Figures



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



Figure 2. Portion of the USGS 1995 Jackson and 1995 Wellston, Ohio 7.5 Minute Series (Topographic) map 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.



Figure 4. Portion of the USGS 1913 Jackson, Ohio 15 Minute Series (Topographic) map indicating the approximate location of the project.



Figure 5. Aerial map indicating the results of testing and photo orientations.



Figure 6. View of the disturbed shovel probed eastern portion of the project.



Figure 7. Conditions within the project.



Figure 8. Conditions within the project.



Figure 9. A disturbed shovel probe from the eastern portion of the project.



Figure 10. A typical shovel test unit excavated within the project.





Figure 11. Some of the artifacts from JA0393.



Figure 12. Portion of the USGS 1995 Jackson and 1995 Wellston, Ohio 7.5 Minute Series (Topographic) map indicating the location of Site JA0393 and JA0394.

LETTER OF NOTIFICATION FOR IRONMAN STATION PROJECT

Appendix C Ecological Survey Report June 26, 2017

Appendix C Ecological Survey Report



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Ecological Survey Report

AEP Ohio Transmission Company, Inc. Ironman Station Project Jackson County, Ohio

GAI Project Number: C170352.05, Task 001

June 2017



BOUNDLESS ENERGY"

Prepared by: GAI Consultants, Inc. Canton Office 3720 Dressler Road Northwest Canton, Ohio 15120-2700 Prepared for: American Electric Power Service Corporation 1 Riverside Place 22nd Floor Columbus, Ohio 43215-2373

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1.0 Introduction

GAI Consultants, Inc. (GAI), on behalf of American Electric Power Ohio Transmission Company, Inc. (AEP), completed an ecological survey for the Ironman Station Project (Project) located in Lick Township, Jackson County, Ohio (OH). The Project involves the construction of a new 138 kilovolt (kV) switchyard and the relocation of approximately 0.2 mile of existing 69kV transmission line.

Ecological surveys were completed on May 9 and 23, 2017. The study area consisted of approximately 5.2 acres, as shown on Figure 1.

The Project study area is located within the Horse Creek-Little Salt Creek [United States Geological Survey (USGS) Hydrologic Unit Code (HUC) #050600020803] watershed.

This report details the results of the ecological surveys regarding the existence of aquatic resources within the Project area (Figure 2).

2.0 Methods

2.1 Wetlands

The 1987 USACE *Corps of Engineers Wetland Delineation Manual* (Wetland Delineation Manual) (USACE, 1987) and the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0* (Regional Supplement) (USACE, 2012) describe the methods used to identify and delineate wetlands that fall under the jurisdiction of the USACE. This approach recognizes the three parameters of wetland hydrology, hydrophytic vegetation, and hydric soils to identify and delineate wetland boundaries. In accordance with the Wetland Delineation Manual and Regional Supplements, GAI completed preliminary data gathering and an onsite inspection.

2.1.1 Preliminary Data Gathering

The preliminary data gathering was used to compile and review information that may be helpful in identifying wetlands and/or areas that warrant further inspection during the investigation. The preliminary data gathering included a review of the following:

- USGS 7.5-minute topographic mapping for Jackson (USGS, 1978) and Wellston (USGS, 1977), OH (Figure 1);
- United States Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) mapping (USFWS, 2015) (Figure 2);
- Federal Emergency Management Agency (FEMA), National Flood Hazard Layer (FEMA, 2015) (Figure 2); and
- United States Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS, 2015) soil mapping (Figure 2).

Topographic mapping was used to identify mapped streams and the overall shape of the landscape in the Project area to determine potential locations for wetlands, such as floodplains and depressions. NWI mapping was used to determine locations where probable wetlands are located based on infrared photography. Soil mapping was reviewed to determine the location and extent of mapped hydric soils that have a high probability of containing wetlands.

2.1.2 Onsite Inspection

The methodology described in the Regional Supplements identify areas meeting the definition of a wetland by evaluating three parameters: hydrology, vegetation, and soil. During the on-site inspection, GAI staff traversed the Project study area on foot to determine if any indicators

of wetlands were present. When indicators of wetlands were observed, an observation point was established, and a Wetland Determination Data Form (Data Form) was completed to determine if all three wetland indicators were present.

The presence of wetland hydrology was determined by examining the observation point for primary and secondary indicators of wetland hydrology. The presence of any primary indicator signified the presence of wetland hydrology, or the presence of two or more secondary indicators signified the presence of wetland hydrology.

Vegetation was characterized by four different strata. This included trees (woody plants, excluding vines, three inches or more in diameter at breast height [DBH]), saplings/shrubs (woody plants, excluding vines, less than three inches DBH and greater than or equal to 3.28 feet tall), herbs (non-woody plants, regardless of size, and all other plants less than 3.28 feet tall), and woody vines (greater than 3.28 feet tall). In general, trees and woody vines were sampled within a 30-foot radius, saplings and shrubs were sampled within a 15-foot radius, and herbs were sampled within a five-foot radius.

When evaluating an area for the presence of hydrophytes, classification of the indicator status of vegetation was based on *The National Wetland Plant List: 2016 Update of Wetland Ratings* (Lichvar et al., 2016). The list of possible indicator statuses for plants is as follows:

- Obligate Wetland (OBL) Obligate Wetland plants occur in standing water or in saturated soils;
- Facultative Wetland (FACW) Facultative Wetland plants nearly always occur in areas of prolonged flooding or require standing water or saturated soils but may on rare occasions, occur in non-wetlands;
- Facultative (FAC) Facultative plants occur in a variety of habitats, including wetland and mesic to xeric non-wetland habitats but often occur in standing water or saturated soils;
- Facultative Upland (FACU) Facultative Upland plants typically occur in xeric or mesic non-wetland habitats but may frequently occur in standing water or saturated soils; and
- Obligate Upland (UPL) Obligate Upland plants almost never occur in water or saturated soils.

Presence of hydrophytic vegetation was determined by using a Rapid Test, Dominance Test or Prevalence Index (USACE, 2010). The Rapid Test finds a vegetation community to be hydrophytic if all dominant species are OBL or FACW. Hydrophytic vegetation was considered present based on the Dominance Test if more than 50 percent of dominant species are OBL, FACW, or FAC. The Prevalence Index weighs the total percent of vegetation cover based on the indicator status of each plant. Hydrophytic vegetation was considered present when the Prevalence Index is less than or equal to 3.0.

To determine the presence of hydric soils, soil data was collected by digging a minimum 16-inch soil pit. The soil profile was studied and described, while possible hydric indicators were examined. Soil indicators described in the Wetland Delineation Manual and Regional Supplements were used to determine the presence of hydric soils. The presence of any of these indicators signified a hydric soil.

If all three parameters including wetland hydrology, a dominance of hydrophytic vegetation, and hydric soils were identified at a single observation point, the area was determined to be a wetland. Once a wetland was identified, the boundary was delineated.



Wetland boundaries were determined by looking for locations in which one of the three wetland indicators would transition into an upland characteristic. When the transition was identified, a Data Form was completed in the Upland Area. Wetland boundaries were then **marked in the field using pink flagging labeled** "WETLAND DELINEATION." **The lo**cations of the flags were recorded using a Global Positioning System (GPS) unit. Each wetland was codified with a unique identifier indicating the feature type and number (e.g., W001).

Wetlands were then classified using the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979) as modified for NWI Mapping Convention. This system classifies wetlands based on topographic position and vegetation type. Palustrine system wetlands found within the study area are classified as Palustrine Emergent (PEM), Palustrine Scrub-Shrub (PSS), Palustrine Forested (PFO), or Palustrine Unconsolidated Bottom (PUB) based on aerial coverage of the vegetative community across the extent of the wetland boundary (Cowardin et al., 1979).

2.2 Waterbodies

As with wetlands, Section 404 of the Clean Water Act (CWA) and state regulations protect waterbodies in OH. Generally, waterbodies are defined as environmental features that have defined beds and banks, ordinary high water mark (OHWM), and contain flowing or standing water for at least a portion of the year.

2.2.1 Preliminary Data Gathering

During the preliminary data gathering, the USGS 7.5-minute topographic mapping was examined for the presence of mapped waterbodies including perennial and intermittent streams. In addition, the topographic mapping was used to identify areas likely to contain unmapped waterbodies including ephemeral streams (USGS, 1977 and 1978) (Figure 1).

The OEPA Stream Eligibility Web Map was used to determine eligibility coverage under the 401 Water Quality Certification (WQC) for the 2017 Nationwide Permits (NWPs). Furthermore, the map was used to identify any ineligible areas that may require a CWA Section 401 individual permit from the OEPA should stream impacts occur within the Project area (OEPA, 2017) (Figure 3).

2.2.2 Onsite Inspection

During the onsite inspection, GAI staff traversed the study area, concurrently with the wetland inspection, and waterbodies were identified. Waterbodies were identified based on the morphological and hydrologic characteristics of the channel and the presence of aquatic macroinvertebrates.

When a waterbody was identified, field measurements were collected. The measurements included top of bank width, top of bank depth, pool depth, water depth, OHWM width, and OHWM depth. A detailed description of substrate composition was also recorded. Waterbodies were then delineated using white flagging marked with the GAI stream code (e.g., S001). The tops-of-bank for streams wider than 10 feet were delineated and the centerline of smaller streams were delineated. The locations of the flags were recorded using a sub-meter capable hand-held GPS unit.



2.3 Rare, Threatened, and Endangered Species

GAI conducted a literature review of potential Rare, Threatened, and Endangered species (RTE) in the vicinity of the Project study area. Potential habitat for RTE species as a result of the literature review was noted during the ecological surveys.

2.3.1 Preliminary Data Gathering

A request for review of the Ohio Natural Heritage Database (ONHD) was submitted to the Ohio Department of Natural Resources (ODNR) to determine if any state-listed threatened or endangered species occur within a one-mile radius of the Project area. A request was also submitted to the USFWS Ohio Ecological Services Field Office to determine if any federally-listed threatened or endangered species occur within the vicinity of the Project area.

2.3.2 Onsite Inspection

During the onsite inspection, GAI staff traversed the study area in conjunction with the wetland and waterbody inspections to determine if suitable habitat for state- and/or federally-listed RTE species are present within the study area.

3.0 Results

3.1 Wetlands

3.1.1 Preliminary Data Gathering

Desktop review of available USFWS NWI digital data for the Project did not reveal any NWI mapped wetlands within the Project study area (USFWS, 2015).

According to the USDA-NRCS soil mapping, a total of seven (7) soil map units are located within the study area (Figure 2). One of the soil map units is classified as hydric [Piopolis silt loam (Pb)] and two are known to contain hydric inclusions [Doles silt loam (Dol1A1) and Omulga silt loam (Omu1A1)].

3.1.2 Onsite Inspection

No wetlands were identified within the study area.

3.1.3 Regulatory Discussion

The USACE guidance divides waterbodies into three groups: Traditionally Navigable Waters (TNWs), non-navigable Relatively Permanent Waters (RPWs), and non-navigable Non-RPWs. TNWs are waterbodies which have been, are, or may be susceptible to use in interstate commerce, including recreational use of the waterbody. RPWs are waterbodies that flow year round, or at a minimum seasonally, by exhibiting continuous flow for at least three consecutive months, but are not TNWs (USACE, 2007). Non-RPWs are waterbodies that do not flow continuously for at least three consecutive months, are not TNWs or RPWs, but typically exhibit characteristic beds, banks, and ordinary high water marks (USACE, 2007).

The status of wetlands is determined partly based on the classification of the waterbody that the wetland is associated with, and the degree of that association. Wetlands that abut or are adjacent to TNWs are jurisdictional. Wetlands that abut RPWs are jurisdictional. Wetlands that are adjacent to RPWs and wetlands that abut or are adjacent to Non-RPWs must be subjected to the Significant Nexus Test (SNT) to determine their jurisdictional status. Generally, the USACE considers wetlands that are isolated, meaning that they are not associated with any other surface water feature, as non-jurisdictional; and wetlands that abut or are adjacent to Non-RPWs as needing further examination by the USACE to determine and verify whether they



exhibit a significant nexus to waters of the United States. If these wetlands exhibit a significant nexus, they are jurisdictional; if not, they are not subject to USACE jurisdiction.

Wetlands that do not exhibit an association with any surface water are categorized as **"isolated" under present USACE guidance and policy. These wetlands are regulat**ed by the OEPA Division of Surface Water (DSW), and may require an Isolated Wetland Permit.

As regulated by Ohio Administrative Code (OAC) rules 3745-1-50 through 3745-1-54, wetlands were also evaluated using the ORAM to determine the appropriate wetland category. Any wetland score that fell within a gray zone between categories was scored one of two ways. Either the wetland was assigned to the higher of the two categories or it was assessed using a non-rapid method to determine its quality (Mack, 2001). The category assigned to a particular wetland determines the requirement, if any, for additional levels of protection administered by the OEPA.

3.2 Waterbodies

3.2.1 Preliminary Data Gathering

Desktop review of the available USGS topographic mapping did not reveal any previously mapped stream segments located within the Project study area (Figure 1). Desktop review of **OEPA's Stream Eligibility Web Map revealed the Project is located within** a possibly eligible area for automatic 401 WQC coverage (Figure 3).

3.2.2 Onsite Inspection

No stream segments were identified within the study area.

3.2.3 Regulatory Discussion

As with wetlands, present USACE guidance and policy determines the jurisdictional status of waterbodies identified during the Project. TNWs and RPWs are jurisdictional. Non-RPWs must be subjected to the SNT by USACE to determine their jurisdictional status. If Non-RPWs exhibit a Significant Nexus, as defined in USACE guidance documents, they are jurisdictional. If not, they do not fall under the jurisdiction of the USACE.

Streams are generally defined as environmental features that have defined beds and banks, an OHWM as defined in RGL 05-05, and contain flowing or standing waters for at least a portion of the year. Streams were classified as perennial, intermittent, or ephemeral based upon presence of flow, estimated duration of flow, stream bed characteristics, and presence of aquatic biota. The USACE *Jurisdictional Determination Form Instructional Guidebook* (USACE, 2007) was used to determine stream classification and flow status.

As regulated by OAC Chapter 3745-1 and Section 401 Water Quality Certification, streams were also assessed according to OEPA guidance using either the HHEI for watersheds less than one square mile in size, or the Qualitative Habitat Evaluation Index (QHEI) for watersheds between one and 20 square miles in size.

3.3 Rare, Threatened, and Endangered Species

3.3.1 Preliminary Data Gathering

Desktop review of **ODNR, Division of Wildlife's Ohio's Listed Species revealed** 321 Endangered, Threatened, Species of Concern, and Species of Interest located in OH (ODNR, 2016). Seventeen (17) of the state-listed species are considered federally Endangered, and four (4) are federally Threatened.



A review of the USFWS *County Distribution of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species for Ohio* as well as the Information for Planning and Conservation (IPaC) website revealed three (3) federally Endangered or Threatened species that may occur within the Project study area (USFWS, 2017). The list of species includes the following:

- Indiana bat (*Myotis sodalis*) Endangered;
- Northern long-eared bat (Myotis septentrionalis) Threatened; and,
- Running buffalo clover (*Trifolium stoloniferum*) Endangered.

In addition to the species listed above, there are 22 species of migratory birds that may occur within the Project study area.

3.3.2 Onsite Inspection

Potential habitat for RTE species was evaluated within the study area. In general, the habitat encountered within the study area consisted of recreational properties.

3.3.3 Regulatory Discussion

State-listed RTE species fall under the jurisdiction of the ODNR, Division of Wildlife, while federally-listed species are covered under Section 7 of the Endangered Species Act (ESA). The Bald and Golden Eagle Protection Act and Migratory Bird Act aim to extend protection to certain bird species that fall under the jurisdiction of the USFWS. Based on the desktop review and on-site inspection, informal consultation with the ODNR and USFWS has been initiated to determine if any activities associated with the proposed Project may affect state- and/or federally-listed RTE species. The ODNR and USFWS consultation letters were submitted on May 8, 2017, and are provided in Appendix B. A response from the USFWS was received on May 16, 2017, and is also provided in Appendix B. The ODNR response will be appended when received.

4.0 Conclusions

Ecological surveys were conducted within the Project study area on May 9 and 23, 2017. There were no wetlands or streams identified within the Project study area. Photographs of the habitat and site conditions are included in Appendix A.





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United States Geological Survey. 1978. Jackson, Ohio 7.5-Minute Topographic Quadrangle (1:24,000).



TABLES



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in

Case No(s). 17-0804-EL-BLN

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