January 27, 2017

Kristin Susick
Energy Delivery Services Supervisor
FirstEnergy - Environmental Department
West Akron Campus
341 White Pond Drive
Akron, OH 44308

Re: Wetland Delineation Report
Lemoyne – Midway 138 kV Transmission Line Reconductoring Project
American Transmission Systems, Incorporated
Burns & McDonnell Project No. 95826

Dear Ms. Susick:

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) was retained by American Transmission Systems, Incorporated (ATSI), a FirstEnergy company, to provide wetland delineation and permitting services for the proposed Lemoyne to Midway 138 kilovolt (kV) Transmission Line Reconductoring Project (Project) that is located in Wood, Lucas, and Henry Counties, Ohio (Figure A-1, Appendix A). The Project consists of an approximately 24-mile-long, 100-foot-wide corridor; access roads; and other work spaces. The following sections provide information on the proposed Project and summarize the completed wetland delineation.

Project work has the potential to impact wetlands or other waterbodies that may be under the jurisdiction of the Clean Water Act (CWA). A wetland delineation of the Project was conducted during multiple site visits to identify the location and extent of waterbodies crossed by the Project. The wetland delineation encompassed a total of 373 acres (Survey Area). The first site visit was conducted in 2014 with a follow-up site visit conducted in 2016.

METHODS

The following discussions summarize the methods used to review existing data and conduct the wetland delineation.

Existing Data Review

Burns & McDonnell reviewed available background information for the Survey Area prior to conducting the site visits. Available background information included the 2013 U.S. Geological Survey (USGS) 7.5-minute topographic map (Cotton, 1972, Grand Rapids, 1973, Bowling Green North, 1960, Dunbridge, 1969, and Pemberville, 1971, quadrangles), U.S. Fish & Wildlife Service (USFWS) National Wetland Inventory (NWI) map, National Agriculture Imagery Program (NAIP) aerial photography (2013), Federal Emergency Management Agency (FEMA) flood insurance rate map (2008), FEMA National Flood Hazard Layer (NFHL) for Wood, Lucas, and Henry Counties (2015), and U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) 2015 Soil Survey Geographic (SSURGO) digital data for Henry,

Lucas, and Wood Counties. Maps generated from this available data are included as Figures A-2, A-3, and A-4.

Background data helps in identifying locations that could potentially contain waters of the U.S. However, wetland presence based on NWI maps or other background data cannot be assumed to accurately identify the location of jurisdictional wetlands. Wetland identification criteria differ between the USFWS and the USACE. As a result, wetlands shown on a NWI map may not be under the jurisdiction of the USACE, and USACE-jurisdictional wetlands are not always included on the NWI maps. A field visit was necessary to identify locations of wetlands or other waters of the U.S. that may be present.

Wetland Delineation

The wetland delineation was conducted in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* (1987 Manual) and the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0* (Regional Supplement). Sample plots were established at multiple locations, and Wetland Determination Data Forms from the Regional Supplement were completed to characterize the Survey Area (Appendix B). Vegetation, soil, and hydrologic indicators were recorded at each of these sample plots. Locations of sample plots and other identified features were surveyed using a sub-meter-accurate Global Positioning System (GPS) unit. Natural color photographs were taken onsite and are included in Appendix C.

Each delineated wetland was assigned a category using the Ohio Rapid Assessment Method (ORAM) for Wetland Categorization. According to Ohio Administrative Code, Category 1 wetlands have minimal habitat and minimal hydrological and recreational functions. These wetlands do not provide critical habitat for threatened or endangered species. Category 2 wetlands have moderate wildlife habitat or hydrological or recreational functions. Category 2 wetlands are dominated by native vegetation, but generally do not contain threatened or endangered species habitat. Category 3 wetlands have superior habitat or hydrological or recreational functions. These wetlands often provide habitat for threatened or endangered species.

The State of Ohio affords different levels of protection to wetlands based on wetland quality. The ORAM 10 Page Form for Wetland Categorization was completed for each delineated wetland, and a preliminary ORAM score for each wetland was determined. A copy of the ORAM Summary Worksheet and Wetland Categorization Worksheet for each delineated wetland is located in Appendix D.

Stream Evaluation
An assessment of habitat in flowing waters was performed for streams located within the Survey Area using the Ohio Environmental Protection Agency (Ohio EPA) Qualitative Habitat Evaluation Index (QHEI). Information on substrate, in-stream cover, channel morphology, bank erosion and riparian zone, pool/glide and riffle/run quality, and map gradient was collected and recorded on Qualitative Habitat Evaluation Index and Use Assessment Field Sheets. Each of these six metrics was scored individually. A total QHEI site score was determined for each stream by adding the scores of all six matrices. Copies of the Qualitative Habitat Evaluation Index and Use Assessment Field Sheets are included in Appendix E.

RESULTS
Results of the existing data review and wetland delineation are explained below.

Existing Data Review
The topographic map shows the Survey Area as generally flat with several streams crossing the Project, in addition to the Maumee River (Figure A-2). The NWI displays the Maumee River (R2UBH) as well as several forested wetlands (PFO1C) adjacent to Maumee River outside of the Survey Area. One emergent wetland (PEM1C) falls within the Survey Area west of Manore Road (Figure A-2).

The USDA mapped 34 hydric soil units and 12 non-hydric soil units within the Project Survey Area (Figure A-3). Mapped hydric soils are:

- Aurand fine sandy loam, 0 to 2 percent slopes (Ama);
- Aurand loam, 0 to 2 percent slopes (Ana);
- Bixler loamy fine sand, 0 to 2 percent slopes (BxA);
- Bixler loamy fine sand, 2 to 6 percent slopes (BxB);
- Colwood loam (Co);
- Colonie fine sand, 6 to 12 percent slopes (CoC);
- Del Ray loam, 0 to 3 percent slopes (DdA);
- Digby sandy loam, 2 to 6 percent slopes (DgB);
- Dixboro fine sandy loam, 0 to 2 percent slopes (DsA);
- Eel loam, occasionally flooded (Ee);
- Gilford fine sandy loamy (Gf);
- Granby loamy fine sand (Gr);
- Haskins loam, 0 to 3 percent slopes (HnA);
- Hoytville clay loam, 0 to 1 percent slopes (HoA);
- Lamson fine sandy loam (La);
- Mermill loam (Mf);

- Mermill-Aurand complex, 0 to 1 percent slopes (MfA);
- Metamora sandy loam, 0 to 3 percent slopes (MmA);
- Millsdale silty clay loam, 0 to 1 percent slopes (MhA);
- Nappanee loam, 0 to 2 percent slopes (NnA);
- Nappanee loam, 2 to 6 percent slopes (NnB);
- Oakville fine sand, 2 to 5 percent slopes (OaB);
- Ottokee fine sand, 0 to 6 percent slopes (OuB);
- Randolph loam, 0 to 2 percent slopes (RbA);
- Rimer and Tedrow, till substratum, loamy fine sands, 0 to 2 percent slopes (RfA);
- Rimer loamy fine sand, 0 to 3 percent slopes (RnA);
- Ross loam, occasionally flooded (Rs);
- Seward and Ottokee, till substratum, loamy fine sands, 0 to 2 percent slopes (SdA);
- Shoals loam, occasionally flooded (Sh);
- Sisson loam, 2 to 6 percent slopes (SmB);
- Sloan loam, occasionally flooded (So);
- Sloan silty clay loam, 0 to 1 percent slopes, frequently flooded (SpA);
- Tedrow fine sand, 0 to 3 percent slopes (TdA); and
- Toussaint silty clay loam, 0 to 1 percent slopes (TsA).

Mapped non-hydric soils are:

- Castalia-Marblehead complex, very stony, 0 to 6 percent slopes (CbB);
- Cut and fill land (Cu);
- Dunbridge-Spinks, deep to limestone, loamy fine sands, 2 to 6 percent slopes (DsB);
- Ottokee-Spinks, loamy find sands, 0 to 2 percent slopes (OtA);
- Ottokee-Spinks loamy fine sands, 2 to 6 percent slopes (OtB);
- Pits, quarry (Pt);
- Nappanee sandy loam, 0 to 2 percent slopes (NmA);
- Nappanee loam, 0 to 2 percent slopes (NnA);
- Nappanee silty clay loam, 2 to 6 percent slopes, eroded (NpB2);
- Udorthents, loamy, 2 to 25 percent slopes (UcE);
- Urban land (Ur); and
- Water (W).

Several floodplains and floodways are mapped within the Survey Area (Figure A-4). One floodplain is associated with a stream east of McCutcheonville Road (Figure A-4, Page 11). A floodplain and floodway are mapped associated with the Maumee River.

Wetland Delineation
The land cover and delineated features from the wetland delineation are discussed in detail below.

Vegetation. The Survey Area was mostly composed of maintained transmission line right-of-way (ROW) and row crop agricultural fields. Some riparian areas and wetlands were identified within the Survey Area. Riparian and wetland areas included species such as reed canary grass *(Phalaris arundinacea)* and broad-leaf cattail (*Typha latifolia*).Typical upland vegetation in the Survey Area included tall goldenrod (*Solidago altissima*), tall fescue (*Schedonorous arundinacea*), and smooth brome (*Bromus inermis*).

Soils. Typical upland soils were very dark grayish brown (10YR 3/2) or dark grayish brown (10YR 4/2) in color and clay loam in texture. Typical wetland soils were also very dark grayish brown (10YR 3/2) or dark grayish brown (10YR 4/2) in color and clay loam in texture. Redoximorphic features were present in wetland soils, but were uncommon in upland soils.

Hydrology. The primary source of hydrology for the wetlands was overland flow. Common indicators of hydrology within the wetlands included oxidized rhizospheres on living roots, drainage patterns, concave geomorphic position, and a positive FAC-neutral test.

Jurisdictional Areas
Twelve wetlands and 27 streams were identified during the wetland delineation. The wetlands consisted of three wetland types: palustrine emergent (PEM), scrub-shrub (PSS), and palustrine forested (PFO). Complexes consisting of more than one wetland type are also present. The wetlands and streams are described below, and the locations of all wetlands and streams delineated within the Survey Area are shown in Figure A-4. Many of the wetlands and streams extend beyond the Survey Area. Table 1 provides the type and size of each wetland delineated, and Table 2 provides the type and length for each stream identified.

Table 1: Type and Size of Wetlands Delineated

Wetland Number	Wetland Type[a]	ORAM Category[b]	Area of Wetland Delineated in Survey Area (acres)
W-1	PEM	1	0.01
W-2	PEM	1	0.02
W-3	PEM	1	0.08
W-4	PEM	2	1.67
W-5	PEM	1	0.01
W-6	PEM	1	0.08
W-7	PEM	1	0.03
W-8	PEM	2	1.16
W-9	PEM	2	0.04
W-101	PEM	1	0.02
W-102	PFO/PSS/PEM	2	1.27
W-103	PSS/PEM	2	0.37
		Total:	**4.75**

(a) Symbols for wetland type: PEM = palustrine emergent. PSS = palustrine scrub-shrub, PFO = palustrine forested
(b) ORAM = Ohio Rapid Assessment Method

Table 2: Type and Length of Streams Delineated

Stream Number	Stream Type	QHEI Score[a]	Length of Delineated Stream in Survey Area (feet)
S-1	Intermittent	25	178
S-2	Ephemeral	20	1,743
S-3	Ephemeral	28	138
S-4	Perennial	23	647
S-5	Intermittent	20	111
S-6	Ephemeral	22	697
S-7	Intermittent	24	208
S-8	Intermittent	20	100
S-9	Perennial	19	419
S-10	Perennial	26.5	129
S-11	Ephemeral	39.5	100
S-12	Ephemeral	23	100
S-13 (Maumee River)	Perennial	75.5	301
S-14	Ephemeral	25	159
S-15	Intermittent	23	127
S-16	Ephemeral	21	200
S-17	Intermittent	19	657
S-18	Ephemeral	25	101
S-19	Ephemeral	26	216
S-20	Ephemeral	25	134
S-21	Intermittent	23	103
S-22	Intermittent	22	100
S-23	Perennial	32	1,392
S-24	Perennial	33	322
S-25	Ephemeral	22	332
S-101	Ephemeral	23	72
S-102	Ephemeral	23	65
		Total:	**8,851**

(a) QHEI = Qualitative Habitat Evaluation Index

WETLANDS

Wetland 1 (W-1). W-1 (0.01 acre) is a PEM wetland located in the eastern end of the Survey Area (Figure A-4, pg. 1; Photograph C-1). This wetland received a preliminary ORAM classification of Category 1. Slender spikerush (*Eleocharis tenuis*) and a species of sedge (*Carex* sp.) were the dominant vegetation. Wetland hydrology was indicated by a high water table, soil saturation in the upper 12 inches, concave geomorphic position, and a positive FAC-neutral test. Hydric soil was indicated by a depleted matrix.

Wetland 2 (W-2). W-2 (0.02 acre) is a PEM wetland located east of W-3 in the eastern portion of the Survey Area (Figure A-4, pg. 2; Photograph C-19). This wetland received a preliminary ORAM classification of Category 1. Hybrid cattail (*Typha glauca*) and Japanese bristle grass (*Setaria faberi*) were the dominant vegetation. Wetland hydrology was indicated by concave geomorphic position and a positive FAC-neutral test.

Wetland 3 (W-3). W-3 (0.08 acre) is a PEM wetland west of W-2 in the eastern portion of the Survey Area (Figure A-4, pg. 2; Photograph C-3). This wetland received a preliminary ORAM classification of Category 1. Common reed (*Phragmites australis*) was the dominant vegetation. Wetland hydrology was indicated by oxidized rhizospheres on living roots and concave geomorphic position. Hydric soil was indicated by the presence of a depleted matrix.

Wetland 4 (W-4). W-4 (1.67 acres) is a PEM wetland located east of W-5 in the central portion of the Survey Area (Figure A-4, pg. 8; Photographs C-6 and C-7). This wetland received a preliminary ORAM classification of Category 2. Reed canary grass was the dominant vegetation. Wetland hydrology was indicated by a concave geomorphic position and the presence of drainage patterns. Hydric soil was indicated by the presence of a redox dark surface.

Wetland 5 (W-5). W-5 (0.01 acre) is a PEM wetland located west of W-4 in the central portion of the Survey Area (Figure A-4, pg. 9; Photograph C-9). This wetland received a preliminary ORAM classification of Category 1. Reed canary grass and broad-leaf cattail were the dominant vegetation. Wetland hydrology was indicated by the presence of a hydrogen sulfide odor, a concave geomorphic position, and a positive FAC-neutral test. Hydric soil was indicated by the presence of a depleted matrix.

Wetland 6 (W-6). W-6 (0.08 acre) is a PEM wetland located west of S-5 in the central portion of the Survey Area (Figure A-4, pg. 9; Photograph C-11). This wetland received a preliminary ORAM classification of Category 1. Reed canary grass was the dominant vegetation. Wetland hydrology was indicated by the presence of a hydrogen sulfide odor, a concave geomorphic

position, and a positive FAC-neutral test. Hydric soil was indicated by the presence of a redox dark surface.

Wetland 7 (W-7). W-7 (0.03 acre) is a PEM wetland located in the central portion of the Survey Area (Figure A-4, pg. 13; Photograph C-13). This wetland received a preliminary ORAM classification of Category 1. Reed canary grass was the dominant vegetation. Wetland hydrology was indicated by the presence of oxidized rhizospheres on living roots, a concave geomorphic position, and a positive FAC-neutral test. Hydric soil was indicated by the presence of a redox dark surface.

Wetland 8 (W-8). W-8 (1.16 acres) is a PEM wetland located in the central portion of the Survey Area (Figure A-4, pg. 16; Photograph C-15). This wetland received a preliminary ORAM classification of Category 2. Meadow foxtail (*Alopecurus pratensis*), reed canary grass, and broadleaf cattail were the dominant vegetation. Wetland hydrology was indicated by the presence of oxidized rhizospheres on living roots, a concave geomorphic position, and surface soil cracks. Hydric soil was indicated by the presence of a redox dark surface.

Wetland 9 (W-9). W-9 (0.04 acre) is a PEM wetland located east of S-14 and west of S-13 in the western portion of the Survey Area (Figure A-4, pg. 30; Photograph C-17). This wetland received a preliminary ORAM classification of Category 2. Evidence of a recent burn was present on the day of the original delineation. Buttonbush (*Cephalanthus occidentalis*) in the herbaceous layer and poison ivy (*Toxicodendron radicans*) were the dominant vegetation. Wetland hydrology was indicated by the presence of drainage patterns, a concave geomorphic position, and a positive FAC-neutral test. Hydric soil was indicated by the presence of depleted matrix.

Wetland 101 (W-101). W-101 (0.02 acre) is a PEM wetland east of McCutcheonville Road along Dowling Road (Figure A-4, pg. 12; Photograph C-21). This wetland received a preliminary ORAM classification of Category 1. Reed canary grass was the dominant vegetation. Wetland hydrology was indicated by a concave geomorphic position, and a positive FAC-neutral test. Hydric soil was indicated by the presence of a depleted matrix.

Wetland 102 (W-102). W-102 (1.27 acres) is a PFO/PSS/PEM wetland complex surrounding the northern and western areas around the Midway substation (Figure A-4, pg. 47; Photographs C-24, C-26, and C-27). This wetland received a preliminary ORAM classification of Category 2. Dominant vegetation includes rufous bulrush (*Scirpus pendulus*), black willow (*Salix nigra*), peach-leaf willow (*Salix amygdaloides*), silver maple (*Acer saccharinum*), and lamp rush (*Juncus effusus*). Wetland hydrology was indicated by drainage patterns, oxidized rhizospheres on living roots, a sparsely vegetated concave surface, a concave geomorphic position, and a positive FAC-neutral test. Hydric soil was indicated by the presence of a redox dark surface.

Wetland 103 (W-103). W-103 (0.37 acre) is a PSS/PEM wetland complex located west of Manore Road (Figure A-4, pg. 42; Photographs C-29 and C-30). This wetland received a preliminary ORAM classification of Category 2. Dominant vegetation included peach-leaf willow, sandbar willow (*Salix interior*), broad-leaf cattail, and river club-rush (*Schoenoplectus fluviatilis*). Wetland hydrology was indicated by a high water table, drainage patterns, oxidized rhizospheres on living roots, a sparsely vegetated concave surface, a concave geomorphic position, and a positive FAC-neutral test. Hydric soil was indicated by the presence of a redox dark surface and a depleted matrix.

STREAMS

Ephemeral (S-2, S-3, S-6, S-11, S-12, S-14, S-16, S-18, S-19, S-20, S-25, S-101, S-102)
Thirteen ephemeral streams, totaling 4,058 feet in length, were delineated within the Survey Area. Common riparian vegetation along these streams included reed canary grass and broad-leaf cattail. The substrate typically consisted of silt. These streams typically had a defined bed and bank, but no discernable ordinary high water mark (OHWM). These streams received overland flow from major storm events.

Intermittent (S-1, S-5, S-7, S-8, S-15, S-17, S-21, S-22)
Eight intermittent streams, totaling 1,583 feet in length, were delineated within the Survey Area. Common riparian vegetation along these streams included reed canary grass and broad-leaf cattail. The substrate typically consisted of silt or clay sediment. These streams typically had a defined bed and bank, discernable OHWM, and likely groundwater connections.

Perennial (S-4, S-9, S-10, S-13, S-23, S-24)
Six perennial streams, totaling 3,210 feet in length, were delineated within the Survey Area. Common riparian vegetation along these streams included reed canary grass, broad-leaf cattail, white mulberry (*Morus alba*), and black willow. The substrate typically consisted of silt or sediment. These streams typically had a defined bed and bank, discernable OHWM, and evidence of year-round flow.

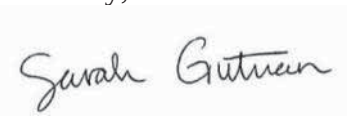
SUMMARY

Burns & McDonnell conducted a wetland delineation of the Survey Area to identify wetlands and other waterbodies. A total of 12 wetlands and 27 streams were identified. Based on the proposed preliminary access and construction plans for the Project, it is anticipated that construction matting (as a best management practice) will be used in wetlands, and any jurisdictional streams will be avoided or bridged over. Based on previous discussions with the USACE Buffalo District, the use of temporary matting and replacing like for like poles in jurisdictional wetlands did not require a preconstruction notification (PCN) to the USACE. If temporary or permanent fills will be used in jurisdictional wetlands or streams that exceed 0.1 acres of impact, a PCN will need to be submitted to the USACE to receive coverage under

Nationwide Permit (NWP) 12. Terms and conditions of NWP 12 must be followed, however, even if a PCN is not filed for impacts less than 0.1 acres. Since it is anticipated that new NWPs and conditions will be issued in March 2017, it may be prudent to contact the USACE Buffalo District for their interpretation of the revised NWPs.

If you have any questions or require additional information, please contact me by telephone at (630) 724-3854or by e-mail at slgutman@burnsmcd.com.

Sincerely,



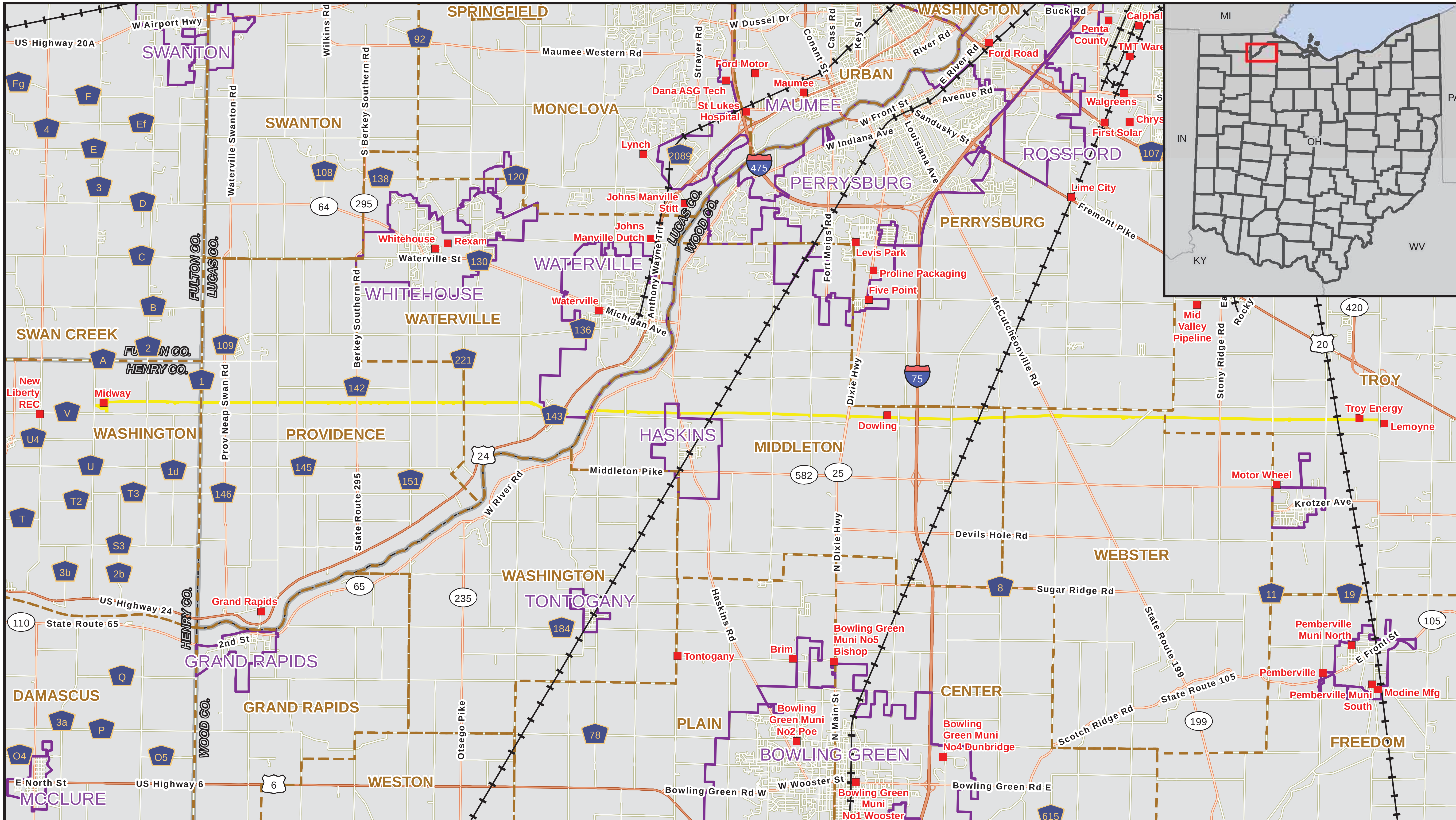
Sarah Gutman
Wetland Scientist

Attachments:

- Appendix A - Figures
- Appendix B - Routine Wetland Determination Data Forms
- Appendix C - Site Photographs
- Appendix D - ORAM Summary Worksheets and Wetland Categorization Worksheets
- Appendix E - Ohio EPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheets

cc: Robert Everard, Burns & McDonnell
Ryann Loomis, Burns & McDonnell

APPENDIX A - FIGURES


SPRINGFIELD
SWANTON
MONCLOVA
WATERVILLE
WHITEHOUSE
SWAN CREEK
WASHINGTON
PROVIDENCE
HASKINS
MIDDLETON
PERRYSBURG
MAUMEE
URBAN
ROSSFORD
TROY
WEBSTER
TONTOGANY
GRAND RAPIDS
DAMASCUS
PLAIN
CENTER
BOWLING GREEN
WESTON
MCCLURE
FREEDOM
FULTON CO.
LUCAS CO.
HENRY CO.
WOOD CO.
Midway
New Liberty REC
Grand Rapids
Whitehouse
Rexam
Waterville
Johns Manville Dutch
Johns Manville Stitt
Lynch
Ford Motor
Dana ASG Tech
St Lukes Hospital
Maumee
Ford Road
Penta County
Calphal
TMT Ware
Walgreens
First Solar
Chrys
Lime City
Levis Park
Proline Packaging
Five Point
Dowling
Mid Valley Pipeline
Troy Energy
Lemoyne
Motor Wheel
Tontogany
Brim
Bowling Green Muni No5 Bishop
Bowling Green Muni No2 Poe
Bowling Green Muni No4 Dunbridge
Bowling Green Muni No1 Wooster
Pemberville Muni North
Pemberville
Pemberville Muni South
Modine Mfg
W Airport Hwy
US Highway 20A
Maumee Western Rd
W Dussel Dr
River Rd
E River Rd
Avenue Rd
W Front St
W Indiana Ave
Sandusky St
Louisiana Ave
Fremont Pike
Michigan Ave
Middleton Pike
W River Rd
Devils Hole Rd
Sugar Ridge Rd
Krotzer Ave
State Route 65
US Highway 24
2nd St
US Highway 6
E North St
Bowling Green Rd W
W Wooster St
Bowling Green Rd E
Scotch Ridge Rd
State Route 105
State Route 199
E Front St
Waterville Swanton Rd
S Berkey Southern Rd
Berkey Southern Rd
Prov Neap Swan Rd
State Route 295
Otsego Pike
Haskins Rd
N Dixie Hwy
Dixie Hwy
Fort Meigs Rd
McCutcheonville Rd
Stony Ridge Rd
Anthony Wayne Trl
Wilkins Rd
Strayer Rd
Conant St
Cass Rd
Key St
Waterville St
MI
OH
IN
PA
KY
WV

Legend	
Survey Area	Municipality
Substation	County Boundary
Active Railroad	
Township Boundary	

0 4,500 9,000 18,000 Feet

N

FirstEnergy

Figure A-1
Vicinity Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV

Source: Esri, and Burns & McDonnell Engineering Company, Inc.

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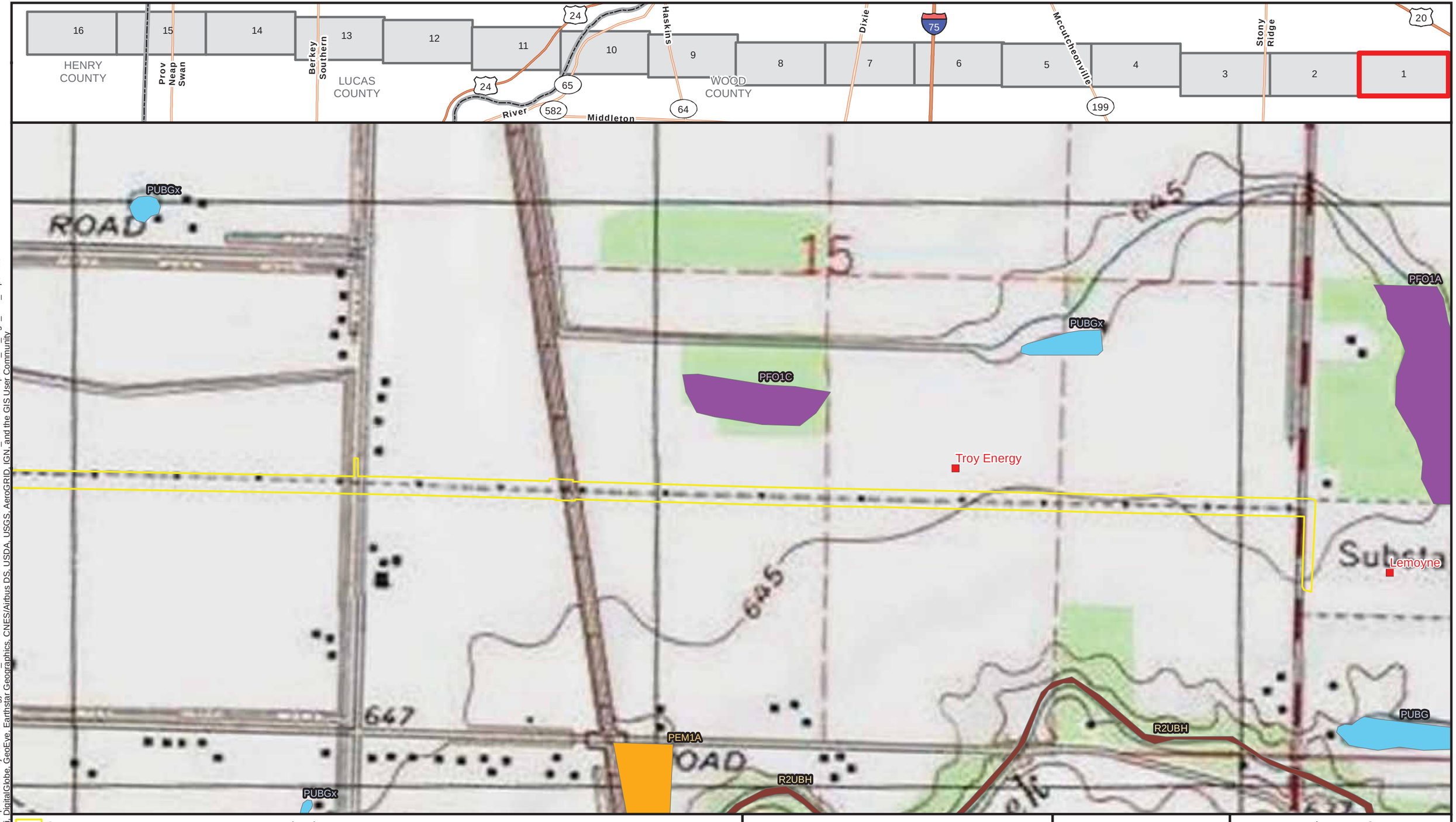

Survey Area
Substation
County Boundary

NWI Wetland
PEM
PSS
PUB
Riverine

0 250 500 1,000 Feet

N

FirstEnergy

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 1 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

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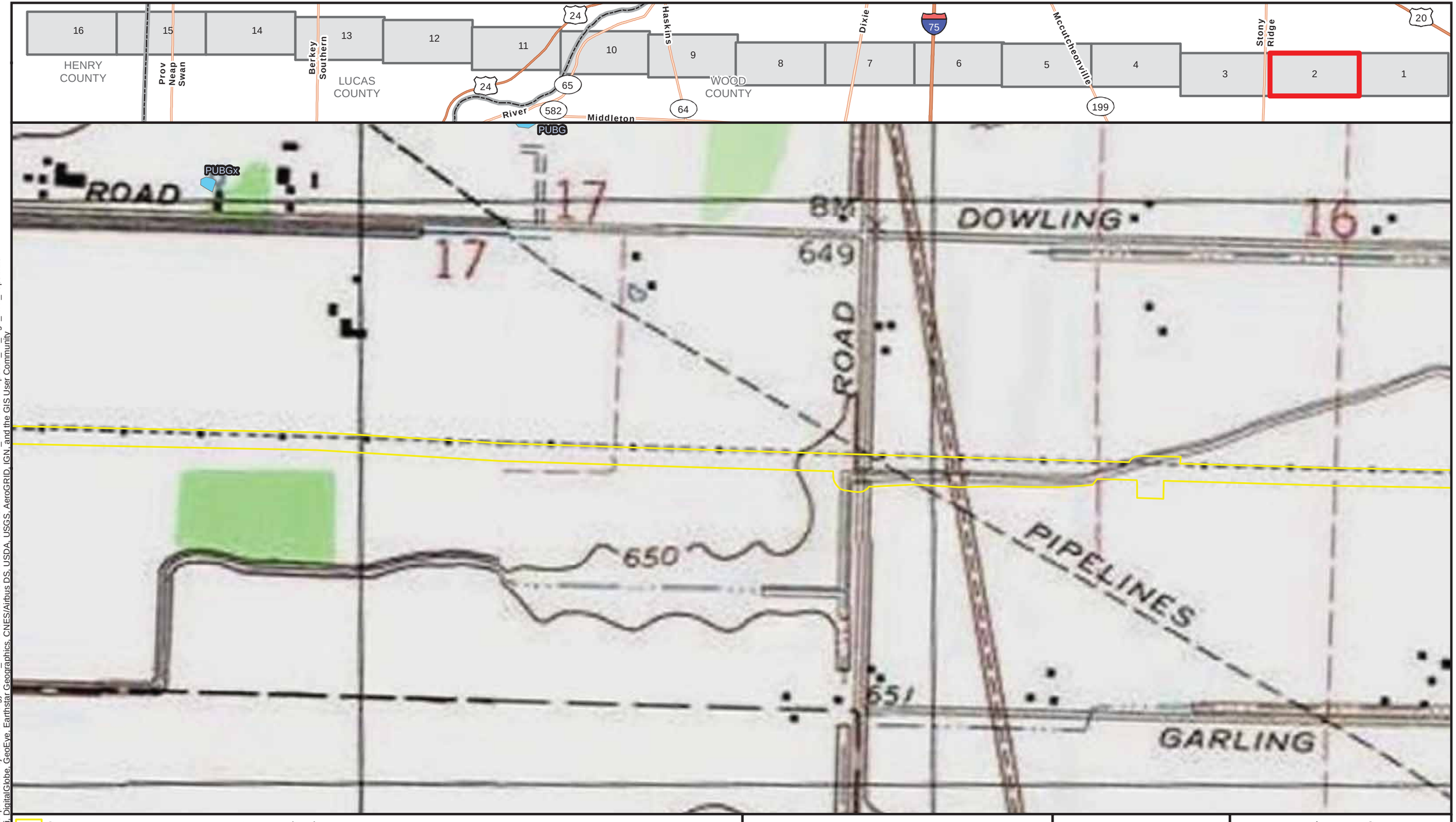

Survey Area

County Boundary

NWI Wetland

PUB

0 250 500 1,000 Feet

N

FirstEnergy

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 2 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

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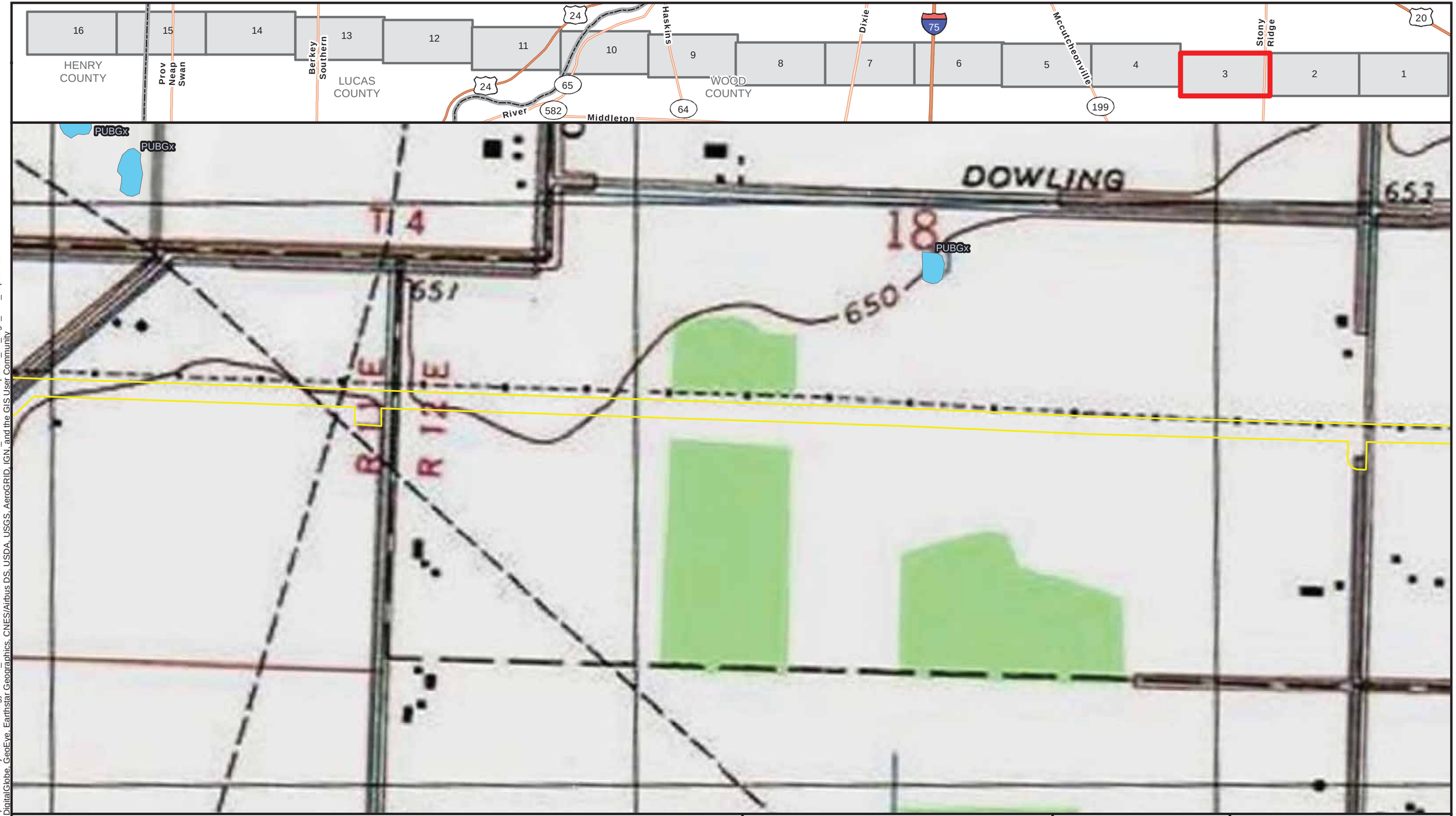
Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Survey Area

County Boundary

NWI Wetland

PUB

0 250 500 1,000 Feet

N

FirstEnergy

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 3 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

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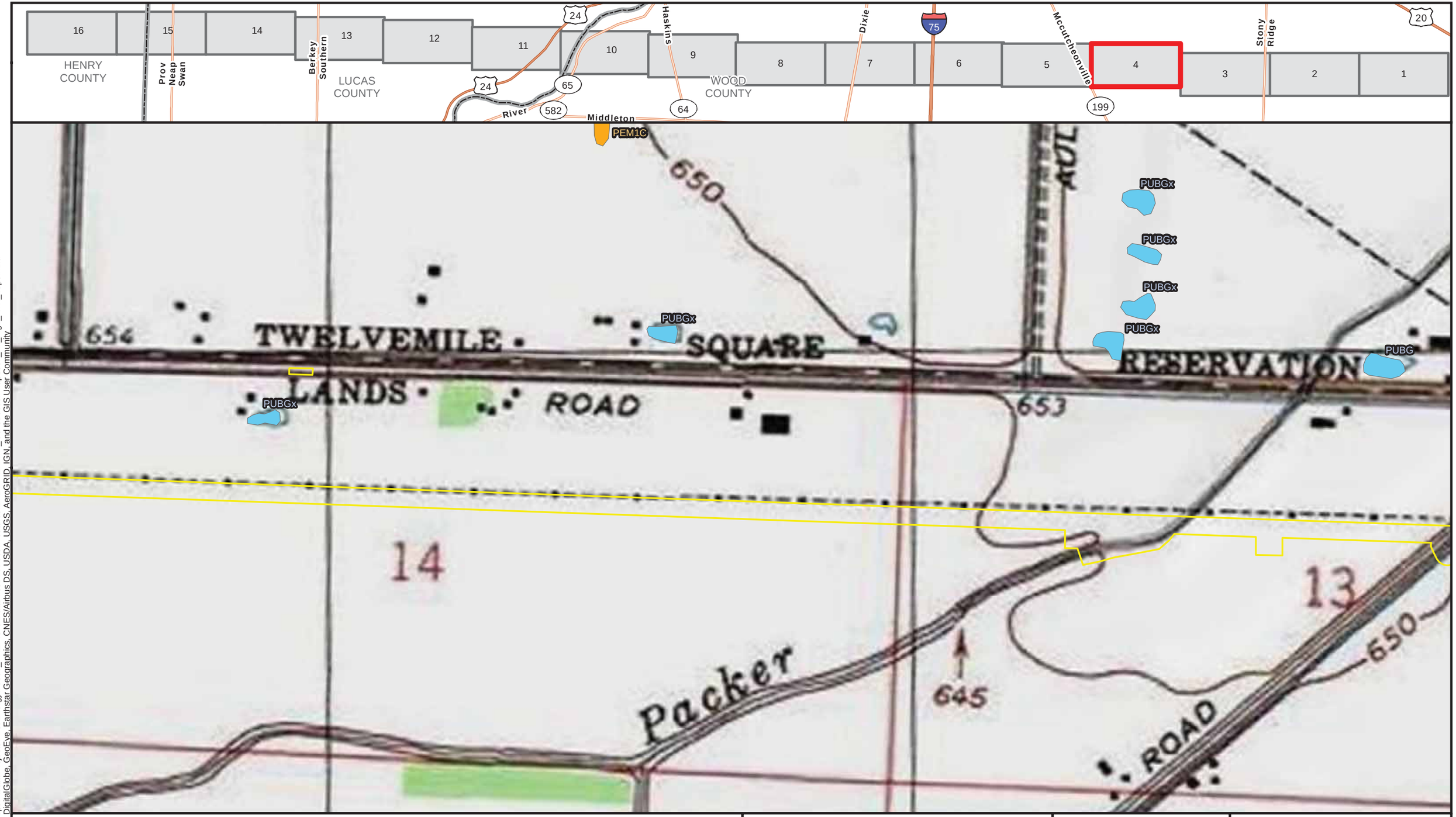
Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MW\LMMW_ConstructionMapbook_Alt_Fig2_NWI_Topo.mxd

Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Survey Area
County Boundary

NWI Wetland
PEM
PUB

0 250 500 1,000 Feet

N

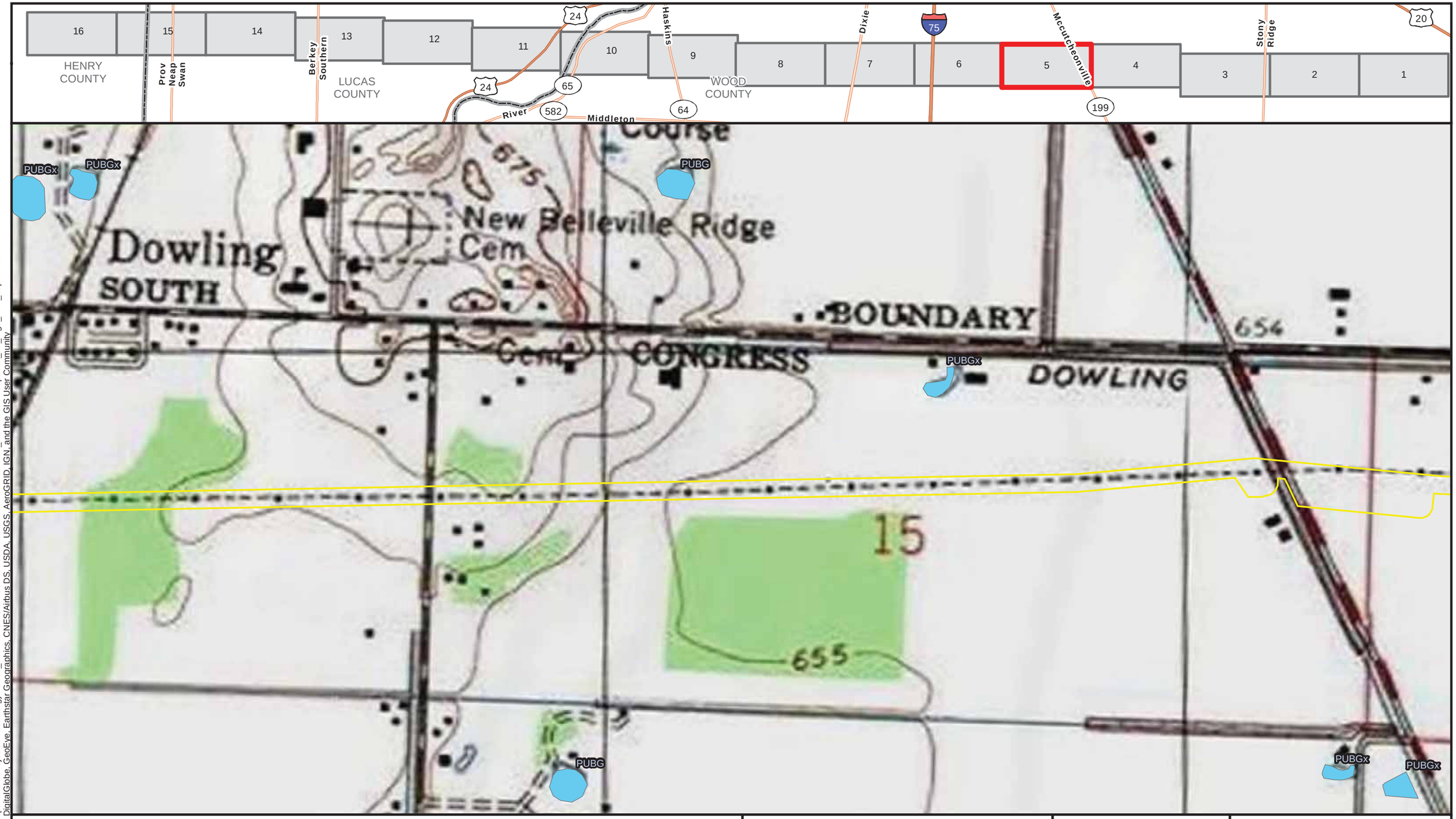
FirstEnergy

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 4 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017

Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MWLMMW_ConstructionMapbook_Alt_Fig2_NWI_Topo.mxd
Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Survey Area
County Boundary

NWI Wetland
PUB

0 250 500 1,000 Feet

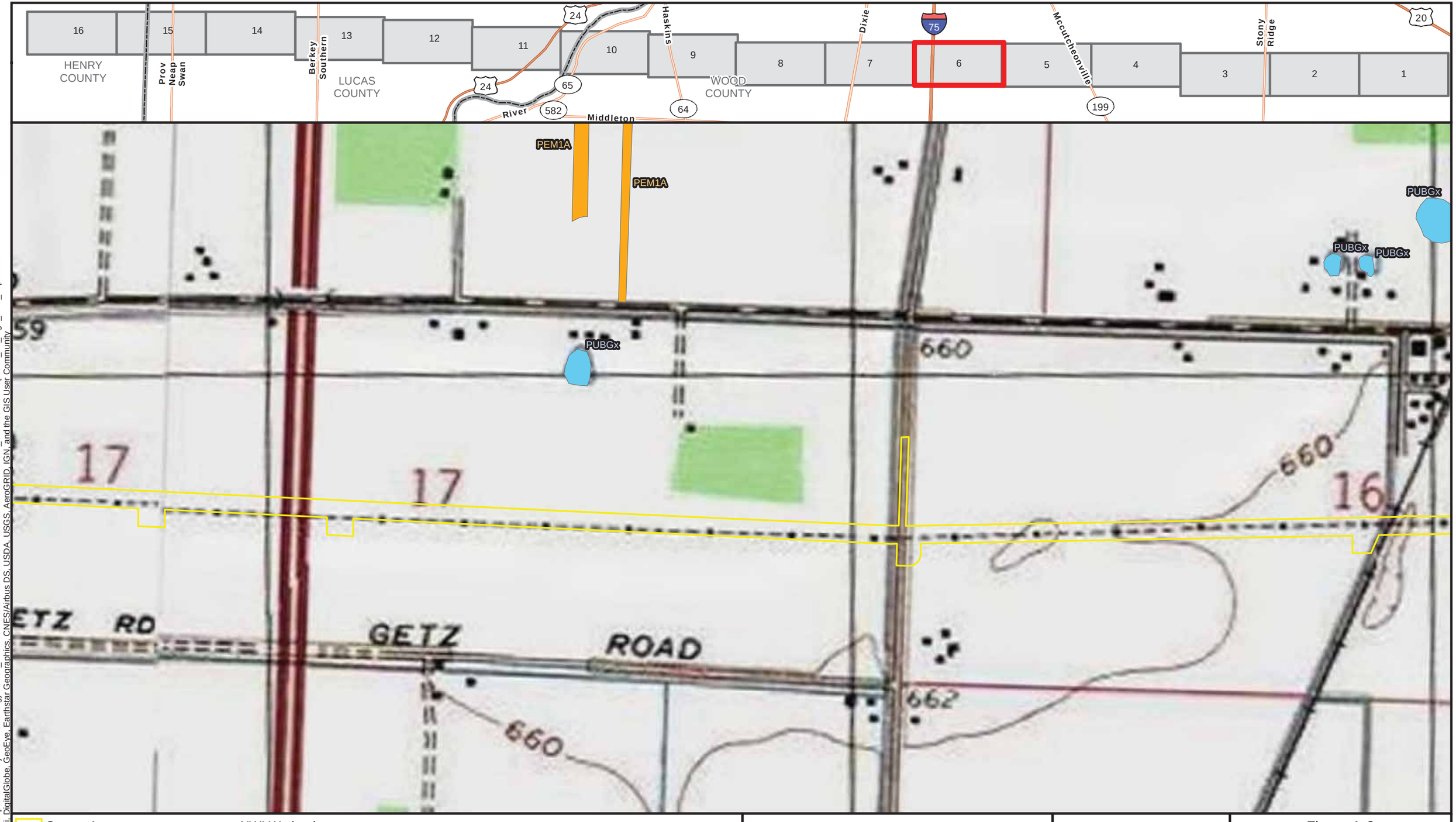
N

FirstEnergy

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 5 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017



Survey Area
County Boundary

NWI Wetland
PEM
PUB

0 250 500 1,000 Feet

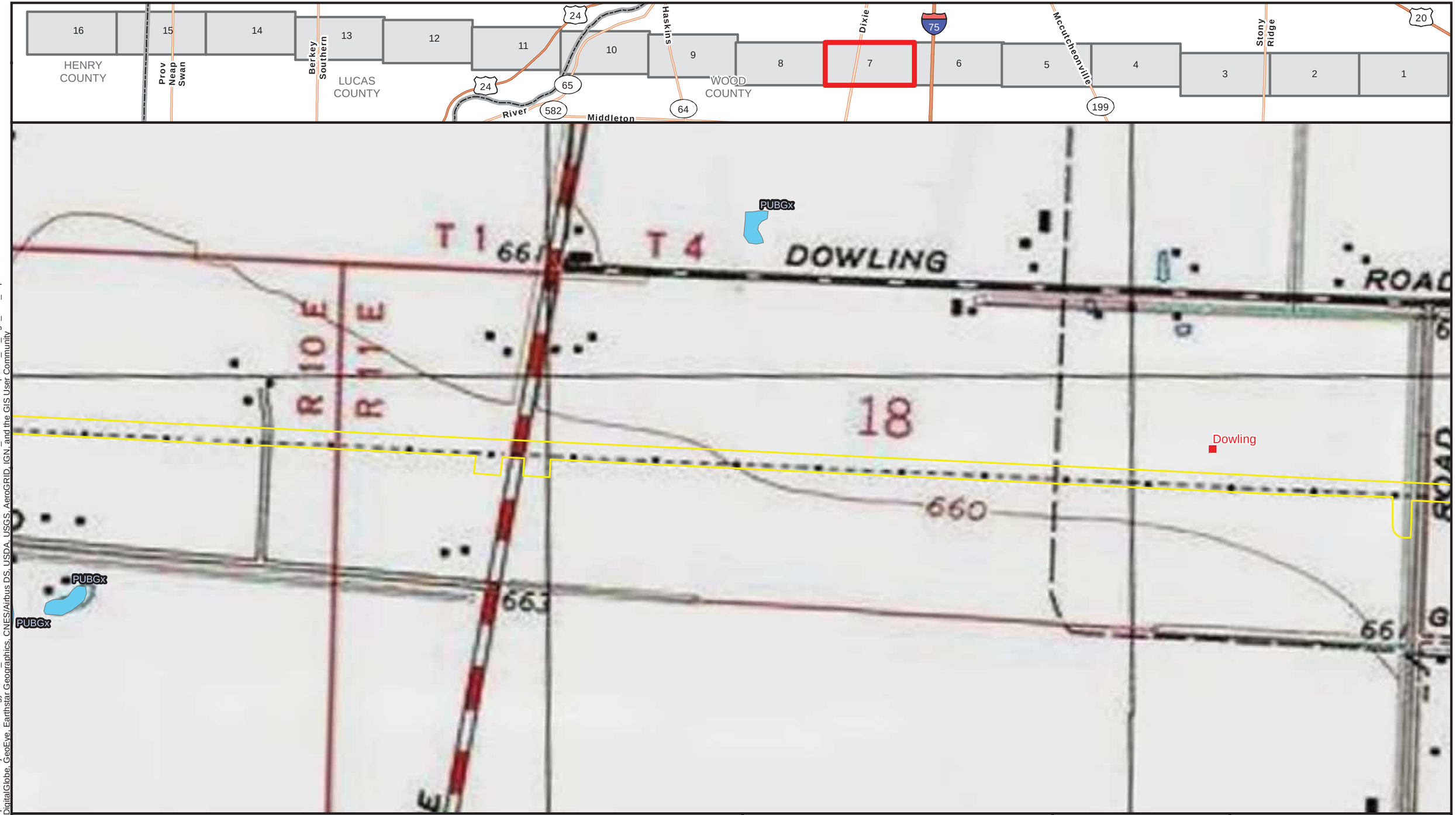
N

FirstEnergy

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 6 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017



Survey Area
Substation
County Boundary

NWI Wetland
PUB

0 250 500 1,000 Feet

N

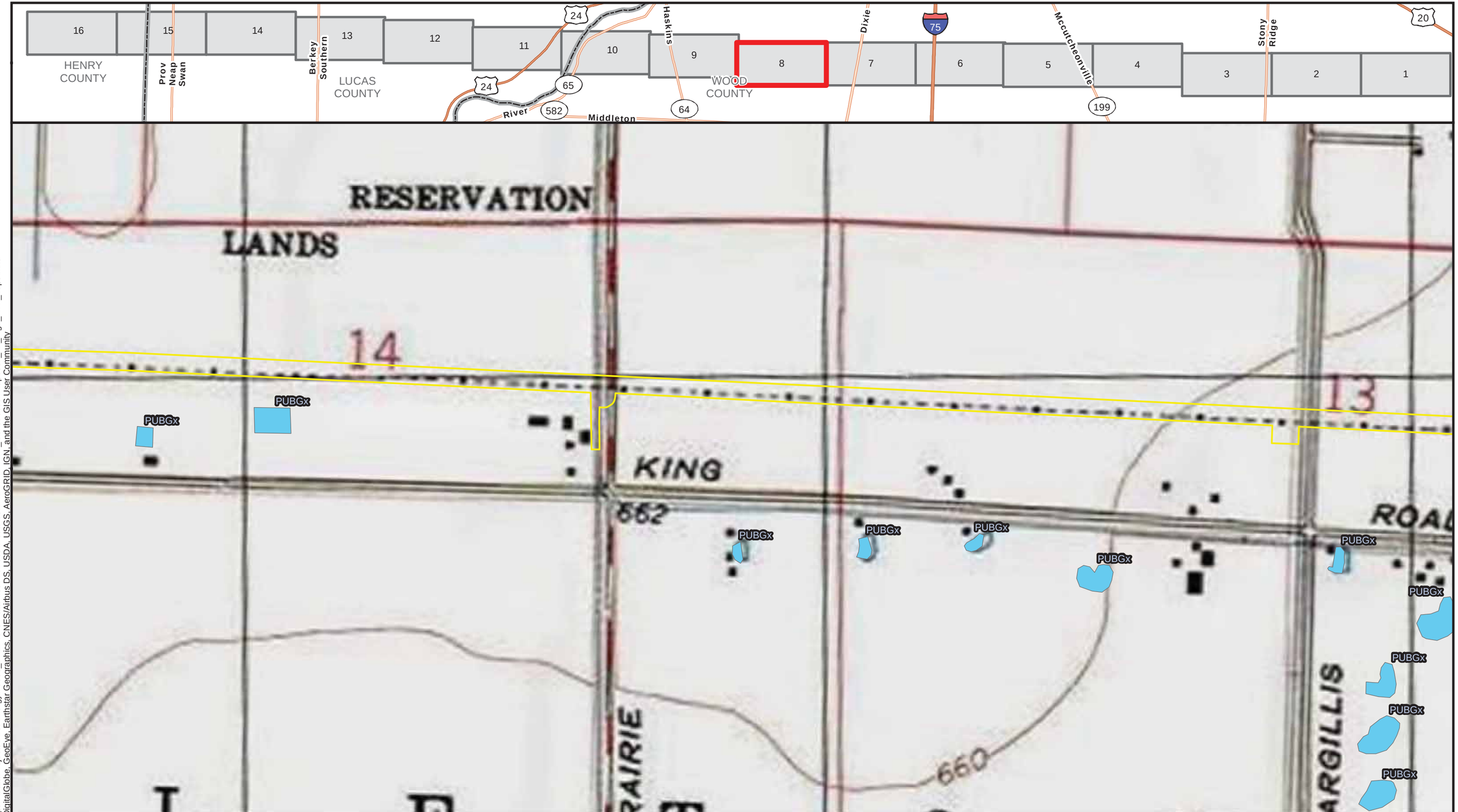
FirstEnergy

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 7 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017

Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MW\LM2MW_ConstructionMapbook_Alt_Fig2_NWI_Topo.mxd
Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Survey Area
County Boundary

NWI Wetland
PUB

0 250 500 1,000 Feet

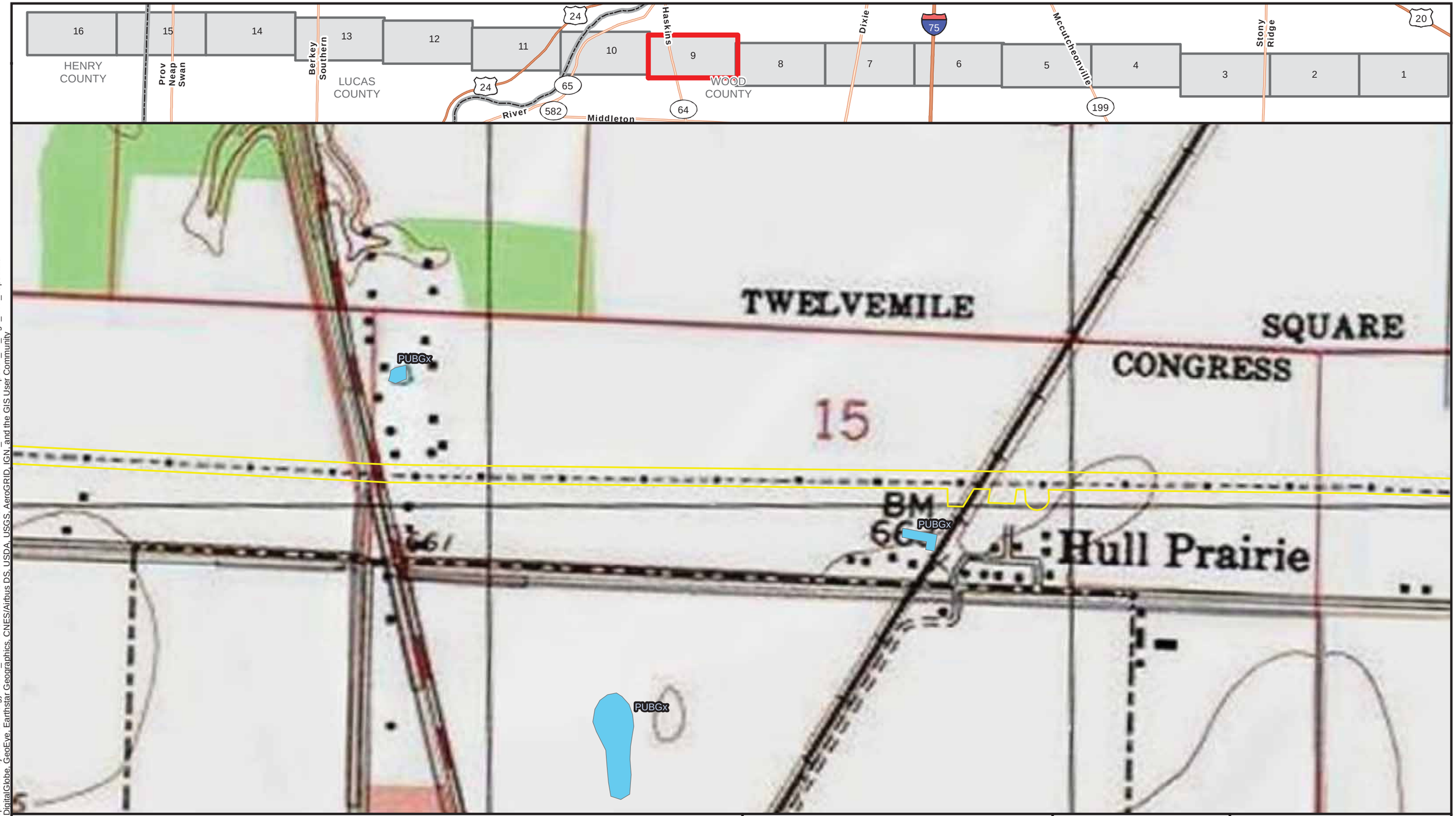
N

FirstEnergy

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 8 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017



Survey Area
County Boundary

NWI Wetland
PUB

0 250 500 1,000 Feet

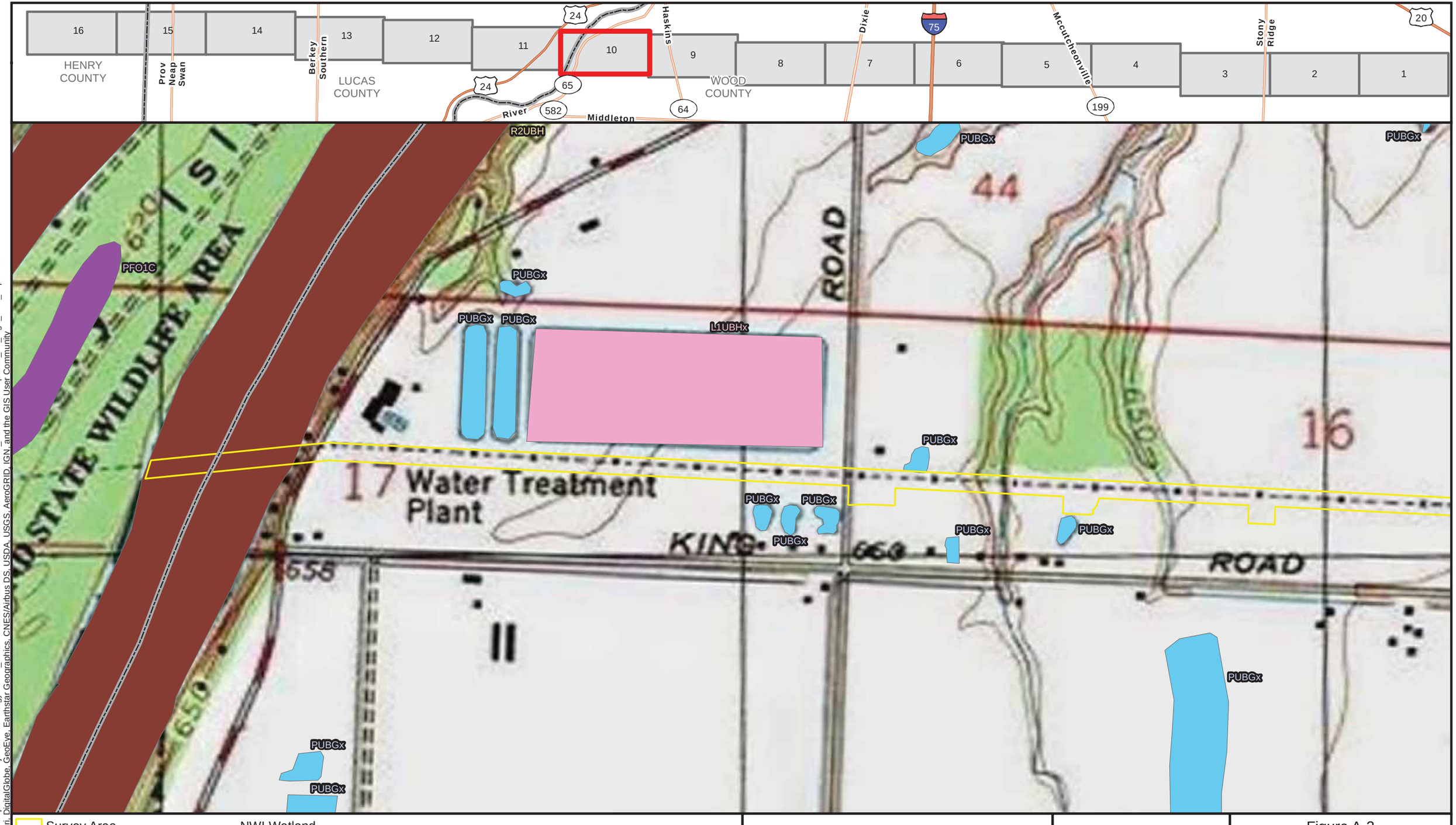
N

FirstEnergy

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 9 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017



Survey Area
County Boundary

NWI Wetland
PSS
PUB
Lake
Riverine

0 250 500 1,000 Feet

N

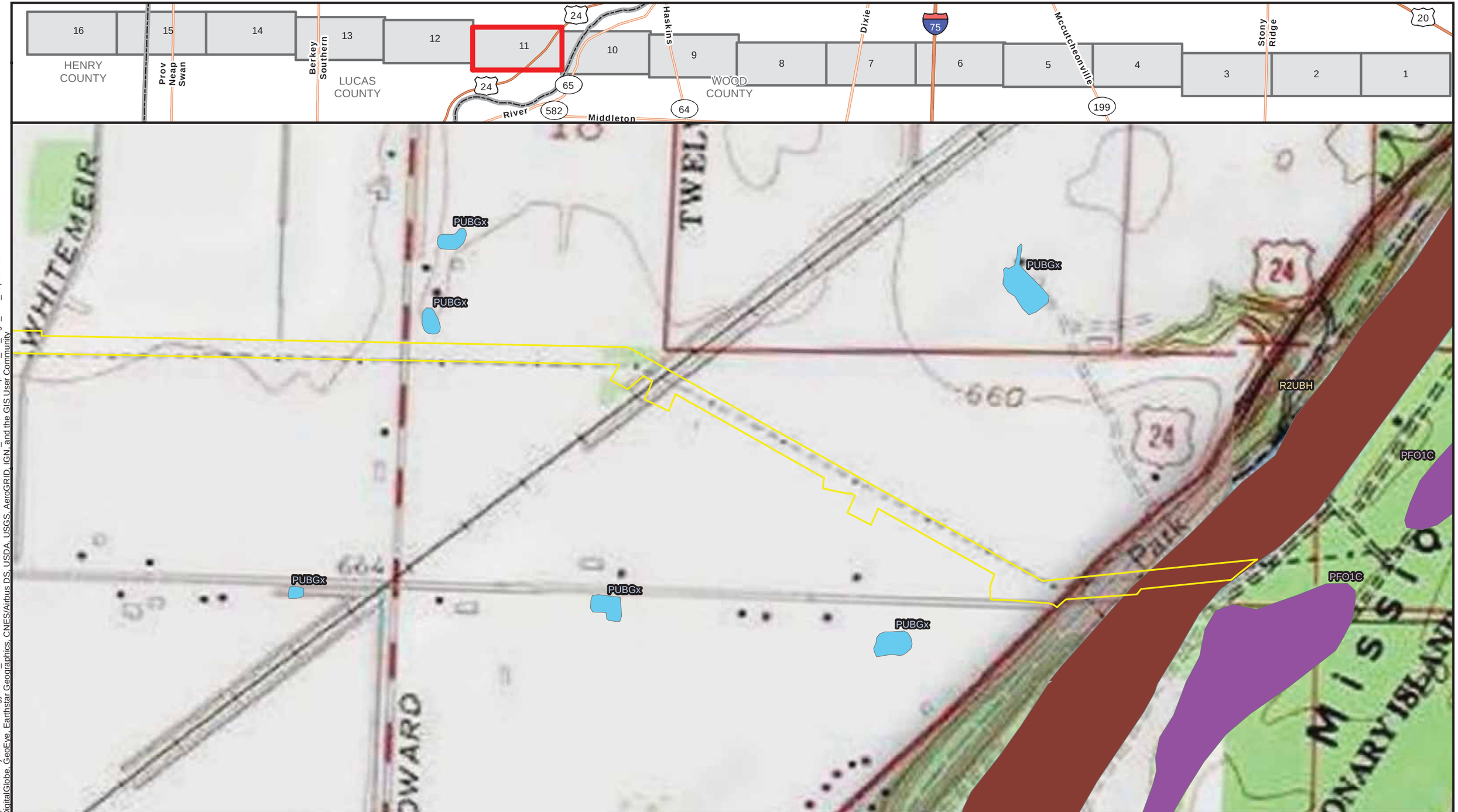
FirstEnergy

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 10 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017

Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MW\LMMW_ConstructionMapbook_Alt_Fig2_NWI_Topo.mxd
Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Survey Area
County Boundary

NWI Wetland
PSS
PUB
Riverine

0 250 500 1,000 Feet

N

FirstEnergy

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 11 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017

Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MW\LMMW_ConstructionMapbook_Alt_Fig2_NWI_Topo.mxd
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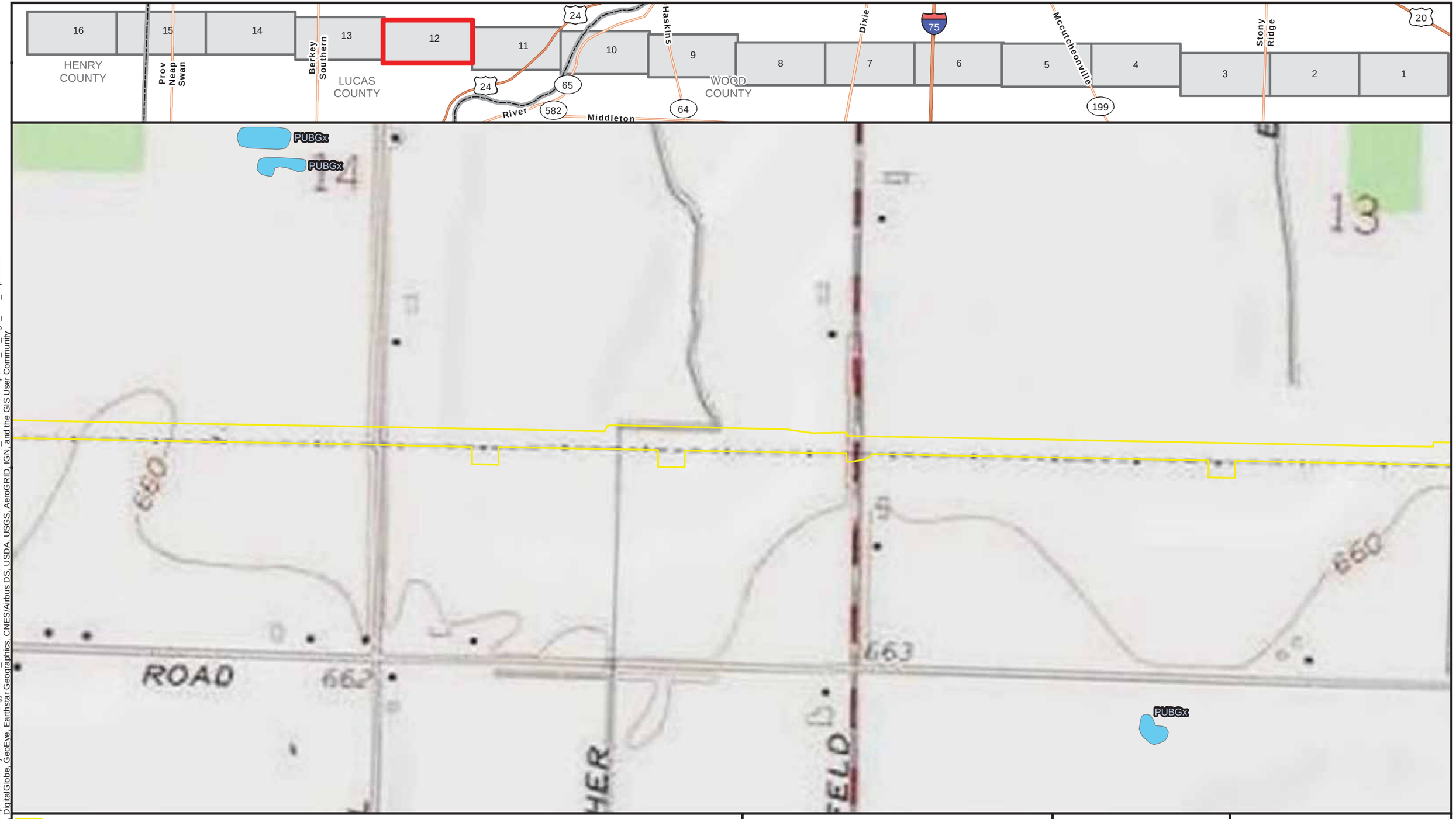

Survey Area
County Boundary

NWI Wetland
PUB

0 250 500 1,000 Feet

N

FirstEnergy

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 12 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017

Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MW\LMMW_ConstructionMapbook_Alt_Fig2_NWI_Topo.mxd
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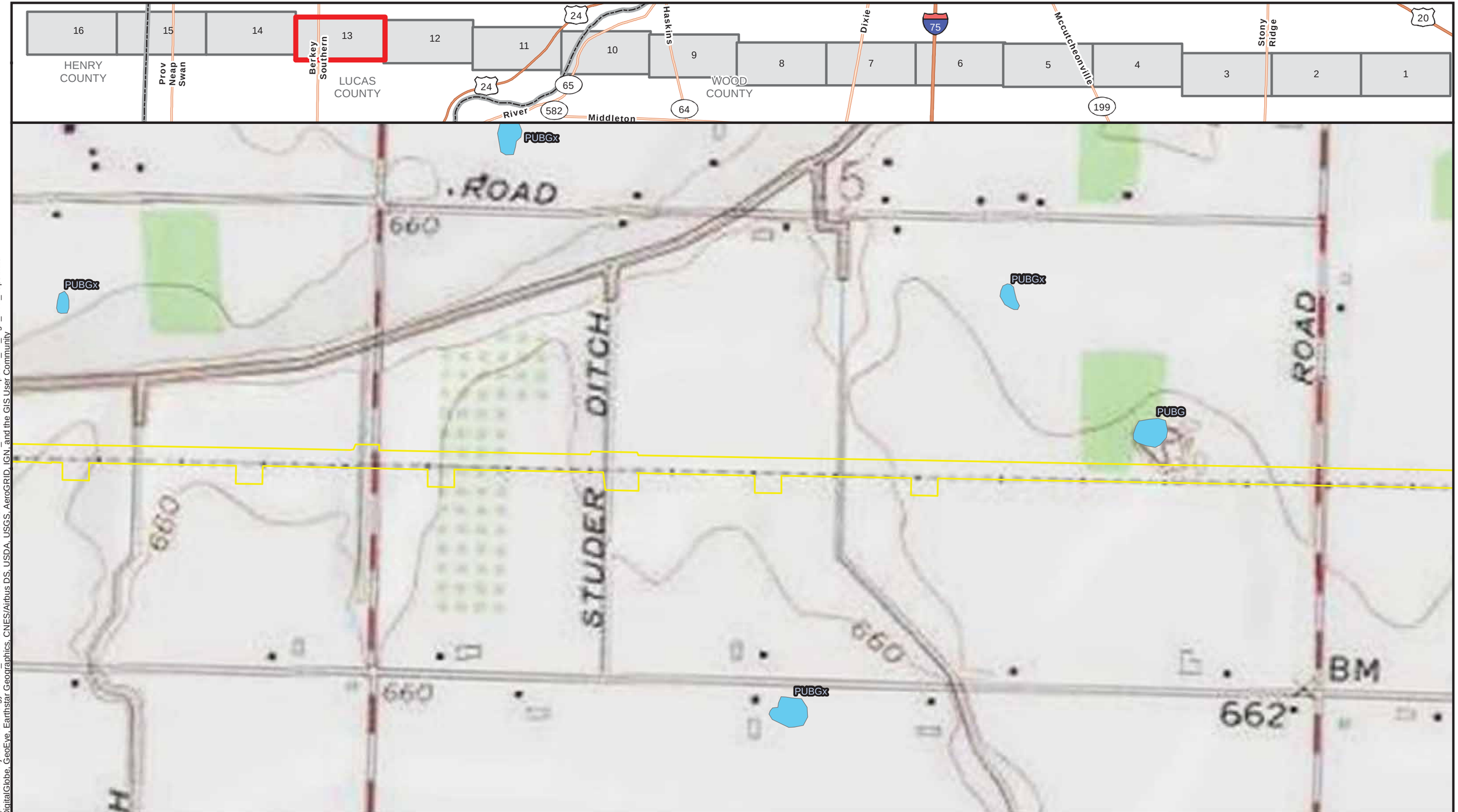


Survey Area
County Boundary

NWI Wetland
PUB

0 250 500 1,000 Feet

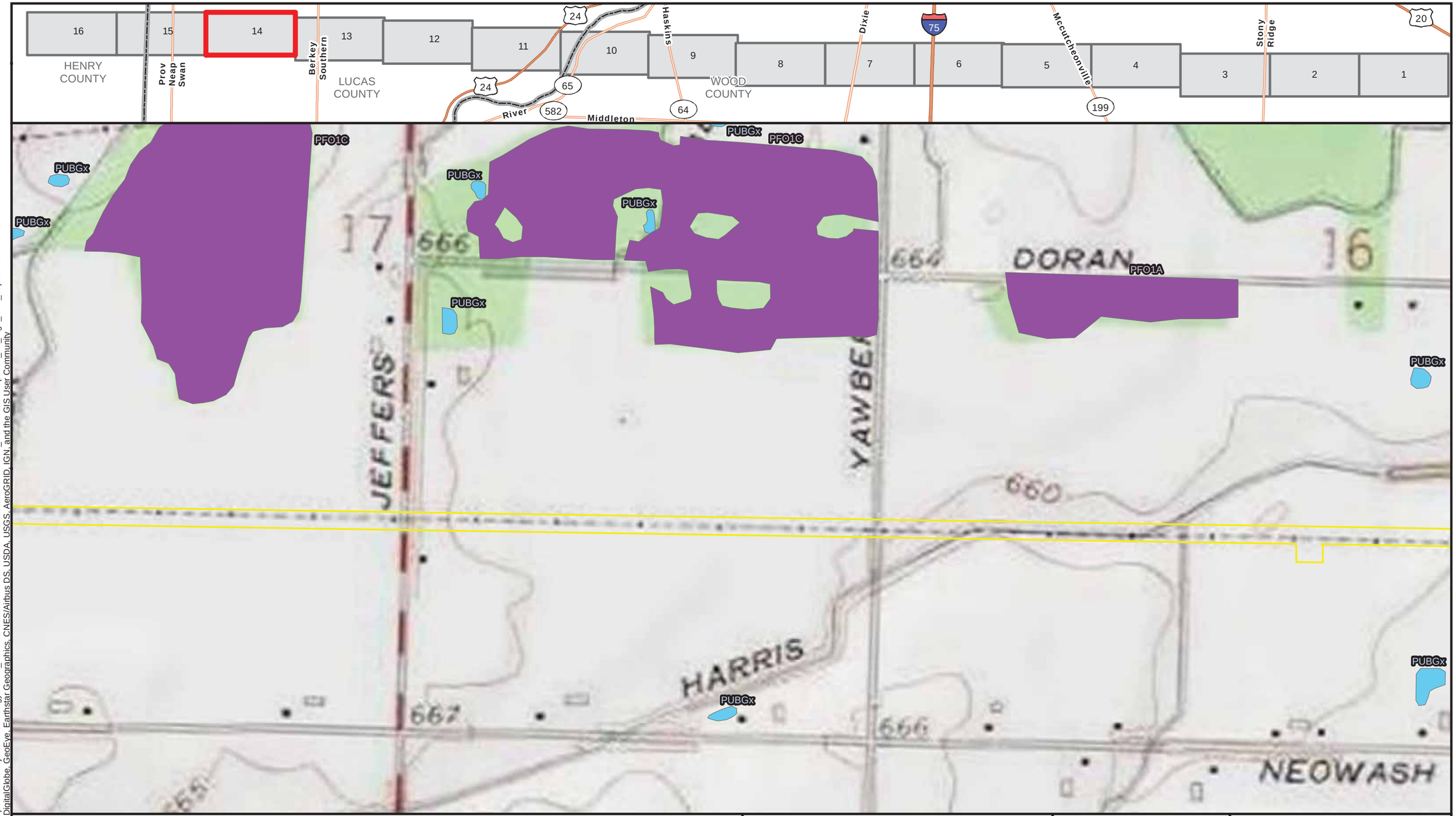
N

FirstEnergy

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 13 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017



Survey Area

County Boundary

NWI Wetland

PSS

PUB

0 250 500 1,000 Feet

N

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 14 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017

Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MW\LMMW_ConstructionMapbook_Alt_Fig2_NWI_Topo.mxd
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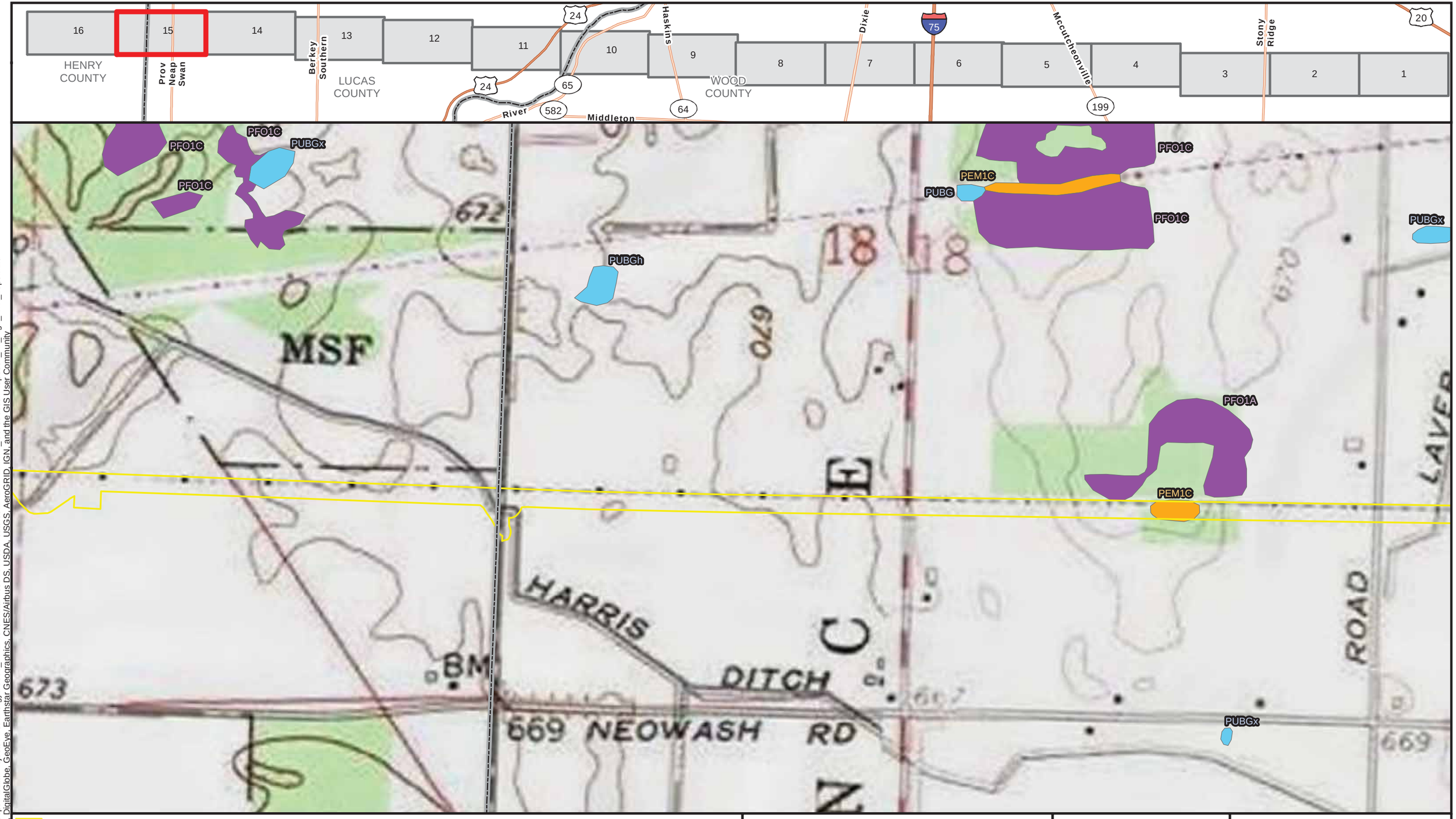

Survey Area

County Boundary

NWI Wetland

PEM

PSS

PUB

0 250 500 1,000 Feet

N

FirstEnergy

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 15 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017

Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MW\LM2MW_ConstructionMapbook_Alt_Fig2_NWI_Topo.mxd

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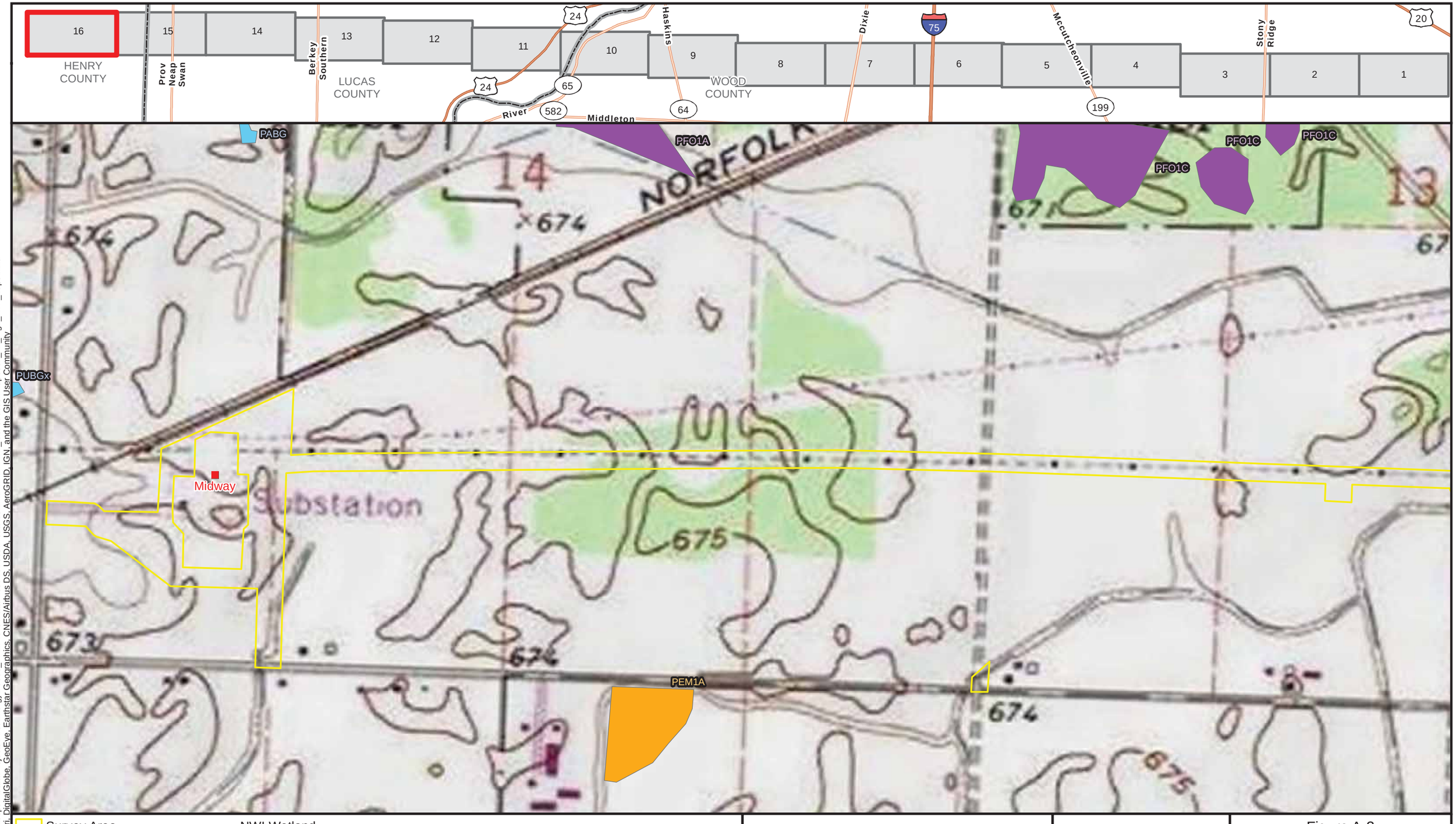


Survey Area
Substation
County Boundary

NWI Wetland
PEM
PSS
PUB

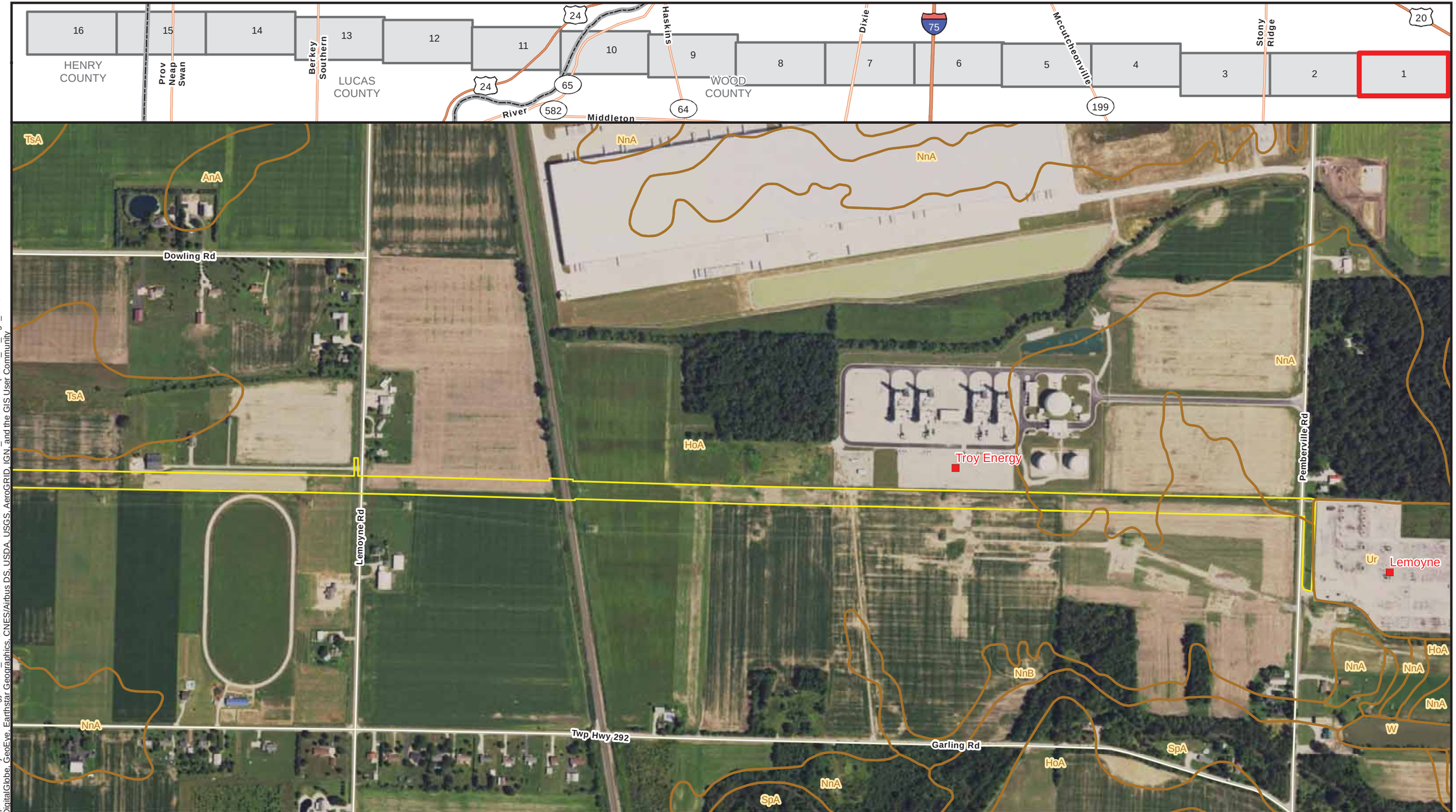
0 250 500 1,000 Feet

N

Figure A-2
USGS Topographic & NWI Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 16 of 16

Source: Esri, USFWS-National Wetland Inventory (NWI), and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017



Survey Area
Substation
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

AnA. Aurand loam, 0 to 2 percent slopes*
HoA. Hoytville clay loam, 0 to 1 percent slopes*
NnA. Nappanee loam, 0 to 2 percent slopes*
NnB. Nappanee loam, 2 to 6 percent slopes*
SpA. Sloan silty clay loam, 0 to 1 percent slopes, frequently flooded*
TsA. Toussaint silty clay loam, 0 to 1 percent slopes*

Asterisk (*) indicates hydric soil.

N

0 250 500 1,000 Feet

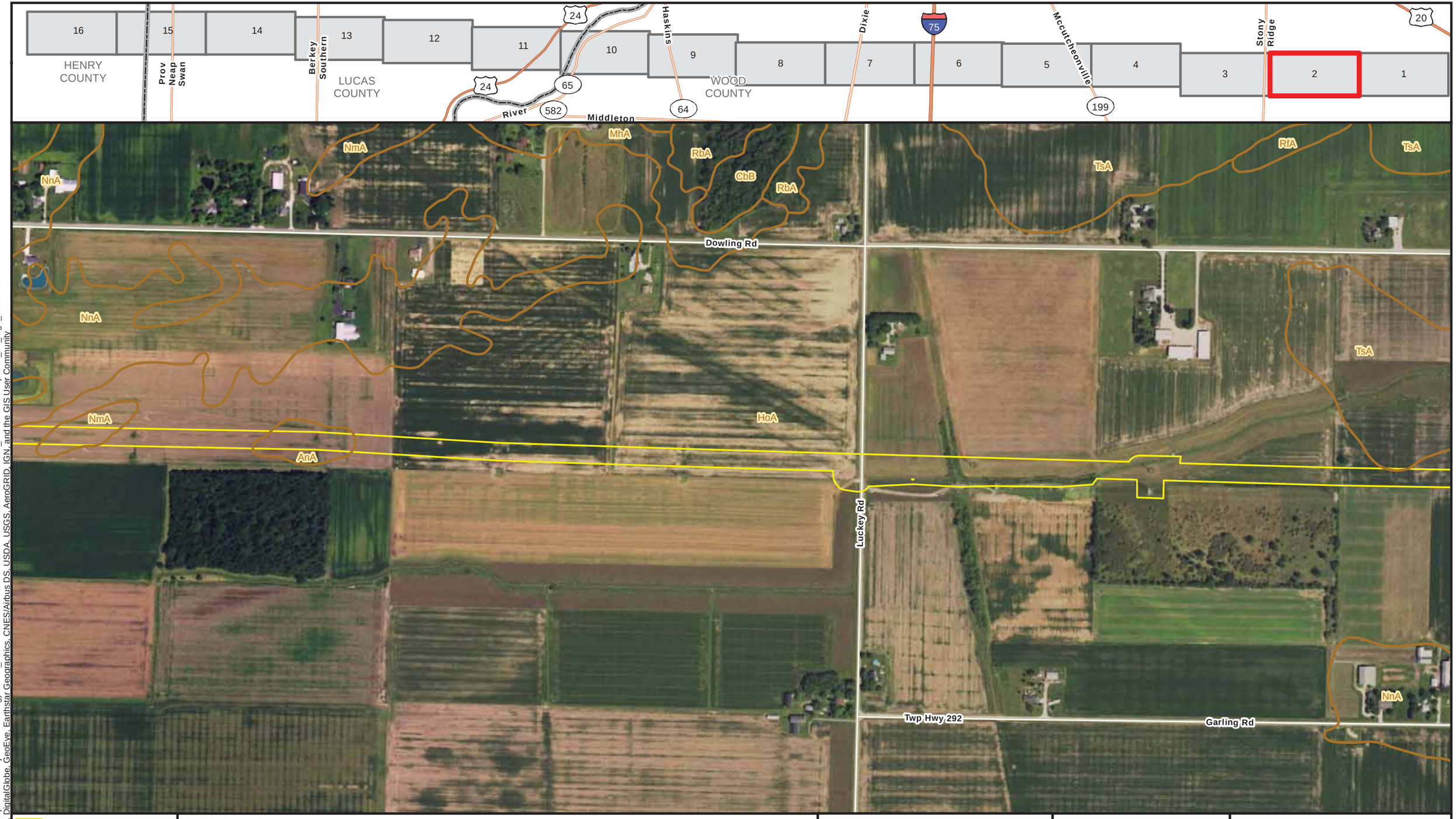
FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 1 of 16

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017

Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MW\LM2MW_ConstructionMapbook_Alt_Fig3_Soils.mxd
Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Survey Area
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

AnA. Aurand loam, 0 to 2 percent slopes*
HoA. Hoytville clay loam, 0 to 1 percent slopes*
MhA. Millsdale silty clay loam, 0 to 1 percent slopes*
NnA. Nappanee loam, 0 to 2 percent slopes*
RbA. Randolph loam, 0 to 2 percent slopes*
RfA. Rimer and Tedrow, till substratum, loamy fine sands, 0 to 2 percent slopes*
TsA. Toussaint silty clay loam, 0 to 1 percent slopes*

Asterisk (*) indicates hydric soil.

N

0 250 500 1,000 Feet

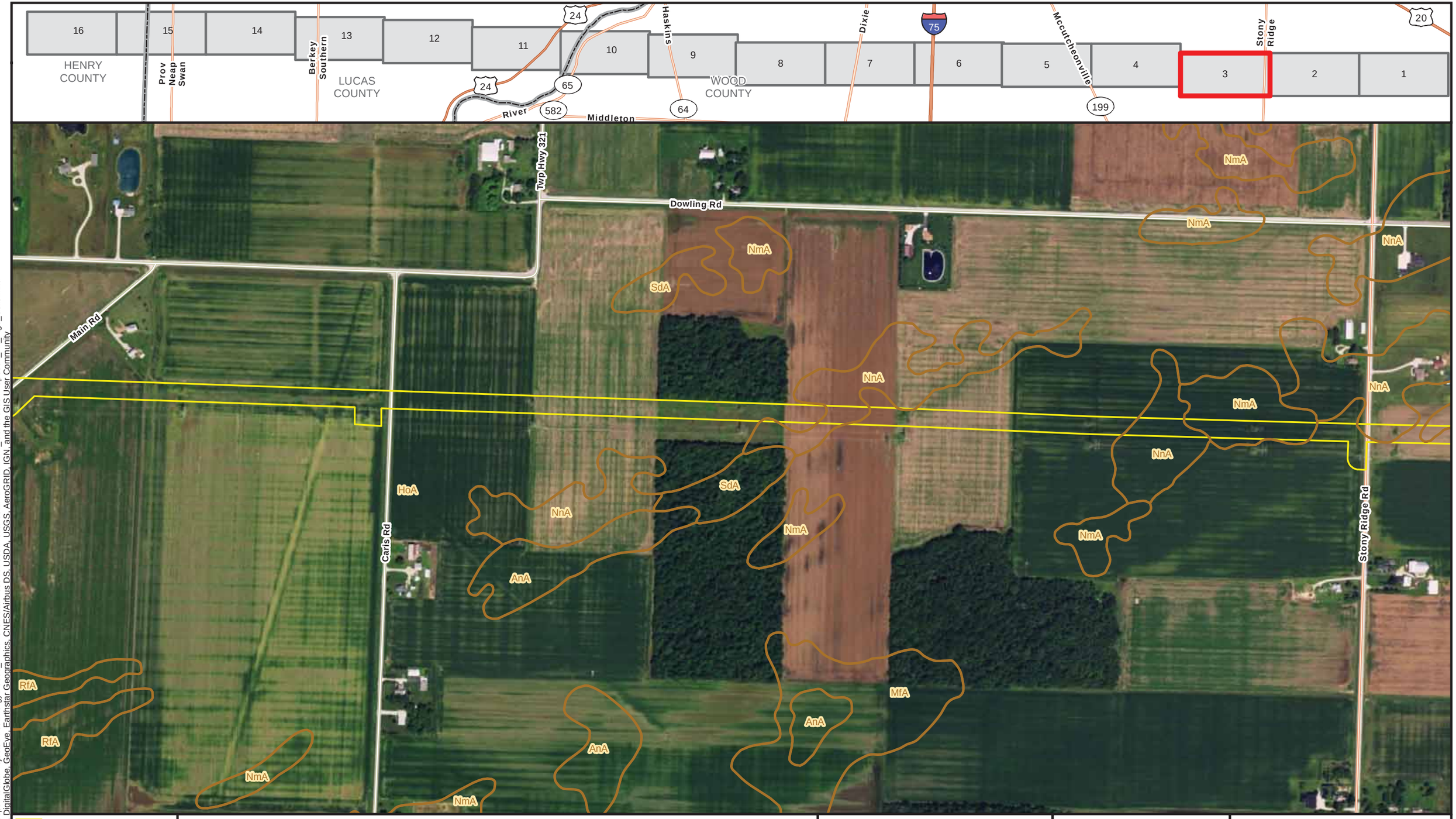
FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 2 of 16

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017

Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MW\LMMW_ConstructionMapbook_Alt_Fig3_Soils.mxd
Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Survey Area
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

AnA. Aurand loam, 0 to 2 percent slopes*

HoA. Hoytville clay loam, 0 to 1 percent slopes*

MfA. Mermill-Aurand complex, 0 to 1 percent slopes*

NnA. Nappanee loam, 0 to 2 percent slopes*

RfA. Rimer and Tedrow, till substratum, loamy fine sands, 0 to 2 percent slopes*

SdA. Seward and Ottokee, till substratum, loamy fine sands, 0 to 2 percent slopes*

Asterisk (*) indicates hydric soil.

N

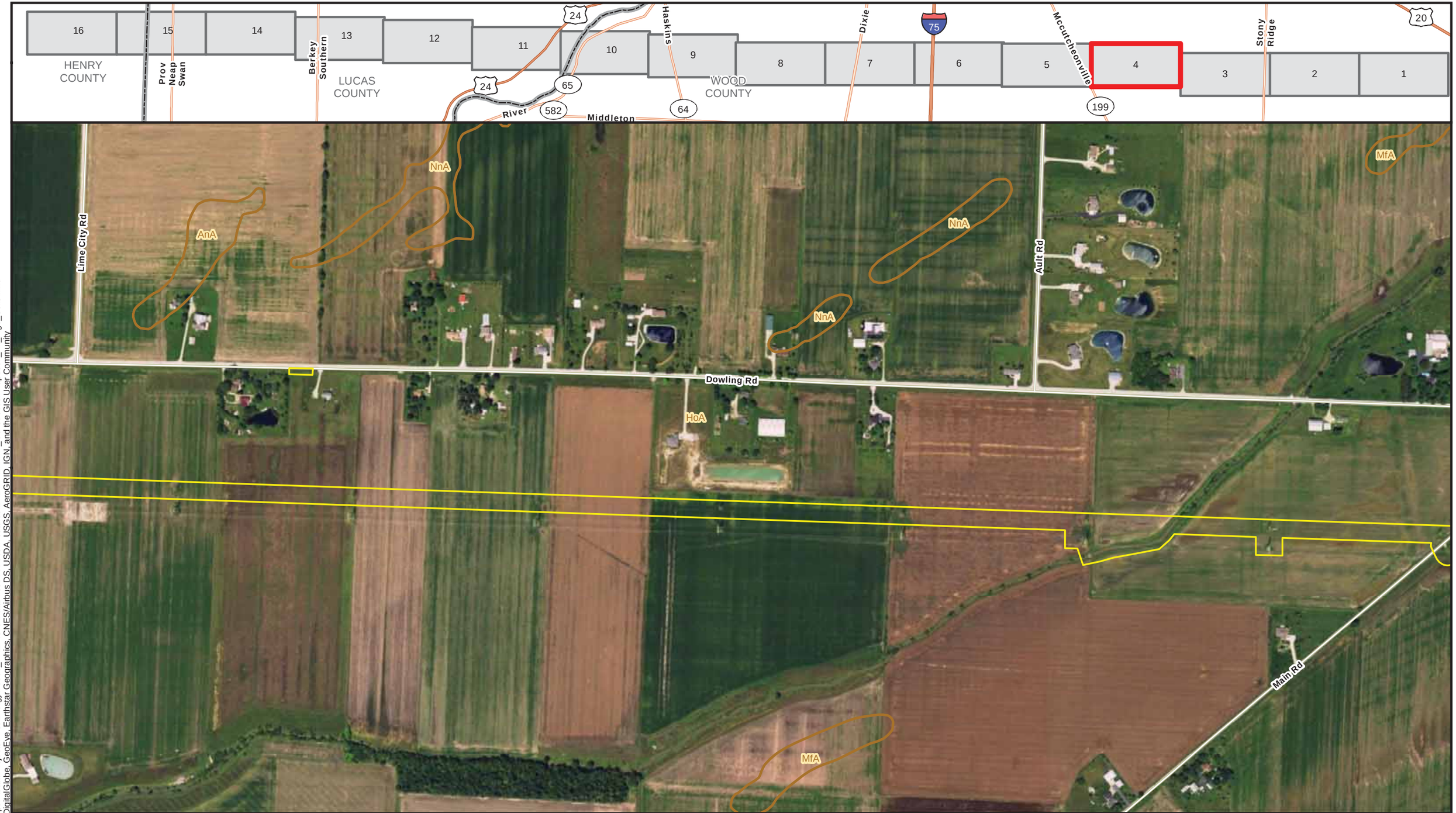
0 250 500 1,000 Feet

FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 3 of 16

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017



Survey Area
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

AnA. Aurand loam, 0 to 2 percent slopes*

HoA. Hoytville clay loam, 0 to 1 percent slopes*

MfA. Mermill-Aurand complex, 0 to 1 percent slopes*

NnA. Nappanee loam, 0 to 2 percent slopes*

Asterisk (*) indicates hydric soil.

N

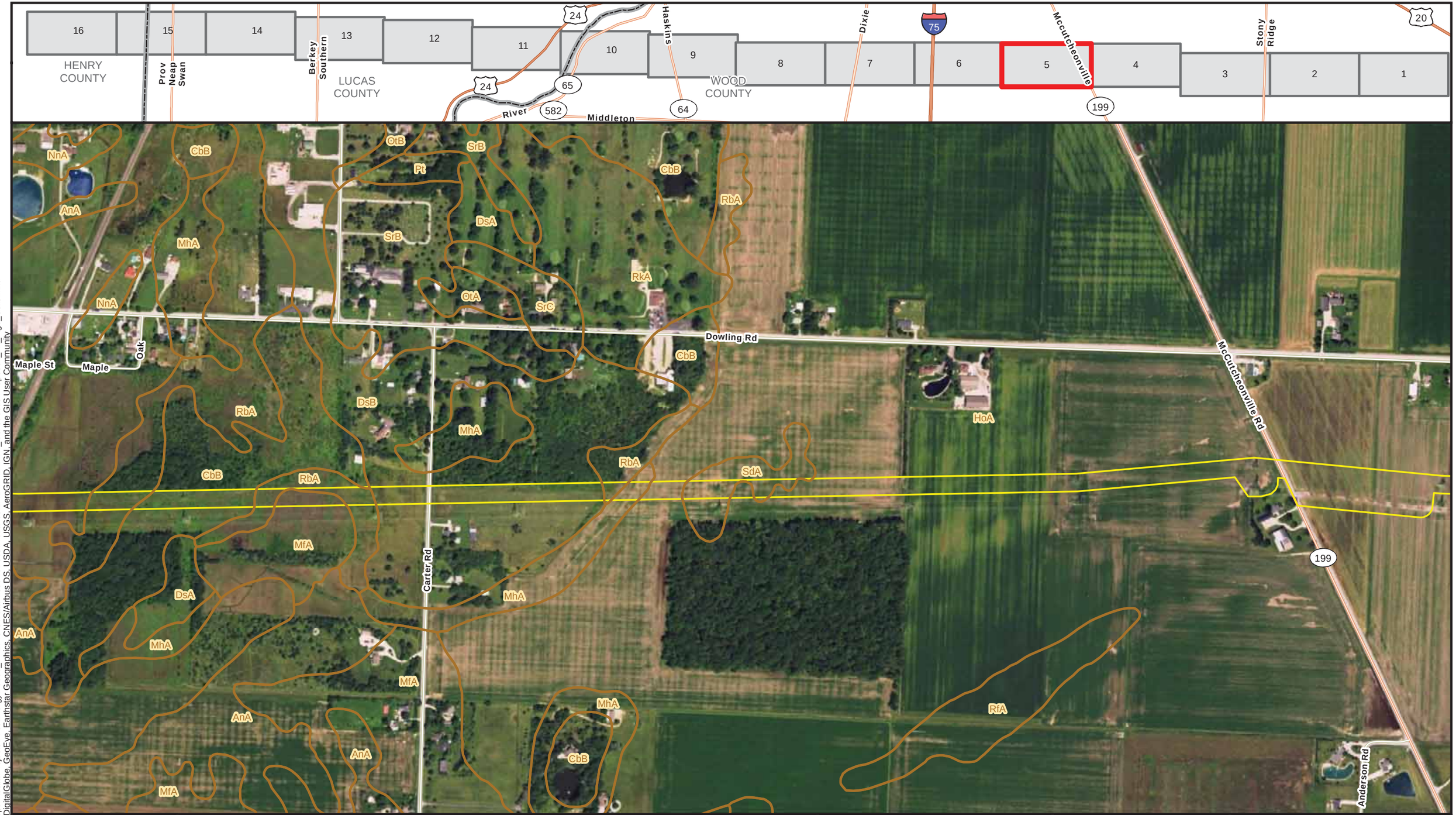
0 250 500 1,000 Feet

FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 4 of 16

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017



Survey Area
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

AnA. Aurand loam, 0 to 2 percent slopes*

HoA. Hoytville clay loam, 0 to 1 percent slopes*

MfA. Mermill-Aurand complex, 0 to 1 percent slopes*

MhA. Millsdale silty clay loam, 0 to 1 percent slopes*

NnA. Nappanee loam, 0 to 2 percent slopes*

RbA. Randolph loam, 0 to 2 percent slopes*

RfA. Rimer and Tedrow, till substratum, loamy fine sands, 0 to 2 percent slopes*

SdA. Seward and Ottokee, till substratum, loamy fine sands, 0 to 2 percent slopes*

Asterisk (*) indicates hydric soil.

N

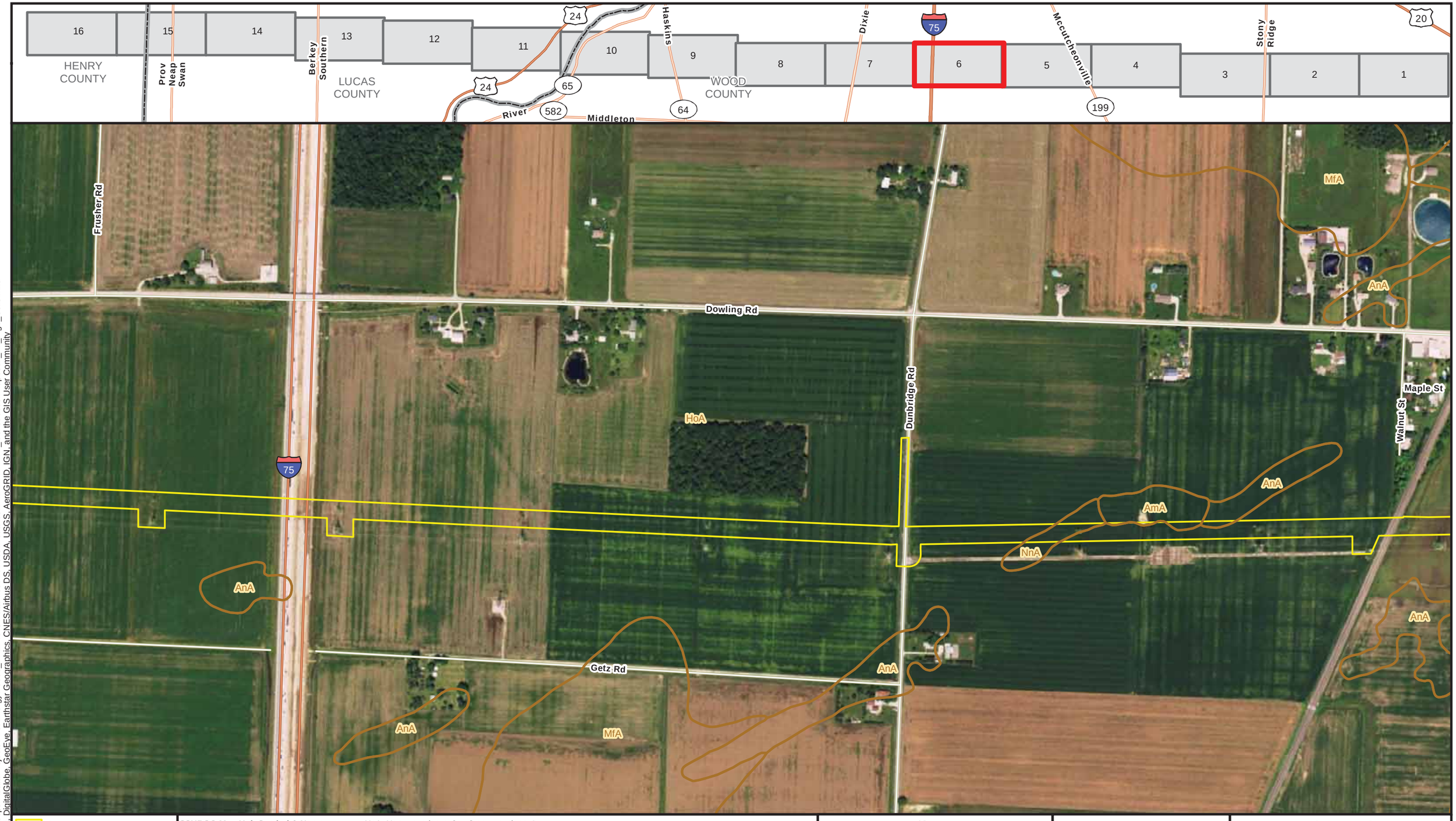
0 250 500 1,000 Feet

FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 5 of 16

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017



Survey Area
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

AmA. Aurand fine sandy loam, 0 to 2 percent slopes*

AnA. Aurand loam, 0 to 2 percent slopes*

HoA. Hoytville clay loam, 0 to 1 percent slopes*

MfA. Mermill-Aurand complex, 0 to 1 percent slopes*

NnA. Nappanee loam, 0 to 2 percent slopes*

Asterisk (*) indicates hydric soil.

N

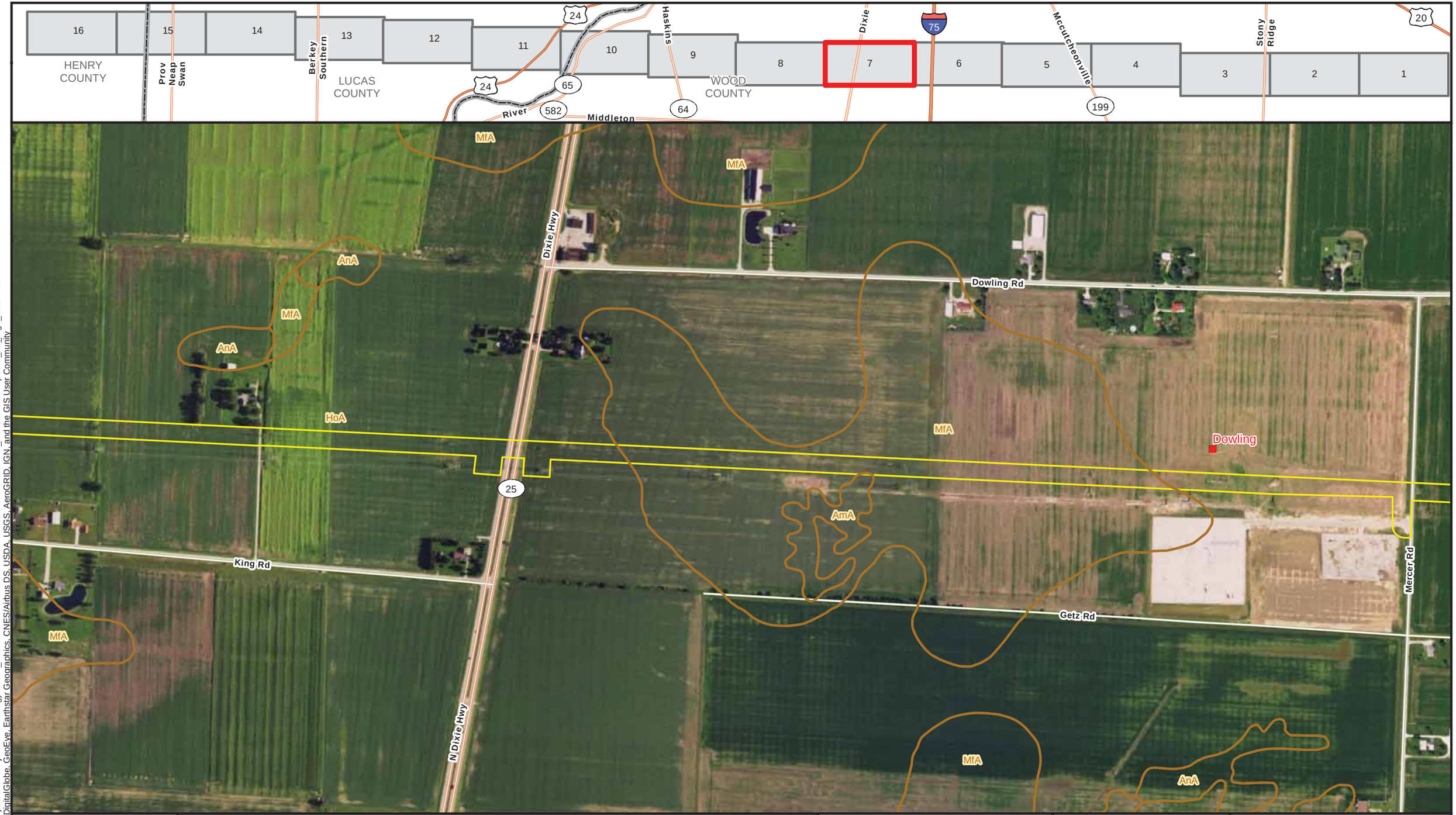
0 250 500 1,000 Feet

FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 6 of 16

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017



Survey Area
Substation
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

AmA. Aurand fine sandy loam, 0 to 2 percent slopes*

AnA. Aurand loam, 0 to 2 percent slopes*

HoA. Hoytville clay loam, 0 to 1 percent slopes*

MfA. Mermill-Aurand complex, 0 to 1 percent slopes*

NnA. Nappanee loam, 0 to 2 percent slopes*

Asterisk (*) indicates hydric soil.

N

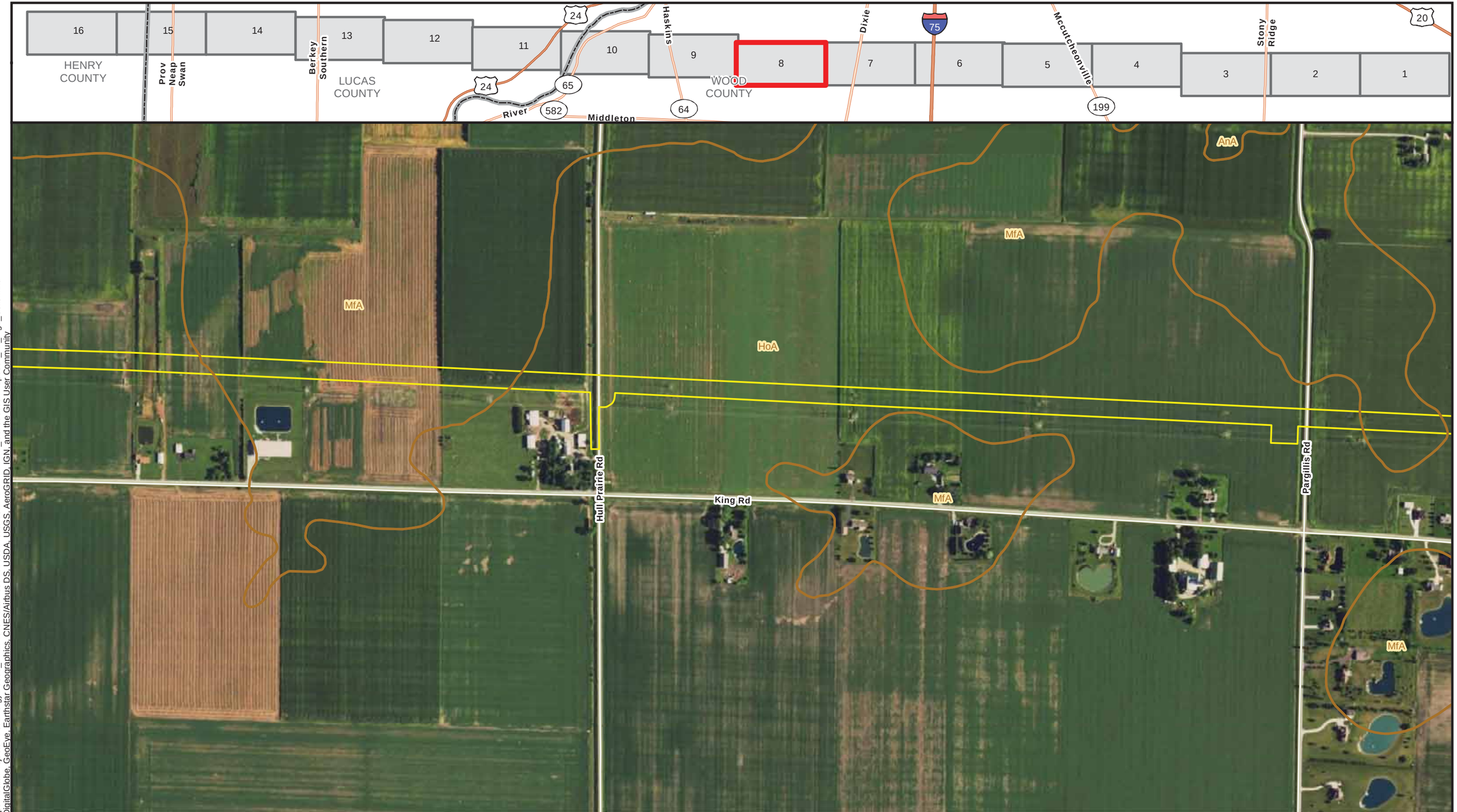
0 250 500 1,000 Feet

FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 7 of 16

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017



Survey Area
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

AnA. Aurand loam, 0 to 2 percent slopes*

HoA. Hoytville clay loam, 0 to 1 percent slopes*

MfA. Mermill-Aurand complex, 0 to 1 percent slopes*

Asterisk (*) indicates hydric soil.

N

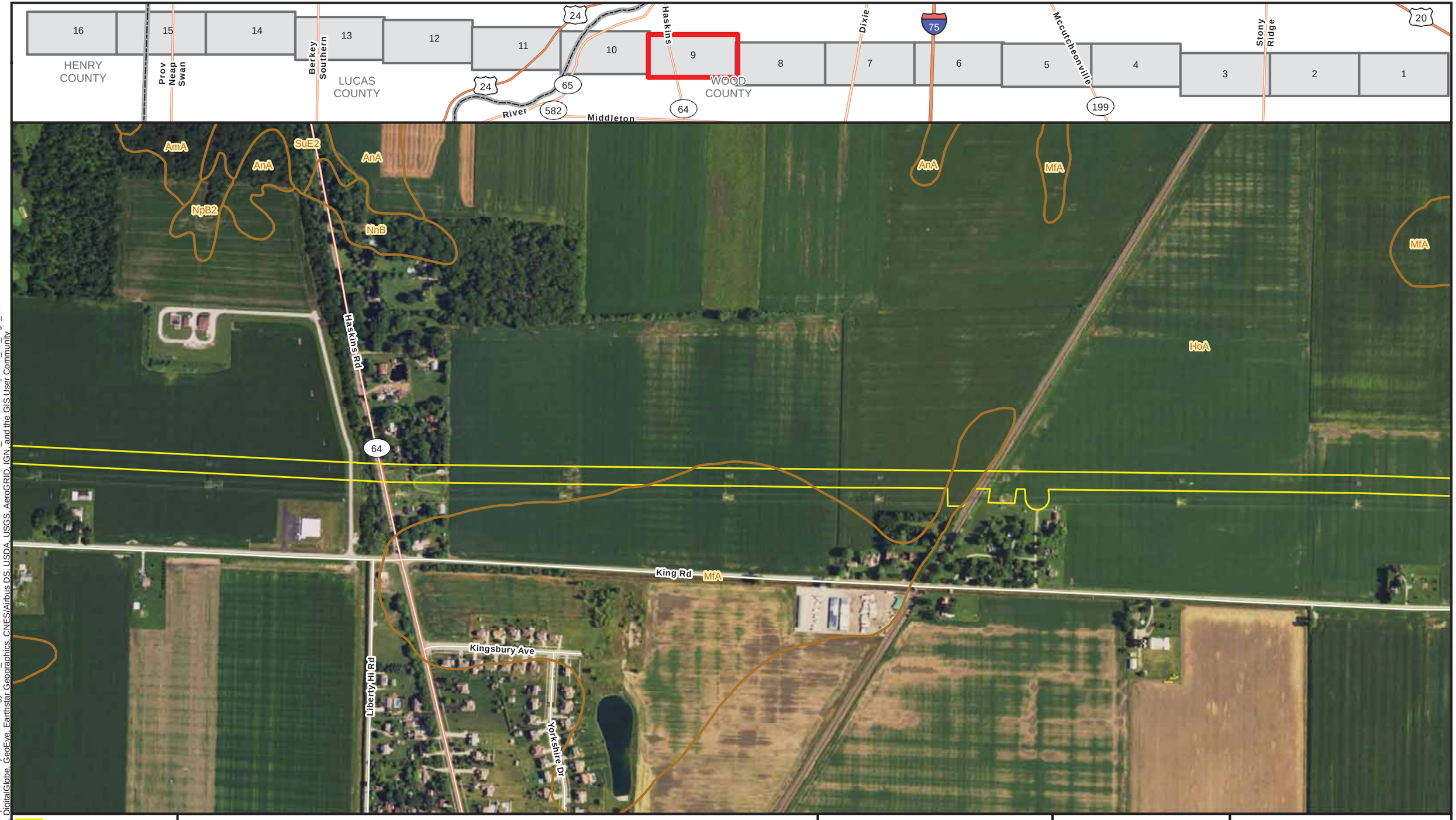
0 250 500 1,000 Feet

FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 8 of 16

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017



Survey Area
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

AmA. Aurand fine sandy loam, 0 to 2 percent slopes*

AnA. Aurand loam, 0 to 2 percent slopes*

HoA. Hoytville clay loam, 0 to 1 percent slopes*

MfA. Mermill-Aurand complex, 0 to 1 percent slopes*

NnB. Nappanee loam, 2 to 6 percent slopes*

Asterisk (*) indicates hydric soil.

N

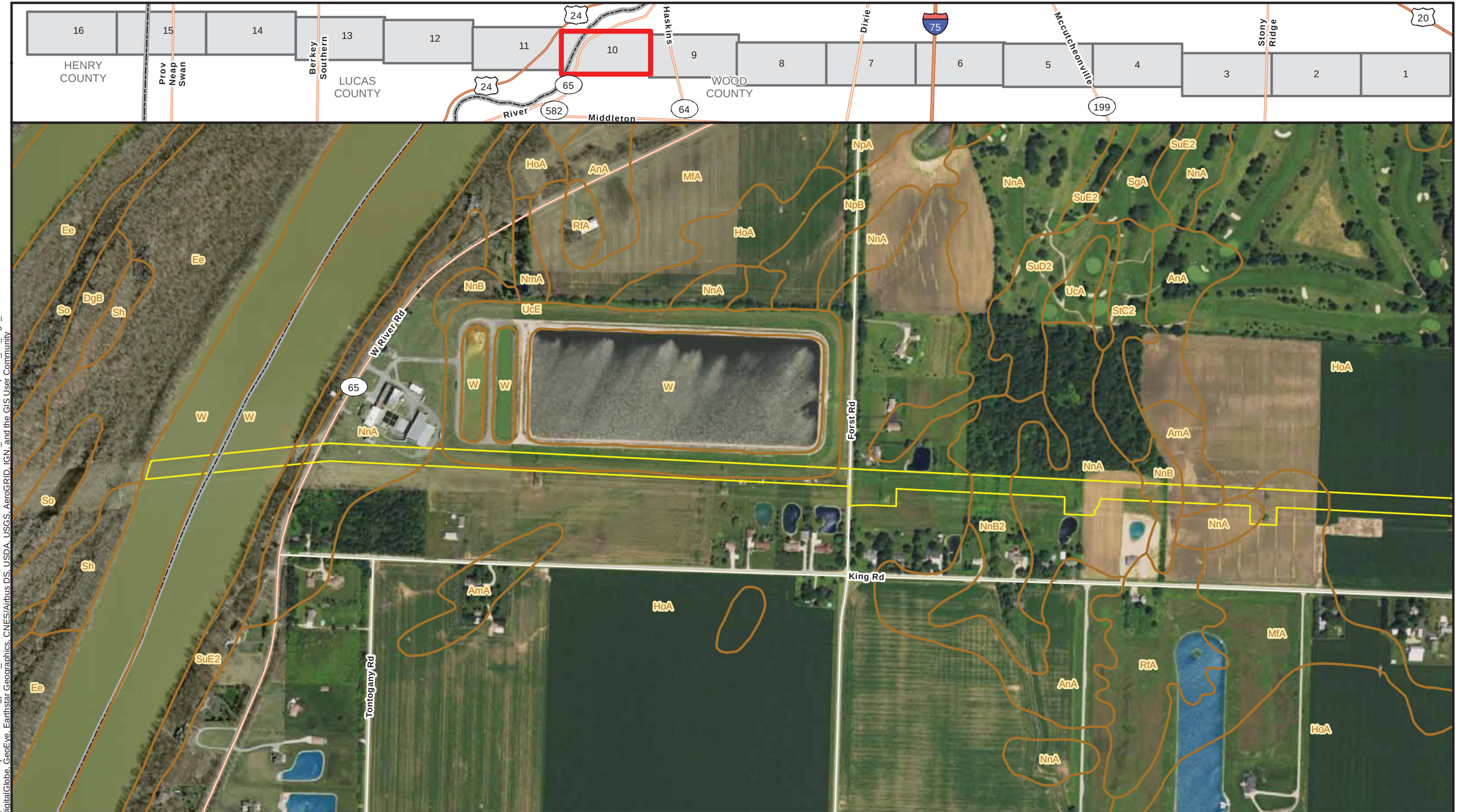
0 250 500 1,000 Feet

FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 9 of 16

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017



Survey Area
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

AmA. Aurand fine sandy loam, 0 to 2 percent slopes*

AnA. Aurand loam, 0 to 2 percent slopes*

DgB. Digby sandy loam, 2 to 6 percent slopes*

Ee. Eel loam, occasionally flooded*

HfB. Haskins and Digby, till substratum, loams, 2 to 6 percent slopes*

HnA. Haskins loam, 0 to 3 percent slopes*

HoA. Hoytville clay loam, 0 to 1 percent slopes*

MfA. Mermill-Aurand complex, 0 to 1 percent slopes*

NnA. Nappanee loam, 0 to 2 percent slopes*

NnB. Nappanee loam, 2 to 6 percent slopes*

NpA. Nappanee silty clay loam, 0 to 2 percent slopes*

RfA. Rimer and Tedrow, till substratum, loamy fine sands, 0 to 2 percent slopes*

Sh. Shoals loam, occasionally flooded*

So. Sloan loam, occasionally flooded*

Asterisk (*) indicates hydric soil.

N

0 250 500 1,000 Feet

FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 10 of 16

Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MW\LM2MW_ConstructionMapbook_Alt_Fig3_Soils.mxd

Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

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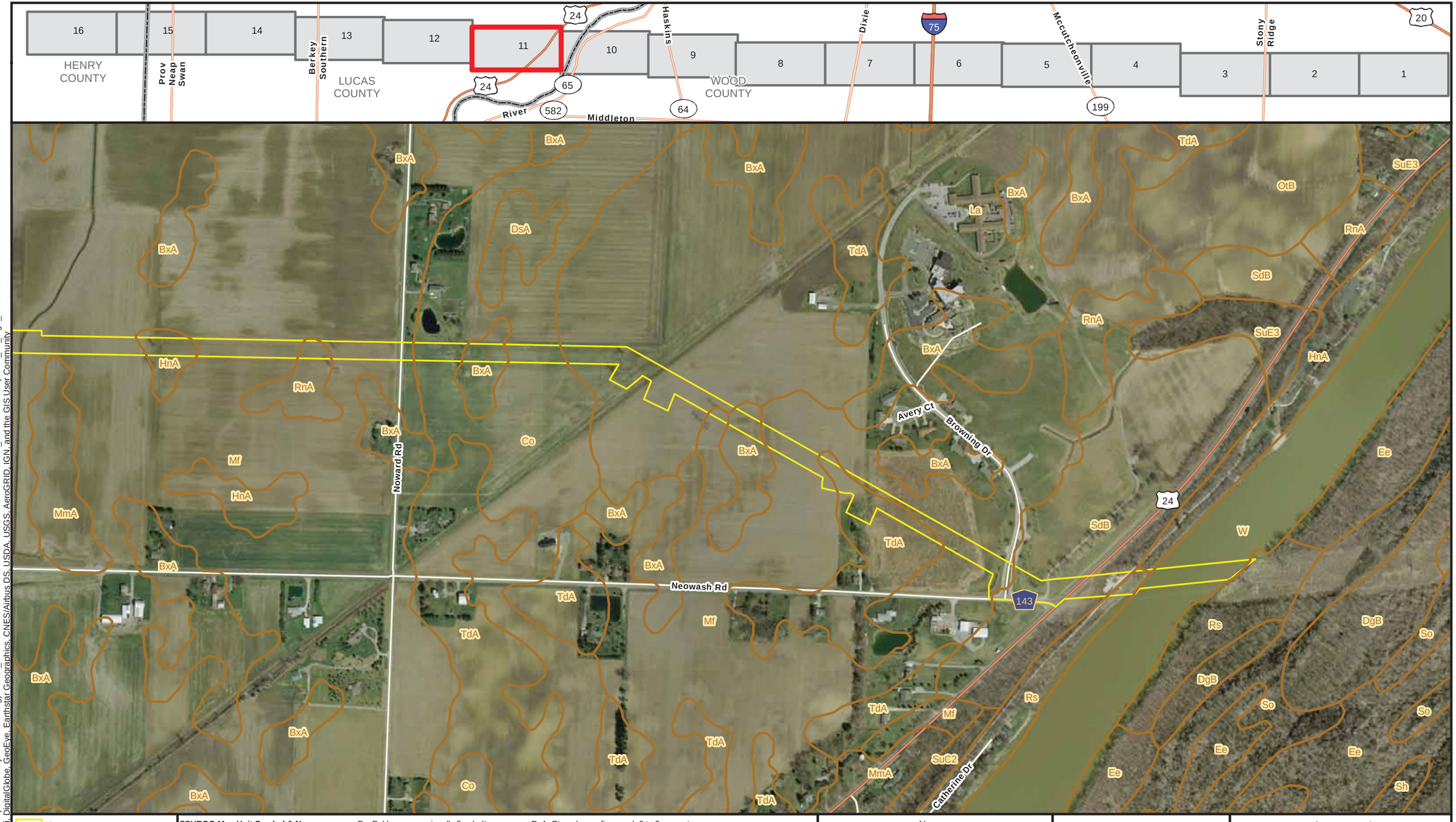

Survey Area
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

BxA. Bixler loamy fine sand, 0 to 2 percent slopes*
Co. Colwood loam*
DgB. Digby sandy loam, 2 to 6 percent slopes*
DsA. Dixboro fine sandy loam, 0 to 2 percent slopes*
Ee. Eel loam, occasionally flooded*
HnA. Haskins loam, 0 to 3 percent slopes*
La. Lamson fine sandy loam*
Mf. Mermill loam*
MmA. Metamora sandy loam, 0 to 3 percent slopes*
OtB. Ottokee fine sand, 0 to 6 percent slopes*
RnA. Rimer loamy fine sand, 0 to 3 percent slopes*
Rs. Ross loam, occasionally flooded*
SdB. Seward loamy fine sand, 2 to 6 percent slopes*
Sh. Shoals loam, occasionally flooded*
So. Sloan loam, occasionally flooded*
TdA. Tedrow fine sand, 0 to 3 percent slopes*

Asterisk (*) indicates hydric soil.

N

0 250 500 1,000 Feet

FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 11 of 16

Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MWL_ConstructionMapbook_Alt_Fig3_Soils.mxd
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Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

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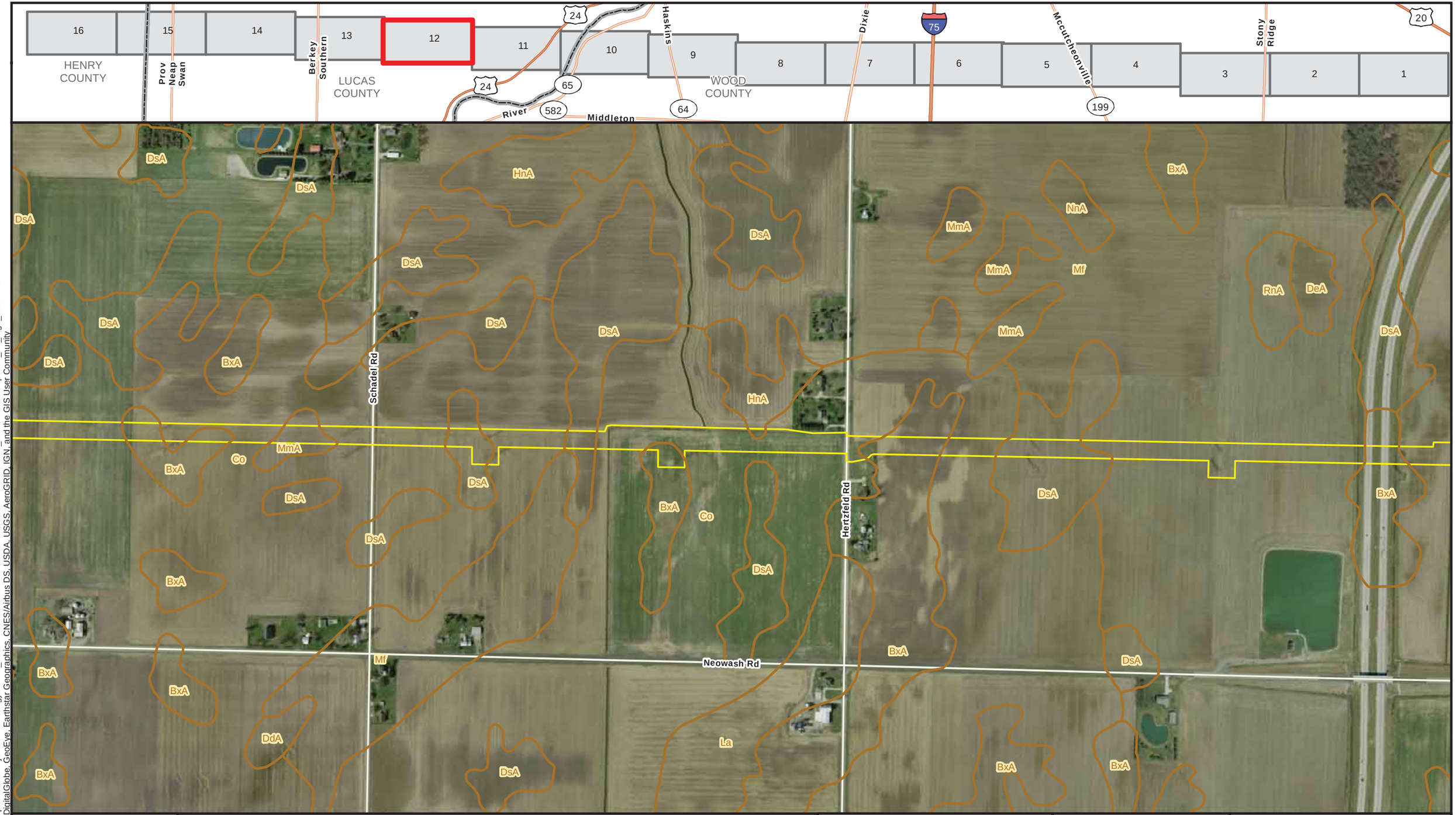

Survey Area
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

BxA. Bixler loamy fine sand, 0 to 2 percent slopes*
Co. Colwood loam*
DdA. Del Rey loam, 0 to 3 percent slopes*
DeA. Del Rey loam, sandy substratum, 0 to 2 percent slopes*
DsA. Dixboro fine sandy loam, 0 to 2 percent slopes*
HnA. Haskins loam, 0 to 3 percent slopes*
La. Lamson fine sandy loam*
Mf. Mermill loam*
MmA. Metamora sandy loam, 0 to 3 percent slopes*
NnA. Nappanee loam, 0 to 3 percent slopes*
RnA. Rimer loamy fine sand, 0 to 3 percent slopes*

Asterisk (*) indicates hydric soil.

N

0 250 500 1,000 Feet

FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 12 of 16

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

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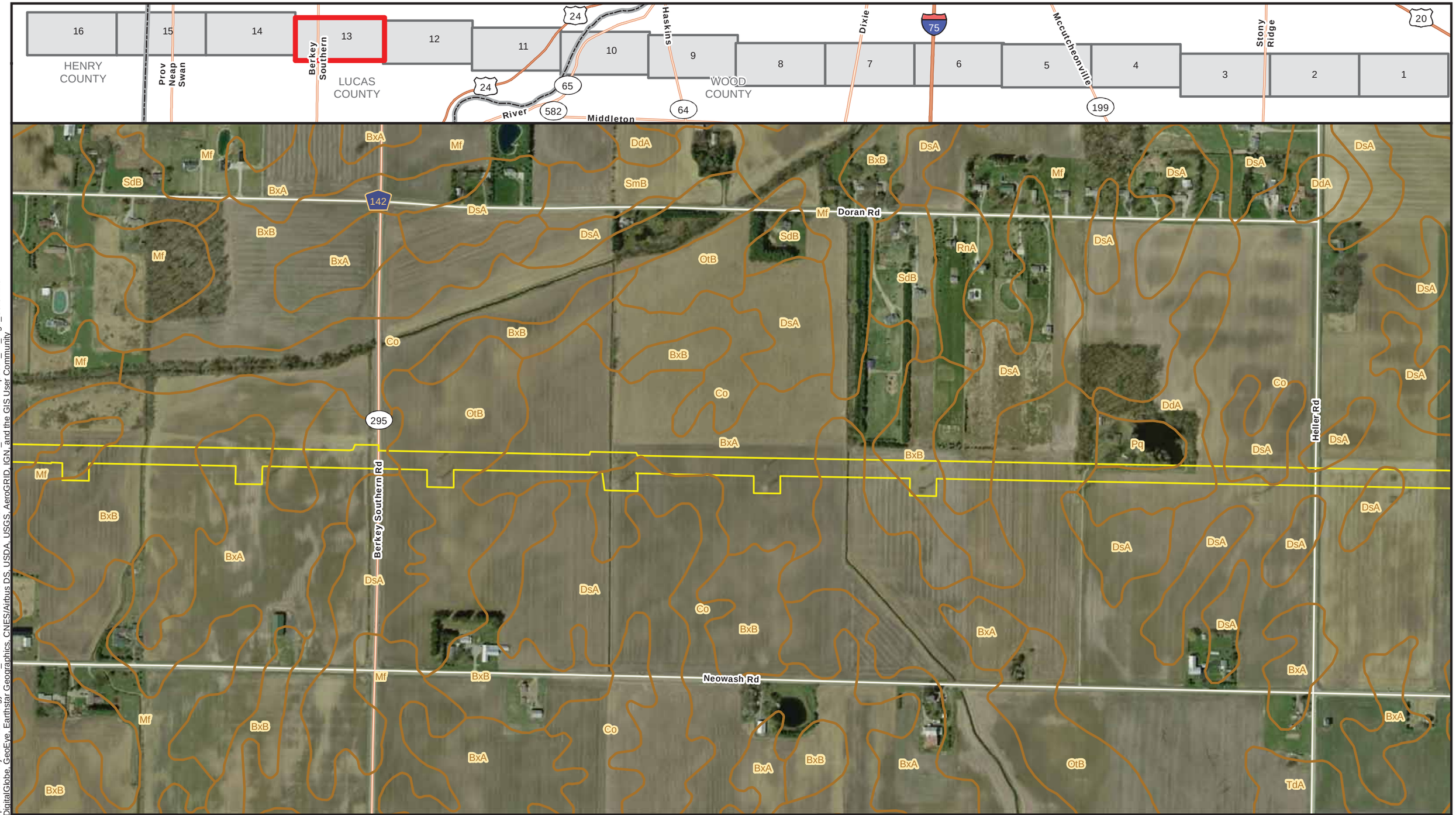
Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Survey Area
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

BxA. Bixler loamy fine sand, 0 to 2 percent slopes*

BxB. Bixler loamy fine sand, 2 to 6 percent slopes*

Co. Colwood loam*

DdA. Del Rey loam, 0 to 3 percent slopes*

DsA. Dixboro fine sandy loam, 0 to 2 percent slopes*

Mf. Mermill loam*

OtB. Ottokee fine sand, 0 to 6 percent slopes*

RnA. Rimer loamy fine sand, 0 to 3 percent slopes*

SmB. Sisson loam, 2 to 6 percent slopes*

TdA. Tedrow fine sand, 0 to 3 percent slopes*

Asterisk (*) indicates hydric soil.

N

0 250 500 1,000 Feet

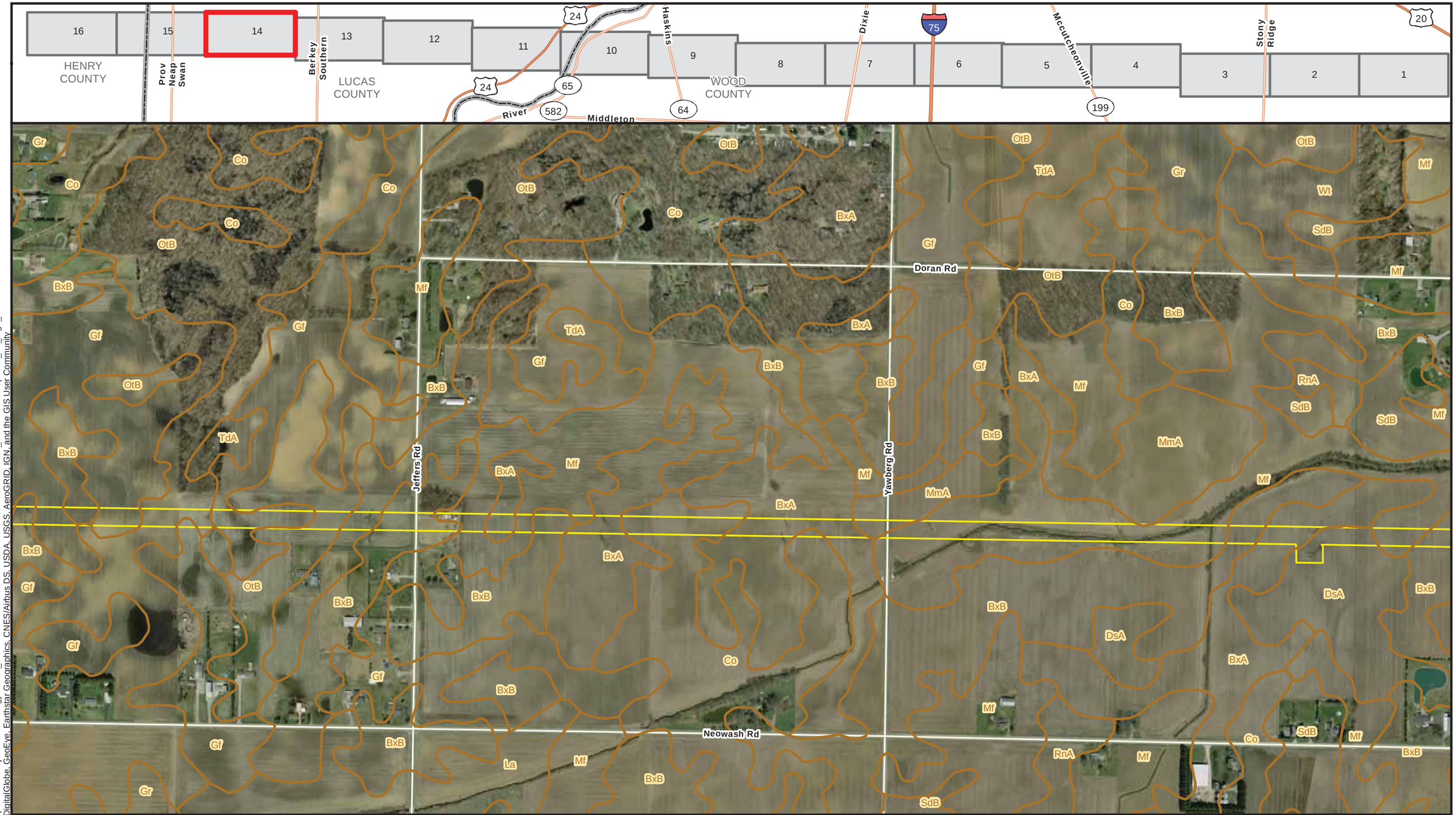
FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI

Lemoyne - Midway 1

Issued: January 25, 2017

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.



Survey Area
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

BxA. Bixler loamy fine sand, 0 to 2 percent slopes*

BxB. Bixler loamy fine sand, 2 to 6 percent slopes*

Co. Colwood loam*

DsA. Dixboro fine sandy loam, 0 to 2 percent slopes*

Gf. Gilford fine sandy loam*

Gr. Granby loamy fine sand*

La. Lamson fine sandy loam*

Mf. Mermill loam*

MmA. Metamora sandy loam, 0 to 3 percent slopes*

OtB. Ottokee fine sand, 0 to 6 percent slopes*

RnA. Rimer loamy fine sand, 0 to 3 percent slopes*

SdB. Seward loamy fine sand, 2 to 6 percent slopes*

TdA. Tedrow fine sand, 0 to 3 percent slopes*

Wt. Wauseon fine sandy loam*

Asterisk (*) indicates hydric soil.

N

0 250 500 1,000 Feet

FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 14 of 16

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

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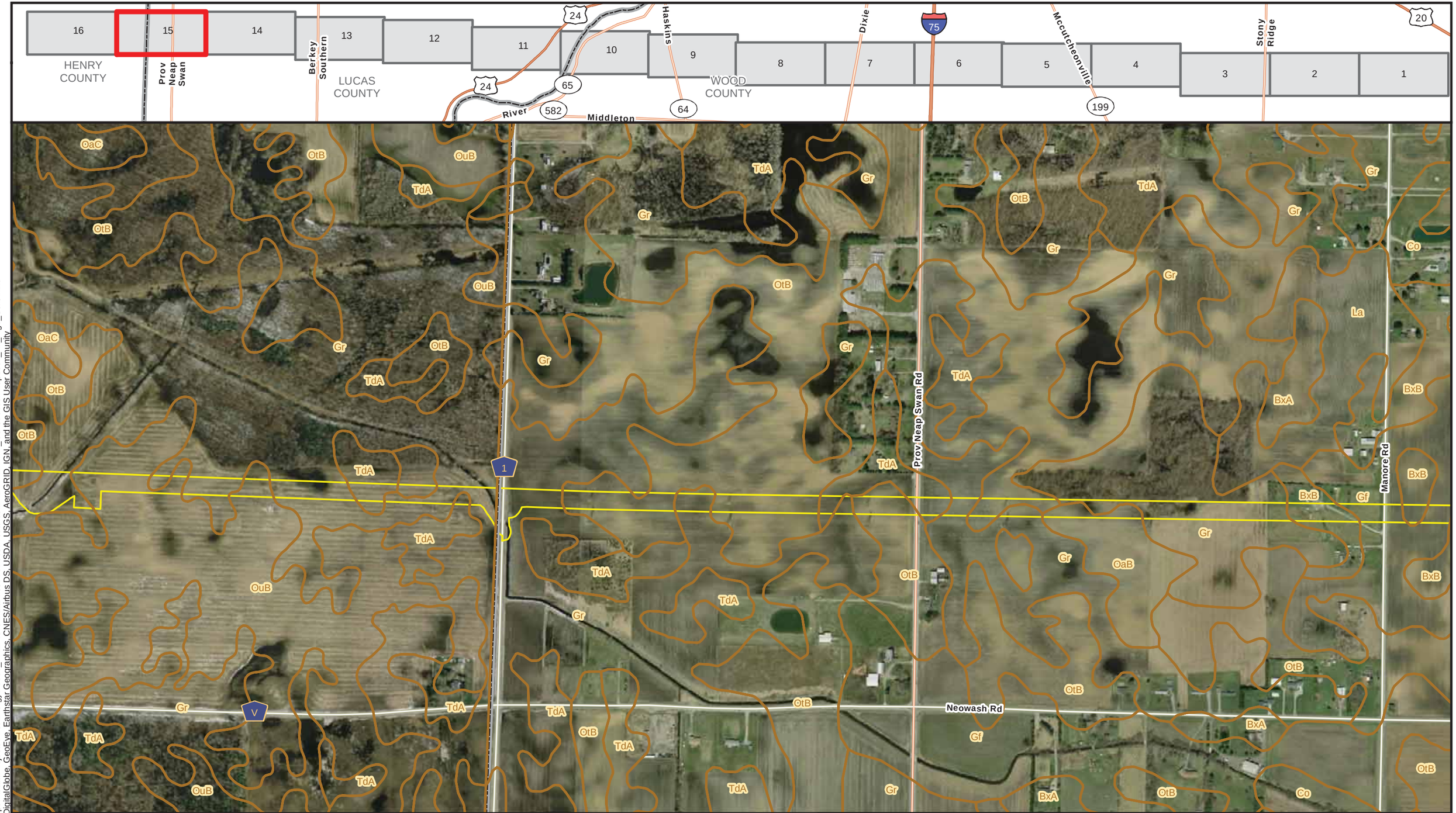
Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Survey Area
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

BxA. Bixler loamy fine sand, 0 to 2 percent slopes*
BxB. Bixler loamy fine sand, 2 to 6 percent slopes*
Co. Colwood loam*
Gf. Gilford fine sandy loam*
Gr. Granby loamy fine sand*
La. Lamson fine sandy loam*
OaB. Oakville fine sand, 2 to 6 percent slopes*
OtB. Ottokee fine sand, 0 to 6 percent slopes*
OuB. Ottokee fine sand, 0 to 6 percent slopes*
TdA. Tedrow fine sand, 0 to 3 percent slopes*
TdA. Tedrow loamy fine sand, 0 to 2 percent slopes*
Wt. Wauseon fine sandy loam*

Asterisk (*) indicates hydric soil.

N

0 250 500 1,000 Feet

FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 15 of 16

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

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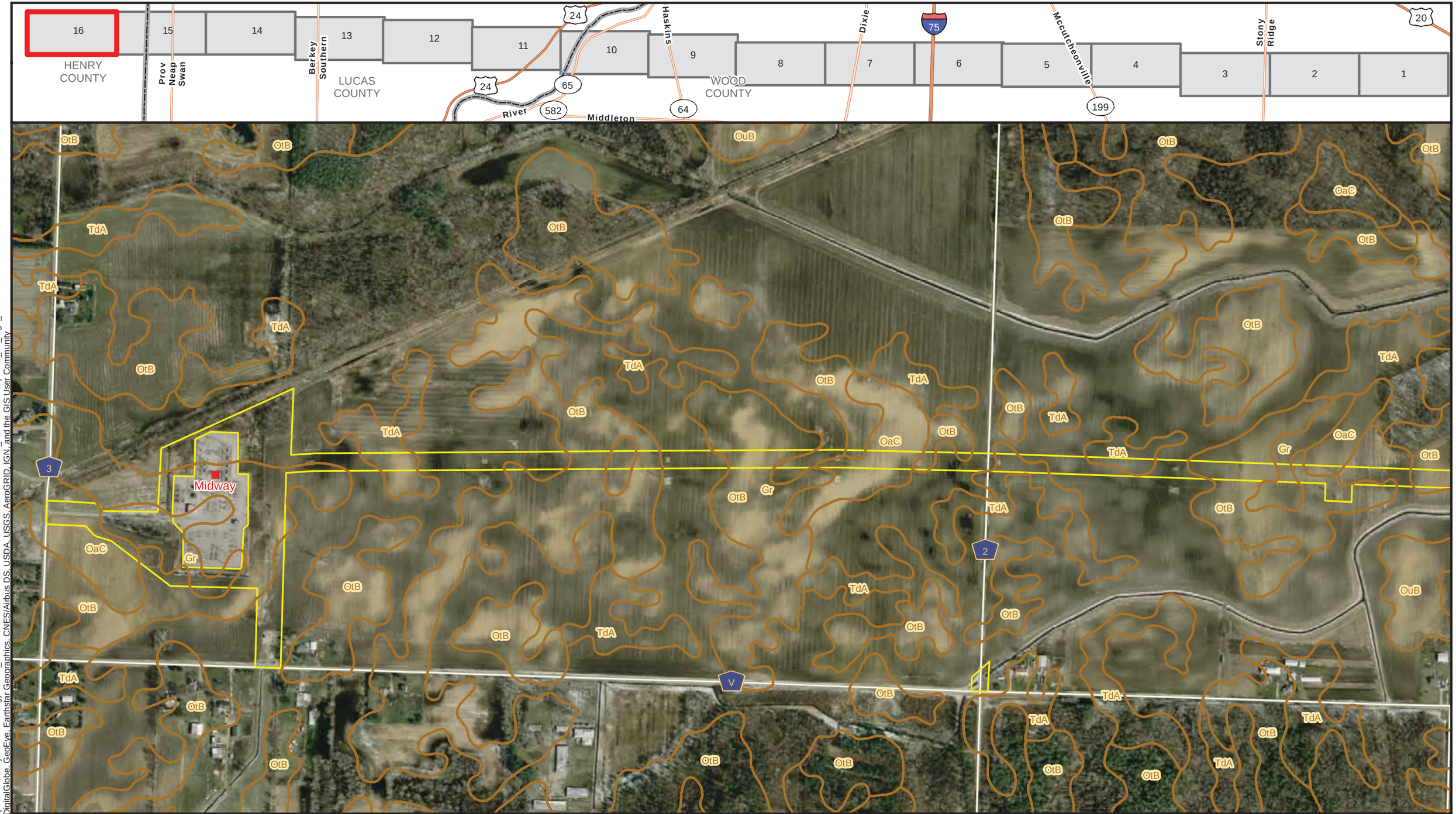
Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MWLMMW_ConstructionMapbook_Alt_Fig3_Soils.mxd
Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Survey Area
Substation
County Boundary
SSURGO Map Unit

SSURGO Map Unit Symbol & Name

CoC. Colonie fine sand, 6 to 12 percent slopes*

Gr. Granby loamy fine sand*

OuB. Ottokee fine sand, 0 to 6 percent slopes*

TdA. Tedrow loamy fine sand, 0 to 2 percent slopes*

Asterisk (*) indicates hydric soil.

N

0 250 500 1,000 Feet

FirstEnergy

Figure A-3
SSURGO Soils Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 16 of 16

Source: Esri; USDA/NRCS-SSURGO Soils Database; and Burns & McDonnell Engineering Company, Inc.

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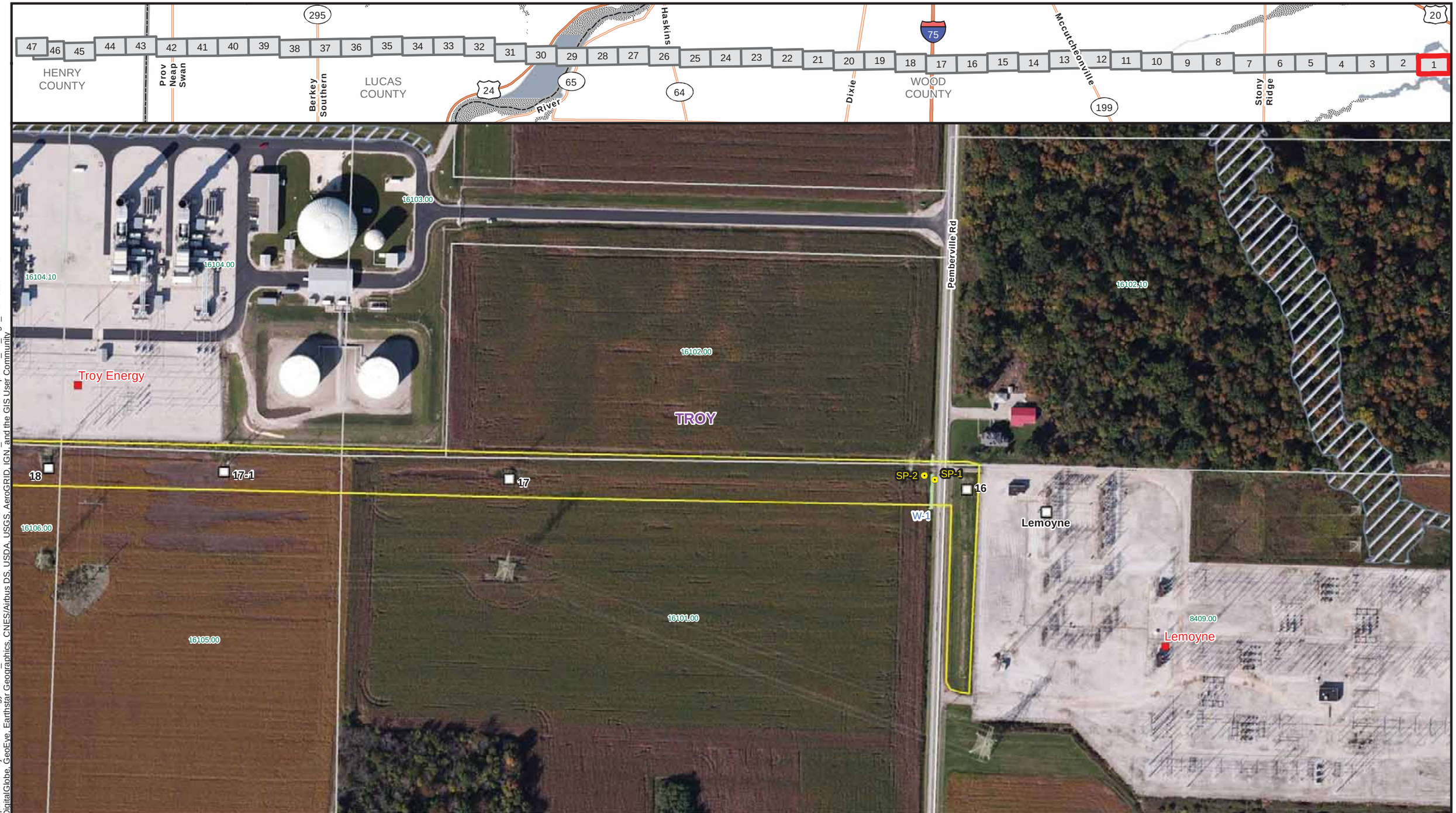

Source: Esri, FEMA, and Burns & McDonnell Engineering Company, Inc.

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Figure A-4
Wetland Delineation Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 1 of 47

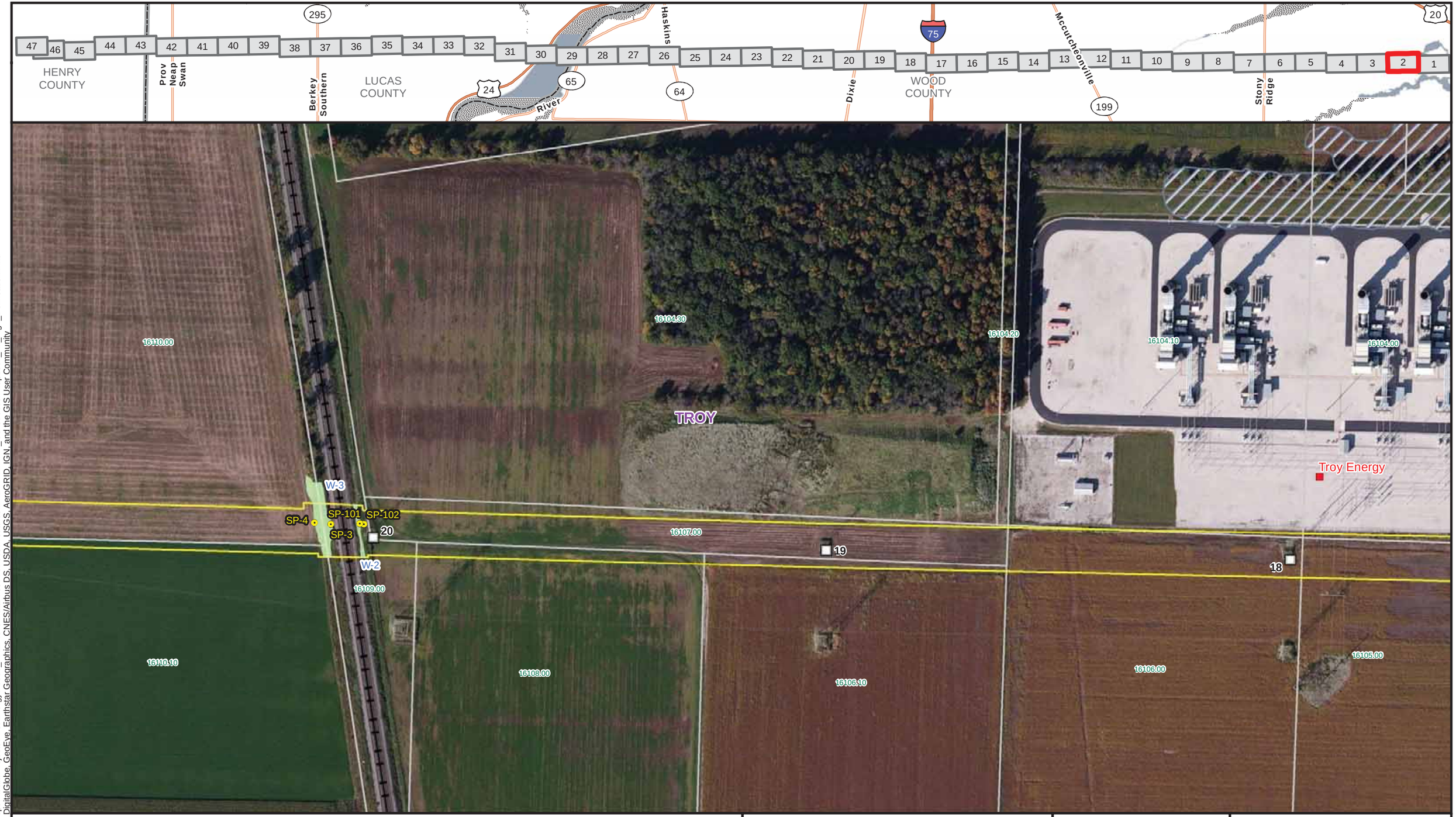

Figure A-4
Wetland Delineation Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 2 of 47

Source: Esri, FEMA, and Burns & McDonnell Engineering Company, Inc.

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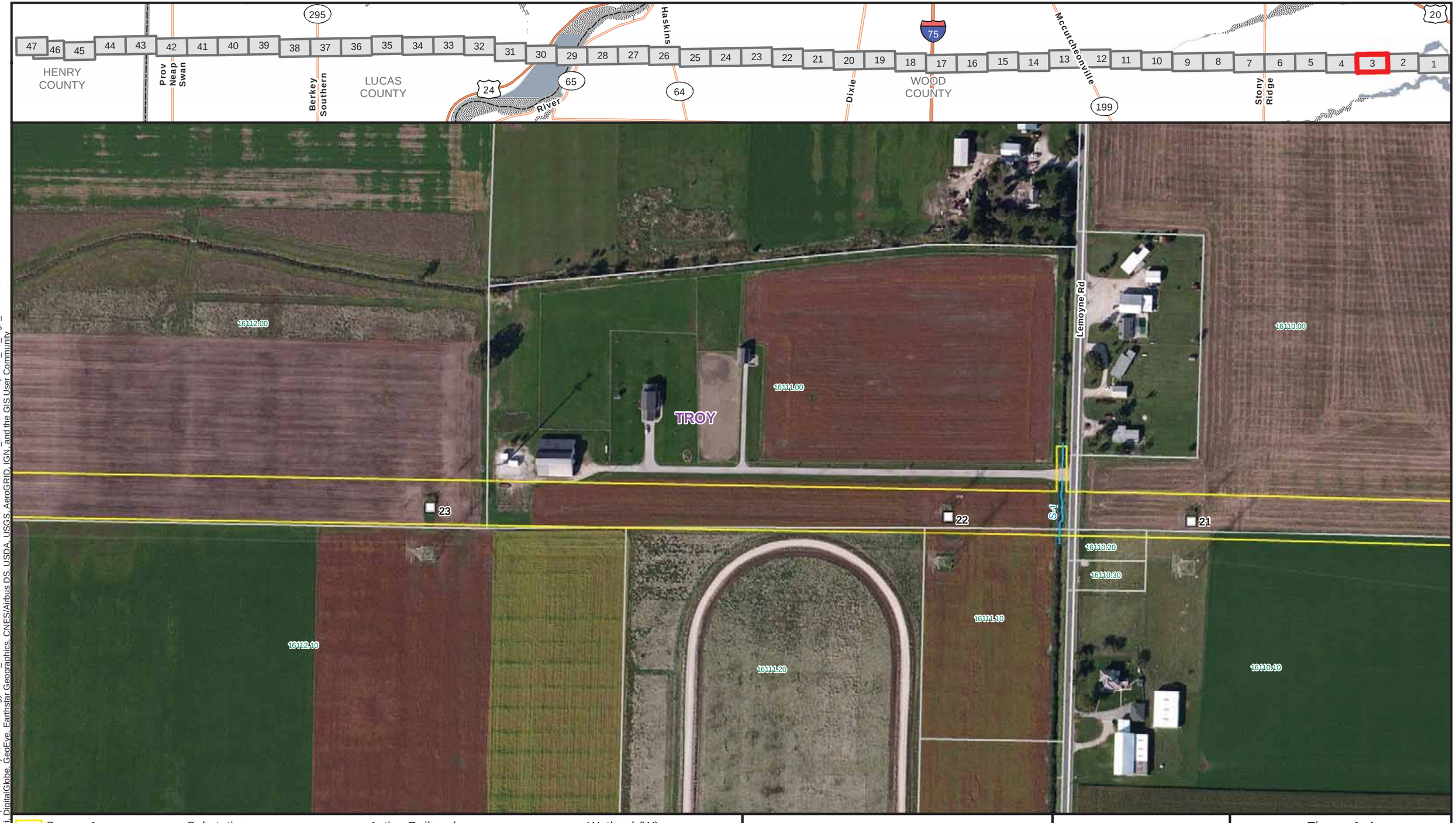


Survey Area
Sample Plot (SP)
Stream
Substation
Unsurveyed Due to Access Restriction
Structure
Parcel Boundary
Active Railroad
Township Boundary
Municipality
County Boundary
100-Year Floodplain
Wetland (W)
PEM
PFO
PSS

0 100 200 400 Feet

N

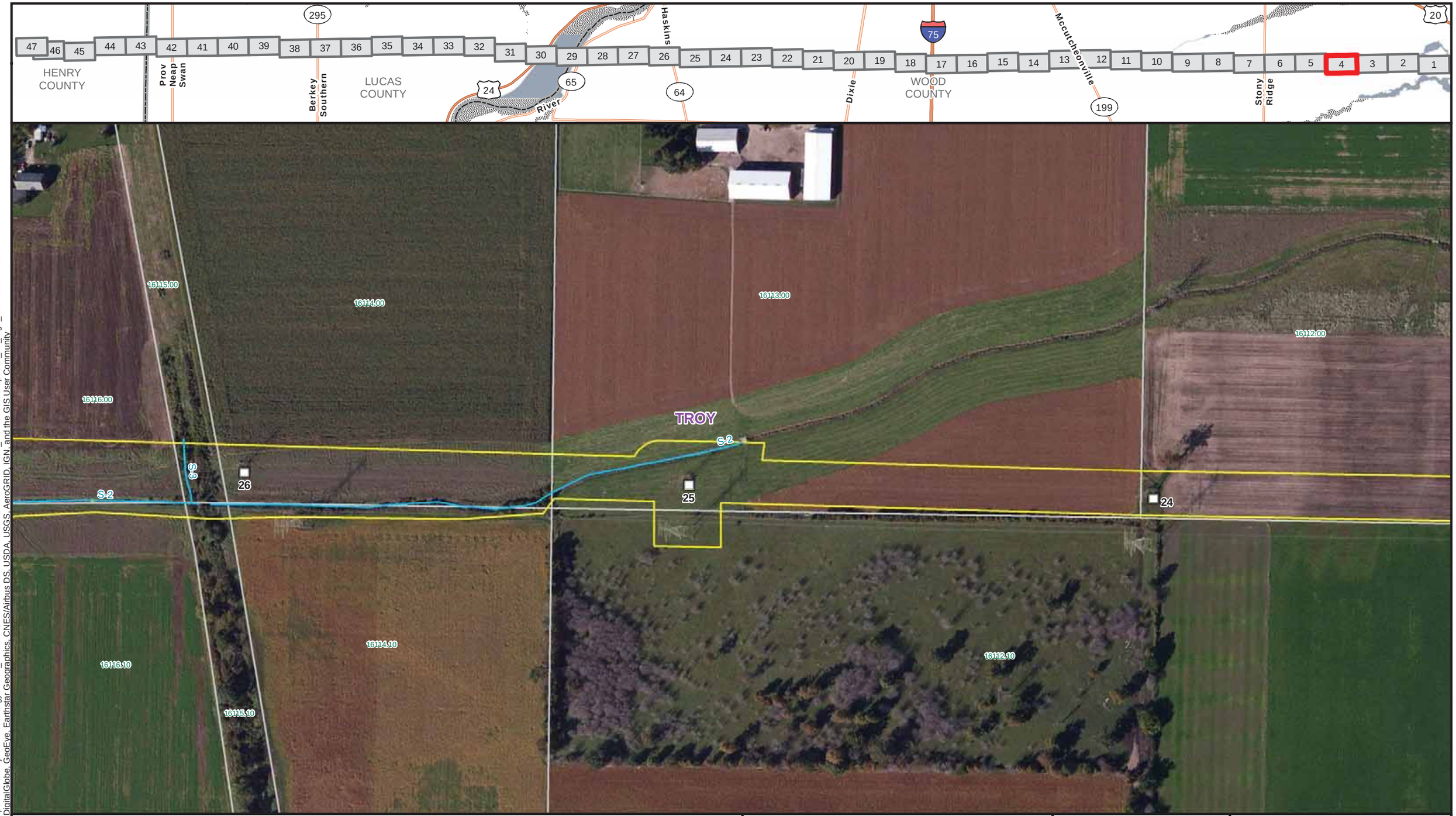
FirstEnergy

Figure A-4
Wetland Delineation Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 3 of 47

Source: Esri, FEMA, and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017

Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MW\LMMW_ConstructionMapbook_Alt_Fig4_Delineation.mxd
Service Layer Credits: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Survey Area
Sample Plot (SP)
Stream
Substation
Unsurveyed Due to Access Restriction
Structure
Parcel Boundary
Active Railroad
Township Boundary
Municipality
County Boundary
100-Year Floodplain
Wetland (W)
PEM
PFO
PSS

0 100 200 400 Feet

N

FirstEnergy

Figure A-4
Wetland Delineation Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 4 of 47

Source: Esri, FEMA, and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017

Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MWLMMW_ConstructionMapbook_Alt_Fig4_Delineation.mxd
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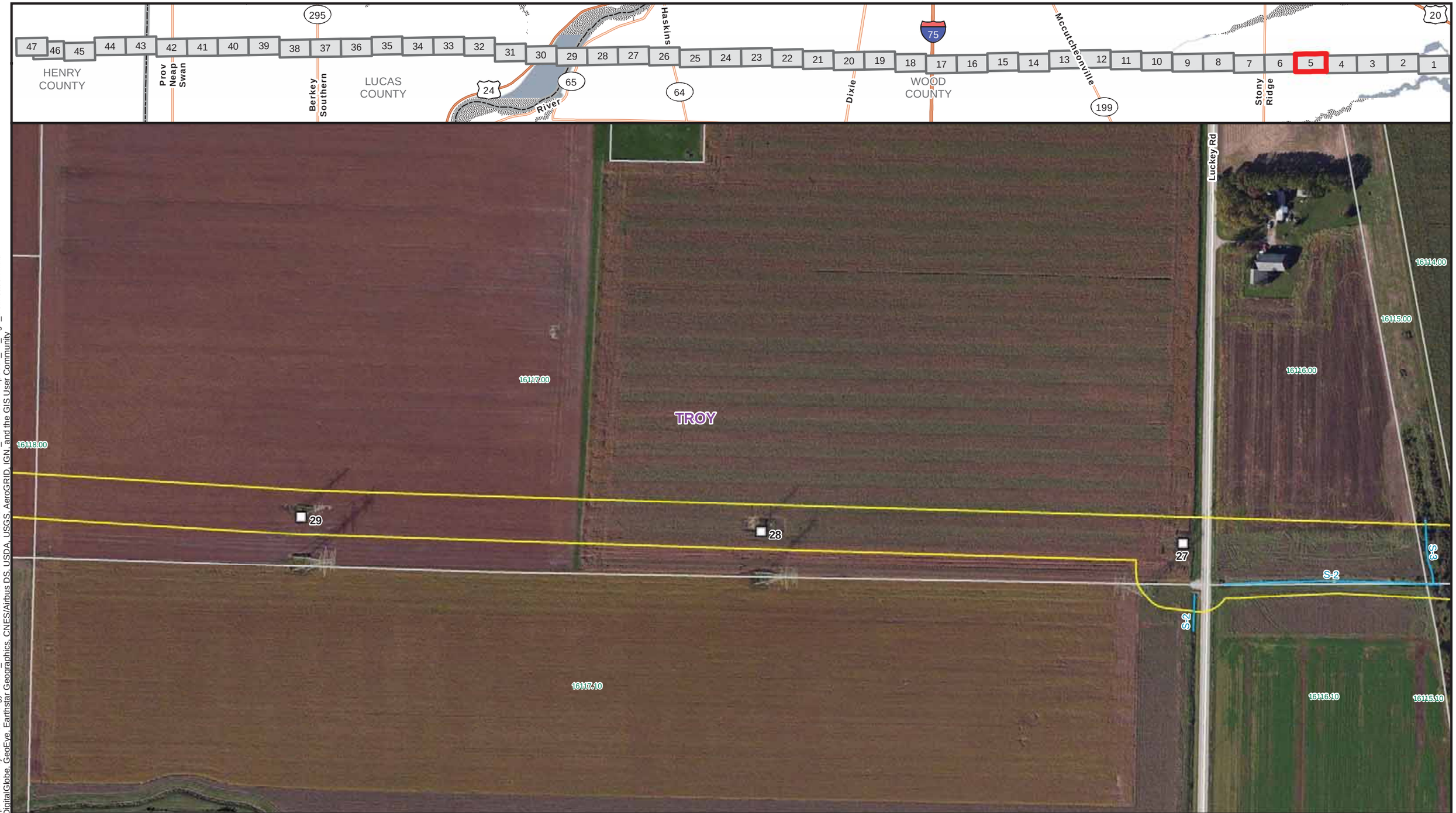

Survey Area
Sample Plot (SP)
Stream
Substation
Unsurveyed Due to Access Restriction
Structure
Parcel Boundary
Active Railroad
Township Boundary
Municipality
County Boundary
100-Year Floodplain
Wetland (W)
PEM
PFO
PSS

0 100 200 400 Feet

N

FirstEnergy

Figure A-4
Wetland Delineation Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 5 of 47

Source: Esri, FEMA, and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017

Burns & McDonnell Path: \\espsrvdata\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MWLMMW_ConstructionMapbook_Alt_Fig4_Delineation.mxd
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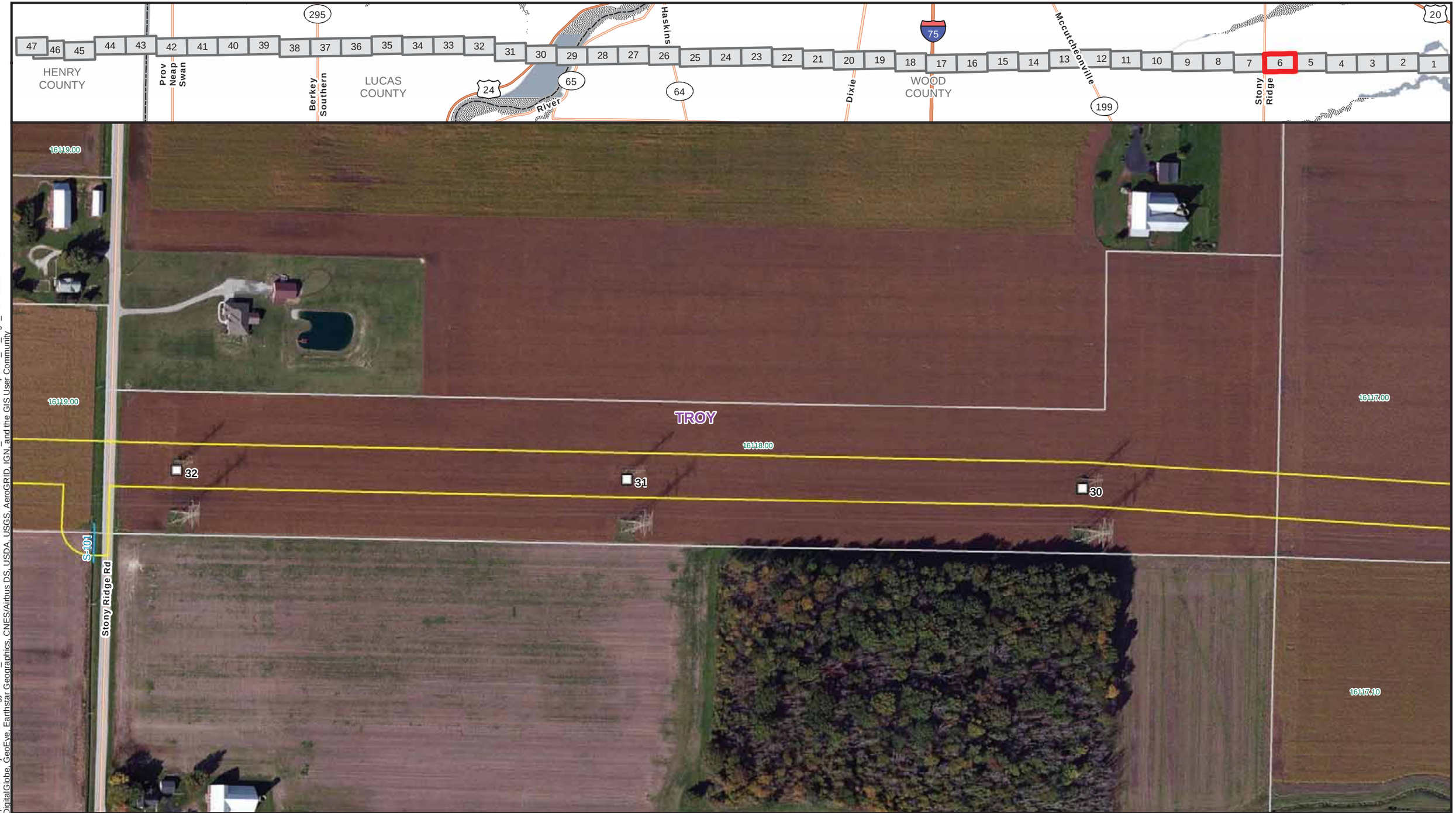

Survey Area
Sample Plot (SP)
Stream
Substation
Unsurveyed Due to Access Restriction
Structure
Parcel Boundary
Active Railroad
Township Boundary
Municipality
County Boundary
100-Year Floodplain
Wetland (W)
PEM
PFO
PSS

0 100 200 400 Feet

N

FirstEnergy

Figure A-4
Wetland Delineation Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 6 of 47

Source: Esri, FEMA, and Burns & McDonnell Engineering Company, Inc.

Issued: January 25, 2017

Burns & McDonnell Path: \\espsrv\data\Projects\First Energy\76055_TREP\GIS\DataFiles\ArcDocs\Wetlands\LM2MW\LMMW_ConstructionMapbook_Alt_Fig4_Delineation.mxd
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Survey Area
Sample Plot (SP)
Stream
Substation
Unsurveyed Due to Access Restriction
Structure
Parcel Boundary
Active Railroad
Township Boundary
Municipality
County Boundary
100-Year Floodplain
Wetland (W)
PEM
PFO
PSS

0 100 200 400 Feet

N

FirstEnergy

Figure A-4
Wetland Delineation Map
FirstEnergy
ATSI
Lemoyne - Midway 138 kV
Page 7 of 47

Issued: January 25, 2017

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Summary: Application (Part 10) Exhibit 6 -1 for the Dowling-Midway 138kV Transmission Line Reconductor Project filed by FirstEnergy, S. Humphrys electronically filed by Docketing Staff on behalf of Docketing