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AMERICAN TRANSMISSION SYSTEMS, INCORPORATED
A FIRSTENERGY COMPANY

LETTER OF NOTIFICATION

CHAMBERLIN-MANSFIELD 345 kV TRANSMISSION LINE LOOP TO HANNA SUBSTATION PROJECT

OPSB CASE NO. 13-0834-EL-BLN

April 11, 2013

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

LETTER OF NOTIFICATION
CHAMBERLIN-MANSFIELD 345 kV TRANSMISSION LINE LOOP TO HANNA SUBSTATION PROJECT
OPSB CASE No. 13-0834-EL-BLN

The following information is being provided in accordance with the procedures delineated in Ohio Administrative Code Rule 4906-11-01: Letter of Notification Requirements of the Rules and Regulations of the Ohio Power Siting Board ("Board").

4906-11-01 (B): General Information

4906-11-01 (B)(1): (a) Name and Reference Number

Name of Project: Chamberlin-Mansfield 345 kV Transmission Line Loop to Hanna Substation Project ("Project").

2012 LTFR Reference: This Project is identified on page 132 of the FirstEnergy Corp. 2012 Long-Term Forecast Report submitted to the Public Utility Commission of Ohio in Case Number 12-0504-EL-FOR.

4906-11-01(B)(1): (b) Brief Description of Project

In this Project, American Transmission Systems, Incorporated ("ATSI"), a FirstEnergy company, is proposing to extend the existing Chamberlin-Mansfield 345 kV Transmission Line (this may also be described as the Chamberlin-Bruce Mansfield 345 kV Transmission Line) as a loop approximately 0.95 miles to the existing Hanna Substation to create Chamberlin-Hanna and Hanna-Mansfield 345 kV Transmission Line circuits. The Project includes expanding the northerly fence line of the Hanna Substation, relocating a small section of the existing Hanna-Juniper 345 kV Transmission Line located adjacent to the northeast corner of the Hanna Substation, as well as swapping the circuit positions of the existing Hanna-Highland 345 kV Transmission and the south side of the new transmission line loop to minimize transmission line crossings. Additionally, the eastern end of the

Project overlaps with and will be coordinated with the planned construction of the Bruce Mansfield-Glenwillow 345 kV Transmission Line Project approved by the Ohio Power Siting Board on February 7, 2013 in Case No. 12-1726-EL-BLN.

The proposed Project is located on the existing Hanna Substation property and along the northerly portion of existing transmission line right-of-way located east of the Hanna Substation. The existing Hanna-Highland and Beaver Valley-Hanna 345 kV Transmission Lines are located along the southerly portion of the existing transmission line right-of-way. In addition to utilizing existing right-of-way for the Project, ATSI plans to seek property rights necessary to trim or remove priority trees on two parcels located on the north side of the existing right-of-way adjacent to the east and west sides of New Milford Road. The Project is located in Rootstown Township, Portage County, Ohio. The Hanna Substation is located at 4650 Sandy Lake Road, Ravenna, Ohio 44266.

The general location of the proposed Project is shown in Exhibit 1, which is a partial copy of the United States Geologic Survey, Portage County, Ohio Quad, Map ID 41081-A2. Exhibit 2 shows the general layout of the existing Hanna Substation and existing transmission lines in the area of the proposed Project. Exhibit 3 shows the general layout of the proposed Project, including the new transmission line construction, the proposed relocated segment of Hanna-Juniper 345 kV Transmission Line located adjacent to the northeast corner of the Hanna Substation, the swapped positions of existing and new transmission line circuits and the expanded fence line of Hanna Substation.

The eastern end of the Project begins adjacent to Campbellsport Road at the intersection of three existing transmission lines. This area is identified as Hanna Junction. The existing transmission lines in Hanna Junction are the Chamberlin-Mansfield 345 kV Transmission Line that traverses south to north through the area, the Hanna-Highland 345 kV Transmission Line that traverses east to west to Hanna

Substation through the area, and the Beaver Valley-Hanna 345 kV Transmission Line that traverses north to west to Hanna Substation through the area.

The Bruce Mansfield-Glenwillow 345 kV Transmission Line Project is adding a fourth transmission line to the area of Hanna Junction, traversing west to north through the area. To the east of Hanna Junction, the Bruce Mansfield-Glenwillow 345 kV Transmission Line Project rebuilds the existing single circuit Hanna-Highland 345 kV Transmission Line as a double circuit transmission line supporting both the Hanna-Highland and Bruce Mansfield-Glenwillow 345 kV Transmission Lines. To the north of Hanna Junction, the Bruce Mansfield-Glenwillow 345 kV Transmission Line Project adds the new circuit on the open arm position of the existing structures of the Chamberlin-Mansfield 345 kV Transmission Line. Within the area of Hanna Junction, the Bruce Mansfield-Glenwillow 345 kV Transmission Line Project replaces two existing structures. As shown in Exhibit 3, the first single circuit structure located east of Campbellsport Road, a wood pole H-frame that supports the Hanna-Highland 345 kV Transmission Line, is replaced by steel pole structure number 41670, and the first single circuit structure located north of Campbellsport Road, a steel lattice tower that supports the Chamberlin-Mansfield 345 kV Transmission Line is replaced by steel pole structure number 43015. All other proposed new structures depicted in Exhibit 3 are proposed as part of the Project (i.e. as part of the proposed Chamberlin-Mansfield 345 kV Transmission Line Loop to Hanna Substation Project).

Within the area of Hanna Junction, six new structures will be installed as part of the Project, and the existing transmission line circuits will be reoriented when the new transmission line circuits are added. On the south side of Hanna Junction, an existing steel lattice tower that supports the Chamberlin-Mansfield 345 kV Transmission Line and two existing wood pole structures that support the Beaver Valley-Hanna 345 kV Transmission Line will be replaced by three new steel poles, numbers 43016, 43017 depicted in Exhibit 4 and number 42303, depicted in Exhibit

6. Along these new structures, the Beaver Valley-Hanna 345 kV Transmission Line will remain along its current alignment, and the Chamberlin-Mansfield 345 kV Transmission Line will be cut, extended and connected to the existing conductors of the Hanna-Highland 345 kV Transmission Line. On the north side of Hanna Junction, three new steel poles, numbers 43014, 43013A and 43013B, depicted in Exhibit 4, will be installed. Along these new structures and the new structures being installed for the Bruce Mansfield-Glenwillow 345 kV Transmission Line, the Hanna-Highland 345 kV Transmission Line will be cut and extended to pole 43013B, and the Chamberlin-Mansfield 345 kV Transmission Line will be cut and extended to pole 43013A.

West of Hanna Junction, proceeding towards Hanna Substation, five new transmission line steel poles will be installed, numbers 43009 through 43012, depicted in Exhibit 5, and number 43008, depicted in Exhibit 7. These poles will support new double circuit 345 kV transmission line construction. The north circuit will be used for the Chamberlin-Hanna 345 kV Transmission Line and the south circuit will be used for the Hanna-Highland 345 kV Transmission Line. Adjacent to the east side of Hanna Substation, the Chamberlin-Hanna 345 kV Transmission Line will be supported on an existing steel lattice tower on a position made available by relocating the Hanna-Juniper 345 kV Transmission Line, and then extend to Hanna Substation. Also adjacent to the east side of Hanna Substation, the Hanna-Highland 345 kV Transmission Line will pass over the Chamberlin-Hanna 345 kV Transmission Line and be supported on a new steel pole, number 43007, depicted in Exhibit 4, and then extend to Hanna Substation. To the northeast of Hanna Substation, in order to minimize transmission line crossings and optimize substation breaker positions, the Hanna-Juniper 345 kV Transmission Line will be relocated to connect to the north side of the substation by installing two new steel poles, number 43005 and 43006, depicted in Exhibit 4.

Exhibit 8 depicts the proposed Project's expansion of the Hanna Substation fence line. Although the approximate dimensions of the expanded fence line are shown,

some minor variation in the dimensions may occur as the engineering details are finalized. The substation is being expanded to provide an additional substation bay to accommodate the additional transmission line connections. The area within the existing fence line of the Hanna Substation is approximately 429,000 square feet and was most recently expanded in 2012 as described in a Construction Notice submitted in Board Docket 11-4375-EL-BNR. The proposed Project expands the easterly portion of the northerly fence line of the Hanna Substation by approximately 40,000 square feet. The irregular alignment of the expanded fence line provides the necessary room to install and access the additional substation facilities while avoiding an underground leach field, and maximizes the distance from a stream located north of the substation. Construction access for expanding the substation expansion will be provided through the existing substation to avoid crossing the nearby stream.

4906-11-01(B)(1): (c) Qualification for a Letter of Notification

A portion of the Project meets the requirements for a Letter of Notification because the Project is the type of project defined by Item (1)(b) of Attachment A of the Board's interim process defined in the Board's September 4, 2012 Finding and Order in Docket 12-1981-GE-BRO. This item states:

> *(1) Rerouting or extension of new construction of single or multiple circuit electric power transmission(s) as follows:*
> *(b) Line(s) three hundred kV and above, and greater than 0.1 mile but not greater than two miles in length.*

A portion of the Project meets the requirements for a Construction Notice because the Project is the type of project defined by Item (8)(a) of Attachment A of the Board's interim process defined in the Board's September 4, 2012 Finding and Order in Docket 12-1981-GE-BRO. This item states:

> *(8) Constructing additions to existing electric power transmission substations where:*
> *(a) There is a twenty percent or less expansion of the fenced area.*

The proposed Project installs approximately 0.95 miles of new 345 kV transmission line, relocates approximately 0.3 miles of single circuit 345 kV transmission line and expands the existing fence line of the Hanna Substation by approximately ten percent. As provide in OAC §4906-5-02 (A), for projects that fall under provisions of both Letter of Notification and Construction Notices submittals, a Letter of Notification should be submitted.

4906-11-01 (B) (2): Need for the Project

ATSI's 345 kV and 138 kV transmission systems in the greater Cleveland metropolitan area are part of the transmission grid and, through various substations, provide electric supply to a large portion of The Cleveland Electric Illuminating Company ("CEI") and Ohio Edison Company ("Ohio Edison") service territories. This area of CEI and Ohio Edison's service territories are referenced in this submittal as the "Project Area." The Project Area currently faces significant operating limitations including capacity shortage, facilities exceeding thermal rating constraints[1] and low voltages. The ability to import power into the Cleveland area has historically been limited by low voltage concerns. Deactivation of generation in and around Cleveland will significantly increase these voltage limitations. This Project, in conjunction with others identified and directed by PJM Interconnection (PJM), is designed to correct these operating limitations and to ensure reliable energy delivery in the Project Area. PJM is the registered Transmission Planner for the ATSI system, and this review utilized the PJM planning process to test for and meet applicable transmission system criteria. This project is part of PJM's Regional Transmission Expansion Plan (RTEP) that identifies transmission system upgrades and enhancements to provide for the operational, economic and reliability requirements of PJM customers. PJM's region wide RTEP approach integrates transmission with generation and load response projects to meet load-serving obligations.

[1] Exceeding thermal ratings results in wires overheating to the point that the electric system is damaged.

The Chamberlin-Mansfield 345 kV Transmission Line Loop to Hanna Substation Project is required to prevent potential voltage collapse and thermal overload violations – and other operating problems under various planning scenarios for multiple contingency conditions (i.e. the loss of two or more facilities). The Project is required to support recent and future increases in electric load and to maintain voltage levels for anticipated 2015 loading conditions in the Project Area. The area load will exceed the delivery capacity available under contingency conditions in the existing Project Area Transmission System as early as 2015, as the generation deactivations occur. This will make the area susceptible to a local voltage collapse during multiple contingency conditions. The outage combinations of greatest concern is the loss of the single largest generating unit in the Project Area (Perry Nuclear Power Plant), combined with an outage of 345 kV lines into the Project Area. The need for the Project was further exacerbated following the announced retirement of 18 units at coal-fired power plants in the ATSI territory (located in both Ohio and Pennsylvania) in late 2011 and early 2012. Subsequent analysis performed by PJM and FirstEnergy identified the need to expedite the Project to 2014 due to potential thermal constraints at Hanna substation. This Project will increase reactive reserves in the Project Area, eliminate thermal constraints at Hanna substation and reduce transmission line exposure of this supply path to the Chamberlin Substation from approximately 78 miles to 26 miles. This substation and line project is currently a baseline RTEP project in PJM and is identified as RTEP Project Number b1283. Additionally, there are other projects identified by PJM and FirstEnergy that are also needed to ensure compliance with North American Electric Reliability Corporation ("NERC") planning criteria for the 345 kV and 138 kV transmission systems, PJM planning criteria[2] and the FirstEnergy transmission planning criteria. Ultimately, the projects are needed to ensure continued provision of safe and reliable electric service in the Project Area.

[2] PJM's planning criteria utilizes the most stringent of the applicable NERC, PJM or local (transmission owner) criteria. PJM Manual 14-B, page 20.

Under the normal configuration, the Project Area transmission system supplies distribution and customer substations. The substations in the Project Area serve more than 900,000 customers. The Project Area transmission system, when installed, was developed for area needs as they existed at that time and relied heavily on generating units located in close proximity to the load center. The 345 kV and 138 kV Project Area transmission system was expanded over time to both accommodate growth in the Project Area and better integrate the CEI system in the larger interconnected transmission grid system. However, the Project Area transmission system relies on generating units located inside the load center to both meet local electrical demand and provide voltage stability through dynamic reactive power response. The amount of dynamic reactive power available in any area is defined as the difference between the actual reactive output of dynamic reactive devices (i.e. generating units, synchronous condensers, static var compensators ["SVC"], etc.) and the maximum capability of the dynamic reactive devices, which is commonly referred to as dynamic reactive reserve. When dynamic reactive reserve is exhausted, the Project Area Transmission System becomes at risk for low voltage and voltage collapse.

The retirement of generation and the loss of any remaining generating units in the Project Area (including the largest generation unit, Perry Nuclear Power Plant) combined with an outage of 345 kV lines into the Project Area contributes to the need for this project. These factors mean that the transmission system must import more power from outside the local load center to maintain a level of voltage stability and dynamic reactive power in the area. Furthermore, many additional factors have led to increased consumption of electricity in the affected areas. The expansion of the greater Cleveland metropolitan area into the surrounding rural areas has led to an increase in the number of new homes, schools, and service businesses in the Project Area, as well as increased commercial and industrial businesses that have started or expanded their facilities and operations in the Project Area. Each new home, and new or expanded business, adds to the load on the Project Area transmission system, which therefore adds to the amount of power that

must be imported into the Project Area. Much of the power being imported into the Project Area moves over the ATSI transmission system which ultimately connects to neighboring utilities. These facilities have import capacity limitations; imports that exceed these limitations result in thermal overloads on these facilities as well as within the Project Area being served. Additionally, with increased loading on the transmission lines that move power into the Project Area, there are increased power losses. These power losses also contribute to a reduction in voltage stability in the Project Area. When these elements are exhausted, the Project Area transmission system becomes at risk for low voltage and voltage collapse.

PJM has considered this Project as part of its continuing review of the transmission system within the ATSI footprint. The PJM Transmission Expansion Advisory Committee (TEAC) Meeting on September 8, 2010 presented this Project on slide #40. This presentation can be found on the PJM website at http://www.pjm.com/committees-and-groups/committees/teac.aspx and contains additional information regarding the need for this project and other projects within the ATSI footprint, as directed by PJM. Even without the retirement of the generation units in the area, the Project Area transmission system was approaching the limits for which it was designed. The retirement of the generating units therefore hasten the need for this Project.

Subsequent analysis evaluating the retirement of generating units within the PJM footprint found the need to expedite the Project from 6/1/2015 to 6/1/2014. PJM identified (and FirstEnergy confirmed) that a Hanna 345 kV circuit breaker failure causes the Hanna 345/138 kV #1 transformer to exceed its Summer Emergency rating. The Project was presented on slide #41 at the PJM TEAC Meeting on April 27, 2012 as a solution to mitigate this overload condition. The core issue is that, unless this Project and other upgrades are made, the existing Project Area transmission system is unlikely to be able to support a reliable electric system capable of delivering needed electricity to Project Area businesses, homes and

communities, and no additional capacity will be available for new homes or businesses in the area.

Because the Project Area Transmission System is approaching its operating limits, in order to accommodate electric contingencies – as well as new load (i.e. homes, businesses, and industrial facilities) that come on-line prior to the completion of the Project – operating procedures are in place on affected circuits in the area. Operating procedures may include manual load reductions (forced outages) in the Project Area, should they be required, as voltages in the Project area begin to deteriorate. This may be necessary to ensure the reliable operation of the Transmission System as it relates to voltage stability. To minimize the potential for these operating procedures and manual load reductions, ATSI is planning on completing this Project prior to all the generation retirements if all applicable requirements can be met in sufficient time.

The proposed Chamberlin-Mansfield 345 kV Transmission Line Loop to Hanna Substation Project will provide the following benefits to the Project Area transmission system:

1. Increase the import capability into the Project Area
2. Increase voltage stability in the Project Area
3. Reduces the amount of exposure of a critical 345 kV line into the Project Area
4. Makes the area more reliable under contingency conditions
5. Decreases flows on existing infrastructure
6. Reduces power losses on the transmission line moving power into the Project Area

Completion of this Project in addition to the other projects identified and directed by PJM through the RTEP process will resolve planning criteria violations on the Project Area transmission system for the years studied thus far by PJM. ATSI has determined that bringing the Project on-line will not adversely impact any of ATSI's other existing transmission facilities, or the transmission facilities and equipment of neighboring utilities. Overall performance on the Project Area

transmission system will be improved as a result of the construction of the Project and other proposed improvements. Thermal overages, capacity limitations and voltage violations will be corrected by this Project, allowing ATSI to continue to provide safe, efficient and reliable electricity to its customers.

4906-11-01(B)(3): Location Relative to Existing or Proposed Lines

The location of the Project relative to existing or proposed transmission lines is described in reference to the FirstEnergy System Facilities map, which is referenced in an April 16, 2012 filing of FirstEnergy Corp.'s 2012 Long-Term Forecast Report submitted to the Public Utility Commission of Ohio ("PUCO") in Case No. 12-0504-EL-FOR. The map was redacted from the public filings in that case because it contains confidential and critical energy infrastructure information. The map shows ATSI's 345 kV and 138 kV transmission lines and transmission substations, including the location of the Chamberlin-Mansfield 345 kV Transmission Line and the Hanna Substation. The Project area is located approximately 3 5/8 inches (11 by 17 inch printed version) from the right edge of the map box and 3 3/4 inches (11 by 17 inch printed version) from the top of the map box. The general location of the Project is shown in Exhibit 1.

4906-11-01(B)(4): Alternatives Considered

Installation of an additional 345 kV transmission line connecting to the Chamberlin Substation was identified as a potential alternative but not considered sufficient to meet the overall project need.

4906-11-01(B)(5): Construction Schedule

Construction of the project is expected to begin as early as August 1, 2013 and be completed by May 31, 2014.

4906-11-01(B)(6): Area Map

Exhibit 1 depicts the general location of the Project. This exhibit provides a partial copy of the United States Geologic Survey, Portage County, Ohio Quad, Map ID

41081-A2. To locate and view the project site from Columbus, Ohio, travel north on I-71 approximately 100 miles and take exit 209A-209B to merge onto I-76 E/US-224 E toward Akron for approximately 18.5 miles. Take the exit onto I-76 E toward Akron and follow for approximately 20 miles. Take exit 38B to OH-5/OH-44 N toward Ravenna and follow for approximately 0.2 miles. Merge onto OH-44 N/OH-5 E/Ravenna Lousiville Rd for 0.5 miles. Merge onto OH-44 N/OH-5 Bypass via the ramp to Warren/Chardon and follow for 0.6 miles. Turn right onto Sandy Lake Road and travel 0.5 miles. Hanna Substation will be on the right. The Project's transmission line construction extends to the east of the Hanna Substation, following the existing transmission line corridor for approximately 0.95 miles, crossing New Millford Road, Hattrick Road and Cambellsport Road.

4906-11-01(B)(7): Property Owner List

The proposed Project is located on the existing Hanna substation property (3 parcels) and six parcels along the existing right-of-way that are owned by Ohio Edison Company, which is also a FirstEnergy company. Based on the Portage County Auditor's Portage County GIS data, the Project is located within existing easements previously granted to Ohio Edison on the following other properties along the existing right-of-way that are owned by the following persons:

ParcelID: 32-008-00-00-077-000, Owner: Epling, Debra A.
ParcelID: 32-008-00-00-077-003, Owner: Burrows, Michael D. & Diane L.
ParcelID: 32-008-00-00-077-004, Owner: Pander, Raymond C. Jr.
ParcelID: 32-005-00-00-012-005, Owner: Linton, Lance E. & Tracy L.
ParcelID: 32-005-00-00-012-000, Owner: Mellin, Timothy G.
ParcelID: 32-005-00-00-012-004, Owner: Mellin, Timothy G.
ParcelID: 32-005-00-00-012-003 Owner: Cline, Rebecca J.
ParcelID: 32-008-00-00-097-001, Owner: Robinson, Mark A. & Lynn M.

In addition to utilizing existing right-of-way for the Project, ATSI plans to seek property rights necessary to trim or remove priority trees on two parcels located on

the north side of the existing right-of-way adjacent to the east and west sides of New Milford Road. Based on the Portage County Auditor's Portage County GIS data, these properties are owned by the following persons:

ParcelID: 32-008-00-00-055-000, Owner: Mckinney, Clement J. & Julie C.

ParcelID: 32-017-00-00-021-000, Owner: Reedy Timothy D.

4906-11-01(C): Technical Features of the Project

4906-11-01(C)(1): Operating Characteristics

The transmission line construction will have the following characteristics:

Voltage:	345 kV
Conductors:	Bundled (two conductors per phase) 954 kcmil 48/7 ACSR
Static wire:	7 Number 8 Alumoweld Shield Wire
Insulators:	Porcelain or Glass
Structure Types:	Exhibit 4: Single Circuit Steel Pole Deadend
	Exhibit 5: Double Circuit Steel Pole Tangent
	Exhibit 6: Double Circuit Steel Pole Tangent/Deadend
	Exhibit 7: Double Circuit Steel Pole Deadend/Tangent

The expansion of the fence line of the Hanna Substation, depicted in Exhibit 8, will allow for the installation of additional 345 kV substation take off structures, breakers and bus work. The operation of the Hanna Substation will continue as a 345 to 138 kV transmission substation.

4906-11-01(C)(2): (a) Calculated Electric and Magnetic Fields

The following table itemizes the line loading of the Chamberlin-Hanna, Hanna-Highland, Hanna-Mansfield and Beaver Valley-Hanna 345 kV Transmission Lines. The normal line loading represents FirstEnergy's peak system load for the transmission lines. The emergency line loading represents the maximum line loading under contingency operation. The winter rating is based on the continuous maximum conductor ratings (MCR) of the circuits for the bundled (two conductors

per phase) 954 kcmil 48/7 ACSR conductors and an ambient temperature of zero degrees centigrade (32 deg. F), wind speed of 1.3 miles per hour, and a circuit design operating temperature of 100 degrees centigrade (212 deg. F).

Line Name	Normal Loading Amps	Emergency Loading Amps	Winter Rating Amps
Chamberlin-Hanna 345 kV Transmission Line	1200	2050	2955
Hanna-Highland 345 kV Transmission Line	700	1150	2955
Hanna-Mansfield 345 kV Transmission Line	1000	1350	2955
Beaver Valley-Hanna 345 kV Transmission Line	1050	1400	2955

The following calculations provide an approximation of the magnetic and electric fields strengths of the new and existing Chamberlin-Hanna, Hanna-Highland, Hanna-Mansfield and Beaver Valley-Hanna 345 kV Transmission Lines in the right-of-way located east of Hanna Substation. The calculations provide an approximation of the electric and magnetic field levels based on specific assumptions utilizing the EPRI EMF Workstation 2009 program software. This program software assumes the input transmission line configuration is located on flat terrain. Also, a balanced, three-phase circuit loading is assumed for the transmission circuit. The model utilizes the normal, emergency, and winter rating of the transmission lines.

EMF CALCULATIONS		Electric Field kV/meter	Magnetic Field mGauss
Normal Loading	Under Lowest	8.17	222.40
	At Right-of-Way Edges	0.35/0.33	46.5/13.63
Emergency Loading	Under Lowest	8.17	359.94
	At Right-of-Way Edges	0.35/0.33	62.5/27.14
Winter Rating	Under Lowest	8.17	651.28
	At Right-of-Way Edges	0.35/0.33	148.5/25.28

4906-11-01(C)(2): (b) EMF Discussion

Background Information

Electric and magnetic fields (EMFs) are naturally occurring in the environment and can be found in the Earth's interior and in the human body. EMFs are generated essentially anywhere there is a flow of electricity, including electrical appliances and power equipment. Electric fields are associated with the voltage of the source; magnetic fields are associated with the flow of current in a wire. The strength of these fields decreases rapidly with distance from the source. EMFs associated with electricity use are not disruptive to cells like x-rays or ultraviolet rays from the sun. These fields are thought to be too weak to break molecules or chemical bonds in cells. Extensive research has been conducted over the past three decades to determine whether EMFs are associated with adverse health effects. A number of independent scientific panels have reviewed the research and have stated that there is no basis to conclude that EMFs cause adverse health effects nor has it been shown that levels in everyday life are harmful.

Recent Developments

As a part of the National Energy Policy Act of 1992, the Electric and Magnetic Fields Research and Public Information Dissemination (EMF RAPID) program was initiated within the five-year effort under the National EMF Research Program. The culmination of this five-year effort resulted in a final RAPID Working Group report, which was released for public review in August 1998. The Director of the National Institutes of Environmental Health Sciences (NIEHS) then prepared a final report to Congress after receiving public comments.

The NIEHS' Director's final report, released to Congress on May 4, 1999, concluded that extremely low frequency electric and magnetic field (ELF-EMF) exposure cannot be recognized at this time as entirely safe because of weak scientific evidence that exposure may pose a leukemia hazard. The Director further

stated that the conclusion of this report is insufficient to warrant aggressive regulatory concern.

Sources for Additional Information

The following websites sponsored by federal agencies or other organizations provide additional information on EMF:

- Centers for Disease Control/National Institute for Occupational Safety and Health: http://www.cdc.gov/niosh/topics/emf/

- NIEHS EMF Rapid Program: http://www.niehs.nih.gov/emfrapid/home.htm

4906-11-01(C)(3): Estimated Costs

The following are the estimated direct capital costs by FERC Accounts for the proposed project:

Account		Cost
350	Land Rights, Engineering, etc.	$ 200,000
353	Station Equipment	$3,200,000
355	Poles and Fixtures	$1,900,000
356	Overhead Conductors & Devices	$ 300,000
	Total	$5,600,000

4906-11-01(D): Socioeconomic Data

4906-11-01(D)(1): Land Use

The existing land use in the area of the proposed Project is largely residential. Based on the U.S. Bureau of Census estimates, the 2010 population of the Rootstown Township was 8,225 and the 2010 population of Portage County was 161,419.

4906-11-01 (D) (2): Agricultural Land

The Portage County Online Auditor mapping database was reviewed to determine (http://portagecountyauditor.org/Map.aspx) if any agricultural district land was present, however none was identified. Agricultural land use exists at the eastern terminus of the Project east of Campbellsport Road (Exhibit 10). Because overhead electric transmission lines pass above agricultural land , they are generally compatible with agricultural land use. Given the nature of the Project, and its close proximity to similar electric transmission facilities, it is anticipated that the impacts from the Project will be minimal to this agricultural land.

4906-11-01 (D) (3): Archaeological or Cultural Resources

The new transmission line construction proposed in the Project is located within an existing transmission line corridor. Several of the new transmission line structures will replace existing structures, and the location of the new transmission line will generally parallel the existing transmission line through the corridor. Given the nature of the Project and its location in an existing transmission line corridor, it is unlikely that any archaeological or cultural resources will be disturbed by the Project.

URS conducted background research for the Project in February 2013, primarily through a review of the cultural resource archives maintained by the Ohio Historic Preservation Office (OHPO). URS consulted the OHPO online mapping system, in an effort to locate inventoried cultural resources identified within one mile of the Project, the Archival Study Area for the Project. This research included a review of the Ohio Archaeological Inventory (OAI), Ohio Historic Inventory (OHI), cemeteries inventory, and the National Register of Historic Places (NRHP).

The inventory of previously-identified cultural resources and prior CRM-related research located within the Archival Study Area includes:

- One OAI-listed archaeological site, 33PO0111, an indeterminate prehistoric occupation situated approximately 4,000 feet (1,219 meters) northeast of the Project;

- One OHI-listed historic aboveground resource, the DL Sapp House/Fawley Farm (OHI ID POR0010518), a farmstead constructed ca. 1880, located approximately 5,000 feet (1,524 meters) northeast of the Project; and,

- Two prior Phase I-level surveys, one of which (Campbell and Vaughan 2001) details the survey of a proposed transmission line which intersects the proposed route of the Project. No cultural resources appear to have been identified by this prior survey within one mile of the Project.

- As indicated above, the only OHPO-inventoried resources located within one mile of the Project is one prehistoric archaeological site and one late 19th centur y farmstead, both of which are situated over 0.5-miles (0.8-kilometers) from the Project. No NRHP-listed or eligible resources have been documented within one mile of the Project.

Given the distance between the Project and the OAI-listed archaeological site (33PO0111, located approximately 4,000 feet distant), the Project will likely not have any impacts on any previously-identified archaeological resources. With regard to aboveground resources, the only structure inventoried within one mile of the Project, the 19th century farmstead (DL Sapp/Fawley Farm) property (OHI ID POR0010518), is situated across 5,000 feet of woodlots, modern residential properties and agricultural fields from the Project. Given the distance and the projected installation of the Project adjacent to an existing steel-lattice tower overhead transmission line, the Project will not present any impacts to the OHI-listed DL Sapp/Fawley Farm property.

4906-11-01(D)(4): (a) Documentation of Letter of Notification Transmittal

This Letter of Notification is being provided concurrently to the following officials of Rootstown Township, and Portage County, Ohio:

Portage County

Kathleen Chandler, Commissioner, President
449 S. Meridian Street, 7th Floor
Portage County Administration Bldg.
Ravenna, Ohio 44266

Tommie Jo Marsilio, Commissioner
449 S. Meridian Street, 7th Floor
Portage County Administration Bldg.
Ravenna, Ohio 44266

Maureen Frederick, Commissioner
449 S. Meridian Street, 7th Floor
Portage County Administration Bldg.
Ravenna, Ohio 44266

Deborah Mazanec, Board of Commissioners Chief Administrator
449 S. Meridian Street, 7th Floor
Portage County Administration Bldg.
Ravenna, Ohio 44266

Todd Peetz, Director
Portage County Regional Planning Commission
123 North Prospect Street
Ravenna, Ohio 44266

Michael A. Marozzi, County Engineer
5000 Newton Falls Road
Ravenna, OH 44266

Rootstown Township

Diane Dillon, Trustee
3988 State Route 44
Rootstown, OH 44272

Joseph Paulus, Trustee
3988 State Route 44
Rootstown, OH 44272

Brett Housley, Trustee
3988 State Route 44
Rootstown, OH 44272

JoAnn Townend, Fiscal Officer
3265 Bent Oak Drive
Ravenna, OH 44266

Copies of the transmittal letters to these officials have been included with the transmittal letter submitted with this Letter of Notification application to the Ohio Power Siting Board.

4906-11-01(D)(4): (b) Public Information Program

Ohio Edison's Manager of External Affairs will advise local officials of features and the status of the proposed transmission line Project as necessary.

4906-11-01(D)(5): Current or Pending Litigation

There is no known current or pending litigation involving this project.

4906-11-01(C)(6): Local, State, and Federal Requirements

Prior to construction of the Project, ATSI anticipates that it will obtain a U.S. Army Corps of Engineers (USACE) Section 404 permit under Nationwide Permit 12 for work in and around wetlands and streams. Additionally ATSI anticipates that it will obtain a national pollutant discharge elimination system (NPDES) permit in accordance with the Ohio Environmental Protection Agency (OEPA). ATSI also anticipates that it will develop a stormwater pollution prevention plan (SWP3) that may require approval from Portage County.

4906-11-01(E): Environmental Data

4906-11-01(E)(1): Endangered, Threatened, and Rare Species Investigation

As part of the investigation, a request was submitted to the Ohio Department of Natural Resources-Division of Wildlife (ODNR-DOW), Ohio Biodiversity Database (OBD), and U.S. Fish and Wildlife Service (USFWS) to provide initial comments regarding the project. Ohio Biodiversity Database provided a letter and ArcGIS shapefiles, however no species were identified near the Project area. ODNR-DOW provided a response on June 27, 2012 that indicated the project is within the range of 12 state species of concern. In an email dated June 1, 2012, USFWS requested additional information regarding the amount of tree clearing that may be required. Copies of the ODNR-DOW and USFWS responses are provided in Appendix 1. Further coordination with ODNR-DOW and USFWS will be pursued prior to starting construction.

4906-11-01(E)(2): Areas of Ecological Concern

The new transmission line structures and associated transmission line conductors installed in the proposed Project are located generally within the northern half of an existing transmission line corridor. Exhibits 9 and 10 identify the transmission lines, new structure locations and delineated features within the new construction corridor and the approximately existing 150 width of existing maintained right-of-way (ROW). The summary of impacts discussed below generally pertain only to the new construction corridor which is the area where additional clearing will occur along the north side of the existing ROW, the new and relocated transmission line alignments at the Hanna Junction area at the east end of the Project and the area located adjacent to the northeast corner of the Hanna Substation where the Project relocates the Hanna-Juniper 345 kV Transmission Line.

A total of ten wetlands, four streams, and no ponds were identified within the new construction corridor during the field surveys. These wetlands and other water features are discussed in detail in the following sections.

Wetlands - The delineation identified ten wetlands, totaling 0.94 acres, within the new construction corridor that is generally located north of the existing and maintained ROW. These wetlands are of seven different wetland habitat types: three are PEM wetlands, two are PEM/PFO wetland, one is PSS wetland, one is PFO/PSS wetland, one is PSS/PFO wetland, and one is PFO wetland. Within the new construction corridor, four of the ten wetlands are Category 1 wetlands, and the remaining six wetlands are Category 2 wetlands. No Category 3 wetlands were delineated within the Project's footprint. Table 1 lists the wetlands that are within the new construction corridor generally located north of the existing and maintained 150-foot ROW.

TABLE 1
DELINEATED WETLANDS LOCATED WITHIN THE NEW CONSTRUCTION CORRIDOR AND OUTSIDE OF THE EXISTING MAINTAINED 150-FOOT RIGHT-OF-WAY

Wetland Name	Cowardin Classification[a]	ORAM Score	ORAM Category	Approximate Acreage
Wetland 6	PSS/PFO	39	2	0.06
Wetland 9c	PEM	29.5	1	0.001
Wetland 9d	PSS	26.5	1	0.10
Wetland 13	PEM	21	1	0.09
Wetland 15	PFO	53	2	0.19
Wetland 16a	PEM/PFO	48	2	0.06
Wetland 16b	PEM	24	1	0.03
Wetland 17	PFO/PSS	40.5	2	0.21
TSBV	PEM/PSS	45	2	0.15
TSBV	PEM/PSS	45	2	0.06
Total: 10				**0.94**

Cowardin Classification[a]: PEM = palustrine emergent wetland, PSS = palustrine scrub/shrub wetland, PFO = palustrine forested wetland

In addition to the wetlands identified within the new construction corridor, nine wetlands were identified within the existing and maintained 150-foot ROW. These wetlands are of three different wetland habitat types: five are PEM wetlands, three PEM/PSS wetlands, and one PFO/PSS wetland. Within the existing and maintained 150-foot corridor, six of the nine wetlands are Category 1 wetlands, and the remaining three wetlands are Category 2 wetlands. No Category 3 wetlands were delineated within the existing and maintained 150-foot ROW. Table 2 lists the wetlands that are within the existing and maintained 150-foot ROW.

TABLE 2
DELINEATED WETLANDS LOCATED WITHIN THE EXISTING MAINTAINED 150-FOOT RIGHT-OF-WAY

Wetland Name	Cowardin Classification[a]	ORAM Score	ORAM Category	Approximate Acreage
Wetland 8	PEM/PSS	29	1	0.03
Wetland 9c	PEM	29.5	1	0.06
Wetland 11	PEM	24.5	1	0.02
Wetland 12b	PEM	29	1	0.06
Wetland 14	PEM	29	1	0.21
Wetland 16b	PEM	24	1	0.14
Wetland 17	PFO/PSS	40.5	2	0.09
TSBV	PEM/PSS	45	2	0.24
TSBV	PEM/PSS	45	2	0.11
Total: 9				0.95

Cowardin Classification[a]: PEM = palustrine emergent wetland, PSS = palustrine scrub/shrub wetland, PFO = palustrine forested wetland

Streams - Within the construction corridor north of the existing and maintained ROW, four streams were assessed, two ephemeral, one intermittent, and one perennial. Both streams were assessed using the HHEI methodology (drainage area less than 1 mile). No streams were assessed using the QHEI methodology (drainage area greater than 1 mile). One stream was classified as a Modified Class I streams and the other three are Modified Class II streams.

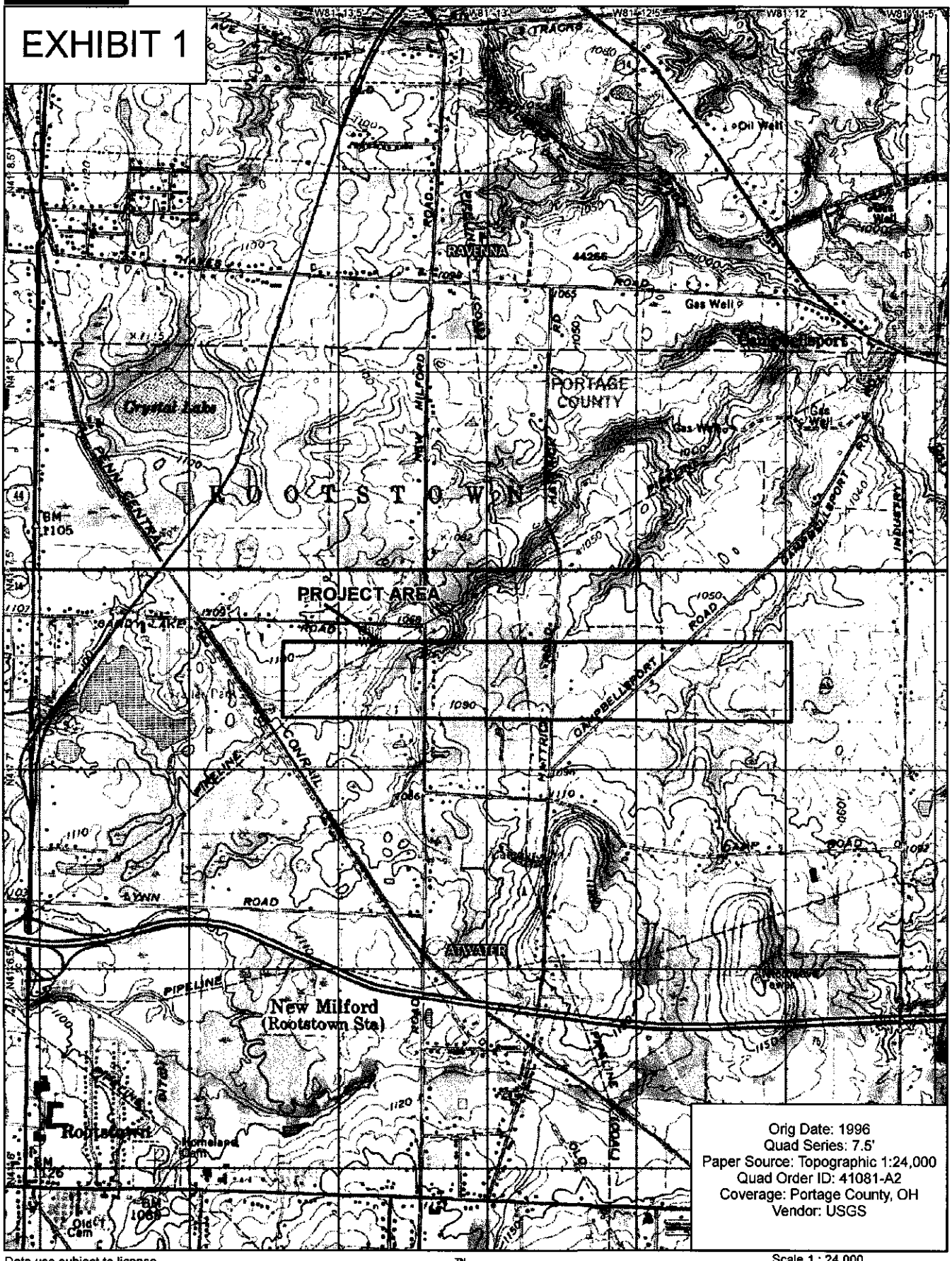
Ponds – No ponds were identified within the construction corridor north of the existing and maintained ROW.

A copy of the wetland delineation report will be provided separately to the Board's staff.

4906-11-01(E)(3): Additional Information

Construction and operation of the proposed Project will be in accordance with the requirements specified in the latest revision of the National Electric Safety Code as adopted by the PUCO and will meet all applicable safety standards established by the Occupational Safety and Health Administration.

EXHIBIT 1

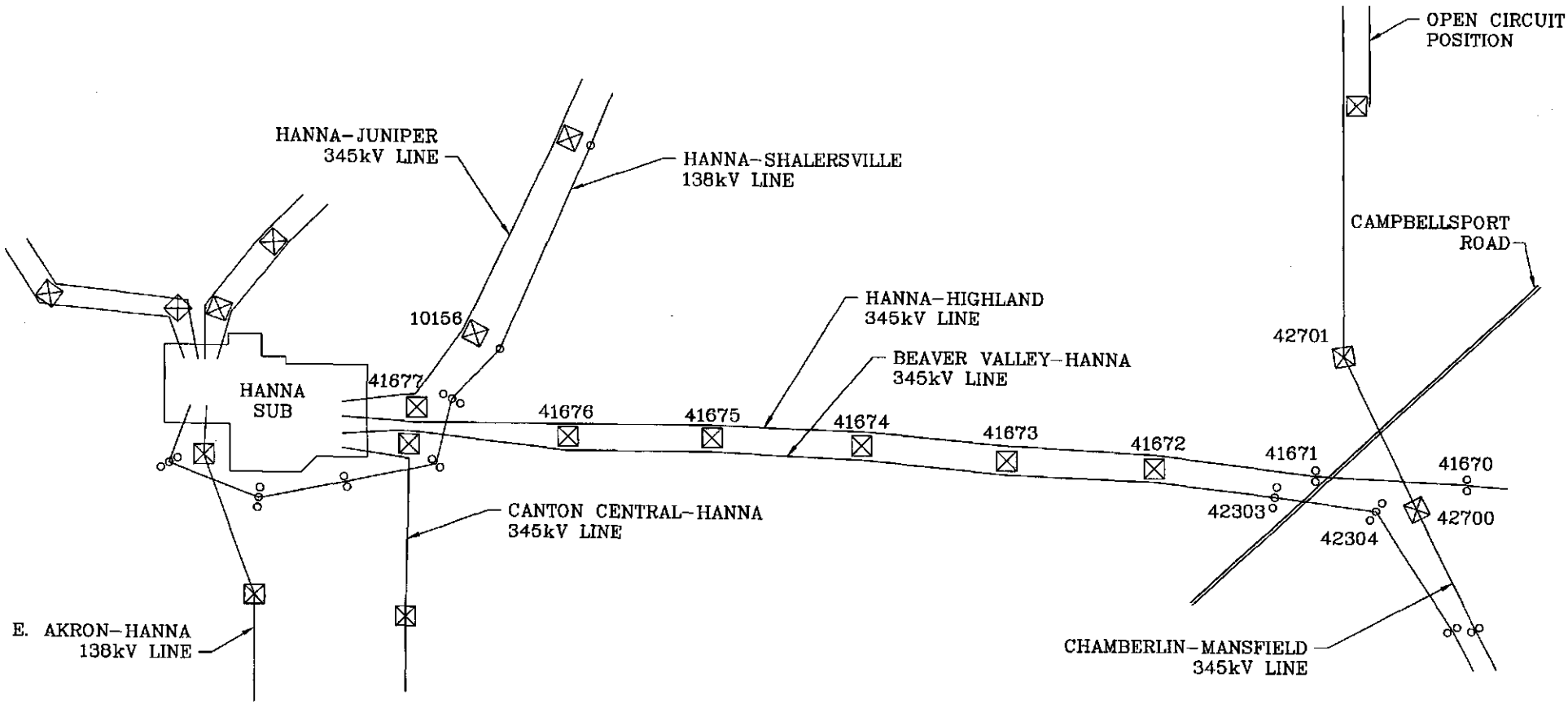


Orig Date: 1996
Quad Series: 7.5'
Paper Source: Topographic 1:24,000
Quad Order ID: 41081-A2
Coverage: Portage County, OH
Vendor: USGS

TN
MN (8.6°W)

Scale 1 : 24,000

1" = 2,000.0 ft Data Zoom 13-0

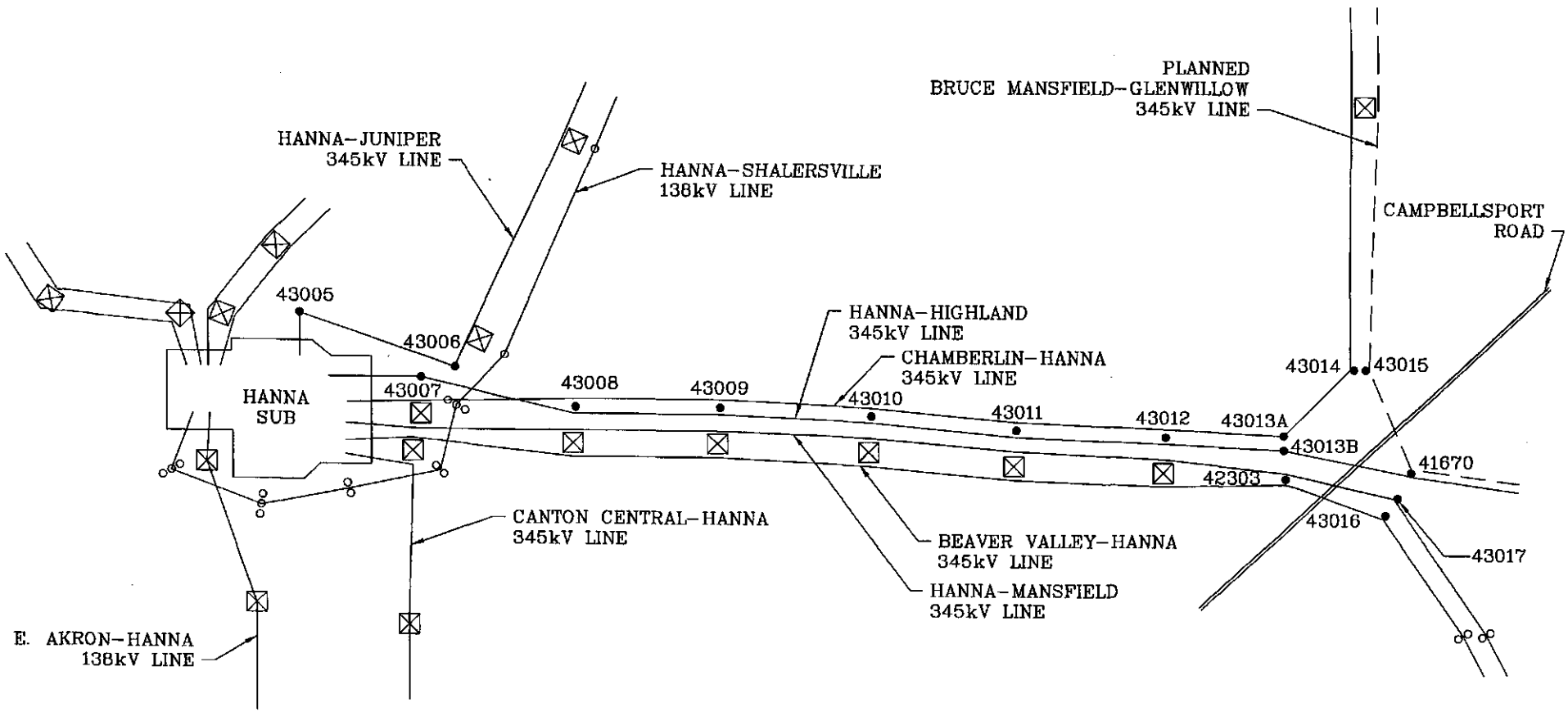


ATSI. American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.

CHAMBERLIN–MANSFIELD 345kV LOOP TO HANNA SUBSTATION

GENERAL LAYOUT EXISTING HANNA SUBSTATION AND TRANSMISSION LINES

EXHIBIT 2

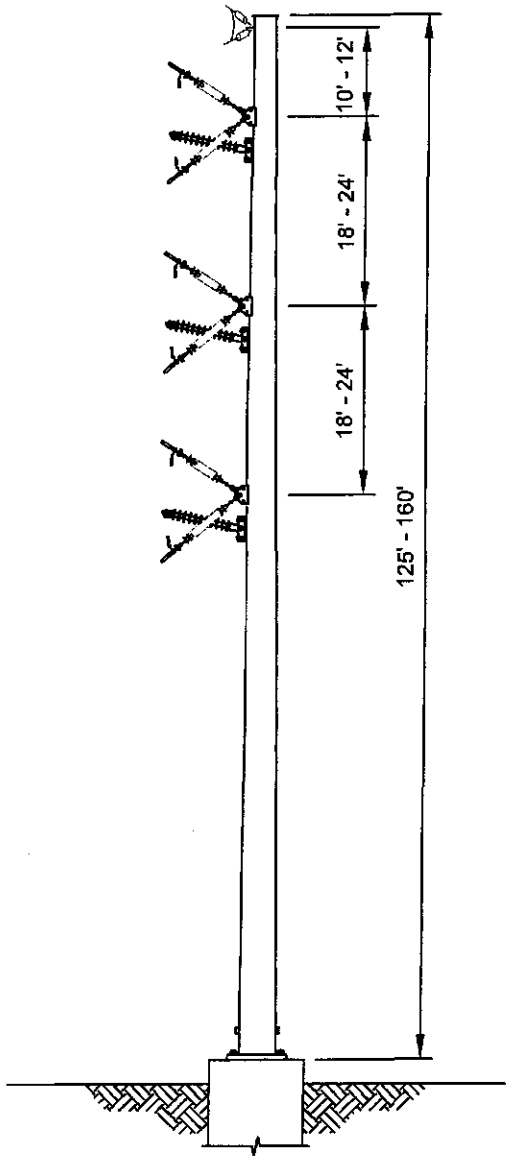


ATSI. American Transmission Systems, Inc.

CHAMBERLIN–MANSFIELD 345kV
LOOP TO HANNA SUBSTATION

GENERAL LAYOUT
PROPOSED CHAMBERLIN–MANSFIELD
LOOP TO HANNA SUBSTATION

EXHIBIT 3



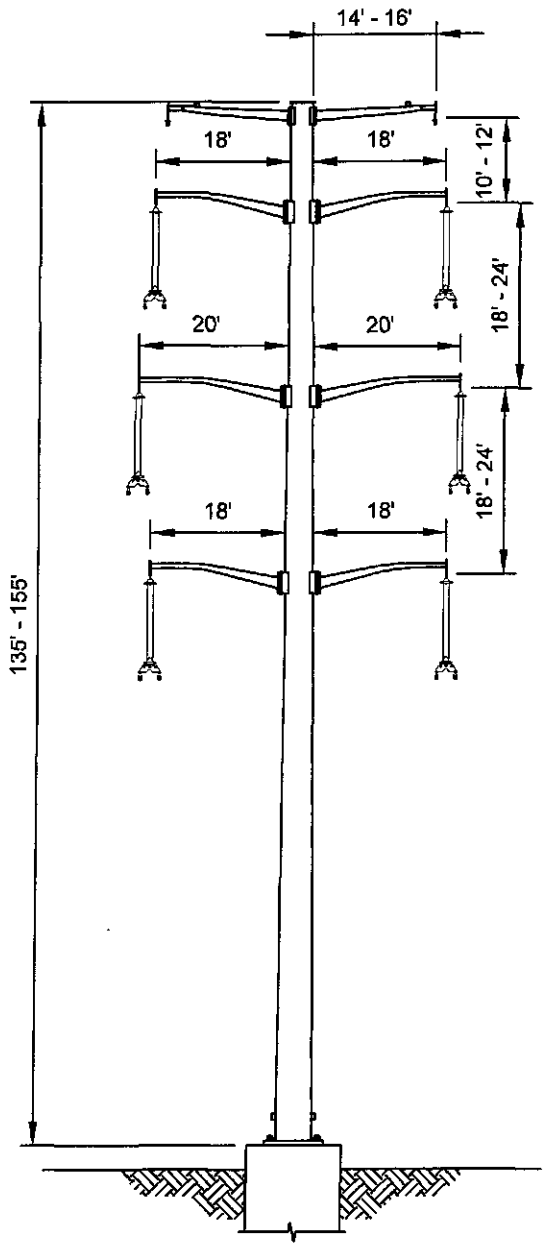
NOTE:
1. CIRCUIT POSITION WILL BE DERTERMINED DURING FINAL ENGINEERING.

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

CHAMBERLIN–MANSFIELD
345kV TRANSMISSION LINE
LOOP TO HANNA SUBSTATION PROJECT

NEW SINGLE CIRCUIT
STEEL POLE DEADEND STRUCTURE

EXHIBIT 4



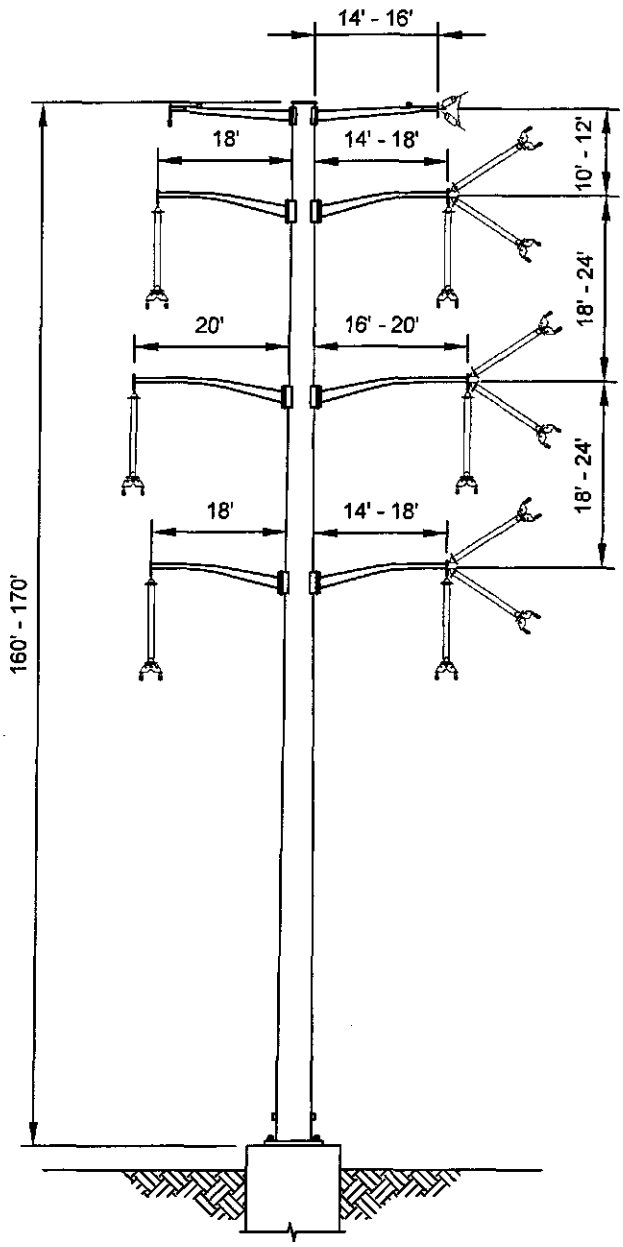
NOTE:
1. CIRCUIT POSITION WILL BE DETERMINED DURING FINAL ENGINEERING.

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

CHAMBERLIN–MANSFIELD
345kV TRANSMISSION LINE
LOOP TO HANNA SUBSTATION PROJECT

NEW DOUBLE CIRCUIT STEEL POLE TANGENT STRUCTURE

EXHIBIT 5



NOTE:
1. CIRCUIT POSITION WILL BE DETERMINED DURING FINAL ENGINEERING.

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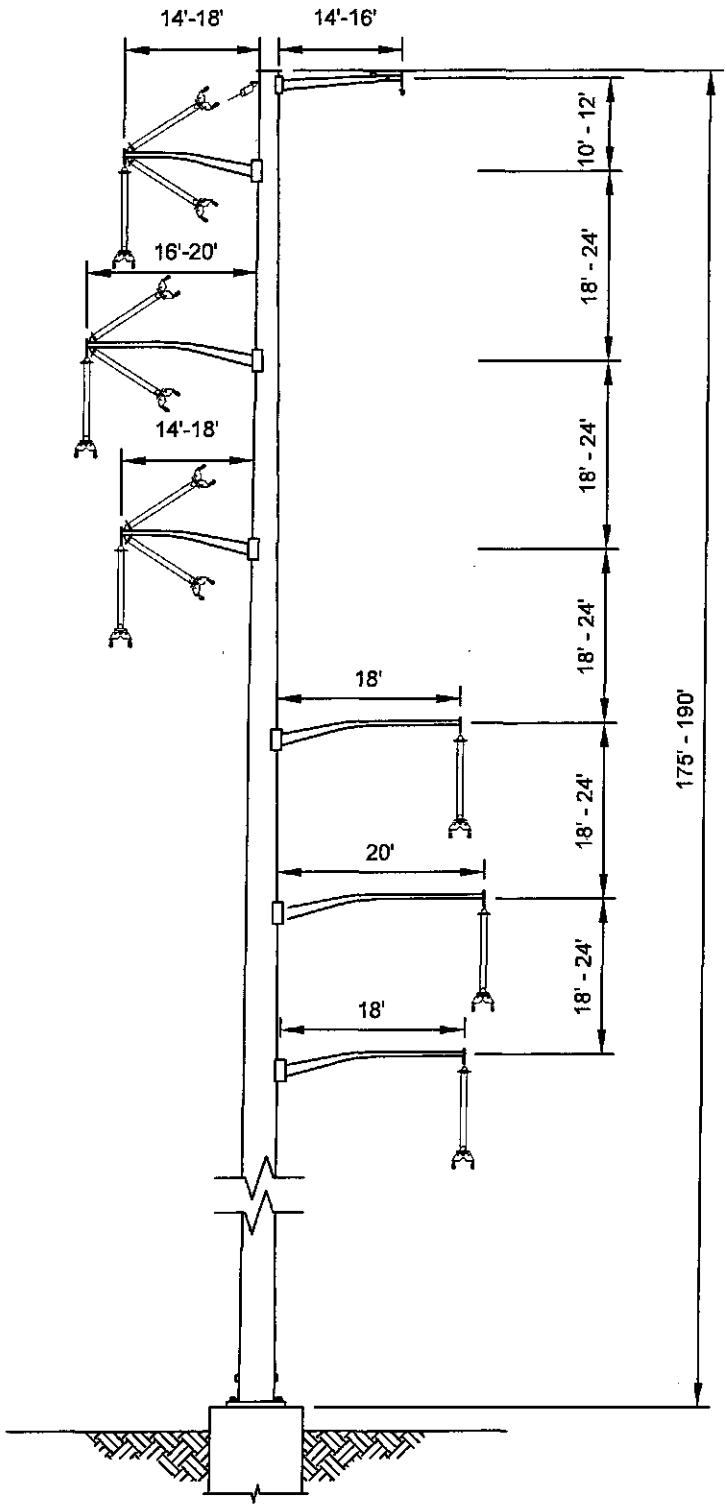
CHAMBERLIN–MANSFIELD
345kV TRANSMISSION LINE
LOOP TO HANNA SUBSTATION PROJECT

NEW DOUBLE CIRCUIT STEEL POLE
TANGENT/DEADEND STRUCTURE

EXHIBIT 6



NOTE:
1. CIRCUIT POSITION WILL BE DETERMINED DURING FINAL ENGINEERING.

ATSI®
American Transmission Systems, Inc.
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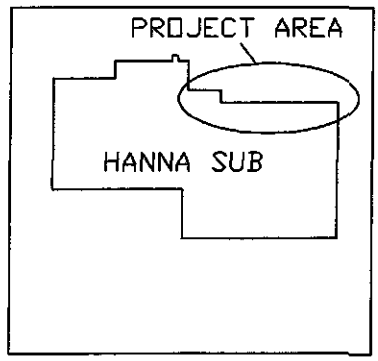
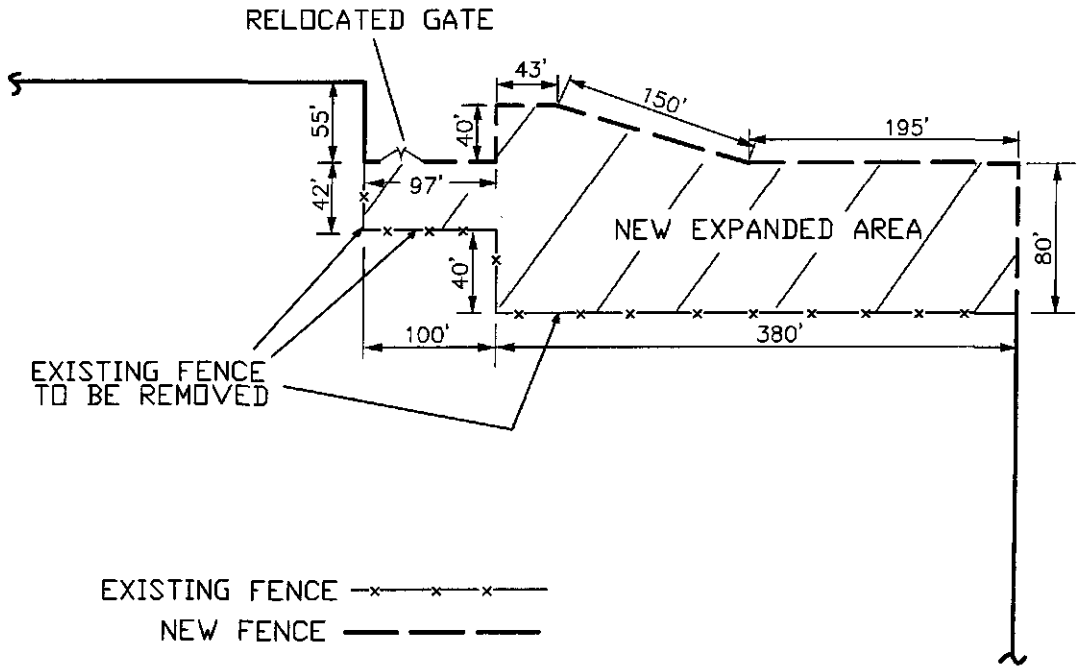
CHAMBERLIN–MANSFIELD
345kV TRANSMISSION LINE
LOOP TO HANNA SUBSTATION PROJECT

NEW DOUBLE CIRCUIT
STEEL POLE DEADEND/TANGENT STRUCTURE

EXHIBIT 7



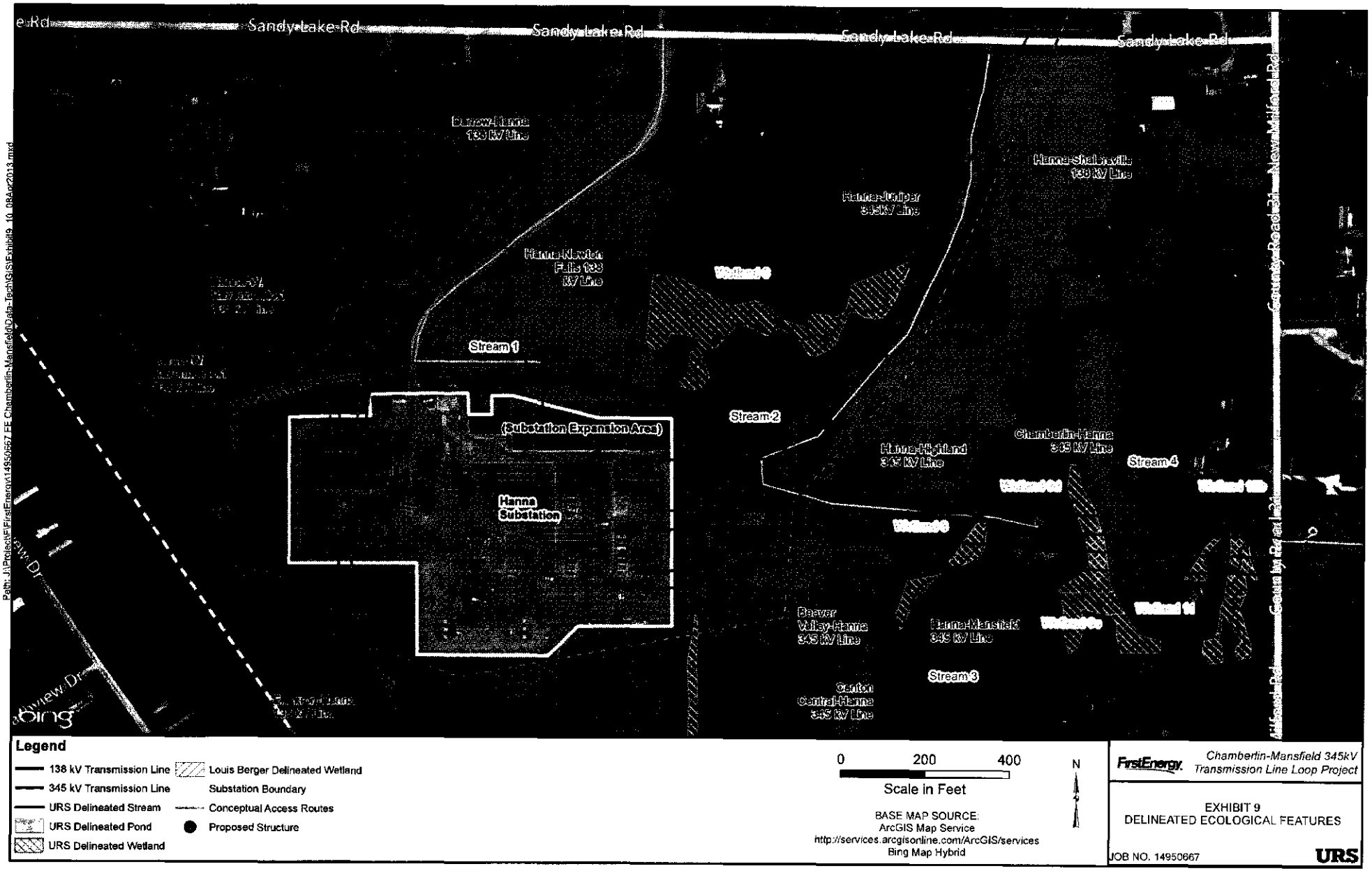


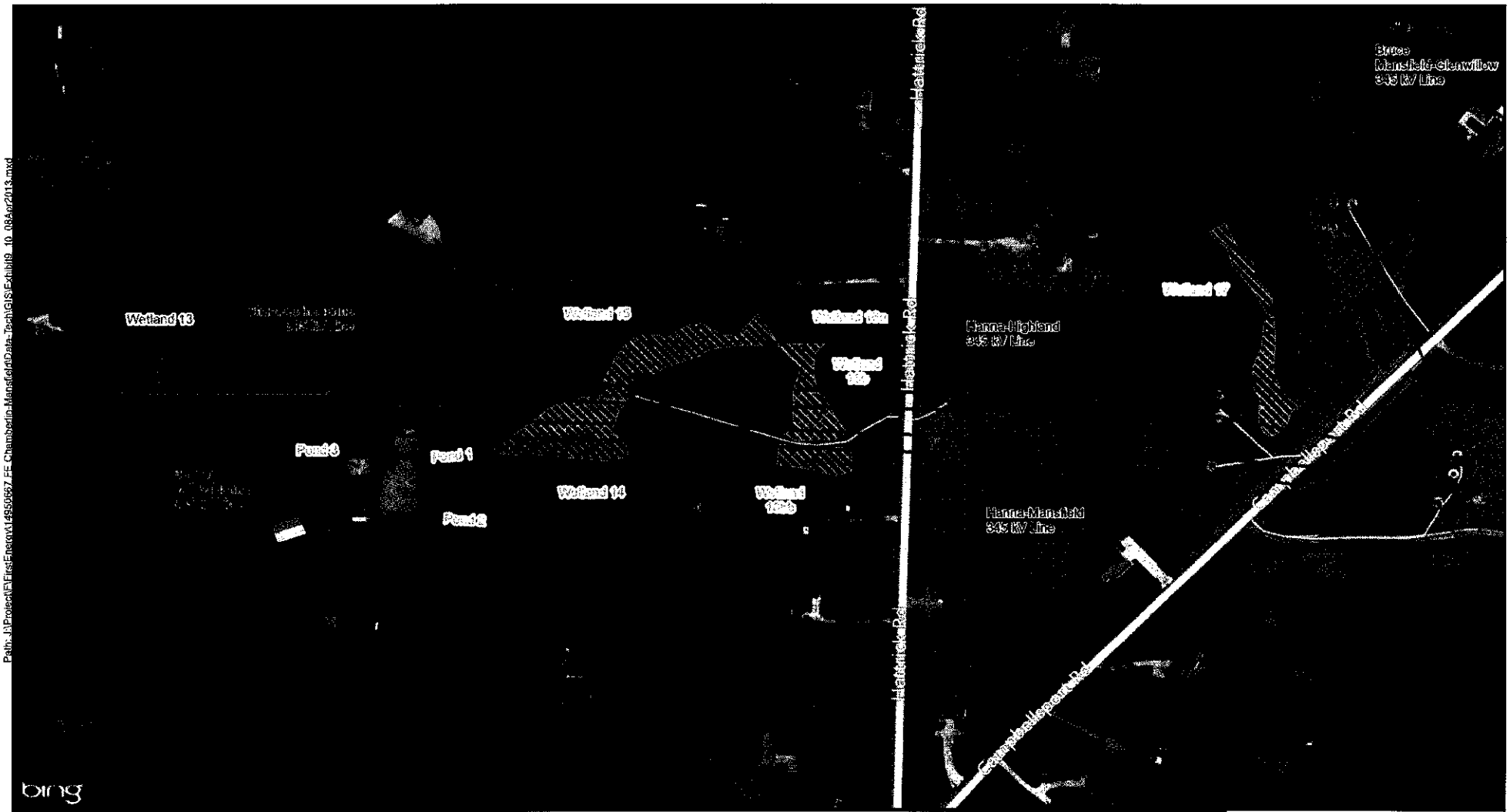
EXISTING FENCE —×——×——×—

NEW FENCE — — — —

NOTE: ALL DIMENSIONS
ARE APPROXIMATE

BY: RCJ APP: DATE: 3/26/13 ISSUE: Construction	FirstEnergy Energy Delivery Technical Services	DIST. CODE: SCALE: NONE SIZE: 8.5x11	OPERATING COMPANY Ohio Edison	REGION OH-CE	AREA Akron
			FACILITY HANNA		
			TITLE HANNA SUBSTATION EXPANSION GENERAL LAYOUT		
RevisionNote			SAP NETWORK NO. 13410364	DOC. ID EXHIBIT 8	REV.


Sandy Lake Rd
Sandy Lake Rd
Sandy Lake Rd
Sandy Lake Rd
Burrow-Hanna 138 kV Line
Hanna-Juniper 345kV Line
Hanna-Shalersville 138 kV Line
Hanna-Newton Falls 138 kV Line
Stream 1
Stream 2
(Substation Expansion Area)
Hanna Substation
Hanna-Highland 345 kV Line
Chamberlin-Hanna 345 kV Line
Stream 4
Beaver Valley-Hanna 345 kV Line
Hanna-Mansfield 345 kV Line
Stream 3
Canton Central-Hanna 345 kV Line
County Road 31 - New Milford Rd
Legend
138 kV Transmission Line
345 kV Transmission Line
URS Delineated Stream
URS Delineated Pond
URS Delineated Wetland
Louis Berger Delineated Wetland
Substation Boundary
Conceptual Access Routes
Proposed Structure
0
200
400
Scale in Feet
N
BASE MAP SOURCE:
ArcGIS Map Service
http://services.arcgisonline.com/ArcGIS/services
Bing Map Hybrid
FirstEnergy
Chamberlin-Mansfield 345kV Transmission Line Loop Project
EXHIBIT 9
DELINEATED ECOLOGICAL FEATURES
JOB NO. 14950667
URS



Legend

- 138 kV Transmission Line
- 345 kV Transmission Line
- URS Delineated Stream
- URS Delineated Pond
- URS Delineated Wetland
- Louis Berger Delineated Wetland
- Substation Boundary
- Conceptual Access Routes
- Proposed Structure

0 200 400

Scale in Feet

N

BASE MAP SOURCE:
ArcGIS Map Service
http://services.arcgisonline.com/ArcGIS/services
Bing Map Hybrid

FirstEnergy

Chamberlin-Mansfield 345kV Transmission Line Loop Project

EXHIBIT 10
DELINEATED ECOLOGICAL FEATURES

JOB NO. 14950667

URS

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