

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

CONSTRUCTION NOTICE

AVON LAKE SUBSTATION EXPANSION PROJECT

OPSB CASE NO.: 16-0297-EL-BNR

February 17, 2016

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

**CONSTRUCTION NOTICE
AVON LAKE SUBSTATION EXPANSION PROJECT**

The following information is being provided in accordance with the procedures in the Ohio Administrative Code (OAC) Chapter 4906-6 for the application and review of Accelerated Certificate Applications. Based upon the requirements found in Appendix A to OAC Rule 4906-1-01, this Project qualifies for submittal to the Ohio Power Siting Board (“Board”) as a Construction Notice application.

4906-6-05 (B): CONSTRUCTION NOTICE REQUIREMENTS

4906-6-05 (B) (1): Name and Reference Number

Name of Project: Avon Lake Substation Expansion Project (“Project”)

2015 LTFR Reference: This Project is not included in FirstEnergy Corp.2015 Long Term Forecast Report submitted to the Public Utility Commission of Ohio (“PUCO”) in Case Number 15-0649-EL-FOR.

4906-6-05 (B) (1) (a): Brief Description of Project

In this Project, American Transmission Systems, Incorporated (“ATSI”), a FirstEnergy Company, is proposing to expand the fence line of the existing Avon Lake Substation to facilitate the installation of new equipment in the substation. Both the existing and the expanded Avon Lake Substation will be owned and operated by ATSI. The fenced area within the existing Avon Lake Substation is approximately 55,800 square feet. As part of the proposed Project, a portion of the northeast corner of the substation fence line will be expanded to the north and to the east. An approximately 105 foot portion of the north fence line will be moved approximately 45 feet to the north. The existing fence with gates to the east and west of the existing control building will be removed, and a new fence with gates will be installed approximately 58 feet to the northeast of the existing control building. The new fence line is proposed to be installed following the existing parking area boundaries with the new gates installed across the existing substation

driveway. This will expand the footprint of the substation by approximately 8,550 square feet, with a new total area of approximately 64,350 square feet. This represents an approximately 15.3 percent expansion of the substation. The expanded footprint of the substation will allow for the installation of a new control enclosure for existing equipment.

The substation expansion layout is shown in Exhibit 3. The general location of the proposed Project is shown in Exhibits 1 and 2. Exhibit 1 is a partial copy of the United States Geologic Survey, Cuyahoga County, Ohio, Quad Map ID number 41082-D1. Exhibit 2 provides a partial copy of aerial imagery, Digital Orthophoto Quarter Quads (“DOQQ”). The general layout of the proposed Project is shown in Exhibit 3. The Project is located at 33570 Lake Road, Avon Lake, Ohio 44012, near the intersection of Lake Road (Route 6) and Avondale Avenue in Avon Lake, Lorain County, Ohio.

4906-6-05 (B) (1): Construction Notice Requirements

The Project meets the requirements for a Construction Notice because the Project is within the types of project defined by Item (4)(a) of the Application Requirement Matrix for Electric Power Transmission Lines, Appendix A of OAC Rule 4906-1-01. This item states:

- (4) Constructing additions to existing electric power transmission stations or converting distribution stations to transmission stations where:*
 - (a) There is a twenty percent or less expansion of the fenced area.*

All Project activities will take place on existing Cleveland Electric Illuminating Company (“CEI”), a FirstEnergy Company, owned property. The fenced area of the existing Avon Lake Substation will be expanded by approximately 15.3 percent as a result of this Project.

4906-6-05 (B) (2): Need for the Project

The expansion of the Avon Lake 138 kV Substation is needed to allow Applicant to install a new control enclosure at the Avon Lake 138 kV Substation to house

transmission system equipment currently located at the Avon Lake generation facility. Currently, some transmission equipment, including relaying, is located at the nearby Avon Lake generation facility, which is not owned by Applicant, or any other FirstEnergy company. Applicant relies on existing alternating and direct current systems, heating, and other environmental controls supplied by the Avon Lake generation facility for the operation of those systems. The expansion of the substation and the installation of the control enclosure will allow for the relocation of the 138 kV transmission substation functions currently located within the Avon Lake generation facility to the Avon Lake 138kV substation which will provide Applicant with significant improvements in the management of its transmission system equipment.

4906-6-05 (B)(3): Location of the Project Relative to Existing or Proposed Lines

The location of the Project relative to existing or proposed lines is shown in the ATSI Transmission Network Map, included as part of the confidential portion of the FirstEnergy Corp. 2015 Long-Term Forecast Report. This map was submitted to the PUCO in Case No.15-0649-EL-FOR under Rule 4901:5-5:04 (C) of the Ohio Administrative Code. This map is incorporated by reference only. This map shows ATSI's 345 kV and 138 kV transmission lines and transmission substations including the Avon Lake Substation. The Project area is located approximately 6 ³/₄ inches (11" x 17" printed version) from the right edge of the map and 2 ³/₈ inches (11" x 17" printed version) from the top of the map. The general location of the Project is shown in Exhibits 1 and 2. The Project layout is shown in Exhibit 3.

4906-6-05 (B) (4): Alternatives Considered

There are no practical alternatives that allow for the upgrading of the Avon Lake Substation and the relocation of the transmission equipment from the Avon Lake generation facility to the substation except for the Project. Any other alternative would necessarily require the construction of a new substation, which would greatly increase impacts. Utilizing the existing substation location, with a small

expansion of the substation onto property already owned by CEI, represents the Project alternative with the fewest overall impacts.

4906-6-05 (B) (5): Public Information Program

ATSI's and CEI's manager of External Affairs will advise local officials of features and the status of the proposed Project as necessary.

4906-6-05 (B) (6): Construction Schedule

Construction on the Project is expected to begin on approximately April 1, 2016 and is expected to be completed and placed in-service by December 1, 2016.

4906-6-05 (B) (7): Area Map

Exhibit 1 and 2 depict the general location of the Project. Exhibit 1 provides a partial copy of the United States Geologic Survey, Cuyahoga County, Ohio, quadrangle map (Quad Order ID number 41082-D1). Exhibit 2 provides a partial copy of aerial imagery, DOQQ.

4906-6-05 (B) (8): Property Owner List

The Avon Lake Substation is located on CEI property and is owned by ATSI. The proposed expansion of Avon Lake Substation will be owned by ATSI. CEI and ATSI are both FirstEnergy companies and no additional easements will need to be obtained for construction of the project.

The property information for this Project is listed below:

Parcel Number	Property Owner	Property Address	Easement Status
0400006135102 0400006118023	Cleveland Electric Illuminating Company (CEI)	33570 Lake Rd., Avon Lake OH 44012	Owned in Fee

4906-6-05 (B) (9): TECHNICAL FEATURES OF THE PROJECT

4906-6-05 (B) (9) (a): Operating Characteristics

The operating characteristics of the Avon Lake Transmission Substation and connected transmission lines will not be affected by the Avon Lake Substation Expansion Project. The Avon Lake Transmission Substation provides 345/138 kV transformation for the following connected transmission lines

1. Avon-Avon South Switch Yard #91 and #92 138 kV
2. Avon-Emily (Q-14) 138 kV
3. Avon-Fowles (Q-4) 138 kV
4. Avon-Fowles (Q-3) 138 kV
5. Avon-Fowles (Q-2) 138 kV
6. Avon-Fowles (Q-1) 138 kV
7. Avon-Fox (Q-11) 138 kV

4906-6-05 (B) (9) (b): Calculated Electric and Magnetic Field

The closest occupied residence or institution is approximately 110 feet away from the substation fence, therefore no Electric and Magnetic Field (“EMF”) calculations are required by this code provision.

4906-6-05 (B) (9) (c): Estimated Cost

The estimated capital costs for the Avon Lake Substation Expansion Project is \$2,748,800.

4906-6-05 (B) (10): SOCIAL AND ECOLOGICAL IMPACTS

4906-6-05 (B) (10) (a): Land Uses

The Project is located in the City of Avon Lake, Lorain County, Ohio. The main land use around the Project is coded as Industry, Light Industry and Special Commerce. The zoning information for this Project was obtained through the City of Avon Lake Zoning Department’s website.

4906-6-05 (B) (10) (b): Agricultural Land

Agricultural land use does not exist within the Project area.

4906-6-05 (B) (10) (c): Archaeological or Cultural Resources

As part of ATSI’s investigation, a search of Ohio Historic Preservation Office (“OHPO”) National Register (“NR”) of Historic Places online database was conducted to identify the existence of any significant archeological or cultural resource sites within 0.5 miles of the Project Area. A map of the results of the search is shown in Exhibit 5. The OHPO database includes all Ohio listing on the National Register of Historic Places (“NRHP”), including districts, sites, building, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. The results of the search indicate that there is one (1) Listed NR property was identified within 0.5 miles of the Project potential disturbance area. The information for this properties is listed below in Table 2.

Table 2. List of NR Listed of Historic Places

Property Name	Property Address	National Register Reference #	Distance from Project Area
Miller Peter House	33740 Lake Road, Avon Lake, Ohio	78002106	0.47 mile

The OHPO database also includes listing of the Ohio Archaeological Inventory (“OAI”), the Ohio Historic Inventory (“OHI”), previous cultural resource surveys, and the Ohio Genealogical Society (“OGS”) cemetery inventory. The results of the search indicate that no listed OAI listed archaeological resources were identified within 0.5 miles of the Project potential disturbance area. One (1) OHI listed structural resource is located within 0.5 miles of the Project Area. A list of the OHI listed structural resources found is shown in Table 3.

Table 3. List of OHI Listed Archeological Resources

OHI Number	Present Name	Historic Use	County	Municipality
LOR0045402	Avon Lake Generating Plan	Public Works (excluding transport)	Lorain	Avon Lake

Two (2) previous archaeological resource surveys were conducted within 0.5 miles of the Project Area. A list of the previous cultural resource surveys is shown in Table 4.

Table 4. List of Previous Cultural Resource Survey

Year	Name	County	Municipality
1992	Cultural Resources Literature review and Locational Testing: Walker Road Waterline, Avon Lake Village, Lorain County, Ohio	Lorain	Avon Lake
1994	Phase I and II Cultural Resources Report on Columbia Gas of Ohio Incorporated's Proposed 6.83 mile Natural Gas Pipeline in Lorain County, Ohio	Lorain	Avon Lake

Neither of these surveys indicated that there were OAI sites located within 0.5 miles of the Project's potential disturbance area.

As the Project involves relatively minor modifications to an existing substation and transmission line, significant impact to archaeological and cultural resources are not anticipated.

4906-6-05 (B)(10)(d): Local, State and Federal Government Requirements

There is no known local, or federal requirements that must be met prior to the commencement of construction on the proposed Project.

4906-6-05 (B)(10)(e): 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”) on January 14, 2016, to research the presence of any endangered, threatened, or rare species within one (1) mile of the Project area. The ODNR’s response on January 14, 2016, indicated that they have no records of protected species within one mile of the identified Project area. Because ODNR has determined that the information contained in the Agency’s response could be detrimental to the conservation of a species or unique natural feature, and pursuant to Section 1531.04 of the Ohio Revised Code and the request of ODNR in the response, the ODNR response is not attached.

4906-6-05 (B)(10)(f): Areas of Ecological Concern

As part of the investigation, a request was submitted to the ODNR on January 14, 2016, to research the presence of any unique ecological sites, geological features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forest, national wildlife refuges, or other protected natural areas within one (1) mile of the project area. The ODNR’s January 14, 2016 response indicated that they have no records of the aforementioned areas within one mile of the identified project area.

4906-6-05(B)(10)(g): Other Information

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

The property was evaluated by a qualified Environmental Scientist from the FirstEnergy Environmental Department to determine the potential for jurisdictional water resources within the proposed Project work limits. The proposed expansion area is situated entirely within the existing, maintained upland lawn and landscaped area immediately beyond the north fence line. There are no surface water features within the Project limits.

No other or unusual conditions are expected that will result in significant environmental, social, health or safety impacts.

4906-6-07: Documentation of Letter of Notification Transmittal and Availability for Public Review

This Construction Notice is being provided concurrently to the following officials and libraries of the City of Avon Lake and Lorain County, Ohio.

Lorain County

Commissioner Matt Lundy
President
Lorain County Commissioners
226 Middle Ave, 4th Floor
Elyria OH, 44035

Mr. Don Romancak, Director
Lorain County Community
Development Department
226 Middle Avenue, 5th Floor
Elyria, OH 44035

Commissioner Ms. Lori Kokoski
Lorain County Commissioners
226 Middle Ave, 4th Floor
Elyria OH, 44035

Commissioner Mr. Ted Kalo
Lorain County Commissioners
226 Middle Ave, 4th Floor
Elyria OH, 44035

Mr. James Cordes
Lorain County Administrator
226 Middle Avenue, 4th Floor
Elyria, OH 44035

Mr. Ken Carney, P.E., P.S.
Lorain County Engineer
247 Hadaway Street
Elyria, OH 44035

City of Avon Lake

The Honorable Greg Zilka
Mayor, City of Avon Lake
Avon Lake City Hall
150 Avon Belden Road
Avon Lake, OH 44012

Mr. Martin O'Donnell, President
City of Avon Lake Council
Avon Lake City Hall
150 Avon Belden Road
Avon Lake, OH 44012

Mr. Dan Bucci,
Council-at-Large
City of Avon Lake Council
Avon Lake City Hall
150 Avon Belden Road
Avon Lake, OH 44012

Mr. John Shondel,
Council-at-Large
City of Avon Lake Council
Avon Lake City Hall
150 Avon Belden Road
Avon Lake, OH 44012

Ms. Coleen Spring,
City of Avon Lake Planning
Department
Avon Lake City Hall
150 Avon Belden Road
Avon Lake, OH 44012

Mr. Joe Reitz,
City of Avon Lake Planning
Department
Avon Lake City Hall
150 Avon Belden Road
Avon Lake, OH 44012

Libraries

Ms. Mary P. Crehore, Director
Avon Lake Public Library
32649 Electric Boulevard
Avon Lake, OH 44012

Ms. Pamela Coghlan,
Branch Manager
Domonkas Branch Library
4125 Lake Road
Lorain, OH 44054

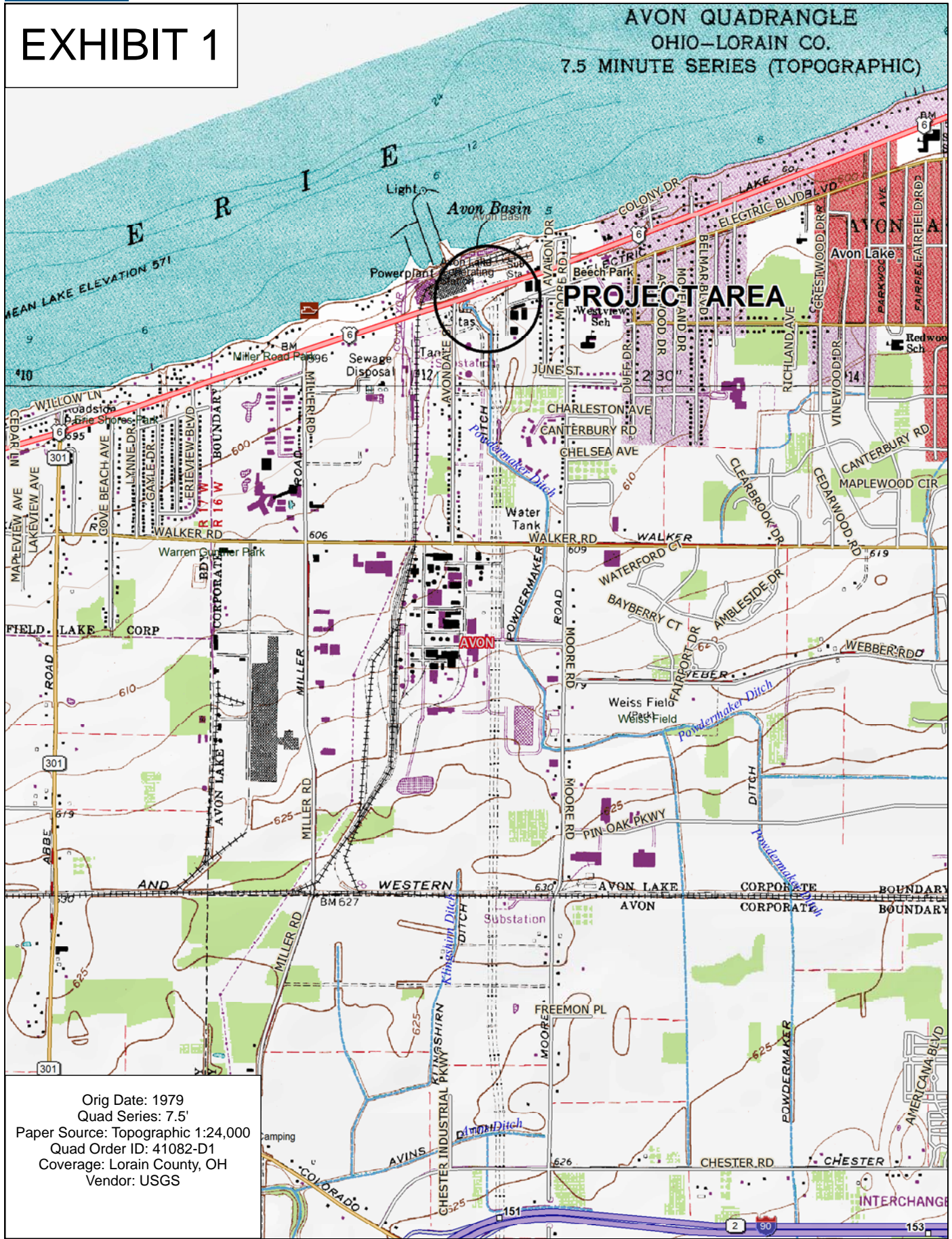
Ms. Donna Kelly, Branch Manager
Avon Public Library
37485 Harvest Avenue
Avon, OH 44011

Copies of the transmittal letters to these officials have been included with the transmittal letter submitting this Construction Notice to the Ohio Power Sitting Board, and are being provided to meet the requirement of OAC Rule 4906-6-07 (B) to provide the Board with proof of compliance with the notice requirement to local officials in OAC Rule 4906-6-07 (A)(1).

Information is posted on www.firstenergycorp.com/about/transmission_project/ohio.html on how to request an electronic or paper copy of this Construction Notice. The link to website is being provided to meet the requirement of OAC Rule 4906-6-07 (B) and to provide the Board with proof of compliance with the notice requirements in OAC Rule 4906-6-07 (A)(3).

EXHIBIT 1

AVON QUADRANGLE
OHIO-LORAIN CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



Orig Date: 1979
 Quad Series: 7.5'
 Paper Source: Topographic 1:24,000
 Quad Order ID: 41082-D1
 Coverage: Lorain County, OH
 Vendor: USGS

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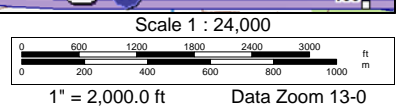
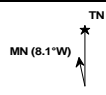
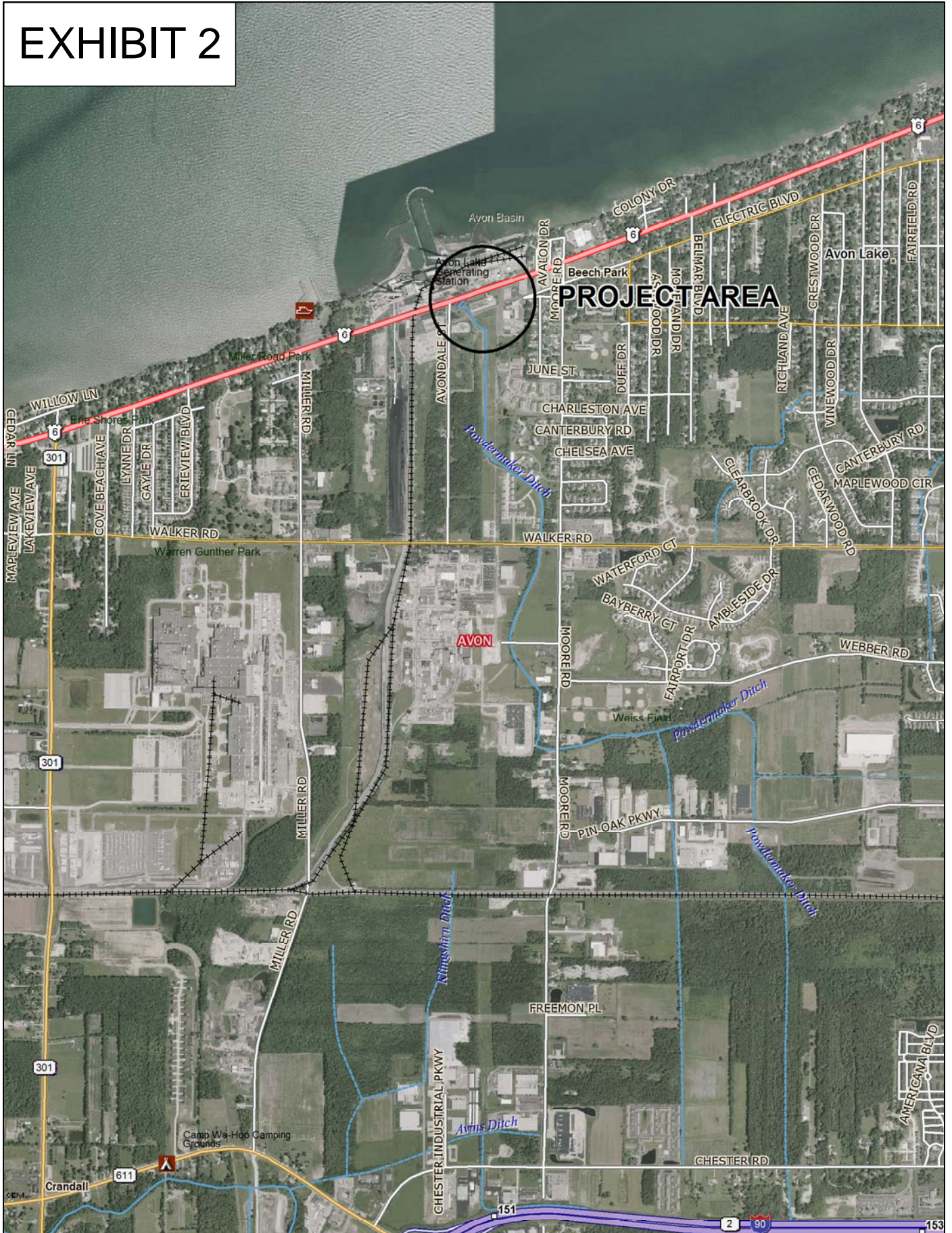


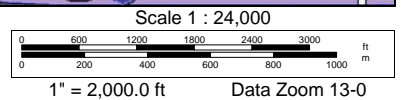
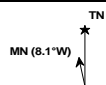
EXHIBIT 2

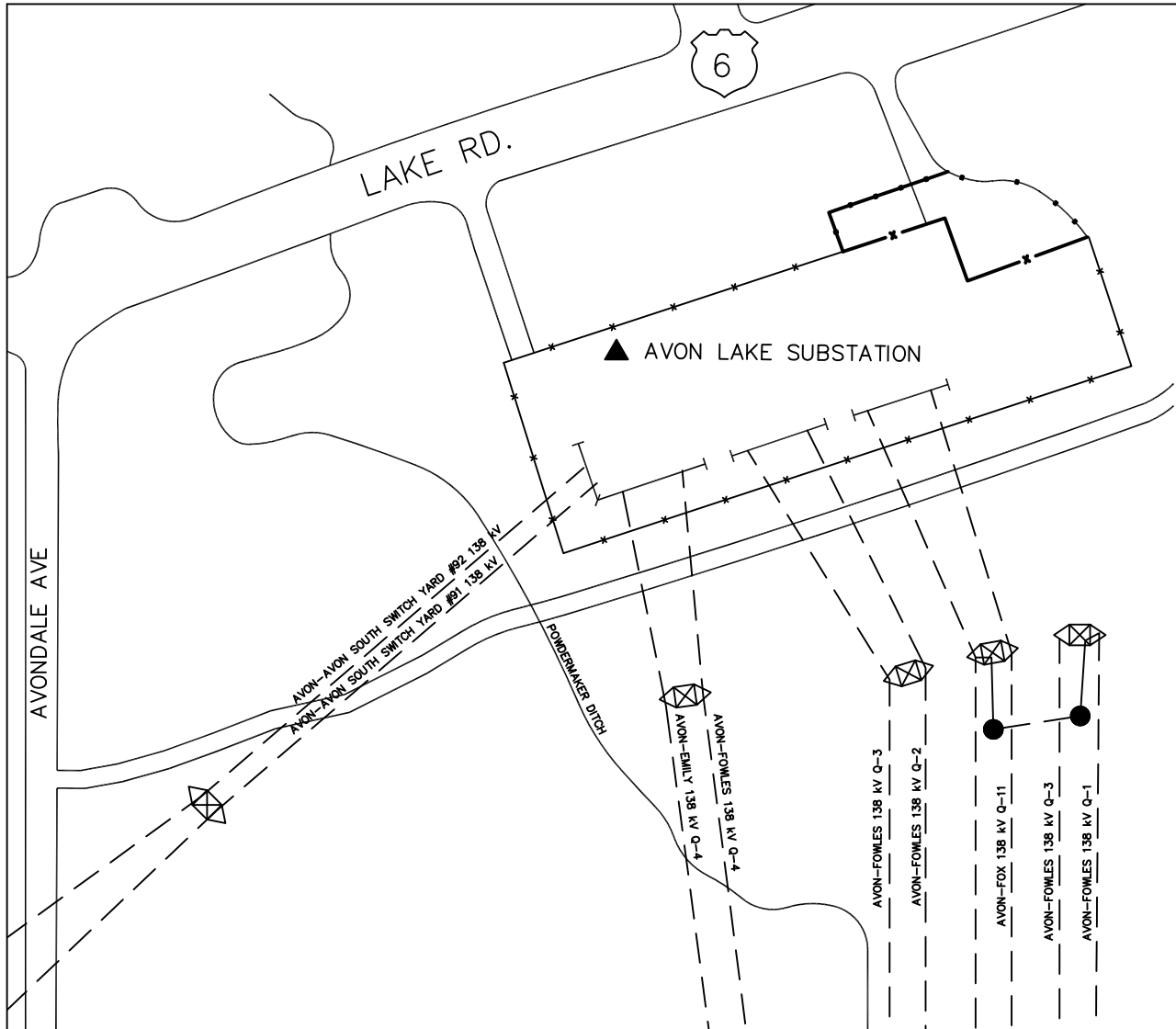


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LEGEND

	EXISTING SUBSTATION
	SUBSTATION FENCE LINE
	PROPOSED SUBSTATION FENCE LINE EXPANSION
	FENCE LINE TO BE REMOVED
	EXISTING SINGLE STEEL POLE STRUCTURE
	EXISTING STEEL LATTICE STRUCTURE
	EXISTING CONDUCTOR
	EXISTING STREAM

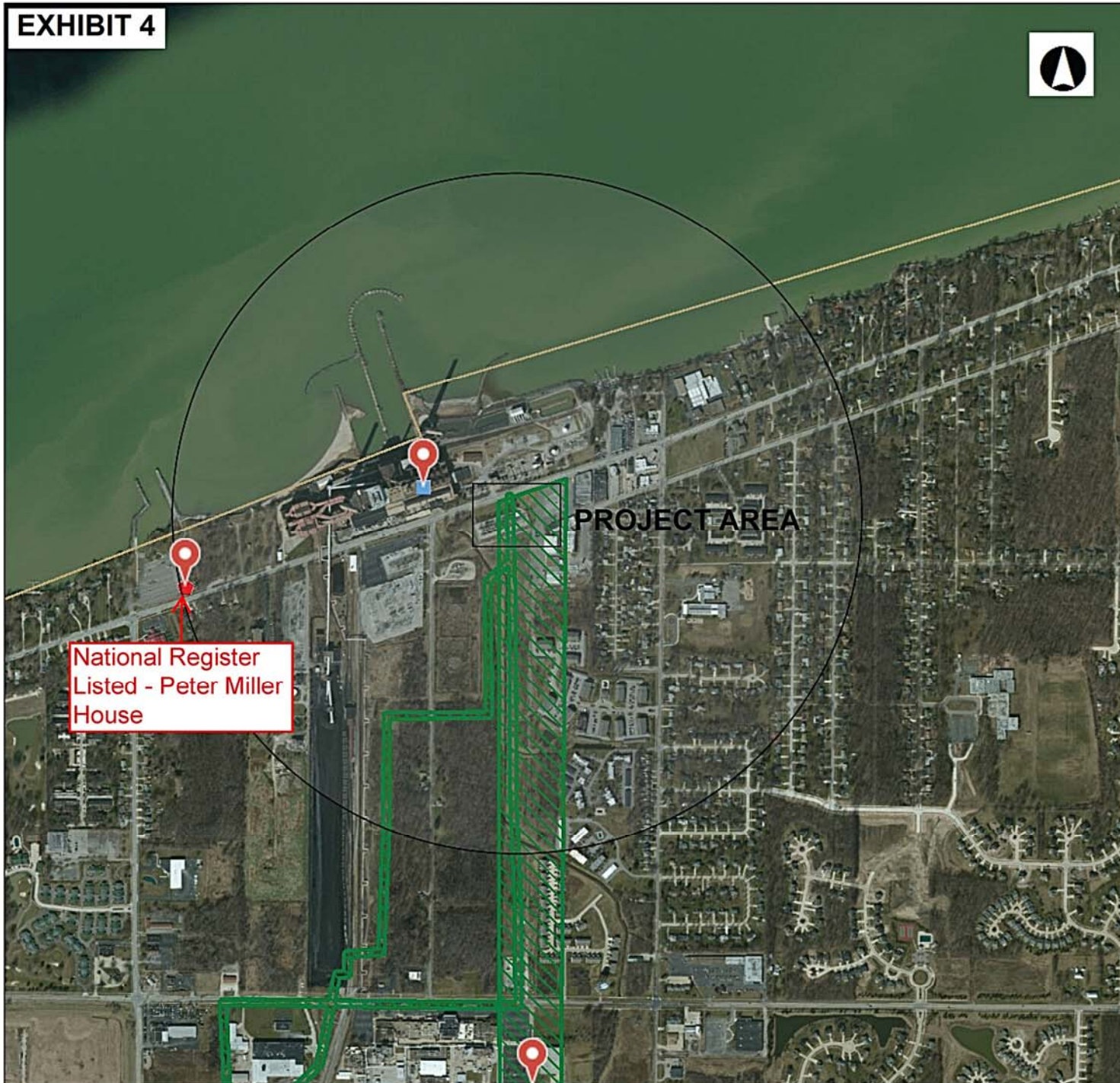


AVON LAKE SUBSTATION
EXPANSION PROJECT

GENERAL LAYOUT

EXHIBIT 3

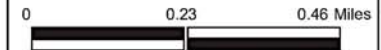
EXHIBIT 4



Ohio Historic Preservation Office

Legend

- NR Listings
 - ★ Listed
 - ⊙ National Historic Landmark
 - ✘ Delisted
- ◆ NR Determinations of Eligibi
- ▲ Archaeological Sites
- Historic Structures
- Historic Bridges
- Historic Tax Credit Projects
- + OGS Cemeteries
- Dams
- UTM Zone Split
- ▨ NR Boundaries
- ▨ Phase 1
- ▨ Phase 2
- ▨ Phase 3
- ▨ Historic Previously Surveyec
- Highways



1: 18,055

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Datum: [Datum]
 Projection: WGS_1984_Web_Mercator_Auxiliary_Sphere

