



Legal Department

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

September 30, 2016

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

Hector Garcia
Senior Counsel –
Regulatory Services
(614) 716-3410 (P)
(614) 716-2014 (F)
hgarcia1@aep.com

**Re: PUCO Case No. 16-0549-EL-BNR
Request for Expedited Treatment:
In the Matter of the Construction Notice for the
Beatty Road Station Drainage Improvements**

Dear Chairman Haque,

Attached please find a copy of the Construction Notice for the Beatty Road Station Drainage Improvements 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 is also being provided to the OPSB Staff via electronic message. The Company will also submit a check in the amount of \$2,000 to the Treasurer, State of Ohio, for Fund 5610 for the expedited fees.

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

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

Construction Notice for Beatty Road Station Drainage Improvements



PUCO Case No. 16-0549-EL-BNR

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

Submitted by:
AEP Ohio Transmission Company, Inc.

September 30, 2016

CONSTRUCTION NOTICE FOR BEATTY ROAD STATION DRAINAGE IMPROVEMENTS

September 30, 2016

Construction Notice

Beatty Road Station Drainage Improvements

4906-6-05

AEP Ohio Transmission Company, Inc. ("AEP Ohio Transco") provides this Construction Notice ("CN") to the Ohio Power Siting Board ("OPSB") in accordance with the accelerated 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 Construction Notice.

AEP Ohio Transco proposes the Beatty Road Station Drainage Improvements (the "Project"), located on Beatty Road west of U.S. Route 62 in Grove City, Franklin County, Ohio. The Project consists of drainage improvements around the existing Beatty Road Station (the "Station"), installation of a new fence around the perimeter of the Station (approximately 20 feet outside the existing Station fence) and other Station enhancements within the existing Station footprint. An approximately 12-foot wide access road will be needed to install the fence. The property on which the Station is located and on which the Project is located (the "Property") is owned by Ohio Power Company, an affiliate of AEP Ohio Transco (an "AEP Ohio Transco Affiliate"), and Appendix A, Figure 1.1 shows the location of the Project on the Property. The Property has Parcel Number 160-000179-00.

The Project meets the requirements for a Construction Notice because it is within the types of projects defined by Item (4)(a) of 4906-1-01 Appendix A *Application Requirement Matrix For Electric Power Transmission Lines*:

(4) Constructing additions to existing electric power transmission stations or converting distribution stations to transmission stations where:

(a) There is a twenty percent or less expansion of the fenced area

The Project has been assigned PUCO Case No. 16-0549-EL-BNR.

B(2) Statement of Need

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

Not applicable. The Project does not involve proposed transmission lines.

CONSTRUCTION NOTICE FOR BEATTY ROAD STATION DRAINAGE IMPROVEMENTS

September 30, 2016

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.

Appendix A, Figure 1.4 shows the location of the Project in relation to existing AEP Ohio Transco facilities.

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.

The Project will be constructed entirely on the Property, which is owned by an AEP Ohio Transco Affiliate, and as close to the existing Station as possible; therefore no alternatives have been considered for the 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 program to inform affected property owners or tenants of the nature of the Project as the entirety of the Project is located on the Property which is owned by an AEP Ohio Transco Affiliate. No unrelated property owners will be affected by the construction of the Project. AEP Ohio Transco maintains a website (<http://aeptransmission.com/ohio/>) on which an electronic copy of this CN is available. A copy of this CN also has been, or will be, sent to the following public officials concurrently with submittal to OPSB.

Grove City Planning Commission Mr. Gary Leasure Mr. Chock Boso Dr. John Dubos Mr. Mike Linder Ms. Julie Oyster 4035 Broadway Grove City, Ohio 43123	Grove City, Ohio City Council Mr. Ted A. Barry Mr. Jeffery M. Davis Mr. Steven M. Bennet Mr. Roby Schottke Ms. Laura Lanese Ms. Tami Kelly 4035 Broadway Grove City, Ohio 43123
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CONSTRUCTION NOTICE FOR BEATTY ROAD STATION DRAINAGE IMPROVEMENTS

September 30, 2016

Franklin County Engineer Mr. Dean C. Ringle 970 Dublin Road Columbus, Ohio 43215	Mayor Grove City, Ohio Mr. Richard Stage 4035 Broadway Grove City, Ohio 43123
Franklin County Board of Commissioners Mr. John O'Grady Ms. Paula Brooks Ms. Marilyn Brown 373 S. High Street, 26th Floor Columbus, Ohio 43215-6314	Franklin Soil and Water Conservation District Ms. Jennifer Fish, Director 1404 Goodale Boulevard, Suite 100 Columbus, OH 43212
Jackson Township Fiscal Officer Ron Grossman 3756 Hoover Road Grove City, Ohio 43123	Jackson Township Trustees Mr. David Burris Mr. Stephen Bowshier Mr. Jim Rauck 3756 Hoover Road Grove City, Ohio 43123
Grove City Library 3359 Park Street Grove City, Ohio 432123	Columbus Metropolitan Library Mr. Patrick Losinski, Director 96 South Grant Avenue Columbus, OH 43215

B(6) Construction Schedule

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

Construction is planned to commence in October, 2016, with an anticipated completion date of May 31, 2017.

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.

Appendix A, Figure 1.1 identifies the location of the Project on the USGS quadrangle map for Commercial Point, Ohio. Appendix A, Figure 1.2 is an aerial map of the Project. To view the Project, from Columbus take I-71 South to Stringtown Road Exit and head West toward Grove City. Turn left onto U.S. Route 62 and then turn right on Beatty Road heading west. The Project is located on the right/north side of Beatty Road within 0.2 mile.

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

CONSTRUCTION NOTICE FOR BEATTY ROAD STATION DRAINAGE IMPROVEMENTS

September 30, 2016

facility and a list of the additional properties for which such agreements have not been obtained.

Not applicable. An AEP Ohio Transco Affiliate is the owner of the Property, and the Station is located entirely on the Property.

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 involves the construction of drainage improvements around the Station, installation of a new fence around the perimeter of the Station (approximately 20 feet outside the existing fence) and other station enhancements within the existing station footprint. Project Structure Designs are included in Appendix B. The Project is located on the Property which is owned by an AEP Ohio Transco Affiliate, and the Project will not alter the technical operating characteristics of the Station.

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

Calculated electric and magnetic field strength levels at one meter above ground under the lowest conductors and at the edge of the right-of-way for:

(a) Normal maximum loading.

Not applicable. The Project does not involve any proposed transmission lines.

(b) Emergency line loading.

Not applicable. The Project does not involve any proposed transmission lines.

(c) Winter normal conductor rating.

Not applicable. The Project does not involve any proposed transmission lines.

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.

CONSTRUCTION NOTICE FOR BEATTY ROAD STATION DRAINAGE IMPROVEMENTS

September 30, 2016

Not applicable. The Project does not involve any proposed transmission lines.

B(9)(c) Project Cost

The estimated capital cost of the project.

The 2016 capital cost estimates for the Project have been tabulated in accordance with the Federal Energy Regulatory Commission ("FERC") Electric Plant Transmission Accounts:

ESTIMATES OF APPLICABLE INTANGIBLE AND CAPITAL COSTS		
FERC Account Number	Description	Cost
350	Land and Land Rights	\$150,000
352	Structures & Improvement	Not Applicable
353	Substation Equipment	Not Applicable
354	Towers & Fixtures	Not Applicable
355	Poles & Fixtures	\$1,096,800
356	Overhead Conductors & Devices	\$731,200
357	Underground Conductors & Devices	Not Applicable
358	Underground-to-overhead Conversion Equipment	Not Applicable
359	Right-of-way Clearing, Roads, Trails or Other Access	\$100,000
	TOTAL	\$2,078,000

B(10) Social and Economic Impacts

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

B(10)(a) 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 in Grove City in Franklin County, Ohio within and around the existing Station. Appendix A, Figure 1.3 shows USDA land use categories for properties in the vicinity of the Project. Terrestrial habitat observed in the vicinity of the Project is shown in Appendix D (specifically, Appendix A, Figure 3 in Appendix D) and is predominantly industrial (approximately 23.11 acres) and agricultural (approximately 31.18 acres) habitats throughout most of the vicinity of the Project. A small area of scrub/shrub habitat (0.46 acre) and open land area (approximately 3.16 acres) were also observed. Five wetlands were identified within the vicinity of the Project.

There is currently one occupied residence within 1,000 feet of the Project. There are no cemeteries, parks, wildlife management areas, or nature preserve lands within 1,000 feet of the Project. Additionally, no churches or schools have been identified in the vicinity of the Project (Appendix A, Figure 1.3).

CONSTRUCTION NOTICE FOR BEATTY ROAD STATION DRAINAGE IMPROVEMENTS

September 30, 2016

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.

The Project is within a property considered “Current Agricultural Use Value” by Franklin County Auditor’s Office. However, the Property is not classified as agricultural district lands. Current row crop agriculture is present onsite (Appendix A, Figure 1.3 in and Appendix D (specifically Appendix A, Figure 3 in Appendix D).

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.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of federally assisted undertakings on historic properties. An AEP Ohio Transco consultant completed a Phase I archaeological survey of the Project. A desktop review of the Ohio Historic Preservation Office (“OHPO”) database indicated that no previously documented archaeological sites, National Register of Historic Places (“NRHP”) or properties listed in or potentially eligible for listing in, the NRHP are located within a one-mile radius of the center of the Project. An AEP Ohio Transco consultant followed standard OHPO-approved methods to conduct fieldwork at the Project. During March 2016, Phase I fieldwork was undertaken which involved a pedestrian site reconnaissance to the Project. Due to previous construction-related disturbance, current agricultural use and wetland habitat, no surface evidence of archaeological sites was identified. A grass covered lot within the vicinity of the Project was surface tested, but no evidence of archeological sites was identified. No further archaeological investigation was recommended by the AEP Ohio Transco consultant. For more information, see the Phase I Archaeological Survey report included in Appendix C. Written concurrence from OHPO was received on May 9, 2016 and is included in Appendix C.

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 OHC000004 (in progress). AEP Ohio Transco will implement and maintain best management practices (BMPs) as outlined in the project-specific Storm Water Pollution Prevention Plan (SWPPP) to minimize erosion and control sediment to protect surface water quality during storm events.

CONSTRUCTION NOTICE FOR BEATTY ROAD STATION DRAINAGE IMPROVEMENTS

September 30, 2016

No work is proposed within mapped FEMA floodplains for the Project, so floodplain permits are not anticipated for the Project.

Some grading and construction activities will take place within delineated wetlands (see Appendix D), so the Project will require a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers and Pre-Construction Notification to the U.S. Army Corps of Engineers (in progress). 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 Franklin County. This USFWS publication listed the Indiana bat (*Myotis sodalis*; federally listed endangered), northern long-eared bat (*Myotis septentrionalis*; federally listed threatened), Scioto madtom (*Noturus trautmani*; federally listed endangered), clubshell (*Pleurobema clava*; federally listed endangered), northern riffleshell (*Epioblasma torulosa rangiana*; federally listed endangered), rayed bean (*Villosa fabalis*; federally listed endangered), snuffbox (*Epioblasma triquetra*; federally listed endangered), and rabbitsfoot (*Quadrula cylindrica cylindrica*; federally listed threatened) as the currently listed threatened or endangered species as occurring in Franklin County. The bald eagle (*Haliaeetus leucocephalus*; delisted but still protected under the Bald and Golden Eagle Protection Act and a species of concern) was also on this list of species for Franklin County. Several state-listed threatened species, endangered species, and species of concern are listed by the Ohio Department of Natural Resources (ODNR) available at <http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/species%20and%20habitats/statelisted%20species/franklin.pdf> as occurring, or potentially occurring in Franklin County. The Indiana bat, northern long-eared bat, and state-listed species listed as occurring in Franklin County are addressed in detail in the Ecological Features Inventory Report included in Appendix D.

As stated above, the Project area contains the following types of habitats: industrial/previously disturbed habitat; agricultural habitat; scrub/shrub habitat; open land habitat; and palustrine emergent wetland habitat. No suitable bat habitat was noted within the grading limits of the project. On behalf of AEP Ohio Transco, a coordination letter was submitted by an AEP Ohio Transco consultant to the USFWS Ohio Ecological Services Field Office on February 24, 2016, seeking an environmental review of the Project for potential impacts to threatened or endangered species. Response from this agency was received on March 22, 2016. Their recommendations included seasonal tree clearing from October 1 through March 31 to avoid potential impacts to federally endangered or threatened bats and minimized impacts to streams and wetlands. If it is necessary to impact streams or wetlands in the construction of the Project, USFWS recommends best management practices to minimize erosion and sedimentation (Appendix D).

CONSTRUCTION NOTICE FOR BEATTY ROAD STATION DRAINAGE IMPROVEMENTS

September 30, 2016

Due to the Indiana bat and northern long-eared bat presence/potential presence in Franklin County and the vicinity of the Project, any tree clearing that is unavoidable is recommended to occur between October 1 and March 31. However, within the project grading limits, no suitable bat habitat was identified.

Coordination letters were submitted via email to the Ohio Department of Natural Resources (ODNR) Division of Wildlife (“DOW”) Ohio Natural Heritage Program (“ONHP”) and the ODNR Office of Real Estate on February 24, 2016, seeking a review of the Project for potential impacts on state-listed and federally-listed threatened or endangered species. Correspondence from ODNR’s DOW/OHNP was received on February 24, 2016 (see Appendix D). In the letter, ODNR DOW/OHNP indicated that the Project, and a one-mile radius around the Project, does not contain any known occurrences of state-listed species, federally-listed species, or rare species. A response from ODNR Office of Real Estate was received on March 23, 2016 (Appendix D). If suitable trees must be cut, the ODNR recommends the cutting occur between October 1 and March 31. No occurrences of Indiana or northern long eared bats were encountered during the field survey, and no potential roosting habitat is present within the grading limits.

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 from ODNR’s DOW/OHNP was received on February 24, 2016 (see Appendix D). In this letter, they 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 (Appendix D).

The Federal Emergency Management Agency (“FEMA”) Flood Insurance Rate Map was consulted to identify any floodplains/flood hazard areas that have been mapped for the Project. The Project is not within mapped FEMA floodplains. No floodplain permits will be required for the Project.

A review of the National Wetlands Inventory (“NWI”) database indicated that no wetlands were identified within the vicinity of the Project. Locations of NWI-mapped wetlands in the vicinity of the Project are shown on Appendix D, Figure 3.

Wetland and stream delineation field surveys were completed by an AEP Ohio Transco consultant on February 23, 2016. The results of the wetland and stream delineations are presented in the Ecological Features Inventory Report included in Appendix D. Five palustrine emergent wetlands (Wetlands 1 through 5) totaling approximately 1.51 acres in size were identified within the Project area. The locations of all delineated wetlands are shown on Appendix D, Figure 3. An AEP Ohio Transco consultant

CONSTRUCTION NOTICE FOR BEATTY ROAD STATION DRAINAGE IMPROVEMENTS

September 30, 2016

completed wetland determination data forms and Ohio Rapid Assessment Method (ORAM) Version 5.0 data forms for these wetlands. The ORAM scores for the palustrine emergent wetlands range from 15.5 to 27.5, indicating they are Category 1 wetlands. Data forms and representative photographs of the wetlands are provided in Appendix D of the Ecological Features Inventory Report. Three palustrine emergent wetlands (Wetlands 2, 3, and 5) will have permanent impacts totaling 0.11 acre due to their location within the proposed safety fence or access road disturbance area.

No streams were identified within the vicinity of the Project during the field surveys. Therefore, no permanent or temporary impacts to the stream channels are anticipated. The Ecological Features Inventory Report can be found in Appendix D.

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, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.

CONSTRUCTION NOTICE FOR BEATTY ROAD STATION DRAINAGE IMPROVEMENTS

Appendix A Project Maps
September 30, 2016

Appendix A Project Maps

Figure 1.1

Figure 1.2

Figure 1.3

Figure 1.4

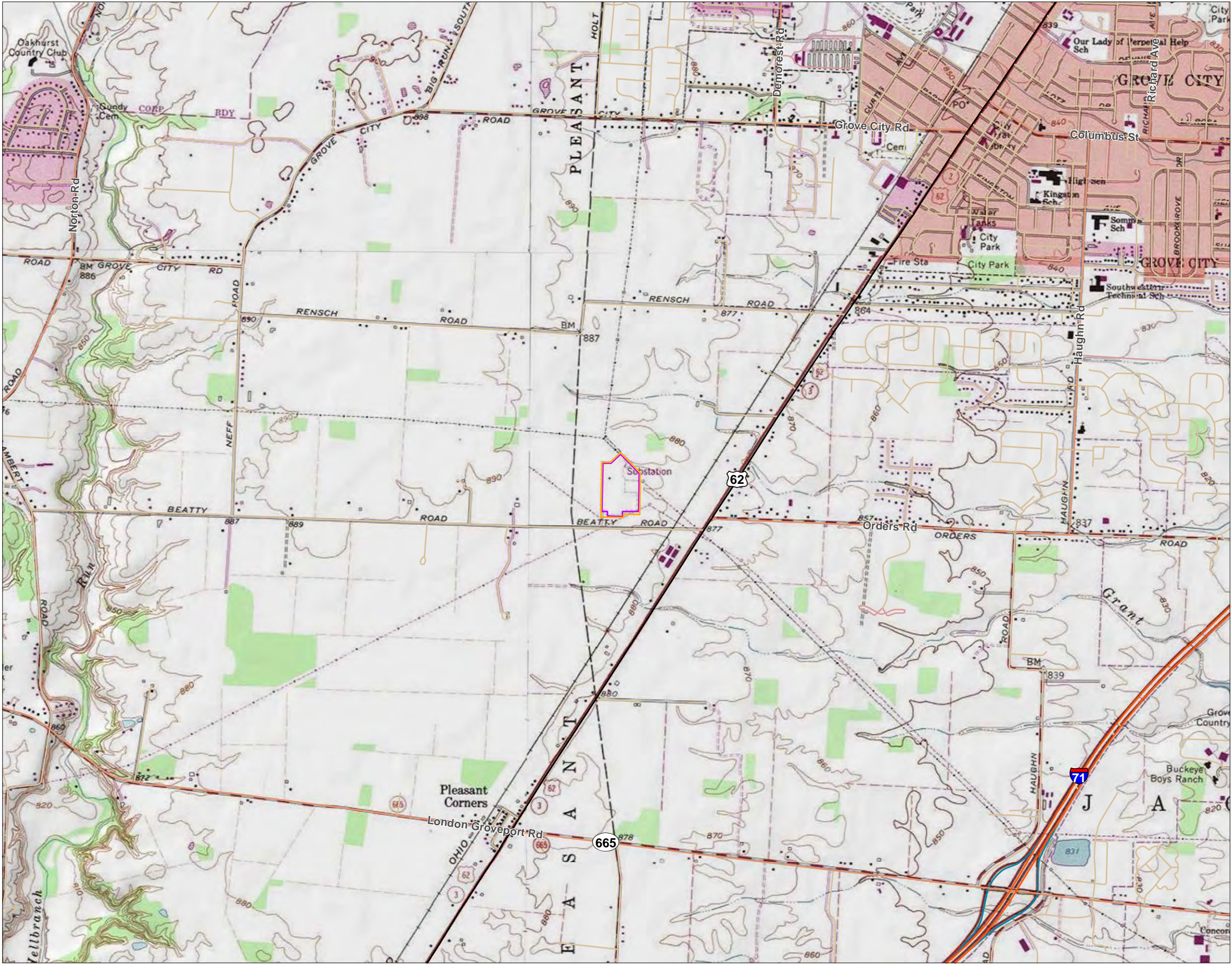
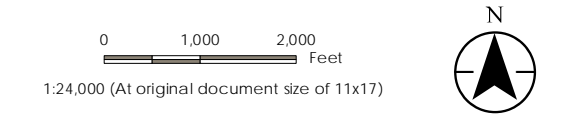


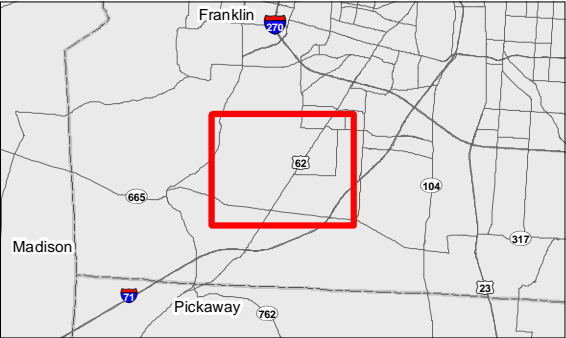
Figure No.
1.1
Title
Project Location Map

Client/Project
American Electric Power
Beatty Road Station Drainage Improvements

Project Location
Grove City
Franklin County, Ohio
193704259
Prepared by BT on 2016-02-22
Technical Review by CP on 2016-02-22
Independent Review by DG on 2016-02-25



- Legend
- Proposed Fence Boundary
 - Existing Fence Boundary



- Notes
- Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 - Data Sources Include: Stantec, AEP, NADS
 - Background: USGS 7.5' Topographic Quadrangles





Figure No.
1.2

Title
Project Layout Map

Client/Project
American Electric Power
Beatty Road Station Drainage Improvements

Project Location
Grove City,
Franklin County, Ohio

193704259
Prepared by BT on 2016-02-16
Technical Review by CP on 2016-02-16
Independent Review by DG on 2016-02-25

0250500
Feet
1:6,000 (At original document size of 11x17)

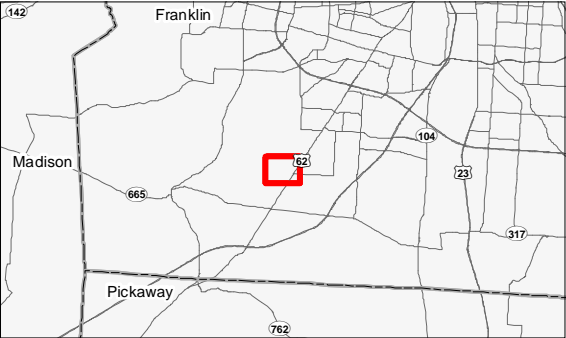
N
N

Legend

Property Boundary

Proposed Fence Boundary

Existing Fence Boundary



- Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet

2. Data Sources Include: Stantec, AEP, NADS

3. Orthophotography: 2015 NAIP



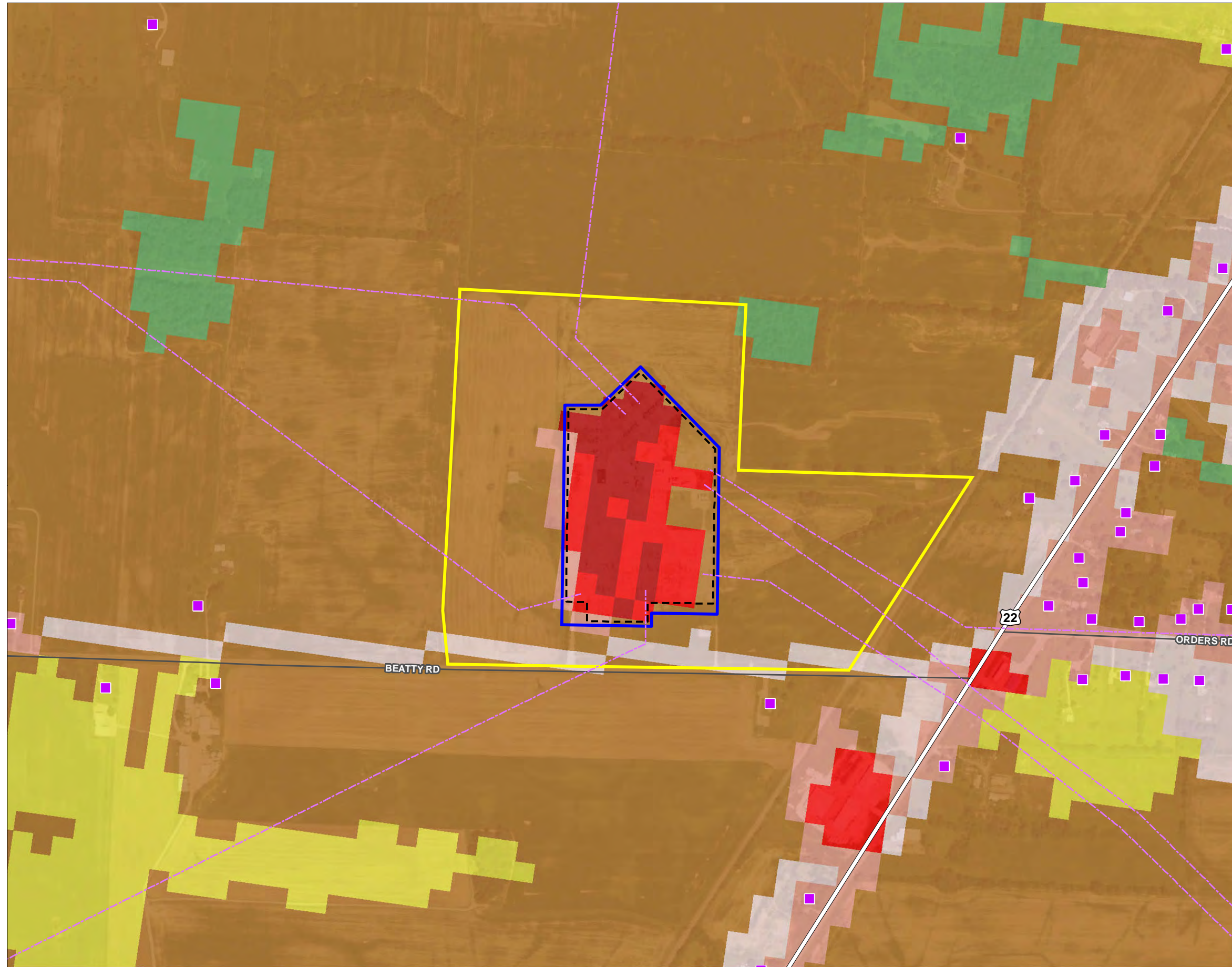


Figure No.

1.3

Title

Land Use Map

Client/Project







American Electric Power
Beatty Road Station Drainage Improvements

Project Location
Grove City,
Franklin County, Ohio

193704259
Prepared by BT on 2016-02-16
Technical Review by CP on 2016-02-16
Independent Review by DG on 2016-02-25



Legend

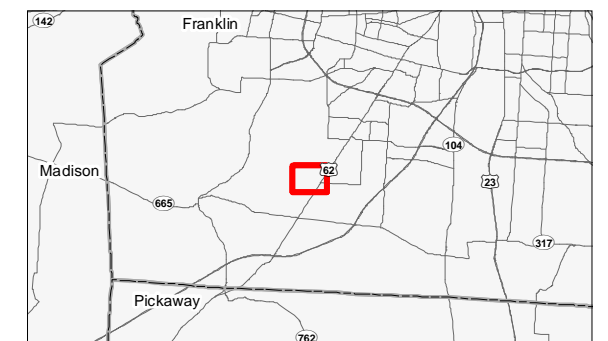
-  Property Boundary
-  Proposed Fence Boundary
-  Existing Fence Boundary
-  AEP Transmission Lines
-  Residence
-  Cemetery*

Land Use

- | | |
|-----------------------------|------------------------------|
| Open Water | Emergent Herbaceous Wetlands |
| Developed, Open Space | Woody Wetlands |
| Developed, Low Intensity | Cultivated Crops |
| Developed, Medium Intensity | Hay/Pasture |
| Developed, High Intensity | Herbaceous |
| Barren Land | Shrub/Scrub |
| Deciduous Forest | Mixed Forest |
| | Forest/Forest |

*No features within map extent

**No parks, wildlife management areas, nature preserves or government owned land was identified within the Project Area or its vicinity. (Sources: ODNR, USFS, USFWS, The Nature Conservancy, PADUS)

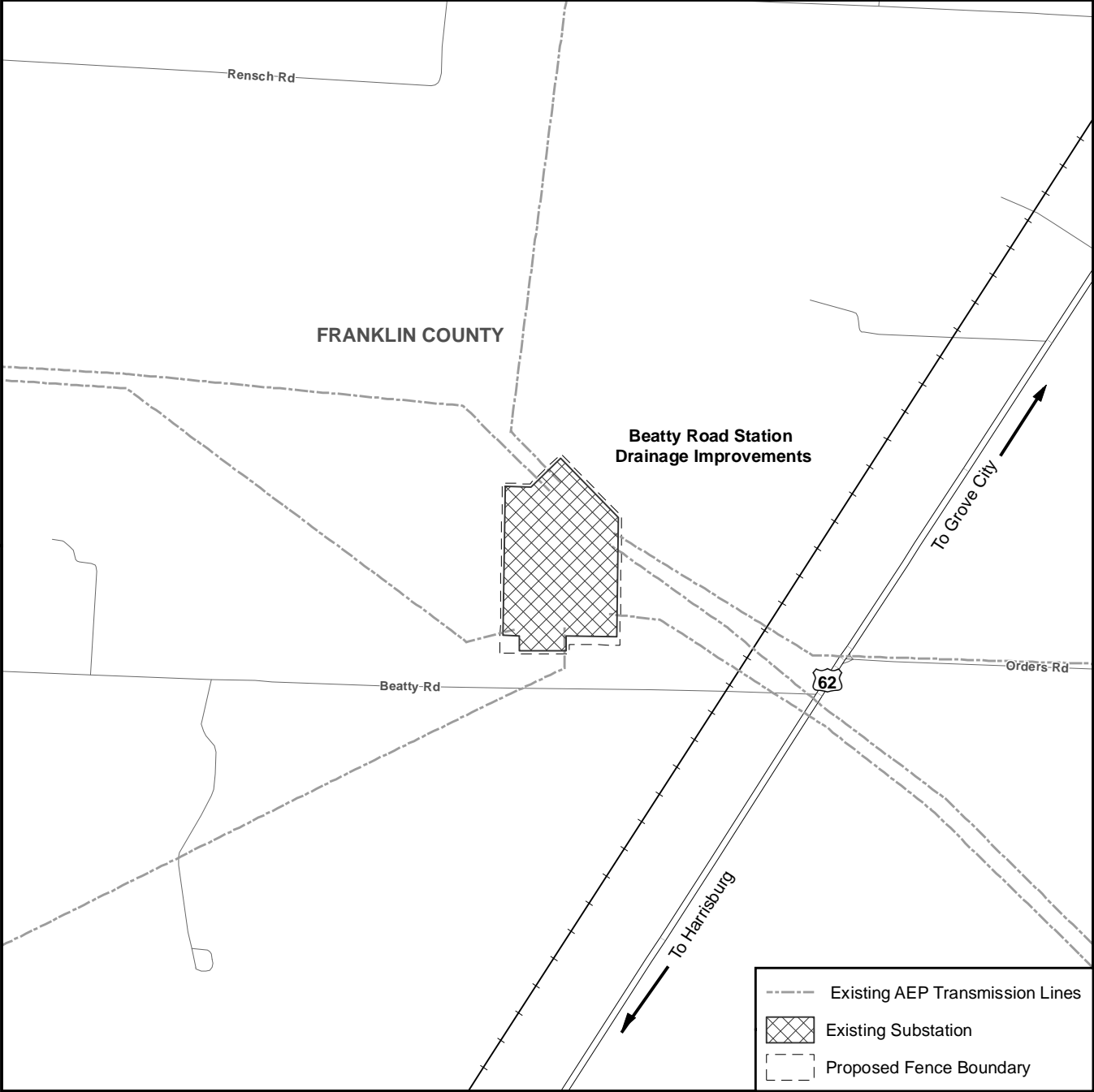


Notes

1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources Include: Stantec, AEP, NADS
3. Orthophotography: 2015 NAIP, 2011 NLCD



Figure 1.4 - Existing AEP Facilities

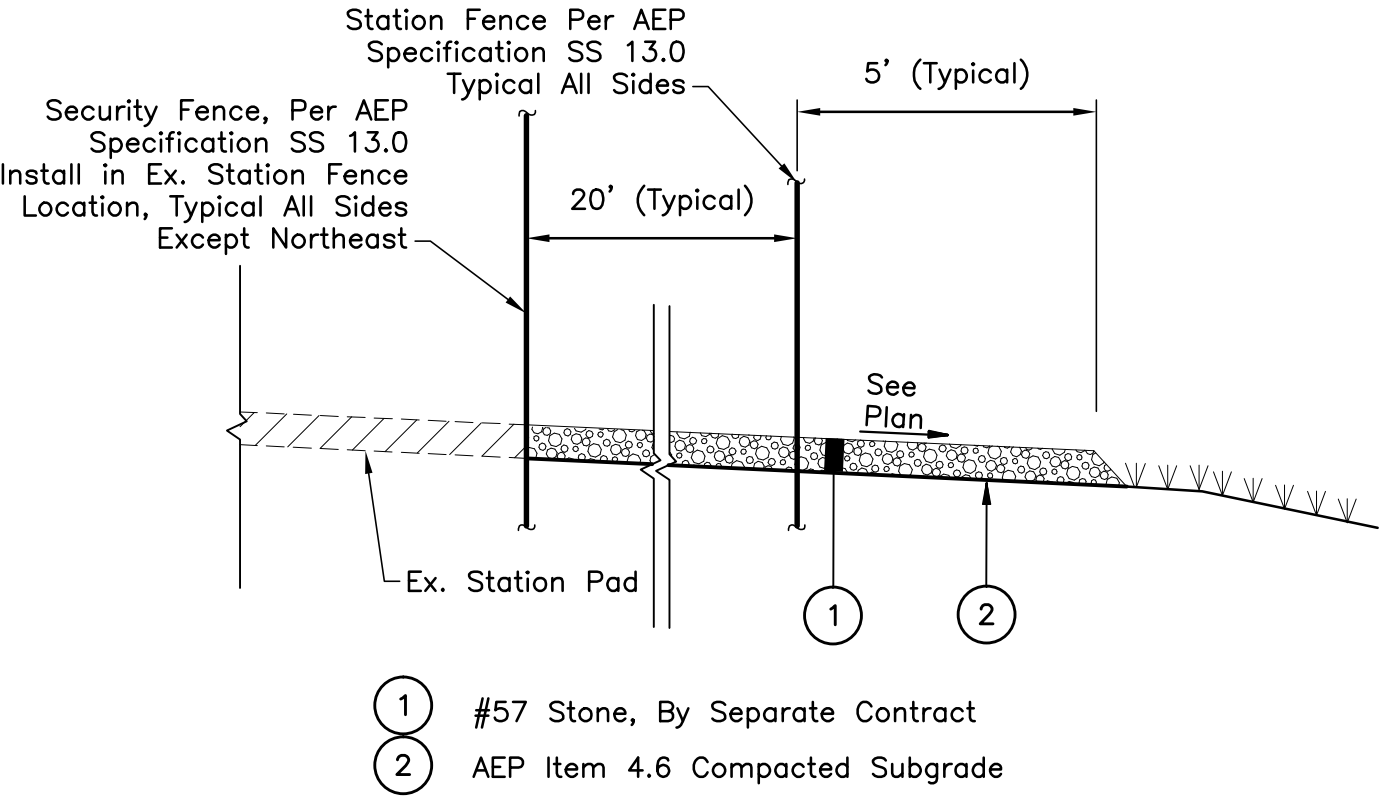


CONSTRUCTION NOTICE FOR BEATTY ROAD STATION DRAINAGE IMPROVEMENTS

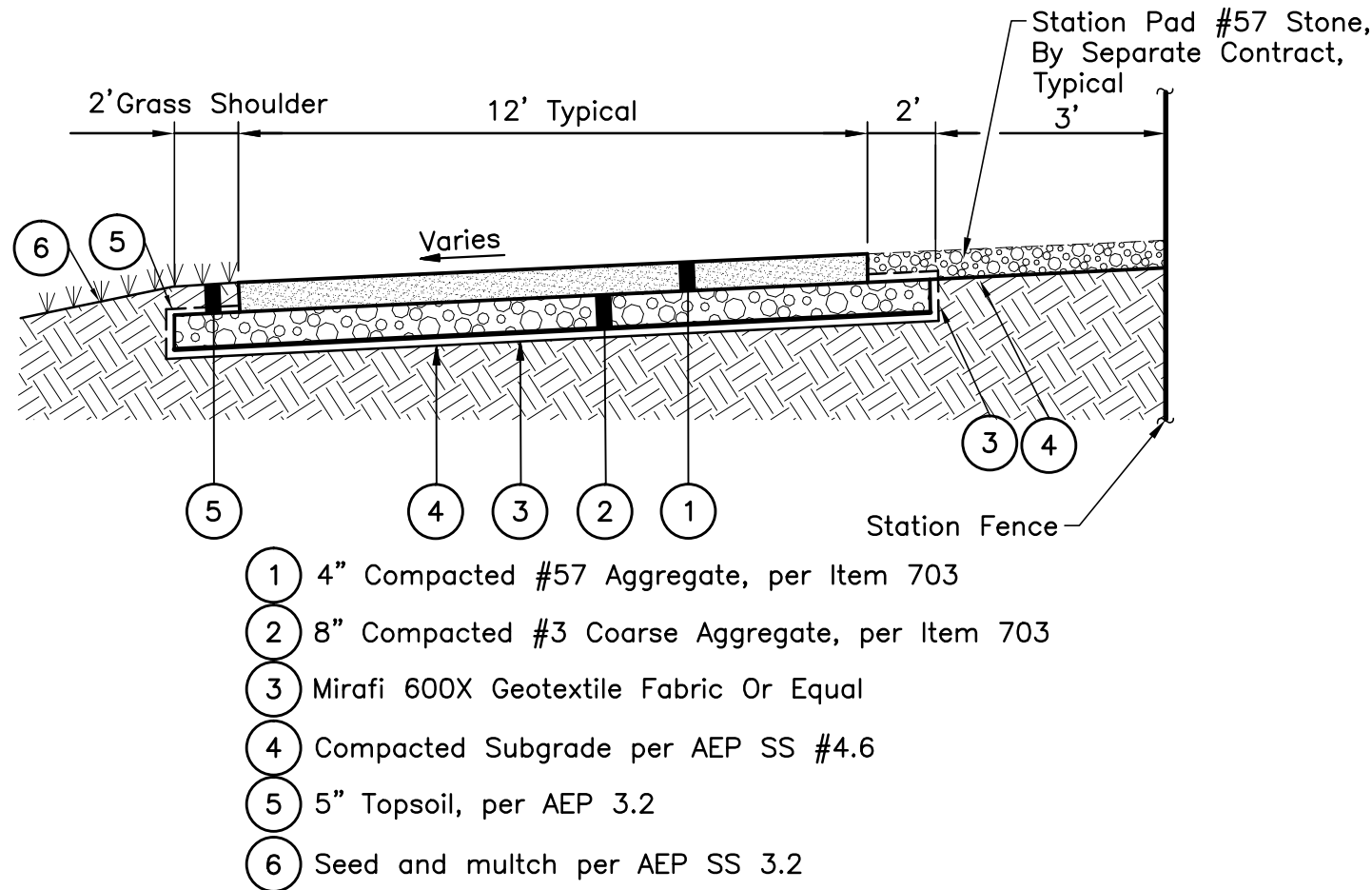
Appendix B Project Structure Design Drawings
September 30, 2016

Appendix B Project Structure Design Drawings

ESTIMATE OF QUANTITIES				
The Quantities Have Been Established As A Means For The City To Estimate The Necessary Development Fees. The Contractor Shall Be Soley Responsible For Determining The Required Bid Quantities Necessary For The Completion Of The Plan Improvements.				
SPEC.	ITEM	QUANTITY	UNIT	DESCRIPTION
DEMOLITION				
ODOT	201	Lump	Sum	Clearing and Grubbing
ODOT	202	910	SY	Remove Gravel Drives
ODOT	202	20	LF	Remove 18" Pipe Culvert
EARTHWORK				
ODOT	204	14,925	SY	Subgrade Compaction and Proof Rolling (Pad & Drive)
AEP	4.2	4,415	CY	Topsoil Stripping and Stockpiling (5" Assumed)
AEP	4.2	1,355	CY	Cutting Excavation
AEP	4.2	6,985	CY	Embankment Construction (Includes 15% for Compaction Except Grass Areas)
AEP	4.2	6,050	CY	Fill (Import) Required
AEP	4.2	2,840	CY	Topsoil Respread
SITE				
AEP	5.6	1,840	SY	Geotextile Fabric, Marifi 600x (Or Equal)
AEP	13.0	3,760	LF	Chain Link Station Fence w/ Appurtenances
AEP	13.0	2	EA	Chain Link Station Fence Gate
AEP	13.0	3,600	LF	Chain Link Security Fence w/ Appurtenances
AEP	13.0	2	EA	Chain Link Security Fence Station Gate
ODOT	601	10	CY	Rock Channel Protection Type C
ODOT	611	30	LF	18" RCP Elliptical Pipe Culvert, Type A
ODOT	703	140	CY	4" ~ #57 Aggregate Driveway Surface Course
ODOT	703	375	CY	8" ~ #3 Coarse Aggregate Driveway Base Course
COC	604	1	EA	Precast Concrete Headwall (AA-S168)
Spec.	N/A	1	EA	Precast Concrete Headwall, With Weir Notch Per Plan
Spec.	N/A	1	EA	Permanent Basin Outlet Control (Complete Per Plan)
Spec.	N/A	6	CY	Permanent Rock Check Dam (4"-8" Stone)
Spec.	N/A	2,220	LF	Orange Construction Barrier Fence
Spec.	N/A	19	EA	Permanent Wetland Preservation Sign
Spec.	N/A	4	EA	Water Quality Swale Sign
SEDIMENT & EROSION CONTROL				
Spec.	N/A	1	EA	Construction Entrance, Complete
Spec.	N/A	1	EA	Concrete Wash-Out Area
Spec.	N/A	3,390	LF	Sediment (Silt) Fence
Spec.	N/A	670	LF	Compost Sock
Spec.	N/A	8	CY	Temporary Rock Check Dam (4"-8" Stone)
Spec.	N/A	1	EA	Temporary Sediment Trap Riser (Complete Per Plan)



ADDITION TO STATION PAD TYPICAL SECTION
No Scale



ACCESS DRIVE TYPICAL SECTION
No Scale

HORIZONTAL REFERENCE POINTS (OHIO SOUTH ZONE)*			
POINT	DESCRIPTION	NORTHING	EASTING
▲ #1	Franklin County Survey Control Database (FCOS) 5217	678057.26	1793943.98
▲ #2	Iron Pin With Cap	678181.255	1794589.560
▲ #3	Iron Pin With Cap	678105.316	1795247.898
▲ #4	Iron Pin With Cap	679264.960	1795118.113

* Horizontal Reference Datum = NAD 83
(See Index Map for reference point locations)

BENCH MARKS
(Vertical Datum Based on NAVD 88)

Franklin County Survey Control Database, Designation FCOS 5217: Aluminum cap in PVC encased concrete monument set over found stone, at an angle point in the center line of Beatty Road, on the Pleasant / Jackson Township Line
N:678057.26 E:1793943.96 Elev. = 880.09
Franklin County Survey Control Database, Designation FCOS 5225: Aluminum cap in PVC encased concrete monument, at the centerline intersection of Beatty Road and Harrisburg Pike, access through F.C. road monument box.
N:678016.82 E:1796570.86 Elev. = 876.53

GENERAL NOTES

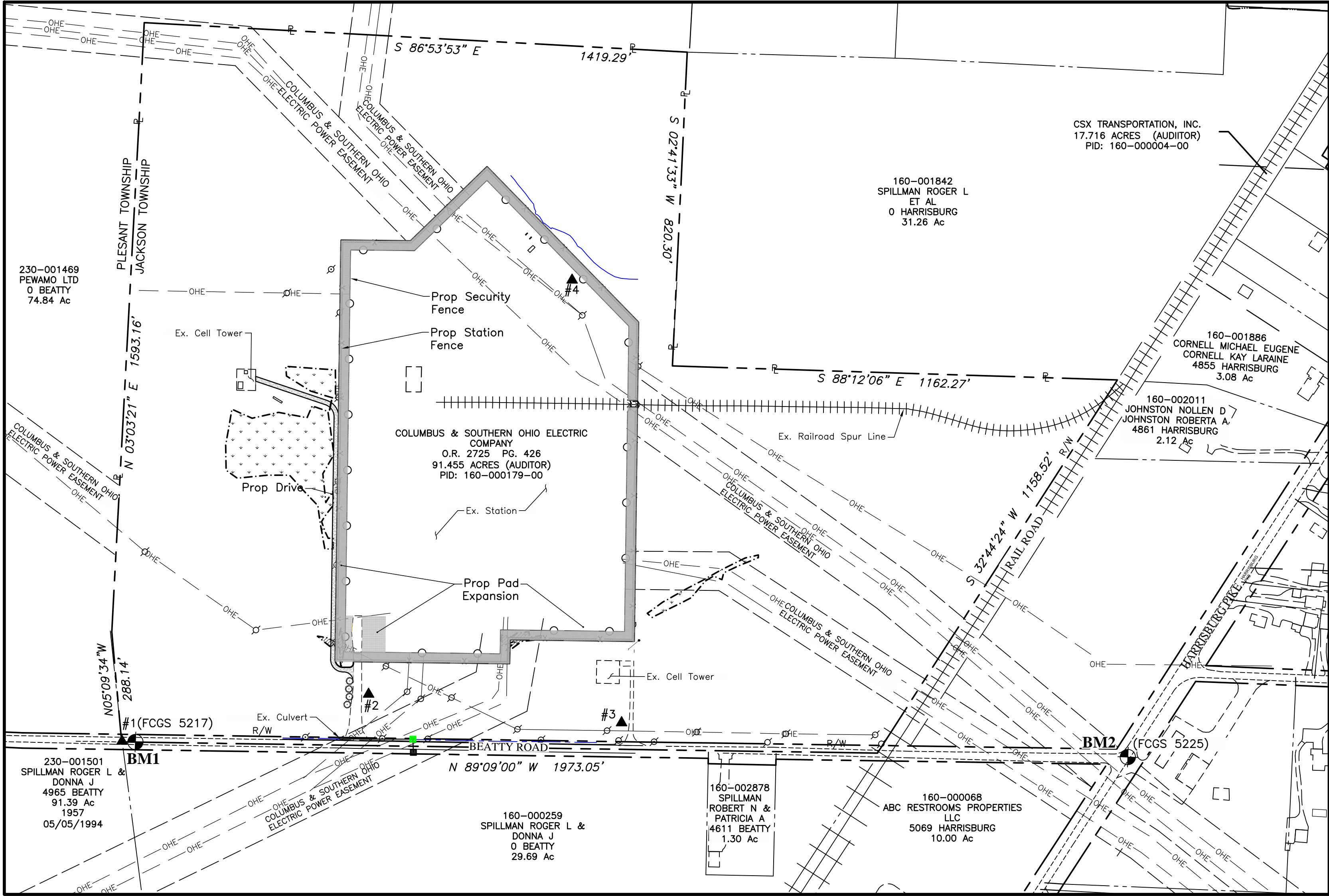
- The Ohio Department of Transportation (ODOT) "Construction and Material Specifications" (CMS) 2016 Edition, the City of Columbus (COC) "Construction and Material Specifications" (CMS) 2012 Edition, together with the contract and the American Electric Power (AEP) Site Preparation Guidelines 2013 edition (AEP Publication SS-710000) and AEP Technical Specification for Substation and Switching Station Construction (SS) 2012 edition (AEP Publication SS-160102) shall govern all materials and workmanship involved in the improvements shown on these plans except as such specifications are modified by the following specifications, or by the construction details set forth herein. In case of any conflict among these identified technical specifications, the greater requirement shall take precedence as determined by the sole discretion of the Engineer. Item Numbers listed refer to ODOT Item Numbers.
- The Contractor's bid shall be comprehensive and include all labor and equipment to complete all excavation, fill and grading in accordance with the engineering plan and specifications.
- The Contractor shall carefully preserve benchmarks, property corners, reference points, and stakes. Any benchmark, property corner, or survey marker damaged or disturbed by the Contractor shall be reset by an Ohio Registered Surveyor at the Contractor's expense.
- The Contractor and any and all Subcontractor shall be solely responsible for complying with all federal, state, and local safety requirements, together with exercising precautions at all times for the protection of persons (including employees) and property. It is also solely the responsibility of the Contractor and Subcontractor to initiate, maintain, and supervise all safety requirements, precautions, and programs in connection with the work.
- Where potential grade conflicts might occur with existing utilities and locations noted thus, "EXPOSE" the Contractor shall uncover existing utilities sufficiently in advance of ordering materials and laying pipe or duct and provide the Engineer the location and elevation of said utility so the Engineer can determine if any adjustments are necessary.
- The Contractor is responsible for the investigation, location, support, protection, and restoration of all existing utilities and appurtenances whether shown on these plans or not. The Contractor shall expose all utilities and structures prior to construction to verify the vertical and horizontal effect on the proposed construction.
- Mechanical digging equipment shall not be used to expose any underground utility, only hand tools or vacuum excavation may be used to uncover the utility. The Owner shall have a representative present when the utility is exposed.
- The Contractor shall be responsible for coordinating the relocation and/or protection of any utilities as required by the plan with the Owner of the affected utility. Private utility structures within the limits of the work shall be adjusted to grade by the respective utility company at the Contractor's expense.
- Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult the AEP contact or the Engineer immediately for directions. Cooperate with the Owner and public utility companies in keeping their respective services and facilities in operation. Repair damaged utilities to the satisfaction of the utility owner.
- Protect all existing pavement, utilities, buildings and other site features to remain. Replace any damage to the satisfaction of the Owner at no additional cost.
- All dimensions are to the edge of pad or center of fence posts, unless otherwise noted.
- The Contractor shall use extreme caution when excavating in the area of the existing electrical ground grid. The Contractor shall coordinate with the Owner to have the limits of the grid staked prior to starting construction.
- Installation of any well, well point, pit or other device used for the purpose of lowering the groundwater level to facilitate construction of this project shall be properly abandoned in accordance with the provisions of Section 3745-9-10 of the Ohio Administrative Code or as directed by the Director or his representatives.

SURVEY NOTE:

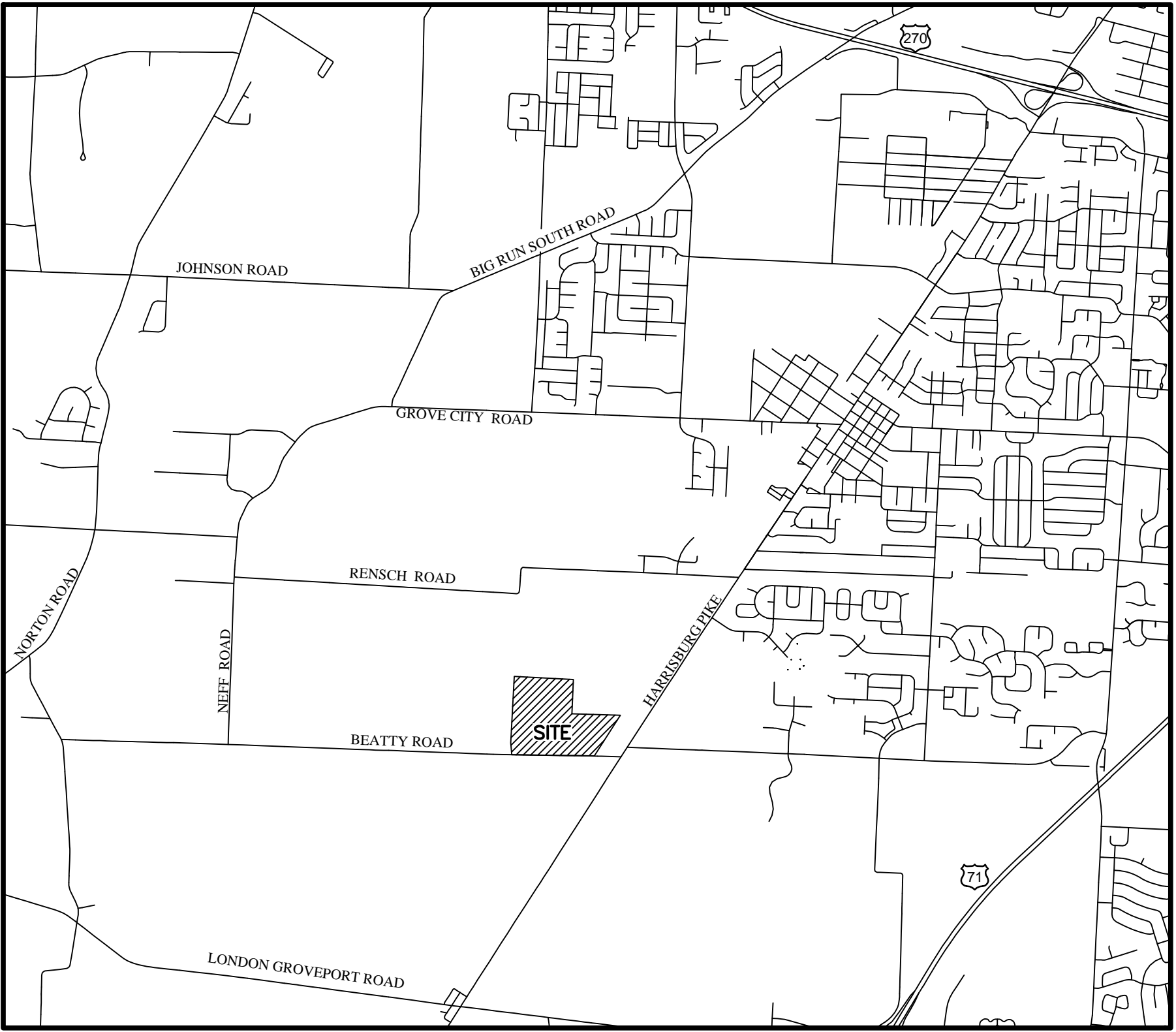
Boundary and topographic survey provided to EMH&T by AEP.
Boundary and topographic survey prepared by:
Central Surveying Co., LTD.
7563 East Main Street
Reynoldsburg, Ohio 43068
Phone: (614) 864-1100

STANDARD CONSTRUCTION DRAWINGS

The Standard Drawings listed on these plans shall be considered a part thereof:
City of Columbus
AA-S149 AA-S150
AA-S168



INDEX MAP
GRAPHIC SCALE
0 100 200 400
1 inch = 200 feet



VICINITY MAP
No Scale

SHEET INDEX

TITLE SHEET	1
SITE DEMOLITION PLAN	2
SITE PLAN - SOUTH	3
SITE PLAN - NORTH	4
GRADING AND SEDIMENT & EROSION CONTROL PLAN SOUTH	5
GRADING AND SEDIMENT & EROSION CONTROL PLAN NORTH	6
SEDIMENT & EROSION CONTROL AND SWALE DETAILS	7

OWNER/DEVELOPER

Owner: American Electric Power
700 Morrison Road
Columbus, OH 43230
Contact: Bangalore Shankar
Phone: (614) 552-2105

SITE DATA TABLE

Total Site Area (Survey):	91.5 Ac.
Existing Pad Area:	16.62 Ac.
Proposed Pad Area:	19.62 Ac.
Added Pad (Impervious) Area:	2.37 Ac.
Disturbed Area:	5.8 Ac.
Wetland Area:	1.51 Ac.
Wetland Area Removed:	0.11 Ac.

APPROVAL:

Signature of the Franklin County Drainage Engineer below only signifies concurrence only with the Stormwater Management details of plan. All technical details remain the responsibility of the Engineer preparing the plan.

Franklin County Drainage Engineer Date

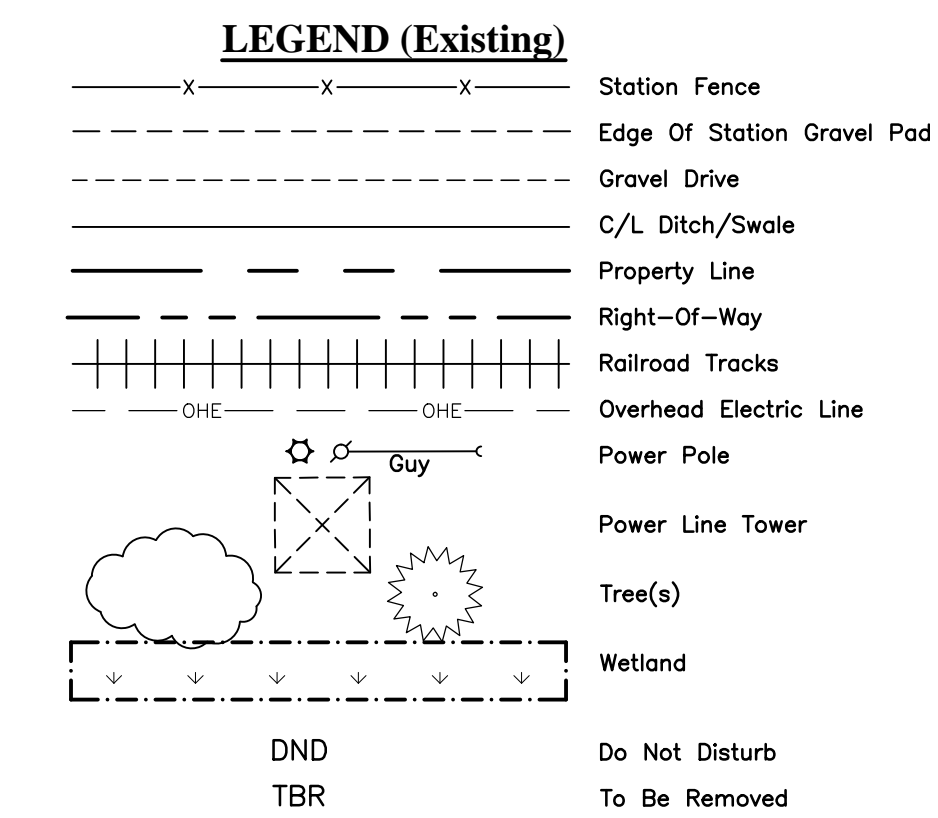
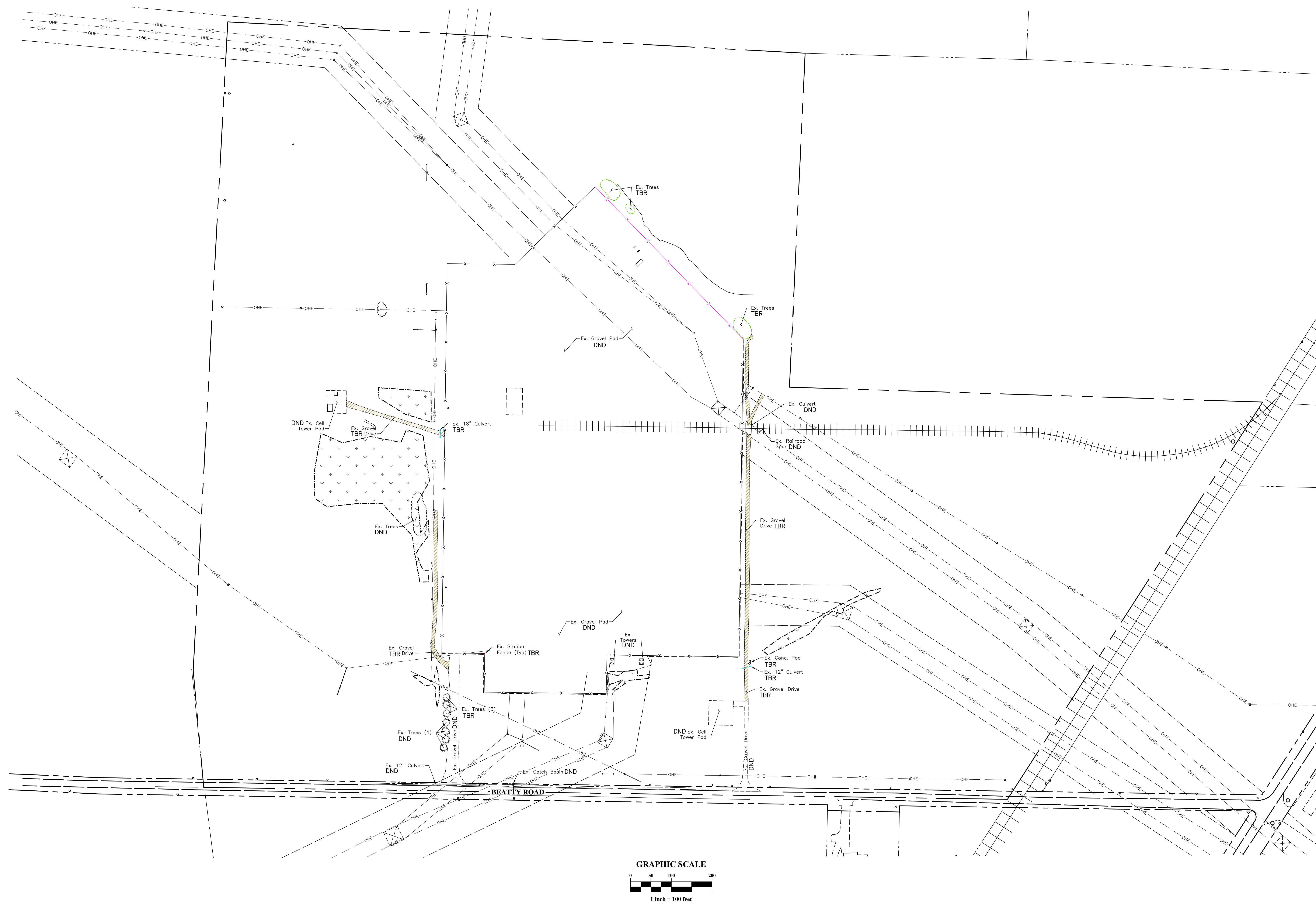
PREPARED BY

EMH&T
Evans, Mechwart, Hamilton & Tibon, Inc.
Engineers • Surveyors • Planners • Scientists
3600 New Albany Road, Columbus, OH 43264
Phone: 614-775-8800
FAX: 614-775-8800

Registered Engineer Date

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GROVE CITY		OHIO	
BEATTY ROAD STATION SUPPLEMENTARY FENCE			
345KV			
TITLE SHEET			
SCALE: AS NOTED	DR: ALD	ENG: CMF	CH: CF
WOF: 42394923	APPD: CF	DATE: MAY 24, 2016	
1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1305	1 of 7	0

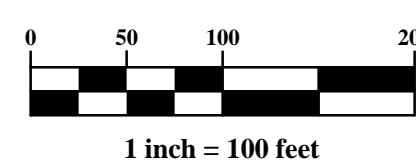
NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#
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GENERAL NOTES

- Survey data provided to EMH&T by the AEP. Survey prepared by: Central Surveying Co., LTD. 7563 East Main Street, Reynoldsburg, Ohio 43068
- Site Conditions shown based on information provided by the owner. Confirm existing conditions prior to beginning work.
- Install all sediment and erosion control items see Sheet 5, 6 and 7 prior to any demolition or construction activities.
- Install orange construction barrier fence at wetland preservation areas prior to any demolition or construction activities, see sheets 3, 4 and 7.
- Remove or relocate items per ODOT Item 202, unless otherwise noted.
- Coordinate limits of demolition with new improvements on site layout plans.
- Protect existing site features and utilities to remain. Repair any damage caused by construction at no addition cost to the Owner.
- Dispose of all items removed offsite in accordance with local codes.
- The identity and location of the existing underground utility facilities known to be located in the construction area have been shown on the plans as accurately as provided by Owner of the underground utility. AEP and/or Design Engineer assume no responsibility as to the accuracy of the location or depths of the underground facilities shown on the plans.
- The Contractor is responsible for the investigation, location, support, protection, and restoration of all existing utilities and appurtenances whether shown on these plans or not. The Contractor shall expose all utilities and structures prior to construction to verify the vertical and horizontal effect on the proposed construction. The Contractor shall call, toll free, the Ohio Utilities Protection Service (1-800-362-2764) 72 hours prior to construction and shall notify all utility companies at least 48 hours prior to work in the vicinity of their underground lines.
- Remove existing station fence, posts, gates and associated foundations.
- Remove existing gravel drive to the limits shown to soil subgrade. Proofroll existing soil and prepare in accordance with AEP Specification SS 4.6 prior to new drive placement.
- In areas where no new drive is being placed and an existing drive is being removed, place topsoil to match existing and seed in accordance with specifications in the Stormwater Pollution Prevention Plan (SWPPP).

GRAPHIC SCALE



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PREPARED BY
EMH&T
Evans, Mechwart, Hamblison & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
2600 New Albany Road, Columbus, OH 43264
Phone: 614/775-4800 Fax: 614/775-4800

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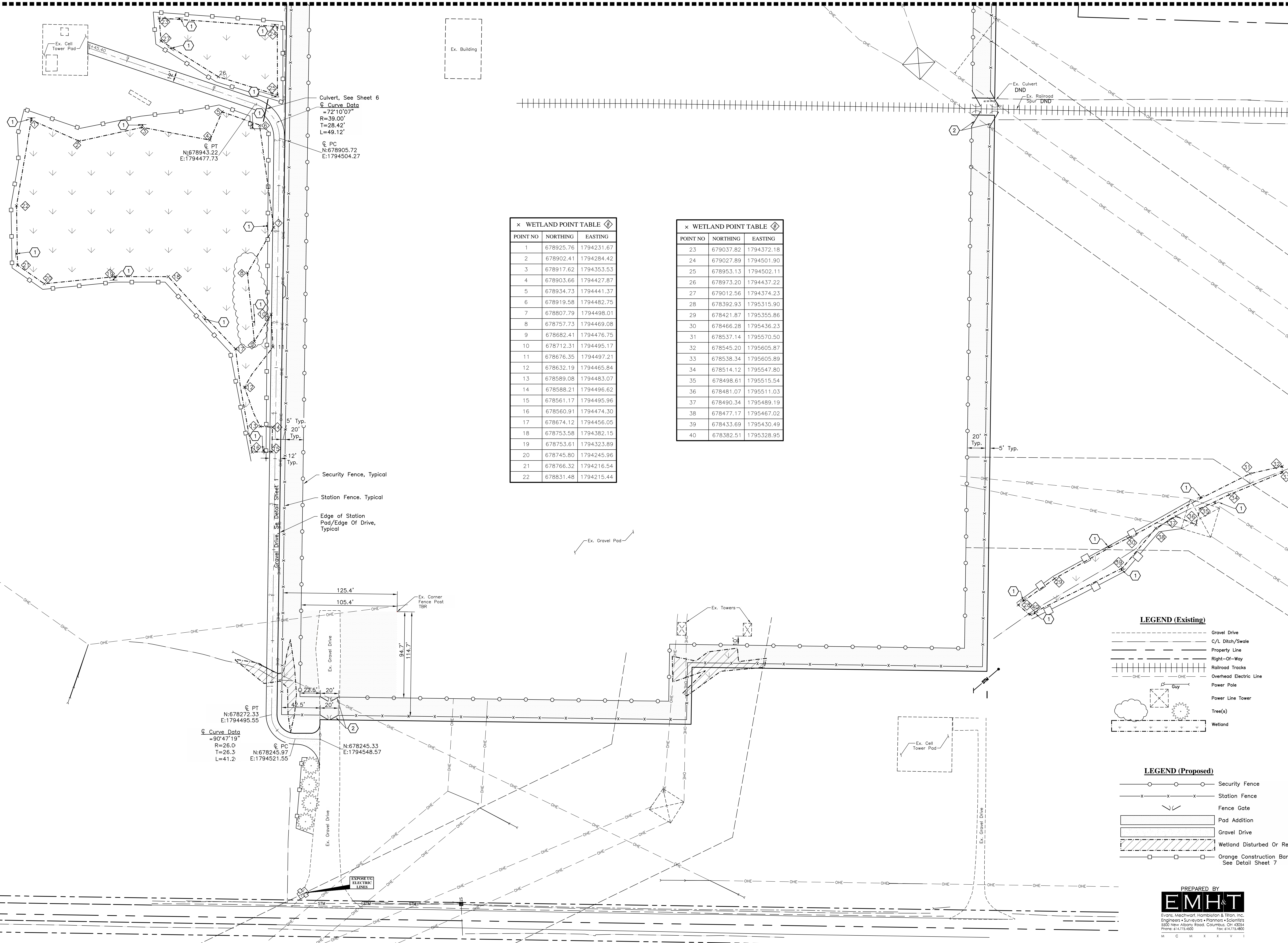
BEATTY ROAD STATION
SUPPLEMENTARY FENCE
GROVE CITY OHIO

SITE DEMOLITION PLAN

SCALE: 1" = 100'	DR: ALD	ENG: CMF	CH: CF
WO#: 42394923	APPD: CF	DATE: MAY 24, 2016	
1 RIVERSIDE PLAZA COLUMBUS, OH 43215		DWG. NO. E-1306	2 of 7



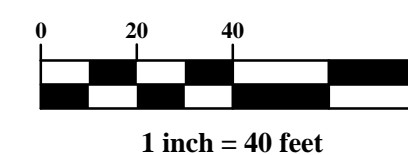
NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#
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GENERAL NOTES

- Remove existing station fence. Install the new security fence in the same location as the existing station fence except in the southwest corner and northeast area, in the southwest corner and northeast area install the new security per plan.
- Stone surface course shown on details on sheet 1 to be provided by separate contract.

GRAPHIC SCALE



CODED NOTES

- Permanent wetland preservation area sign, see Detail Sheet 7.
- Double swing gate per AEP Specification SS 13.0

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PREPARED BY
EMHT
Evans, Mechwart, Hamblison & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
600 New Albany Road, Columbus, OH 43204
Phone: 614/754-6801 Fax: 614/754-6802

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COLUMBUS & SOUTHERN OHIO ELECTRIC COMPANY

BEATTY ROAD STATION
SUPPLEMENTARY FENCE

GROVE CITY, OHIO

345KV

SITE PLAN SOUTH

SCALE: 1" = 40'

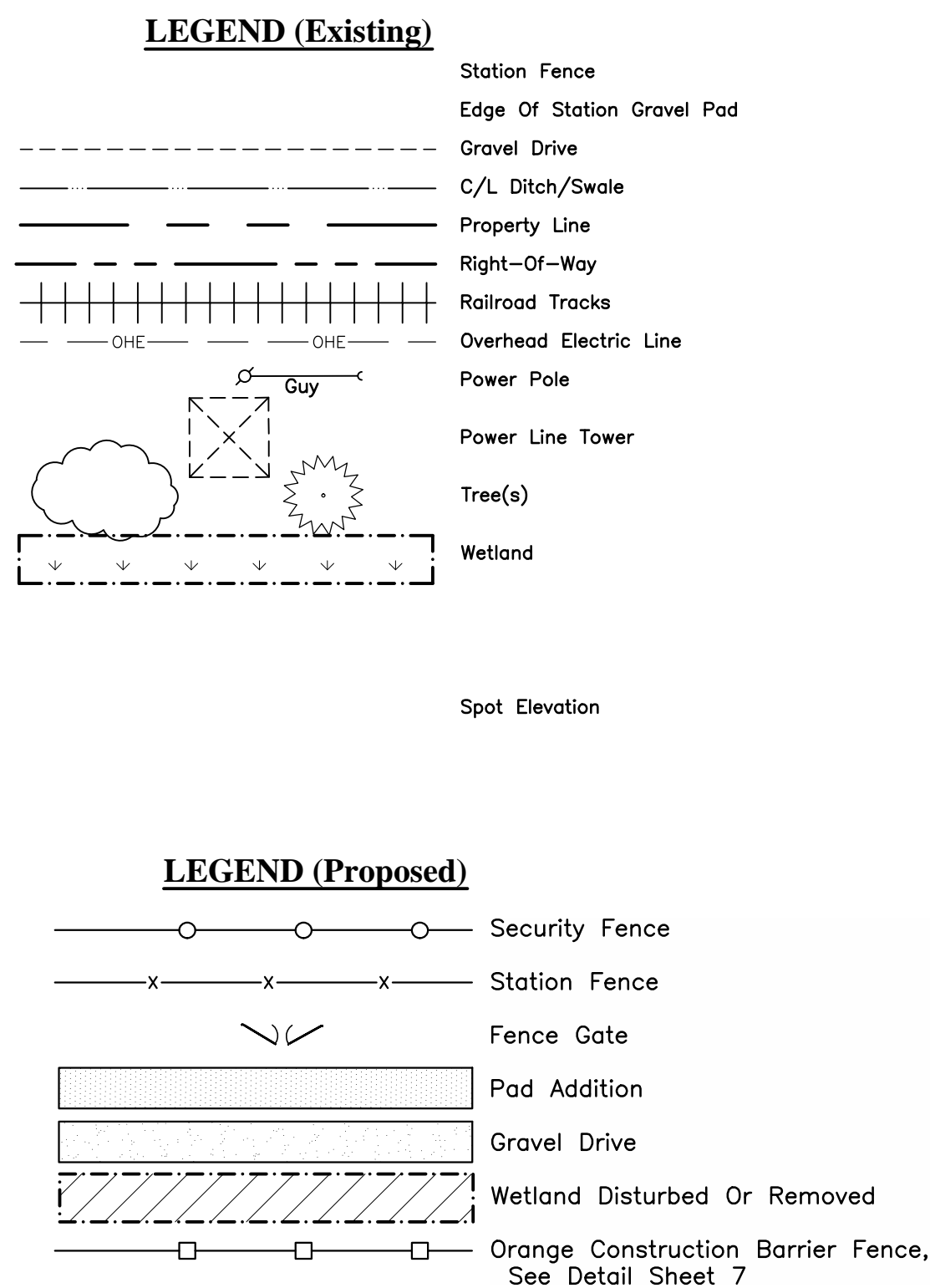
DR: ALD
WO#: 42394923
APPD: CF
DATE: MAY 24, 2016

ENG: CMF
CH: CF

1 RIVERSIDE PLAZA
COLUMBUS, OH 43215

DWG. NO. E-1307
3 of 7
REV 0

NO DATE REVISION DESCRIPTION APPR DR ENG CK ISSUE#



GRAPHIC SCALE

1 inch = 40 feet



COLUMBUS & SOUTHERN OHIO ELECTRIC COMPANY
BEATTY ROAD STATION
GROVE CITY SUPPLEMENTARY FENCE OHIO

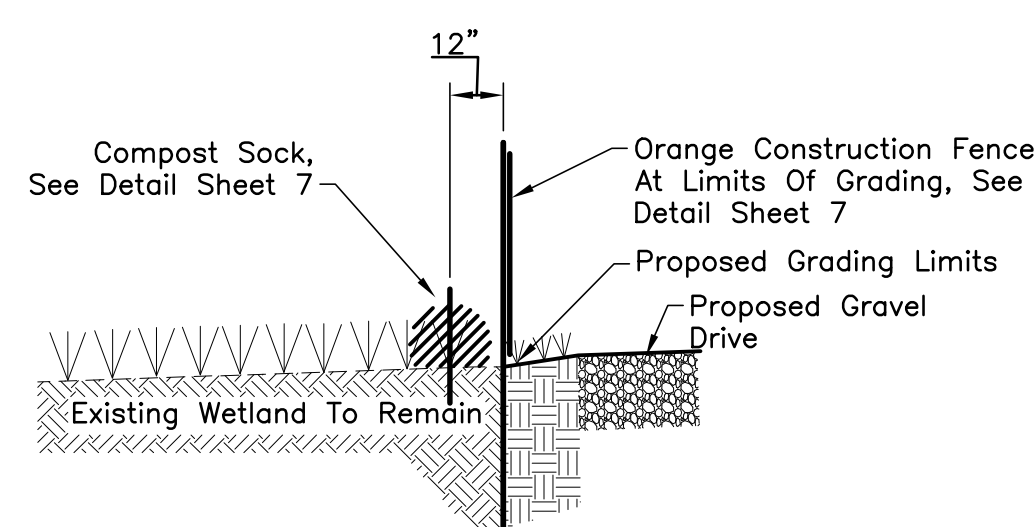
BEATTY ROAD STATION
SUPPLEMENTARY FENCE

SITE PLAN NORTH

SCALE: 1" = 40'	DR: ALD	ENG: CMF	CH: CF
	WO#: 42394923	APPD: CF	DATE: MAY 24, 2016

1 RIVERSIDE PLAZA
COLUMBUS, OH 43215

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#
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WETLAND PROTECTION

No Scale

WETLAND PROTECTION NOTES

Protect existing wetlands to remain. No work, equipment or personnel shall be permitted within the wetland areas to remain at anytime. Provide orange safety fence at the perimeter of the wetland area to be protected with two rows of sediment (silt) fence behind the sediment fence on the north and east sides of the wetland, see detail this sheet. Contractor shall provide construction staking of the wetland areas. Coordinate the location and staking of the wetland areas with: Amy Toohey, AEP Environmental Specialist, Telephone (614) 552-1996.

AEP recognizes that there are wetland impacts in the project area. A pre-construction notice will be sent to the US Army Corps of Engineers in order apply for a Nationwide Section 404 permit for the wetland impacts.

GRADING GENERAL NOTES

- Contours and spot elevations within pad area represent finished subgrade, see Station Pad Typical Section Sheet 1.
- Stone surface course shown on details on sheet 1 to be provided by separate contract.
- Protect existing pavement, utilities and all other site features to remain. Replace any damage to the satisfaction of the Owner at no additional cost.

- The Soils Report is available from the Owner. The General Contractor shall review the soils report and perform all earthwork operations per recommendations in said report and include any soil improvements required to achieve acceptable soil compaction. All necessary soil improvements including soil stabilization and specified fill materials shall be included in the base bid scope of work.
- After topsoil is removed, and subgrade established, proof roll the pad area subgrade prior to placing fill. Soft areas should be undercut and stabilized prior to filling operations. Relative depth of undercut will be determined when soft areas are

discovered. The Soils Engineer shall determine the depth and extent of the undercut and stabilization.

- The Contractor shall be responsible to employ the services of a Registered Soils Engineer to insure the subgrade has been compacted in accordance with AEP Specification 4.6 and the recommendations of the Soils Engineer. Compaction test results shall be submitted to the Transmission Construction Representative (TCR) Bart McNamara (937) 313-4539.

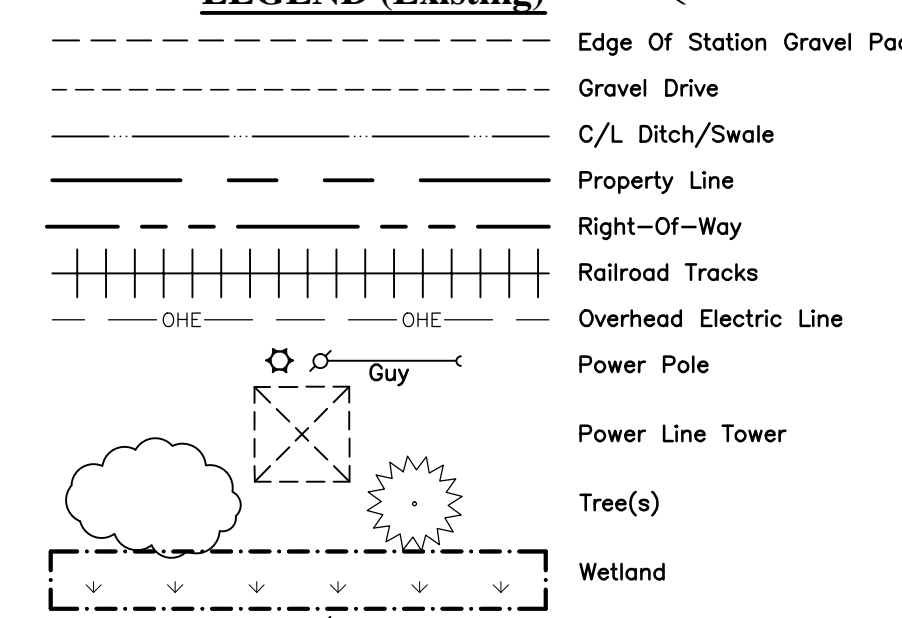
- Earthwork (cut and fill) quantities are for reference only. The General Contractor is responsible to provide all necessary earthwork operations to achieve the finished grades shown on this plan. All necessary earthwork including importing/exporting of material shall be included in the base bid scope of work.

Refer to Sheet 6 for additional Grading General Notes.

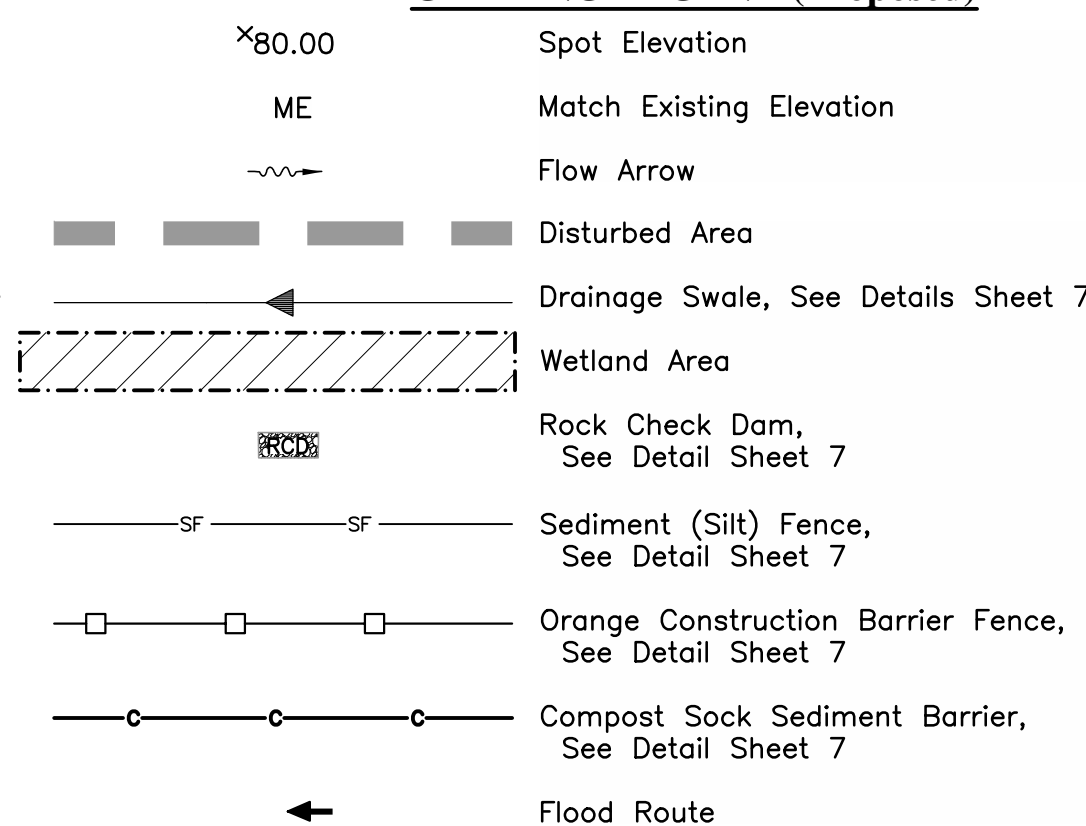
CODED NOTES

- Water quality basin sign Type "A", see Detail Sheet 7.
- Water quality Basin sign Type "B", see Detail Sheet 7.
- 8"x4"x18"D Rock channel protection Type C, Item 601.
- Permanent basin outlet headwall and temporary sediment trap riser pipe, see Temporary Sediment Control/Permanent Basin Outlet Control Detail Sheet Sheet 7.
- Headwall with weir, see Detail Sheet Sheet 7.
- 10"x8"x18"D Rock channel protection Type C, Item 601.
- Outlet control stand pipe, see Temporary Sediment Control/Permanent Basin Outlet Control Detail Sheet Sheet 7.
- Permanent rock check dam, See Detail Sheet 7, bottom elevation 878.0 top elevation 879.5.

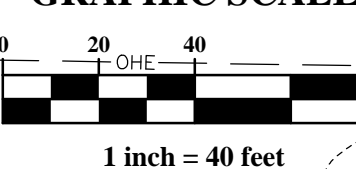
LEGEND (Existing)



GRADING LEGEND (Proposed)



GRAPHIC SCALE



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COLUMBUS & SOUTHERN OHIO ELECTRIC COMPANY

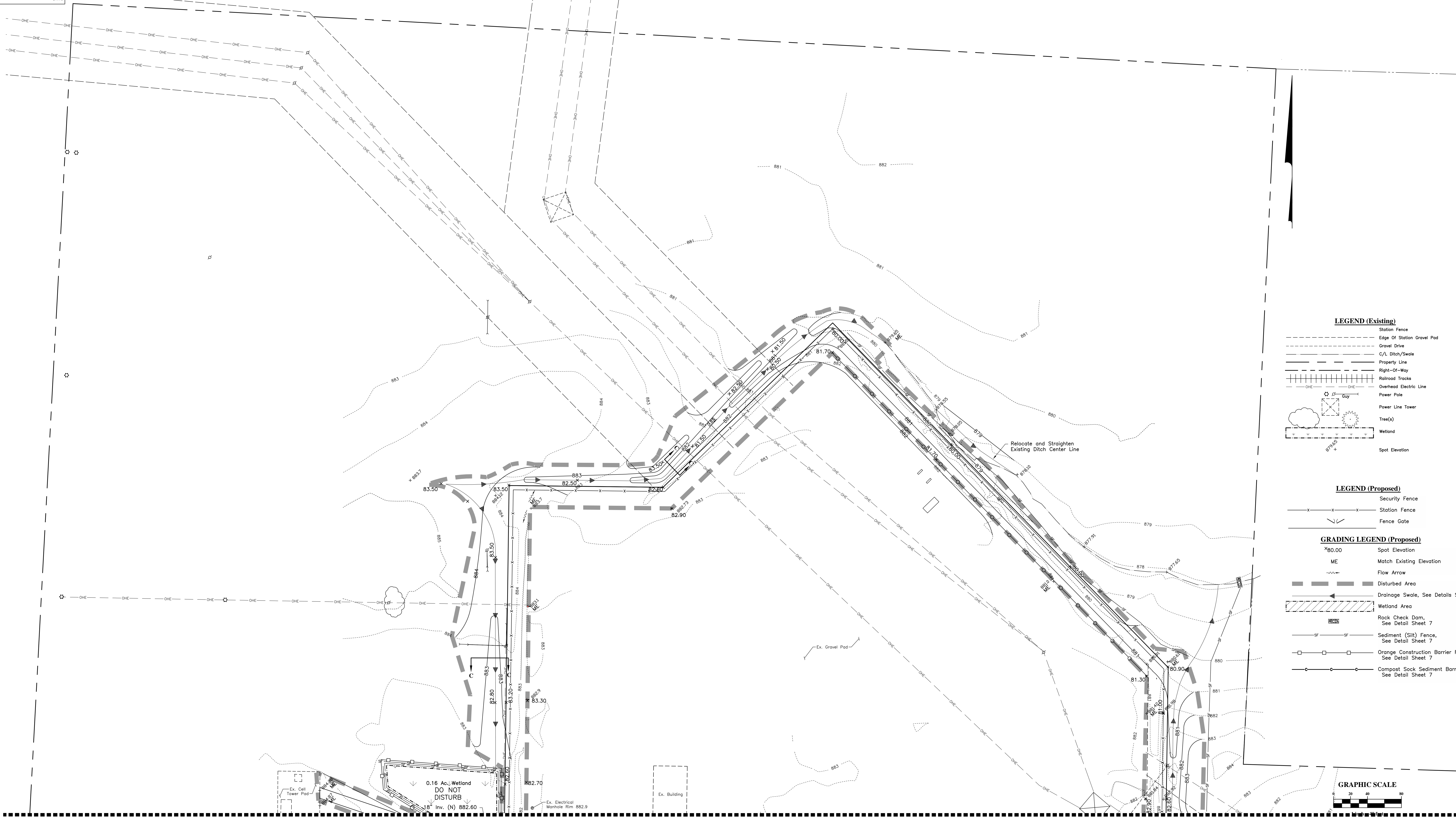
BEATTY ROAD STATION
SUPPLEMENTARY FENCE

GRADING and SEDIMENT & EROSION CONTROL PLAN SOUTH

SCALE: 1" = 40'
DR: ALD
WOF: 42394923
ENG: CMF
APPD: CF
CH: CF
DATE: MAY 24, 2016

1 RIVERSIDE PLAZA
COLUMBUS, OH 43215
DWG. NO. E-1309
5 of 7
R 0

NO DATE REVISION DESCRIPTION APPR DR ENG CK ISSUE#



LEGEND (Existing)

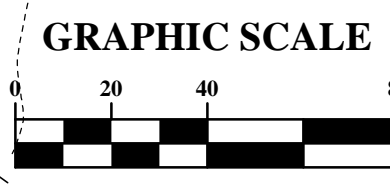
- Station Fence
- Edge Of Station Gravel Pad
- Gravel Drive
- C/L Ditch/Swale
- Property Line
- Right-Of-Way
- Railroad Tracks
- Overhead Electric Line
- Power Pole
- Power Line Tower
- Tree(s)
- Wetland
- Spot Elevation

LEGEND (Proposed)

- Security Fence
- Station Fence
- Fence Gate

GRADING LEGEND (Proposed)

- Spot Elevation
- Match Existing Elevation
- Flow Arrow
- Disturbed Area
- Drainage Swale, See Details Sheet 7
- Wetland Area
- Rock Check Dam, See Detail Sheet 7
- Sediment (Silt) Fence, See Detail Sheet
- Orange Construction Barrier Fence, See Detail Sheet 7
- Compost Sack Sediment Barrier, See Detail Sheet 7



GRADING GENERAL NOTES

Continued from Sheet 5.

8. Stockpile stripped topsoil on-site for reuse per ODOT Item 651, coordinate locations for soil stockpiles with the AEP Field Representative.
9. In all pad expansion areas; strip topsoil full depth, grade expansion area and drive per plan, see sheets 4 and 5, compact subgrade, provide fill as required to establish subgrade and compact fill, all excavation work, fill and compaction shall be per AEP SS 4.6. Station stone shall be by others
10. Structural fill required for embankment construction is available on site. Borrow areas shall be coordinated with the AEP Field Representative. All borrow areas shall be filled with excess soil, gravel or topsoil and compacted. Finished grade of borrow areas shall be graded to drain per the proposed grading plan or restored to the previous existing elevation. If available onsite fill material cannot be compacted per AEP SS 4.6, suitable fill material shall be imported.

11. Remove granular materials to subgrade for all gravel pavement removed. Removed granular material may be spread to an 4 inch to 8 inch layer on site. Coordinate specific location with the AEP Field Representative.
12. All stripping, clearing and grubbing, borrow, stockpile, excavation or embankment areas shall have sediment and erosion control devices in place prior commencing operations, see sheets 5, 6, and 7.
13. All excess topsoil, soil, debris, unusable materials, and items not salvaged by the Owner shall become the property of the Contractor and shall be removed from the site by the Contractor and disposed of properly.

14. All drain tile and storm sewers damaged, disturbed, or removed as a result of the Contractor's operations shall be replaced with the same quality pipe or better, maintaining the same gradient as existing. Replaced drain tile shall be laid on bedding per CQC Item 901 Type I and backfilled per CQC Item 911. Replacement shall be done at the time of the backfill operation. Cost of this work to be included in the price bid for the various items.
15. The flow in all sewers, drains, wetlands and watercourses encountered shall be maintained by the Contractor at his own expense, and whenever such watercourses and drains are disturbed or destroyed during the execution of the work, they shall be restored by the Contractor at his own cost and expense, unless specific provision is made within the Contract Documents for the measure of and payment for such cost specific items, to a condition satisfactory to the Owner.

16. The Contractor shall provide sediment control throughout the project at all points where storm water runoff leaves the project including waterways, overland sheet flow, and storm sewers. Erosion and sediment control shall be provided as per the requirements of the Ohio Department of Natural Resources (ODNR) "Rainwater and Land Development" manual and OEPA General Permit.
17. All land disturbing activities shall be subject to inspection and site investigation by the Madison County Engineer and/or the Ohio EPA. Failure to comply with these regulations is subject to legal enforcement action. The Contractor shall be responsible for keeping all soil stockpiles, including trench excavation stockpiles, protected from erosion. The areas surrounding the stockpiles are to be protected from sediment with the use of perimeter control devices such as earth or straw bale devices or silt fences. These perimeter control devices shall be maintained for the duration of the project.

18. Provide 4-6 inches of topsoil and seed on all areas disturbed by construction and not to be paved, see sheet Stormwater Pollution Prevention Plan (SWPPP) for seeding specifications.
19. Stabilized site shall be defined as paved areas having at a minimum; a pavement intermediate course and grass areas having 95% grass established. No sediment and erosion control devices shall be removed until site is stabilized. Refer to notes on Sheet 7.

20. As-Built Survey requirements (provided by the Contractor): The as-built survey information shall be based on the state plane coordinate system and the benchmarks used on the approved plans. The as-built survey is to be submitted in the form of red-lined information on the construction drawings indicating the following:
As-built elevations of all proposed spot elevations shown on the Grading Plan, including swales and ditches. Elevations at the pad corners and Every 50 feet at the edge of the pad addition and the security fence.

PREPARED BY



Evans, Mechwart, Hamilton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
2200 New Albany Road, Columbus, OH 43264
Phone: 614/775-4850 Fax: 614/775-4850

NO. C H E K S Y

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**BEATTY ROAD STATION
SUPPLEMENTARY FENCE**

GROVE CITY, OHIO

345KV

GRADING and SEDIMENT & EROSION CONTROL PLAN NORTH

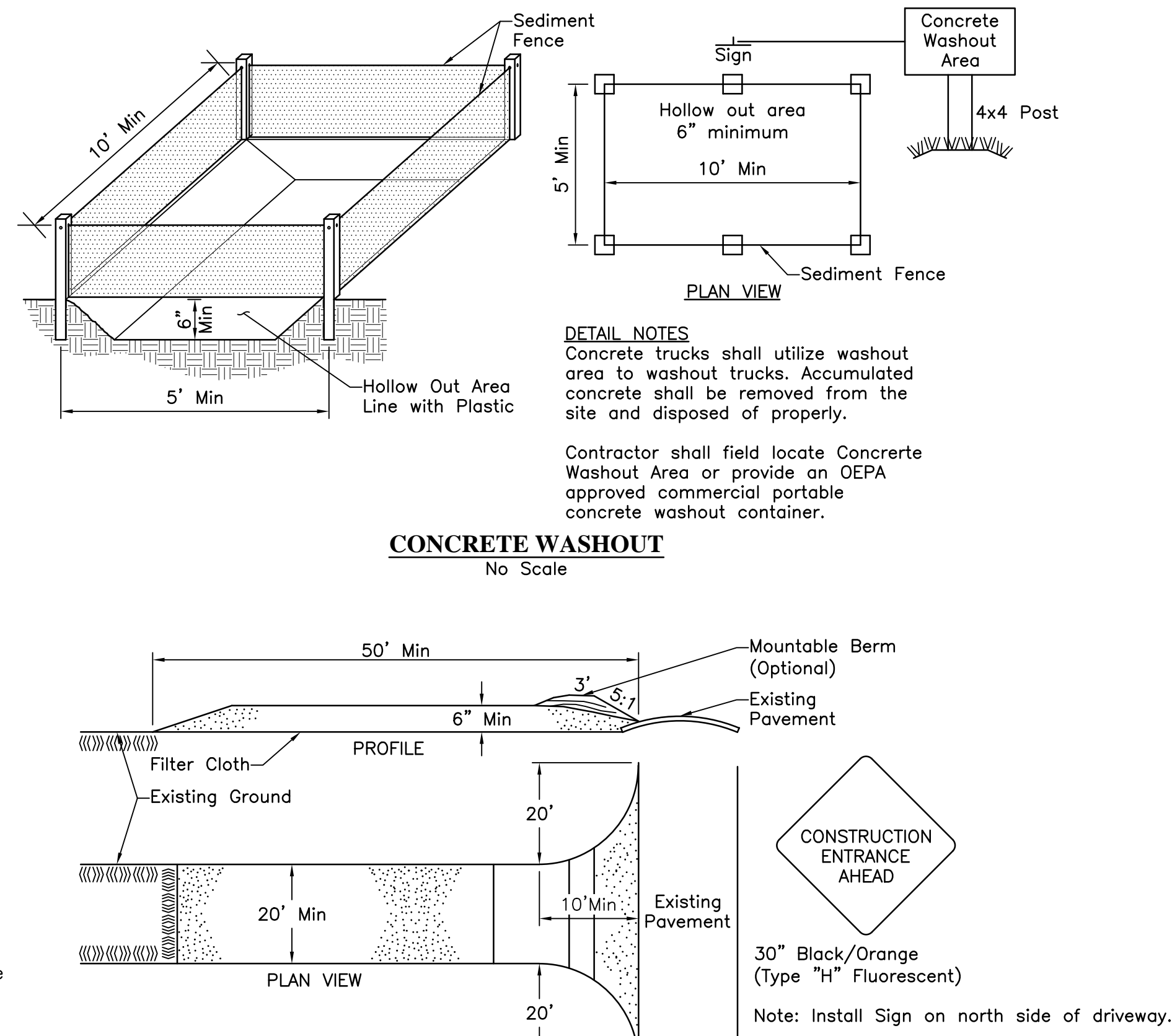
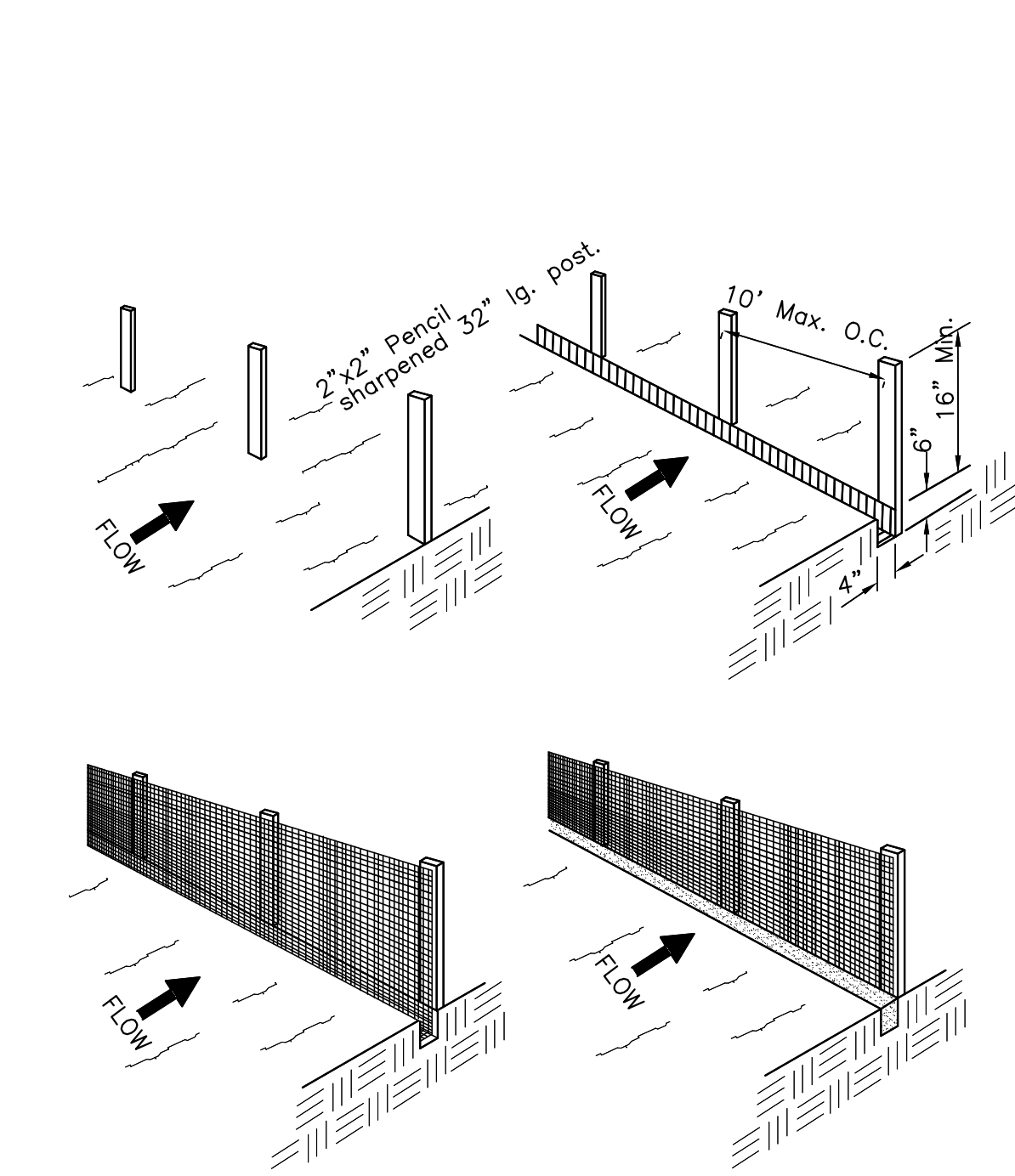
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WOR: 42394923	APPD: CF	DATE: MAY 24, 2016	
1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1310	6 of 7	R 0

NO	DATE	REVISION DESCRIPTION	APPR	DR	ENG	CK	ISSUE#
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GENERAL NOTES

1. The height of a silt fence shall not exceed 16-inches (higher fences may impound volumes of water sufficient to cause failure of the structure).
2. Silt fences shall be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum of a 6 inch overlap, and securely sealed.
3. Silt fences shall extend a maximum of 10 feet apart at the barrier location and driven securely into the ground (minimum of 12 inches).
4. A trench shall be excavated approximately 4 inches wide and 6 inches deep along the line of posts and upslope from the barrier.
5. The silt fence shall be installed with the filter fabric secured to the fence, and 8 inches of the fabric shall be extended into the trench. The fabric shall not extend more than 16 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.
6. The filter fabric shall be backfilled and soil compacted over the filter fabric.
7. Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.

MAINTENANCE NOTES

1. Silt fences and filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected useful life and the barrier is still necessary, the fabric shall be replaced promptly.
2. Stormwater sediments shall be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.
3. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be removed to conform with the existing grade, prepared and seeded.

SEDIMENT (SILT) FENCE
No Scale

STABILIZED CONSTRUCTION ENTRANCE
No Scale

The drawing consists of two views: a plan view (top) and an elevation view (right).

Plan View Dimensions:

- Overall width: 12"
- Overall length: L
- Radius: 17"R
- Circle diameter: D
- Spacing: Equally Spaced Not To Exceed 24"
- Bedding depth: 6"
- Reinforcing steel bar spacing: 5/8"
- Concrete thickness: 24"

Elevation View Dimensions:

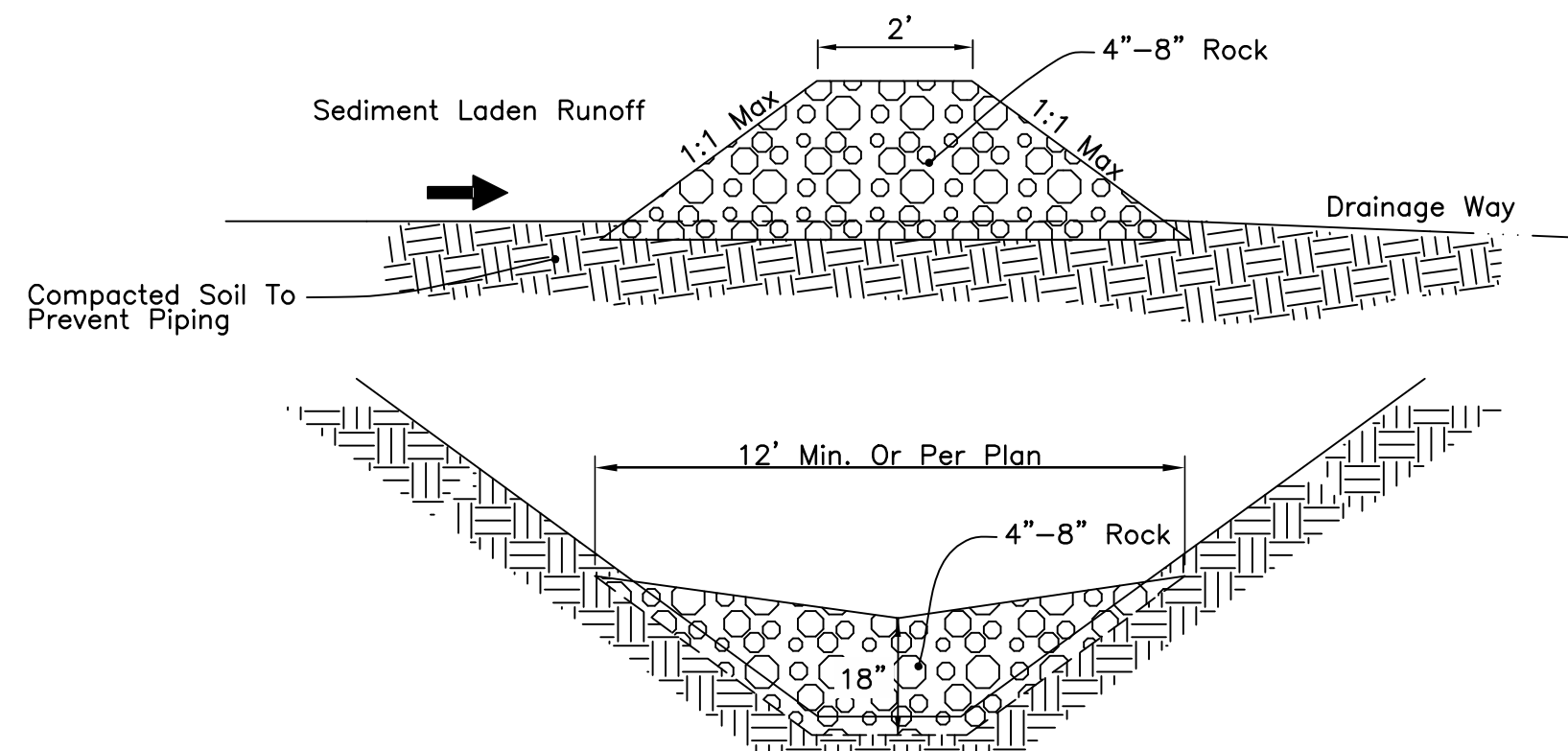
- Overall width: 12"
- Radius: 17"R
- Circle diameter: D
- Spacing: Equally Spaced Not To Exceed 24"
- Bedding depth: 6"
- Reinforcing steel bar spacing: 5/8"
- Concrete thickness: 24"

Notes:

- Use 6" Bedding per Item
- 603 Type 1, & exceed footer dimensions by 6".
- Reinforcing Steel Bars shall be #5 (5/8 inch) round.
- Concrete shall be Class "C". The soil shall have a bearing capacity of 2500 pounds per square foot prior to placing the wall.

PRECAST CONCRETE HEADWALL
Scale: None

PRECAST CONCRETE HEADWALL
Scale: None



MAINTENANCE
Rock checks are temporary sediment barriers and shall be removed upon site stabilization.

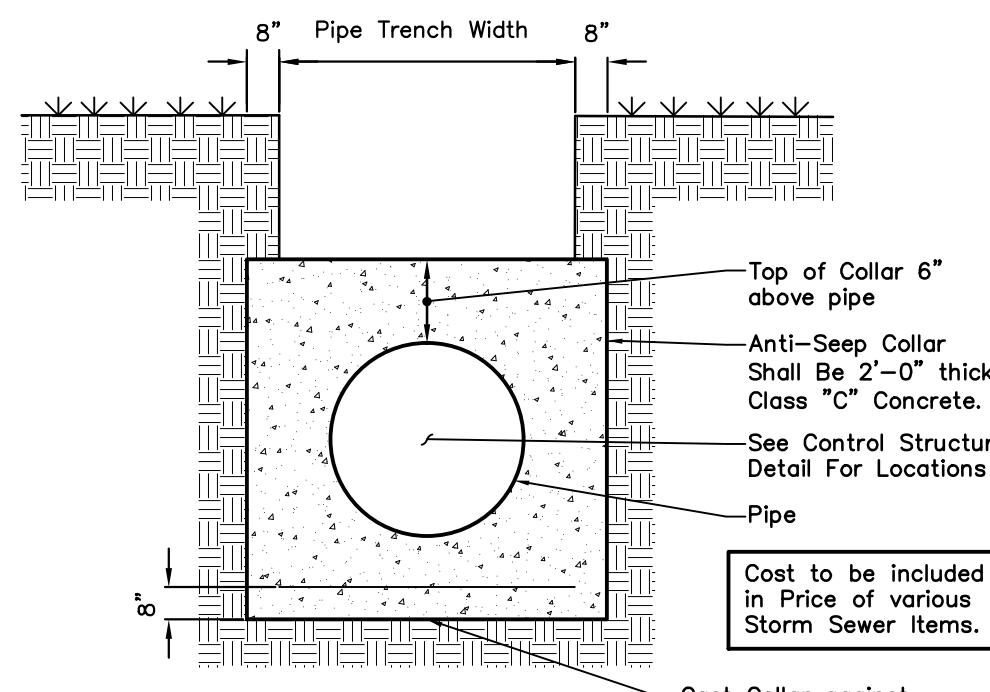
Close attention shall be paid to the repair of damaged check dams, end runs and undercutting beneath dams.

Necessary repairs to check dams shall be accomplished promptly. Sediment deposits should be removed after each rainfall.

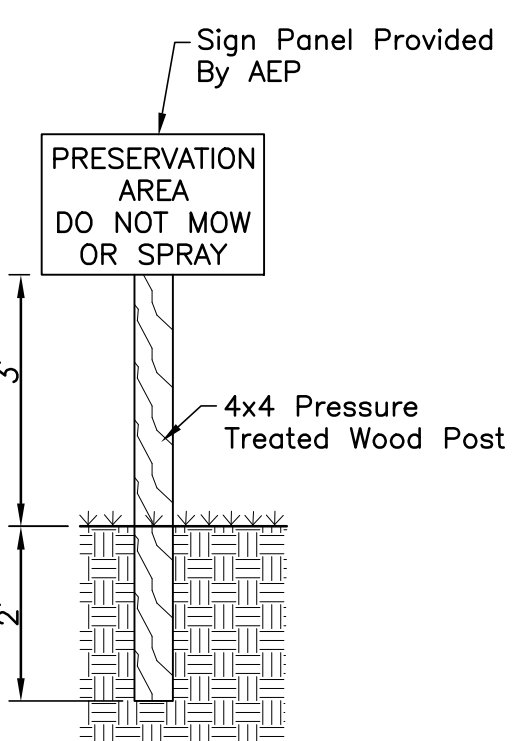
Dams must be removed and replaced when the level of deposition reaches approximately one-half the height of the barrier.

Any sediment deposits remaining in place after the aggregate is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

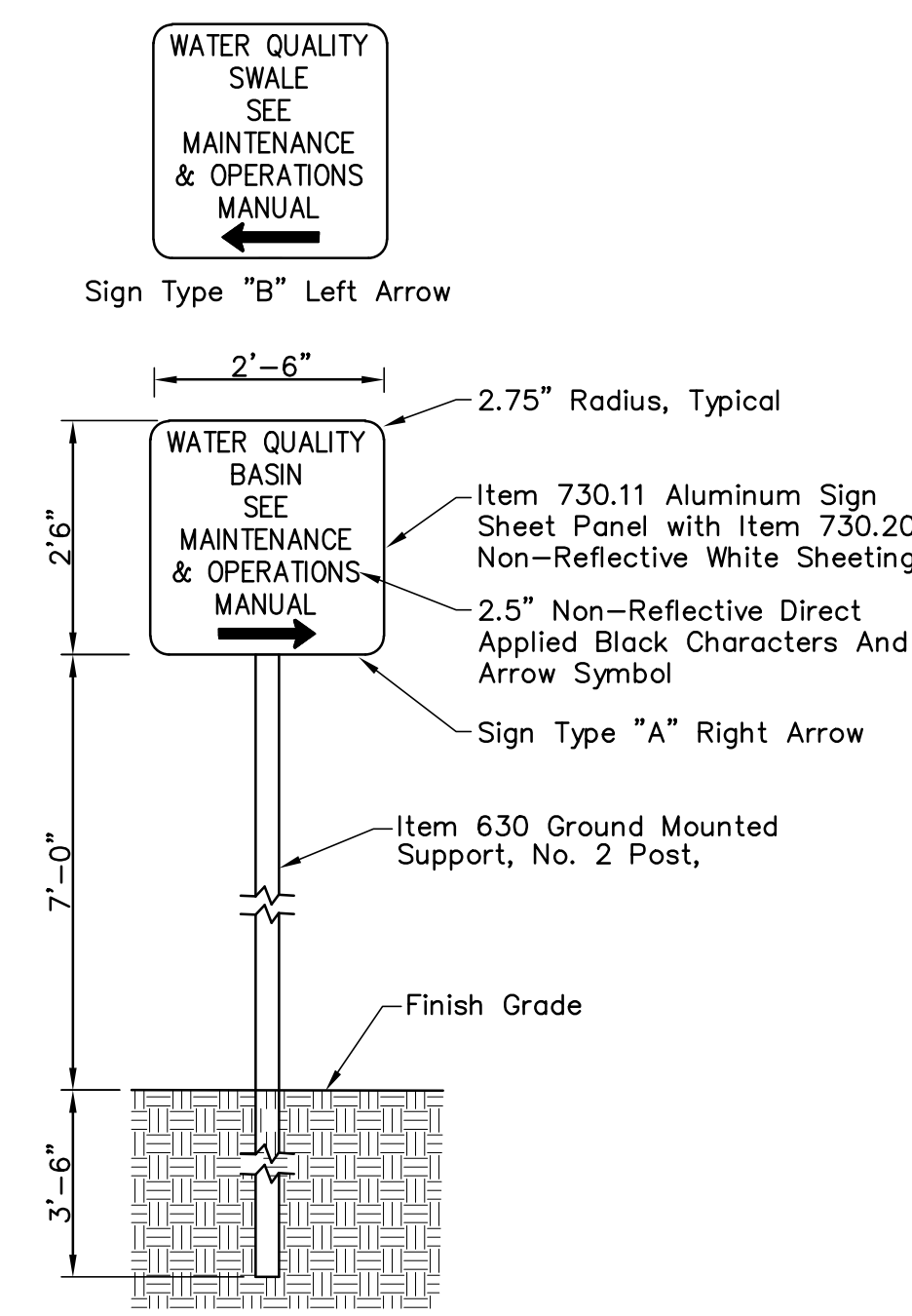
ROCK CHECK DAM
No Scale



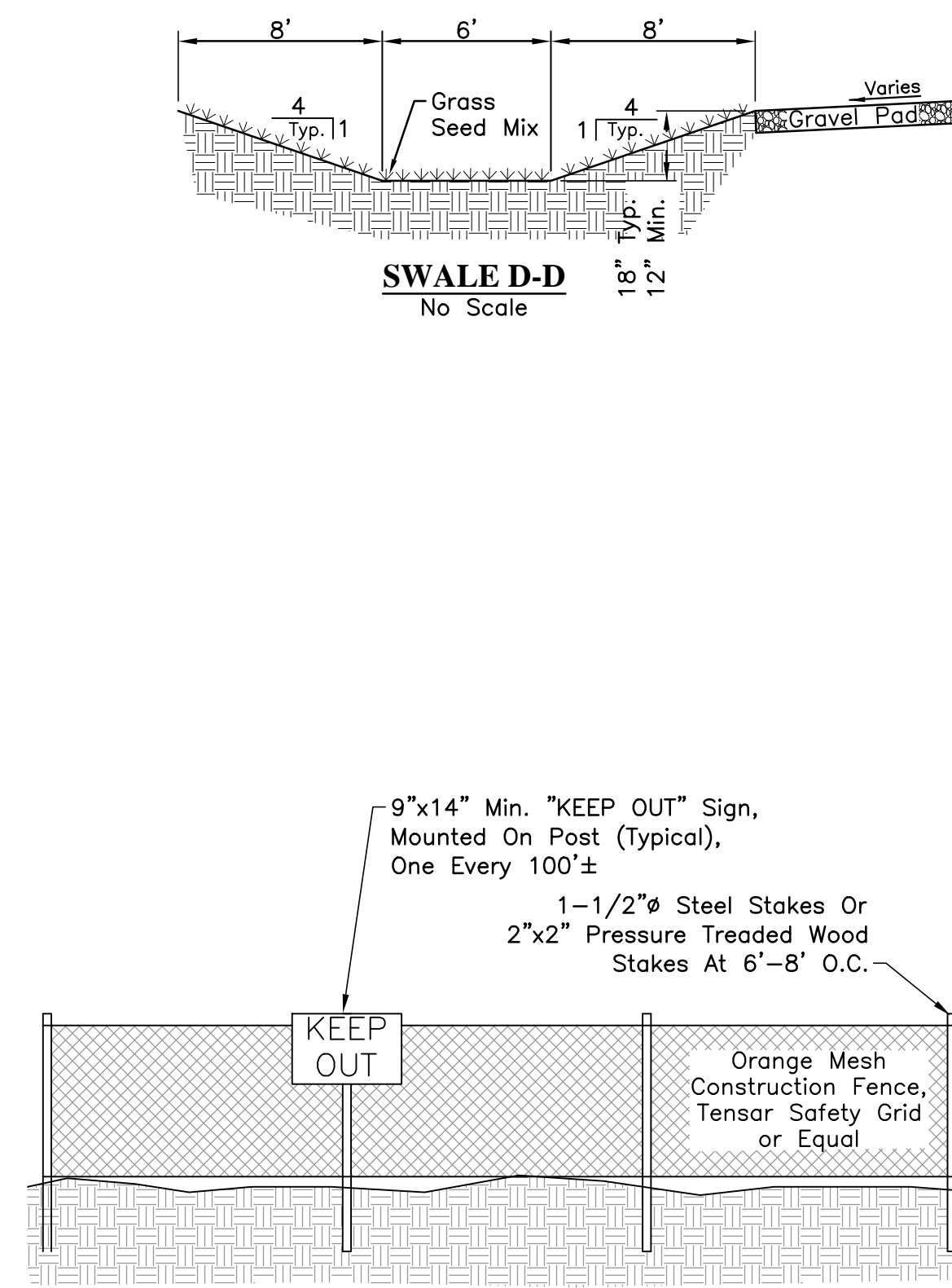
ANTI-SEEP COLLAR DETAIL
Scale: None



PERMANENT WETLAND PRESERVATION SIGN



WATER QUALITY SWALE SIGN AND POST
(No Scale)



ORANGE CONSTRUCTION FENCE
No. Scale

SEDIMENT AND EROSION CONTROL NOTES

MAINTENANCE: It is the Contractor's responsibility to maintain the sedimentation and erosion control features on this project. Any sediment or debris which has reduced the efficiency of a control shall be removed immediately. Should a structure or feature become damaged, the Contractor shall repair or replace at no additional cost to the owner.

INSPECTIONS:
The Contractor shall provide qualified personnel to conduct site inspections ensuring proper functionality of the erosion and sedimentation controls. All erosion and sedimentation controls are to be inspected once per every seven calendar days or within 24 hours of a 0.5" (1/2") storm event or greater. Records of the site inspections shall be kept and made available to jurisdictional agencies if requested.

CONTRACTORS RESPONSIBILITIES:
Details have been provided on the plans in an effort to help the Contractor provide erosion and sedimentation control. The details shown on the plan shall be considered a minimum. Additional or alternate details may be found in the O.D.N.R. Manual "Rainwater and Land Development." The Contractor shall be responsible for providing necessary and adequate erosion measures for proper control of erosion and sediment runoff from the site along with proper maintenance and inspection in compliance with the NPDES General Permit for Storm Discharges Associated with Construction Activity.

The Contractor shall provide a schedule of operations to the Owner. The schedule should include a sequence of the placement of the sedimentation and erosion control measures that provides for continual protection of the site throughout the earth moving activities.

Prior to Construction Operations in a particular area, all sedimentation and erosion control features shall be in place. Field adjustments with respect to locations and dimensions may be made by the Engineer, the AEP Field Representative and/or the Ohio EPA.

It may become necessary to remove portions of sedimentation controls with the exception of the wetland orange construction barrier fence and wetland silt fence during construction to facilitate the grading operations in certain areas. The controls shall be replaced upon resuming grading activity or during inclement weather.

The Contractor shall be responsible to ensure that off-site tracking of sediments by vehicles and equipment is minimized. All such off-site sediment shall be cleaned up daily.

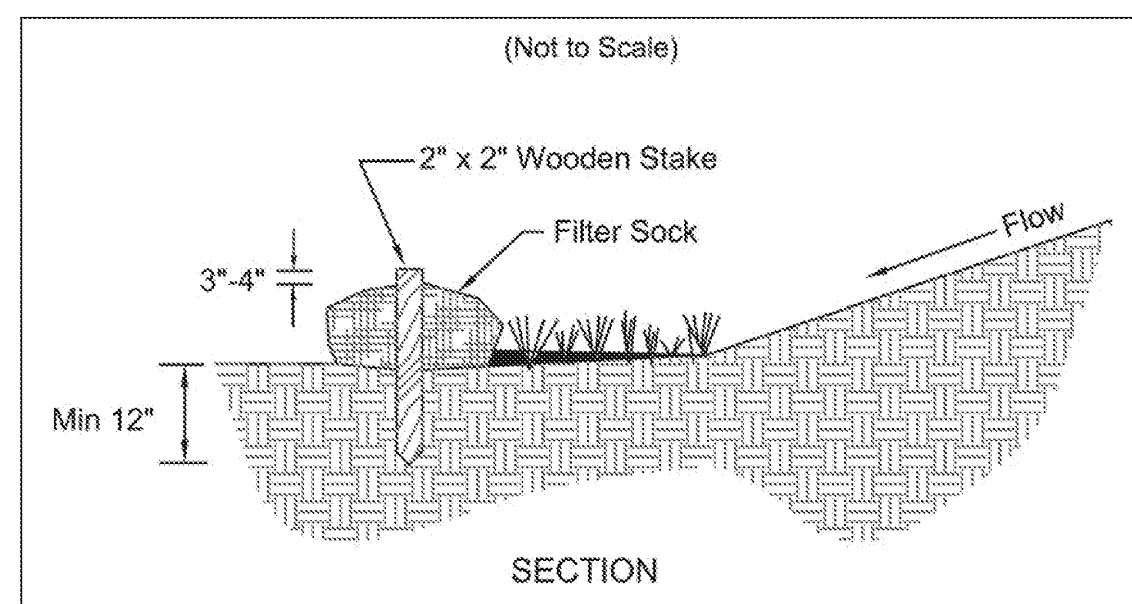
The Contractor shall be responsible to ensure that no solid or liquid waste is discharged into storm water runoff. Untreated sediment-laden runoff shall not flow off of site without being directed through a control practice. Concrete trucks will not be allowed to wash out or discharge surplus concrete into or along-side rivers, streams, or creeks or into natural or man-made channels or swales leading thereto. Concrete wash water and surplus concrete shall be confined to approved areas; after solidifying, these waste materials shall be removed from the site.

CONSTRUCTION SEQUENCE

1. Identify the wetland limits to be protected and install two rows of sediment fence and the orange construction (barrier) fence, see details this sheet.
2. Identify the site limits of disturbance and install sediment fence.
3. Install the stabilized construction entrance and temporary rock check dams.
4. Strip topsoil and remove vegetation.
5. Construct the micro pool permanent basin/temporary sediment trap.
6. Grade the pad addition and commence grading the remainder of the site.
7. Install culvert and rock channel protection
8. Fine grade the pad addition, install the proposed fences.
9. Permanently stabilize all disturbed areas.
10. Remove sediment from the permanent basin and micro pool, remove temporary sediment riser pipe and seed basin.
11. Remove the temporary sediment fence and rock check dam sediment barriers.

SEEDING NOTES

For temporary erosion control grass seeding and permanent grass seeding, refer to the Stormwater Pollution Prevention Plan (SWPPP) provided as part of the Contract Documents by AEP.




1. Materials – Compost used for filter socks shall be wind, pathogen and insect free and free of any urea, contaminants or other materials toxic to plant growth. They shall be derived from a well-defined source and consist of organic matter and consist of a particles ranging from 3/8" to 2".
 2. Filter Socks shall be 3 or 5 mlt continuous, tubular, HDPE 3" knitted mesh netting material, filter with compost passing the above specifications for compost products.
- INSTALLATION:**
3. Filter socks will be placed on a level line across slopes, generally parallel to the base of the slope or other effective erosion control measures.
 4. Filter socks shall be overlapped 2-1' additional mlt socks.
 5. Filter socks intended to be left as a permanent filter or part of the natural landscape, shall be seeded at the time of installation for establishment.
 6. Filter socks are not to be used in concentrated flow situations or in runoff channels.
 7. Maintenance:
 - a. Regularly inspect filter socks after each significant rain. Maintain filter socks in a functional condition at all times.
 - b. Remove sediments collected at the base of the filter socks when they reach 1/2 of the exposed height of the practice.
 - c. Where the filter socks deteriorates or fails, it will be repaired or replaced with a more effective alternative.
 - d. Removal – Filter socks will be dispersed once when no longer required in such way as to facilitate and not obstruct seedlings.

COMPOST SOCK SEDIMENT BARRIER
No Scale

PREPARED BY
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Fax: 614.775.4800

PRELIMINARY
.....
NOT TO BE USED FOR
CONSTRUCTION

BEATTY ROAD STATION
SUPPLEMENTARY FENCE

SCALE: NONE	DR: ALD	ENG: CMF	CH: CF
 AMERICAN[®] ELECTRIC POWER	WO#: 42394923	APPD: CF	DATE: MAY 02, 2016
	1 RIVERSIDE PLAZA COLUMBUS, OH 43215	DWG. NO. E-1311	7 of 7

CONSTRUCTION NOTICE FOR BEATTY ROAD STATION DRAINAGE IMPROVEMENTS

Appendix C Phase I Archaeological Survey
September 30, 2016

Appendix C Phase I Archaeological Survey

April 5, 2016

Ms. Amanda Schraner Terrell
Director, State Historic Preservation Office
Deputy State Historic Preservation Officer
Ohio Historic Connection
800E. 17th Avenue
Columbus, Ohio 43211-2474

RE: Beatty Road Station Expansion
Nationwide Permit
Section 106 Coordination

Dear Ms Terrell:

Please find enclosed a copy of the Phase 1 Archaeological Resource Report for the Proposed Beatty Station (3.8), located in Jackson Township, Franklin County, Ohio prepared by Weller and Associates for your review and concurrence. The project will entail the expansion of the existing station. The project will require a Nationwide permit for the construction of the expanded fence line.

As a result of the field investigations no sites were identified on the property. There are no history/architectural resources located in the study area. No further work was deemed necessary for this project. Therefore, a finding of no historic properties affected as outlined by 36CFR 800.4 and 36 CFR 800.5 is considered appropriate for this project.

In consideration of the scope of work and results of the cultural resource investigations provided, we request your concurrence that the proposed project will have a finding of no historic properties affected. Please send your concurrence to my attention at the address above or ajtoohey@aep.com.

If you have any questions regarding the project or need additional information to assist in your review please contact me at (614) 552-1996 or ajtoohey@aep.com

Thank you for your time and consideration with this project.

Sincerely,


Amy J. Toohey
Environmental Specialist



In reply refer to
2016-FRA-34854

May 9, 2016

Amy J. Toohey
American Electric Power
700 Morrison Road
Gahanna, Ohio 43230

Dear Ms. Toohey:

RE: Beatty Station, Jackson Township, Franklin County, Ohio

This is in response to the receipt, on March 5, 2016, of *A Phase I Archaeological Survey for Proposed 3.8 ha (9.5 ac.) Beatty Station Expansion project in Jackson Township, Franklin County, Ohio*. The comments of the State Historic Preservation Office are submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

Intensive visual inspection and subsurface testing of the project area did not identify any archaeological remains. Therefore, based on the information provided, I agree with the recommendation that no further archaeological work is necessary in the proposed project area. It is my opinion that the proposed project will not affect historic properties. No further coordination is required unless the project changes or archaeological remains are discovered during the course of the project. In such a situation, this office should be contacted as per 36 CFR 800.13.

If you have any questions, please contact me at (614) 298-2000, or by email at nyoung@ohiohistory.org.

Sincerely,

A handwritten signature in black ink that reads "Nathan J. Young".

Nathan J. Young, Project Reviews Manager
Resource Protection and Review



**Phase I Archaeological Survey for the Proposed 3.8 ha (9.5 ac)
Beatty Station Expansion Project
in Jackson Township, Franklin County, Ohio**

**Ryan Weller
Alex Thomas**

March 18, 2016

1395 West Fifth Ave.
Columbus, OH 43212
Phone: 614.485.9435
Fax: 614.485.9439
Website: www.wellercrm.com

**Phase I Archaeological Survey for the Proposed 3.8 ha (9.5 ac)
Beatty Station Expansion Project in
Jackson Township, Franklin County, Ohio**

By

**Ryan J. Weller
Alex Thomas**

Submitted By:

**Weller & Associates, Inc.
1395 West Fifth Ave.
Columbus, OH 43212
Phone: 614.485.9435 Fax: 614.485.9439**

Prepared For:

**American Electric Power
700 Morrison Road
Gahanna, OH 43230**

Lead Agency:

Ohio Power Siting Board



Ryan J. Weller, P.I.

March 18, 2016

Abstract

In March of 2016, Weller & Associates, Inc. conducted a Phase I cultural resource management investigation for the proposed Beatty Rd. 345 KV Substation located in Jackson Township, Franklin County, Ohio. This work was conducted under contract with American Electric Power for submittal to the Ohio Power Siting Board. The cultural resource management work involved in this project involved an archaeological survey and a limited architectural survey.

The station expansion involves an approximately 3.8 ha (9.5 ac) area that surrounds the existing station and is on the north side of Beatty Road. This is approximately .4 km (.25 mi) west of US 62. Within the project area lies an existing, fenced, operational substation. The archaeological survey focused on the areas immediately outside of the fence on all sides. The conditions of these areas have been extensively disturbed from former construction, are being utilized agriculturally, or are inundated, and have been flagged as wetland. The areas outside of the existing facility include a communications antenna, a cellular tower, and associated electric support structures. The southern portion of the parcel consists of a grass covered lot, and was subjected to the majority of the subsurface testing. The surroundings are consistent with rural, agricultural lands.

The literature review that was conducted for this project identified no archaeological sites within the study area. The project area has not been the subject of any previous surveys. There are no previously recorded architectural resources within the study area.

The fieldwork for this project was conducted on March 17, 2016. The investigations did not result in the identification of archaeological sites. In addition, no architectural resources 50 years or older are within a direct line-of-sight of the project. It is the opinion of Weller that no historic properties will be affected by the project. No further work is recommended for this undertaking.

Table of Contents

Abstract.....	
List of Tables and Figures.....	
Introduction.....	1
Environmental Setting.....	1
Cultural Setting.....	3
Research Design.....	10
Literature Review.....	11
Fieldwork Results.....	13
APE Definition and NRHP Determination.....	14
Recommendations.....	14
References Cited.....	15
Figures.....	21

List of Tables and Figures

List of Tables

1. Soils in the Project.

List of Figures

1. Political Map of Ohio showing the approximate location of the project area.
2. Portion of the USGS 1991 Harrisburg, Ohio 7.5 Minute Series (Topographic) map indicating the location of the project and previously recorded resources in the study area.
3. Aerial map indicating the location of the project and previously recorded resources in the study area.
4. Portion of the *Archeological Atlas of Ohio (Mills 1914)* indicating the approximate location of the project.
5. Portion of the USGS 1923 West Columbus, Ohio 15 Minute Series (Topographic) map indicating the location of the project.
6. Fieldwork map indicating the results of testing and photo orientations for the project.
7. View from the southwestern portion of the project facing north.
8. View from the eastern central portion of the project showing disturbed conditions in the project facing west.
9. View from the central eastern portion of the project facing south.
10. View from the northwestern portion of the project facing east.
11. View from the northern portion of the project facing southeast.
12. View from the central western portion of the project facing south.
13. View from the southeastern portion of the project facing west.
14. View from the southwestern portion of the project facing east.
15. View from the southwestern portion of the project facing north, showing disturbed conditions.
16. View of the conditions within the surface collected areas of the project.
17. View of wet conditions within the project.
18. View of disturbed conditions encountered within the project.
19. A typical shovel test unit excavated within the project.

Introduction

In March of 2016, Weller & Associates, Inc. (Weller) conducted a Phase I Archaeological Survey for the Proposed 3.8 ha (9.5 ac) Beatty Station Expansion Project in Jackson Township, Franklin County, Ohio (Figures 1-3). This work was conducted under contract with American Electric Power (AEP) for submittal to the Ohio Power Siting Board (OPSB). These investigations were conducted to identify any sites or properties and to evaluate them in a manner that is reflective of Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]). This report summarizes the results of the archaeological fieldwork and an intensive literature review. The report format and design is similar to that established in *Archaeology Guidelines* (Ohio State Historic Preservation Office [SHPO] 1994).

The fieldwork for this project was conducted on March 17, 2016. Alex Thomas completed the literature review on March 17, 2016. Alex Thomas, Craig Schaefer, Brittany Vance, and Matt Sanders completed the field investigations. Chris Nelson served as the Project Manager; Ryan Weller was the Principal Investigator.

Project Description

The project will include an expansion of the existing Beatty Station. The station is located along Beatty Road just south of Grove City, Franklin County, Ohio. All of the work will occur in the immediate vicinity of the station area. An area of approximately 9.5 total acres will be included in the survey, which extends outward in all directions of the existing fence. Since this is an existing station and the lines are existing, it does not seem likely that an architectural survey is necessary and this project will be investigated by archaeological survey only.

Environmental Setting

Climate

Franklin County, not unlike all of Ohio, has a continental climate, with hot and humid summers and cold winters. About 97 cm (38 in) of precipitation fall annually on the county with the average monthly precipitation about 8 cm (3.2 in). January, February and October are the driest months, while July is the wettest month for Franklin County (United States Department of Agriculture, Soil Conservation Service [USDA, SCS] 1980).

Physiography, Relief, and Drainage

Franklin County is located within several physiographic regions such as the Columbus Lowland region of Ohio, Galion Glaciated Low Plateau to the east, and the Darby Plain, which is found on the western portion of the county. The Darby Plain physiographic region includes the project area (Brockman 1998); this is described as “Moderately low relief (25’), broad hummocky ground moraine with several broad, indistinct recessional moraines between hummocks are broad, poorly drained swales,

which held wet prairies/meadows in pioneer days (Brockman 1998). The project area is located near the headwaters of Grant Run, which drains directly into the Scioto River.

Geology

Franklin County is comprised of late Wisconsinan-age till on the surface. The soils are predominately clayey with a higher concentration of lime. Below the till are lacustrine deposits that cap Paleozoic-aged rocks. The underlying bedrock of the project area can be of either Silurian- or Devonian-age material as it is at the interface of these two formations Brockman 1998; USDA, SCS 1980).

Soils

The project area is within the Crosby-Kokomo association, which are common to upland glacial till plains. This association generally consists of deep, nearly level and gently sloping, somewhat poorly drained and very poorly drained soils mainly in medium textured and moderately fine textured glacial till. There are five specific soils involved in this area (Table 1); this includes udorthents, a disturbed soil type. There is nothing remarkable or unique pertaining to the soils that are present within the project area. These soils reflect flat to very gently undulating conditions (United States Department of Agriculture, Soils Conservation Service (USDA, SCS) 1980 (2016)].

Table 1. Soils in the Project.			
Soil Symbol	Soil Name	% Slope	Location
CrB	Crosby silt loam	2-6	Upland Till Plains slight rises
Ko	Kokomo silty clay loam	-0-	Upland Till Plains low areas
CeB	Celina silt loam	2-6	Upland Till Plains slight rises
LeB	Lewisburg-Crosby complex	2-6	Upland Till Plains slight rises
Ut	Udorthents-Urban Land	---	Disturbed, man-made land

Flora

There is 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, Illinoian, 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).

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 forest 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; Pavay et al. 1999).

The project is located at the boundary of a mixed oak forestation regime 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, 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).

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 (Fitting 1963). 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.

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). Along the Ohio River, intensive occupations have been placed within the Riverton phase. Pottery makes its first appearance during the Terminal Late Archaic.

The Early Woodland period (ca 3000-2100 B.P.) in Ohio is often associated with the Adena culture and the early mound builders (Dragoo 1976). Early and comparably simple geometric earthworks first appear with mounds more spread across the landscape. Pottery at this time is thick and tempered with grit, grog, or limestone; however, it becomes noticeably thinner towards the end of the period. There is increased emphasis on gathered plant resources, including maygrass, chenopodium, sunflower, and squash. Habitation sites have been documented that include structural evidence. Houses that were constructed during this period were circular, having a diameter of up to 18.3 m (Webb and Baby 1963) and often with paired posts (Cramer 1989). Artifacts dating from this period include leaf-shaped blades with parallel to lobate hafting elements, drilled slate pieces, ground stone, thick pottery, and increased use of copper. Early Woodland artifacts can be recovered from every region of Ohio.

The Middle Woodland period (ca 2200-1600 B.P.) is often considered to be equivalent with the Hopewell culture. The largest earthworks in Ohio date from this period. There is dramatic increase in the appearance of exotic materials that appear most often in association with earthworks and burials. Artifacts representative of this period include thinner, grit-tempered pottery, dart-sized projectile points (Lowe Flared, Steuben, Snyders, and Chesser) [Justice 1987], exotic materials (mica, obsidian, and marine shell, etc.). The points are often thin, bifacially beveled, and have flat cross sections. There seems to have been a marked increase in the population as well as increased levels of social organization. Middle Woodland sites seem to reflect a seasonal exploitation of the environment. There is a notable increase in the amount of Eastern Agricultural Complex plant cultigens, including chenopodium, knotweed, sumpweed, and little barley. This seasonal exploitation may have followed a scheduled resource extraction year in which the populations moved camp several times per year, stopping at known resource extraction loci. Middle Woodland land use appears to center on the regions surrounding earthworks (Dancey 1992; Pacheco 1996); however, there is evidence of repeated occupation away from earthworks (Weller 2005a). Household structures at this time vary with many of them being squares with rounded corners (Weller 2005a). Exotic goods are often attributed to funerary activities associated with mounds and earthworks. Utilitarian items are more frequently encountered outside of funerary/ritual contexts. The artifact most diagnostic of this period is the bladelet, a prismatic and thin razor-like tool, and

bladelet cores. Middle Woodland remains are more commonly recovered from central Ohio south and lacking from most areas in the northern and southeastern part of the state.

The Late Woodland period (ca A.D. 400-900) is distinct from the previous period in several ways. There appears to be a population increase and a more noticeable aggregation of groups into formative villages. The villages are often positioned along large streams, on terraces, and were likely seasonally occupied (Cowan 1987). This increased sedentism was due in part to a greater reliance on horticultural garden plots, much more so than in the preceding Middle Woodland period. The early Late Woodland groups were growing a wide variety of crop plants that are collectively referred to as the Eastern Agricultural Complex. These crops included maygrass, sunflower, and domesticated forms of goosefoot and sumpweed. This starch and protein diet was supplemented with wild plants and animals. Circa A.D. 800 to 1000, populations adopted maize agriculture, and around this same time, shell-tempered ceramics appear. Other technological innovations and changes during this period included the bow and arrow and changes in ceramic vessel forms.

The Late Prehistoric period (ca A.D. 1000-1550) is distinctive from former periods. The Cole complex (ca A.D. 1000-1300) has been identified in central and south central Ohio. Sites that have been used to define the Cole complex include the W.S. Cole (33DL11), Ufferman (33DL12), and Decco (33DL28) sites along the Olentangy; the Zencor Village site, located along the Scioto River in southern Franklin County; and the Voss Mound site (33FR52), located along the Big Darby Creek in southwestern Franklin County. It has been suggested that this cultural manifestation developed out of the local Middle Woodland cultures and may have lasted to be contemporaneous with the Late Prehistoric period (Barkes 1982; Baby and Potter 1965; Potter 1966). Cole is a poorly defined cultural complex as its attributes are a piecemeal collection gathered from various sites. Some have suggested that it may be associated with the Fort Ancient period (Pratt and Bush 1981). Artifacts recovered from sites considered as Cole include plain and cordmarked pottery, triangular points, Raccoon Notched points, chipped slate discs, rectangular gorgets, and chipped stone celts. The vessels often have a globular form with highly variable attributes and rim treatment. There have been few structures encountered from this period, but those that have are typically rounded or circular (Pratt and Bush 1981; Weller 2005b).

Monongahela phase sites date to the Late Prehistoric to Contact period in eastern Ohio. Monongahela sites are typically located on high bottomlands near major streams, on saddles between hills, and on hilltops, sometimes a considerable distance from water sources. Most of these sites possessed an oval palisade, which surrounded circular house patterns. Burials of adults are usually flexed and burial goods are typically ornamental. A large variety of stone and bone tools are found associated with Monongahela sites. Monongahela pottery typically is plain or cordmarked with a rounded base and a gradually in-sloping shoulder area. Few Euro-American trade items have been found at Monongahela sites (Drooker 1997).

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.

Franklin County History

Lucas Sullivant was the first American to survey Franklin County and was the first settler to build a cabin in August 1797 in what would become Franklinton, later the state capitol of Columbus. Sullivant laid out the town of Franklinton that same year. Much of Central Ohio was part of the U.S. Military Lands which also included the Refugee Tract. The state legislature organized Franklin County on April 30, 1803, although its borders changed many times until 1857. The county's name honors Benjamin Franklin. Most of the early settlers of Franklin County were from Pennsylvania, Virginia, and New England. Immigrants in the late 1800s and early 1900s were mostly Germans, Italians, and Russians (Lee 1892; Martin 1858; Rickey 1983; Vesey 1901).

Early settlers of Franklin County settled in rich bottomlands of the Scioto and Olentangy Rivers, the Big Darby, Walnut, Big Walnut, and Alum Creeks. Most of the earliest settlers were farmers producing corn, wheat, cattle, and hogs. Agriculture remained a major source of income for the county until 1930 when urban expansion began. Today, with Columbus engulfing most of the county, little land is agricultural (Dodds 1952; Lee 1892; Martin 1858; Moore 1930; Rickey 1983).

During the late eighteenth century and early nineteenth century, trade with the Native Americans was an important source of income. The town of Worthington was platted and settled by 1803 and Dublin in 1818. In 1811, Worthington had a woolen mill. By 1815, several gristmills, sawmills, and distilleries were scattered along the rivers and streams throughout Franklin County. The work on the National Road (today US 40), which passes through Franklin County, came to completion in 1834. The Ohio Canal that passed through the southern portion of the county also operated in the 1830s. In 1850, the Columbus and Xenia Railroad was the first railroad to pass through the county. All of these modes of transportation improved the economy of the region and stimulated the development of businesses and industries during the late 1800s and early 1900s. The improved transportation and economy led to population increases and as a result, new communities developed as the old ones expanded. Between 1830 and 1880, the following communities grew up in Franklin County: Groveport, Grove City, New Albany, Reynoldsburg, Hilliard, Gahanna, and Lockbourne (Ohio History Central 2005; Dodds 1952; Lee 1892; Martin 1858; Moore 1930; Rickey 1983; Vesey 1901).

Various businesses and industries developed in the different communities of Franklin County during the late 1800s. Columbus was the center of the economic development. After becoming the state capital in 1812, state political agencies also located in the city. Quarries were an important early industry for the county. In 1880, a sandstone quarry opened near Blacklick followed by the Marble Cliff quarries in Norwich Township. The twentieth century has seen the continued development and expansion of Columbus and surrounding urban areas. Suburbs dominate the landscape and the construction of freeways such as I-70, I-71, I-270, I-670, US 33, SR 161, SR 315, and SR 104 has eased the flow of transportation to and from the capitol further stimulating their growth (Ohio History Central 2005; Dodds 1952; Moore 1930; Rickey 1983; Vesey 1901).

Jackson Township History

After the Battle of New Orleans ended in January of 1815, General Andrew Jackson was a national hero. Mere months later, the people of Franklin County, in partitioning Franklin Township, decided to honor the general by naming the new township of fertile farmland after him (Taylor 1909). This township is located in the southwestern corner of Franklin County inside Pleasant Township and west of the Scioto River.

This organization took place just ten years after the first settler came to Jackson Township, a man named Hugh Grant. Grant was initially from Maryland, moved to Pittsburgh, married, and in 1804, the Grant family moved to Ross County. Soon after, Grant purchased 450 acres in what was to become Jackson Township. Without knowing the proper location of his parcel, he set out to settle his property in 1805 and ended up squatting along the Scioto River for which he was killed. His widow had the 450-acre plot located and lived there until 1836 (Moore 1930, Taylor 1909, and Vesey 1901). A vast list of other early settlers can be found in any of the formal histories of the area.

The early industry was typical of the region. Mills and farms, general stores and blacksmiths as well as a drain tile factory and a wagon factory had emerged by the middle point of the century (Moore 1930 and Vesey 1901). The first school was developed the year of township organization. However, the first post office did not appear until W. F. Breck laid out Grove City in the summer of 1852. Mr. Breck was the first postmaster of Jackson Township, holding the office until 1857. The Scioto Chapel was the first church erected in 1812 with several other churches of equally several denominations raising formal worship sites in the late 1850s and into the 1860s. Dr. Joseph Bullen arrived in 1852 and worked as the township's first physician until his death in 1878 (Caldwell 1872, Taylor 1909, Moore 1930, and Vesey 1901).

The Township grew slowly, partially because of a lack of decent roadways. This was true until several good turnpikes arrived and facilitated easier travel and stimulated trade. Cottage Mille Pike, Franklin Pike, Harrisburg Pike, and Jackson Pike were these early roads (Moore 1930, and Vesey 1901). Business transportation also grew with the addition of the Baltimore & Ohio Railroad. Another step of the unhurried growth was the move of the Columbus Driving Park Association from Columbus to Grove City after the turn of the 20th Century. This park provided horse and dog races which bolstered the local economy despite making a "change in its tone" (Moore 1930).

Eventually, with the development of modern roadways and particularly I-71, Jackson Township began to grow more rapidly. Farming is still a productive venture in much of the township; however, this mode of existence is quickly giving way to multiple unit housing developments, industry, and commerce. This area is contained within the urban sprawl of Columbus, as Columbus pushes ever closer to the Pickaway County line.

Research Design

The purpose of a Phase I survey is to locate and identify cultural resources that will be affected by the planned electric station expansion. This includes archaeological deposits as well as architectural properties that are older than 50 years. 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 encountered in the project area?

Archaeological Field Methods

The survey conducted within the project area was generally limited to subsurface testing methods, surface collection, and visual inspection. The following is a description of these field investigations.

Shovel test unit excavation. Shovel test units were placed at 15-m intervals where adequate surface visibility was lacking. These measure 50 cm on a side and are excavated to 5 cm below the topsoil/subsoil interface. Individual shovel test units are 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 identified, additional shovel test units will be excavated at 7.5 m intervals extending on grid and in the four cardinal directions from the positive locations.

Surface collection. Surface investigations methods involved pedestrian transects spaced at 5 m intervals or less. Once an artifact is identified, the intervals are reduced in an effort to further define the site boundaries, recover additional materials, and attempt to recover tool forms. Artifacts were grab sampled for this project with the limits of the many of the sites plotted with a global positioning system (GPS). There were instances where the GPS was not working properly where the site boundaries and locations were plotted on field maps.

Visual inspection. Locations where cultural resources were not expected, such as disturbed areas and wet 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

No artifacts 50 years of age or older were recovered during the investigations. 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 .30 km (1,000 ft) radius from the boundaries of the project (Figure 3). In conducting the literature review, the following resources were consulted at SHPO, at the Columbus Metropolitan Library, at the State Library of Ohio, and from various online resources:

- 1) *An 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 consensus Determinations of Eligibility (DOE) files;

- 7) SHPO CRM/contract archaeology files; and
- 8) Franklin County atlases, histories, historic USGS 15' series topographic map(s), and current USGS 7.5' series topographic map(s).

A review of *An Archeological Atlas of Ohio* (Mills 1914) was conducted. The *Atlas* indicated that there is a mound located immediately to the west of the project and west of a railroad (Figure 4).

A review of the SHPO topographic maps indicated that there are no sites within the study area.

The Ohio Historic Inventory (OHI) files indicated that there are no pertinent resources located within the study area.

A review of the NRHP files and determination of eligibility files indicated that there are no resources within the study area.

There have not been any previous surveys conducted within the study area.

Cartographic/atlas resources were reviewed for the project area. According to the *Atlas of Franklin County, Ohio* (Caldwell and Gould 1872) the property was owned by C. Schrock, Mrs. E. Harper, and David Smith. The Schrock residence is indicted about where the substation exists and is likely destroyed. The USGS 1923 *West Columbus 15 Minute Series (Topographic)* map indicates no buildings within the project area (Figure 5). The USGS 1991 *Harrisburg, Ohio 7.5 Minute Series (Topographic)* map indicates that the project area is dominated by the substation and associated electric lines (Figure 2). There are no residences or buildings nearby.

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 area had been previously surveyed?
- 2) Are cultural resources likely to be encountered in the project area?

The project area has not been the subject of any previous investigations. There are no CRM surveys conducted within the study area; in fact, there have been few cultural resources documented in the vicinity. Mills (1914) did identify a site in the immediate vicinity, just east of the proposed undertaking. Given the location of the project area and the presence of sites in the neighboring and similar terrain, it seems unlikely that archaeological deposits would be identified during these investigations.

Fieldwork Results

The field investigations for this project were conducted on March 17, 2016 (Figures 6-19). The weather was amiable for the completion of the fieldwork. The project area is approximately a 9-acre parcel that is the proposed location of the Beatty Rd. Substation. Two factors inhibiting sampling during the investigation include inundated conditions and significant disturbance in portions of the project area.

The project area is located on north side of Beatty Road, approximately 0.25 miles west of U.S. 62, in Jackson Township, Franklin County. Flat terrain dominates the project area and its surroundings. The project area is polygonal as it mimics the shape of the substation area and is bordered by agricultural fields (Figure 6). Beatty Road defines the projects southern boundary. The remaining extents are defined by recently plowed farm fields, and low lying swales, some of which have been flagged as wetlands (Figure 17). Two communication towers and their associated structures, including built and graveled access roads, lie within the survey area (Figures 8 and 13). A gravel driveway connecting the existing substation to Beatty Road is still intact and creates disturbance throughout a portion of the parcel (Figure 15). Disturbed areas hug the fence line on the eastern portion of the project and have been partially disrupted by a railway that intersects the station. Some shovel probes revealed disturbance of mottled, mixed topsoil and subsoil with heavy gravel content underlain by a dark, compacted clay layer (Figure 18). The ground surface that was subjected to surface collection on the western, northern and eastern sides of the undertaking ranged from 70 to 95 percent visibility. The western portion of the survey had been recently tilled, while the northern and eastern sections had been subject to tilling, and subsequently leveled by rain and snow. Both situations provided excellent conditions for surface collection via pedestrian transects set at 3m intervals (Figure 16).

The majority of the subsurface testing was limited to the southern portion of the project. Intact topsoil/subsoil was encountered in the manicured lawn setting located between Beatty Road and the southern fence line of the substation (Figure 14). The topsoil in this area is dark grayish brown (10YR4/2) silt loam with an underlying subsoil that is a brown (10YR4/3) silty loam and lies within Crosby Silt Loam soil (CrB) (Figure 19). Three transects of shovel tests were excavated with a total of twenty-three shovel tests and seven shovel probes completed. Remaining portions of the project area were subjected to shovel probes where testing was possible, a total of fourteen shovel probes were conducted. As expected, disturbed conditions were encountered as a result of numerous activities (communication tower construction, existing transmission tower installation, railroad, cellular tower installation, substation construction, access roads, and man-made drainages (Figures 8, 9, 13, and 15). In addition, some of the project is inundated, with standing water precluding testing, as well as portions delineated as wetland. This is not uncommon considering the soil types in the project area that are classified as somewhat poorly drained to poorly drained, and the cartographic resources indicating that the existing station has been constructed amidst a stream/drainage area at

the headwaters of Grant Run. All testing proved negative for cultural material and no sites were identified.

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. When construction is limited to underground activity, the APE may be contained within the footprint of the project area. The APE for this project includes the footprint of the project and a limited area surrounding it.

The undertaking includes a limited expansion of an existing substation that is central to the project area. The proposed expansion of the substation is not considered to have an effect on any historic properties.

Recommendations

In March of 2016, Weller completed a Phase I cultural resources management investigation for the proposed Beatty Station Expansion Project in Jackson Township, Franklin County, Ohio. The station will be constructed on an approximate 3.8 ha (9.5 ac) parcel located on the north side of Beatty Road approximately .4 km (.25 mi) west of U.S. 62. These areas have been extensively disturbed from former construction, are being utilized agriculturally, or are inundated, and have been flagged as wetland. The areas outside of the existing facility include a communications antenna, a cellular tower, and associated support structures. The survey involved surface, visual, and subsurface testing. These investigations did not result in the identification of archaeological sites. It is the opinion of Weller that no historic properties will be affected by the project. No further work is recommended for this undertaking.

References Cited

- Aument, Bruce W., and Gibbs, Kevin
1991 *Phase III and IV data recovery survey of 33 FR 895 and 33 FR 901 on the Wal-Mart property in Grove City, Franklin County, Ohio*. ASC Group, Inc. Copy available for review at the Ohio Historic Preservation Office.
- Aument, Bruce W.
1991 *Phase I and II Cultural Resource Survey for the proposed Grove City Development Tract in Jackson Township, Franklin County Ohio*. ASC Group, Inc. Copy available for review at the Ohio Historic Preservation Office.
- Baby, R. S., and M. A. Potter
1965 "The Cole Complex: A Preliminary Analysis of the Late Woodland Ceramics in Ohio and Their Relationship to the Ohio Hopewell Phase." In: *Papers in Archaeology of the Ohio Historical Society*, February 1965, No. 2. Ohio Historical Society, Columbus.
- Bamforth, D.
1988 *Ecology and Human Organization on the Great Plains*. Plenum, New York.
- Barkes, B. M.
1982 *Analysis of Late Woodland Ceramics from the Decco (33DL28), Ufferman (33DL12), and W. S. Cole (33DL11) Sites: The Cole Complex Reconsidered*. Copy available at the Ohio Historic Preservation Office, Columbus.
- Brockman, C. S.
1998 *Physiographic Regions of Ohio*. Ohio Department of Natural Resources, Division of Geological Survey, Columbus, Ohio.
- Brose, D. S.
1994 "Archaeological Investigations at the Paleo Crossing Site, a Paleoindian Occupation in Medina County, Ohio." In: *The First Discovery of America: Archaeological Evidence of the Early Ohio Area*, edited by W. S. Dancey, pp. 61-76. The Ohio Archaeological Council, Columbus.
- Caldwell, J.A., C.E. Gould, and H.T. Gould
1872 *Caldwell's Atlas of Franklin County and of the City of Columbus Ohio*. J.A. Caldwell & H.T. Gould Publishing, Columbus, Ohio.
- Converse, R. N.
1994 *Ohio Flint Types*. The Archaeological Society of Ohio, Columbus.
- Core, E.
1966 *Vegetation of West Virginia*. McClain, Parsons, West Virginia.

- Cowan, W. C.
1987 *First Farmers of the Middle Ohio Valley: Fort Ancient Societies, A.D. 1000-1670*. The Cincinnati Museum of Natural History, Cincinnati.
- Cramer, A.
1989 *The Dominion Land Company Site: An Early Adena Mortuary Manifestation in Franklin County, Ohio*. M.A. Thesis, Kent State University, Kent, Ohio.
- Cunningham, R. M.
1973 "Paleo Hunters along the Ohio River." In: *Archaeology of Eastern North America* 1(1): 116-118. Eastern States Archeological Federation, Bethlehem, Connecticut.
- Dancey, W. S.
1992 "Village Origins in Central Ohio: The Results and Implications of Recent Middle and Late Woodland Research." In: *Cultural Variability in Context: Woodland Settlements of the Mid-Ohio Valley*, edited by M. F. Seeman, pp. 24-29. Special Papers 7, *Midcontinental Journal of Archaeology*, Kent State University Press, Kent, Ohio.
- DeRegnaucourt, T. D., and J. Georgiady
1998 *Prehistoric Chert Types of the Midwest*. Hothem House, Lancaster.
- Dodds, G. F.
1952 *50 Historic Events in Franklin County*. Franklin County Historical Society, Columbus, Ohio.
- Dragoo, D.
1976 "Some Aspects of Eastern North American Prehistory: A Review 1975." In: *American Antiquity* 41(1):3-27. The Society for American Archaeology, Washington, DC.
- Drooker, P. B.
1997 "The View from Madisonville: Protohistoric Western Fort Ancient Interaction Patterns." In: *Memoirs of the Museum of Anthropology* No. 31. Museum of Anthropology, University of Michigan, Ann Arbor, Michigan.
- Duerksen, Ken., Miller, Donald., Leary, Christopher., and Bergman, Christopher.
2000 *Phase I Cultural Resources Survey of Ohio River Pipe Line LLC's Proposed Kenova, West Virginia to Columbus, Ohio Petroleum Pipeline Project in Lawrence, Gallia, Jackson, Vinton, Hocking, Pickaway, Fairfield, and Franklin Counties, Ohio. Volume I*. BHE Environmental, Inc. Copy available for review at the Ohio Historic Preservation Office.

- Fitting, J.
1963 "The Hi-Lo Site: A Paleo-Indian Site in Western Michigan." In: *Wisconsin Archaeologist* 44:87-96. Wisconsin Historical Society, Madison, Wisconsin.
- Flenniken, J. J., and E. G. Garrison
1975 Thermally Altered Novaculite and Stone Tool Manufacturing Techniques. *Journal of Field Archaeology* 2:125-131.
- Forsyth, J. L.
1970 "A Geologist Looks at the Natural Vegetation Map of Ohio." In: *The Ohio Journal of Science* 70(s):180-191. The Ohio Academy of Science, Columbus.
- Gordon, R. B.
1969 "The Natural Vegetation of Ohio in Pioneer Days." In: *Bulletin of the Ohio Biological Survey, New Series* 3(2). Ohio State University, Columbus.

1966 *Natural Vegetation of Ohio at the Time of the Earliest Land Surveys*. Ohio Biological Survey and the Natural Resources Institute of the Ohio State University, Columbus.
- Justice, N.
1987 *Stone Age Spears and Arrow Points of the Midcontinental and Eastern United States*. Indiana University Press, Bloomington and Indianapolis.
- Lee, A.
1892 *History of the City of Columbus, Capitol of Ohio*. Munsell & Co., New York and Chicago.
- Little, B. E., M. Seibert, J. Townsend, J. H. Sprinkle, Jr., and J. Knoerl
2000 *National Register Bulletin: Guidelines for Evaluating and Registering Archeological Properties*. U. S. Department of the Interior, National Park Service, Washington, D.C.
- McDonald, H.
1994 "The Late Pleistocene Vertebrate Fauna in Ohio: Coinhabitants with Ohio's Paleoindians." In: *The First Discovery of America: Archaeological Evidence of the Early Ohio Area*, edited by W. S. Dancey, pp. 23-41. The Ohio Archaeological Council, Columbus.
- Martin, W. T.
1858 *History of Franklin County: A Collection of Reminiscences of the Early Settlement of the County*. Follett, Foster and Company, Columbus, Ohio.
- Mills, W. C.
1914 *An Archeological Atlas of Ohio*. Ohio State Archaeological and Historical Society, Columbus.

Moore, O.

1930 *History of Franklin County, Ohio*. Historical Publishing Company, Topeka.

Ohio Historic Preservation Office

1994 *Archaeology Guidelines*. Ohio Historic Preservation Office with the Ohio Historical Society, Columbus.

Ohio History Central

2005 "Franklin County" in: *Ohio History Central: An Online Encyclopedia of Ohio History*. Electronic document, <http://www.ohiohistorycentral.org/entry.php?rec=1928>. accessed March 29, 2007. Ohio Historical Society, Columbus.

Pacheco, P.

1996 "Ohio Hopewell Regional Settlement Patterns." In: *A View From The Core: A Synthesis of Ohio Hopewell Archaeology*, edited by P. Pacheco, pp. 16-35. The Ohio Archaeological Council, Columbus.

Pavey, R.R., R.P. Goldthwait, C.S. Brockman, D.N. Huyll, E. MacSwinford, and R.G. Van Horn

1999 *Quaternary Geology of Ohio*. Ohio Division of Geological Survey Map No. 2. The Ohio Department of Natural Resources, Division of Geological Survey, Columbus.

Potter, M. A.

1966 "Cole Ceramics: A Study of Late Woodland Pottery." Unpublished M.A. thesis on file at the Ohio Historical Society, Department of Archaeology, Columbus.

Pratt, G. M., and D. R. Bush

1981 *Archaeological Resource Management in Ohio: A State Plan for Archaeology (Draft)*. Copy available for review at the Ohio Historic Preservation Office, Columbus.

Prufer, O. H., and D. A. Long

1986 "The Archaic of Northeastern Ohio." In: *Kent Research Papers in Archaeology, No. 6*, Kent State University Press, Kent, Ohio.

Rickey, B.

1983 *Franklin County Historical Overview*. The Ohio Historical Society, Columbus.

Sheaffer, C., and M. A. Rose

1998 *The Native Plants of Ohio, Bulletin 865*. The Ohio State University Extension (College of Food, Agricultural & Environmental Sciences) Department of Horticulture. Electronic document, http://ohioline.osu.edu/b865/b865_01.html, accessed November 28, 2005.

Shane, L.

1987 "Late-glacial Vegetational and Climatic History of the Allegheny Plateau and the Till Plains of Ohio and Indiana, U.S.A." In: *Boreas* 16:1-20. The Boreas Collegium, Blackwell Publishing Ltd., Edinburgh.

Stafford, R.

1994 "Structural Changes in Archaic Landscape Use in the Dissected Uplands of Southwestern Indiana." In: *American Antiquity*, 59:219-237. The Society for American Archaeology, Washington, DC.

Tankersley, K.

1994 "Was Clovis a Colonizing Population in Eastern North America?" In: *The First Discovery of America: Archaeological Evidence of the Early Ohio Area*, edited by W. S. Dancey, pp. 95-116. The Ohio Archaeological Council, Columbus.

1989 "Late Pleistocene Lithic Exploitation and Human Settlement Patterns in the Midwestern United States." Unpublished Ph.D. dissertation, Department of Anthropology, Indiana University, Bloomington.

Tanner, H.

1987 *Atlas of Great Lakes Indian History*. University of Oklahoma Press, Norman.

Taylor, W. A.

1909 *Centennial History of Columbus and Franklin County, Ohio*. The S.J. Clarke Publishing Company. Chicago, Illinois, and Columbus, Ohio.

United States Department of Agriculture, Soil Conservation Service

1980 *Soil Survey of Franklin County, Ohio*. Soil Conservation Service, U. S. Department of Agriculture, Washington, D. C. in cooperation with the Ohio Department of Natural Resources, Division of Lands and Soils, and the Ohio Agricultural Research and Development Center, Columbus.

United States Department of the Interior, National Park Service

1997 *National Register Bulletin; How to Apply the National Register Criteria for Evaluation*. United States Department of the Interior, National Park Service, Washington, D.C.

Vesey, S. A.

1901 *Franklin County at the Beginning of the Twentieth Century: Historical Record of its Development, Resources, Industries, Institutions, and Inhabitants*. Historical Publishing Company, Columbus, Ohio.

Wagner, Krista.

2012 *Phase I Archaeological Investigations (of a 61 acre tract) at Bolton Field, City of Columbus (Prairie Township), Franklin County, Ohio*. Lawhon & Associates, Inc.

Webb, W. S., and R. S. Baby

1963 *The Adena People No. 2*. The Ohio Historical Society, The Ohio State University Press, Columbus.

Weller, R. J.

2003 *Phase I Archaeological Investigations for a Proposed 28.2 ha (69.8 ac) Single-Family Housing Development in Jackson Township, Franklin County, Ohio*. Weller & Associates. Copy available for review at the Ohio Historic Preservation Office.

Weller, R. J.

2005a *Data Recovery at the Haven Site (33DL1448) Located in Liberty Township, Delaware County, Ohio*. Weller & Associates. Submitted to the Delaware County Sanitary Engineer's Office. Copy available for review at the Ohio Historic Preservation Office.

2005b *Data Recovery at the Knowlton Site (33DL1450) Located in Liberty Township, Delaware County, Ohio*. Weller & Associates. Submitted to the Delaware County Sanitary Engineer's Office. Copy available for review at the Ohio Historic Preservation Office.

Figures



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

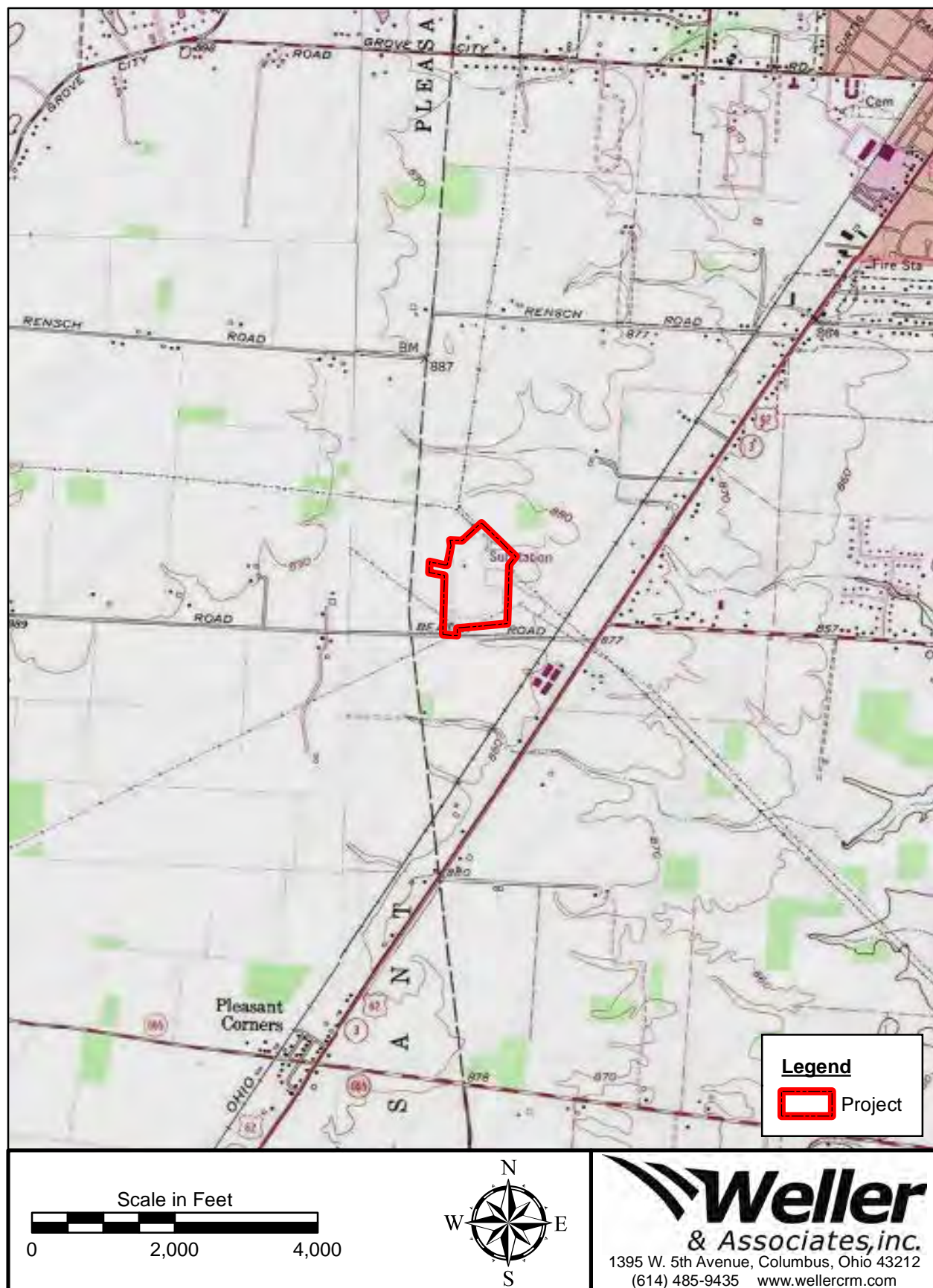


Figure 2. Portion of the USGS 1991 Harrisburg, Ohio 7.5 Minute Series (Topographic) map indicating the location of the project and previously recorded resources in the study area

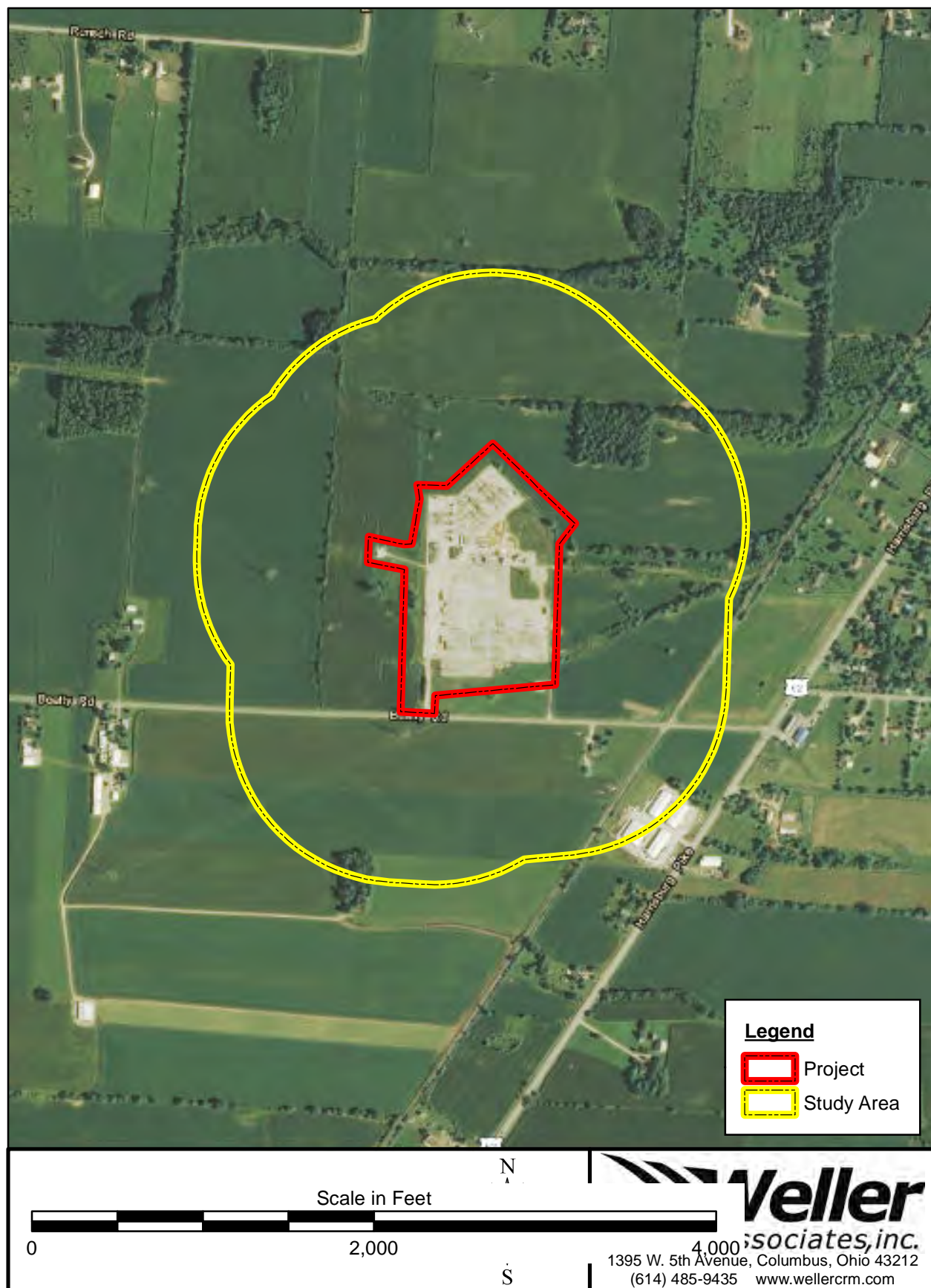


Figure 3. Aerial map indicating the location of the project and previously recorded resources in the study area.

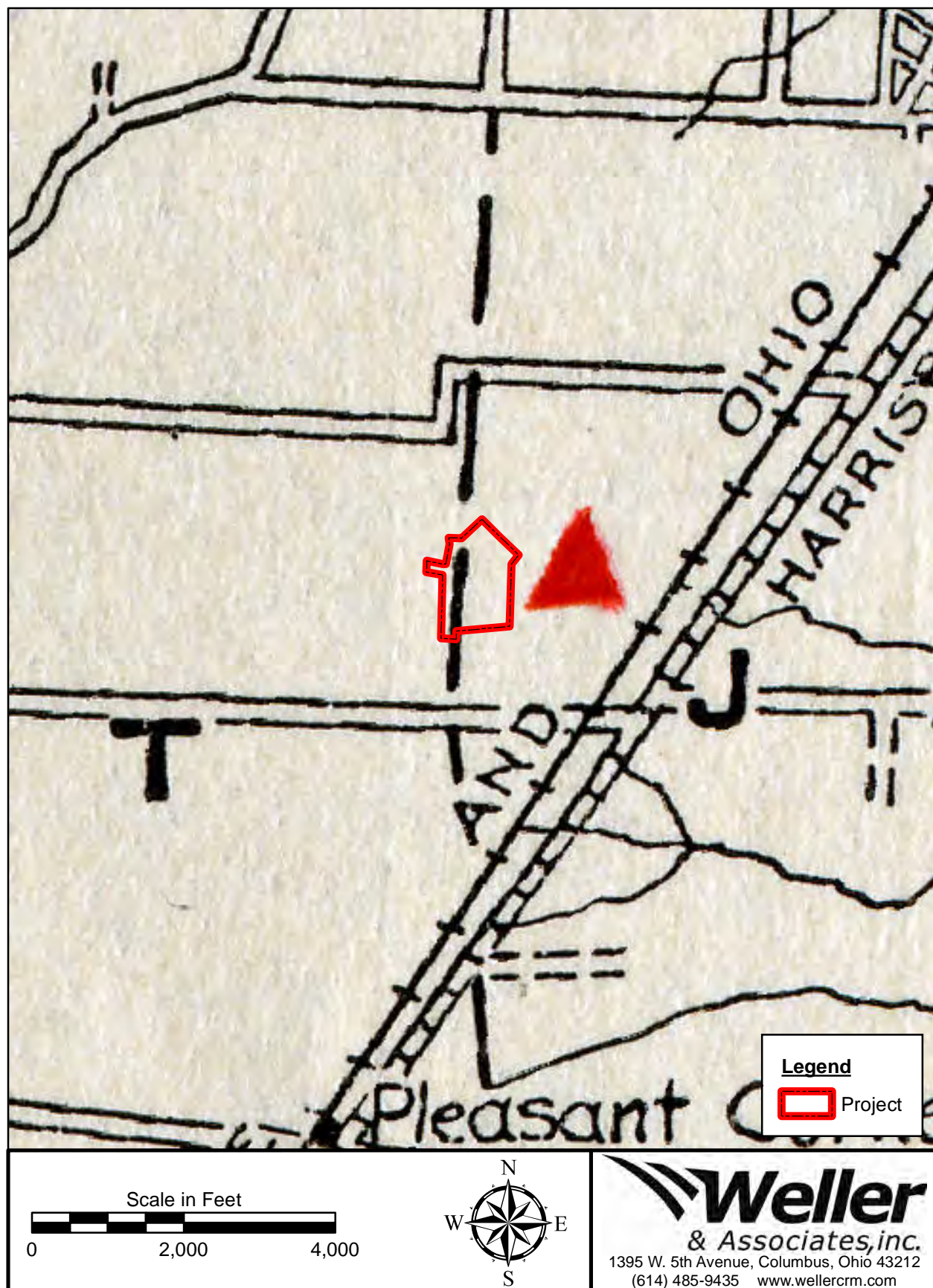


Figure 4. Portion of the *Archeological Atlas of Ohio* (Mills' 1914) indicating the approximate location of the project.

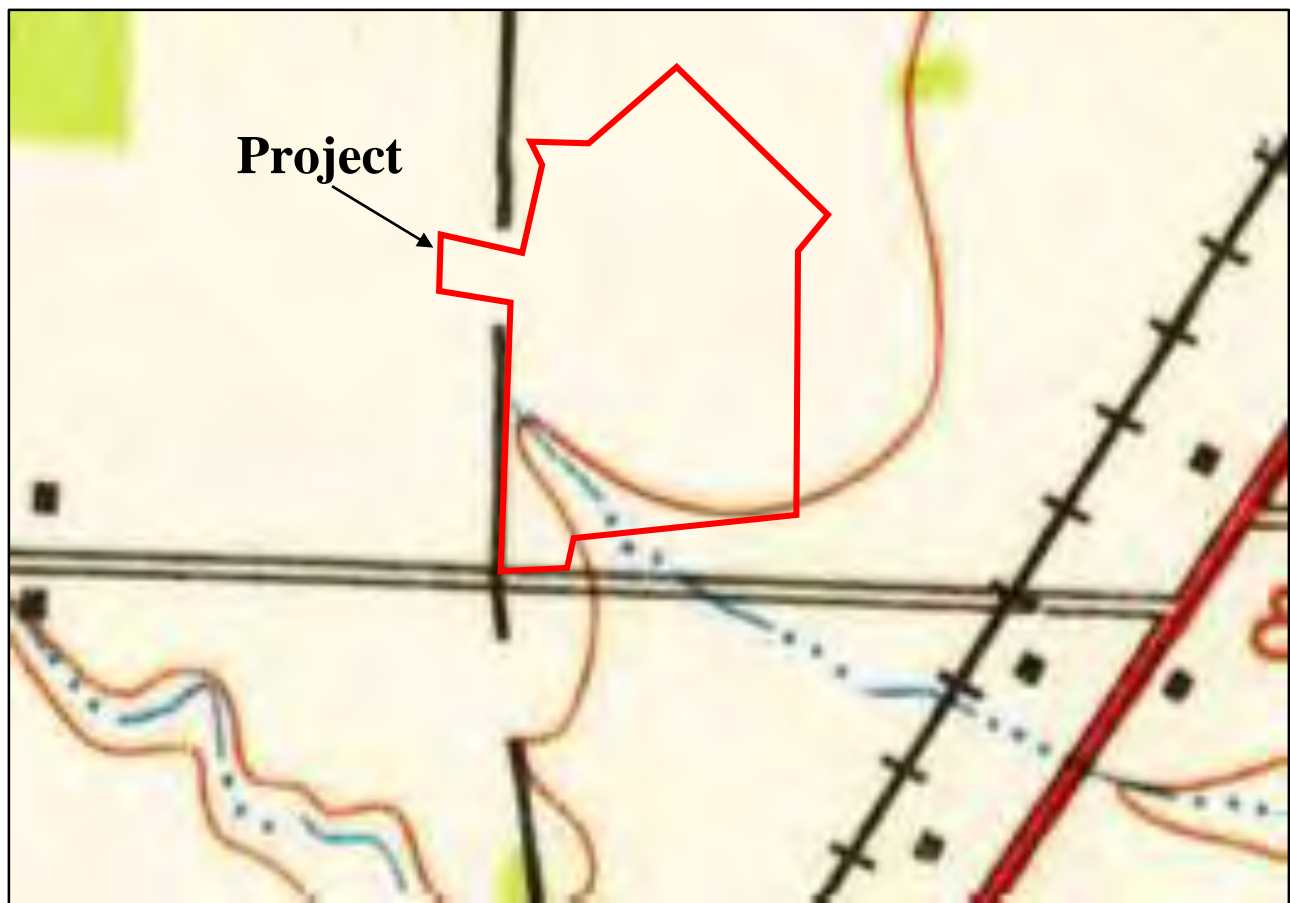


Figure 5. Portion of the USGS 1923 *West Columbus, Ohio 15 Minute Series (Topographic)* map indicating the approximate location of the project.

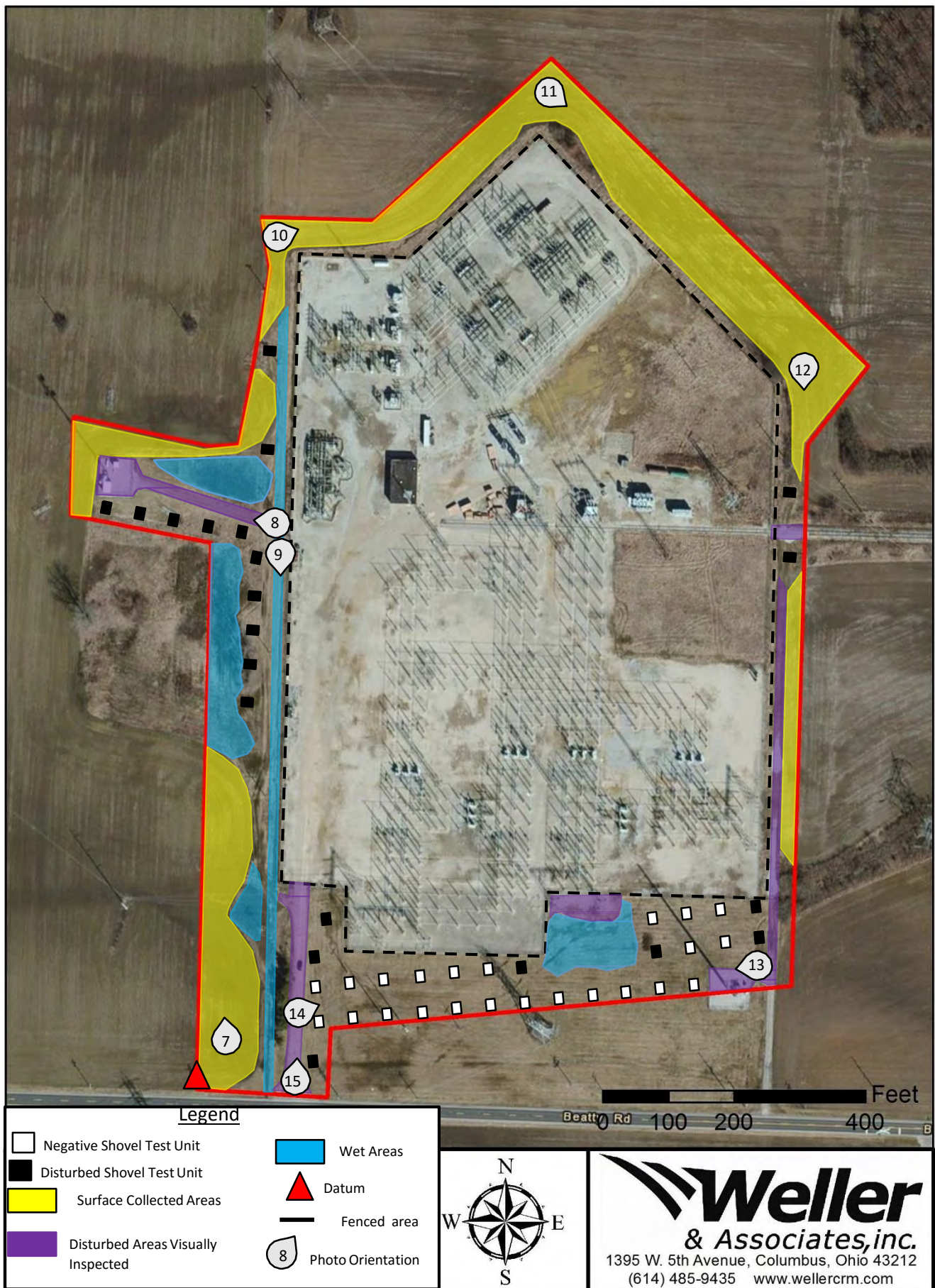


Figure 6. Fieldwork map showing results of testing and photo orientations.



Figure 7. View from the southwestern portion of the project facing north.



Figure 8. View from the eastern central portion of the project showing disturbed conditions in the project facing west.



Figure 9. View from the central eastern portion of the project facing south.



Figure 10. View from the northwestern portion of the project facing east.



Figure 11. View from the northern portion of the project facing southeast.



Figure 12. View from the central western portion of the project facing south.



Figure 13. View from the southeastern portion of the project facing west.



Figure 14. View from the southwestern portion of the project facing east.



Figure 15. View from the southwestern portion of the project facing north, showing disturbed conditions.



Figure 16. View of the conditions within the surface collected areas of the project.



Figure 17. View of wet conditions within the project.



Figure 18. View of disturbed conditions encountered within the project.

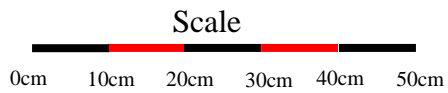
Schematic of a Test Unit Profile

Crosby Silt Loam (CrB)



Ap 10YR 4/2 Dark grayish brown silty loam

B 10YR 4/3 Brown silty loam



Provenience: 100N, 550E

Depth to Subsoil: 17 cm

Excavator: AT



Figure 19. A typical shovel test unit excavated within the project.

CONSTRUCTION NOTICE FOR BEATTY ROAD STATION DRAINAGE IMPROVEMENTS

Appendix D Ecological Features Inventory Report
September 30, 2016

Appendix D Ecological Features Inventory Report

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in

Case No(s). 16-0549-EL-BNR

Summary: Notice - Request for Expedited Treatment: In the Matter of the Construction Notice for the Beatty Road Station Drainage Improvements electronically filed by Mr. Hector Garcia on behalf of AEP Ohio Transmission Company