Legal Department

American Electric Power
1 Riverside Plaza
Columbus, OH 43215-2373
AEP.com

November 2, 2016

Chairman Asim Z. Haque
Ohio Power Siting Board
180 East Broad Street
Columbus, Ohio 43215

Re: Case No. 16-1775-EL-BLN
In the Matter of the Letter of Notification for the Windfall Switch-North Waldo 138 kV Switch

Hector Garcia
Senior Counsel –
Regulatory Services
(614) 716-3410 (P)
(614) 716-2014 (F)
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Dear Chairman Haque,

Attached please find a copy of the Letter of Notification (LON) for the above-captioned project ("Project") by AEP Ohio Transmission Company, Inc. This filing and notice is in accordance with O.A.C. 4906-6-05

A copy of this filing will also be submitted to the executive director or the executive director's designee. A copy will be provided to the Board Staff, including an electronic copy.

If you have any questions, please do not hesitate to contact me.

Respectfully Submitted,

/s/ Hector Garcia

Hector Garcia
Counsel for AEP Ohio Transmission Company, Inc.

cc. Werner Margard, Counsel OPSB Staff
Jon Pawley, OPSB Staff

Letter of Notification for Windfall Switch-North Waldo 138 KV Switch

PUCO Case No. 16-1775-EL-BLN

Submitted to:
The Ohio Power Siting Board
Pursuant to Ohio Administrative Code
Section 4906-6-05

Submitted by:
AEP Ohio Transmission Company, Inc.

November 2, 2016

November 2, 2016

Letter of Notification

AEP Ohio Transmission Company, Inc. Windfall Switch-North Waldo 138 kV Switch

4906-6-05

AEP Ohio Transmission Company, Inc. ("AEP Ohio Transco") is providing the following information to the Ohio Power Siting Board ("OPSB") in accordance with the accelerated application requirements of Ohio Administrative Code Section 4906-6-05.

4906-6-5(B) General Information

B(1) Project Description

The name of the project and applicant's reference number, names and reference number(s) of resulting circuits, a brief description of the project, and why the project meets the requirements for a Letter of Notification.

AEP Ohio Transco is proposing the Windfall Switch to North Waldo 138 kV Switch project (the "Project"), which is located between AEP Ohio Transco's Windfall Switch station and AEP Ohio Transco's North Waldo station, both located in Richland Township, Marion County, Ohio. The length of the Project is approximately 3.8 miles. Thirty-three (33) existing wood pole structures will be replaced with new steel structures. All of the transmission line rebuild work will occur within existing AEP Ohio Transco's right-of-way ("ROW"). Figure 1.1 in Appendix A shows the location of the Project. Figures 1.2 and 1.3 in Appendix A show the existing AEP Ohio Transco ROW corridor and stations, pole structure locations, and planned access road locations. The Project has been assigned PUCO Case No. 16-1775-EL-BLN.

The Project meets the requirements for a Letter of Notification because it is within the types of projects defined by Item (2)(b) of 4906-1-01 *Appendix A Application Requirement Matrix For Electric Power Transmission Lines*. This item states:

> *(2) Adding new circuits on existing structures designed for multiple circuit use, replacing conductors on existing structures with larger or bundled conductors, adding structures to an existing transmission line, or replacing structures with a different type of structure for a distance of:*
>
> *(b) More than two miles.*

B(2) Statement of Need

If the proposed project is an electric power transmission line or gas or natural gas transmission line, a statement explaining the need for the proposed facility.

The Project is part of a series of improvements planned for AEP Ohio Transco's Mount Vernon to South Kenton 138 kV transmission line to improve the reliability of electric service in Knox, Morrow, and Marion

Counties, Ohio. The planned facility upgrade is required to alleviate voltage concerns and replace aging wood pole structures. Many of the causes for customer outages were attributed to line defects such as crossarm failures and insect damage to knee braces and poles. The Project will improve the reliability of the transmission network in north-central Ohio and provide adequate voltage on the local 138 kV system under N-1 contingency conditions per applicable system planning criteria.

B(3) Project Location

The applicant shall provide the location of the project in relation to existing or proposed lines and substations shown on an area system map of sufficient scale and size to show existing and proposed transmission facilities in the project area.

Figures 1.1, 1.2, and 1.3 in Appendix A show the location of the Project in relation to existing AEP Ohio Transco facilities, including the Windfall Switch station, the North Waldo station, and other AEP Ohio Transco transmission lines.

B(4) Alternatives Considered

The applicant shall describe the alternatives considered and reasons why the proposed location or route is best suited for the proposed facility. The discussion shall include, but not be limited to, impacts associated with socioeconomic, ecological, construction, or engineering aspects of the project.

All of the proposed transmission line rebuild work will occur within existing AEP Ohio Transco ROW (see Figure 1.2 in Appendix A) on the existing transmission line centerline. Therefore, no alternatives were considered for this Project.

B(5) Public Information Program

The applicant shall describe its public information program to inform affected property owners and tenants of the nature of the project and the proposed timeframe for project construction and restoration activities.

AEP Ohio Transco did not develop a public information plan with respect to the Project, as all of the proposed transmission line rebuild work will occur within existing AEP Ohio Transco ROW (see Figure 1.2 in Appendix A) and AEP Ohio Transco has reached agreements with adjacent property owners to access AEP Ohio Transco's ROW during construction work.

B(6) Construction Schedule

The applicant shall provide an anticipated construction schedule and proposed in-service date of the project.

Construction of the Project is planned to begin November 2018 with an anticipated in-service date of December 2020.

B(7) Area Map

The applicant shall provide a map of at least 1:24,000 scale clearly depicting the facility with clearly marked streets, roads, and highways, and an aerial image.

Figure 1.1 in Appendix A identifies the location of the Project on the Ashley and Waldo 7.5' USGS quadrangle maps. Figure 1.2 in Appendix A shows the location of the Project on aerial photographs. Figure 1.4 in Appendix A shows the general location of the Project relative to local communities and the primary road network. To visit the Project from Columbus, drive north on Interstate 71 to State Route 37/US-36 (Exit 131). Drive east on State Route 37/US-36 to Old State Road. Drive north on Old State Road to Leonardsburg Road. Drive north and west on Leonardsburg Road to US-42. Drive north on US-42 to State Route 746. Drive west, then north to stay on State Route 746 to Newmans Cardington Road and turn west to Windfall Switch station, which will be on the south side of the road. The Project extends northwest approximately 3.8 miles to North Waldo station, located along the south side of Myers Road, approximately four miles north of Waldo, Ohio.

B(8) Property Agreements

The applicant shall provide a list of properties for which the applicant has obtained easements, options, and/or land use agreements necessary to construct and operate the facility and a list of the additional properties for which such agreements have not been obtained.

All of the proposed transmission line rebuild work for the Project will occur within existing AEP Ohio Transco ROW (see Figure 1.2 in Appendix A). AEP Ohio Transco has reached agreements with adjacent property owners to access AEP Ohio Transco ROW during construction. AEP Ohio Transco planned access road locations are shown on Figures 1.1, 1.2, and 1.3 in Appendix A. No other property easements, options, or land use agreements are necessary to construct the Project.

B(9) Technical Features

The applicant shall describe the following information regarding the technical features of the Project:

B(9)(a) Operating characteristics, estimated number and types of structures required, and right-of-way and/or land requirements.

The Project will include the replacement of 33 existing H-frame wood pole structures with new steel pole structures (single pole, three-pole, and H-frame). The Project also will include the installation of new 1033, 500 kcmil 54/7 ACSR (Curlew) conductors, along with a 7#8 alumoweld shield wire and 0.646 diameter OPGW. The existing conductor type is 477 kcmil ACSR and the existing shield wire is (2) 7#8 alumoweld. All deadends will utilize pier foundations with anchor cages.

B(9)(b) Electric and Magnetic Fields

For electric power transmission lines that are within one hundred feet of an occupied residence or institution, the production of electric and magnetic fields during the operation of the proposed electric power transmission line. The discussion shall include:

B(9)(b)(i) Calculated Electric and Magnetic Field Strength Levels

Three loading conditions were examined: (1) normal maximum loading, (2) emergency line loading, and (3) winter normal conductor rating. Normal maximum loading represents the peak flow expected with all system facilities in service; daily/hourly flows fluctuate below this level. Emergency loading is the maximum current flow during unusual (contingency) conditions, which exist only for short periods of time. Winter normal (WN) conductor rating represents the maximum current flow that a line, including its terminal equipment, can carry during winter conditions. It is not anticipated that this line would operate at its WN rating in the foreseeable future. Loading levels and the calculated electric and magnetic fields ("EMF") are summarized below.

EMF Calculations			
Condition	**Circuit Load (A)**	**Electric Field (kV/m)***	**Magnetic Field (mG)***
(1) Normal Max. Loading	128.3	0.6/1.1/0.6	6.6/18.8/6.8
(2) Emergency Line Loading	232.5	0.6/1.1/0.6	12.0/34.1/12.3
(3) WN Conductor Rating	1568.9	0.7/1.9/0.7	99.0/419.4/100.4

*EMF levels (left ROW edge/maximum/right ROW edge) computed one meter above ground at the point of minimum ground clearance, assuming balanced phase currents and nominal voltages. Electric fields reflect normal and emergency operations; lower electric fields are expected during emergency conditions when one mutually-coupled line is out of service.

B(9)(b)(ii) Design Alternatives

A discussion of the applicant's consideration of design alternatives with respect to electric and magnetic fields and their strength levels, including alternate conductor configuration and phasing, tower height, corridor location, and right-of-way width.

Because transmission line rebuild work associated with the Project will occur within the existing AEP Ohio Transco ROW, no alternatives were considered.

B(9)(c) Project Cost

The estimated capital cost of the project.

The 2016 capital cost estimate for the Project is $8,900,000.

B(10) Social and Economic Impact

The applicant shall describe the social and ecological impacts of the project.

B(10)(a) Operating Characteristics

Provide a brief, general description of land use within the vicinity of the proposed project, including a list of municipalities, townships, and counties affected.

The Project is located within Richland Township, Marion County, Ohio. According to Marion County zoning regulations, Richland Township is zoned and is primarily Residential and Rural Residential (http://www.marionohioplanning.org/index.php/zoning-regulations).

Land uses in the Project area primarily consist of agricultural land (pasture/hay and cultivated cropland; see Figure 1.3 in Appendix A). Within AEP Ohio Transco's existing ROW, agricultural land uses are primarily cultivated crops, and a golf course is also present (see Figure 1.2 in Appendix A for aerial photography showing AEP Ohio Transco's ROW corridor). Appendix D contains photographs and descriptions of specific ecological habitat types within AEP Ohio Transco's ROW. There are currently 31 occupied residences within 1,000 feet of the centerline of the Project. Two (2) churches (St. John Lutheran Church and Church Peace Community) and three (3) cemeteries (St. John Lutheran Cemetery, Klingel Cemetery, Collmer Cemetery) are within 1,000 feet of the centerline of the Project. No schools, parks, preserves, or wildlife management areas are located within 1,000 feet of the centerline of the Project (see Figure 1.3 in Appendix A).

B(10)(b) Agricultural Land Information

Provide the acreage and a general description of all agricultural land, and separately all agricultural district land, existing at least sixty days prior to submission of the application within the potential disturbance area of the project.

Based on field surveys, there are approximately 37.2 acres of agricultural land in the Project area, comprised primarily of cultivated cropland. According to the Marion County Auditor's Office, there are five (5) parcels registered as agricultural district lands, including 310260000600, 310260000500, 310250000300, 300210002000, and 310210001300 within the Project (see Figure 1.3 in Appendix A).

B(10)(c) Archaeological and Cultural Resources

Provide a description of the applicant's investigation concerning the presence or absence of significant archeological or cultural resources that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

An archaeological investigation has been conducted by an AEP Ohio Transco consultant for the Project. A copy of the Phase I Archeological Investigation and the Addendum Report are attached as Appendix B. As indicated in Appendix B, AEP Ohio Transco's consultant concludes that no historic properties will be affected by the Project.

B(10)(d) Local, State, and Federal Agency Correspondence

Provide a list of the local, state, and federal governmental agencies known to have requirements that must be met in connection with the construction of the project, and a list of documents that have been or are being filed with those agencies in connection with siting and constructing the project.

A Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHCD00004. AEP Ohio Transco will also coordinate storm water permitting needs with local government agencies, as necessary. AEP Ohio Transco will implement and maintain best management practices as outlined in the project-specific Storm Water Pollution Prevention Plan to minimize erosion and control sediment to protect surface water quality during storm events. There are no other known local, state or federal requirements that must be met prior to commencement of the Project.

B(10)(e) Threatened, Endangered, and Rare Species

Provide a description of the applicant's investigation concerning the presence or absence of federal and state designated species (including endangered species, threatened species, rare species, species proposed for listing, species under review for listing, and species of special interest) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

The United States Fish and Wildlife Service ("USFWS") *Federally Listed Species by Ohio Counties October 2015* (available at www.fws.gov/midwest/ohio/pdf/OhioTEListByCountyOct2015.pdf) was reviewed to determine the threatened and endangered species currently known to occur in Marion County. This USFWS publication lists Indiana bat (*Myotis sodalis*; federally listed endangered), northern long-eared bat (*Myotis septentrionalis;* federally listed threatened), rayed bean (*Villosa fabalis*; federally listed endangered), and eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*; threatened) as threatened and endangered species currently occurring, or potentially occurring, in Marion County. The bald eagle (*Haliaeetus leucocephalus*; species of concern) is also on this list of species for Marion County.

As part of the ecological study completed for the Project, a coordination letter was submitted to the USFWS Ohio Ecological Services Field Office seeking an environmental review of the Project for potential impacts to threatened or endangered species. The October 5, 2016 response letter from USFWS (see Appendix D) indicated that the Project is within the range of the Indiana bat and northern long-eared bat in Ohio and recommends saving trees ≥3 inches diameter at breast height whenever possible. The USFWS response letter indicated that, due to the project type, size, and location, if caves and mines (potential bat hibernacula) will not be disturbed and seasonal tree cutting (clearing of trees ≥3 inches diameter at breast height between October 1 and March 31) to avoid impacts to Indiana bats and northern long-eared bats is implemented, they do not anticipate adverse effects to any federally endangered, threatened, proposed, or candidate species.

As summarized in Appendix D, ecological field surveys conducted by AEP Ohio Transco's consultant did not identify any potentially suitable Indiana bat/northern long-eared bat roost trees or hibernacula within the Project area. A small amount of potentially suitable eastern massasauga rattlesnake habitat was observed within the Project area. However, this area consists of old field habitat and is surrounded by agricultural row crop fields and forest. Therefore, no adverse effects to the eastern massasauga rattlesnake are anticipated. No suitable habitat for the bald eagle was observed within the Project area, and the USFWS has indicated that due to the project type, size, and location, no adverse effects to this species are anticipated.

As part of the ecological study completed for the Project, coordination letters were also submitted to the Ohio Department of Natural Resources ("ODNR") Division of Wildlife ("DOW") Ohio Natural Heritage Program ("ONHP") and ODNR-Office of Real Estate. Correspondence received from ODNR-ONHP (Appendix D) indicated that within one (1) mile of the Project area are known occurrences of snuffbox (*Epioblasma triquetra*; state endangered, federally endangered), round pigtoe (*Pleurobema sintoxia*; state species of concern), and rayed bean (state endangered, federally endangered) within a concentrated mussel bed on the Olentangy River. The locations of the species were not within the Project area. The Olentangy River within the Project area contains potentially suitable habitat for each of these species. However, no in-stream work will be required for the Project. Therefore, no impacts/adverse effects to these species are anticipated.

A response from ODNR-Office of Real Estate has not yet been received. Several state-listed threatened and endangered species are listed by the ODNR-DOW (http://wildlife.ohiodnr.gov/species-and-habitats/state-listed-species/state-listed-species-by-county) as occurring, or potentially occurring in Marion County. As summarized in Appendix D, suitable habitat for the state-listed endangered eastern massasauga rattlesnake, snuffbox, clubshell (*Pleurobema clava*), rabbitsfoot (*Quadrula cylindrica cylindrica*), rayed bean, and pondhorn (*Uniomerus tetralasmus*) was observed in the Project area during ecological field surveys conducted by AEP Ohio Transco's consultant. However, no impacts to these species are anticipated.

B(10)(f) Areas of Ecological Concern

Provide a description of the applicant's investigation concerning the presence or absence of areas of ecological concern (including national and state forests and parks, floodplains,

wetlands, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, and wildlife sanctuaries) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

Correspondence received from USFWS (see Appendix D) indicated that there are no federal wilderness areas, wildlife refuges, or designated critical habitat in the vicinity of the Project. Correspondence from ODNR-ONHP (see Appendix D) indicated that they are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildlife refuges, or other protected natural areas within a one-mile radius of the Project area.

There is a 100-year floodplain mapped at one (1) location within the Project area: along the Olentangy River (see Appendix D). One (1) proposed pole structure replacement and an access road are located within the Olentangy River floodplain. AEP Ohio Transco is evaluating the potential need for a floodplain permit for these activities and will coordinate with the Marion County Floodplain Administrator, as necessary.

On September 26 and September 27, 2016, wetland and stream delineation surveys were completed by AEP Ohio Transco's consultant within the AEP Ohio Transco ROW and proposed access roads. No wetlands and one (1) stream (the Olentangy River) were identified. The location of the Olentangy River can be found on Figure 2 in Appendix D. AEP Ohio Transco will avoid work within the Olentangy River.

Project construction activities, including access roads, are not expected to require the placement of any permanent fills within streams or wetlands, or require any mechanical tree clearing within forested or scrub-shrub wetlands (see Appendix D). Therefore, the Project is not expected to require a Clean Water Act Section 404 Permit from U.S. Army Corps of Engineers ("USACE"). However, the existing transmission line crosses the Olentangy River, a USACE-designated Rivers and Harbors Act Section 10 Water. Therefore, AEP Ohio Transco is evaluating the potential need for a Section 10 Permit and will coordinate with the USACE, as necessary.

B(10)(g) Unusual Conditions

Provide any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.

To the best of AEP Ohio Transco's knowledge, there are no known unusual conditions that are would result in significant environmental, social, health, or safety impacts.

Appendix A Project Maps

Figures1.1, 1.2, 1.3 and 1.4

Appendix B Phase I Archeological Investigation and Addendum Report

Appendix C Cultural Historic Investigation

Appendix D Ecological Resources Inventory

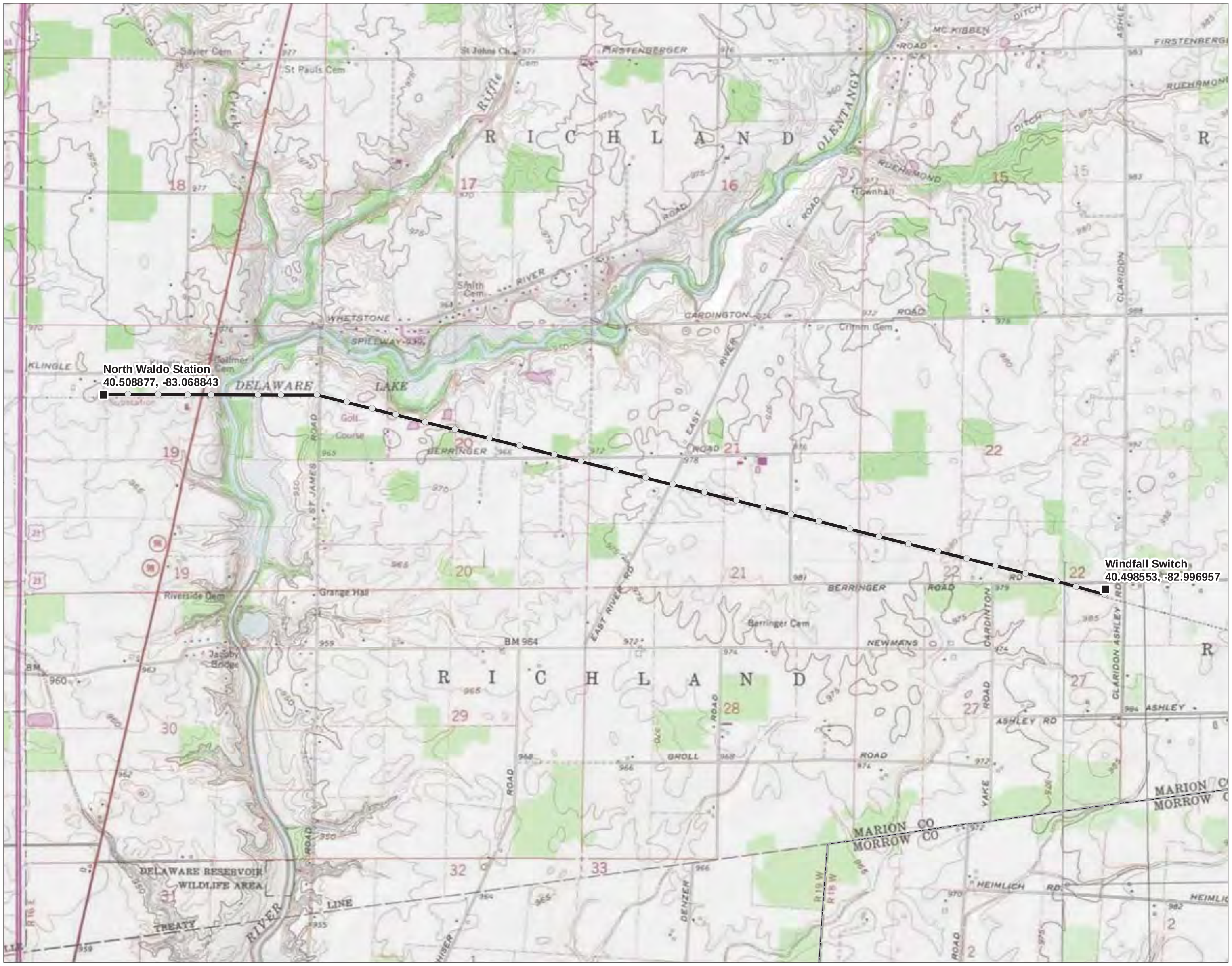

Figure No.
1.1

Title

Project Location Map

Client/Project

AEP Ohio Transmission Company
Windfall Switch - North Waldo Station
138 kV Transmission Line Rebuild Project

Project Location
Marion County, Ohio

193704278
Prepared by HDB on 2016-09-19
Technical Review by JDP on 2016-09-20
Independent Review by DG on 2016-10-27

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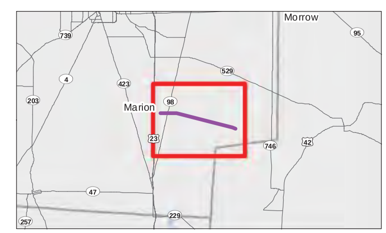
N

Legend

- Existing AEP Substation
- Structure to be Replaced
- 138 kV Transmission Line Rebuild Centerline



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources Include: Stantec, AEP, NADS
3. Background: USGS 7.5' Topographic Quadrangles Ashley (OH, 1963), Denmark (OH, 1963), Marion East (OH, 1983) and Waldo(OH, 1965)

Stantec

Figure No.
1.2

Title
Project Layout Map

Client/Project
AEP Ohio Transmission Company
Windfall Switch - North Waldo Station
138 kV Transmission Line Rebuild Project

Project Location
Marion County, Ohio

193704278
Prepared by HDB on 2016-09-19
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Independent Review by DG on 2016-10-27

0 200 400 Feet
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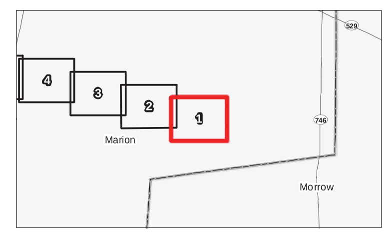
N

Legend
- Existing AEP Substation
- Structure to be Replaced
- 138 kV Transmission Line Rebuild Centerline
- Proposed Access Road
- Existing Transmission Line
- Existing 100-foot Right-Of-Way



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources Include: Stantec, AEP, NADS
3. Orthophotography: 2015 NAIP

Stantec

Figure No.
1.2

Title

Project Layout Map

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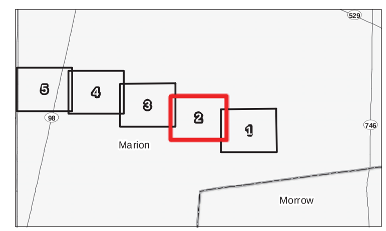

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Stantec

Figure No.
1.2

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Project Layout Map

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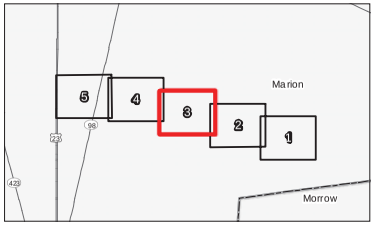
- Existing 100-foot Right-Of-Way



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3. Orthophotography: 2015 NAIP

Stantec

Figure No.
1.2

Title
Project Layout Map

Client/Project
AEP Ohio Transmission Company
Windfall Switch - North Waldo Station
138 kV Transmission Line Rebuild Project

Project Location
Marion County, Ohio

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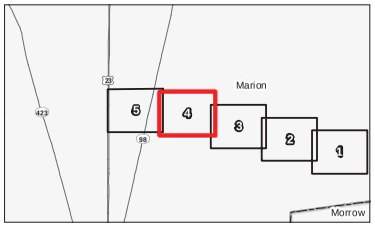
Legend
- Existing AEP Substation
- Structure to be Replaced
- 138 kV Transmission Line Rebuild Centerline
- Proposed Access Road
- Existing Transmission Line
- Existing 100-foot Right-Of-Way



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3. Orthophotography: 2015 NAIP

Stantec

Figure No.
1.2

Title
Project Layout Map

Client/Project
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Windfall Switch - North Waldo Station
138 kV Transmission Line Rebuild Project

Project Location
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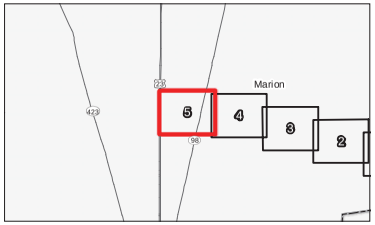
- Existing Transmission Line
- Existing 100-foot Right-Of-Way



Notes
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2. Data Sources Include: Stantec, AEP, NADS
3. Orthophotography: 2015 NAIP

Stantec

Figure No.
1.3

Title
Land Use Map

Client/Project
AEP Ohio Transmission Company
Windfall Switch - North Waldo Station
138 kV Transmission Line Rebuild Project

Project Location
Marion County, Ohio

193704278
Prepared by HDB on 2016-09-19
Technical Review by JDP on 2016-09-20
Independent Review by DG on 2016-10-27

0 200 400 Feet
1:4,800 (At original document size of 11x17)

N

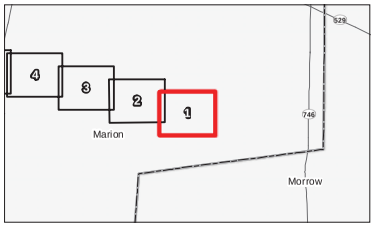
Legend

- Existing AEP Substation
- Structure to be Replaced
- 138 kV Transmission Line Rebuild Centerline
- Proposed Access Road
- Existing Transmission Line
- Existing 100-foot Right-of-Way
- Residence
- School*
- Cemetery
- Church
- Agricultural District Property Boundary

National Land Cover Database

- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, High Intensity
- Deciduous Forest
- Mixed Forest
- Shrub/Scrub
- Grassland/Herb...
- Pasture/Hay
- Cultivated Crops
- Woody Wetlands

*No feature within map extents.



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3. Orthophotography: 2015 NAIP

Stantec

Figure No.
1.3

Title
Land Use Map

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Windfall Switch - North Waldo Station
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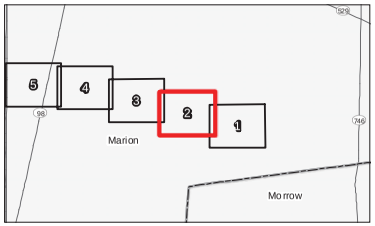
- Existing 100-foot Right-of-Way
- Residence
- School*
- Cemetery
- Church
- Agricultural District Property Boundary

National Land Cover Database

- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, High Intensity
- Deciduous Forest
- Mixed Forest
- Shrub/Scrub
- Grassland/Herb...
- Pasture/Hay
- Cultivated Crops
- Woody Wetlands

*No feature within map extents.



Notes
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2. Data Sources Include: Stantec, AEP, NLCD, NADS
3. Orthophotography: 2015 NAIP

Stantec

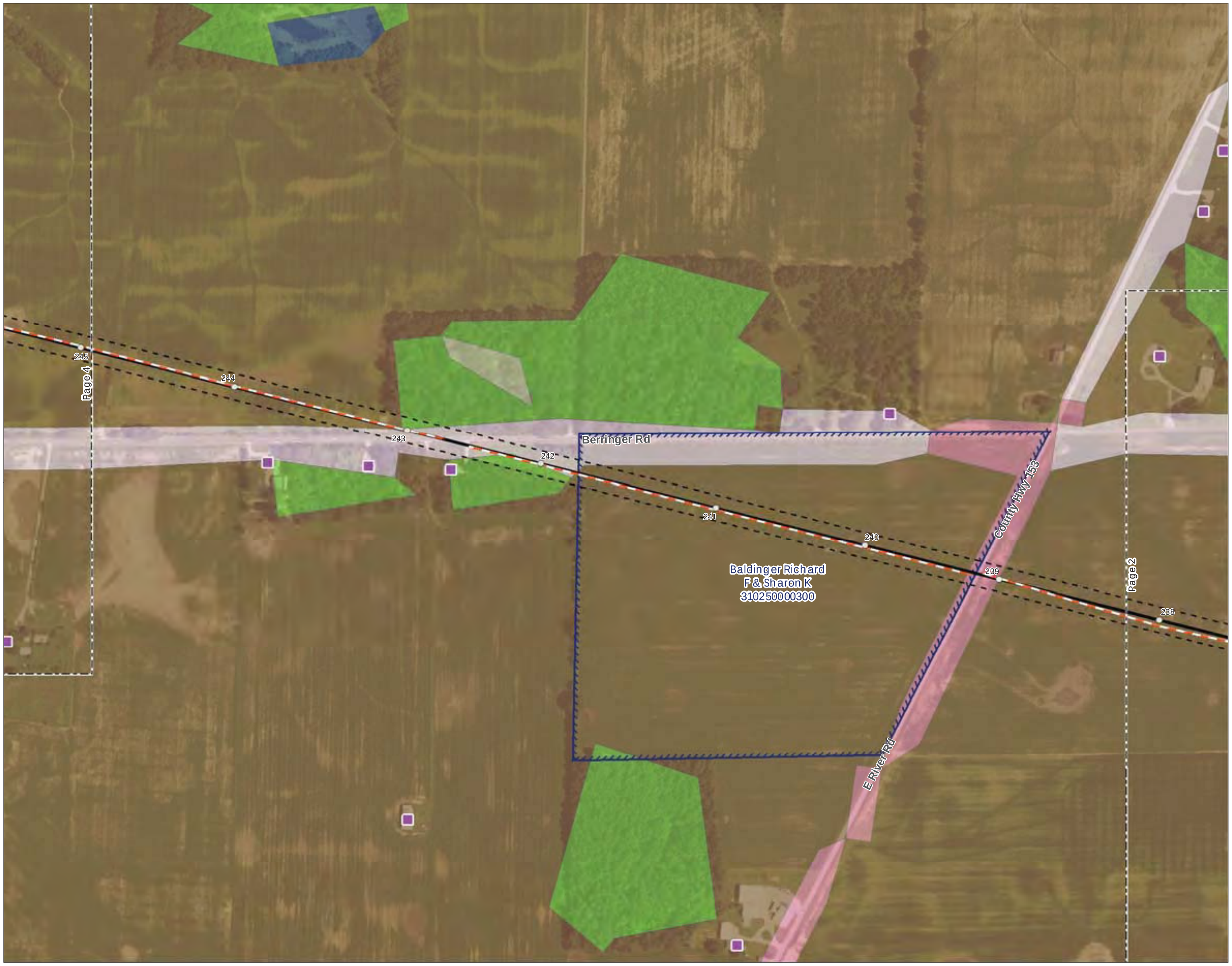

Figure No.
1.3

Title
Land Use Map

Client/Project
AEP Ohio Transmission Company
Windfall Switch - North Waldo Station
138 kV Transmission Line Rebuild Project

Project Location
Marion County, Ohio

193704278
Prepared by HDB on 2016-09-19
Technical Review by JDP on 2016-09-20
Independent Review by DG on 2016-10-27

0 200 400 Feet
1:4,800 (At original document size of 11x17)

N

Legend

- Existing AEP Substation
- Structure to be Replaced
- 138 kV Transmission Line Rebuild Centerline
- Proposed Access Road
- Existing Transmission Line
- Existing 100-foot Right-of-Way
- Residence
- School*
- Cemetery
- Church
- Agricultural District Property Boundary

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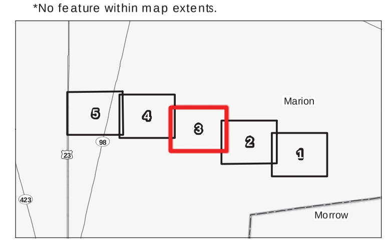

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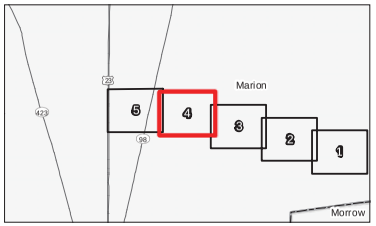

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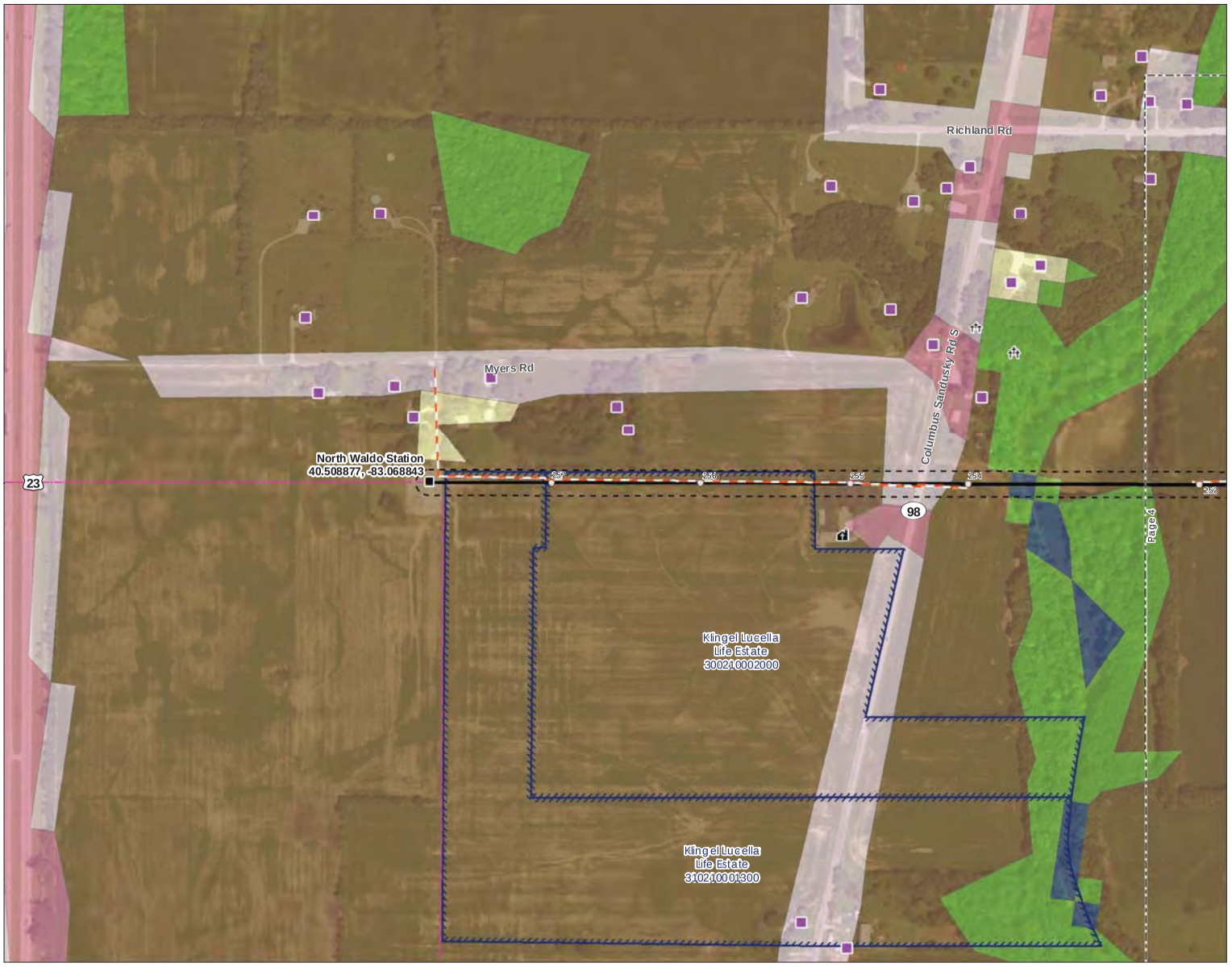

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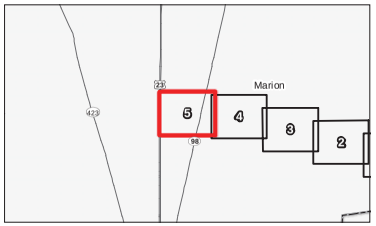

Notes
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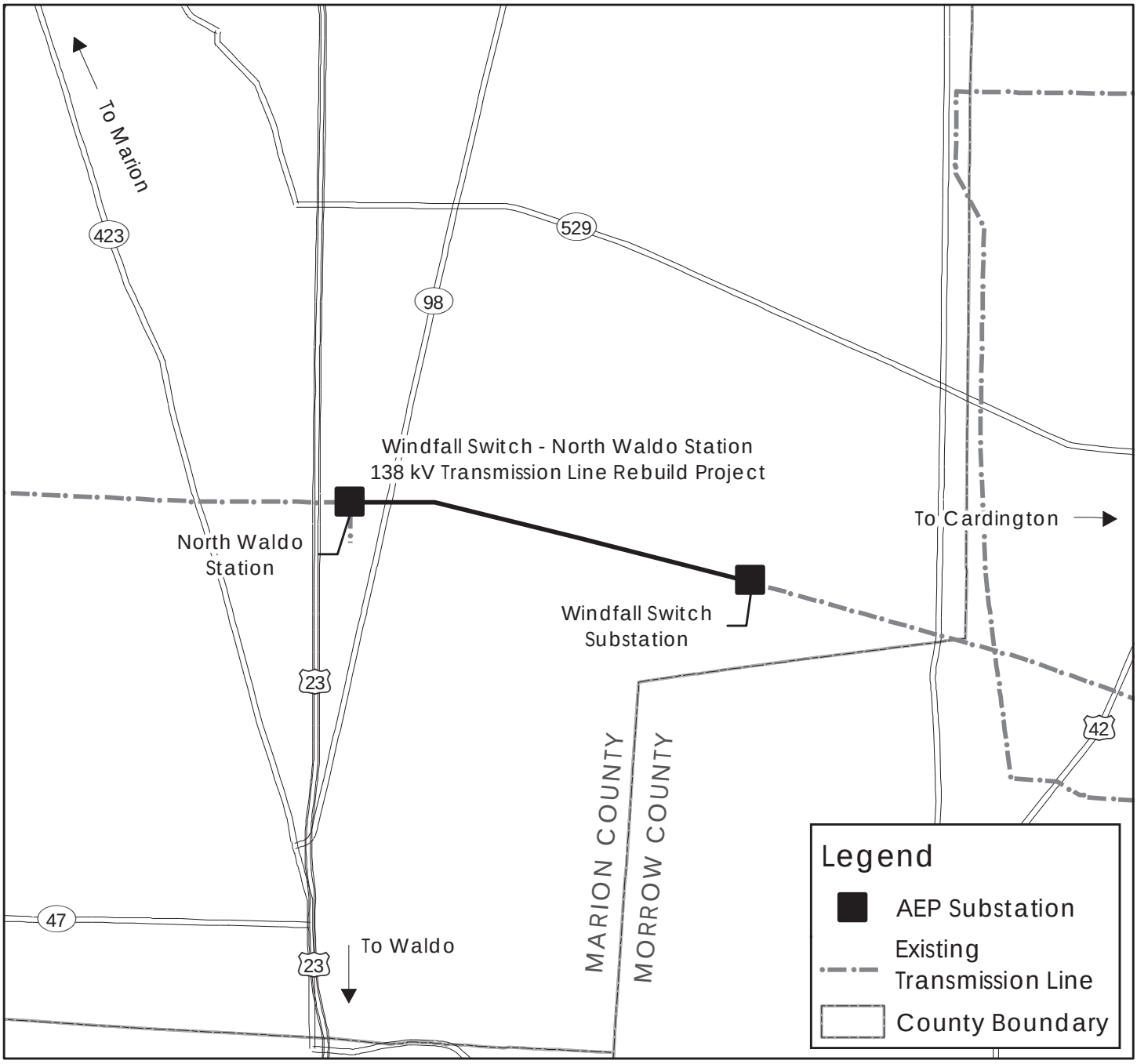
Stantec

Figure 1.4 - Concept Map



Phase I Archaeological Investigations for the Approximately 6.23 km (3.87 mi) Windfall Switch-North Waldo Station 138kV Rebuild Project in Richland Township, Marion County, Ohio

Ryan Weller

May 5, 2016

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Phase I Archaeological Investigations for the Approximately 6.23 km (3.87 mi) Windfall Switch-North Waldo Station 138kV Rebuild Project in Richland Township, Marion County, Ohio

By

Ryan Weller

Submitted By:

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Lead Agency:

Ohio Power Siting Board

Ryan Weller, P.I.

May 5, 2016

W-1917

Abstract

From March to May of 2016, Weller & Associates, Inc. conducted Phase I archaeological investigations for the approximately 6.23 km (3.87 mi) Windfall Switch-North Waldo Station 138kV Rebuild Project in Richland Township, Marion County, Ohio. These investigations were conducted to meet guidelines that were set forth by the Ohio Power Siting Board; the survey was conducted in a manner that is conducive and reflective of current state guidelines and evaluates the resources in a manner that is reflective of Section 106 of the National Historic Preservation Act. The work involved a literature review and field investigations. The fieldwork included large areas of surface collection, shovel testing, and visual inspection. These investigations resulted in the identification of eight previously unrecorded archaeological sites including 33MN0148-155.

The project is located in rural, agricultural area in the southeastern part of Marion County. The project's corridor crosses the Olentangy River, but its floodplain is not involved as it will be spanned by the planned construction/installation. The work will involve the replacement of the existing 138kV wooden H-frame electric line structures with single pole metal ones. The project corridor extends in a general east-west manner from just east of US 23 (North Waldo Station) to just west of Claridon-Ashley Road (Windfall Switch). This is entirely within the Olentangy River watershed and is mostly contained in upland, till plains situations with very little topographic relief.

The literature review conducted of this project indicated that there are few sites or surveys in this area. A survey conducted by Kolb (1980) was conducted that appears to involve part of the project area that is just east of the Olentangy River. This survey identified sites, but none that are within/near the current project. There are no previously recorded resources located within/near the project area. There are no National Register of Historic Places/Determination of Eligibility sites in the study area.

These archaeological investigations involved subsurface testing, surface collection, and visual inspection. The testing identified eight sites, 33MN0148-155 and they are not regarded as being significant. An appropriate finding of 'no historic properties affected' is considered for the project area; the project will not involve or impact any National Landmarks. No further archaeological work is deemed necessary for this aspect of the project.

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Introduction

In March and April of 2016, Weller & Associates, Inc. conducted Phase I archaeological investigations for the approximately 6.23 km (3.87 mi) Windfall Switch-North Waldo Station 138kV Rebuild Project in Richland Township, Marion County, Ohio (Figures 1-3). This is part of a larger electric line considered as the West Mount Vernon -South Kenton 138 kV. The work was completed for American Electric Power Transco (AEP). These investigations were conducted in a manner that is reflective of procedures pertaining to the National Register of Historic Places (NRHP) and pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]). This work was completed to satisfy requirements for the Ohio Power Siting Board. This report summarizes the results of the fieldwork and literature review and the report format and design is similar to that established in *Archaeology Guidelines* (State Ohio Historic Preservation Office [SOHPO] 1994).

This project area extends in a basically east-west direction with the North Waldo Station being at the western terminus and the Windfall Switch being at the eastern terminus. This is basically set within rural farm country as the majority of the corridor is crossing through agricultural fields. This 138kV electric line corridor has a 30.5 m (100 ft) wide right-of-way. Access corridors that pertain to this project are 7.5 m (25 ft) wide. The project corridor crosses the Olentangy River, a narrow and entrenched stream in this area. Otherwise, the project is located in an upland setting.

Chad Porter conducted the literature review on March 29, 2016. Ryan Weller served as the Principal Investigator and Chris Nelson was the Project Manager. The history/architectural work was conducted by Chris Nelson and Jackie Lehmann and is contained in a separate and stand-alone document. The archaeological field crew included Ryan Weller, Jon Walker, Alex Thomas, Matt Sanders, Brittany Vance, and Craig Schaefer. The report preparation was by Ryan Weller, with Chad Porter and Jon Walker completing the figures.

Project Description

The project will include a rebuild of Section 4 (Windfall Switch to North Waldo Station portion) of the West Mount Vernon-South Kenton 138 kV transmission line. This proposal covers the approximate 6.23 km (3.87 mi) right-of-way (ROW) extending from the Windfall Switch to the North Waldo Station in Marion County, Ohio. Poles for the existing line will be replaced with steel structures. Based on this and the change in structure type, an architectural survey was conducted along the route; the results of this survey are contained in a separate and stand-alone document. Access roads have not yet been identified and will be addressed in another document.

Environmental Setting

Climate

Marion County, like all of Ohio, has a continental climate with hot and humid summers and cold winters. The winters average 27 degrees F and the summers are

around 71 degrees F. The average annual precipitation is around 34", which mostly occurs during the spring. The winter accumulation and saturation of the soils is sufficient to support nearly all crops without issue of drought in the fall (United States Department of Agriculture, Soil Conservation Service [USDA, SCS] 1989).

Physiography, Relief and Drainage

Marion County is almost exclusively located within the Central Ohio Clayey Till Plains region of Ohio (Brockman 1998). This region is characterized as having "well-defined moraines with intervening flat-lying ground moraine and inter-morainal lake basins" (Brockman 1998). The glacial geomorphological aspects of the project area pertain to Wisconsinan-age deposits). All of this project is within the Olentangy River drainage basin, which is part of the Scioto River watershed.

Geology

The geology of this region is "clayey, high-lime Wisconsin age till from a northeastern source (Erie glacial lobe) and lacustrine materials over Lower Paleozoic age carbonate rocks and in the east shales, loess is thin to absent (Brockman 1998)". According to Pavey et al. (1999) the undertaking is located on a Late Wisconsin outwash.

Soils

The project area is located within Richland Township, Marion county. The soils within the project area include the Blount-Pewamo and Nolin-Kendallville-Ockley Associations. The latter has limited involvement and is relative to the Olentangy River Valley. The terrain consists of a level to gently rolling till plain, crossed by the Olentangy river and its tributaries (United States Department of Agriculture, Soil Conservation Service [USDA, SCS] 1989). Homogenous, nearly level ground moraines in the project area are exhibited by the presence of the Blount and Pewamo soil series. There are ten specific soils in the project area (Table 1).

Table 1. Soils in the Project Area.

Marion County Soils			
Soil Symbol	**Soil Name**	**% Slope**	**Location**
Blg1A1	Blount silt loam	0-2	Ground Moraines on till plains, Foot slope
Blg1B1	Blount silt loam	2-4	
GwA	Glynwood silt loam	0-2	Ground Moraines, end Moraines
Gwg1B1	Glynwood silt loam	2-6	Ground moraines on till plains
No	Nolin silt loam	0-2	Flood plains
OcA	Ockley silt loam	0-2	Terraces
OcB	Ockley silt loam	2-6	Terraces
SkA	Sleeth loam	0-3	Outwash terraces, stream terraces outwash plains
Gwg5C2	Glynwood clay loam	6-12	Ground moraines
Pk	Pewamo silty clay loam	0-1	Depressions on till plains, drainage ways on till plains

Flora

There is or at least was great floral diversity in Ohio. This diversity is relative to the soils and the terrain that generally includes the till plain, lake plain, terminal glacial margins, and unglaciated plateau (Forsyth 1970). Three major glacial advances, including the Kansan, Illinoisan, and Wisconsinan, have affected the landscape of Ohio. The effects of the Wisconsin glaciation are most pronounced and have affected more than half of the state (Pavey et al. 1999).

The least diverse part of Ohio extends in a belt from the northeast below the lake-affected areas through most of western Ohio (Gordon 1966). These areas are part of the late Wisconsin ground moraine and lateral end moraines. It is positioned between the lake plains region and the terminal glacial moraines. This area included broad forested areas of beech maple forests interspersed with mixed oak forests in elevated terrain or where relief is greater (Forsyth 1970; Gordon 1966). Prairie environments such as those in Wyandot and Marion County areas would contain islands of forests, but were mostly expansive open terrain dominated by grasses.

The northwestern Ohio terrain is nearly flat because of ancient glacial lakes and glaciation, which affected the flora. However, the vegetation was more diverse than the till plain to the south and east because of the variety of factors that contributed to its terrain. Forests within the Black Swamp were generally comprised of elm/ash stands; however, dissected areas along drainages and drier, elevated areas from beach deposits would contain mixed forests of oak and hickory (Gordon 1966; 1969). There was little upland floral diversity in the lake plains (Black Swamp region) except for the occasional patches of oak and hickory. Floral variety was most evident in narrow sleeves along larger stream valleys where there is relief.

The most biological diversity in Ohio is contained within the Allegheny Plateau, which encompasses the southeastern two-thirds of the state (Sheaffer and Rose 1998). Because this area is higher and has drier conditions, it is dominated by mixed oak forests. Some locations within the central part of this area contain beech and mixed mesophytic forests. There are large patches of oak and sugar maple forests to the south of the terminal moraine from Richland to Mahoning County (Gordon 1966).

Southwestern Ohio from about Cincinnati to Bellefontaine east to the Scioto River historically contained a very diverse floral landscape. This is an area where moraines from three glacial episodes are prevalent (Pavey et al. 1999). Forests in this area include elm-ash swamp, beech, oak-sugar maple, mixed mesophytic, prairie grasslands, mixed oak, and bottomland hardwoods (Core 1966; Gordon 1966; 1969). These forests types are intermingled with prairies being limited to the northern limits of this area mostly in Clark and Madison Counties.

Generally, beech forests are the most common variety through Ohio and could be found in all regions. Oak and hickory forests dominated the southeastern Ohio terrain and were found with patchy frequency across most of northern Ohio. Areas that were formerly open prairies and grasslands are in glacial areas, but are still patchy. These are

in the west central part of the state. Oak and sugar maple forests occur predominantly along the glacial terminal moraine. Elm-ash swamp forests are prevalent in glaciated areas including the northern and western parts of Ohio (Gordon 1966; Pavey et al. 1999).

The majority of the project area's original vegetation was comprised of mixed oak and grasslands (Gordon 1966).

Fauna

The upland forest zone offered a diversity of mammals to the prehistoric diet. This food source consisted of white-tailed deer, black bear, Eastern cottontail rabbit, opossum, a variety of squirrels, as well as other less economically important mammals. Several avian species were a part of the upland prehistoric diet as well (i.e. wild turkey, quail, ruffed grouse, passenger pigeon, etc.). The lowland zone offered significant species as well. Raccoon, beaver, and muskrat were a few of the mammals, while wood duck and wild goose were the economically important birds. Fishes and shellfish were also an integral part of the prehistoric diet. Ohio muskellunge, yellow perch, white crappie, long nose gar, channel catfish, pike, and sturgeon were several of the fish, whereas, the Ohio naiad mollusc, butterfly's shell, long solid, common bullhead, knob rockshell, and cod shell were the major varieties of shellfish. Reptiles and amphibians, such as several varieties of snakes, frogs, and turtles, were also part of the prehistoric diet (Trautman 1981; Lafferty 1979; Mahr 1949).

Cultural Setting

The first inhabitants of Ohio were probably unable to enter this land until the ice sheets of the Wisconsin glacier melted around 14,000 B.C. Paleoindian sites are considered rare due to the age of the sites and the effects of land altering activities such as erosion. Such sites were mostly used temporarily and thus lack the accumulation of human occupational deposits that would have been created by frequent visitation. Paleoindian artifact assemblages are characteristic of transient hunter-gatherer foraging activity and subsistence patterns. In Ohio, major Paleoindian sites have been documented along large river systems and near flint outcrops in the Unglaciated Plateau (Cunningham 1973). Otherwise, Paleoindian sites in the glaciated portions of Ohio are encountered infrequently and are usually represented by isolated finds or open air scatters.

The Paleoindian period is characterized by tool kits and gear utilized in hunting Late Pleistocene megafauna and other herding animals including but not limited to short-faced bear, barren ground caribou, flat-headed peccary, bison, mastodon, and giant beaver (Bamforth 1988; Brose 1994; McDonald 1994). Groups have been depicted as being mobile and nomadic (Tankersley 1989); artifacts include projectile points, multi-purpose unifacial tools, burins, gravers, and spokeshaves (Tankersley 1994). The most diagnostic artifacts associated with this period are fluted points that exhibit a groove or channel positioned at the base to facilitate hafting. The projectiles dating from the late Paleoindian period generally lack this trait; however, the lance form of the blade is retained and is often distinctive from the following Early Archaic period (Justice 1987).

Lepper (1986) has gathered information about this time period in the region. In the central Muskingum River basin there is a dense concentration of sites centered on discrete outcrops of Upper Mercer chert and a few of these sites are exceptionally large suggesting periodic reoccupation. There are indications that the Paleoindians were unusually selective regarding the quality of their raw material, but the evidence for a lithic determined settlement system can be derived from principles of hunter-gatherer settlement systems as outlined by Binford (1978).

The Archaic period has been broken down into three sub-categories, including the Early, Middle, and Late Archaic. During the Early Archaic period (ca. 10,000-8000 B.P.), the environment was becoming increasingly arid as indicated by the canopy (Shane 1987). This period of dryness allowed for the exploitation of areas that were previously inaccessible or undesirable. The Early Archaic period does not diverge greatly from the Paleoindian regarding the type of settlement. Societies still appear to be largely mobile with reliance on herding animals (Bamforth 1988). For these reasons, Early Archaic artifacts can be encountered in nearly all settings throughout Ohio. Tool diversity increased at this time including hafted knives that are often re-sharpened by the process of beveling the utilized blade edge and intense basal grinding (Justice 1987). There is a basic transition from lance-shaped points to those with blades that are triangular. Notching becomes a common hafting trait. Another characteristic trait occurring almost exclusively in the Early and Middle Archaic periods is basal bifurcation and large blade serrations. Tool forms begin to vary more and may be a reflection of differential resource exploitation. Finished tools from this period can include bifacial knives, points, drills/perforators, utilized flakes, and scrapers.

The Middle Archaic period (8000-6000 B.P.) is poorly known or understood in archaeological contexts within Ohio. Some (e.g., Justice 1987) regard small bifurcate points as being indicative of this period. Ground stone artifacts become more prevalent at this time. Other hafted bifaces exhibit large side notches with squared bases, but this same trait can extend back to the Paleoindian period. The climate at this time is much like that of the modern era. Middle Archaic period subsistence tended to be associated with small patch foraging that involved a consistent need for mobility with a shift towards stream valleys (Stafford 1994). Sites encountered from this time period throughout most of Ohio tend to be lithic scatters or isolated finds. The initial appearance of regional traits may be apparent at this time.

The Late Archaic period in Ohio (ca 6000-3000 B.P.) diverges from the previous periods in many ways. Preferred locations within a regional setting appear to have been repeatedly occupied. The more intensive and repeated occupations often resulted in the creation of greater social and material culture complexity. The environment at this time is warmer and drier. Most elevated landforms in northeastern Ohio have yielded Archaic artifacts (Prufer and Long 1986:7), and the same can be stated for the remainder of Ohio.

Various artifacts are diagnostic of the Late Archaic period. Often, burial goods provide evidence that there was some long-distance movement of materials, while lithic materials used in utilitarian assemblages are often from a local chert outcrop. There is increased variation in projectile point styles that may reflect regionalism. Slate was often used in the production of ornamental artifacts. Ground and polished stone artifacts

reached a high level of development. This is evident in such artifacts as grooved axes, celts, bannerstones, and other slate artifacts.

A local proliferation of the Late Archaic is regarded as the Gilbert Phase. The Gilbert Site is located on the east side of the Muskingum River and on the floodplain. This site has yielded features that have been dated from the Late Archaic period. The Gilbert point type, a form similar to Brewerton styles, was defined from deposits from this site (Carskadden 1963) and has been identified with some frequency throughout the county. This is situated to the south of the project and in a similar geological location.

It is during the Terminal Archaic period (ca 3500-2500 B.P.) that extensive and deep burials are encountered. Cultural regionalism within Ohio is evident in the presence of Crab Orchard (southwest), Glacial Kame (northern), and Meadowood (central to Northeastern). Pottery makes its first appearance during the Terminal Late Archaic.

Previous studies of Early Woodland "Adena" and Middle Woodland "Hopewell" settlement patterns in the lower Scioto Valley (Shane 1971), Hocking Valley (Black 1979), and southern Ohio in general (Fischer 1974) suggest the following: early Adena sites were located in diverse topographic settings due to seasonal movement from one primary resource zone to another. These settings included not only river bottoms, but also hilltops and small stream valleys. A shift is seen in late Adena toward greater use of river bottoms and Hopewell sites tended to be located primarily in the bottoms of major rivers. The shift from uplands to bottomlands is thought to be a result of a shift from a generalized subsistence toward an increased dependence on a variety of bottomland resources (Carskadden and Morton 1997a; Ford 1979; Smith 1987; Wymer 1987).

Evidence from Muskingum County, where 209 sq km of hinterland have been surveyed, indicated that during all three periods (early Adena, late Adena, and Hopewell), the bottoms of the Muskingum and Licking Rivers were exploited to a much greater degree than the hinterland (Carskadden and Morton 1997a). The density of river bottom sites is 5.9 times greater than the average hinterland density for early Adena sites, more than 4.8 times for late Adena, and 6.3 times for Hopewell when looking at workshops and short term sites. Early and late Adena sites have their greatest density along the Muskingum River, whereas the greatest density of Hopewell sites can be found along the Licking River. The dispersed nature of Adena habitation sites (hamlets) has long been recognized. Webb, for example, has observed that "individual house groups perhaps were several hundred feet apart, each group a small unit in itself, yet scores of such house groups might have been within an area of a few square miles" (Webb 1942:363).

The pattern mentioned above by Webb is apparent for the late Adena sites near Dresden and at other locations along the Muskingum River and seems to hold true for early Adena in the area. At Philo, six late Adena hamlets have been located in the river bottoms below a single ridge top burial mound. The local Hopewell settlements take on the same dispersed pattern as seen in earlier Adena. There appears to be a propensity for repeatedly selecting the exact same location, or nearly so, throughout Adena and Hopewell. Of the early Adena river bottom habitation sites, 52 percent were re-occupied in late Adena (or were continuously occupied into late Adena). A total of 34 percent of all late Adena sites in the river bottoms were occupied in Hopewell (about 50 percent

long term and 50 percent short term). Twenty percent of the river bottom sites were occupied during all three periods. The site selection continuity seems to represent continuity in subsistence strategies (Carskadden and Morton 1997a).

Adena hamlets in Carskadden and Morton's (1997a) survey are more ephemeral than Hopewell hamlets; there is less in the way of diagnostic artifacts, debitage and pottery. Late Adena hamlets covered areas averaging 0.28 to 0.32 ha with scattered postholes, usually in no identifiable pattern, in the immediate vicinity of a cluster of cooking/thermal features. Although some possible storage pits and a midden were identified at one site, Duncan Falls, there is no real indication that these sites were occupied for great lengths of time (Carskadden and Morton 1997a). What is lacking in the Muskingum River Valley are large (2.0 ha) late Adena sites that are known to occur along the Hocking River by the first century A.D. There also seems to be a lack of late Adena concentrations of mounds and earthworks in the Muskingum River Valley. Radiocarbon dates suggest that very late Adena in the central Muskingum Valley was contemporaneous with very late Adena in the Hocking Valley (post A.D. 1) and yet what was going on in the Hocking Valley was very different from what was going on in the central Muskingum Valley (Carskadden and Morton 1997a).

Although Flint Ridge flint appears to have played a role in the Hopewellian trade network, it became an important source for flint during late Adena, at least locally in the Muskingum River Valley. Over 84 percent of the late Adena (Robbins Phase) projectile points found throughout the Carskadden and Morton (1997a) survey were made from Flint Ridge flint. This contrasts with only 22 percent use of Flint Ridge in early Adena and 74 percent in Hopewell (Carskadden and Morton 1997a).

It seems that most of the ridge top and small stream valley hinterland habitation sites (Adena and Hopewell) in the Muskingum River Valley have characteristics of typical bottomland hamlets, which occur in clusters, just like those in the bottoms. Again it seems that Hopewell sites seem to occur in the general vicinity, if not exact, on the same site as a late Adena hamlet or hamlet clusters. This continuity continues all the way back into the early Adena, 65 percent of early Adena hinterland habitation sites also date to or have late Adena components, and 25 percent of the hinterland late Adena habitation sites also had either "long term" or "short term" Hopewell components. About 23 percent of all of these hinterland sites were occupied at some point during all three periods (Carskadden and Morton 1997a).

Carskadden and Morton (1997a) argue that the hinterland sites represent continuously occupied Adena-Hopewell occupations. They also suggest that towards the end of the early Adena there was a "settling in" period for local populations. Most of the groups had established themselves in the river bottoms; however a few groups established themselves in the hinterlands and then remained there into Hopewell. There seems to be no evidence of late Adena populations from the hinterlands moving to the river valleys (Carskadden and Morton 1997a).

Middle Woodland "Hopewell"

Dispersed clusters or isolated river bottom sites of little more than an acre in extent characterize middle Woodland "Hopewell" along the central Muskingum Valley proper. Often associated with these sites are single river terrace burial mounds and in a couple cases, groups of two to four low burial mounds located on terraces or hilltops overlooking the open sites (discussed later).

Review of the *Bibliography of Muskingum County Archaeology 1795-1995* (Carskadden and Morton 1997b) indicates the location of numerous resources in Muskingum County. Many obscure resources are located in this bibliography. The Trinway Earthwork, sometimes called the Dresden Circle (33MU573) is depicted on a late nineteenth century county history (Everhart 1882). In 1805, a diary/journal reference indicated the presence of the earthworks describing it as a "circular brest-works and redoubts, rising one above the other" and located "on a side hill at Wakkatomaka." This reference is reported from a secondhand account and may refer to other earthworks other than the Trinway Earthwork (Carskadden and Morton 1997b).

According to current conventional wisdom, Adena and Hopewell are simply stages in a continuous developmental sequence, and there are sites that span the transitional period between what would be called late Adena and classic Hopewell. These sites produced projectile points that appear intermediate between the late Adena Robbins type and the later Hopewellian corner notched forms, as well as plain surfaced pottery with characteristics of Adena Plain and McGraw Plain/Murphy Plain. What is suggested is that the corrected date of 77 A.D. from the Cox B site, associated with plain, cordmarked, as well as rocker stamped pottery, probably comes closer to dating the beginning of the Hopewellian component of the Cox site cluster, and the beginning of cordmarked pottery in central Muskingum Valley, meaning the beginning of Hopewell (Carskadden and Morton 1997a).

In spite of Squier and Davis' remark about the lack of rudimentary Hopewellian earthworks, at least three are possible in the Muskingum Valley above Marietta. Two of these (the Dresden Circle and the Lichtenau Circle) are located in the 3.2 km wide bottoms of the Upper Muskingum between Dresden and Coshocton, and the third is located in a narrower portion of the valley at Gilbert, about midway between Dresden and Zanesville. The earthwork just above Dresden, situated near the Hopewellian Cox sites, was a circle about 174 m in diameter; surrounded an area of a little less than 2.4 ha. The Lichtenau earthwork, located about four kilometers below (south) Coshocton, consisted of a circle of about the same size (Carskadden and Morton 1997a). Late Adena as well as Hopewellian habitation sites can be found in the immediate vicinity of both of these circles. Carskadden and Morton (1997a) report that the Dresden and Lichtenau earthworks were constructed by the early Hopewell.

Hopewell settlements are generally characterized as clusters of dispersed sedentary farmsteads or hamlets occurring in the general vicinity of earthwork complexes (Carskadden and Morton 1997a; Pacheco 1988; Smith 1987). Similar, if not identical patterns of Hopewell settlement can be seen along the lower Licking and in the central and upper Muskingum Valley, where a number of clusters of up to six households or

hamlets, have been located. Isolated single Hopewell hamlets occur rarely where there is a limited area exposed by plowing according to Carskadden and Morton (1997a). Yet, only at Dresden and possibly Gilbert (and Lichtenau in Coshocton County) are these hamlet clusters associated with an earthwork. However, Cox B and Cox C are the only Hopewell hamlets along the Muskingum that have been tested.

These Hopewell habitation sites (open-air) are further divided into two types, which are designated as long term and/or short term habitations. The long term sites are characteristic of farming hamlets as outlined by Pacheco (1988) and consist of hundreds of bladelets, dozens of projectile points, and an abundance of debitage, whereas, the short term sites are differentiated by two or three bladelets, one or two projectile points, and a very small amount of debitage. Pottery sherds and pit features are normally, but not always, characteristic of long term sites, whereas single pit features are reminiscent of short term habitation (Carskadden and Morton 1997a). Pacheco (1992) went on further to designate these sites as small artifact clusters. According to Pacheco (1992) these sites/clusters average .14 ha in size and have artifact densities of less than .2 per sq m, whereas, the hamlets (long term) average .45 ha and have artifact densities greater than .2 per sq m. These small artifact cluster sites as defined by Pacheco (1992) represent short duration specialized camps or activity areas (Carskadden and Morton 1997a; Pacheco 1992).

Over half (56 percent) of the "short term" sites/specialized camps/activity areas found in Carskadden and Morton's (1997a) survey occur in the bottoms of the Muskingum and Licking Rivers, more often than not in the vicinity of the hamlet clusters. The remaining 43 percent of the sites occur in the hinterlands, mostly in the valleys of stream valleys (Carskadden and Morton 1997a).

There is a third type of Hopewellian site identified, and this is the so-called ridge top workshop. These workshops are located in close proximity to flint quarries (could be up to six km away), have an abundance of debitage (particularly bladelet cores, and various blanks in different stages of reduction). These sites for the most part lack pit features. An example of this site type is located near Flint Ridge State Park at the Dodson Village. Numerous amounts of debitage were recovered yet an excavation in 1932 revealed only two cooking features and a small amount of animal bone and potsherds. A reanalysis of this site and artifacts concluded that this site "represents very short term occupations over a long period of time by comparatively small groups of people intent upon procuring Flint Ridge Flint" (Murphy and Morton 1984:24).

On the other hand excavation at the Murphy sites has produced just as much if not more lithic debitage as the workshops (Dancey 1991; Pacheco 1992). The Murphy sites suggest that the abundance of such debitage does not preclude a site from being a hamlet. A large amount of debitage may be the result of long duration of occupation. Sites such as those as the Murphy sites are described by Pacheco as "intense occupation by a substantial permanent population." There are ridge top Hopewell sites located in the Muskingum Valley that are distant from flint outcrops that appear to fit the definition of hamlets (Carskadden and Morton 1997a).

The early Late Woodland is assumed by Carskadden and Morton (1997a) to be a continuation of the Middle Woodland culture, yet lacking the Hopewellian interaction sphere of goods and elaborate mortuary practices. This stage is represented in the central Muskingum River Valley by a number of open sites along the river including an excavated component at the Philo II site, several rockshelters in the hinterland and possibly a hinterland circular earthen enclosure. Diagnostic artifacts of this time frame include Chesser Notched points and plain rimmed, grit tempered Peters Cordmarked pottery. The angular shoulders, which distinguish Newtown-like pottery, are not found at central Muskingum River Valley sites. Limestone tempering, the characteristic of Watson Cordmarked pottery is present in a minority of sherds. All of the sherds recovered from the early Late Woodland features at Philo II are cordmarked, but nothing that could be interpreted as Peters Plain has been found. Pottery lips appear flattened and un-notched. The only radiocarbon date is from Philo II, A.D. 850 (Morton 1977). The timeframe for the early Late Woodland probably dates between 600-850 A.D. (Morton 1984).

Morton (1984) refers to the middle Late Woodland as "Intrusive Mound-like." This is a hard cultural manifestation to identify in the central Muskingum River Valley. No burials have been identified in this region as Intrusive Mound-like, however; artifacts associated with this timeframe have been identified in the region. Artifacts associated with the middle Late Woodland are Jack's Reef, Raccoon Notched/Side Notched, and Levanna triangular points. Sites yielding Jack's Reef projectile points are believed to represent the early period of the middle Late Woodland while the Raccoon Notched points indicate a later period within the middle Late Woodland (Morton 1984). Morton (1984) defines the timeframe for this period is most likely between A.D. 850-1100. The pottery during this timeframe is the Cole Cordmarked (?) and the Peters Cordmarked.

An "Intrusive Mound-like" site near Dresden along the Muskingum River yielded exclusively Jack's Reef Corner Notched points and Peters Cordmarked pottery from a refuse pit. The Peters Cordmarked ceramics are predominant in the early Late Woodland and characterized by a thickened or collared rim with two slight but noticeable raised rim areas with notches along the slip. It seems to Morton (1984) that this vessel is the morphological "missing link" between the plain-rimmed Peters Cordmarked and the later collared and castellated Cole-style ware.

In regards to settlement and subsistence patterns little can be inferred until further investigations within the Muskingum River Valley have been carried out. What can be said is that settlements are represented by low terrace or floodplain "hot spots," sites of generally smaller extent and thinner density than the early Late Woodland sites. Jack's Reef and Raccoon Notched points have been identified in rockshelters, but these are considerably less numerous than Chesser Notched points in such contexts (Morton 1984).

Sites belonging to the late Late Woodland or the "Cole/Baldwin-like" phase include two-rock shelters and two excavated open sites: the Locust Site along the Licking River and a site at Copeland Island along the Muskingum River. Tentative dates suggest 1100-1150 A.D. as the beginning of this phase in the central Muskingum areas, although the earliest radiocarbon dates obtained indicate A.D. 1190 from Copeland Island. These sites have yielded Levanna-like triangular points, yet Raccoon Notched points are found

on these sites and believed to fall within the early phase of the late Late Woodland (Morton 1984).

The pottery is similar to that of the Baldwin phase pottery and radiocarbon dated to A. D. 1230. Similarities can also be seen in central Ohio, such as the Cole, Decco, and Ufferman sites. What all the pottery of the Muskingum River Valley has in common is a high proportion of cordmarking, grit tempering, and collared and castellated rims with flange/lugs. What seems to be absent or rare are punctuates, strap handles, incised designs, and shell tempering-in short all of the pottery diagnostic of Fort Ancient. A few sherds in the Muskingum Valley have incising of the parallel oblique kind on the neck of the vessel or in one vessel on the collar (Morton 1984).

Intra-site patterning of the late Late Woodland sites consists of a sparse "linear scatter" or diffuse series of "hot spots" along the floodplain, very much like the patterning of earlier sites. What this seems to suggest is periodic reoccupation over an extended span of time rather than intensive occupation over a relatively short span of time. The Fort Ancient style circular nucleated village layout seen in the later Philo Phase or in the Baum Phase of the Scioto Valley seems to be lacking at these late Late Woodland sites. Present at these sites are deep refuse/storage pits, often containing bone and shell refuse. This suggests some degree of intensity of the occupation at these sites (Morton 1984).

Late Prehistoric

The early Late Prehistoric or the Philo Phase is characterized by nucleated, circular, central plaza-type villages occupied year-round, large scale river bottom maize agriculture, smooth shell tempered Philo Punctate pottery, rich and diversified bone and antler industries, and ossuary-style mass burials (Carskadden and Morton 1977). Projectile points of this time period are the Madison point and the Fort Ancient style points. Radiocarbon dates suggest a beginning of this phase in the Muskingum Valley from A.D. 1230 to A.D. 1320. Radiocarbon dates have suggested something interesting concerning the Cole/Baldwin-like phase. It seems that the Cole/Baldwin-like phase persisted as much as a generation after the appearance of the Philo phases, at least in certain portions of the Muskingum Valley (e.g. Locust Site, Eddy Paul Rockshelter). Several Cole Cordmarked vessels have been recovered from the Philo phase Richards site (A.D. 1260 to A.D. 1290) [Morton 1984].

The late Late Prehistoric or the Riker Phase manifests itself in the form of Wellsburg Simple Stamped and Tuttle Hill Notched pottery. One site, in Muskingum County near Dresden, has a radiocarbon date A.D. 1350 (30 years after the latest Philo phase), and may represent the earliest influx of Riker phase traits into the central Muskingum area, possibly from northeast Ohio. The only other manifestation of this phase in the Muskingum Valley is from a mound to the West of Zanesville, which yielded Tuttle Hill Notched ceramics (Morton 1984).

Protohistoric to Settlement

By the mid-1600s, French explorers traveled through the Ohio country as

trappers, traders, and missionaries. They kept journals about their encounters and details of their travels. These journals are often the only resource historians have regarding the early occupants of seventeenth century Ohio. The earliest village encountered by the explorers in 1652 was a Tionontati village located along the banks of Lake Erie and the Maumee River. Around 1670, it is known that three Shawnee villages were located along the confluence of the Ohio River and. the Little Miami River. Because of the Iroquois Wars, which continued from 1641-1701, explorers did not spend much time in the Ohio region, and little else is known about the natives of Ohio during the 1600s. Although the Native American tribes of Ohio may have been affected by the outcome of the Iroquois Wars, no battles occurred in Ohio (Tanner 1987).

French explorers traveled extensively through the Ohio region from 1720-1761. During these expeditions, the locations of many Native American villages were documented. In 1751, a Delaware village known as Maguck existed near present-day Chillicothe. In 1758, a Shawnee town known as 'Lower Shawnee 2' existed at the same location. The French also documented the locations of trading posts and forts, which were typically established along the banks of Lake Erie or the Ohio River (Tanner 1987).

While the French were establishing a claim to the Ohio country, many Native Americans were also entering new claims to the region. The Shawnee were being forced out of Pennsylvania because of English settlement along the eastern coast. The Shawnee created a new headquarters at Shawnee Town, which was located at the mouth of the Scioto River. This headquarters served as a way to pull together many of the tribes which had been dispersed because of the Iroquois Wars (Tanner 1987).

Warfare was bound to break out as the British also began to stake claims in the Ohio region by the mid-1700s. The French and Indian War (1754-1760) affected many Ohio Native Americans; however, no battles were recorded in Ohio (Tanner 1987). Although the French and Indian War ended in 1760, the Native Americans continued to fight against the British explorers. In 1764, Colonel Henry Bouquet led a British troop from Fort Pitt, Pennsylvania to near Zanesville, Ohio.

In 1763, the Seven Years' War fought between France and Britain, also known as the French and Indian War ended with The Treaty of Paris. In this Peace of Paris, the French ceded their claims in the entire Ohio region to the British. When the American Revolution ended with the Second Treaty of Paris in 1783, the Americans gained the entire Ohio region from the British; however, they designated Ohio as Indian Territory. Native Americans were not to move south of the Ohio River but Americans were encouraged to head west into the newly acquired land to occupy and govern it (Tanner 1987).

By 1783, Native Americans had established fairly distinct boundaries throughout Ohio. The Shawnee tribes generally occupied southwest Ohio, while the Delaware tribes stayed in the eastern half of the state. Wyandot tribes were located in north-central Ohio, and Ottawa tribes were restricted to northeast Ohio. There was also a small band of Mingo tribes in eastern Ohio along the Ohio River, and there was a band of Mississauga tribes in northeastern Ohio along Lake Erie. The Shawnee people had several villages within Ross County along the Scioto River (Tanner 1987). Although warfare between

tribes continued, it was not as intense as it had been in previous years. Conflicts were contained because boundaries and provisions had been created by earlier treaties.

In 1795, the Treaty of Greenville was signed as a result of the American forces defeat of the Native American forces at the Battle of Fallen Timbers. This allocated the northern portion of Ohio to the Native Americans, while the southern portion was opened for Euro-American settlement. Although most of the battles which led up to this treaty did not occur in Ohio, the outcome resulted in dramatic fluctuations in the Ohio region. The Greenville Treaty line was established, confining all Ohio Native Americans to northern Ohio, west of the Tuscarawas River (Tanner 1987).

Ohio Native Americans were again involved with the Americans and the British in the War of 1812. Unlike the previous wars, many battles were fought in the Ohio country during the War of 1812. By 1815, peace treaties began to be established between the Americans, British, and Native Americans. The Native Americans lost more and more of their territory in Ohio. By 1830, the Shawnee, Ottawa, Wyandot, and Seneca were the only tribes remaining in Ohio. These tribes were contained on reservations in northwest Ohio. By the middle 1800s, the last of the Ohio Native Americans signed treaties and were removed from the Ohio region.

Marion County History

Nathan Brundige and Nathaniel Wyatt were the first settlers within modern Marion County, coming to the region in 1806 while the land was still part of Franklin County. The Greenville Treaty Line placed most of the modern county in Indian Territories, a small portion was part of the Virginia Military District, and the remainder was within U.S. Military Lands. Migration was mild until the end of the War of 1812 and after new treaties had been struck with the very near Indian neighbors. The 1820s brought new citizens from New England, Pennsylvania, Kentucky, and Virginia. From the 1830s to the 1860s a significant influx of international immigration added to Marion County's citizenry, mostly German and later Irish (Howe 1888; Jacoby 1907; Leggett, Conway, & Co. 1883; Wilson and Wilson 1950).

The State Legislature created Marion County in 1820. The name they chose to honor the Revolutionary general and hero Francis Marion, "The Swamp Fox." For its first three years, Marion depended on Delaware County for its judicial and legal affairs. In 1823, Marion detached itself and thenceforward functioned as a separate county. The borders of the county changed in 1845 and 1848 with the erection of Wyandot and Morrow Counties respectively. The State appointed three men to choose the new county a seat of justice; and in 1822, they selected the town of Marion (Jacoby 1907; Leggett, Conway, & Co. 1883; Wilson and Wilson 1950).

Eber Baker, acting as a land agent for the proprietor Alexander Holmes, came to Holmes' holdings in 1821 and found some squatters at a place they were calling 'Jacob's Well.' Baker and Holmes' son Samuel laid out a town the following spring. This location was the one that the county seat agents chose in 1822 and the little whole in the forest became Marion. The village became a town in 1830, but slow growth warranted a

revocation of the charter until increased population and demand commanded a reinstatement of town status in 1847. City class came in 1890. Marion remains the only city in the county. Other villages are Caledonia, Green Camp, LaRue, Morral, New Bloomington, Prospect, and Waldo (Jacoby 1907; Wilson and Wilson 1950).

Marion City continues to be a center for business, industry, commercial, and residential development. Today, Marion County is dominated by the agricultural industry along with some gravel quarrying found in the southern portion of the county. Clay was also quarried in the early days for use in pottery and brick manufacture. One of the most famous items within Marion is the grave of President Warren G. Harding, who lived in Marion for some time during his adult life (Jacoby 1907; Wilson and Wilson 1950).

Richland Township History

Richland Township was organized in the year 1827. It is located in the southeast portion of Marion County. Neighboring townships include Claridon to the north, Cardington to the east, Waldo to the southeast and Pleasant to the west. The topography is level with little to no rolling areas (Howe 1854). In the years prior to European settlement dense forests populated Richland Township. The timber was later removed to clear space for agricultural land. It was also used for the construction of homes, barns, churches and schools. The main crops were corn, wheat, potatoes and apples. During this period, children were steady farms hands who helped when they were not attending school. Many times school fell low on the list of priorities. Children would often skip lessons to work on the farm (Winter 1917).

School houses were typically a one room construction with a fireplace implemented for winter sessions. During the early years of settlement schools were not given an adequate amount of funding. The windows were composed of greased paper and text books were in short supply. Funding was not only lacking in the educational system but in the church as well (Howe 1854).

Churches in the beginning stages of Richland Township's settlement were similar to the school houses. They too were one room cabins. Religion was an important facet within the culture. The primary denomination was Methodist. Gatherings at the church allowed for residents to seek spiritual solace, discuss local issues and organize community events (Howe 1854).

Research Design

The purpose of a Phase I survey is to locate and identify archaeological resources that will be affected by the planned electric structure replacement project. This report is being prepared to address only the archaeological concerns regarding this project. Once these resources are identified and sampled, they are evaluated for their eligibility or potential eligibility to the NRHP. These investigations are directed to answer or address the following questions:

1) Did the literature review reveal anything that suggests the project area had been previously surveyed, and what is the relationship of previously recorded properties to the project area?
2) Are cultural resources likely to be identified in the project area?

Archaeological Field Methods

The survey conducted within the project used four methods of sampling and testing to identify and evaluate cultural resources. These included surface collection, shovel test unit excavation, shovel probe excavation, and visual inspection.

Surface Collection. Surface collection was conducted when suitable conditions were encountered. This pertains to agricultural fields that have a minimum of 50 percent bare ground surface visibility. Pedestrian transects were spaced at 7.5 m intervals. Artifacts that are identified in this manner are typically plotted using a Trimble GeoXT global positioning system.

Shovel test unit excavation. Shovel test units were placed at 15-m intervals. Shovel test units measure 50 cm on a side and are excavated to 5 cm below the topsoil/subsoil interface. Individual shovel test units were documented regarding their depth, content and color (Munsell). Wherever sites are encountered, Munsell color readings are taken per shovel test unit. All of the undisturbed soil matrices from shovel test units are screened using .6 cm hardware mesh. When sites are encountered, additional shovel test units will be excavated at 7.5 m intervals extending on grid and in the two cardinal directions within the corridor from the positive locations.

Shovel probe excavation. Shovel probes were excavated during these investigations to document the extent of the disturbance associated with modern construction activities. These probes were excavated similarly to shovel test units. They had the same dimensions of 50 cm on a side, but were not screened. They were excavated at 15-m intervals and to a depth of 15-20 cm or deep enough to establish lack of soil integrity.

Visual inspection. Locations where cultural resources were not expected, such as sloped, wetlands, or disturbed areas were walked over and visually inspected. This method was used to verify the absence or likelihood of any cultural resources being located in these areas. This method was also utilized to document the general terrain and the surrounding area.

The application of the resulting field survey methods was documented in field notes, field maps, and project plan maps.

Prehistoric Artifact Analysis

An artifact inventory was accomplished upon completion of the fieldwork. This involved identifying the functional attributes of individual artifacts, as well as the artifact cluster(s) or site assemblage collectively. The prehistoric artifact types and material were

identified during the inventory process. The lithic artifact categories are modeled after Flenniken and Garrison (1975) and include the following:

Biface. A biface is defined as an artifact that has been culturally modified on two faces (ventral and dorsal). Complete and fragmentary preforms, manufacturing rejects, projectiles, or knives are included in this category.

Blocky Irregular. These are chunks and amorphous chert fragments that are produced during core reduction. These frequently occur during the creation of a striking platform or by accident. They represent a transitional core reduction stage similar to that of primary thinning.

Broken Flake. This flake type is common. Flakes for this investigation are considered broken when diagnostic attributes (e.g., flake scarring or platform) are absent from the artifact. Therefore, a flake that is broken in half and retains the platform is considered complete because the function can be ascertained regardless of its obvious fragmentary nature.

Core. A core represents the initial stage of chert procurement and reduction. A core has evidence of flake removal or checking present to delineate that the object has been culturally modified. Cores can be recovered from bedded outcrops or gathered from alluvial and glacial deposits.

Primary Decortication Flake. This flake type represents the initial reduction of a core. Generally, these flakes have a natural patina or cortex over most of the dorsal side and are void of other flake scars. Artifact assemblages with chert resources obtained from bedded resources usually do not have decortication flakes of any kind because there is no patina/cortex formation.

Primary Thinning Flake. This flake type represents a transitional mode of chert reduction. The intent of this reduction activity is to reduce a core to a crude biface. Flakes have a steep platform angle (i.e., >65°) and lack cortex. However, occasional small remnants of cortex are prevalent at this point, especially on the striking platform.

Secondary Decortication Flake. These flakes occur as a by-product of patina/cortex removal of a core. They are differentiated from the previous flake type by a lesser amount of cortex evident on the dorsal side and at least one or part of one previous flake scar. These flakes have steep flake platform angles (>75°).

Secondary Thinning Flake. These flake types represent a reduction mode that is a direct result of the previous reduction activities (i.e., primary thinning). Soft, antler billet percussion and pressure flaking are used for this mode of reduction. At this point, the chert artifact being reduced or thinned is a biface rather than a core. The striking platform for this flake type is commonly represented by the edge of the biface. The platform

angle is typically acute but can range from 30° to 65°. Previously removed flake scars are common on the dorsal side.

Shatter or Angular Shatter. These artifacts most frequently occur during percussion flake reduction of cores. These artifacts lack striking platforms, are thin, narrow, and triangular. They cannot be definitively associated with a specific functional category of chert reduction due to their ubiquity.

Uniface. A uniface only has evidence of use-wear on one side of the artifact. Unifacial artifacts include utilized flakes, end and side scrapers, and bladelets. However, bladelets are typically categorized as blades or lamellar flakes and are diagnostic of the Middle Woodland period.

Identification of the material type of individual artifacts is based on several attributes, including color, inclusions, and luster. Several resources were used to aid in the inventory of the material types, including Converse (1994), DeRegnaucourt and Georgiady (1998), and Stout and Schoenlaub (1945).

Curation

The landowners were sent a letter regarding artifacts and it has not been received by the time this report was compiled. Notes and maps affiliated with this project will be maintained at Weller & Associates, Inc. files.

Literature Review

The literature review study area is defined as a 0.8 km (0.5 mi) study area from the center of the project (Figure 2 and 3). In conducting the literature review, the following resources were consulted at OHPO and the State Library of Ohio:

1) *Archeological Atlas of Ohio* (Mills 1914);
2) OHPO United States Geological Survey (USGS) 7.5' series topographic maps;
3) Ohio Archaeological Inventory (OAI) files;
4) Ohio Historic Inventory (OHI) files;
5) National Register of Historic Places (NRHP) files;
6) OHPO CRM/contract archaeology files; and
7) OHPO consensus determination of eligibility files;
8) ODNR mining resource maps; and
9) Marion County atlases, histories, historic USGS 15'series topographic map(s), and current USGS 7.5' series topographic map(s);
10) Genealogical and cemetery resources.

A review of the *Archeological Atlas of Ohio* (Mills 1914) was conducted. There are no sites within the project or study area according to this resource.

The OHPO topographic maps indicated that there are three sites identified within the study area. These are all prehistoric period lithic scatters. Site 33MN0025 has a Late

Woodland component and site 33MN0083 has a Middle Woodland component. These sites are located near a bend in the Olentangy River where there is a stream confluence. These environmental elements are a unique characteristic in this area. These sites do not appear to have been originally identified during professional surveys, though site 33MN0026 is within a professionally surveyed area.

Table 2. Previously Recorded OAIs Located in the Study Area.

Site # (33…)	Site Type	Temporal Association	Site Size (sq m)
MN0025	Lithic Scatter	Late Woodland (Epping Site)	4000
MN0026	Lithic Scatter	Unassigned Prehistoric (Theydon Site)	17500
MN0083	Lithic scatter	Middle Woodland	900

The Ohio Historic Inventory (OHI) files did indicate that there are no such recorded resources in the study area.

A review of the NRHP/DOE files did not indicate any associated resources within the project or its study area.

A review of the CRM surveys was conducted and this indicated that there were two Phase I surveys conducted in the study area. One survey was conducted for a waterline corridor that is to the north of the project and the Olentangy River (DeRegnaucourt 1998) and near the eastern terminus of this project. The other survey was for an archaeological survey (Kole 1980). The Kole survey may have identified sites 33MN0025-26. This survey also involves a small part of the current project area, but there were no sites identified by this survey in the project area.

The *Atlas of Marion, Ohio* (Harrison, Sutton & Hare 1878) indicates buildings/structures are in the vicinity of the project area, but nothing that is definitively within it. The USGS *1915 Marengo, Ohio 15 Minute Series (Topographic)* map indicates that there are some buildings located near the project, but none are within it (Figure 4). Inspection of the *1988 Marion East*, *1988 Waldo*, and the *1999 Ashley, Ohio 7.5 Minute Series (Topographic)* maps did not indicate any buildings or structures within the project area (Figure 2).

The study area was inspected for cemeteries. There are four cemeteries located within the study area including: Berringer, Collmer, Klingel/Klingle, and Windfall. None of these are near the project area.

Evaluation of Research Questions 1 and 2

There were two questions presented in the research design that will be addressed at this point. These are:

1) Did the literature review reveal anything that suggests the project had been previously surveyed and what is the relationship of previously recorded properties to the project?
2) Are cultural resources likely to be identified in the project?

These investigations were conducted for the existing electric line right-of-way as well as proposed access corridors or any other needed amenities (i.e., laydown yards, etc.). There are few recorded cultural resources in the study area for this project. This is probably a byproduct of the remoteness of the area and lack of professional surveys. The project is located near the confluence of Whetstone Creek and the Olentangy River; an area with increase topographic/environmental diversity and comparably unique in this otherwise homogenous till plain setting. Areas such as this are often repeatedly occupied, prehistorically as they are selected/more desirable. Prehistoric period materials are expected to be identified from this setting.

Fieldwork Results

The field investigations for this project were conducted over a series of discontinuous days from April 12 to May 5, 2016 (Figures 5-25). These investigations were conducted under good weather conditions and the weather and conditions were non-factors in the completion of the field investigations. The fieldwork involved visual inspection, surface collection, and subsurface testing methods. This project corridor is primarily situated in agricultural lands with brief stints that bisect woods. Severe disturbances or wetland/inundated conditions were identified in some locations. These investigations were initiated just prior to the farmers planting their fields. These investigations first focused on identifying surface collectable areas and conducting sampling them before the planting season. Areas that would require subsurface examination were sampled last. These investigations were completed prior to knowing the locations of the planned access corridors; survey for the access corridors will be contained in a separate document. The archaeological investigations resulted in the identification of eight previously unrecorded sites including 33MN0148-155.

Surface collection methods were conducted at all of the suitable locations within the project corridor and this pertains to the majority of the area. This pertains to all agricultural fields that offered at least 50 percent bare ground surface visibility. Pedestrian transects were spaced at 7.5 m wide. Any artifacts that were identified during the surface collection were plotted using a GeoXT GPS unit. Weller took advantage of the early access to the project corridors as some situations were in winter wheat. The visibility in the immature wheat fields was suitable for surface collection methods; however, the visibility is typically not suitable by mid-May. Surface collection was conducted in tilled fields, soybean stubble, and winter wheat conditions. All of the sites identified in the project area were identified during surface collection.

Situations were identified in the project area that were found to be severely disturbed or inundated. Disturbances associated with roads and their right-of-ways were encountered consistently and pertain to underground utility easements and grading in general. The largest area of disturbance affiliated with this project area is a golf course that is located immediately to the east of St. James Road. There are ponds, hazards, tees,

sprinklers, greens, etc. throughout this area. The possibility of identifying intact deposits within the segment of the project area that extends through the golf course was considered to be very remote; it is visually apparent that the area has been severely altered/disturbed. There is a small segment located immediately south of Berringer Road that was fallow and contained standing water; it was visually inspected but not regarded as being a practical location to identify cultural materials.

Subsurface testing was conducted in two separate locations that were both contained in corn stubble at the time of these investigations (Figures 7-10). These areas are located in upland, till plain situations and are nearly level with only slight elevations. The testing consistently identified plowzone-depth topsoil deposits averaging about 25 cm deep. The comparably low-lying areas had darker topsoil hues (i.e., very dark gray, 10YR3/1) with grayer subsoil in really low areas where water tends to pond. Clayey, lacustrine like yellow (i.e., yellowish brown 10YR5/6) subsoil prevailed in most of the low areas, but often mottled with gray peds. The topsoil identified on the slight elevations was typically brown (10YR4/3) silt loam with dark yellowish brown silt loam or silty clay loam (10YR4/6) subsoil (Figure 24).

Aspects of the project area may have been previously investigated. This is a small section that might include the southern part of the project area that is west of St. James Road. Kole (1980) had previously investigated this area (Figure 6), but it was completed in 1980 and prior to the current archaeological survey guidelines. This area was re-examined. There are no previously recorded sites that are near the project area.

Archaeological Site Descriptions

The field investigations identified eight previously unrecorded archaeological sites (33MN0148-155). These sites consist of four isolated find spots and three lithic scatters all dating from the prehistoric period. The following text describes the archaeological deposits further in more detail and evaluates them per the NRHP.

33MN0148

This site is a prehistoric period isolated find that was identified during surface collection of a tilled field (Figure 9). The bare ground surface visibility in the field was at 90 percent and it was well weathered. Intensive surface inspection of the surrounding 7.5 m failed to identify any additional artifacts. The artifact was identified from a slight, isolated elevation that is to the south and west of Berringer Road. This area is imperfectly drained, but the nearest drainage is considered to be an unnamed tributary of the Olentangy River, which is part of the Scioto River watershed. By definition, the size of this site is 1 sq m.

The artifact that was identified from this location is an endscraper that was manufactured from Upper Mercer chert (Table 3). This tool functioned as a scraper and for general scraping activity; it may have been hafted. This artifact is not regarded as being temporally diagnostic.

This site was evaluated for its eligibility for the NRHP. This site lacks integrity (Little et al. 2000:39-43; U.S. Department of the Interior, National Park Service [USDI, NPS] 1997:44-45) and the ability to yield further and important information regarding prehistory. The site has a numerically and functionally limited, diffuse artifact assemblage and lacks temporally diagnostic materials. This site is not considered to be eligible for inclusion into the NRHP, and further work is not deemed necessary.

Table 3. Prehistoric Artifact Inventory for Sites 33MN0148-155.

Site (33MN…)	Easting	Northing	Artifact	Material	Count
148	328745.94	4485330.82	Endscraper	Upper Mercer	1
149	325675.59	4486056.73	Primary thinning flake	Delaware	1
150; 1	325726.86	4486061.73	Primary thinning flake	Delaware	1
150; 2	325725.87	4486056.84	Primary thinning flake	Upper Mercer	1
150; 3	325727.18	4486053.33	Secondary thinning flake	Upper Mercer	1
150; 4	325733.45	4486054.18	Secondary thinning flake	Upper Mercer	1
150; 5	325733.23	4486053.56	Primary thinning flake	Flint Ridge	1
151; 1	325738.44	4486071.67	Secondary thinning flake	Upper Mercer	1
151; 2	325738.24	4486073.16	Primary thinning flake	Upper Mercer	1
152	325768.53	4486072.42	Primary thinning flake	Pipe Creek	1
153; 1	325802.6	4486070.38	Primary thinning flake	Upper Mercer	1
153; 2	325806.07	4486067.77	Primary thinning flake	Upper Mercer	1
154	324978.51	4486082.17	Secondary thinning flake	Upper Mercer	1
155; 1	324791.99	4486085.64	Secondary thinning flake	Upper Mercer	1
155; 2	324795.46	4486078.7	Primary thinning flake	Upper Mercer	1
155; 3	324800.66	4486084.77	Primary thinning flake	Upper Mercer	1

33MN0149

This site is a prehistoric period isolated find that was identified during surface collection of a tilled field (Figure 6) that is between the Olentangy River and St. James Road. The bare ground surface visibility in the field ranged from 90-100 percent and it was well weathered. Intensive surface inspection of the surrounding 7.5 m failed to identify any additional artifacts. This is an area that is just above the riparian floodplain. The artifact was identified from a landform that was sloping to the west and towards the river. The nearest drainage is considered to be the Olentangy River, which is part of the Scioto River watershed. By definition, the size of this site is 1 sq m.

The artifact that was identified from this location is a secondary decortication flake of Delaware chert (Table 3). The artifact was derived from the reduction process of a gathered chert cobble/pebble as there is cortex on the exterior of the dorsal side. This is indicative of early stage lithic reduction. This artifact is not regarded as being temporally diagnostic.

This site was evaluated for its eligibility for the NRHP. This site lacks integrity (Little et al. 2000:39-43; U.S. Department of the Interior, National Park Service [USDI, NPS] 1997:44-45) and the ability to yield further and important information regarding prehistory. The site has a numerically and functionally limited, diffuse artifact assemblage and lacks temporally diagnostic materials. This site is not considered to be eligible for inclusion into the NRHP, and further work is not deemed necessary.

33MN0150

This site is a prehistoric period lithic scatter that was identified during surface collection of a tilled field (Figure 6) that is between the Olentangy River and St. James Road. The bare ground surface visibility in the field ranged from 90-100 percent and it was well weathered. Additional artifacts were identified during inspection of a 7.5 m radius from the initial artifact/site location. This is an area that is just above the riparian floodplain. The artifact was identified from a landform that was sloping to the west and towards the river. The nearest drainage is considered to be the Olentangy River, which is part of the Scioto River watershed. The size of this site is considered to be 41.54 sq m.

There were five artifacts identified from this site (Table 3). The material assemblage includes Delaware (n=1), Upper Mercer (n=3), and Flint Ridge (n=1) chert. The artifacts are all flakes that are associated with middle stage lithic reduction. None of these artifacts are temporally diagnostic.

This site was evaluated for its eligibility for the NRHP. This site lacks integrity (Little et al. 2000:39-43; U.S. Department of the Interior, National Park Service [USDI, NPS] 1997:44-45) and the ability to yield further and important information regarding prehistory. The site has a numerically and functionally limited, diffuse artifact assemblage and lacks temporally diagnostic materials. This site is not considered to be eligible for inclusion into the NRHP, and further work is not deemed necessary.

33MN0151

This site is a prehistoric period lithic scatter that was identified during surface collection of a tilled field (Figure 6) that is between the Olentangy River and St. James Road. The bare ground surface visibility in the field ranged from 90-100 percent and it was well weathered. A single additional artifacts was identified during inspection of a 7.5 m radius from the initial artifact/site location. This is an area that is just above the riparian floodplain. The artifact was identified from a landform that was sloping to the west and towards the river. The nearest drainage is considered to be the Olentangy River, which is part of the Scioto River watershed. The size of this site is considered to be 2 sq m.

There were two Upper Mercer artifacts identified from this site (Table 3). The artifacts are flakes that are associated with middle stage lithic reduction. Neither of these artifacts are temporally diagnostic.

This site was evaluated for its eligibility for the NRHP. This site lacks integrity (Little et al. 2000:39-43; U.S. Department of the Interior, National Park Service [USDI, NPS] 1997:44-45) and the ability to yield further and important information regarding prehistory. The site has a numerically and functionally limited, diffuse artifact assemblage and lacks temporally diagnostic materials. This site is not considered to be eligible for inclusion into the NRHP, and further work is not deemed necessary.

33MN0152

This site is a prehistoric period isolated find that was identified during surface collection of a tilled field (Figure 6) that is between the Olentangy River and St. James Road. The bare ground surface visibility in the field ranged from 90-100 percent and it was well weathered. Intensive surface inspection of the surrounding 7.5 m failed to identify any additional artifacts. This is an area that is just above the riparian floodplain. The artifact was identified from a landform that was sloping to the west and towards the river. The nearest drainage is considered to be the Olentangy River, which is part of the Scioto River watershed. By definition, the size of this site is 1 sq m.

The artifact that was identified from this location is a primary thinning flake of Pipe Creek chert (Table 3). This material generally outcrops in northern Ohio and in the Huron County vicinity. The artifact is functionally indicative of middle stage lithic reduction. This artifact is not regarded as being temporally diagnostic.

This site was evaluated for its eligibility for the NRHP. This site lacks integrity (Little et al. 2000:39-43; U.S. Department of the Interior, National Park Service [USDI, NPS] 1997:44-45) and the ability to yield further and important information regarding prehistory. The site has a numerically and functionally limited, diffuse artifact assemblage and lacks temporally diagnostic materials. This site is not considered to be eligible for inclusion into the NRHP, and further work is not deemed necessary.

33MN0153

This site is a prehistoric period lithic scatter that was identified during surface collection of a tilled field (Figure 6) that is between the Olentangy River and St. James Road. The bare ground surface visibility in the field ranged from 90-100 percent and it was well weathered. A single additional artifacts was identified during inspection of a 7.5 m radius from the initial artifact/site location. This is an area that is just above the riparian floodplain. The artifact was identified from a landform that was sloping to the west and towards the river. The nearest drainage is considered to be the Olentangy River, which is part of the Scioto River watershed. The size of this site is considered to be 4.6 sq m.

There were two Upper Mercer artifacts identified from this site (Table 3). The artifacts are flakes that are associated with middle stage lithic reduction. Neither of these artifacts are temporally diagnostic.

This site was evaluated for its eligibility for the NRHP. This site lacks integrity (Little et al. 2000:39-43; U.S. Department of the Interior, National Park Service [USDI,

NPS] 1997:44-45) and the ability to yield further and important information regarding prehistory. The site has a numerically and functionally limited, diffuse artifact assemblage and lacks temporally diagnostic materials. This site is not considered to be eligible for inclusion into the NRHP, and further work is not deemed necessary.

33MN0154

This site is a prehistoric period isolated find that was identified during surface collection of a tilled field (Figure 5) that is between the North Waldo Station (electric) and SR 98. The bare ground surface visibility in the field was at about 80 percent and it was well weathered. Intensive surface inspection of the surrounding 7.5 m failed to identify any additional artifacts. The artifact was identified from an upland, till plain slight elevation that is to the west of the Olentangy River. The nearest drainage is considered to be the Olentangy River, which is part of the Scioto River watershed. By definition, the size of this site is 1 sq m.

The artifact that was identified from this location is a secondary thinning flake of Upper Mercer chert (Table 3). The artifact is functionally indicative of bifacial reduction. This artifact is not regarded as being temporally diagnostic.

This site was evaluated for its eligibility for the NRHP. This site lacks integrity (Little et al. 2000:39-43; U.S. Department of the Interior, National Park Service [USDI, NPS] 1997:44-45) and the ability to yield further and important information regarding prehistory. The site has a numerically and functionally limited, diffuse artifact assemblage and lacks temporally diagnostic materials. This site is not considered to be eligible for inclusion into the NRHP, and further work is not deemed necessary.

33MN0155

This site is a prehistoric period lithic scatter that was identified during surface collection of a tilled field (Figure 5) that is between the North Waldo Station (electric) and SR 98. The bare ground surface visibility in the field was at about 80 percent and it was well weathered. Intensive surface inspection of the surrounding 7.5 m identified additional artifacts. The artifacts were identified from an upland, till plain slight elevation that is to the west of the Olentangy River. The nearest drainage is considered to be the Olentangy River, which is part of the Scioto River watershed. By definition, the size of this site is 41.2 sq m.

There were three Upper Mercer artifacts identified from this site (Table 3). The artifacts are flakes that are associated with middle stage lithic reduction. None of these artifacts are temporally diagnostic.

This site was evaluated for its eligibility for the NRHP. This site lacks integrity (Little et al. 2000:39-43; U.S. Department of the Interior, National Park Service [USDI, NPS] 1997:44-45) and the ability to yield further and important information regarding prehistory. The site has a numerically and functionally limited, diffuse artifact

assemblage and lacks temporally diagnostic materials. This site is not considered to be eligible for inclusion into the NRHP, and further work is not deemed necessary.

Fieldwork Summary

The field investigations for this project utilized several means of sampling and documentation to address the archaeological aspect of this electric line corridor. The work resulted in the identification of eight sites, 33MN0148-155 (Figure 25). These are all prehistoric period components, which are expected in nearly all suitable settings in this area. The findings are not unexpected from this region. The floodplain that is present on the east side of the Olentangy River was omitted from survey as it will not be traversed. There are no structures that are extant or planned in this area and it will be spanned without needing to enter this situation. The project plans are to replace existing wooden H-frame structures with single-pole metal ones. These investigations were conducted for and within the current electric line corridor. Disturbances or wetland/inundated situations were identified, but these are not a large part of the overall project. Most of the disturbance is associated with a golf course.

Access corridors and any necessary laydown yards are to be surveyed at a later date and included in a separate report; they were not defined at the time of these investigations. Waiting for these to put into a single report would not have allowed the work to take advantage of surface collection of agricultural fields and would have caused unnecessary crop damage. The timing of these investigations eliminated most of the crop damage and allowed for a more effective means of identifying archaeological sites.

There were some interesting material and artifact types identified during these investigations. There was one chert flake of Pipe Creek (or Prout) material identified. This material type is unusual in this area as it is more predominant in northern Ohio and especially north central Ohio. There is evidence that local, float stream cobbles/pebbles were gathered and used to make artifacts. A secondary decortication flake of Delaware chert was obtained from this survey that supports localized chert acquisition. Pebbles of Pipe Creek chert are likely available in nearby float deposits as the source is reportedly due north of the project area (the precise location of the Pipe Creek quarries is not certain but have been hinted at being in the Bellevue, Ohio area). Other cherts like Flint Ridge and Upper Mercer would have been traded for or brought to this area.

APE Definition and NRHP Determination

The APE is a term that must be applied on an individual project basis. The nature of the project or undertaking is considered in determining the APE. This may include areas that are off the property or outside of the actual project's boundaries to account for possible visual impacts. This project involves the replacement of structures within an existing electric line corridor. The APE for this project is limited by the nature of the construction, coal mining activity, and the rugged terrain. The work is to be conducted in a lowly populated area that is east of US 23 and is to the north of the Marion-Morrow County line. The project involves the removal of older wooden H-frame structures that are in a state of disrepair and replacing them with newer metal structures. The

archaeological investigations were conducted for the footprint of the planned construction activities and includes the work areas for the new structures and their access roads.

These investigations were limited to the archaeological aspect of the cultural resources investigation; the history/architectural component is contained in a separate and stand-alone document. These investigations identified eight archaeological sites, 33MN0148-155 (Figure 25). These sites are not considered to be significant as they lack sufficient integrity. None of these sites have artifacts that are regarded as being temporally diagnostic. These are prehistoric period sites that have few artifacts and low functional expression; these are not uncommon site types in this this region. The eight sites that were identified are not considered to be historic properties and any planned construction involving them will not impact any significant archaeological deposits.

Recommendations

In March and April of 2016, Weller & Associates, Inc. conducted Phase I archaeological investigations for the approximately 6.23 km (3.87 mi) Windfall Switch-North Waldo Station 138kV Rebuild Project in Richland Township, Marion County, Ohio. The archaeological investigations involved surface, subsurface testing, and visual inspection and resulted in the identification of eight sites, 33MN0148-155. These are prehistoric period isolated artifacts and lithic scatters; these sites are not considered to be significant. It is Weller's opinion that this planned work within the electric line corridor will not affect any significant archaeological deposits. No further archaeological work is considered to be necessary.

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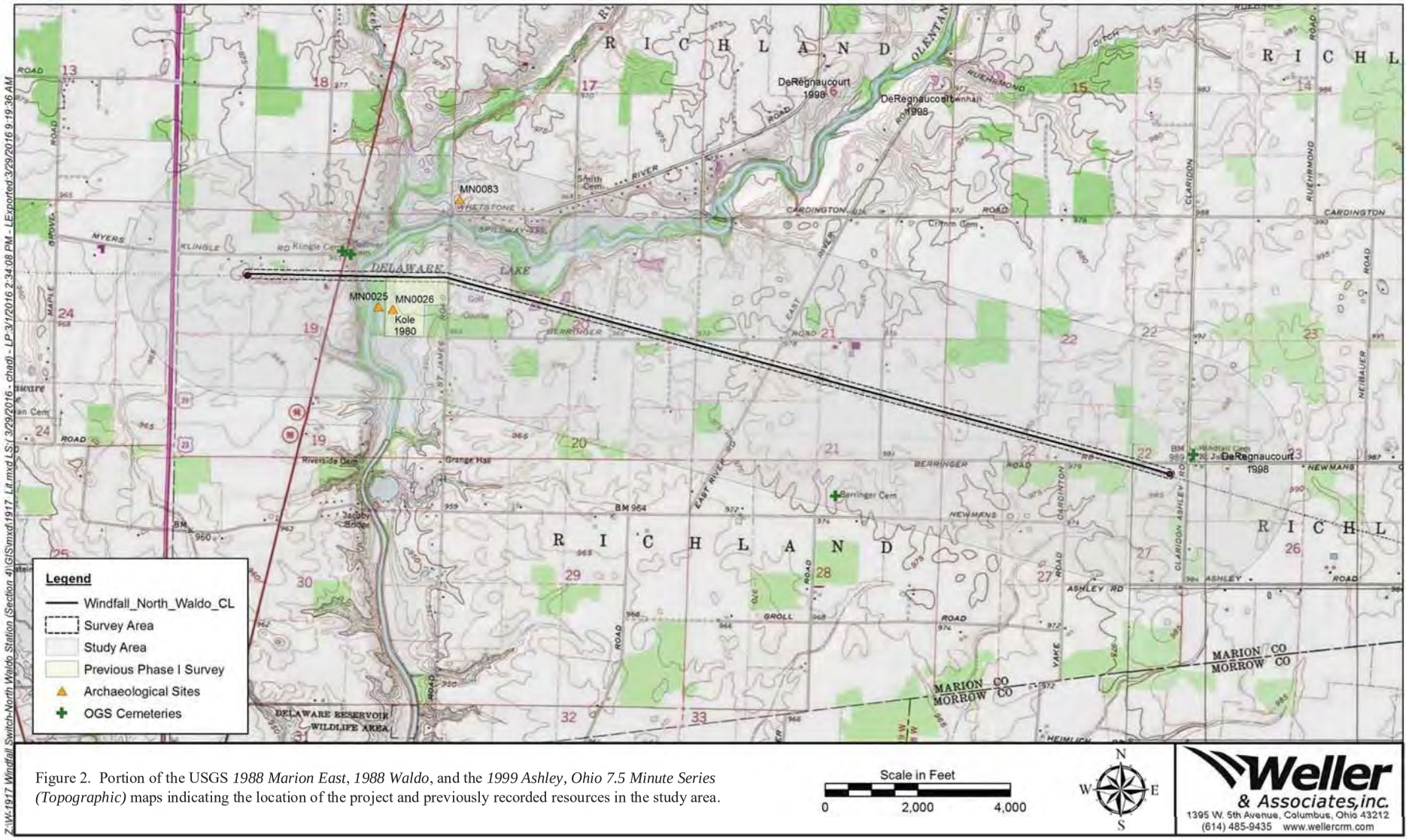
Figures

Figure 1. Political map of Ohio showing the approximate location of the project.



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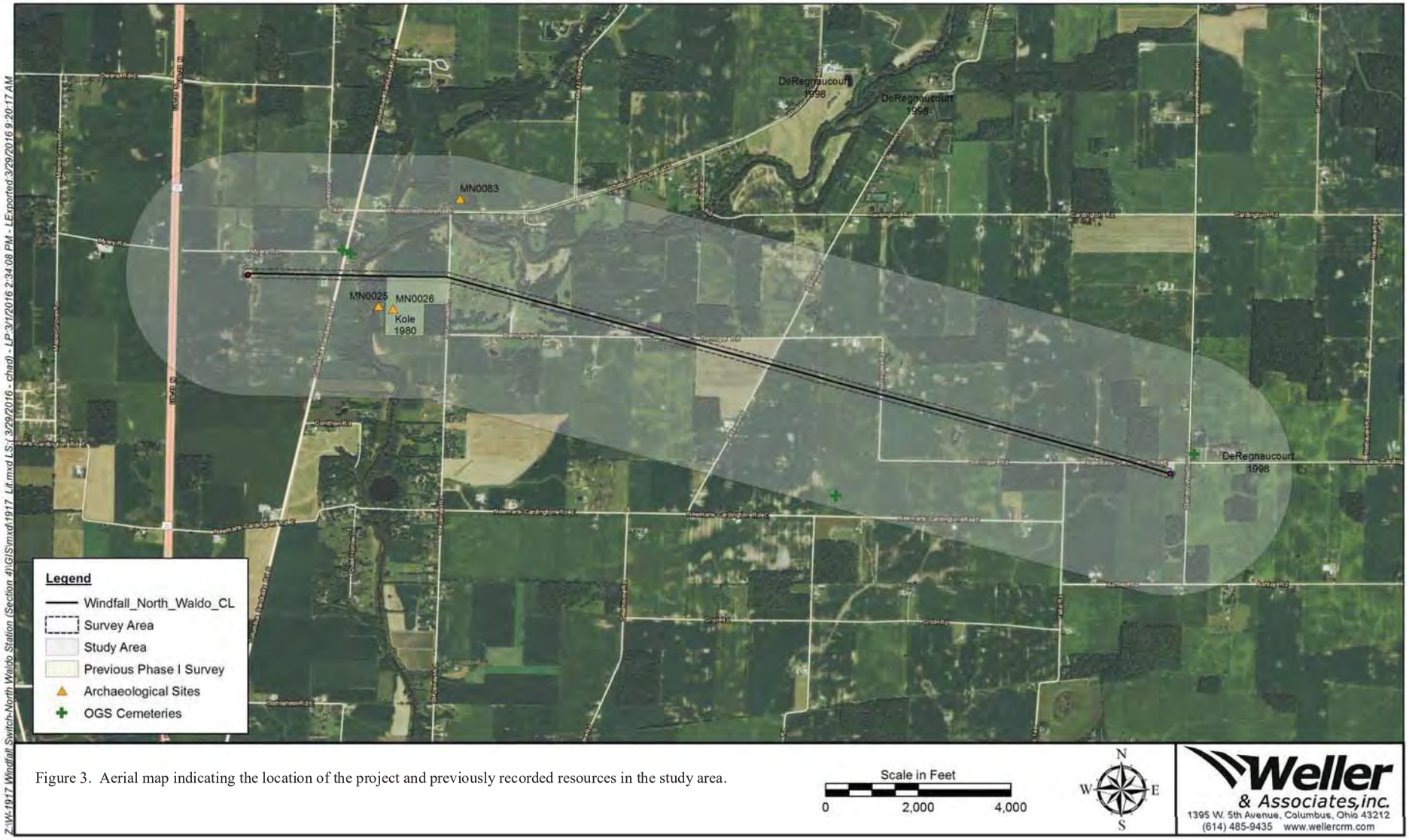

Figure 3. Aerial map indicating the location of the project and previously recorded resources in the study area.

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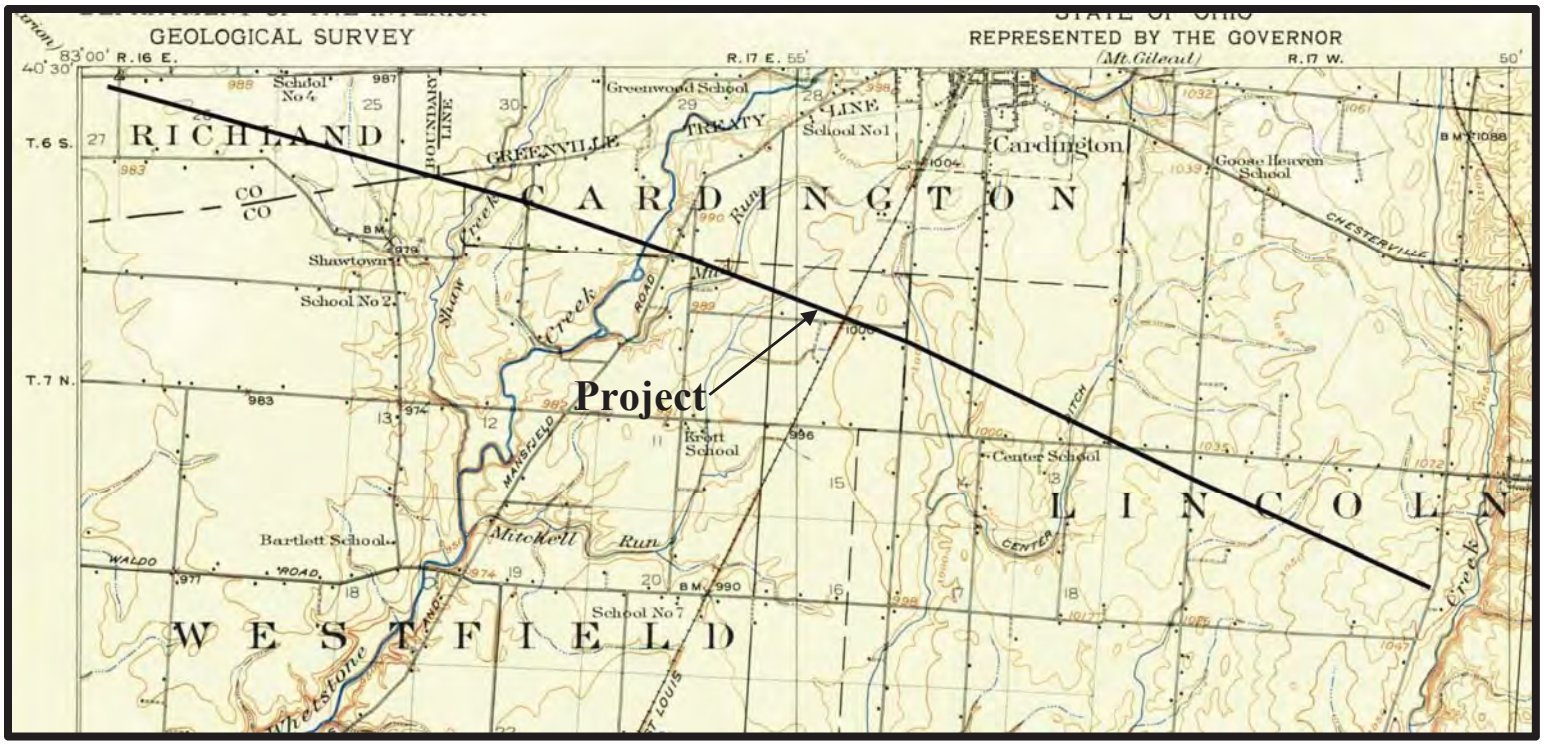

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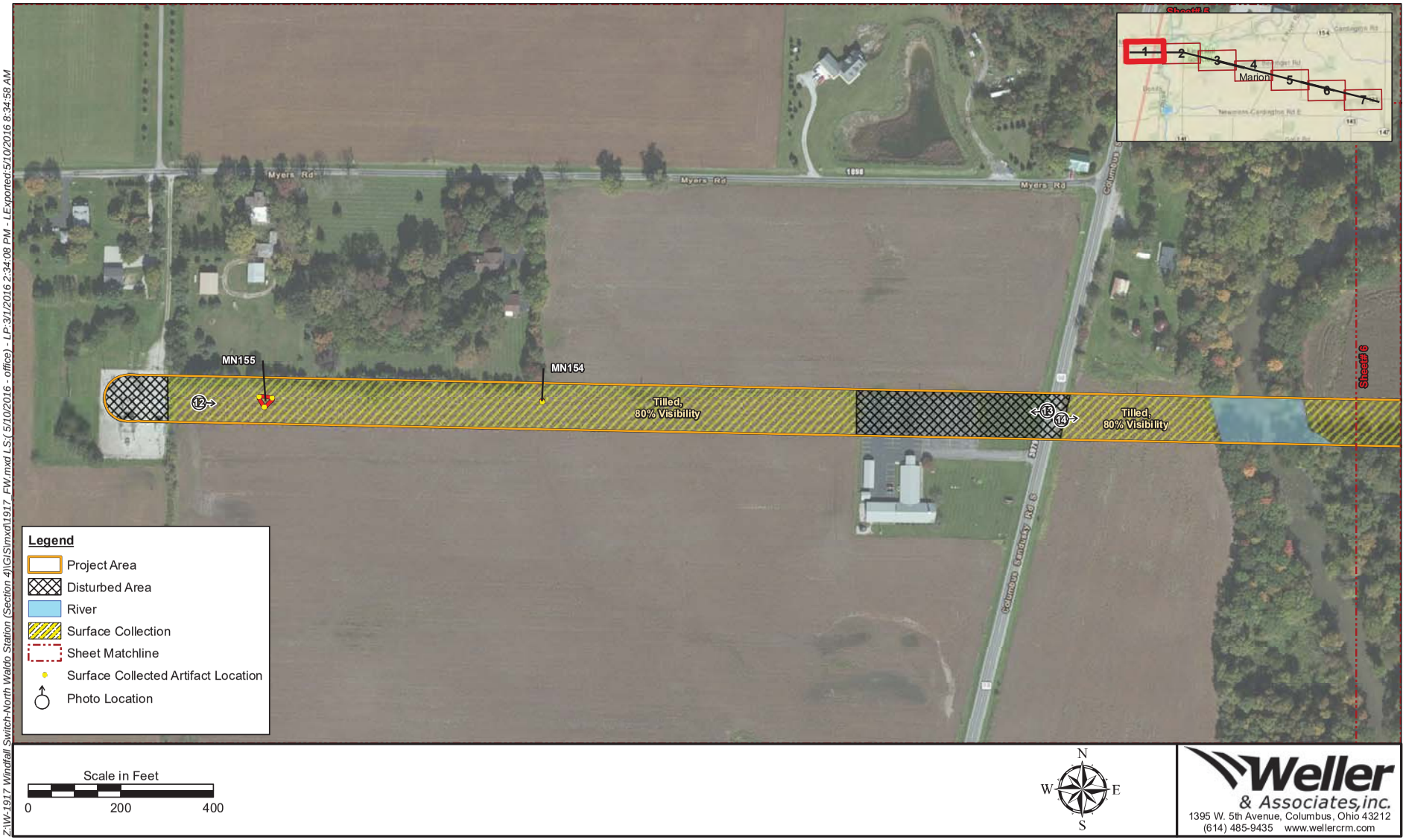

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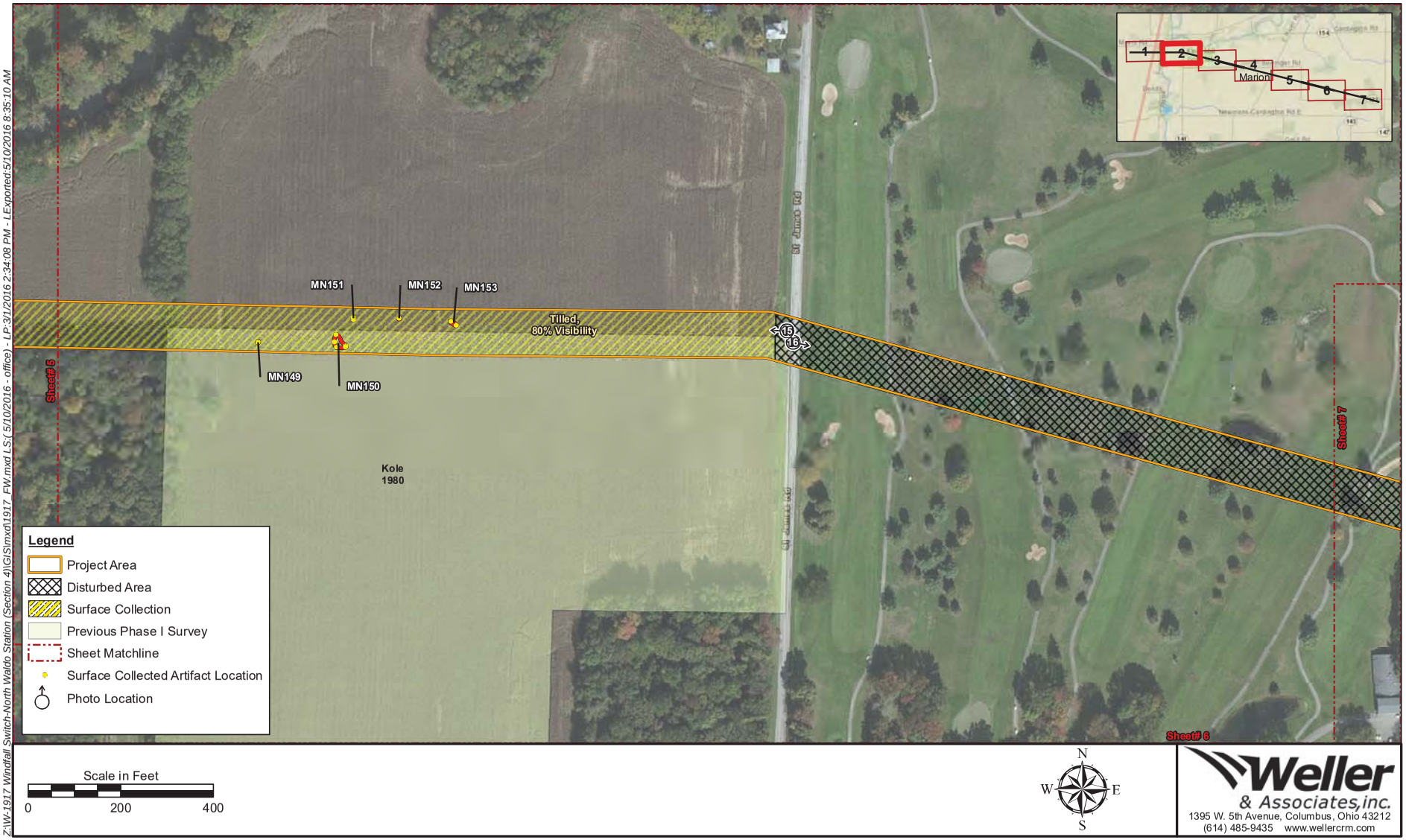

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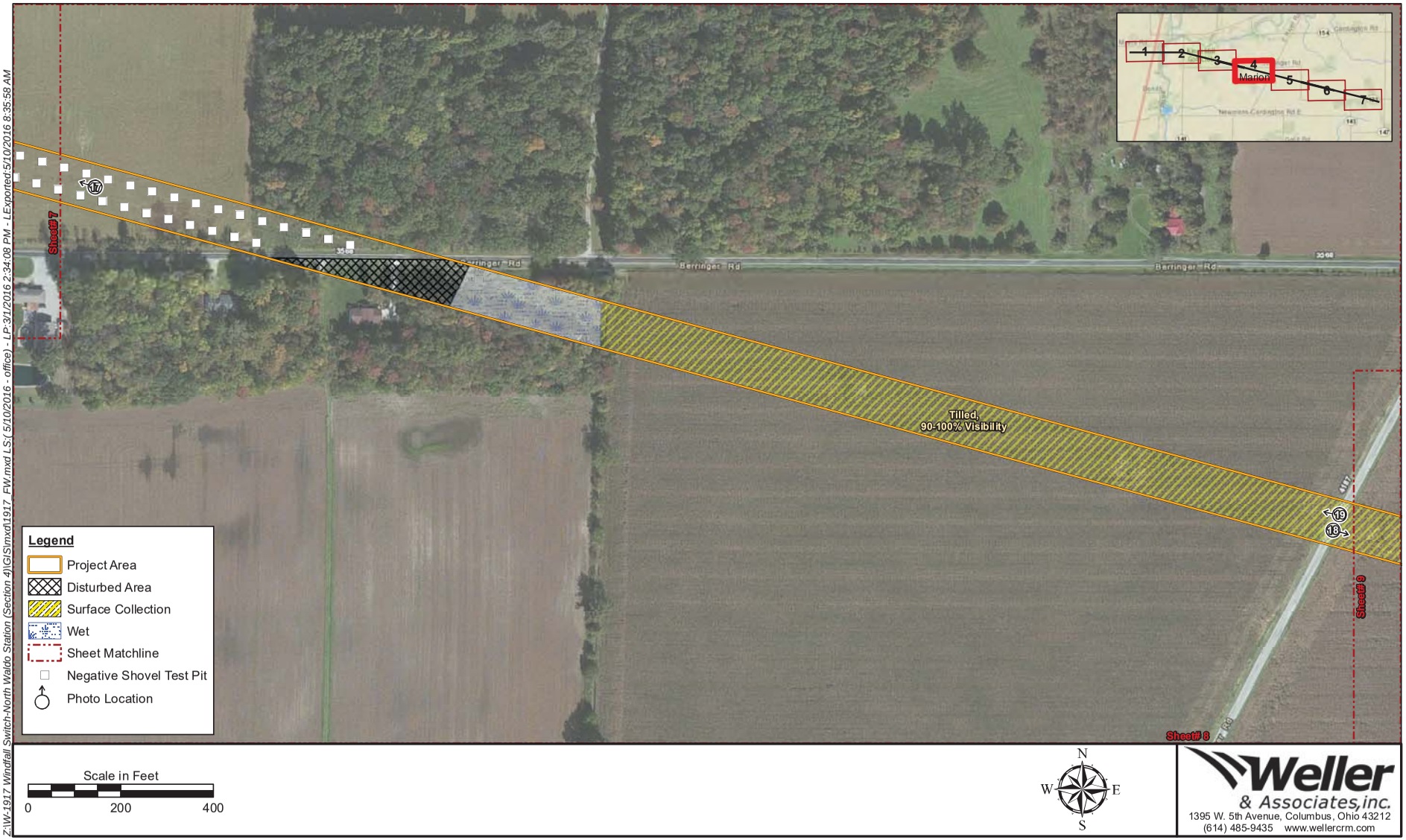
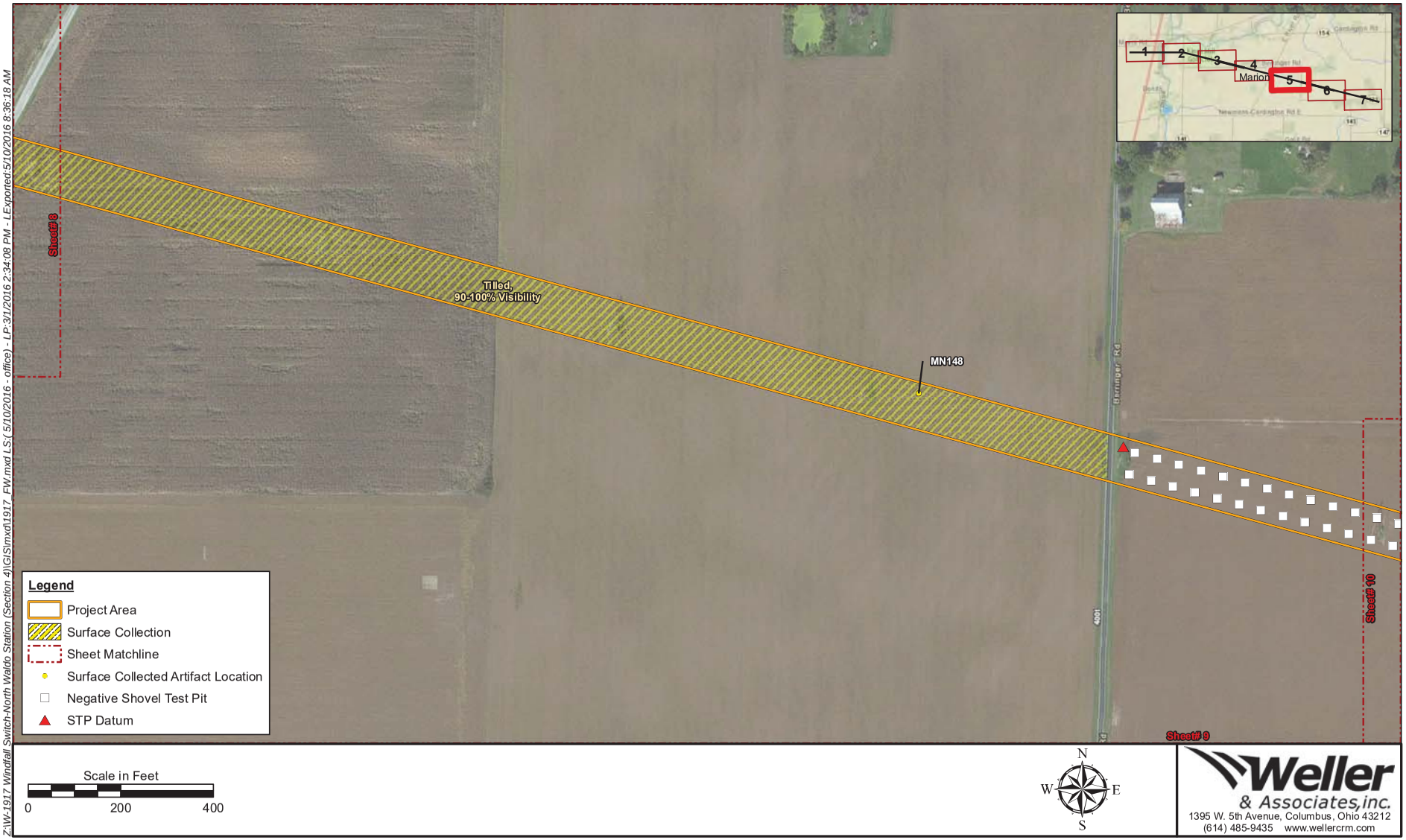


Figure 8. Fieldwork results & photo orientation for Sheet 4.



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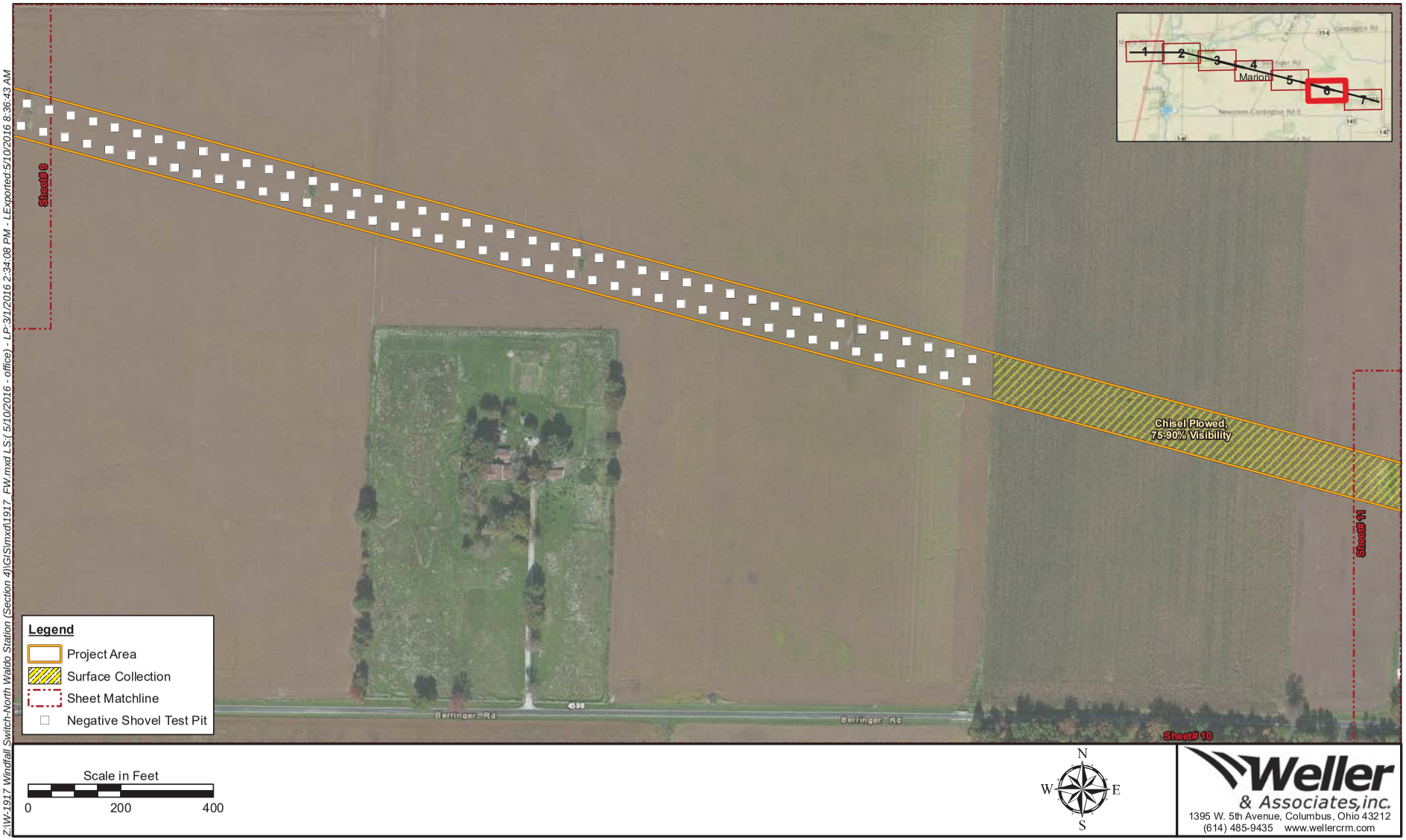

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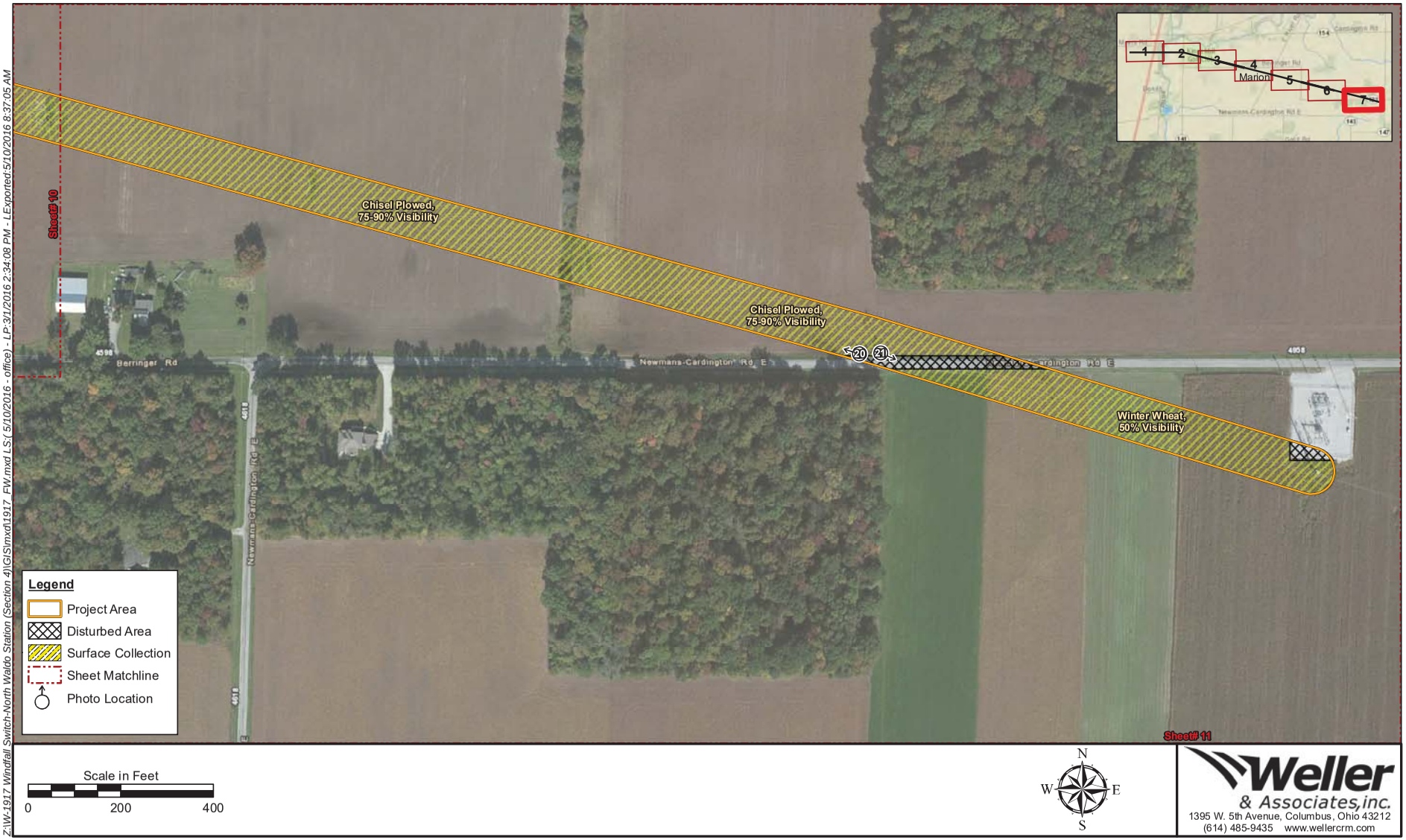

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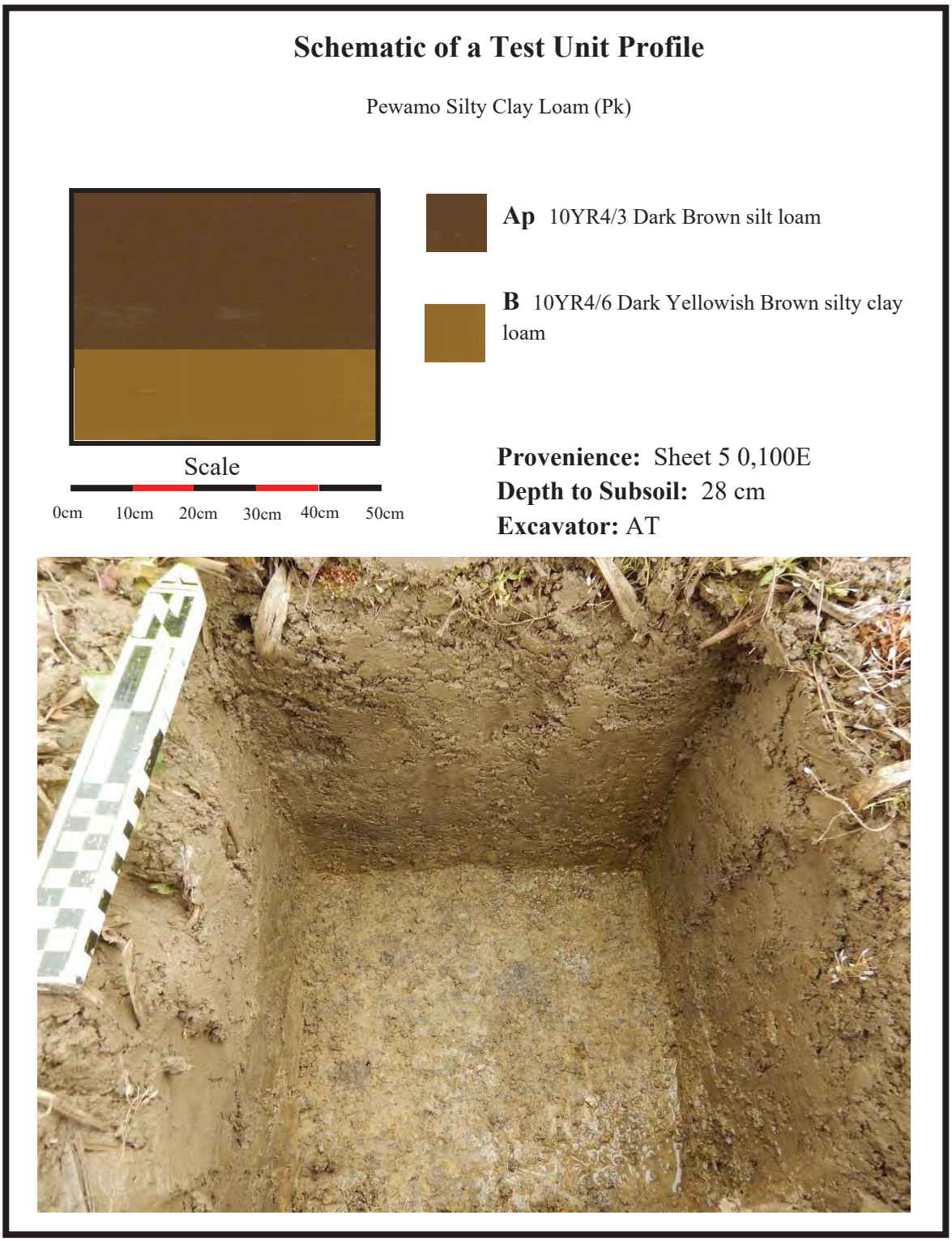

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Addendum Report: Phase I Archaeological Investigations for the Access Corridors Associated with the 6.23 km (3.87 mi) Windfall Switch-North Waldo Station 138kV Rebuild Project in Richland Township, Marion County, Ohio

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August 16, 2016

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Abstract

In August of 2016, Weller & Associates, Inc. completed addendum investigations for the access corridors associated with the 6.23 km (3.87 mi) Windfall Switch-North Waldo Station 138kV Rebuild Project in Richland Township, Marion County, Ohio. This work was limited to archaeological investigations since it was for access corridors that are at ground level. These investigations were conducted to meet guidelines that were set forth by the Ohio Power Siting Board; the survey was conducted in a manner that is conducive and reflective of current state guidelines and evaluates the resources in a manner that is reflective of Section 106 of the National Historic Preservation Act. The work involved a literature review and field investigations. The work involved a brief re-evaluation, update, and verification of the literature review that was conducted for the existing electric line easement. There were no cultural resources identified during these addendum investigations.

The project is located in rural, agricultural area in the southeastern part of Marion County. The electric line corridor crosses the Olentangy River, but its floodplain is not involved as it will be spanned by the planned construction/installation. The work will involve the replacement of the existing 138kV wooden H-frame electric line structures with steel monopole structures. Weller had conducted previous investigations that accounted for the existing Windfall Switch-North Waldo 138kV electric line corridor (Weller 2016), which was 30.5 m (100 ft) wide and 16.3 km (10.1 mi) long. The project corridor extends in a general east-west manner from just east of US 23 (North Waldo Station) to just west of Claridon-Ashley Road (Windfall Switch). This is entirely within the Olentangy River watershed and is mostly contained in upland, till plains situations with very little topographic relief. This survey addressed any necessary ground-disturbing activity regarding the access corridors for this rebuild project. Those that are planned within the right-of-way are within a previously investigated corridor, it was not re-surveyed. The current investigations account for associated activity as it pertains to areas that extend outside of this existing and previously investigated corridor.

The literature review for this project was updated to include the resources that were identified by the previous survey and to include any that had been conducted since then. Weller's previous (2016) investigations were conducted in late spring and resulted in the identification of eight archaeological sites, 33MN0148-155; none of these sites were regarded as being significant.

There were no additional cultural resources identified during these addendum investigations. Most of the access corridors that were surveyed are contained within the existing electric line right-of-way, which was addressed in the original survey (Weller 2016). No further archaeological work is considered to be necessary for this project.

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Introduction

In August of 2016, Weller & Associates, Inc. completed addendum investigations for the access corridors associated with the report titled: *Phase I Archaeological Investigations for the Approximately 6.23 km (3.87 mi) Windfall Switch-North Waldo Station 138kV Rebuild Project in Richland Township, Marion County, Ohio* (Weller 2016; Figures 1-13). This is part of a larger electric line considered as the West Mount Vernon -South Kenton 138 kV. The work was completed for American Electric Power Transco (AEP). These investigations were conducted in a manner that is reflective of procedures pertaining to the National Register of Historic Places (NRHP) and pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]). This work was completed to satisfy requirements for the Ohio Power Siting Board. This report summarizes the results of the fieldwork and literature review and the report format and design is similar to that established in *Archaeology Guidelines* (Ohio State Historic Preservation Office [SHPO] 1994).

Chad Porter conducted the original literature review in March of 2016; it was re-inspected in August, 2016. Ryan Weller served as the Principal Investigator and Chris Nelson was the Project Manager. The archaeological field crew included Alex Thomas, Matt Sanders, Brittany Vance, Jon Walker, and Craig Schaefer. The report preparation was by Ryan Weller, with Chad Porter and Jon Walker completing the figures.

Overall Project Description

The project will include a rebuild of Section 3 (Windfall Switch-North Waldo Station portion) of the West Mount Vernon-South Kenton 138 kV transmission line. This corridor has an approximately 6.23 km (3.87 mi) right-of-way that is entirely within Marion County. Wooden poles affiliated with the existing line will be replaced with steel structures. This report accounts for the archaeological component of the access corridors. In particular, the work was conducted for those access corridors that are located outside of the existing and previously investigated electric line right-of-way. These access corridors are typically 7.5 m (25 ft) wide.

Previous Investigations

This work was conducted as an addendum document to the original archaeological survey (Weller 2016). The original survey accounted for the existing electric line corridor that is 30.5 m (100 ft) wide. There were eight sites (33MN0148-155) identified during the previous investigations for this corridor (Weller 2016). The history/architecture component was previously addressed (Lehmann 2016) and additional work for this element of the project was not considered necessary since the work was performed for near surface access corridors.

Research Design

The purpose of this Phase I work is to locate and identify archaeological resources that will be affected by the planned electric structure replacement project, but specifically for this document, the access corridors. This report is being prepared to address only the archaeological concerns regarding this project and regarding the access corridors. If any cultural resources are identified, they are sampled, and evaluated for their eligibility or potential eligibility to the NRHP. The updated literature review aspect of these investigations is directed to answer or address the following questions:

1) Are there any previously identified cultural resources located within or near the proposed access corridors?
2) Has there been any new sites or surveys identified in the study area since the original investigations?

Archaeological Field Methods

The survey conducted for this project used visual inspection to verify that the conditions; this project involves a single access corridor.

Visual inspection. Locations where cultural resources were not expected, such as sloped, wetlands, or disturbed areas were walked over and visually inspected. This method was used to verify the absence or likelihood of any cultural resources being located in these areas. This method was also utilized to document the general terrain and the surrounding area.

The application of the resulting field survey methods was documented in field notes, field maps, and project plan maps.

Curation

There were no cultural resources identified during the survey for the access corridors. Notes and maps affiliated with this project will be maintained at Weller & Associates, Inc. files.

Literature Review

The literature review study area is defined as a 305 m (1,000 ft) study area from the center of the project (Figures 2 and 3). The literature review was updated to include any new information regarding the access corridors. In conducting the literature review, the following resources were consulted at SHPO and the State Library of Ohio:

1) *Archeological Atlas of Ohio* (Mills 1914);
2) SHPO United States Geological Survey (USGS) 7.5' series topographic maps;
3) Ohio Archaeological Inventory (OAI) files;
4) Ohio Historic Inventory (OHI) files;
5) National Register of Historic Places (NRHP) files;

6) SHPO CRM/contract archaeology files; and
7) SHPO consensus determination of eligibility files;
8) Marion County atlases, histories, historic USGS 15'series topographic map(s), and current USGS 7.5' series topographic map(s);
9) Genealogical and cemetery resources.

A review of the *Archeological Atlas of Ohio* (Mills 1914) was conducted. There are no sites within the project or study area according to this resource.

The SHPO topographic maps indicated that there are 11 sites identified within the study area. These are all prehistoric period lithic scatters or isolated find spots. Site 33MN0025 has a Late Woodland component and site 33MN0083 has a Middle Woodland component. These sites are located near a bend in the Olentangy River where there is a stream confluence as well as extending beyond the river valley into the uplands. Sites 33MN0025, 26, and 83 do not appear to have been originally identified during professional surveys, though site 33MN0026 is within a professionally surveyed area. Weller (2016) identified eight sites during the original/previous investigation (33MN0148-155). None of these sites were regarded as being significant. They consist of isolated find spots and low-density lithic scatters. There were no temporally diagnostic materials associated with these sites (Table 1).

Table 1. Previously Recorded OAIs Located in the Study Area.

Site # (33…)	Site Type	Temporal Association	Site Size (sq m)
MN0025	Lithic Scatter	Late Woodland (Epping Site)	4000
MN0026	Lithic Scatter	Unassigned Prehistoric (Theydon Site)	17500
MN0083	Lithic scatter	Middle Woodland	900
MN0148	Isolated find spot	Unassigned	1
MN0149	Isolated find spot	Unassigned	1
MN0150	Lithic scatter	Unassigned	42
MN0151	Lithic scatter	Unassigned	2
MN0152	Isolated find spot	Unassigned	1
MN0153	Lithic scatter	Unassigned	5
MN0154	Isolated find spot	Unassigned	1
MN0155	Lithic scatter	Unassigned	41

The OHI files did not indicate any recorded resources in the study area other than what had been identified and evaluated by the survey for the electric line corridor (Lehmann 2016) (Table 2). There were 11 architectural resources identified in the study area with nine of them not being considered to be significant. There were two resources that were considered for advanced study to evaluate them; however, the planned electric line project is not considered have any adverse effects on any historic properties.

Table 2. Architectural resources located in the study area.					
Field #	**County**	**Historic Function**	**Arch. Style**	**Date**	**Eligibility/Recom.**
S-1	Marion	Domestic - Single Dwelling	Vernacular	Ca. 1910	Not Eligible
S-2	Marion	Domestic - Single Dwelling	Vernacular	1898	Not Eligible
S-3/ MAR047714	Marion	Domestic - Single Dwelling	Vernacular	1850	Detailed Study
S-4	Marion	Domestic - Single Dwelling	Vernacular	Ca.1900	Not Eligible
S-5	Marion	Domestic - Single Dwelling	Vernacular	Ca.1900	Not Eligible
S-6	Marion	Agricultural – Barn	Vernacular	1920	Not Eligible
S-7 / MAR047814	Marion	Domestic - Single Dwelling	Vernacular	1888	Detailed Study
S-8	Marion	Domestic - Single Dwelling	Vernacular	1903	Not Eligible
S-9	Marion	Domestic - Single Dwelling	Vernacular	1891	Not Eligible
S-10/ MAR047914	Marion	Domestic - Single Dwelling	Craftsman	1922	Detailed Study
S-11/ MAR0488014	Marion	Domestic - Single Dwelling	Vernacular	1887	Detailed Study

A review of the NRHP/DOE files did not indicate any associated resources within the project or its study area.

A review of the CRM surveys was conducted and this indicated that there were three Phase I surveys conducted in the study area. One survey was conducted for a waterline corridor that is to the north of the project and the Olentangy River (DeRegnaucourt 1998) and near the eastern terminus of this project. Another survey was for an archaeological study (Kole 1980) that appears to have identified sites 33MN0025-26. This survey also involves a small part of the current project area, but there were no sites identified by this survey in the project area. Weller (2016) conducted investigations for the electric line corridor, which includes most of the proposed access corridors. This survey identified eight of the 11 sites listed in Table 1. None of these sites, 33MN0148-155, are considered to be eligible for the NRHP.

The *Atlas of Marion, Ohio* (Harrison, Sutton & Hare 1878) indicates buildings/structures are in the vicinity of the project area, but nothing that is definitively within it. The USGS *1915 Marengo, Ohio 15 Minute Series (Topographic)* map indicates that there are some buildings located near the project, but none are within it (Figure 4). Inspection of the *1988 Marion East*, *1988 Waldo*, and the *1999 Ashley, Ohio 7.5 Minute Series (Topographic)* maps did not indicate any buildings or structures within the project area (Figure 2).

The study area was inspected for cemeteries. There are four cemeteries located within the study area including: Berringer, Collmer, Klingel/Klingle, and Windfall. None of these are near the project area.

Evaluation of Research Questions 1 and 2

There were two questions presented in the research design that will be addressed at this point. These are:

1) Are there any previously identified cultural resources located within or near the proposed access corridors?
2) Has there been any new sites or surveys identified in the study area since the original investigations?

The investigations for the access corridor for this project is very limited. The work was focused on the one access corridor that extended outside of the previously investigated area. This corridor is likely severely disturbed as it appears to be an existing driveway. Cultural resources are not expected from this project.

Fieldwork Results

The field investigations for this project were completed on August 18, 2016 (Figures 5-13). The weather and conditions were non-factors in the completion of the field investigations as the work was limited to visual inspection and photographic documentation. The work for this project was limited to the one access corridor easement that is not contained within the existing and previously surveyed (Weller 2016) electric line corridor. The vast majority of the proposed access corridors are contained within this previously and recently investigated electric line corridor. The sites that were identified, 33MN0148-155, were not regarded as being significant. There were no cultural resources identified during these investigations for the access corridors.

The fieldwork focused on the one access corridor that is located outside of the previously surveyed corridor (Figure 5). This access corridor is located at the western end of the overall corridor and is the same gravel drive (Figures 12 and 13) that is used to access the North Waldo Station. This area was visually inspected and photographed to demonstrate that it was fully disturbed. There were no cultural materials identified during these investigations.

APE Definition and NRHP Determination

The APE is a term that must be applied on an individual project basis. The nature of the project or undertaking is considered in determining the APE. This can include areas that are off the property or outside of the actual project's boundaries to account for possible visual impacts, but not necessarily for underground or near-surface types of projects. This project involves the replacement of structures within an existing electric line corridor and these investigations were for the access corridors. The APE for this project is limited to the footprint of the access corridors. The work was conducted in remote and lowly populated areas that are in Marion County. The project involves the

removal of older H-frame structures that are in a state of disrepair and replacing them with newer structures. These archaeological investigations were conducted for access corridors, especially those that extend outside of the current, existing, and previously investigated electric line corridor.

There were no new cultural resources identified during these investigations; no previously identified sites were relocated, either. Since the work will involve access corridors, a near ground level construction or use, the APE is considered to be the footprint of the easement. The archaeological investigations were conducted for the footprint of the planned construction activities for the 7.5 m (25 ft) wide access roads. The use and/or construction of the access corridors will not impact or affect any historic properties; no cultural resources were identified during these investigations.

Recommendations

In August of 2016, Weller & Associates, Inc. completed addendum investigations for the access corridors associated with the report titled: *Phase I Archaeological Investigations for the Approximately 6.23 km (3.87 mi) Windfall Switch-North Waldo Station 138kV Rebuild Project in Richland Township, Marion County, Ohio*. There were no cultural materials identified during these investigations. Most of the access corridors were identified within areas that had been previously investigated or made use of existing, disturbed easements. It is Weller's opinion that this planned work will not affect any significant archaeological deposits. No further archaeological work is considered to be necessary.

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Weller, R. J.
2016 *Phase I Archaeological Investigations for the Approximately 6.23 km (3.87 mi) Windfall Switch-North Waldo Station 138kV Pole Replacement Project in Richland Township, Marion County, Ohio.* Weller & Associates, Inc. Document in review process.

Figures

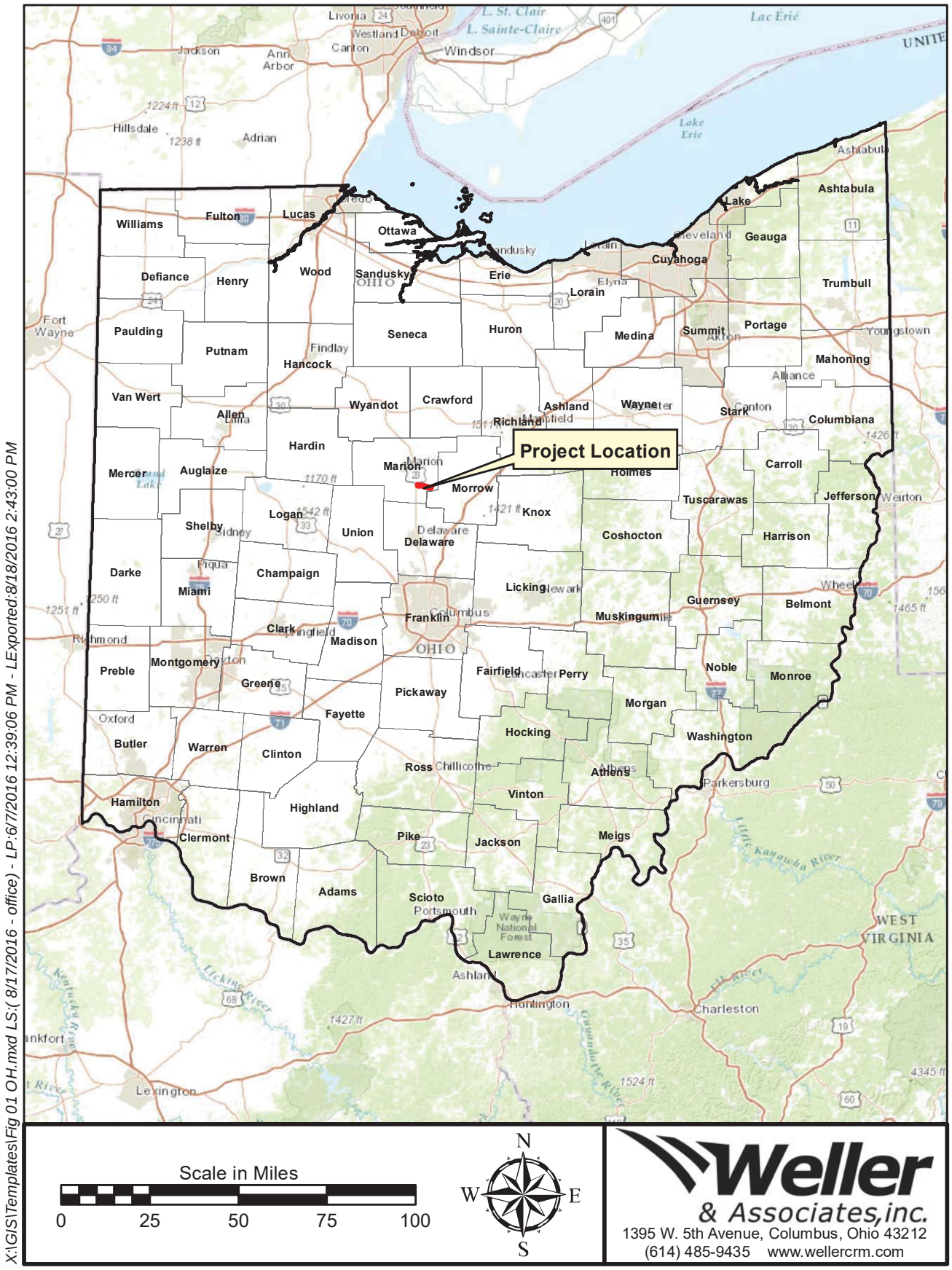
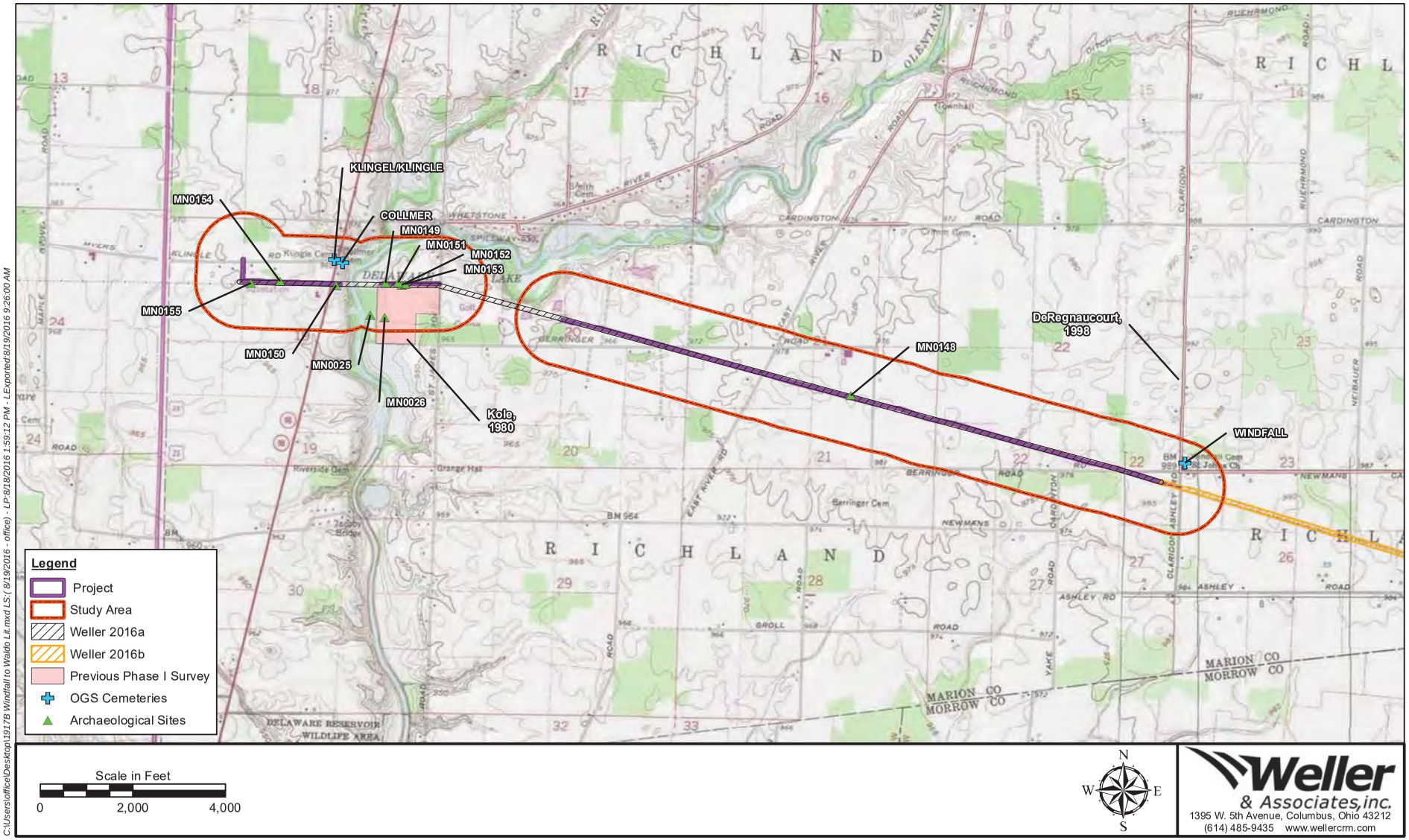


Figure 1. Political map of Ohio showing the approximate location of the project.



project.

Figure 2. Portions of the USGS *1988 Marion East, 1988 Waldo, 1999 Ashley and 1988 Denmark, Ohio 7.5 Minute Series (Topographic)* maps indicating the location of the project and previously recorded resources in the study area.

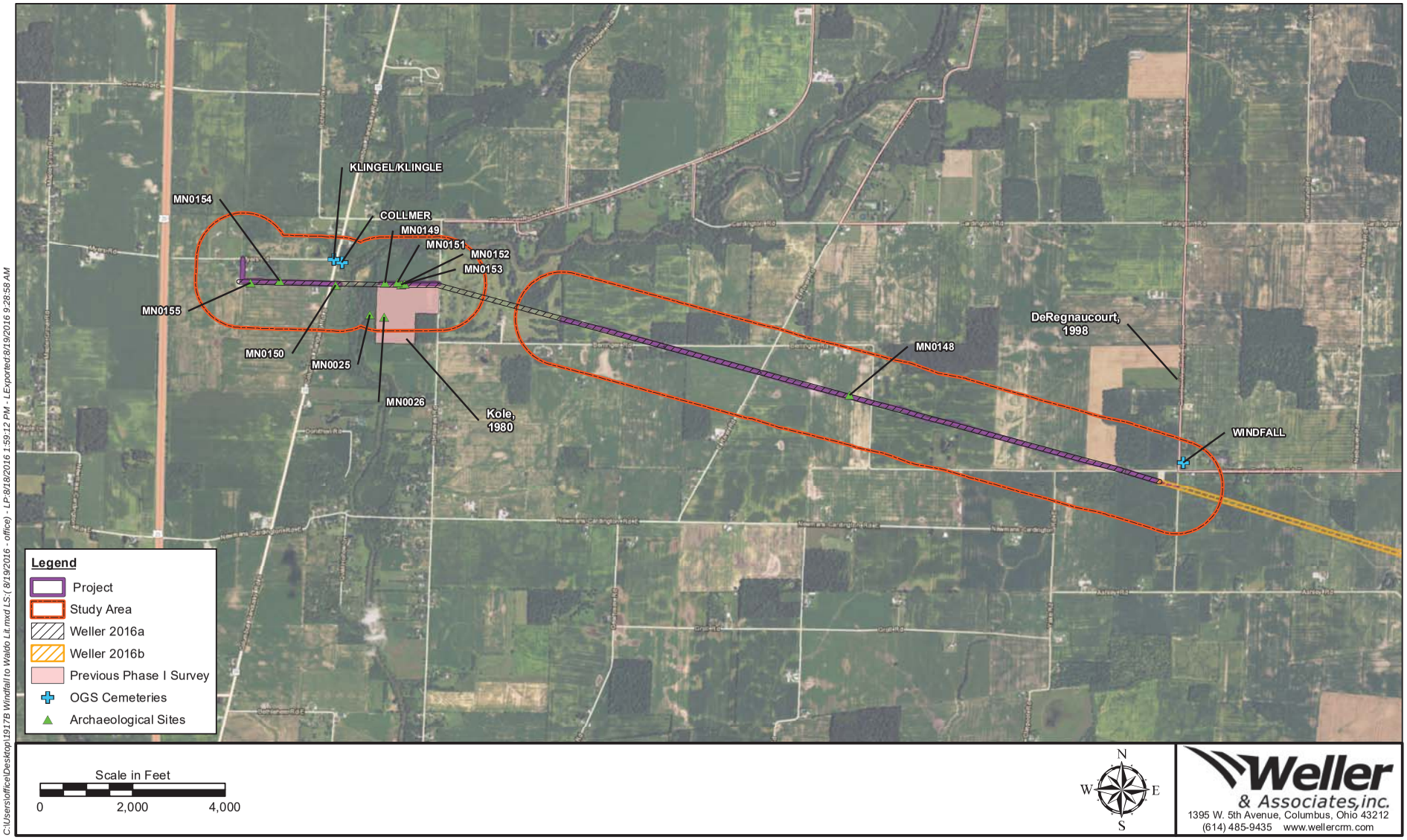


Figure 3. Aerial map indicating the location of the project and previously recorded resources in the study area.

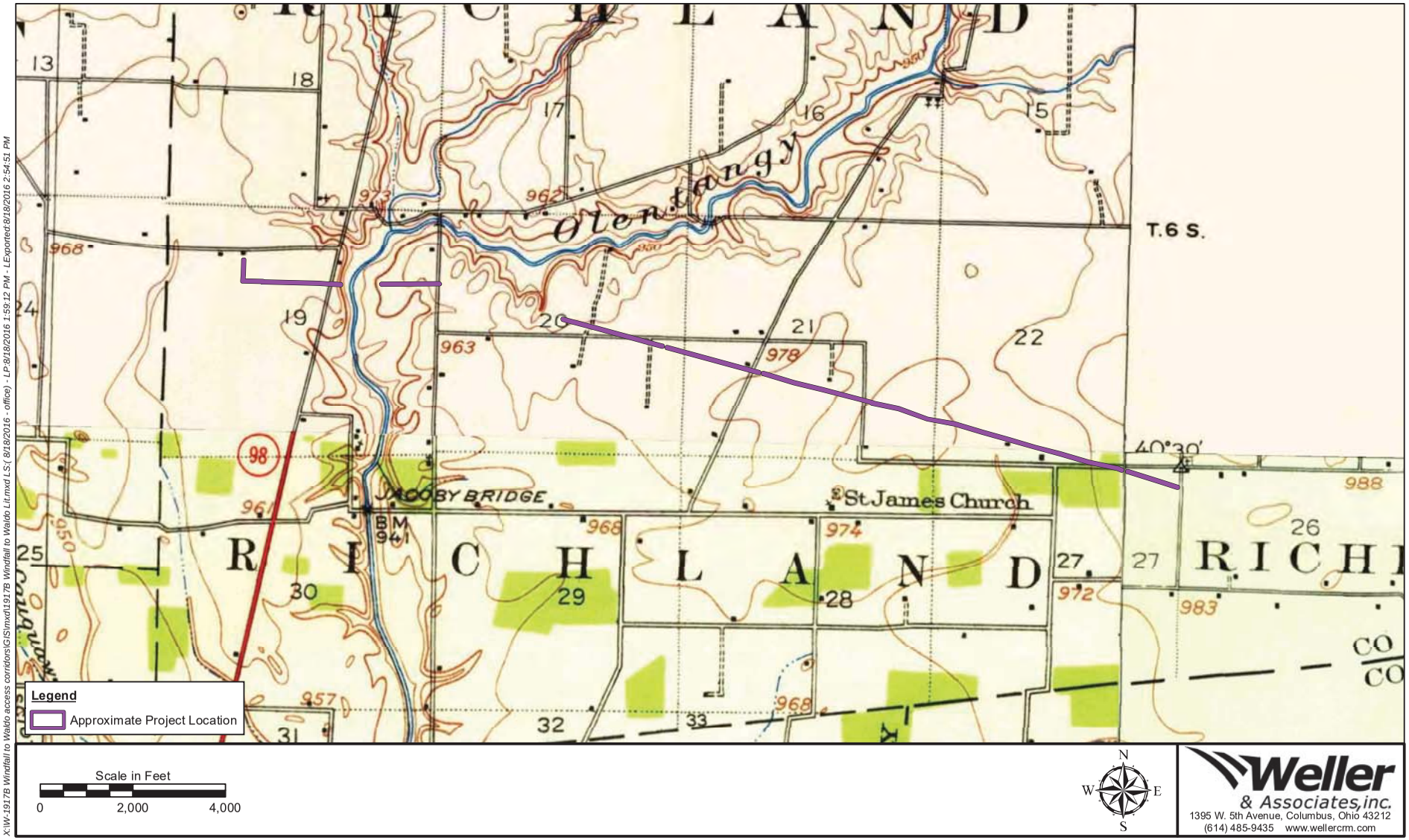


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Figure 4. Portions of the USGS *1903 Marian, 1924 Delaware and 1915 Marengo, Ohio 15 Minute Series (Topographic)* maps indicating the approximate location of the project.

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Figure 5. Fieldwork results and photo orientations for Sheet 1.

Figure 6. Fieldwork results and photo orientations for Sheet 2.

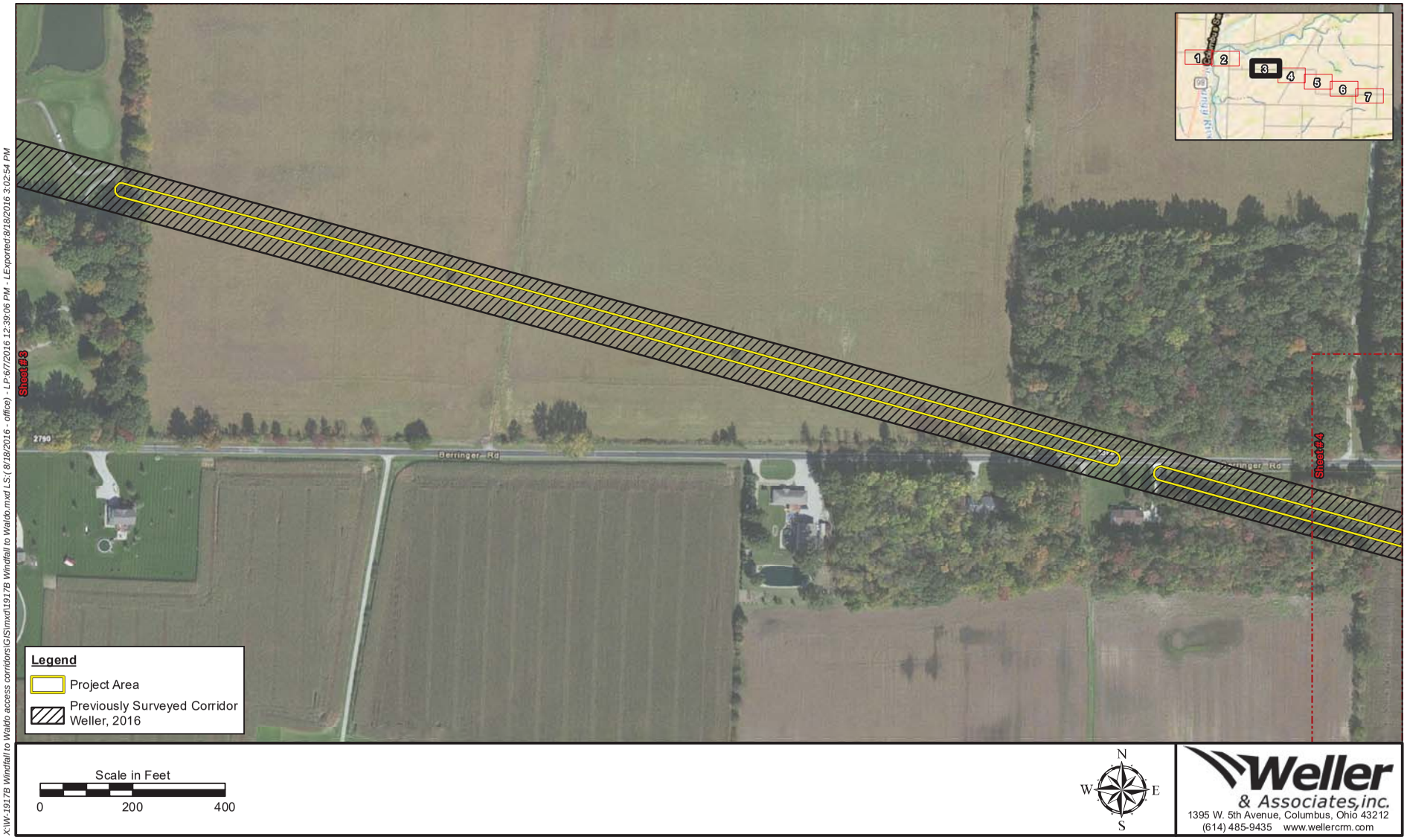

Figure 7. Fieldwork results and photo orientations for Sheet 3.

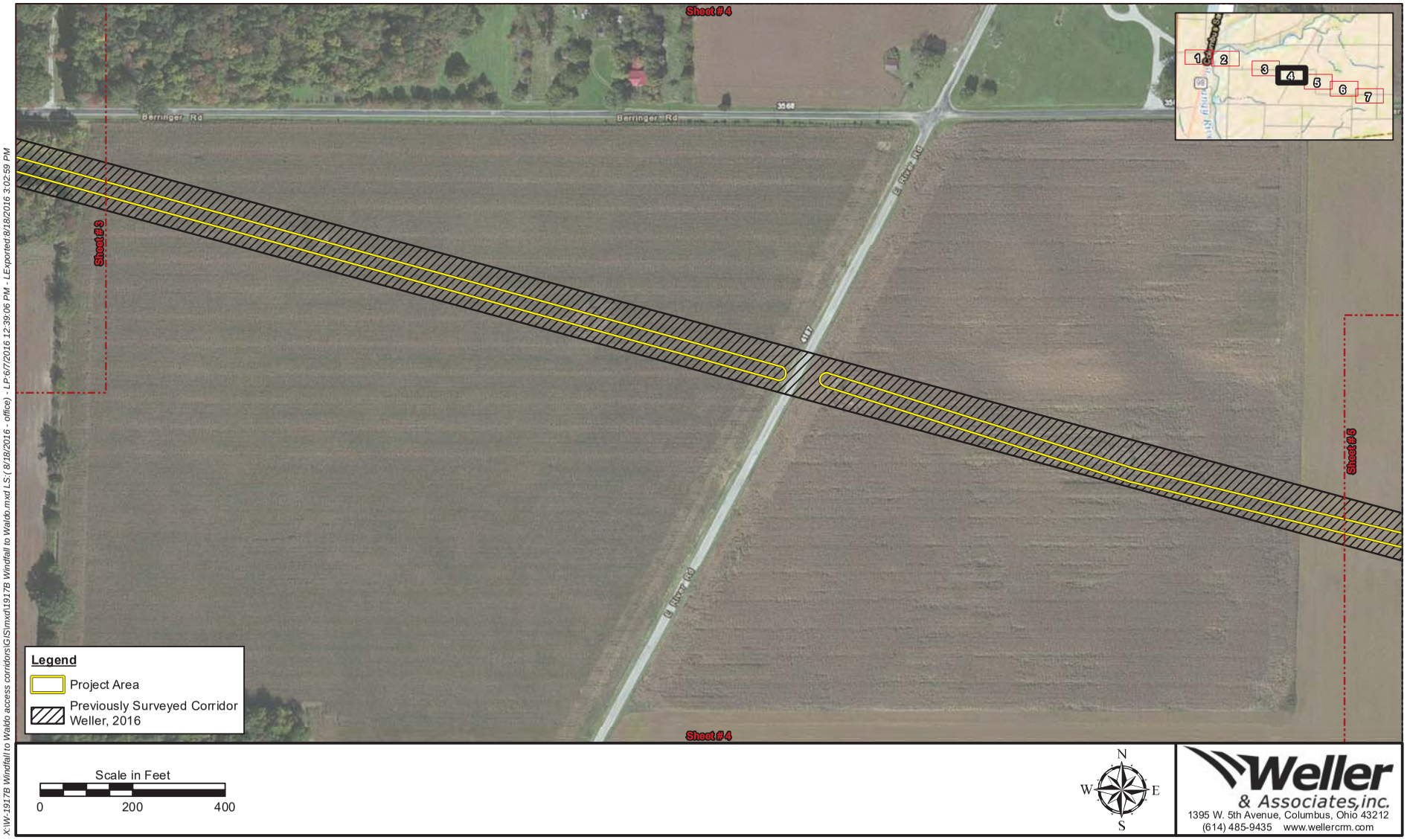

Figure 8. Fieldwork results and photo orientations for Sheet 4.

Figure 9. Fieldwork results and photo orientations for Sheet 5.

Figure 10. Fieldwork results and photo orientations for Sheet 6.

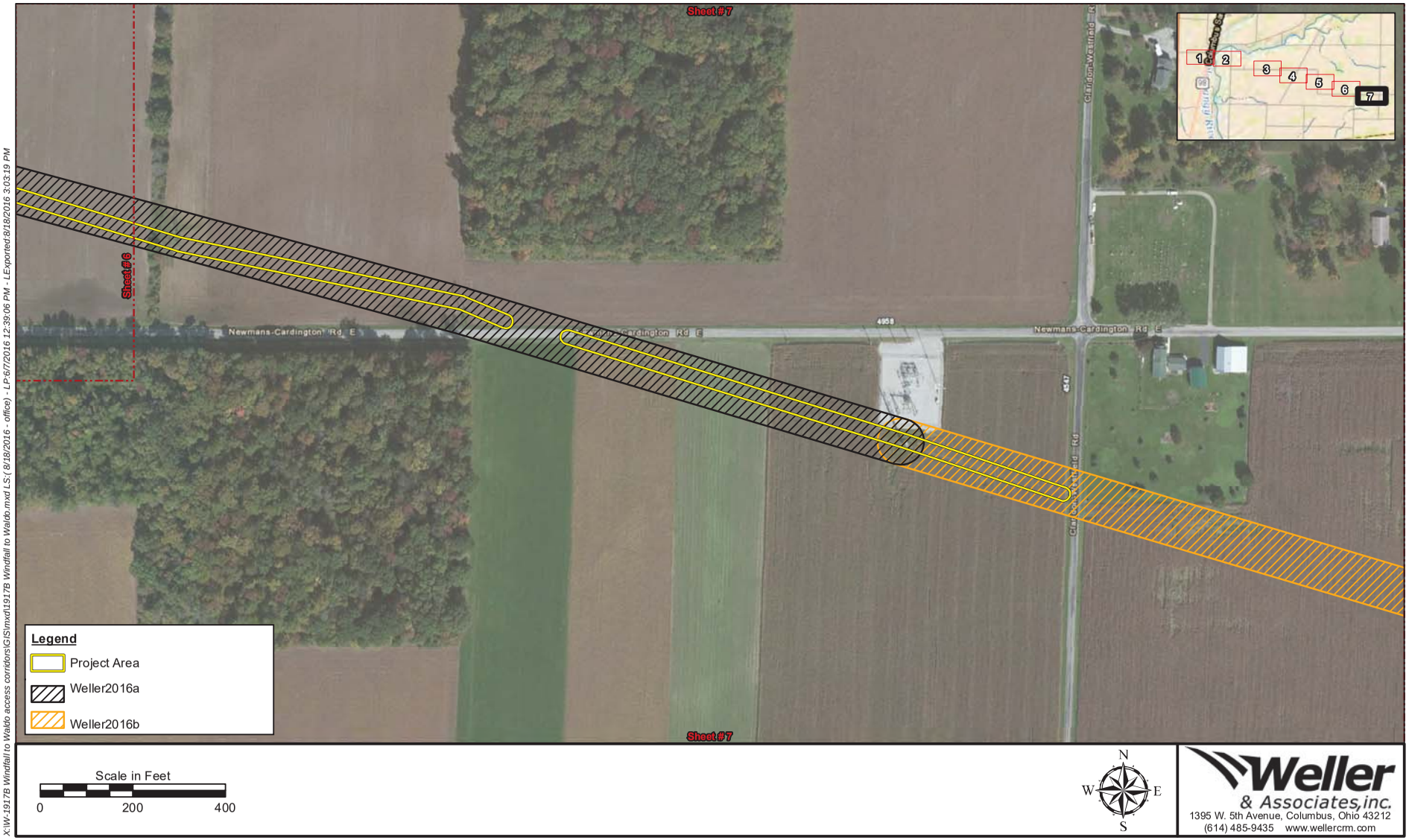

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Figure 11. Fieldwork results and photo orientations for Sheet 7.

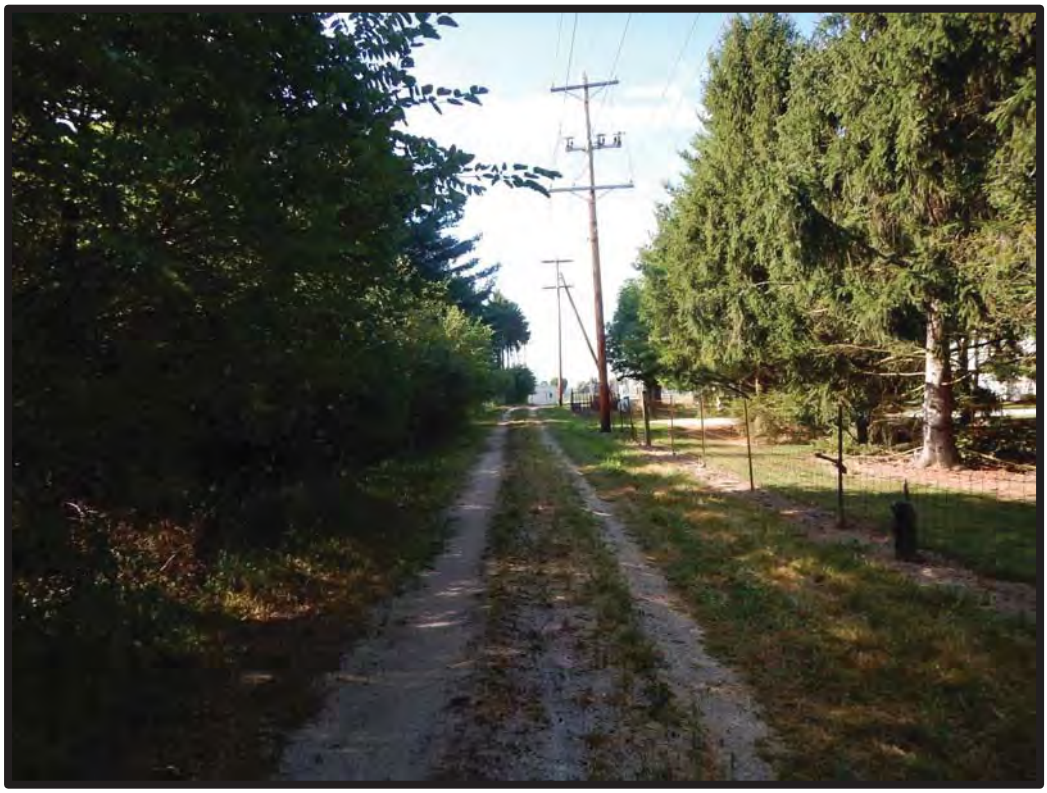

Figure 12. View of the existing gravel access road at the western end of the project.

Figure 13. View of the gravel access and North Waldo Station.

Summary: Letter of Notification 1 electronically filed by Mr. Hector Garcia on behalf of AEP Ohio Transmission Company