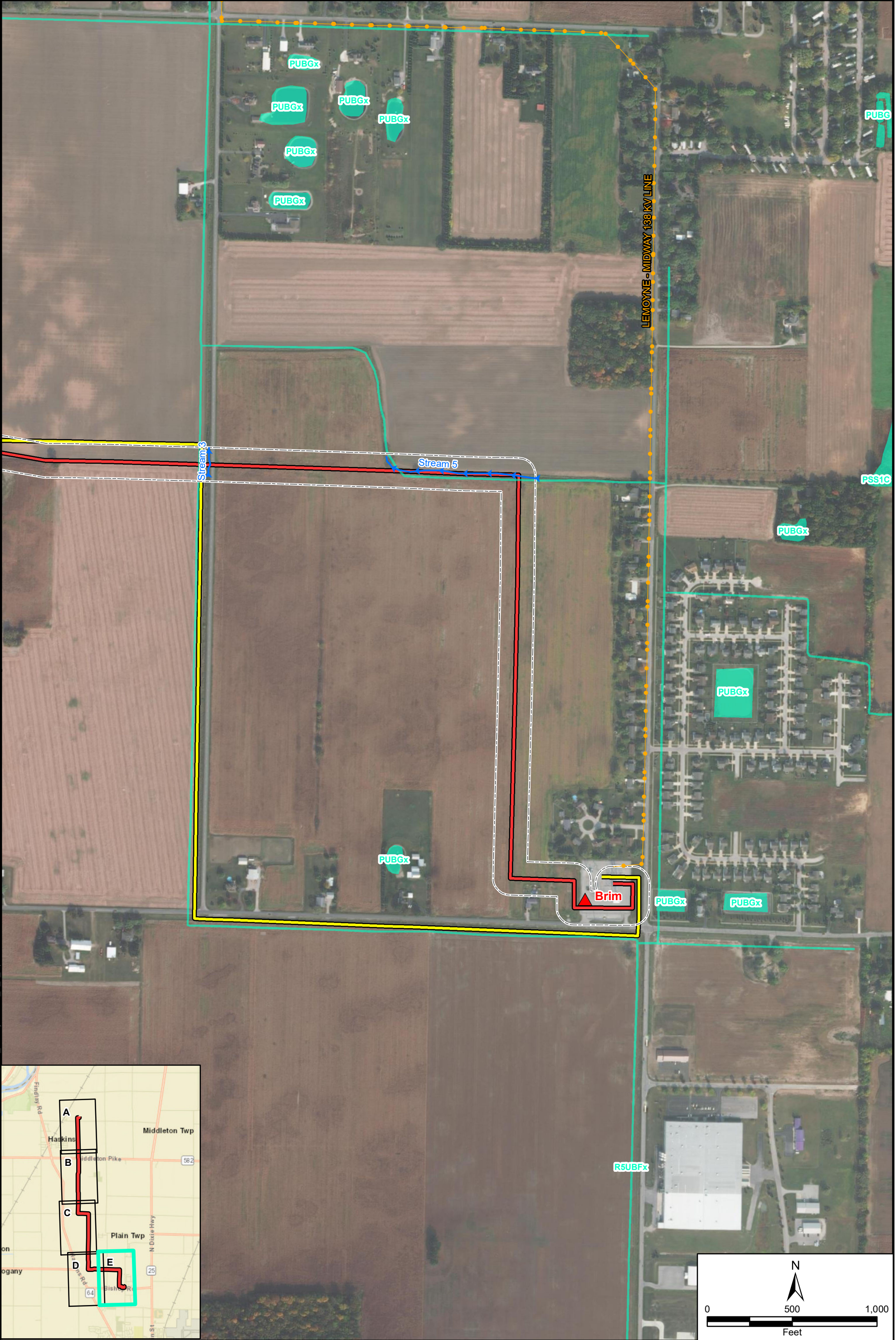


- Proposed Route Adjustment
- OPSB Approved Route
- Survey Corridor
- ▲ Existing Substation
- Existing 69kV Transmission Line
- Existing 138kV Transmission Line
- Existing 345kV Transmission Line
- Delineated Stream
- Non-Jurisdictional Ditch
- NWI Wetlands



Figure 8-2D - Revision 1  
 Aquatic Features Location Map  
 Wood County 138kV  
 Reinforcement Project

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- Proposed Route Adjustment
- OPSB Approved Route
- Survey Corridor
- ▲ Existing Substation
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- Delineated Stream
- Non-Jurisdictional Ditch
- NWI Wetlands

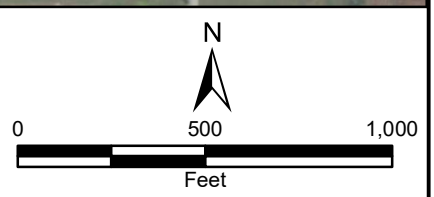
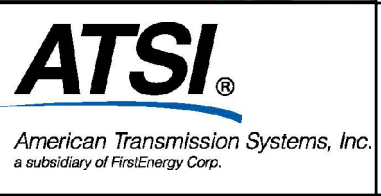
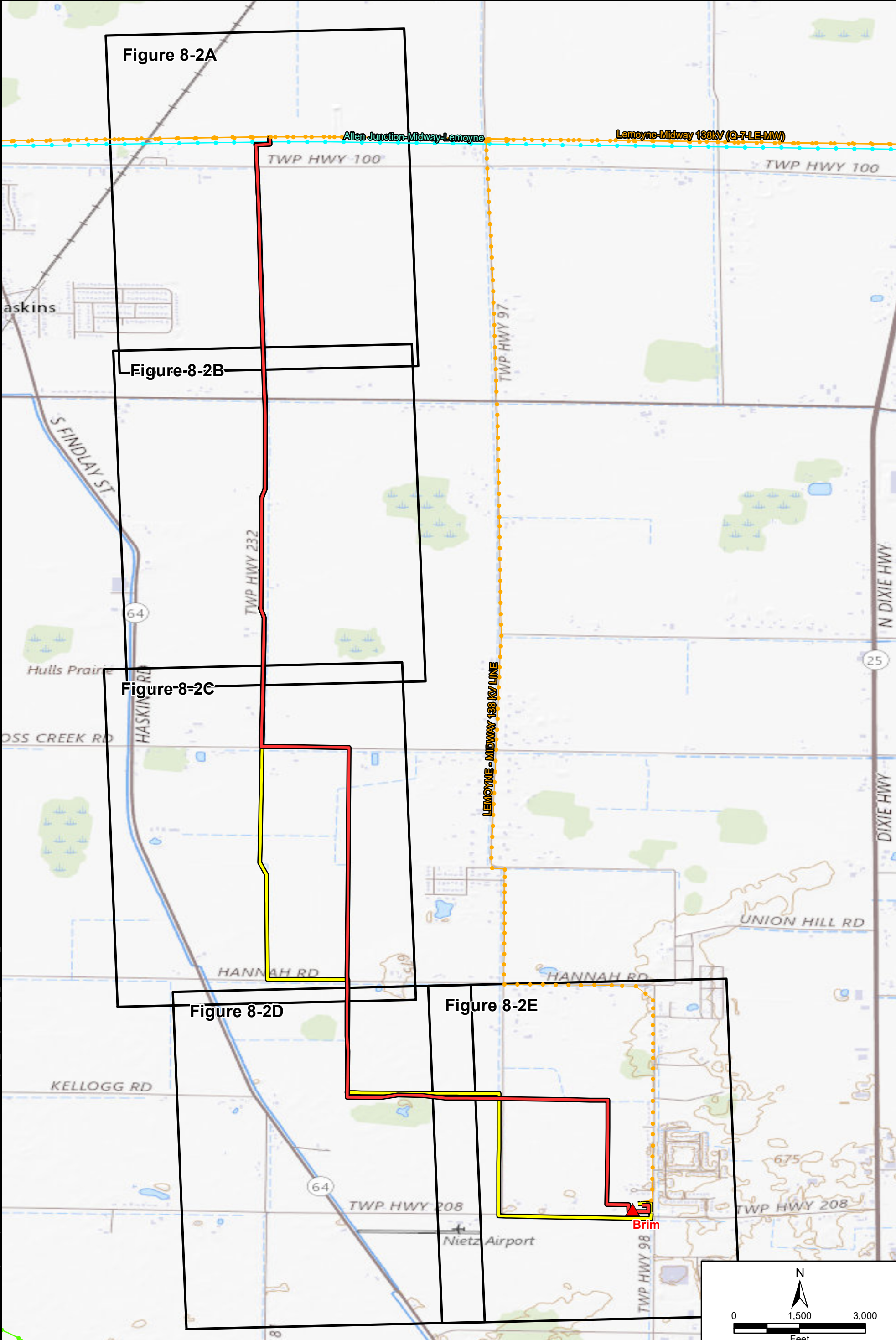









Figure 8-2E - Revision 1  
Aquatic Features Location Map  
  
Wood County 138kV  
Reinforcement Project  
  
Issued: October 20, 2022



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|---|--|---|
|  Existing Substation       |  Existing 69kV Transmission Line  |  Figure Key for 8-2 - Revision 1 |
|  Proposed Route Adjustment |  Existing 138kV Transmission Line |   |
|  OPSB Approved Route       |  Existing 345kV Transmission Line |   |

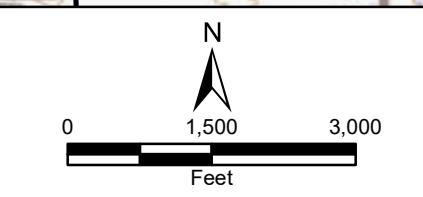


Figure 8-1 - Revision 1  
 Overview Map  
 Wood County 138kV  
 Reinforcement Project



**AGENCY CONSULTATIONS**



# Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

**Office of Real Estate**  
*John Kessler, Chief*  
2045 Morse Road – Bldg. E-2  
Columbus, OH 43229  
Phone: (614) 265-6621  
Fax: (614) 267-4764

September 9, 2021

Emily Nagle  
GPD Group  
5595 Transportation Boulevard, Suite 100  
Cleveland, OH 44125

**Re:** 21-0751; Wood County 138 kv Reinforcement Project

**Project:** The proposed project involves the construction of the Wood County 138kV Reinforcement Project to enhance electrical service in Wood County, Ohio.

**Location:** The proposed project is located in Middleton and Plain Townships, Wood County Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

**Natural Heritage Database:** The Natural Heritage Database has the following data at or within a one mile radius of the project area:

Bushy horseweed (*Conyza ramosissima*), P

The review was performed on the project area specified in the request as well as an additional one mile radius. Records searched date from 1980. This information is provided to inform you of features present within your project area and vicinity. Additional comments on some of the features may be found in pertinent sections below.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

Statuses are defined as: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; U = state status under review; X = presumed extirpated in Ohio; FE = federal endangered, and FT = federal threatened.

**Fish and Wildlife:** The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that Best Management Practices be utilized to minimize erosion and sedimentation.

The entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq 20$  if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the “OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING”. If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Erin Hazelton at [Erin.hazelton@dnr.ohio.gov](mailto:Erin.hazelton@dnr.ohio.gov)).

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS “Range-wide Indiana Bat Survey Guidelines.” If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Erin Hazelton for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the pondhorn (*Unio merus tetralasmus*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.

The project is within the range of the western banded killifish (*Fundulus diaphanatus menona*), a state endangered fish, and the greater redhorse (*Moxostoma valenciennesi*), a state threatened fish. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the Kirtland’s snake (*Clonophis kirtlandii*), a state threatened species. This secretive species prefers wet meadows and other wetlands. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the spotted turtle (*Clemmys guttata*), a state threatened species. This species prefers fens, bogs and marshes, but also is known to inhabit wet prairies, meadows, pond edges, wet woods, and the shallow sluggish waters of small streams and ditches. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the common tern (*Sterna hirundo*), a state endangered bird. The preferred nesting sites of common terns are natural or man-made islands that are free of mammalian predators and human disturbance. They will also utilize mainland beaches and dredge disposal areas but only when islands are unavailable. The common tern nests in colonies. Their eggs are laid in a grass-lined depression in the sand. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If no wetland habitat will be impacted, the project is not likely to impact this species.

The project is within the range of the lark sparrow (*Chondestes grammacus*), a state endangered bird. This sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. These summer residents normally migrate out of Ohio shortly after their young fledge or leave the nest. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the least bittern (*Ixobrychus exilis*), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with thick stands of cattails, sedges, sawgrass or other semiaquatic vegetation interspersed with woody vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the loggerhead shrike (*Lanius ludovicianus*), a state endangered bird. The loggerhead shrike nests in hedgerows, thickets and fencerows. They hunt over hayfields, pastures, and other grasslands. If thickets or other types of dense shrubbery habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the trumpeter swan (*Cygnus buccinator*), a state threatened bird. Trumpeter swans prefer large marshes and lakes ranging in size from 40 to 150 acres. They like shallow wetlands one to three feet deep with a diverse mix of plenty of emergent and submergent vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through June 15. If this habitat will not be impacted, this project is not likely to have an impact on this species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the US Fish & Wildlife Service.

**Water Resources:** The Division of Water Resources has the following comment.

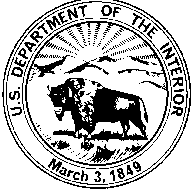
The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

[http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List\\_8\\_16.pdf](http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf)

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at [mike.pettegrew@dnr.ohio.gov](mailto:mike.pettegrew@dnr.ohio.gov) if you have questions about these comments or need additional information.

Mike Pettegrew  
Environmental Services Administrator (Acting)

# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Ecological Services  
4625 Morse Road, Suite 104  
Columbus, Ohio 43230  
(614) 416-8993 / FAX (614) 416-8994



July 14, 2023

Project Code: 2023-0103786

Dear Alex Latina:

The U.S. Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: Due to the project type, size, location, and the proposed implementation of seasonal tree cutting (clearing of trees  $\geq 3$  inches diameter at breast height between October 1 and March 31) to avoid impacts to the endangered Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*), and the proposed endangered tri-colored bat (*Perimyotis subflavus*) we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, coordination with the Service should be initiated to assess any potential impacts.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio ([https://epa.ohio.gov/portals/47/facts/ohio\\_wetlands.pdf](https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf)). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. Disturbed areas should be mulched and revegetated with native plant

species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew, Environmental Services Administrator, at (614) 265-6387 or at [mike.pettegrew@dnr.ohio.gov](mailto:mike.pettegrew@dnr.ohio.gov).

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or [ohio@fws.gov](mailto:ohio@fws.gov).

Sincerely,



Patrice Ashfield  
Field Office Supervisor

**Appendix 8-1  
Wetland and Waterbody Delineation  
Report**



# **Wetland Delineation and Surface Water Study**

## **Wood County 138kV Reinforcement Project Route Adjustment**

Wood County, Ohio

Prepared For:

FirstEnergy West Akron Campus  
341 White Pond Drive  
Akron, Ohio 44320

October 28, 2022

Prepared By:



**GPD GROUP**<sup>®</sup>

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## Table of Contents

1.0	Executive Summary .....	1
2.0	Introduction .....	2
3.0	Wetland Definition .....	3
4.0	Methods.....	5
4.1	Wetlands .....	5
4.1.1	Vegetation .....	5
4.1.2	Soils .....	5
4.1.3	Hydrology .....	6
4.1.4	Wetland Evaluation .....	6
4.2	Streams.....	7
4.3	Ponds.....	7
5.0	Findings.....	8
5.1	Wetlands .....	8
5.1.1	Literature Review .....	8
5.1.2	Field Reconnaissance.....	8
5.2	Streams.....	8
5.2.1	Literature Review .....	8
5.2.2	Field Reconnaissance.....	8
5.3	Ponds.....	9
5.3.1	Literature Review .....	9
5.3.2	Field Reconnaissance.....	9
6.0	Conclusions.....	11
7.0	Literature Cited/References .....	12

## Tables

Table 1	Wood County Soil Summary
Table 2	Stream Feature Summary
Table 3	Pond Feature Summary

## Figures

Figure 1	USGS Topographic Map
Figure 2	Aquatic Features Location Map
Figure 3	Soils Map
Figure 4	National Wetlands Inventory Map

## Appendices

Appendix A	Field Data Forms
Appendix B	Representative Photographs
Appendix C	List of Preparers

## 1.0 EXECUTIVE SUMMARY

GPD Group completed a routine survey for wetlands and other “Waters of the United States” on July 21, 2021 for American Transmission System, Incorporated (ATSI), a FirstEnergy company, proposed Wood County 138kV Reinforcement Project (Project). The Project is located within the City of Bowling Green and Middleton, Plain, and Center Townships in Wood County, Ohio.

The survey was completed in support of the Project which involves the construction of the Wood County 138kV Reinforcement Project to enhance electrical service in Wood County, Ohio. The Project includes the expansion of the existing 138/69kV substation in Plain Township and the construction of an approximately 5.5-mile 138kV transmission line connecting the expanded substation to the nearby Lemoyne-Midway 138kV Transmission Line. The Project will require a new 60-foot-wide right-of-way (ROW) and will primarily be supported on wood poles.

The environmental survey area investigated and documented in this report involves two (2) sections of the Western Alternative Route that have been shifted from their original alignment. The survey area consists of a 200-foot-wide corridor (100 buffer) along the new proposed centerline of the western alternative alignment adjustment (environmental survey corridor). The environmental survey corridor is approximately 142 acres in size.

The majority of the environmental survey area is located within the Maumee River Basin and is contained within the Haskins Road Ditch-Maumee River (HUC 12: 04100009-0603) and the Grassy Creek-Maumee River (HUC 12: 04100009-0901) watersheds.

The environmental survey area that was investigated is within the jurisdictional boundary of the USACE Buffalo District Office. **Figure 1** depicts the Project location on the Bowling Green North, Ohio United States Geologic Survey (USGS) 7.5-Minute Topographic Quadrangle Map.

The information in this report has been compiled as documentation of existing aquatic features and represents the professional opinion of GPD Group regarding the boundaries, general characteristics, and classifications of waters within the environmental survey area. This document is intended to establish the on-site extent of jurisdictional freshwater features and can be used to facilitate a Jurisdictional Determination. It is GPD Group’s recommendation that no earthwork be conducted until such time as all appropriate regulatory agency acknowledgements, reviews, and verifications have been completed.

Based on the field investigation, three (3) stream features have been identified within the environmental survey area boundary. No wetland features have been identified within the environmental survey area boundary. The identified aquatic features are depicted on the Aquatic Features Location Map (**Figure 2**). The areal extent of the feature was calculated using a Geographic Information System (GIS) and is presented in **Table 2**. Representative photographs were taken of the features within the environmental survey area boundary and are provided in **Appendix B**.

## 2.0 INTRODUCTION

The environmental survey area investigated and documented in this report involves two (2) sections of the Western Alternative Route that have been shifted from their original alignment. The survey area consists of a 200-foot-wide corridor along the new proposed centerline of the western alternative alignment reroute (environmental survey corridor). The environmental survey corridor is approximately 142 acres in size and was assessed on July 21, 2021.

In October 2018, GPD Group conducted field studies within an approximately 380-acre environmental survey area. These field studies focused on wetlands and other "Waters of the United States" delineations and habitat assessments within a 260-foot-wide corridor (130-foot buffer) along the proposed centerline of the western alternative alignment and the eastern alternative alignment for the Project (environmental survey corridor).

The proposed project involves the construction of the Wood County 138kV Reinforcement Project to enhance electrical service in Wood County, Ohio. The project includes the expansion of the existing 138/69kV substation in Plain Township and the construction of an approximately 5.5-mile 138kV transmission line connecting the expanded substation to the nearby Lemoyne-Midway 138kV transmission line. The project will require a new 60-foot-wide right-of-way (ROW) and will likely be supported on wood poles.

The majority surrounding land use consisted of actively farmed agricultural fields with scattered residential and commercial development.

On July 21, 2021 a Routine Level On-Site Determination, as outlined in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual, was performed. Additionally, the methods outlined in the April 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) were utilized to further ascertain the presence/absence of the three parameters that define a wetland. The Ohio Rapid Assessment Method for Wetlands (ORAM) Version 5.0 was used to provisionally rate each delineated wetland in accordance with current Ohio Environmental Protection Agency (Ohio EPA) standards, and to determine the appropriate regulatory category in which to place the wetland.

No wetlands were identified; however, in the event of the presence of wetlands, the wetland location would have been flagged in the field, and the identified feature location would have been recorded using a Trimble Geo-XH hand-held Global Positioning System (GPS) unit with sub-meter horizontal accuracy.

Three (3) streams were evaluated using either the Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams or the Methods for Assessing Habitat in Flowing Water: Using the Qualitative Habitat Evaluation Index (QHEI), published by the Ohio EPA. When appropriate, the Headwater Habitat Evaluation Index (HHEI) data sheets, Headwater Macroinvertebrate Field Evaluation Index (HMFEI) data sheets, and QHEI data sheets were completed in the field. Stream locations were flagged in the field, and all identified feature locations were recorded using a Trimble Geo-XH hand-held Global Positioning System (GPS) unit with sub-meter horizontal accuracy.

In addition to wetlands and streams, an investigation for ponds located within the environmental survey area boundary was also conducted. No ponds were identified within the environmental survey area.

### 3.0 WETLAND DEFINITION

Jurisdictional freshwater wetlands are included as a subset of "Waters of the United States" as defined by 33 CFR Part 328.3. The following definition of a wetland is the regulatory definition used by the USACE for administering Section 404 of the Clean Water Act which limits activities within "Waters of the United States" including wetlands. Wetlands are:

"Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated conditions. Wetlands generally include swamps, marshes, bogs, and similar areas". (EPA, 40 CFR 230.3)

Wetland determinations are based on a three-parameter approach. An area must exhibit these three characteristics to be classified as a wetland:

1. hydrophytic vegetation
2. hydric soils
3. wetland hydrology

**Hydrophytic vegetation** is defined as macrophytic plant life growing in water, soil, or on a substrate that is at least periodically deficient in oxygen as a result of the presence of water. In the course of developing the wetland determination methodology, the USACE, in cooperation with the U.S. Fish and Wildlife Service (USFWS), Environmental Protection Agency (EPA), and the Natural Resources Conservation Service (NRCS), compiled a comprehensive list of wetland vegetation. A method to quantify what type of vegetation is typical "wetland vegetation" was also developed and certain species of plants were assigned a plant indicator classification/status. The indicator classification/status of a plant species is expressed in terms of the estimated probability of that species occurring in wetland conditions within a given region. The indicator classification/status within this list includes:

1. Obligate Wetland (OBL) – occur almost always in wetlands (estimated probability 99%), under natural conditions.
2. Facultative Wetland (FACW) – usually occur in wetlands (estimated probability 67% to 99%), but occasionally found in non-wetlands.
3. Facultative (FAC) – equally likely to occur in wetlands and non-wetlands (estimated probability 34% to 66%).
4. Facultative Upland (FACU) – usually occurs in non-wetlands, but occasionally found in wetlands (estimated probability 1% to 33%).
5. Upland (UPL) - occur almost always in uplands (estimated probability 1%), under natural conditions.

Plants that are OBL, FACW, and FAC are considered wetland species.

**Hydric soils** are those soils that are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions within the major portion of the root zone. The National Technical Committee for Hydric Soils has developed criteria for hydric soil determinations in addition to hydric soil types. The USACE criteria for hydric soils specify that the chroma must be /1 if the soil has no mottles (marked with spots of contrasting color), and /2 or /3 if the soil is mottled. Any soil colors described within this report were determined in the field using the Munsell Soil Color Charts Year 2009 Edition.

**Wetland hydrology** is the permanent or periodic inundation or saturation of soil (within the root zone) for a significant period during the growing season. Many factors influence the hydrology of an area including

precipitation, topography, soil permeability, and plant cover. The frequency and duration of inundation or soil saturation are important factors in the determination of the existence of wetland hydrology. Primary indicators of wetland hydrology are inundation, soil saturation (within the root zone), water marks, sediment deposits, and drainage patterns. Secondary indicators such as oxidized root channels in the upper 12" of soil, water stained leaves, local soil survey data, and FAC-neutral vegetation test are sometimes also used to determine the presence of wetland hydrology. One primary indicator, or two secondary indicators, is required to establish the presence of wetland hydrology.

### **Summary**

In general, an area must meet all three of the aforementioned criteria to be classified as a wetland. In certain problem areas such as seasonal wetlands that are only wet during certain times of the year or in recently disturbed (atypical) situations, areas may be considered a wetland if only two criteria are met. Additionally, in special situations, an area that meets the definition of a wetland may not be within USACE jurisdiction due to a lack of adjacency to another "Water of the United States". These isolated features fall under the jurisdiction of the Ohio EPA.

## **4.0 METHODS**

### **4.1 Wetlands**

Prior to performing any field studies, the Wood County Soil Survey map, the USGS 7.5-Minute Topographic Quadrangle Map, and the National Wetlands Inventory (NWI) map were analyzed in detail to determine the presence of any previously-identified freshwater wetlands within the environmental survey area boundary.

Following the literature review, further investigation included inspection on foot during the field reconnaissance portion of the project to confirm the information gathered from the literature review, and to identify any wetlands not annotated on the reviewed sources.

For any suspected wetland areas, the wetland determination is performed based upon the Routine Level On-Site method as outlined in the 1987 USACE Manual. This method consists of collecting a data point within an area that exhibits wetland characteristics. Within this area vegetation is identified, hydrology is assessed, and soils to a depth of at least 18 inches are identified and described. This method is accepted by the USACE and takes into consideration the three wetland parameters (1. Vegetation, 2. Soils, 3. Hydrology) covering both normal and atypical situations. Subsequently, an upland data point within an area adjacent to the delineated wetland, which did not exhibit wetland characteristics, is collected in the same manner, to provide contrasting evidence.

#### ***4.1.1 Vegetation***

All habitat types within the environmental survey area boundary are identified and the distribution of individual plant species is noted. The existing vegetation is analyzed with respect to percentage of cover for each species. This involves estimation of existing plant species composition by direct observation. Wetlands, as stated previously, are usually characterized by the predominance of hydrophytic plant species. Conversely, upland areas would be dominated by more xerophytic species, or plants better adapted to drier soil conditions. A mesic zone, or the transition between wetland and upland habitat, is often comprised of a mixture of FACW, FAC, and FACU species.

With respect to the vegetation, the USACE Manual places great emphasis on the presence of hydrophytic plant species as an indicator of wetland conditions. It is determined which species are dominant within each plant community. The determination of whether or not an herbaceous species is dominant is based on percentage of cover. Vegetative dominance is calculated as described in the 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands (50/20 method).

The species indicator classification/status is determined and recorded for each dominant plant species found at the site. This information is used in conjunction with their percentage of cover to determine whether a prevalence of wetland species exists in any of the vegetation communities occurring within the environmental survey area boundary. Species indicator classification/status information is obtained from the USACE's The National Wetland Plant List: 2013 wetland ratings for the State of Ohio (Lichvar, 2013).

#### ***4.1.2 Soils***

During the field investigation of the environmental survey area, a spade shovel is used to dig soil test pits to accurately document the extent of hydric soil conditions. The test pits are dug to a depth of approximately 18 inches and the soil is examined for color, texture, and moisture content.

Soil color is determined in the field using the 2009 Edition of the Munsell Soil Color Charts. Hydric soils are identified by color/chroma. The Munsell designation indicates the soil color as removed from the test pit. Hydric soil determinations are made in strict accordance with USACE criteria.

Weather conditions during the soil identification procedures for this investigation varied during the field investigation from approximately 78°F and sunny to approximately 62°F and sunny.

### 4.1.3 Hydrology

Hydrology indicators [including inundation, soil saturation (within the root zone), water marks, sediment deposits, etc.] are used in conjunction with vegetation and soil characteristics to establish the presence/absence of freshwater wetlands. The environmental survey area is also evaluated for signs of past human disturbances to determine whether any identified features had been created by man (man-induced wetland) or if the hydrologic regime of the feature had been recently altered. While hydrology is the driving force in wetland creation, it is often the least exact and most difficult to identify in the field. Field indicators are often used to assess the hydrology of an area, especially during times when surface water is not present, or during times of low groundwater, as it might otherwise be difficult to identify.

### 4.1.4 Wetland Evaluation

ORAM Version 5.0 is used to rate any wetland observed within the environmental survey area boundary in accordance with current Ohio EPA standards, and to determine the appropriate regulatory category in which to place the wetland. This assessment is also used to assess the overall ecological quality and the level of function of a particular wetland. The numeric score obtained from the ORAM field form is not, and should not be considered, an absolute number with intrinsic meaning. The numeric score does, however, allow for relative comparisons between wetlands to be made.

#### Interim Scoring Break Points for Wetland Regulatory Categories for ORAM

Category	ORAM v5.0 score
1	0 - 29.9
1 or 2 gray zone	30 - 34.9
Modified 2	35 - 44.9
2	45 - 59.9
2 or 3	60 - 64.9
3	65 - 100

In general, Category 1 wetlands are those wetlands that support minimal wildlife habitat, and minimal hydrological and recreational functions. Category 1 wetlands do not provide critical habitat for threatened or endangered species or contain rare or otherwise sensitive species. Category 2 wetlands support moderate wildlife habitat or hydrological functions. Category 2 wetlands may include the presence of native plant species, but generally do not support threatened or endangered wildlife. Category 3 wetlands support superior wildlife habitat and hydrologic functions. Category 3 wetlands also can have high levels of diversity with a high proportion of native species producing high functional value.

Any wetland observed within the environmental survey area boundary is also identified to their respective Cowardin *et al.* (1979) classification. In brief, this method requires that the delineator classify systems based on the areal extent of vegetative cover. If vegetation covers 30% or more of the substrate, classes are distinguished on the basis of the life form of the plants that constitute the uppermost layer of vegetation and that possess an areal coverage 30% or greater.

The boundary of any wetland identified within the environmental survey area boundary is flagged and recorded in the field with a Trimble Geo-XH hand-held GPS with sub-meter horizontal accuracy. The boundary data that is collected is spatially accurate to <1.0 meter and conforms to the most recent USACE criteria for wetland delineation boundary surveys.



## 4.2 Streams

Prior to performing any field studies, the Wood County Soil Survey map, the USGS 7.5-Minute Topographic Quadrangle Map, and the NWI map were analyzed in detail to determine the presence of any previously-identified streams within the environmental survey area boundary.

Following the literature review, further investigation included inspection on foot during the field reconnaissance portion of the project to confirm the information gathered from the literature review, and to identify any streams not annotated on the reviewed sources.

If any streams are identified within the environmental survey area boundary, their drainage area is calculated using the USGS StreamStats for Ohio website (USGS StreamStats Ohio, 2010) to first determine if the stream is considered a Primary Headwater Habitat (PHWH) Stream (<1.0mi<sup>2</sup>), or a non PHWH Stream (>1.0mi<sup>2</sup>). If the stream is determined to be a PHWH Stream, the Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams is used to assign a Headwater Habitat Evaluation Index (HHEI) score for the stream. The HHEI evaluation requires the examination of three habitat variables (channel substrate composition, bankfull width, and maximum pool depth) to sufficiently separate PHWH streams into Class I, Modified Class I, Class II, Modified Class II, and Class III PHWH streams. Once an HHEI score is established for a stream, the decision making flowchart from the Field Evaluation Manual for Ohio's PHWH streams is reviewed to determine the appropriate designation of stream class. Following the flowchart, where it was warranted, further evaluation for potential Rheocrene Biotic Communities may be required. This evaluation includes conducting a Headwater Macroinvertebrate Field Evaluation Index (HMFEI) and an investigation of the aquatic vertebrates (fish and amphibians) utilizing the stream. The flow regime of the stream is determined in the field based on stream morphology and site conditions at the time of the investigation.

If a stream is identified as a Non-PHWH Stream (drainage area >1.0mi<sup>2</sup>), the stream is characterized by completing a Qualitative Habitat Evaluation Index (QHEI) assessment (Rankin, 1989). The QHEI field method requires the examination of six stream habitat characteristics. The evaluation and rating of these six habitat characteristics can yield a qualitative score from 7-100. A low score is indicative of a stream with relatively low ecological/habitat value for fish or macroinvertebrates, etc. A score near the middle of the range is indicative of moderate habitat, and a score near the high end of the range could indicate an exceptional stream community. The six stream habitat characteristics that are evaluated included substrate quality, in-stream cover, channel morphology, riparian zone quality, pool/glide and riffle/run quality, and stream gradient.

Similar to the wetlands, the centerline of streams within the environmental survey area is recorded in the field with a Trimble Geo-XH hand-held GPS with sub-meter horizontal accuracy.

## 4.3 Ponds

Prior to performing any field studies, the Wood County Soil Survey map, the USGS 7.5-Minute Topographic Quadrangle Map, and the NWI map were analyzed in detail to determine the presence of any previously-identified ponds within the environmental survey area boundary.

Following the literature review, further investigation included inspection on foot during the field reconnaissance portion of the project to confirm the information gathered from the literature review, and to identify any ponds not annotated on the reviewed sources.

Ponds were identified as those areas with permanent inundation and lacking hydrophytic vegetation indicators.

## 5.0 FINDINGS

### 5.1 Wetlands

#### 5.1.1 Literature Review

Prior to performing field studies, the USGS 7.5-Minute Topographic Quadrangle Map (**Figure 1**), Wood County Soil Survey map (**Figure 3**), and NWI map (**Figure 4**) were analyzed in detail to determine the possible distribution of any previously-identified freshwater wetlands within the environmental survey area. The NWI map depicted several riverine unconsolidated bottom (R5UB) features either crossing or flowing alongside of the proposed alignments. No evidence of freshwater wetland features was depicted within the environmental survey area on the topographic map.

The Wood County, Ohio (USDA-NRCS, 2009) Soil Survey Geographic (SSURGO) database indicates that there are six (6) soil units mapped within the environmental survey area boundary. Of these soil units, five (5) appear on the State Soil Data Access (SDA) Hydric Soil List maintained by the U.S. Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS, 2018). The soil map is included as **Figure 3**. Additional information pertaining to the soil units identified within the environmental survey area are presented in the table below.

**Table 1 – Soil Summary**

SYMBOL	MAP UNIT NAME	TAXONOMY	DRAINAGE CLASS	HYDRIC
HoA	Hoytville clay loam, 0-1% slopes	Fine, illitic, mesic Mollic Epiaqualfs	Very poorly drained	<b>Yes</b>
MfA	Mermill-Aurand complex, 0-1% slopes	Fine-loamy, mixed, active, mesic Mollic Epiaqualfs	Very poorly drained	<b>Yes</b>
NmA	Nappanee sandy loam, 0-2% slopes	Fine, illitic, mesic Aeric Epiaqualfs	Somewhat poorly drained	No
RfA	Rimer and Tedrow, till substratum, loamy fine sands, 0-2% slopes	Loamy, mixed, active, mesic Aquic Arenic Hapludalfs	Somewhat poorly drained	<b>Yes</b>
SdA	Seward and Ottokee, till substratum, loamy fine sands, 0-2% slopes	Coarse-loamy over clayey, mixed over illitic, active, mesic Oxyaquic Hapludalfs	Moderately well drained	<b>Yes</b>
SdB	Seward and Ottokee, till substratum, loamy fine sands, 2-6% slopes	Coarse-loamy over clayey, mixed over illitic, active, mesic Oxyaquic Hapludalfs	Moderately well drained	<b>Yes</b>

Notes: State Soil Data Access (SDA) Hydric Soil List (Accessed October 2018)  
 Soil Designations as seen on **Figure 3**

#### 5.1.2 Field Reconnaissance

Following the literature review, further investigation included inspection on foot during the field reconnaissance portion of the project to confirm the information gathered from the literature review, and to identify any wetlands not annotated on the reviewed sources. The riverine unconsolidated bottom (R5UB) features identified on the NWI map were determined to be streams (See Section 5.2 for information on identified streams). No evidence of wetland features was identified within the environmental survey area during the field reconnaissance.

### 5.2 Streams

#### 5.2.1 Literature Review

Prior to performing field studies, the USGS 7.5-Minute Topographic Quadrangle Map (**Figure 1**), Wood County Soil Survey map (**Figure 3**), and NWI map (**Figure 4**) were analyzed in detail to determine the possible distribution of any previously-identified streams within the environmental survey area boundary. Several intermittent streams were shown either crossing or flowing alongside of the proposed alignment.

#### 5.2.2 Field Reconnaissance

Following the literature review, further investigation included inspection on foot during the field reconnaissance portion of the project to confirm the information gathered from the literature review, and to identify any streams not annotated on the reviewed sources.

Three (3) perennial streams was identified within the environmental survey area boundary during the field reconnaissance activities. These streams are designated Stream 3, Stream 5, and Stream 6. Stream 3 was previously evaluated during the 2018 wetland delineation of the OPSB approved route. The streams are illustrated on the Aquatic Features Location Map (**Figure 2**). **Appendix A** contains the HHEI field forms completed during the investigation and **Appendix B** contains representative photographs of the streams. A detailed summary of the identified streams is presented in the table below.

**TABLE 2. STREAM SUMMARY** **TOTAL ON-SITE STREAM LENGTH (FT) 3,445**

ID	PHOTO	DRAINAGE AREA (MI <sup>2</sup> )	USACE FLOW CHARACTERISTICS/ HYDROLOGY <sup>A</sup>	HABITAT ASSESSMENT (SCORE)	401 WQC FOR NWP ELIGIBILITY	OEPA AQUATIC LIFE USE DESIGNATION <sup>B</sup>	ON-SITE LENGTH (FT)
<b>Stream 3</b>	1,2	1.0	RPW - Perennial	HHEI (52)	Potentially Eligible	Modified Class II	200
<p><b>Receiving Waters:</b> Stream 3 enters the environmental survey area from the south and flows north and west before exiting the environmental survey area. Outside of the environmental survey area, Stream 3 continues flowing north approximately 9.7-mile before flowing into the Maumee River. The entire length of Stream 3 within in the survey area is confined within an agricultural and roadside ditches.</p> <p><b>Adjacent Land Use:</b> The surrounding land use consists of actively farmed agricultural fields.</p>							
<b>Stream 5</b>	3,4	1.0	RPW - Perennial	HHEI (44)	Potentially Eligible	Modified Class II	940
<p><b>Receiving Waters:</b> Stream 5 enters the environmental survey area from the east and flows west before changing direction north and exiting the environmental survey area. Outside the environmental survey area, stream 5 flows north approximately 900 feet before flowing west into Stream 3.</p> <p><b>Adjacent Land Use:</b> The surrounding land use consists of actively farmed agricultural fields.</p>							
<b>Stream 6</b>	5,6	2.14	RPW - Perennial	HHEI (47)	Potentially Eligible	Modified Class II	2,305
<p><b>Receiving Waters:</b> Stream 6 originates in the environmental survey area and flows south to north. The stream exits the survey area and continues to flow north approximately 2,000 feet. The stream turns east and briefly reenters the survey area before exiting once again. Stream 6 continues to flow east before connecting with a roadside ditch along Cross Creek Road.</p> <p><b>Adjacent Land Use:</b> The surrounding land use consists of actively farmed agricultural fields.</p>							

<sup>A</sup> Subject to verification by the USACE (TNW=Traditional Navigable Water, RPW=Relatively Permanent Water)

<sup>B</sup> Provisional designations based on habitat assessment forms and/or HMFEEI.

### 5.3 Ponds

#### 5.3.1 Literature Review

Prior to performing field studies, the USGS 7.5-Minute Topographic Quadrangle Map (**Figure 1**), Wood County Soil Survey map (**Figure 3**), and NWI map (**Figure 4**) were analyzed in detail to determine the possible distribution of any previously-identified ponds within the environmental survey area boundary. No pond features were identified within the environmental survey area boundary on the reviewed sources.

#### 5.3.2 Field Reconnaissance

Following the literature review, further investigation included inspection on foot during the field reconnaissance portion of the project to confirm the information gathered from the literature review, and to identify any ponds not

annotated on the reviewed sources. No natural pond features were identified within the environmental survey area during the field reconnaissance activities.

## 6.0 CONCLUSIONS

Based upon the field reconnaissance activities, three (3) streams were identified within the environmental survey area. No freshwater wetland features and ponds were identified within the environmental survey area. The streams were designated Stream 3, Stream 5, and Stream 6. Aquatic features are depicted on the Aquatic Features Location Map (**Figure 2**).

Criteria have been evaluated in order to determine whether the aquatic feature located within environmental survey area is "adjacent" or "isolated". Specifically, the definition of "adjacent", as provided in 33 CFR Part 328.4, was used to determine if the aquatic feature was bordering, contiguous, or neighboring ("adjacent") other "Waters of the United States".

Stream 3, Stream 5, and Stream 6 were determined to be contiguous to the Maumee River (OAC 3745-1-11, Table 11-2), and therefore "adjacent".

The USACE will make the final determination of "jurisdiction" in accordance with the Clean Water Act concerning all on-site aquatic features. It is GPD Group's recommendation that no earthwork be conducted until such time as all appropriate regulatory agency acknowledgements, reviews, and verifications have been completed.

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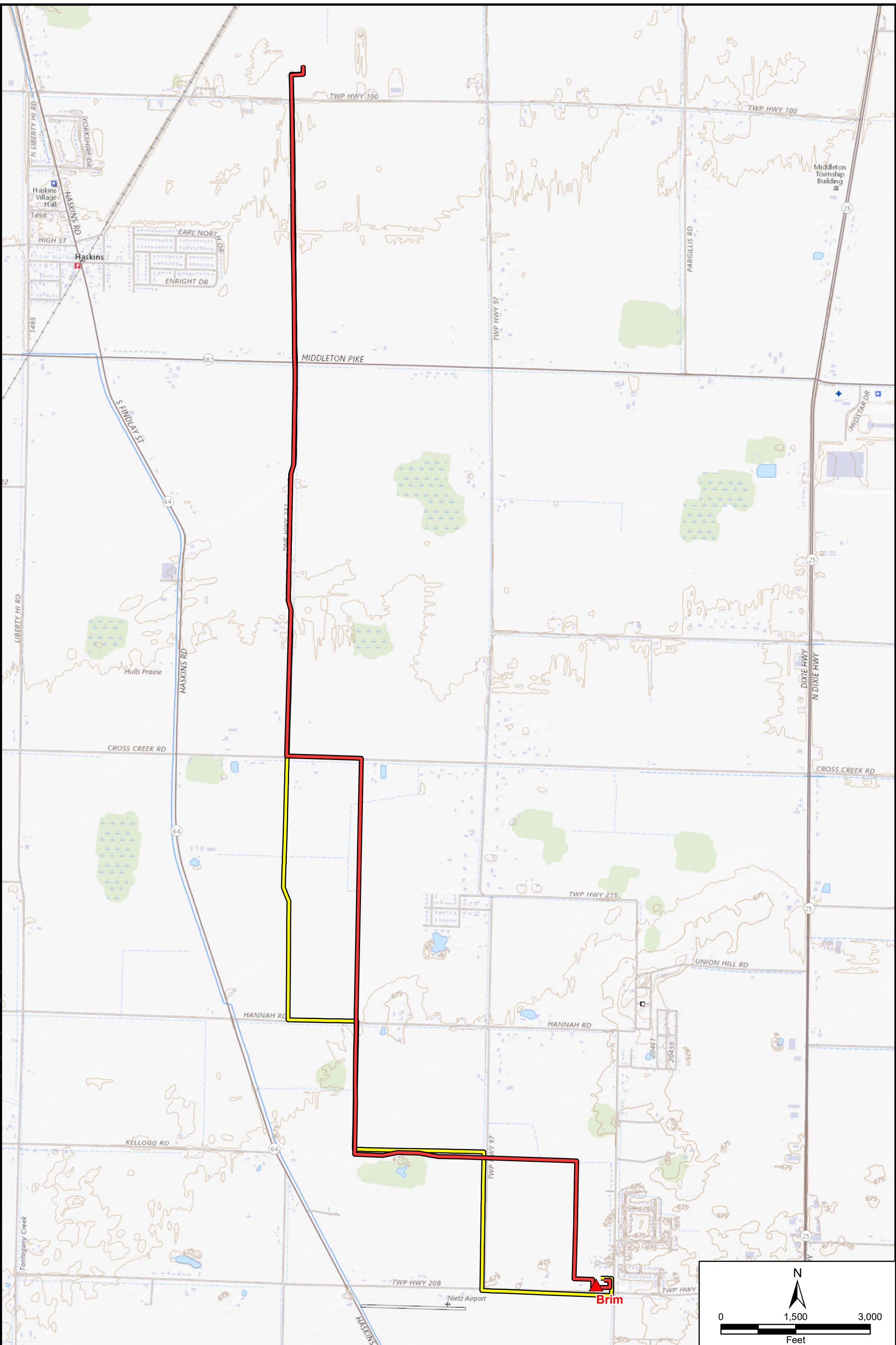
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## Figures

- Figure 1 USGS Topographic Map
- Figure 2 Aquatic Features Location Map
- Figure 3 Soils Map
- Figure 4 National Wetlands Inventory Map





- ▲ Existing Substation
- Proposed Route Adjustment
- OPSB Approved Route

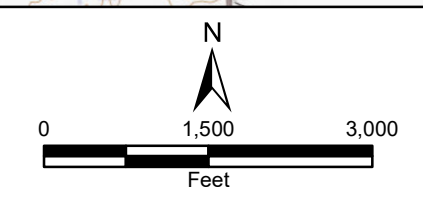
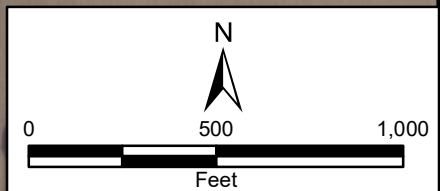
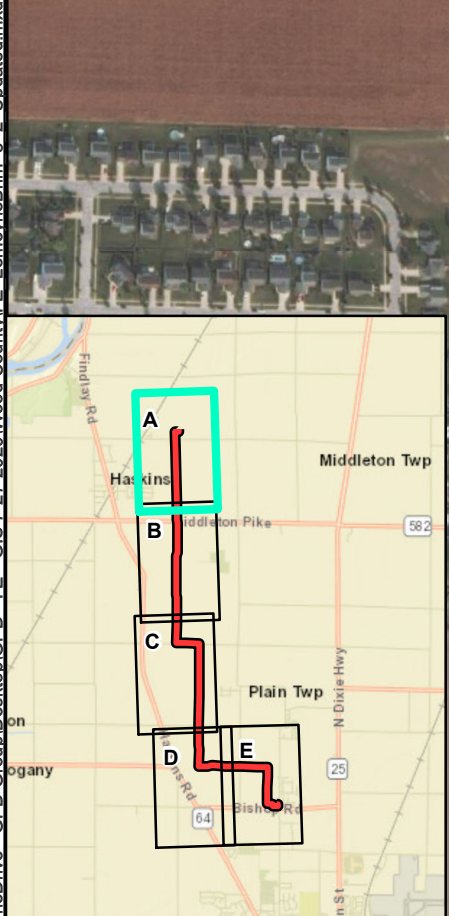
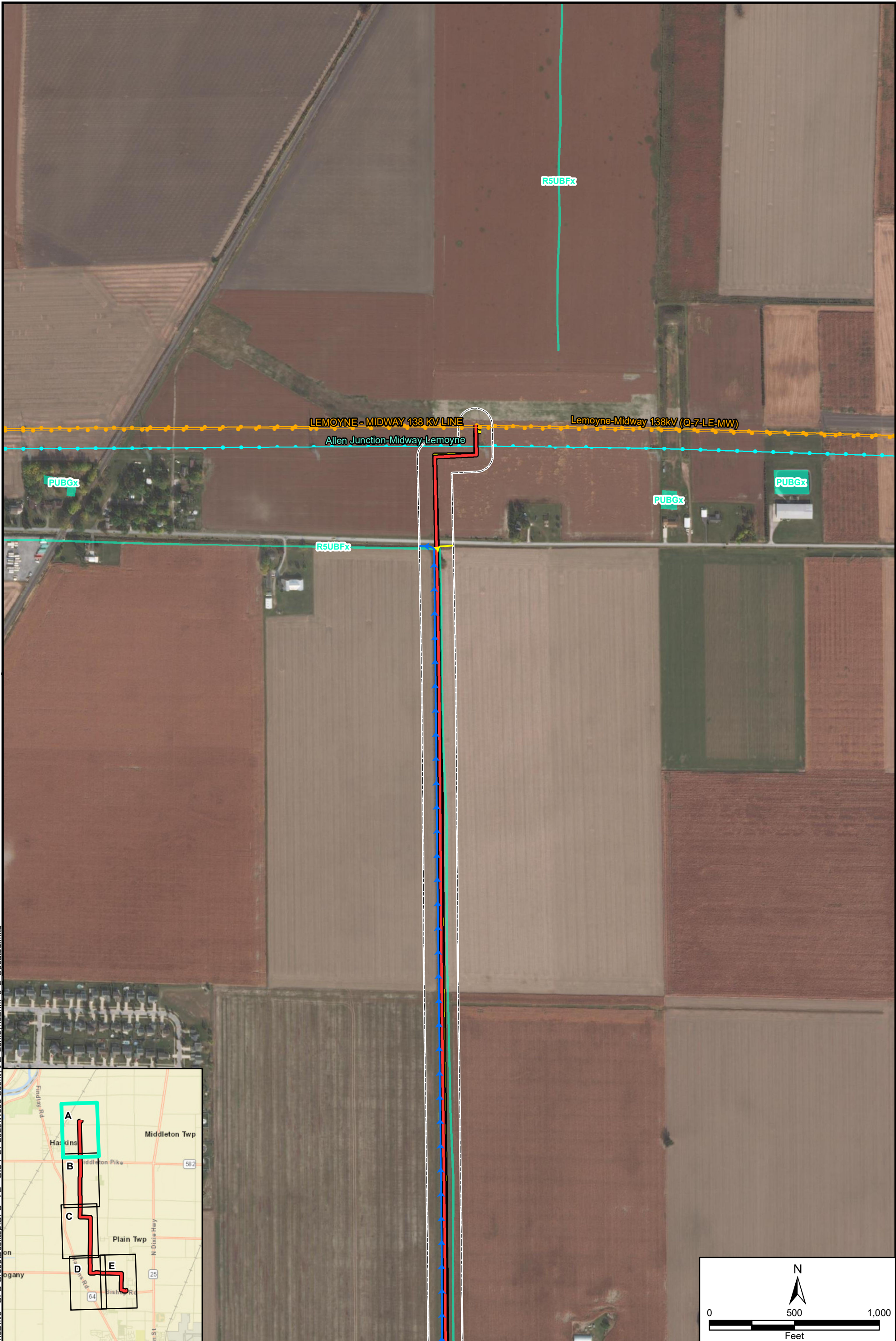


Figure 1  
Topographic Map  
Wood County 138kV  
Reinforcement Project



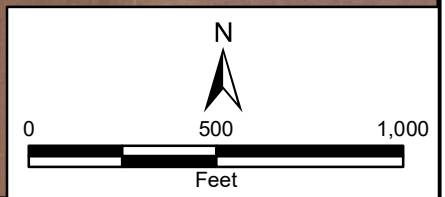
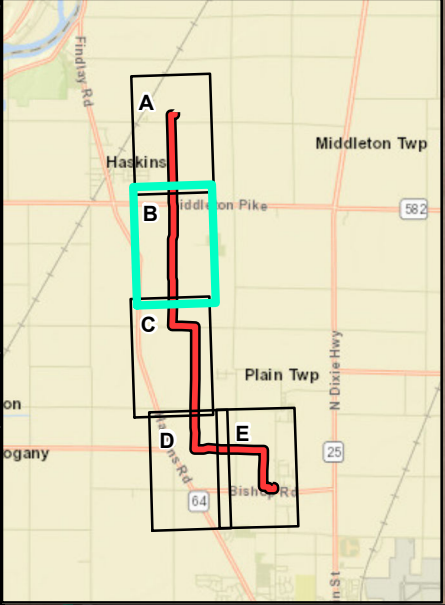
- Proposed Route Adjustment
- OPSB Approved Route
- Survey Corridor
- ▲ Existing Substation
- Existing 69kV Transmission Line
- Existing 138kV Transmission Line
- Existing 345kV Transmission Line
- Delineated Stream
- Non-Jurisdictional Ditch
- NWI Wetlands



Figure 2-A  
Aquatic Features Location Map  
Wood County 138kV  
Reinforcement Project

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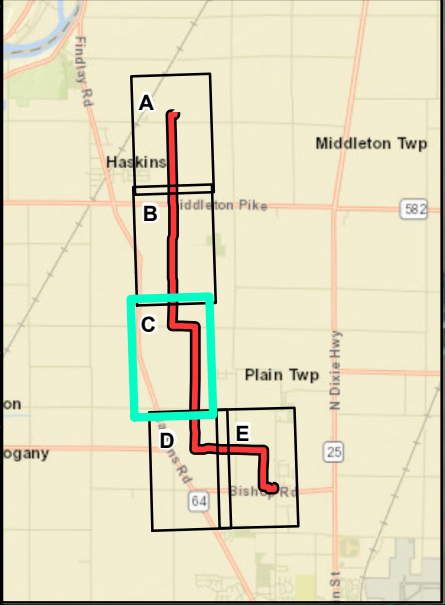
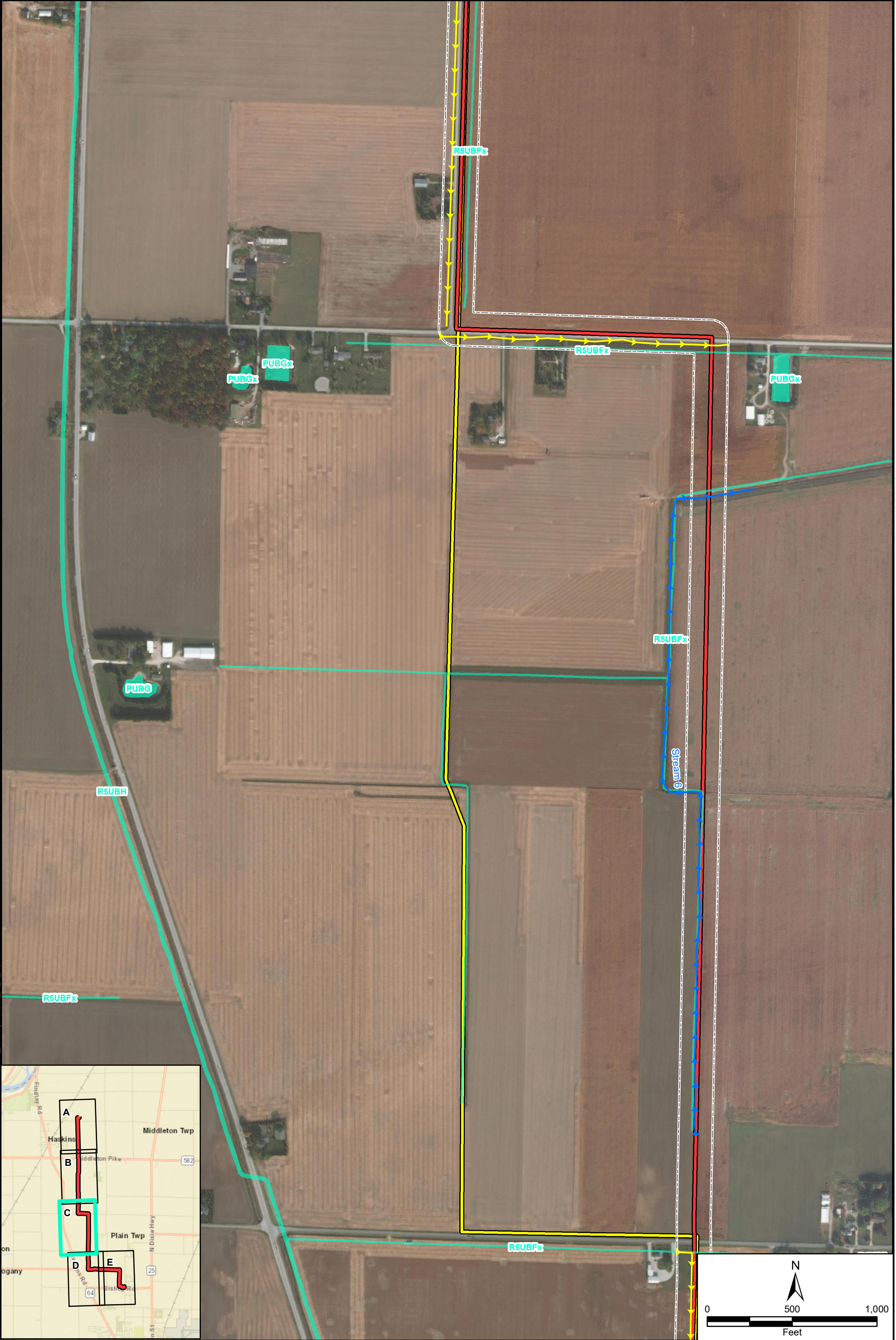


- Proposed Route Adjustment
- OPSB Approved Route
- Survey Corridor
- ▲ Existing Substation
- Existing 69kV Transmission Line
- Existing 138kV Transmission Line
- Existing 345kV Transmission Line
- Delineated Stream
- Non-Jurisdictional Ditch
- NWI Wetlands



Figure 2-B  
 Aquatic Features Location Map  
 Wood County 138kV  
 Reinforcement Project

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- Proposed Route Adjustment
- OPSB Approved Route
- Survey Corridor
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- Delineated Stream
- Non-Jurisdictional Ditch
- NWI Wetlands

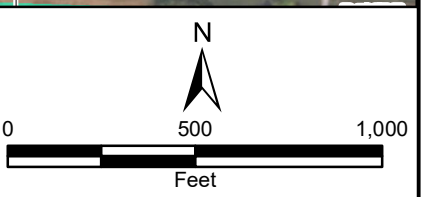
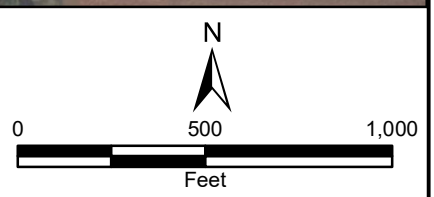
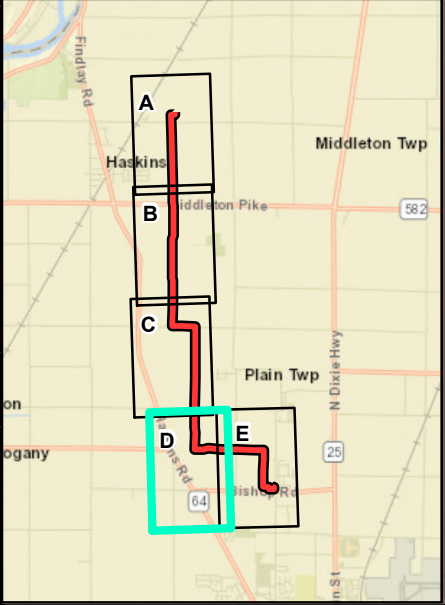
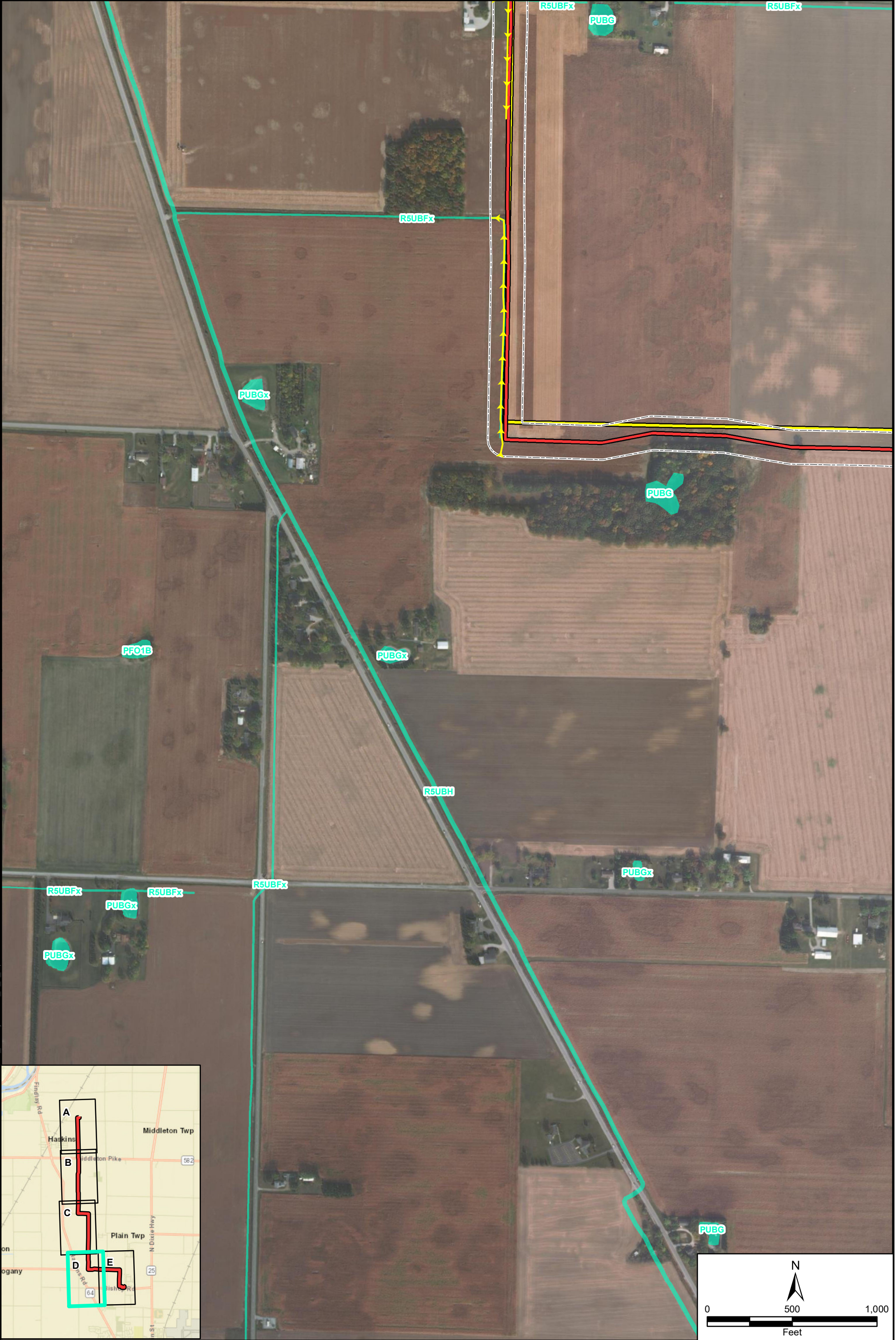


Figure 2-C  
Aquatic Features Location Map  
  
Wood County 138kV  
Reinforcement Project

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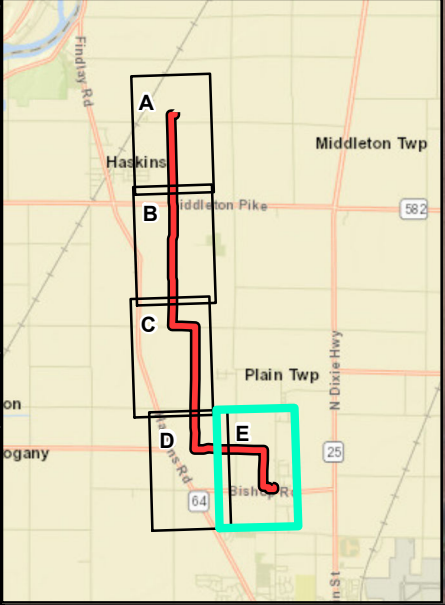
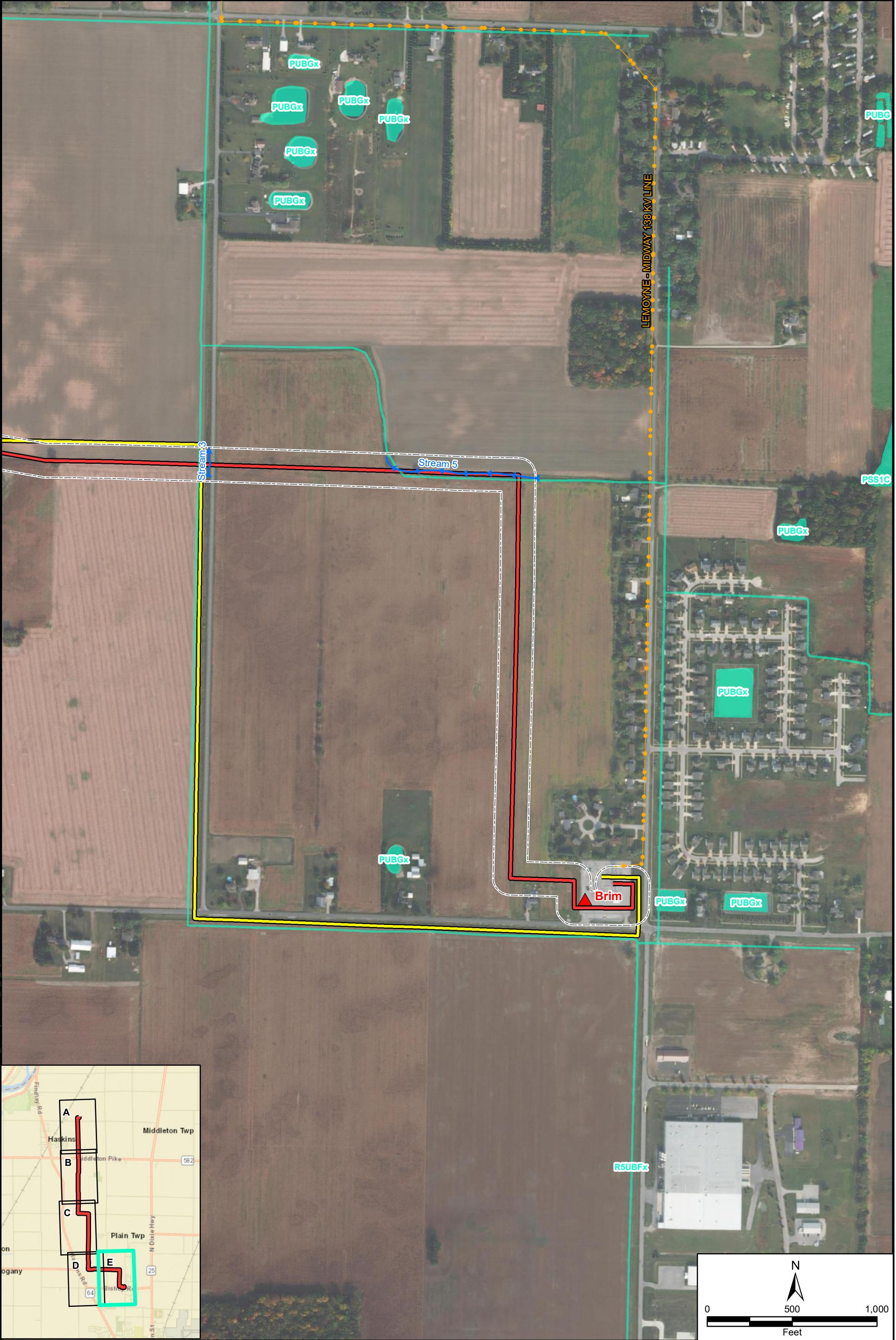


- Proposed Route Adjustment
- OPSB Approved Route
- Survey Corridor
- ▲ Existing Substation
- Existing 69kV Transmission Line
- Existing 138kV Transmission Line
- Existing 345kV Transmission Line
- Delineated Stream
- Non-Jurisdictional Ditch
- NWI Wetlands

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Figure 2-D  
 Aquatic Features Location Map  
 Wood County 138kV  
 Reinforcement Project

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- Proposed Route Adjustment
- OPSB Approved Route
- Survey Corridor
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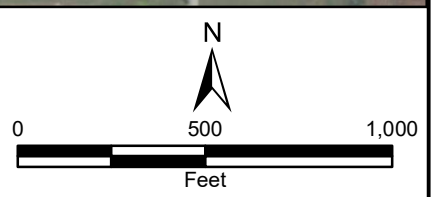
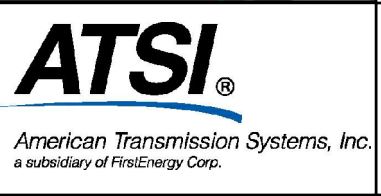
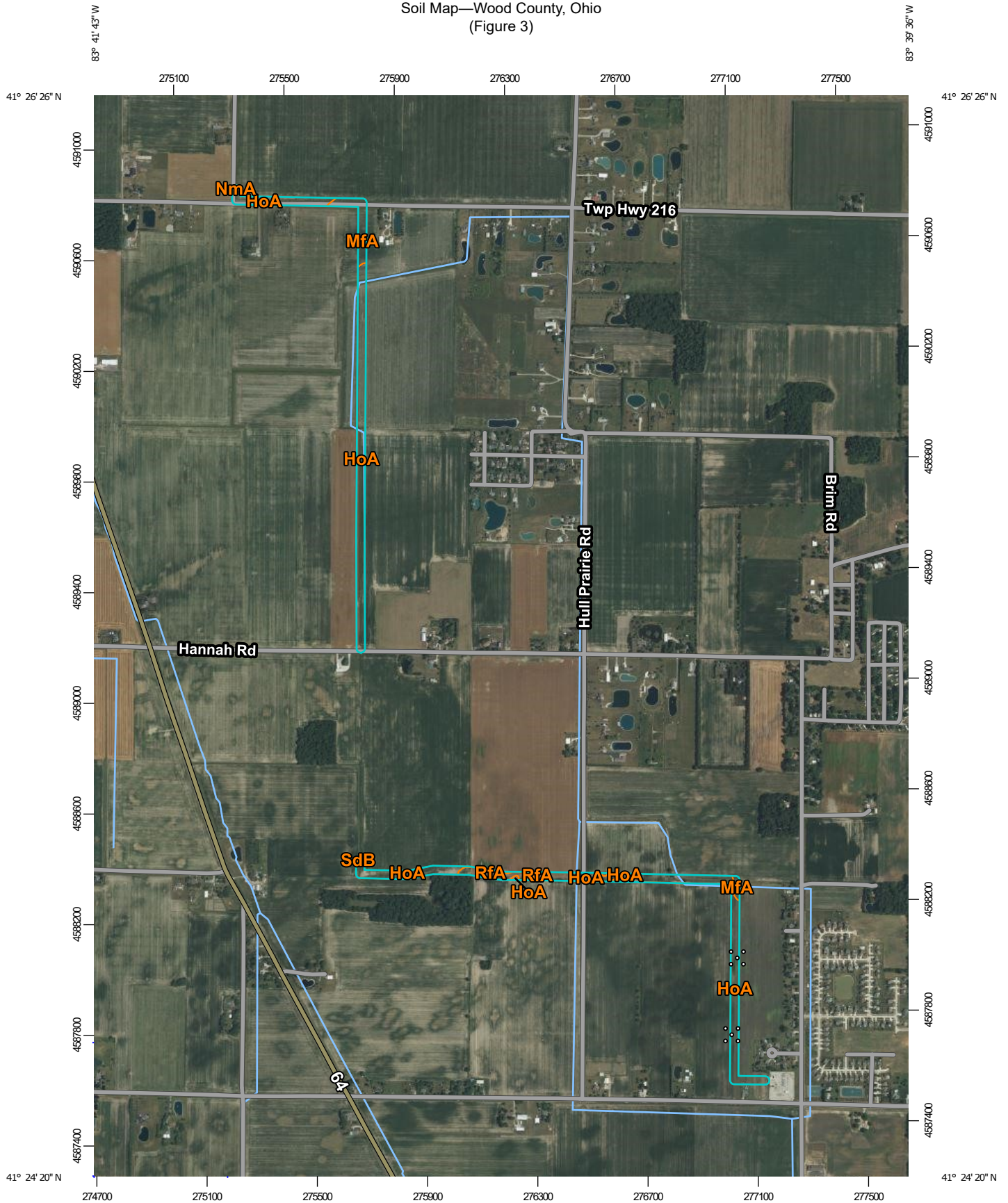
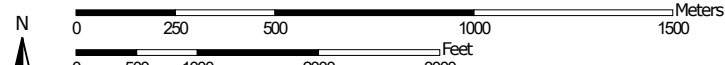


Figure 2-E  
Aquatic Features Location Map  
Wood County 138kV  
Reinforcement Project  
Issued: October 20, 2022

Soil Map—Wood County, Ohio  
(Figure 3)




Map Scale: 1:19,000 if printed on A portrait (8.5" x 11") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84


## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Wood County, Ohio

Survey Area Data: Version 24, Sep 12, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 4, 2020—Jul 5, 2020

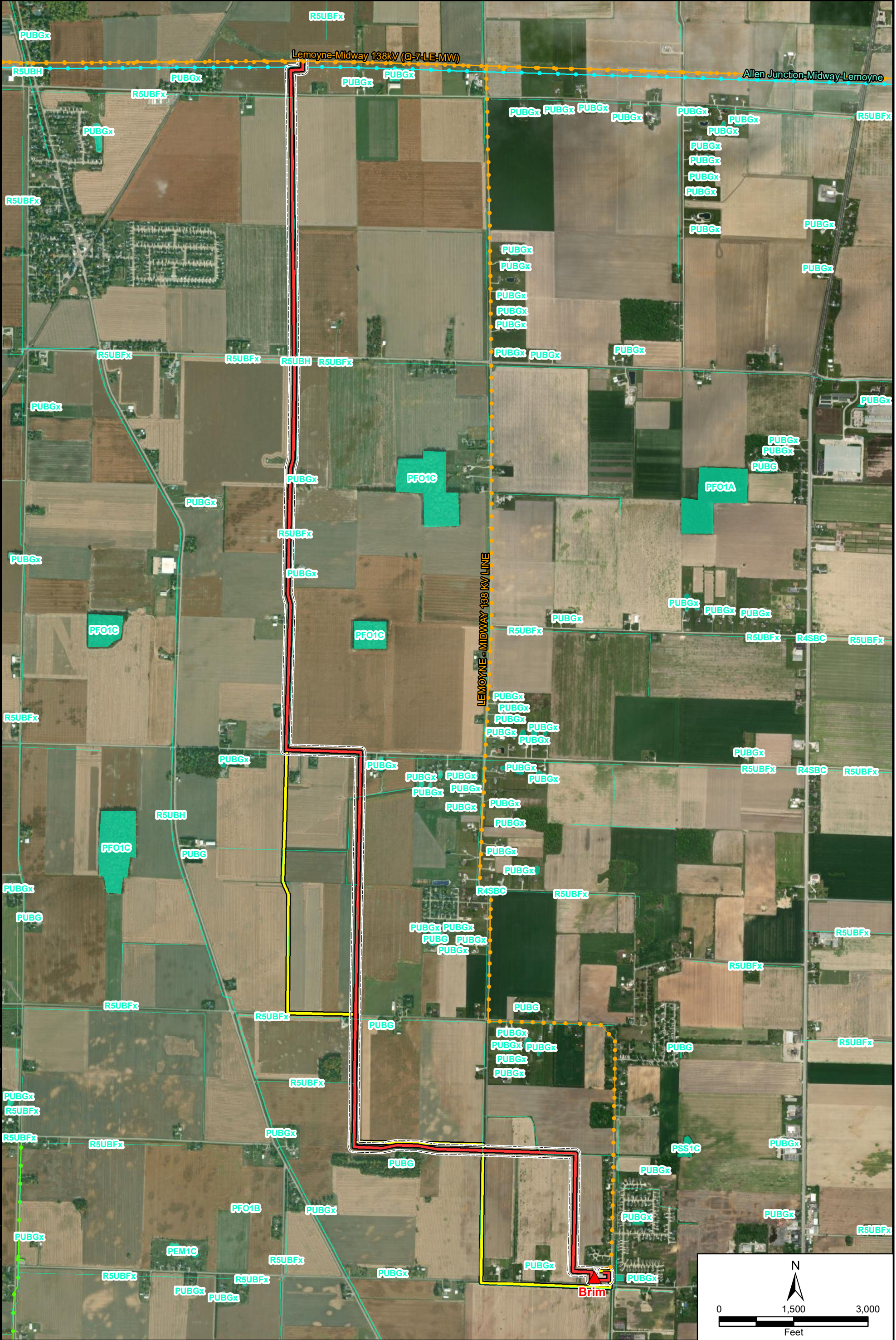
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HoA	Hoytville clay loam, 0 to 1 percent slopes	27.2	82.2%
MfA	Mermill-Aurand complex, 0 to 1 percent slopes	2.9	8.9%
NmA	Nappanee sandy loam, 0 to 2 percent slopes	0.1	0.4%
RfA	Rimer and Tedrow, till substratum, loamy fine sands, 0 to 2 percent slopes	1.1	3.2%
SdA	Seward and Ottokee, till substratum, loamy fine sands, 0 to 2 percent slopes	1.7	5.2%
SdB	Seward and Ottokee, till substratum, loamy fine sands, 2 to 6 percent slopes	0.0	0.1%
<b>Totals for Area of Interest</b>		<b>33.2</b>	<b>100.0%</b>

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Proposed Route Adjustment	Existing Substation	NWI Wetlands
OPSP Approved Route	Existing 69kV Transmission Line	
Survey Corridor	Existing 138kV Transmission Line	
	Existing 345kV Transmission Line	

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Figure 4  
National Wetlands Inventory Map  
Wood County 138kV  
Reinforcement Project

## Appendices

- Appendix A Field Data Forms
- Appendix B Representative Photographs
- Appendix C List of Preparers

## **Appendix A**

### **Field Data Forms**

HHEI Forms

Perennial  
Small Drainage  
warm water Stream



### Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3) **52**

SITE NAME/LOCATION Stream 3 / Wood county 138 kV Reinforcement Project  
 SITE NUMBER 0721-02 RIVER BASIN Maumee River RIVER CODE \_\_\_\_\_ DRAINAGE AREA (m<sup>2</sup>) 1.11  
 LENGTH OF STREAM REACH (m) 5563 LAT 41.4154 LONG -83.6742 RIVER MILE \_\_\_\_\_  
 DATE 07-21-21 SCORER EN, LS COMMENTS \_\_\_\_\_

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS:  NONE / NATURAL CHANNEL  RECOVERED  RECOVERING  RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A &amp; B</p>		<p>HHEI Metric Points Substrate Max = 40 <b>7</b> A + B</p>																											
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY \* NOTE: River Left (L) and Right (R) as looking downstream.

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS \_\_\_\_\_

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS Stream is flowing slowly

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ≤ 100 ft)  Flat to Moderate  Moderate (2 ≤ 100 ft)  Moderate to Severe  Severe (10 ≤ 100 ft)

**ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):**

QHEI PERFORMED?  Yes  No QHEI Score \_\_\_\_\_ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Tontogany Creek Distance from Evaluated Stream 2.0 miles  
 CWH Name: \_\_\_\_\_ Distance from Evaluated Stream \_\_\_\_\_  
 EWH Name: \_\_\_\_\_ Distance from Evaluated Stream \_\_\_\_\_

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Bowling Green North NRCS Soil Map Page: \_\_\_\_\_ NRCS Soil Map Stream Order: \_\_\_\_\_  
County: Wood Township/City: Plain Township

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): Y Date of last precipitation: 07-20-21 Quantity: 20.1

Photo-documentation Notes: \_\_\_\_\_

Elevated Turbidity? (Y/N): N Canopy (% open): 100%

Were samples collected for water chemistry? (Y/N): Y Lab Sample # or ID (attach results): \_\_\_\_\_

Field Measures: Temp (°C) N/A Dissolved Oxygen (mg/l) N/A pH (S.U.) 7.45 Conductivity (umhos/cm) N/A

Is the sampling reach representative of the stream (Y/N) Y If not, explain: \_\_\_\_\_

Additional comments/description of pollution impacts: \_\_\_\_\_

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) Y Species observed (if known): \_\_\_\_\_

Frogs or Tadpoles Observed? (Y/N) Y Species observed (if known): \_\_\_\_\_

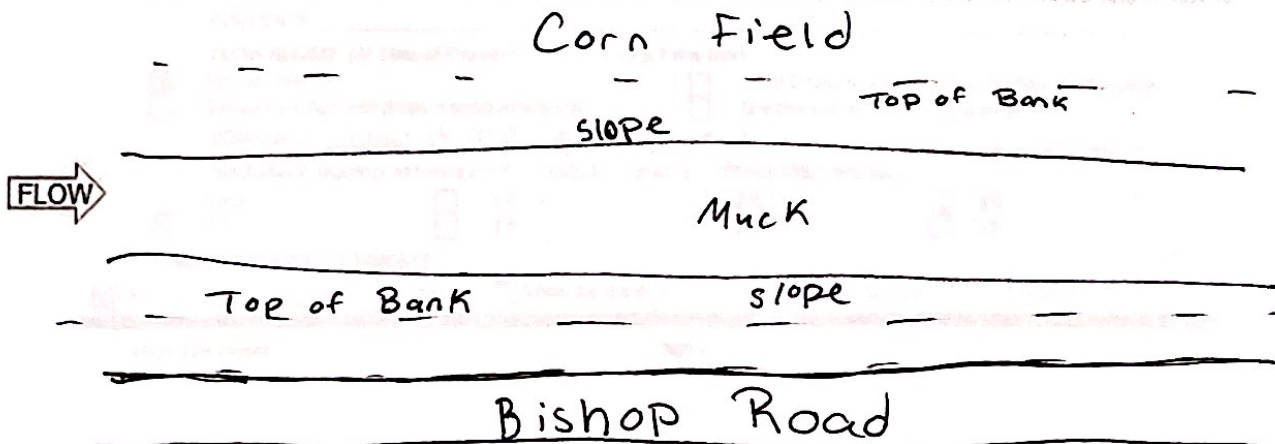
Salamanders Observed? (Y/N) N Species observed (if known): \_\_\_\_\_

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): \_\_\_\_\_

Comments Regarding Biology: \_\_\_\_\_

**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)**

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Perennial  
Small Drainage  
Warmwater  
Stream



Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

44

SITE NAME/LOCATION Stream 5 / Wood County 138 KV Reinforcement Project  
 SITE NUMBER 0721-01 RIVER BASIN Maumee River RIVER CODE 041000900 DRAINAGE AREA (MF) 1.0  
 LENGTH OF STREAM REACH (M) 945 LAT 41.4152 LONG -83.6689 RIVER MILE \_\_\_\_\_  
 DATE 07-21-21 SCORER EBN, LS COMMENTS \_\_\_\_\_

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS:  NONE / NATURAL CHANNEL  RECOVERED  RECOVERING  RECENT OR NO RECOVERY

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RIPARIAN ZONE AND FLOODPLAIN QUALITY \* NOTE: River Left (L) and Right (R) as looking downstream.

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
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COMMENTS \_\_\_\_\_

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
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COMMENTS Slow is moving very slow

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
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STREAM GRADIENT ESTIMATE

Flat (0.5 ±100 %)  Flat to Moderate  Moderate (2 ±100 %)  Moderate to Severe  Severe (10 ±100 %)

**ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):**

QHEI PERFORMED?  Yes  No QHEI Score \_\_\_\_\_ (If Yes, Attach Completed QHEI form)

**DOWNSTREAM DESIGNATED USE(S)**

WWH Name: Tontogany Creek Distance from Evaluated Stream 2.0 miles  
 CWH Name: \_\_\_\_\_ Distance from Evaluated Stream \_\_\_\_\_  
 EWH Name: \_\_\_\_\_ Distance from Evaluated Stream \_\_\_\_\_

**MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.**

USGS Quadrangle Name: Bowling Green North NRCS Soil Map Page: \_\_\_\_\_ NRCS Soil Map Stream Order: \_\_\_\_\_  
County: Wood Township/City: Plain Township

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): Y Date of last precipitation: 07-20-21 Quantity: <0.1

Photo-documentation Notes: \_\_\_\_\_

Elevated Turbidity? (Y/N): N Canopy (% open): 100%

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): \_\_\_\_\_

Field Measures: Temp (°C) N/A Dissolved Oxygen (mg/l) N/A pH (S.U.) 6.5 Conductivity (umhos/cm) N/A

Is the sampling reach representative of the stream (Y/N) Y If not, explain: \_\_\_\_\_

Additional comments/description of pollution impacts: \_\_\_\_\_

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) Y Species observed (if known): \_\_\_\_\_

Frogs or Tadpoles Observed? (Y/N) Y Species observed (if known): \_\_\_\_\_

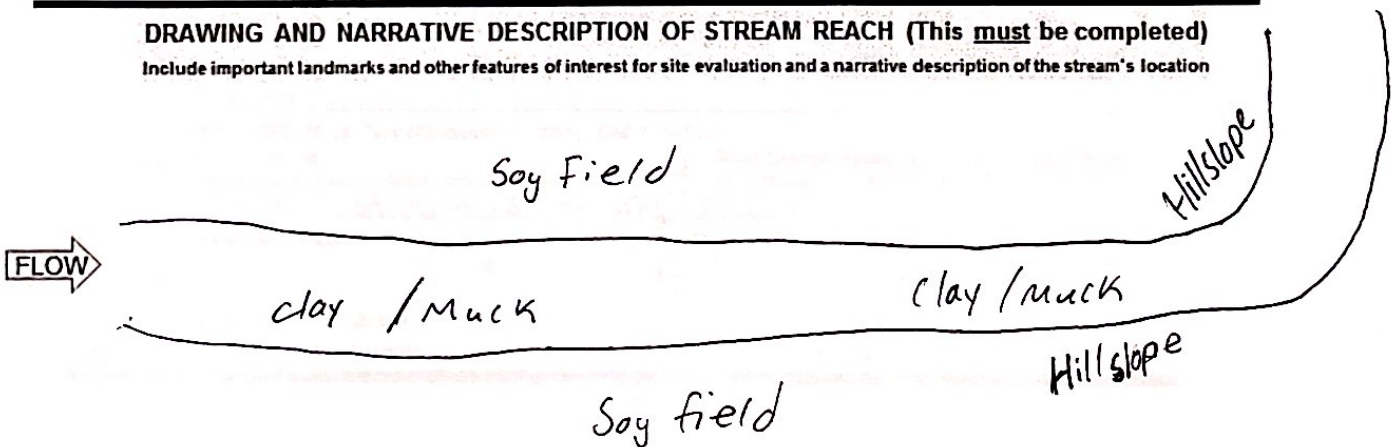
Salamanders Observed? (Y/N) N Species observed (if known): \_\_\_\_\_

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): \_\_\_\_\_

Comments Regarding Biology: \_\_\_\_\_

**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)**

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location







# Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3) **47**

SITE NAME/LOCATION Stream 6 / Wood County 138 rd Reinforcement Project  
 SITE NUMBER 0721-03 RIVER BASIN Mayme River RIVER CODE 040009901 DRAINAGE AREA (mi<sup>2</sup>) 2.14  
 LENGTH OF STREAM REACH (ft) 4409 LAT 41.43005 LONG -83.6847 RIVER MILE \_\_\_\_\_  
 DATE 07-21-21 SCORER EN, LS COMMENTS \_\_\_\_\_

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS:  NONE / NATURAL CHANNEL  RECOVERED  RECOVERING  RECENT OR NO RECOVERY

<p><b>1. SUBSTRATE</b> (Estimate percent of every type present). Check ONLY <u>1</u> predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A &amp; B</p>		<p><b>HHEI Metric Points</b> Substrate Max = 40 <b>7</b></p>																											
<table border="0"> <tr><th>TYPE</th><th>PERCENT</th><th>TYPE</th><th>PERCENT</th></tr> <tr><td><input type="checkbox"/> BLDR SLABS [16 pts]</td><td>_____</td><td><input type="checkbox"/> SLT [3 pt]</td><td><u>20</u></td></tr> <tr><td><input type="checkbox"/> BOULDER (&gt;256 mm) [16 pts]</td><td>_____</td><td><input type="checkbox"/> LEAF PACKWOODY DEBRIS [3 pts]</td><td>_____</td></tr> <tr><td><input type="checkbox"/> BEDROCK [16 pts]</td><td>_____</td><td><input checked="" type="checkbox"/> FINE DETRITUS [3 pts]</td><td><u>40</u></td></tr> <tr><td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td><td>_____</td><td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td><td><u>30</u></td></tr> <tr><td><input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td><td>_____</td><td><input type="checkbox"/> MUCK [0 pts]</td><td><u>10</u></td></tr> <tr><td><input type="checkbox"/> SAND (&lt;2 mm) [6 pts]</td><td>_____</td><td><input type="checkbox"/> ARTIFICIAL [3 pts]</td><td>_____</td></tr> </table>	TYPE		PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SLT [3 pt]	<u>20</u>	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACKWOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input checked="" type="checkbox"/> FINE DETRITUS [3 pts]	<u>40</u>	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>30</u>	<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	<u>10</u>	<input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____
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<p><b>2. Maximum Pool Depth</b> (Measure the <u>maximum</u> pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):</p> <table border="0"> <tr><td><input type="checkbox"/> &gt; 30 centimeters [20 pts]</td><td><input type="checkbox"/> 5 cm - 10 cm [15 pts]</td></tr> <tr><td><input type="checkbox"/> &gt; 22.5 - 30 cm [30 pts]</td><td><input type="checkbox"/> &lt; 5 cm [5 pts]</td></tr> <tr><td><input checked="" type="checkbox"/> &gt; 10 - 22.5 cm [25 pts]</td><td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]</td></tr> </table>		<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]	<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]	<p><b>Pool Depth Max = 30</b> <b>25</b></p>																					
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<p>COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): <b>20</b></p>																													
<p><b>3. BANK FULL WIDTH</b> (Measured as the average of 3-4 measurements) (Check ONLY one box):</p> <table border="0"> <tr><td><input type="checkbox"/> &gt; 4.0 meters (&gt; 13') [30 pts]</td><td><input checked="" type="checkbox"/> &gt; 1.0 m - 1.5 m (&gt; 3' 3" - 4' 8") [15 pts]</td></tr> <tr><td><input type="checkbox"/> &gt; 3.0 m - 4.0 m (&gt; 9' 7" - 13') [25 pts]</td><td><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td></tr> <tr><td><input type="checkbox"/> &gt; 1.5 m - 3.0 m (&gt; 4' 8" - 9' 7") [20 pts]</td><td></td></tr> </table>		<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p><b>Bankfull Width Max=30</b> <b>15</b></p>																					
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<p>COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) <b>12</b></p>																													

This information must also be completed  
**RIPARIAN ZONE AND FLOODPLAIN QUALITY** \* NOTE: River Left (L) and Right (R) as looking downstream.

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS \_\_\_\_\_

**FLOW REGIME** (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS stream is flowing slowly

**SINUOSITY** (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

**STREAM GRADIENT ESTIMATE**

<input checked="" type="checkbox"/> Flat (0.5 ± 100 ft)	<input type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ± 100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ± 100 ft)
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**ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):**

QHEI PERFORMED?  Yes  No QHEI Score \_\_\_\_\_ (If Yes, Attach Completed QHEI form)

**DOWNSTREAM DESIGNATED USE(S)**

WWH Name: Tontogany Creek Distance from Evaluated Stream 2.15 miles  
 CWH Name: \_\_\_\_\_ Distance from Evaluated Stream \_\_\_\_\_  
 EWH Name: \_\_\_\_\_ Distance from Evaluated Stream \_\_\_\_\_

**MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.**

USGS Quadrangle Name: Bowling Green North NRCS Soil Map Page: \_\_\_\_\_ NRCS Soil Map Stream Order: \_\_\_\_\_  
County: Wood Township/City: Plain Township

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): Y Date of last precipitation: 07-20-21 Quantity: 40.1

Photo-documentation Notes: \_\_\_\_\_

Elevated Turbidity? (Y/N): N Canopy (% open): 100%

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): \_\_\_\_\_

Field Measures: Temp (°C) N/A Dissolved Oxygen (mg/l) N/A pH (S.U.) 6.5 Conductivity (umhos/cm) N/A

Is the sampling reach representative of the stream (Y/N) Y If not, explain: \_\_\_\_\_

Additional comments/description of pollution impacts: \_\_\_\_\_

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) Y Species observed (if known): \_\_\_\_\_

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): \_\_\_\_\_

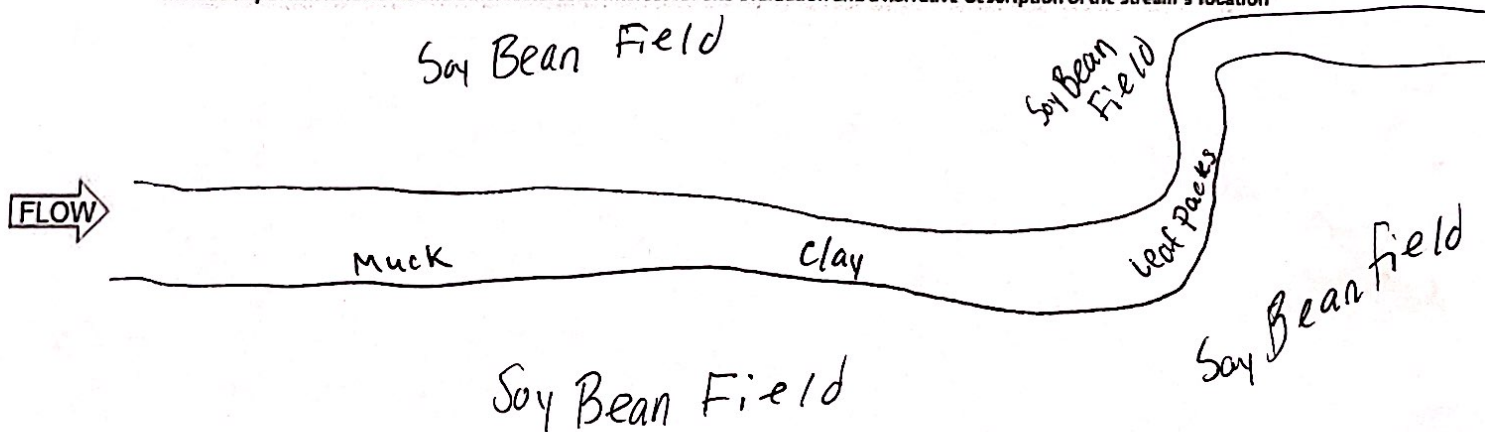
Salamanders Observed? (Y/N) N Species observed (if known): \_\_\_\_\_

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): \_\_\_\_\_

Comments Regarding Biology: \_\_\_\_\_

**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)**

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



## **Appendix B**

### **Representative Photographs**



**Photograph 1:** Facing east looking upstream along Stream 5.



**Photograph 2:** Facing west looking downstream along Stream 5.



**Photograph 3:** Facing north looking downstream along Stream 3.



**Photograph 4:** Facing south looking upstream along Stream 3.



**Photograph 5:** Facing north looking downstream along Stream 6.



**Photograph 6:** Facing south looking upstream along Stream 6.

## **Appendix C**

### **List of Preparers**

### Eric Lopez

Mr. Lopez is an Environmental Scientist with GPD Group. He has experience with field data collection, ecological surveys, and Environmental Site Assessment (ESA) projects. Eric assists in coordination efforts with the State Historic Preservations Office (SHPO), Ohio Environmental Protection Agency (OEPA), the U.S. Fish and Wildlife Service (USFWS) and various Divisions of Ohio Department of Natural Resources (ODNR) to complete file reviews and natural heritage database reviews. HE also assists in the preparation of technical documents.

### Special Training

<b>Course/Program</b>	<b>Date Completed</b>
Ecological Training – Ohio Department of Transportation	November 2012
Waterway Permits Training – Ohio Department of Transportation	November 2012
Wetland Delineation with Emphasis on Soils and Hydrology– Wetland Training Institute	June 2013
Categorical Exclusion (CE) Training– Ohio Department of Transportation	April 2014
Environmental Site Assessment (ESA) Training – Ohio Department of Transportation	May 2014
Habitat Assessment Using the Qualitative Habitat Evaluation Index – Midwest Biodiversity Institute	May 2014
Sedge Identification Workshop – Ohio Wetland Association	June 2014
Wetland Plant Identification – Dr. Robert Mohlenbrock	September 2014
Section 106 Training – Ohio Department of Transportation	September 2014
Section 4(f)/6(f) Training – Ohio Department of Transportation	October 2014
Phase I & II Environmental Site Assessment Processes – ASTM International	November 2014
OSHA 40-Hour Health and Safety Training – Cincinnati State	December 2014
Approved Mussel Surveyor – Ohio Department of Natural Resources	February 2015
QDC Level 2 for the Surface Water Credible Data Program – Ohio EPA	November 2015
Ohio Rapid Assessment Method for Wetland v5.0 Training Course – Ohio EPA	May 2015
Trees of the Eastern Forest – Arc of Appalachia Preserve System: The Forest School	July 2015
Public Involvement Training - Ohio Department of Transportation	February 2016
Freshwater Mussel Identification Workshop – The Ohio State University	April 2016