

**LETTER OF NOTIFICATION FOR THE
HYATT 345kV EXTENSION PROJECT**

PUCO Case No. 14-1072-EL-BLN

Submitted pursuant to OAC 4906-11-01

**AEP Ohio Transmission Company
(AEP Ohio Transco)**

August 2014

LETTER OF NOTIFICATION

Hyatt 345kV Extension Project

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is providing the following information in accordance with the procedures delineated in Ohio Administrative Code Section 4906-11-01: Letter of Notification Requirements of the Rules and Regulations of the Ohio Power Siting Board (OPSB).

4906-11-01 (B) GENERAL INFORMATION

- 1. The name of the project and applicant's reference number, in any, names and reference number(s) of resulting circuits and a brief description of the project, and why the project meets the requirements of a letter of notification.**

The proposed Hyatt 345kV Extension Line Project consists of tying the Hyatt – Marysville 345kV circuit to the Hyatt 345kV Station.

The Project is located in Liberty Township, Delaware County, Ohio. Figure 1 depicts the Project in relationship to the surrounding vicinity. The Project is approximately 0.5 miles in length.

The project will be constructed entirely on existing right of way north of Hyatts Road and AEP property owned in fee south of Hyatts Road. No additional properties or easements will be required. The Project meets the requirements of a Letter of Notification because it is within the type of projects defined in OPSB's September 4, 2012 Finding and Order of Docket 12-1981-GE-BRO. These items state:

(1) Rerouting or extension or new construction of single or multiple circuit electric power transmission line(s) as follows:

(b) Line(s) three hundred kV and above, and greater than 0.1 mile but not greater than two miles in length.

- 2. If the proposed letter of notification is an electric power transmission line or gas or natural gas transmission line, a statement explaining the need for the proposed facility.**

The existing Hyatt Station complex is comprised of two fenced areas. The southerly station area is named Hyatt Station and was constructed in the 1970's. The most northerly station area is named the Hyatt Switch Station and was constructed in the late 1950's. In the Hyatt Switching Station, the electrical equipment (breakers, relays, control house, etc.) needs to be updated and replaced. Instead of replacing the electrical equipment in this station, AEP will install new equipment in Hyatt Station and remove the obsolete electrical equipment from Hyatt Switching Station. The new equipment can be installed at Hyatt Station with minimal outages to the system and can be constructed "in the clear", thus greatly increasing worker safety. Having all of the electrical equipment in one location also makes future operation maintenance activities more efficient. The proposed Hyatt 345 kV Extension brings the circuit directly in to Hyatt Station and bypasses the Hyatt Switch Station and allows for an in and out configuration of the circuit. Hyatt Switch Station will remain in place but will act only as a supporting structure to carry the conductors. Increased safety and efficiency will also aid in ensuring reliable electrical service to the growing northern Columbus and Delaware area.

- 3. The location of the project in relation to existing or proposed lines and stations shown on maps and overlays provided to the public utilities commission of Ohio in the applicant's most recent long term forecast report.**

Figure 2 shows the general location of the Project in relationship to existing and proposed lines and stations in the area. The Project was not identified as a future project on the LTFR.

- 4. 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, natural environmental, construction, or engineering aspects of the project.**

The line follows the route with the least impacts while taking into account other transmission lines and facilities in the immediate area. No additional alternatives were considered.

5. The anticipated construction schedule and proposed in-service date of the project.

Construction is scheduled to begin September 15, 2014. The in-service date for the Project is late December 2014.

6. An area map of not less than 1:24,000-scale clearly depicting the facility's centerline with clearly marked streets, roads, and highways and clearly written instructions for locating and viewing the facility.

Figure 1 shows the Project location in relation to streets, roads and highways. To view the Project from Columbus, take Olentangy Freeway (State Route 315) north approximately 15 miles to Hyatts Road. Turn west (left) onto Hyatts Road, the proposed line will be located approximately 2 miles west on the north and south side of Hyatts Road.

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

The line will be located entirely in existing easements or on property owned in fee by AEP Ohio Power. No additional land or easements are required.

(C) TECHNICAL FEATURES OF THE PROJECT

1. Operating characteristics, estimated number and types of structures required and right-of-way and/or land requirements.

The Hyatt 345kV Extension Line will operate at 345kV on steel mono poles. The circuit will take off from existing structure #44 on the Central – East Lima 345kV transmission line and four new structures will be installed, which will consist of 2 dead-ends and 2 davit arm configurations (Structures #1 - #4). The existing 100 foot wide easement is sufficient for construction and operations. A structure sketch is included as Figure 3.

2. For electrical power transmission lines, the production of electric and magnetic fields during the operation of the proposed electric power transmission line.

(a) Calculated Electric and Magnetic Field Levels

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

EMF levels were computed one meter above ground under the line and at the ROW edges (100/100 feet, left/right, of centerline). Results, calculated using EPRI's ENVIRO computer program, are summarized below:

Line Loading and Rating

Circuit	Normal Maximum Loading (MVA) ¹	Emergency Loading (MVA) ²	Winter Normal Conductor Rating (MVA) ³
Hyatt 345kV Extension	143	519	2459

The calculated electric and magnetic fields are summarized below. Typical cross section profiles at normal maximum loading and emergency loading conditions are shown in Figure 4.

Calculated Electric and Magnetic Fields

Line Extensions and Configuration Type	Electric Field (kV/m) ⁴	Magnetic Field (mG) ⁴		
		Normal Maximum Load	Emergency Load	Winter Normal Rating
Single Pole "Figure 4"	0.3/ 1.3/0.1	2.4 /3.9 /1.6	8.8 /14.2 /5.8	44.5/76.2/28.5

1. Peak line flow expected with all system facilities in service.
2. Maximum flow during a critical system contingency.
3. Maximum continuous flow that the line, including its terminal equipment, can withstand during winter conditions.
4. EMF levels (left ROW edge/maximum/right ROW edge) computed one meter above ground at the point of minimum ground clearance, assuming balanced phase currents and nominal voltages.

(a) Discussion of the Company's Design Alternatives Regarding EMF Levels

Line construction associated with the Project is proposed in locations that would not place them in close proximity to existing residential uses and, therefore, will not significantly increase EMF exposure of the public.

- 3. The estimated cost of the project by Federal Energy Regulatory Commission account, unless the applicant is not an electrical light company, a gas company or a natural gas company as defined in Chapter 4905 of the Revised code (in which case, the applicant shall file the capital costs classified in the accounting format ordinarily used by the applicant in its normal course of business).**

The 2014 capital estimates for the proposed Project have been tabulated by the Federal Energy Regulatory Commission (FERC) Electric Plant Transmission Accounts:

FERC Accounts	Estimated Capital Cost
355 Poles and Fixtures	\$778,800
356 Overhead Conductors and Devices	\$107,076
Total Cost	\$895,876

(D) SOCIOECONOMIC DATA

- 1. A brief description of land use within the vicinity of the proposed project, including: (a) a list of municipalities, townships, and counties affected; and (b) estimates of population density adjacent to rights of way within the study corridor (the U.S. census information may be used to meet this requirement.)**

On behalf of AEP Ohio Transco, Commonwealth Associates prepared a Socioeconomic, Land Use, and Agricultural District Review Report. This report is included as Appendix A.

- 2. The location and general description of all agricultural land (including agricultural district land) existing at least sixty days prior to submission of the letter of notification within the proposed electric power transmission line right of way, or within the proposed electric transmission substation fenced-in area, or within the construction site boundary of a proposed compressor station.**

The electric power transmission line crosses agricultural land. AEP intends to wait until the crops have been harvested to start construction north of Hyatts Road. This area is not designated agricultural district land.

- 3. A description of the applicant's investigation (concerning the presence or absence of significant archeological or cultural resources that may be located within the area likely to be disturbed by the project), a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.**

A Phase I Archeological Investigation is being conducted for this Project. Weller & Associates, Inc. is preparing an investigation report. A copy of this report will be provided to the Ohio Power Siting Board under separate cover.

- 4. Documentation that the chief executive officer of each municipal corporation and county, and the head of each public agency charged with planning land use in the area in which any portion of the facility is to be located have been notified of the project and have been provided with a copy of the letter of notification. The applicant shall describe the company's public information program used in the siting of the proposed facility. The information submitted shall include either a copy of the**

material distributed to the public or a copy of the agenda and summary of the meeting(s) held by the applicant.

Copies of this Letter of Notification have been sent to the Liberty Township Trustees; Delaware County Boards of Commissioners; the Delaware County Regional Planning Department, and the Delaware County District Library. Copies of the cover letters to these officials and the local library are attached in Appendix B.

AEP Ohio Transco will advise local officials of features and the status of the proposed transmission line Project.

5. A brief description of any current or pending litigation involving the project known to the applicant at the time of the letter of notification.

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

6. A listing of local, state, and federal governmental agencies known to have requirements which 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.

The project will disturb less than 1 acre of land and Notice of Intent for authorization of construction stormwater discharges under General Permit OHC000003 is not required. There are no known additional agency requirements necessary for this project.

(E) ENVIRONMENTAL DATA

1. A description of the applicant's investigation concerning the presence or absence of federal or state endangered 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 area likely to be disturbed by the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

On behalf of AEP Ohio Transco, Commonwealth prepared a Threatened and Endangered Species Report. Commonwealth coordinated with the USFWS and ODNR regarding special

status species in the vicinity of the Project. No impacts to threatened or endangered species are expected. The full Threatened and Endangered Species report for the Project is included as Appendix C.

- 2. 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 area likely to be disturbed by the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.**

The Project does not cross any national or state forests, national or state parks, designated or proposed wilderness areas, national or state wild or scenic rivers, wildlife areas, wildlife refuges, wildlife management areas or wildlife sanctuaries.

Flood Risk Maps of Delaware County were reviewed. The Project does not cross 100-year flood zone areas.

On behalf of AEP Ohio Transco, Commonwealth prepared a Wetland Delineation and Streams Assessment Report. One stream and five wetland areas were identified within the project corridor. One wetland is anticipated to have temporary impact from construction, however impacts will be minimized through the use of timber matting. No permanent impacts are anticipated. No temporary or permanent stream impacts are anticipated. The Areas of Ecological Concern, Wetland Delineation, and Stream Assessment Report is included as Appendix D.

- 3. 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 environmental, social, health, or safety impacts. Construction and operation of the proposed Project will meet all applicable safety standards established by the Occupational Safety and Health Administration, and will be in accordance with the requirements specified

in the latest revision of the National Electric Safety Code as adopted by the Public Utilities Commission of Ohio.

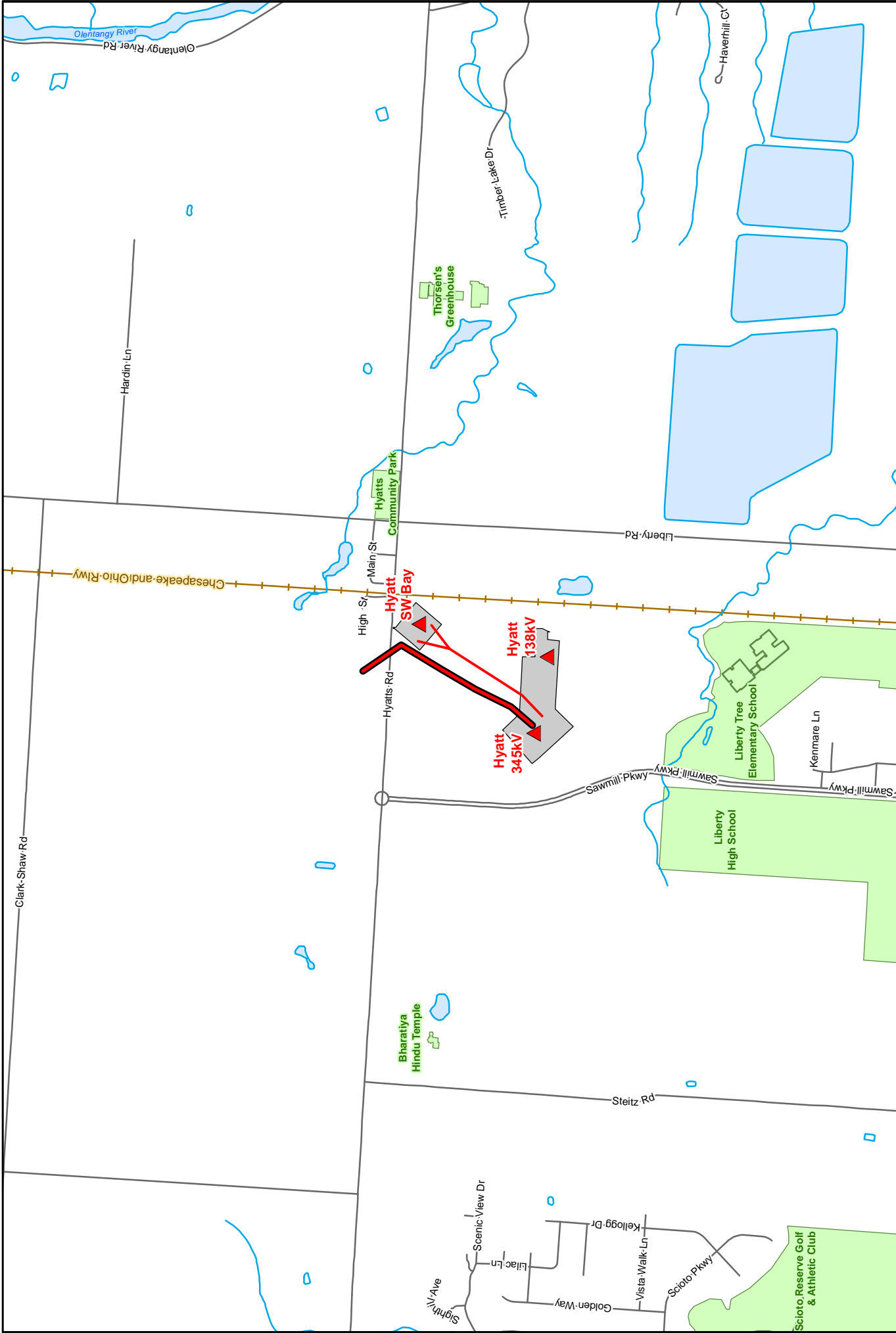


Figure 01
 Local Map
 Hyatt 345 kV Extension

Commonwealth
 CONSULTING, INC.

Drawn By: JEK
 Date: 7/1/2014

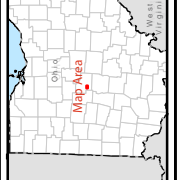
Source: Commonwealth Associates Inc., AEP, ESRI
 Comments:

Scale: 1" = 1,500' (1:18,000)

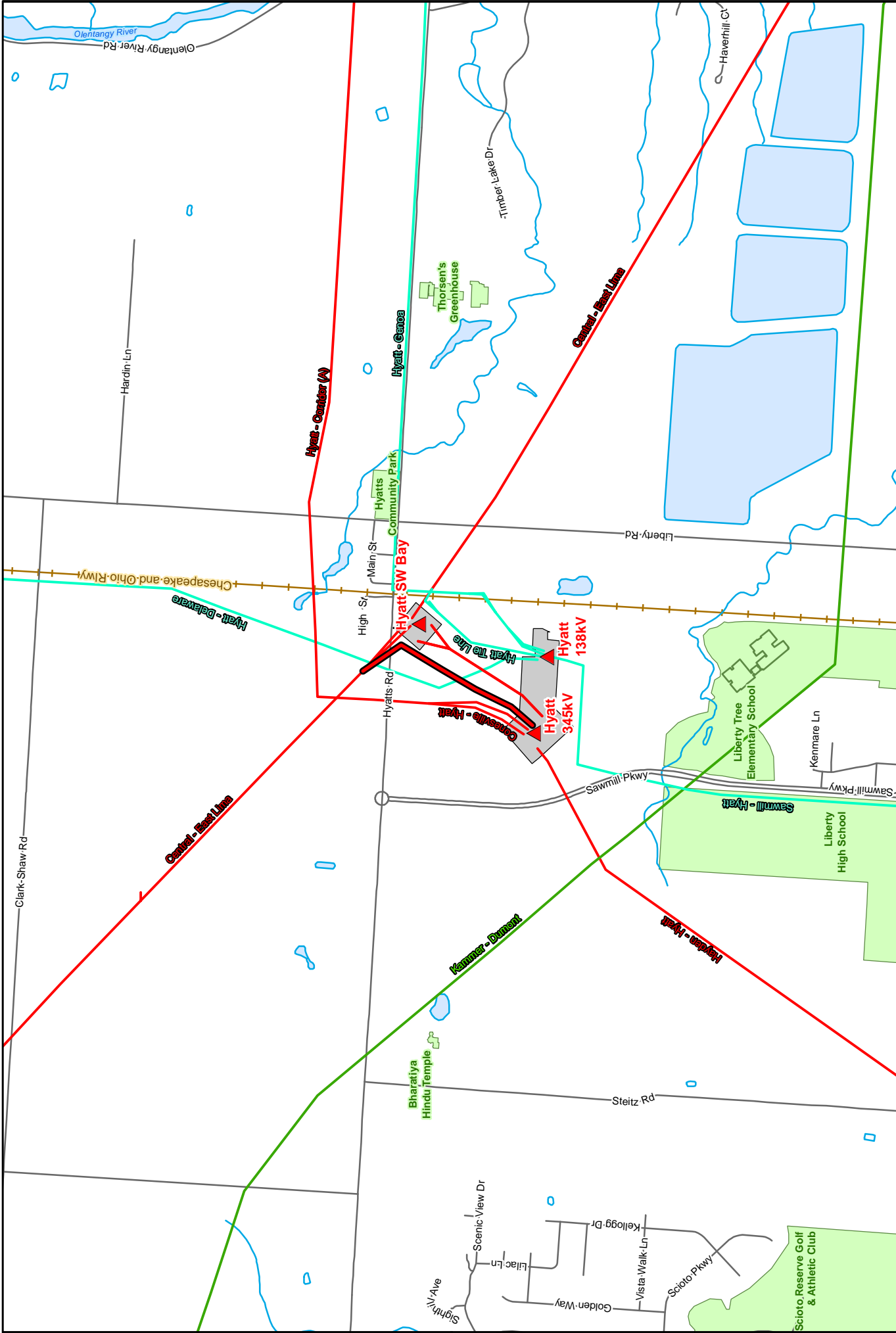
0 750 1,500
 Feet

Projected Coordinate System: Ohio State Plane
 Datum: North American Datum of 1983
 Projection: Lambert Conformal Conic
 Zone: North
 Linear Unit: Feet

	Substation		Railroad
	Existing Structure		City/Township
	Proposed Structure		Project Site
	House		Landmark
	Existing 138 kV		2,000 ft Corridor
	Existing 345 kV		Water Body
	Existing 765 kV		Road
	Proposed 345 kV		River/Stream



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AEP
 700 Morrison Rd.
 Gahanna, OH 43230-8642
 Fax: (614) 552-1818

Figure 02
 Transmission
 Hyatt 345 kV Extension

Commonwealth
 CONSULTANTS, INC.

Drawn By: JEK
 Date: 7/1/2014

Source: Commonwealth Associates Inc., AEP, ESRI
 Comments:

Scale: 1" = 1,000' (1:12,000)

0 750 1,500
 Feet

Projected Coordinate System: Ohio State Plane
 Datum: North American Datum of 1983
 Projection: Lambert Conformal Conic
 Linear Unit: Feet

Legend:

- Substation: Existing Structure (Red circle), Proposed Structure (Green circle)
- House: Existing 138 kV (Red line), Existing 345 kV (Green line), Existing 765 kV (Blue line), Proposed 345 kV (Red line)
- 2,000 ft Corridor: Existing 138 kV (Red dashed), Existing 345 kV (Green dashed), Existing 765 kV (Blue dashed), Proposed 345 kV (Red dashed)
- Water Body: Water Body (Blue)
- Road: Road (Grey)
- River/Stream: River/Stream (Blue)
- Landmark: Landmark (Green)
- City/Township: City/Township (Yellow)
- Project Site: Project Site (Red)
- Railroad: Railroad (Black)

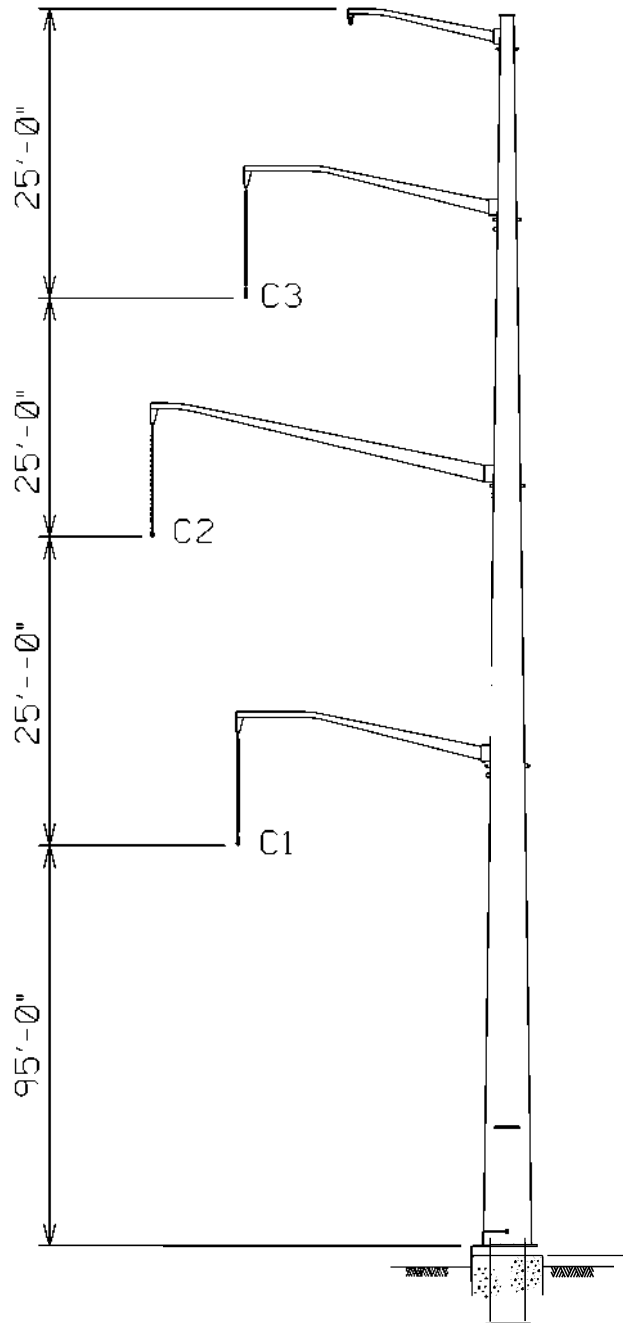
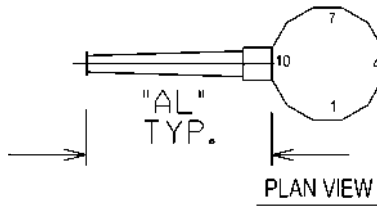


North Arrow

Scioto Reserve Golf & Athletic Club

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#2 & 3



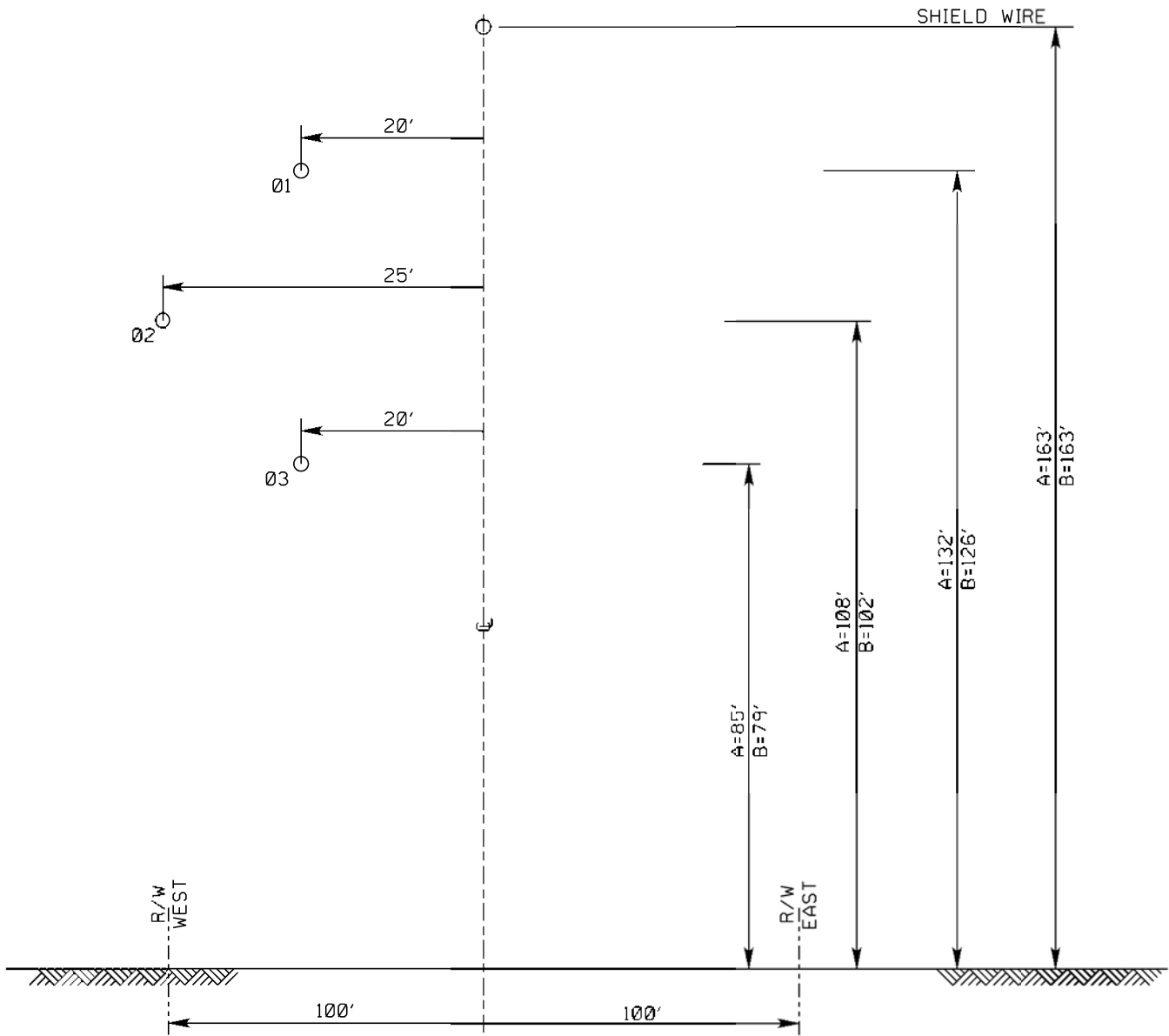
TYPICAL PHASE ARRANGEMENT
TANGENT SC STEEL POLE
HYATT 345kV EXT.

NOT TO SCALE

DWG. No. Figure 3

PROPOSED
HYATT - MARYSVILLE
345kV CIRCUIT

3 - 954 ACSR (45/7) Rail - Bundled
1- 159 ACSR (12/7) Guinea



DIMENSION "A" - SINGLE CIRCUIT VERT. CONFIGURATION (STEEL POLE)
(UNDER EMERGENCY & NORMAL MAX. LINE LOADING AND WINTER CONDUCTOR RATING)

DIMENSION "B" - SINGLE CIRCUIT VERT. CONFIGURATION (STEEL POLE)
(UNDER WINTER NORMAL CONDUCTOR RATING)



SINGLE CIRCUIT VERTICAL
DAVIT ARM TANGENT STRUCTURE
HYATT 345kV EXT.

NOT TO SCALE

Figure 4



American Electric Power
700 Morrison Road
Gahanna, OH 43230

July 30, 2014

Delaware County Engineer
Mr. Chris Bauserman
50 Channing Street
Delaware, Ohio 43015

RE: Letter of Notification
Hyatt 345-kV Extension Project
Case Number: 14-1072-EL-BLN

Dear Mr. Bauserman:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain changes are made to our transmission facilities.

The proposed Hyatt 345-kilovolt (kV) Extension Project, Public Utilities Commission of Ohio (PUCO) Case Number 14-1072-EL-BLN, consists of the construction of a 345-kV transmission line interconnection between two stations on AEP property. The Hyatt-Hyatt 345-kV transmission line interconnection will be approximately one-third mile long. The project will be located in Liberty Township in Delaware County.

In compliance with Rule 4906-11-01 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notice contains details on the line location, project description and construction schedule, and is submitted for your information.

Please feel free to contact me at 614-552-1929 and I would be happy to answer any questions concerning this project.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Brett E. Schmied', is written over a light blue circular scribble.

Brett E. Schmied, J.D.
Project Outreach Specialist
American Electric Power

cc: Shawn Malone, Project Manager



American Electric Power
700 Morrison Road
Gahanna, OH 43230

July 30, 2014

Delaware County Board of Commissioners
Mr. Ken O'Brien
Mr. Gary Merrell
Mr. Dennis Stapleton
101 North Sandusky Street
Delaware, Ohio 43015

RE: Letter of Notification
Hyatt 345-kV Extension Project
Case Number: 14-1072-EL-BLN

Dear Commissioners:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain changes are made to our transmission facilities.

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Brett E. Schmied, J.D.
Project Outreach Specialist
American Electric Power

cc: Shawn Malone, Project Manager



American Electric Power
700 Morrison Road
Gahanna, OH 43230

July 30, 2014

Liberty Township Board of Trustees
Ms. Shyra A. Eichhorn, Trustee
Ms. Melanie Leneghan, Trustee
Mr. Thomas K. Mitchell, Trustee
Mr. Mark S. Gerber, Fiscal Officer
10104 Brewster Lane, Suite 125
Powell, Ohio 43065

RE: Letter of Notification
Hyatt 345-kV Extension Project
Case Number: 14-1072-EL-BLN

Dear Trustees:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain changes are made to our transmission facilities.

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Brett E. Schmied, J.D.
Project Outreach Specialist
American Electric Power

cc: Shawn Malone, Project Manager



American Electric Power
700 Morrison Road
Gahanna, OH 43230

July 30, 2014

Delaware County Regional Planning Department
Mr. Scott B. Sanders, Director
109 North Sandusky Street
Delaware, Ohio 43015

RE: Letter of Notification
Hyatt 345-kV Extension Project
Case Number: 14-1072-EL-BLN

Dear Mr. Sanders:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain changes are made to our transmission facilities.

The proposed Hyatt 345-kilovolt (kV) Extension Project, Public Utilities Commission of Ohio (PUCO) Case Number 14-1072-EL-BLN, consists of the construction of a 345-kV transmission line interconnection between two stations on AEP property. The Hyatt-Hyatt 345-kV transmission line interconnection will be approximately one-third mile long. The project will be located in Liberty Township in Delaware County.

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Brett E. Schmied, J.D.
Project Outreach Specialist
American Electric Power

cc: Shawn Malone, Project Manager



American Electric Power
700 Morrison Road
Gahanna, OH 43230

July 30, 2014

Delaware County District Library
Ms. Mary Jane Santos, Director
84 East Winter Street
Delaware, Ohio 43015

RE: Letter of Notification
Hyatt 345-kV Extension Project
Case Number: 14-1072-EL-BLN

Dear Ms. Santos:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain changes are made to our transmission facilities.

The proposed Hyatt 345-kilovolt (kV) Extension Project, Public Utilities Commission of Ohio (PUCO) Case Number 14-1072-EL-BLN, consists of the construction of a 345-kV transmission line interconnection between two stations on AEP property. The Hyatt-Hyatt 345-kV transmission line interconnection will be approximately one-third mile long. The project will be located in Liberty Township in Delaware County.

We ask that this Letter of Notification be made available to the general public.

In compliance with Rule 4906-11-01 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notice contains details on the line location, project description and construction schedule, and is submitted for your information.

Please feel free to contact me at 614-552-1929 and I would be happy to answer any questions concerning this project.

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Brett E. Schmied, J.D.
Project Outreach Specialist
American Electric Power

cc: Shawn Malone, Project Manager

APPENDIX A

**SOCIOECONOMIC, LAND USE, AND AGRICULTURAL DISTRICT REVIEW
REPORT**

HYATT 345kV EXTENSION LINE PROJECT

SOCIOECONOMIC, LAND USE, AND AGRICULTURAL DISTRICT REVIEW REPORT

Prepared for:

American Electric Power Ohio Transco
700 Morrison Road
Gahanna, Ohio 45230



Prepared by:



2700 West Argyle Street
Jackson, Michigan 49202

July 2014

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FIGURES (follow text)

Number

FIGURE 1	PROJECT LOCATION
FIGURE 2	LAND USE MAP

1.0 PROJECT DESCRIPTION

American Electric Power Ohio Transco's (AEP Ohio Transco's) proposed Hyatt 345 kV Extension Transmission Line Project (the Project) brings the Hyatt - Marysville circuit directly in to Hyatt Station and bypasses the Hyatt Switch Station. The line is approximately 0.5 miles in length and is located in Delaware County, Ohio, south of the City of Delaware, as illustrated on Figure 1, Project Location.

As part of the Ohio Power Siting Board (OPSB) Letter of Notification (LON) requirements, AEP Ohio Transco is required to assess and report the socioeconomic, land use, and agricultural district characteristics potentially affected by the Project, as stated in Ohio Administrative Code (OAC) Rule 4906-11-01(D)(1) and (2). These rules state:

- (D) *Socioeconomic data. Describe the social and ecological impacts of the project. This description shall contain the following information:*
- (1) *A brief, general description of land use within the vicinity of the proposed project, including: (a) a list of municipalities, townships, and counties affected; and (b) estimates of population density adjacent to rights-of-way within the study corridor (the U.S. census information may be used to meet this requirement).*
 - (2) *The location and general description of all agricultural land (including agricultural district land) existing at least sixty days prior to submission of the letter of notification within the proposed electric power transmission line right-of-way, or within the proposed electric power transmission substation fenced-in area, or within the construction site boundary of a proposed compressor station.*

AEP Ohio Transco retained Commonwealth Associates, Inc. (Commonwealth) to conduct a desktop review of socioeconomic, land use, and agricultural district land characteristics. A study area extending 1,000 feet around the approximately 0.5-mile Project centerline was established, resulting in an approximately 120-acre study area. In conjunction with ecological field surveys for the Project, Commonwealth noted land uses within the study area. This report will be used to assist AEP Ohio Transco's efforts to avoid or minimize impacts to socioeconomic characteristics and land uses potentially present in the study area during construction activities.

2.0 GENERAL LAND USE DESCRIPTION

Current land use characteristics were obtained through review of Google Earth aerial photography taken in 2012; United States Department of Agriculture (USDA) and Natural Resource Conservation Service (NRCS) digital aerial photography taken in 2006; the United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps of Powell, Ohio (2010); the Land Use/Land Cover (data collected in 1976) obtained from webGIS, www.webgis.com and updated using photo interpretation; base map data obtained from GIS Data Depot (U.S. Census Bureau TIGER/Line 2011), www.data.geocomm.com; Delaware County property parcel data; planning data from the Delaware County Regional Planning

Commission website www.dcrp.org and a field reconnaissance conducted on July 9 and 17, 2014. General alignment of the Project and Land uses within the study area are shown on Figure 2, Land Use.

Land uses within the study area include open land (agricultural fields, woodlands and barren areas), scattered residences; utility infrastructure (electrical transmission lines, switch yard and stations), and transportation corridors. Approximately 59% of the land within the study area is agriculture, 18% is wooded or open land, 7% is residential, 11% is utility use, and 5% is transportation. Within 1,000 feet of the project centerline, 15 residences were identified.

In the 2010 Census, Delaware County was identified as the 22nd fastest growing counties in the US and the number 1 fastest growing county in the State of Ohio. General land use trends in Delaware County indicate there is a conversion of farmland to commercial and residential use. This change in land use primarily radiates from the south (greater Columbus) and north out from the City of Delaware. The Project area is approximately midpoint between these two areas and still primarily agricultural in nature excluding the utility infrastructure.

3.0 POPULATION DENSITY ESTIMATE

The Project is located within Liberty Township, Delaware County, Ohio. Population density estimates for land within the study area were calculated by direct estimation based on study area size, number of residences identified in the area, and the average number of persons per household in the county. The estimated population density based on study area size is 60. Within the study area, 15 residences were identified. The average household size for Delaware County is 2.74 people per household. Based on number of residences and average household size, the population density is 41; this equates to a population density of 0.34 person per acre, which is less than the average 0.50 person per acre for all of the county. The above estimates are limited by available statistics and generalizations across the county. Total populations for the County and township are summarized in Table 1.

**TABLE 1
STUDY AREA CENSUS POPULATION ESTIMATES**

Government Unit	2000 Census	2010 Census
Delaware County	109,989	174,214
Liberty Township	15,429	26,172

Sources: U.S. Census Bureau, Census 2000 Summary File 1 (SF 1)
U.S. Census Bureau, Census 2010 Summary File 1 (SF 1)

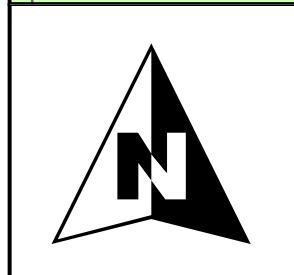
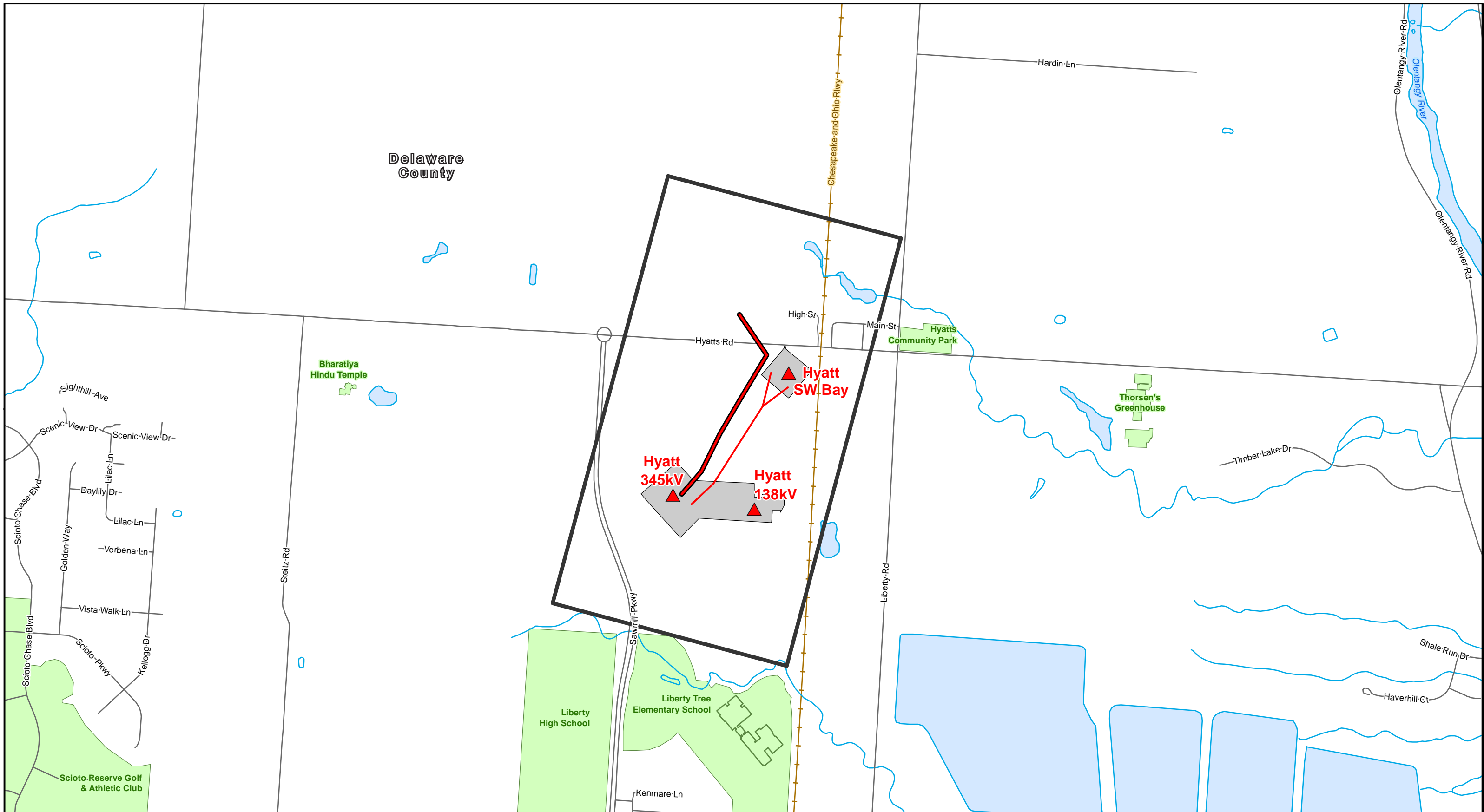
4.0 AGRICULTURAL DISTRICT LAND

Commonwealth contacted the Delaware County auditor's offices regarding parcels registered in the agricultural district land program. There are no agricultural district land parcels within the 2,000-foot study area. The construction, operation and maintenance of this transmission line are not expected to affect the viability of agricultural land with the study area. Efforts to minimize disturbance during construction will be

made. AEP Ohio Transco is working with the property owner north of Hyatts Road to avoid and minimize damages to the property. AEP Ohio Transco will compensate the owner for any monetary losses due to the Project through the right of way settlement in accordance with easement agreements and company policy. The remaining property is owned in fee by AEP Ohio Transco or a related company.

5.0 CONCLUSION

The Project is not expected to significantly impact current socioeconomic characteristics, land use, and agricultural district land in the vicinity. The Project is within an electrical transmission line corridor or on property owned in fee by AEP Ohio Transco or related companies, and the characteristics of the Project are not significantly different from the existing transmission lines and utility infrastructure in the immediate area. The Project is not expected to impact any future land use plans for the area.



▲ Substation	— Railroad	■ Evergreen Forest	■ Cropland
● Existing Structure	■ City/Township	■ Deciduous Forest	■ Industrial
■ Proposed Structure	□ Project Site	■ Grassland	■ Transportation
■ House	■ Landmark	■ Mixed Forest	■ Residential
— Existing 345 kV	■ 2,000 ft Corridor	■ Barren	■ Water
— Proposed 345 kV	■ Agriculture District	■ Commercial	
— Road	□ Parcel Boundary		
— River/Stream	■ Water Body		

Scale: 1" = 1,000' (1:12,000)

Projected Coordinate System: Ohio State Plane
 Datum: North American Datum of 1983
 Projection: Lambert Conformal Conic
 Zone: North
 Linear Unit: Feet

Figure 01
 Location Map
 Hyatt 345 kV Extension



Source: Commonwealth Associates Inc., AEP, ESRI
 Comments:

Drawn By: JEK
 Date: 6/30/2014



700 Morrison Rd.
 Gahanna, OH 43230-6642
 PH: (614) 716-1000
 Fax: (614) 552-1818

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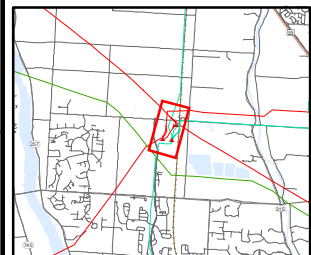
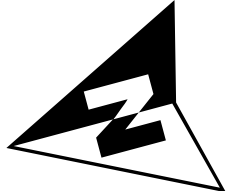


Delaware County

Hyatt 138kV

Hyatt SW Bay

Hyatt 345kV



▲ Substation	— Railroad	■ Evergreen Forest	■ Cropland
● Existing Structure	□ City/Township	■ Deciduous Forest	■ Industrial
■ Proposed Structure	□ County	■ Grassland	■ Transportation
■ House	■ Landmark	■ Mixed Forest	■ Residential
— Existing 138 kV	— 2,000 ft Corridor	■ Barren	■ Water
— Existing 345 kV	■ Agriculture District	■ Commercial	
— Existing 765 kV	□ Parcel Boundary	— Road	
— Proposed 345 kV	■ Water Body	— River/Stream	

Scale: 1" = 300' (1:3,600)

0 150 300 450 600
Feet

Projected Coordinate System: Ohio State Plane
Datum: North American Datum of 1983
Projection: Lambert Conformal Conic
Zone: North
Linear Unit: Feet

Figure 02
Land Use Map
Hyatt 345 kV Extension



Source: Commonwealth Associates Inc., AEP, ESRI
Comments:

Drawn By: JEK
Date: 6/30/2014



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APPENDIX C

THREATENED AND ENDANGERED SPECIES SURVEY REPORT

HYATT 345kV EXTENSION LINE PROJECT

THREATENED AND ENDANGERED SPECIES SURVEY REPORT

Prepared for:

American Electric Power Ohio Transco
700 Morrison Road
Gahanna, Ohio 45230



Prepared by:



2700 West Argyle Street
Jackson, Michigan 49202

July 2014

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FIGURES (follow text)

FIGURE 01	LOCATION MAP
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APPENDIX (follows figures)

APPENDIX A	AGENCY RESPONSES
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1.0 PROJECT DESCRIPTION

This document presents the results of the threatened and endangered species assessment conducted by Commonwealth Associates, Inc. (Commonwealth) for American Electric Power Ohio Transco's (AEP Ohio Transco) proposed Hyatt 345 kV Extension Transmission Line Project (the Project) which brings the Hyatt - Marysville circuit directly into Hyatt Station and bypasses the Hyatt Switch Station.

The Project is approximately 0.5 miles in length and is located in Delaware County, Ohio, south of the City of Delaware, as illustrated on Figure 01, Location Map.

As part of the Ohio Power Siting Board (OPSB) Letter of Notification (LON) requirements, AEP Ohio Transco is required to investigate and report the presence or absence of federal and state designated species and assess potential impacts by the Project, as stated in Ohio Administrative Code (OAC) Rule 4906-11-01(E)(1). These rules state:

- (E) *Environmental data. Describe the environmental impacts of the project. This description shall contain the following information:*
 - (1) *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 area likely to be disturbed by the project, a statement of the findings of the investigation, and a copy of any documents produced as a result of the investigation.*

AEP Ohio Transco retained Commonwealth to conduct a threatened and endangered species review and field survey within areas crossed by the proposed Project and within 100 feet of the Project centerline. This report will be used to assist AEP Ohio Transco's effort to avoid impacts to threatened and endangered species potentially present in the study area during construction activities.

2.0 METHODS

Commonwealth began this survey by reviewing online data from the State of Ohio Department of Natural Resources (ODNR) and the U.S. Fish and Wildlife Service (USFWS). In addition, Commonwealth submitted a request to the ODNR Biodiversity Database for GIS records of species of concern in proximity to the Project. No records were found in the database. Coordination letters soliciting comments on the Project were submitted to the ODNR and USFWS. Agency-identified species and available species-specific information was reviewed to determine the various habitat types the listed species are known to frequent. This information was used during the field survey to assess the potential for these species of concern in or near the Project study area.

3.0 RESULTS

Commonwealth ecologists conducted a species habitat survey in conjunction with the stream and wetland field surveys. These surveys were conducted on July 9 and July 17, 2014. On-the-ground surveys were limited to within the 100 feet of the proposed centerline and along the proposed access routes where outside of this 200 foot corridor.

3.1 State Species of Concern

Based on past correspondence with the ODNR, a list of several species that potentially occur within the vicinity of the proposed Project area was developed. Table 1 lists the species identified by the ODNR. The ODNR database indicated no known occurrences of species of concern within the Project area.

**TABLE 1
STATE SPECIES THAT COULD INHABIT
PROJECT AREA**

Common Name	Scientific Name	State Status
Mammals		
Indiana Bat	<i>Myotis sodalis</i>	Endangered
Mussels		
Clubshell	<i>Pleurobema clava</i>	Endangered
Rayed bean	<i>Villosa fabalis</i>	Endangered
Snuffbox	<i>Epioblasma triquetra</i>	Endangered
Fish		
Blacknose shiner	<i>Notropis heterolepis</i>	Endangered

Indiana Bat: The Indiana bat, a known inhabitant of Ohio, has a presumed presence in Delaware County. The bat utilizes dead or dying trees with exfoliating bark for cover, roosts, and breeding/nursery activities during the warmer months of the year. Males generally spend the summer alone or in small groups. The females may form nursery colonies of 100 or more. During the colder winter months, the bat migrates to southern Indiana and northern Kentucky to hibernate and is not present in the Project area during that time. Dead or dying trees will be utilized by the Indiana bat for only several breeding seasons at most, as the dying process will eventually take these trees down. They will be replaced in the future by other currently healthy trees.

The ODNR and USFWS recommend that trees exhibiting characteristics suitable for habitat for the Indiana and northern long-eared bats, and any surrounding wooded areas should be saved. If these areas cannot be avoided, they should be cut only from October 1 to March 31. The Project area is a mix of agricultural fields and barren land. In the barren areas a mix of grasses, herbaceous plants, vines and shrubs as well as clusters of trees in pockets and along historic property lines were observed. The area is not heavily wooded. Where potential bat habitat trees need to be removed they will be cut between October 1 and March 31. Access routes to the structures will follow existing roads, driveways, and areas free of trees greater than 5" in

diameter at breast height (dbh). Therefore, we concluded that the Project as proposed “is not likely to adversely affect” any Indiana bats that may be in the area.

Freshwater Mussels: Although no specific species of mussels was identified in the database, past ODNR correspondence has noted freshwater mussels in the Delaware County area. The Project does not cross any perennial streams and no in-water work is proposed.

Blacknose Shiner: Blacknose shiner has been identified as a species of concern in Delaware County. The Project does not cross any perennial streams and no in-water work is proposed.

3.2 Federal Species of Concern

To address the Project’s potential to impact federally protected species, Commonwealth conducted web based literature review of USFWS Federally Listed Threatened, Endangered, Proposed, and Candidate Species’ County Distribution, Revised 2014, to identify what species potentially occur in Delaware County. In addition Commonwealth contacted the USFWS to request an informal consultation on the project. A copy of the USFWS response is included at the end of this report in Appendix A.

**TABLE 2
FEDERAL SPECIES THAT COULD INHABIT
PROJECT AREA**

Common Name	Scientific Name	State Status
Mammals		
Indiana Bat	<i>Myotis sodalis</i>	Endangered
Little Brown Bat	<i>Myotis lucifugus</i>	Under Consideration
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Proposed Endangered
Mussels		
Rayed bean	<i>Villosa fabalis</i>	Endangered
Birds		
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Recovery

Bats: In addition to the Indiana bat, the northern long-eared bat is a species of concern. The USFWS lists the northern long-eared bat as proposed endangered in Ohio. Both species utilize forested habitat and may occur within the Project area. Also, the Project is within the range of the little brown bat, which is being considered for listing due to population decline from white nose syndrome.

Little brown bats are known to hibernate in Ohio usually in caves, old coal mines and man-made structures. Males roost solitarily in the summer season, and roosts may include buildings, tree cavities, caves, mines, and other man-made structures. Females form maternity colonies, mostly in man-made structures, but sometimes will roost in tree cavities and exfoliating bark of dead trees. In the summer, these bats typically roost singly or in colonies under bark, in cavities, and in crevices in live and dead trees. The bats may also

summer roost in cooler locations, such as caves and mines. They have also been found roosting under eaves on houses, behind window shutters, in bat houses, and in open and enclosed buildings. They are documented to enter hibernation in October/November and leave in March/April. Bats have been known to hibernate in caves, mines and tunnels within 60 miles of their summer roosts.

As outlined under discussions on the Indiana bat, 3.1 State Species of Concern, clearing of potential bat habitat trees will be between October 1 and March 31. Therefore, we conclude that the Project as proposed is not likely to affect any of these bat species adversely.

Bald Eagle: Bald eagles are typically found near sizeable bodies of water, where water with ample food (fish) is located within two miles of the nest (<http://wildlife.ohiodnr.gov/species-and-habitats/species-guide-index/birds/bald-eagle>). The Project crosses several streams none of which are perennial. There are no streams near the Project suitable to support sufficient numbers or size of fish. Bald eagles have been observed in Delaware County at the O'Shaughnessy Reservoir approximately 3 miles west of the project area. No eagle nests were observed within 1,000 feet of the Project centerline. It is unlikely bald eagles would nest near the Project area due to the lack of abundant sizable fish and the distance from the reservoir.

4.0 SUMMARY

AEP Ohio Transco retained Commonwealth to conduct a threatened and endangered species review for areas located within 100 feet of the proposed Project centerline. This report will be used to assist AEP Ohio Transco's efforts to avoid impacts to threatened and endangered species potentially present in the study area during construction activities. Commonwealth ecologists conducted a species habitat survey in conjunction with the stream and wetland field surveys. These surveys were conducted July 9 and 17, 2014.

The ODNR and USFWS recommend that trees exhibiting characteristics suitable for habitat for the Indiana and northern long-eared bats, and any surrounding wooded areas should be saved. The area is not heavily wooded. There are clusters of trees in pockets and along historic property lines. Cutting of any potential bat habitat tree should be between October 1 and March 31. Commonwealth understands that AEP Ohio Transco is in agreement with this limitation. Access routes will follow existing roads, driveways, and areas free of trees greater than 5" dbh.

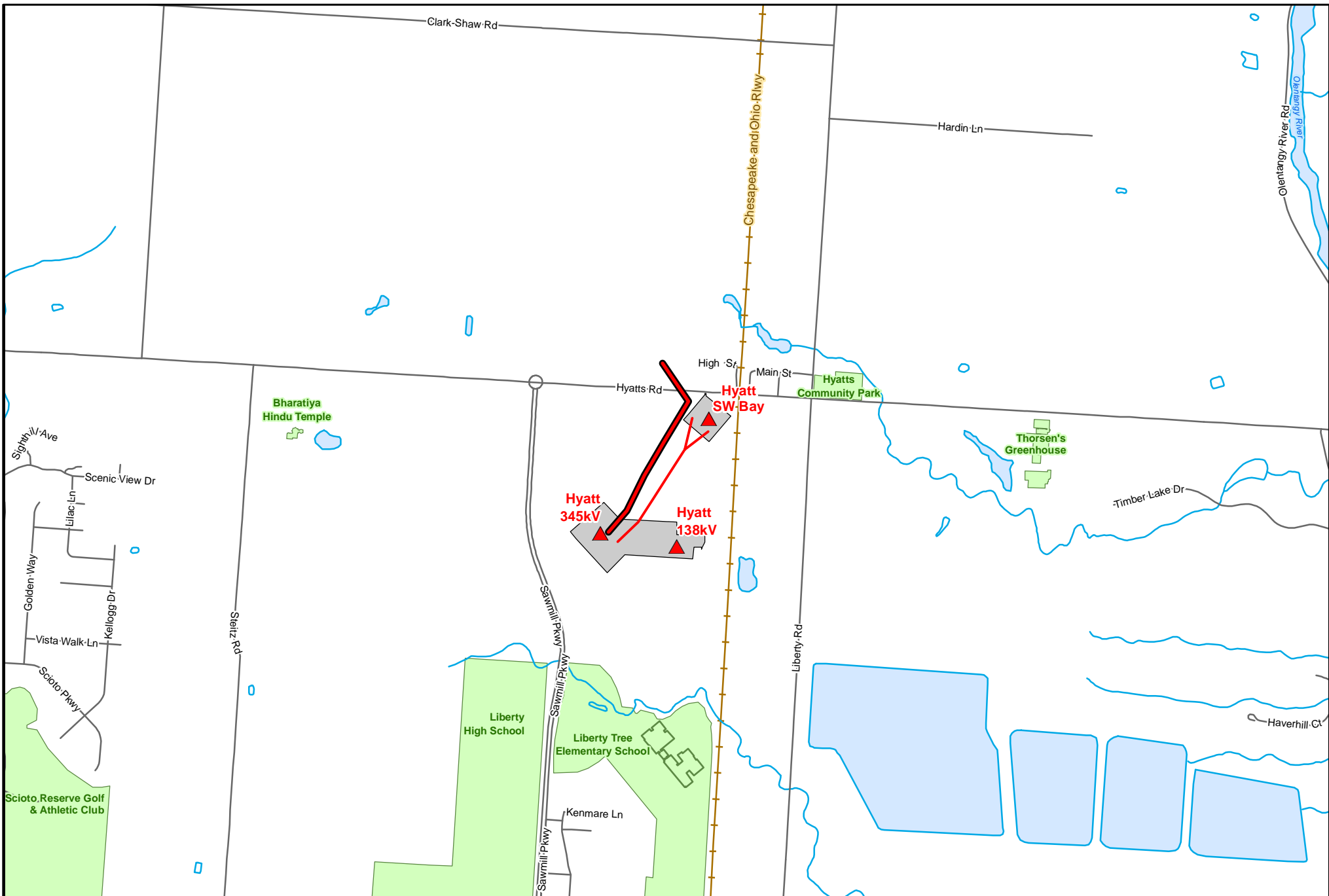
Impact to freshwater mussels or fish is not anticipated as the project does not cross any perennial streams and no in-water work is proposed.

No bald eagle nests were observed in the Project area. It is unlikely bald eagles would nest near the Project area due to the lack of abundant sizable fish and the distance from the O'Shaughnessy Reservoir.

No species of concern are expected to be impacted by the proposed Project.

5.0 CONCLUSION

Based upon the nature of the Project, review of available current literature, review of federal and state records of species of concern, and field survey conducted in July 2014, with tree clearing limitation on potential bat habitat trees, no species of concern are anticipated to be impacted by the Project.



- | | |
|----------------------|---------------------|
| ▲ Substation | — Railroad |
| ● Existing Structure | ■ City/Township |
| ■ Proposed Structure | □ Project Site |
| ■ House | ■ Landmark |
| — Existing 138 kV | — 2,000 ft Corridor |
| — Existing 345 kV | ■ Water Body |
| — Existing 765 kV | — Road |
| ■ Proposed 345 kV | — River/Stream |

Scale: 1" = 1,500' (1:18,000)

0 750 1,500
Feet

Projected Coordinate System: Ohio State Plane
Datum: North American Datum of 1983
Projection: Lambert Conformal Conic
Zone: North
Linear Unit: Feet

Figure 01
Location Map
Hyatt 345 kV Extension



Source: Commonwealth Associates Inc., AEP, ESRI
Comments:

Drawn By: JEK
Date: 7/1/2014



700 Morrison Rd.
Gahanna, OH 43230-6642
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Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Ohio Division of Wildlife
Scott Zody, Chief
2045 Morse Rd., Bldg. G
Columbus, OH 43229-6693

July 1, 2014

Ann Stevens
Commonwealth Associates, Inc.
2700 West Argyle Street
Jackson, MI 49202

Dear Ms. Stevens

After reviewing the Natural Heritage Database, I find the Division of Wildlife has no records of rare or endangered species in the Hyatt 345kV Tie Line Transmission Line Project area in Liberty Township, Delaware County, Ohio. We are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildlife refuges, parks or forests or other protected natural areas within a one mile radius of the project area.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. This letter only represents a review of rare species and natural features data within the Ohio Natural Heritage Database. It does not fulfill coordination under the National Environmental Policy Act (NEPA) or the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq.) and does not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Please contact me at 614-265-6452 if I can be of further assistance.

Sincerely,

A handwritten signature in blue ink that reads "Greg Schneider".

Greg Schneider, Administrator
Ohio Natural Heritage Database Program

Ann M. Stevens

From: Tebbe, Sarah <Sarah.Tebbe@dnr.state.oh.us>
Sent: Friday, June 28, 2013 4:14 PM
To: Ann M. Stevens
Cc: Kessler, John
Subject: 13-274 Comments - Hayden-Hyatt 345kV Transmission Line Project - CAI



ODNR COMMENTS TO: CAI Inc. – Ann Stevens Ann M. Stevens <Ann.Stevens@cai-engr.com>

Project: Hayden – Hyatt 345kV Transmission Line Project

Location: Franklin, Union, and Delaware Counties, Ohio

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Fish and Wildlife: The Division of Wildlife (DOW) has the following comments.

Delaware, Franklin, Union

The project is within the range of the Indiana bat (*Myotis sodalis*), a state and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees: Shagbark hickory (*Carya ovata*), Shellbark hickory (*Carya laciniosa*), Bitternut hickory (*Carya cordiformis*), Black ash (*Fraxinus nigra*), Green ash (*Fraxinus pennsylvanica*), White ash (*Fraxinus americana*), Shingle oak (*Quercus imbricaria*), Northern red oak (*Quercus rubra*), Slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), Eastern cottonwood (*Populus deltoides*), Silver maple (*Acer saccharinum*), Sassafras (*Sassafras albidum*), Post oak (*Quercus stellata*), and White oak (*Quercus alba*). Indiana bat habitat consists of suitable trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. If suitable trees occur within the project area, these trees should be conserved. If suitable habitat occurs on the project area and trees must be cut, cutting must occur between October 1 and March 31. If suitable trees must be cut during the summer months, a net survey must be conducted between June 15 and July 31, prior to cutting. Net surveys shall incorporate either two net sites per square kilometer of project area with each net site containing a minimum of two nets used for two consecutive nights, or one net site per kilometer of stream within the project limits with each net site containing a minimum of two nets used for two consecutive nights. If no tree removal is proposed, the project is not likely to impact this species.

Delaware

The project is within the range of the clubshell (*Pleurobema clava*), a state and federally endangered mussel, the rayed bean (*Villosa fabalis*), a state endangered and federal endangered mussel species, and the snuffbox (*Epioblasma triquetra*), a state endangered and federal endangered mussel.

The project must not have an impact on freshwater native mussels in the area. If impacted, the applicant must work with ODNR personnel to determine the appropriate compensation for what will be considered a “takings” situation. This applies to both listed and non-listed species. Surveys and other information regarding the location of mussels in Ohio are limited. This includes information regarding the possibility of mussels being located in this area of Scioto River. Therefore, the possibility of mussels within the area of the project cannot be eliminated. If mussels are encountered during the restoration, work should immediately be stopped and John Navarro of the DOW should be contacted (614-265-6346).

The project is within the range of the blacknose shiner (*Notropis heterolepis*), a state endangered fish. The DOW recommends no in-water work in perennial streams at least April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed, the project is not likely to impact these species.

Franklin

The project is within the range of the Northern brook lamprey (*Ichthyomyzon fossor*), a state endangered fish, the blacknose shiner (*Notropis heterolepis*), a state endangered fish, and the Scioto madtom (*Noturus trautmani*), a state and federally endangered fish. The DOW recommends no in-water work in perennial streams at least April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed, the project is not likely to impact these species.

The project is within the range of the clubshell (*Pleurobema clava*), a state and federally endangered mussel, the Northern riffleshell (*Epioblasma torulosa rangiana*), a state and federally endangered mussel, the rayed bean (*Villosa fabalis*), a state endangered and federal endangered mussel species, the rabbitsfoot (*Quadrula cylindrica cylindrica*), a state endangered and federal candidate mussel, the snuffbox (*Epioblasma triquetra*), a state endangered and federal endangered mussel, and the elephant-ear (*Elliptio crassidens crassidens*), a state endangered mussel.

The project must not have an impact on freshwater native mussels in the area. If impacted, the applicant must work with ODNR personnel to determine the appropriate compensation for what will be considered a “takings” situation. This applies to both listed and non-listed species. Surveys and other information regarding the location of mussels in Ohio are limited. This includes information regarding the possibility of mussels being located in this area of Scioto River. Therefore, the possibility of mussels within the area of the project cannot be eliminated. If mussels are encountered during the restoration, work should immediately be stopped and John Navarro of the DOW should be contacted (614-265-6346).

The project is within the range of the Upland Sandpiper (*Bartramia longicauda*), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction must be avoided in this habitat during the species’ nesting period of April 15 to July 31. If this type of habitat will not be impacted, the project is not likely to impact this species.

Union

The ODNR Natural Heritage Database has records within a half mile of the project for the Virginia Rail (*Rallus limicola*), species of concern, Sora Rail (*Porzana Carolina*), species of concern, King Rail (*Rallus elegans*), endangered, and Least Bittern (*Ixobrychus exilis*) threatened. These species are associated with emergent vegetation in wetlands. As long as

wetlands are not affected, this project is not likely to impact these species. Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area.

The project is within the range of the clubshell (*Pleurobema clava*), a state and federally endangered mussel, the Northern riffleshell (*Epioblasma torulosa rangiana*), a state and federally endangered mussel, the rayed bean (*Villosa fabalis*), a state endangered and federal endangered mussel species, the rabbitsfoot (*Quadrula cylindrica cylindrica*), a state endangered and federal candidate mussel, and the snuffbox (*Epioblasma triquetra*), a state endangered and federal endangered mussel.

The project must not have an impact on freshwater native mussels in the area. If impacted, the applicant must work with ODNR personnel to determine the appropriate compensation for what will be considered a “takings” situation. This applies to both listed and non-listed species. Surveys and other information regarding the location of mussels in Ohio are limited. This includes information regarding the possibility of mussels being located in this area of Scioto River. Therefore, the possibility of mussels within the area of the project cannot be eliminated. If mussels are encountered during the restoration, work should immediately be stopped and John Navarro of the DOW should be contacted (614-265-6346).

The project is within the range of the Scioto madtom (*Noturus trautmani*), a state and federally endangered fish. The DOW recommends no in-water work in perennial streams at least April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed, the project is not likely to impact this species.

We are unaware of any unique ecological sites, geologic features, other animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildlife refuges or other protected natural areas within the project area. Our inventory program does not provide a complete survey of Ohio wildlife, and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area.

Geological Survey: The Division of Geological Survey has the following comments.

The contractor or project manager should contact us concerning the possibility of karst solution features including sinkholes, potential caverns, and disappearing streams in the vicinity of the project. Project areas near the Scioto River are possible karst. This includes both banks.

ODNR appreciates the opportunity to provide these comments. Please contact John Kessler at (614) 265-6621 if you have questions about these comments or need additional information.

United States Department of the Interior



FISH AND WILDLIFE SERVICE

Ecological Services
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / FAX (614) 416-8994

May 23, 2013

Commonwealth Associates, Inc.
Attn: Ann Stevens
P.O. Box 1124
Jackson, MI 49202

TAILS# 03E15000-2013-TA-0977

Re: Hayden-Hyatt 345kV Transmission Line – American Electric Power, Franklin County Ohio

Dear Ms. Stevens,

We have received your recent correspondence requesting information about the subject proposal. There are no Federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area.

ENDANGERED SPECIES COMMENTS: Due to the project, type, size, and location, we do not anticipate adverse effects to federally endangered, threatened, proposed, or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts.

If you have additional questions or require further assistance with your project proposal, please contact me at the following number (614) 416-8993, x12. In addition, you can find more information on natural resources in Ohio, and a county list of federally threatened and endangered species in Ohio, by visiting our homepage at: <http://www.fws.gov/midwest/ohio>.

Sincerely,

Mary Knapp, Ph.D.
Field Supervisor

APPENDIX D

**AREAS OF ECOLOGICAL CONCERN,
WETLAND DELINEATION, AND
STREAM ASSESSMENT REPORT**

HYATT 345kV EXTENSION PROJECT

AREAS OF ECOLOGICAL CONCERN, WETLAND DELINEATION, AND STREAM ASSESSMENT REPORT

Prepared for:

American Electric Power Service Corporation
700 Morrison Road
Gahanna, Ohio 45230



Prepared by:



2700 W. Argyle St.
Jackson, MI 49202

July 2014

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1.0 PROJECT DESCRIPTION

This document presents the results of the wetland and stream assessment conducted by Commonwealth Associates Inc. (Commonwealth) on behalf of American Electric Power Ohio Transmission Company (AEP Ohio Transco) for the Hyatt 345 kV Extension project (the Project). The Project is approximately 0.5 miles in length and is located in Delaware County, Ohio, south of the City of Delaware. The location map, included at the end of this report, depicts the Project within the county, and as it relates to nearby roads, railroads, towns, rivers and streams, and other transmission lines.

AEP Ohio Transco is proposing to construct a new circuit off of the Central- East Lima 345kV line and connect directly into the Hyatt 345kV station. This will require clearing a new corridor of incompatible vegetation and installing four new galvanized steel monopoles and conductors. Pole installation methods are expected to include both direct embedment and attachment to poured in place reinforced concrete pile foundations. Once complete, this will allow an in and out circuit and centralize the electrical equipment (breakers, relays, control house, etc.) at one station.

As part of the Ohio Power Siting Board (OPSB) Letter of Notification (LON) requirements, AEP Ohio Transco is required to describe the investigation concerning the presence or absence of areas of ecological concern as stated in Ohio Administrative Code (OAC) Rule 4906-15-11-01(E)(2). This rule states:

- (E) *Environmental data. Describe the environmental impacts of the proposed project. This description shall include the following information:*
 - (2) *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 areas likely to be disturbed by the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.*

AEP Ohio Transco retained Commonwealth to review areas of ecological concern, as defined above, within the proposed Project and conduct a field assessment of wetlands and streams within a 100-foot-wide Project corridor. This report will be used to assist AEP Ohio Transco's efforts to avoid impacts to these areas during project design and site development.

2.0 METHODS

2.1 Preliminary Resource Review

Prior to conducting the field portion of the study, Commonwealth reviewed maps, GIS data, and other readily available information to identify national and state forests and parks, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, and wildlife sanctuaries in the Project vicinity. The review also provided valuable site information, including relief, cover, soils, landownership, and land use. This data was then used to make preliminary determinations of wetlands and streams that might be present within the Project corridor. The review included, but was not limited to, the following resources:

- Google Earth, digital aerial photographs
- U.S. Geological Survey (USGS), topographic quadrangle maps
- Natural Resources Conservation Service (NRCS), Web Soil Survey (WSS)
- Natural Resources Conservation Service (NRCS), WETS data
- U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) Wetlands Mapper
- Federal Emergency Management Agency (FEMA), Flood Map Viewer

2.2 Field Review

After completing the office review, Commonwealth conducted a site visit to evaluate any preliminary wetland or stream determinations that had been made in the office and, where possible, to make new determinations by identifying vegetation communities, characterizing soils, assessing hydrology, and noting any disturbances. Three methodologies were relied upon during the field review; one for identifying and delineating wetlands, one for categorizing wetlands, and one for assessing rivers and streams. The methods are described further in the following sections.

2.2.1 Wetland Identification and Delineation

Identification and delineation of wetlands followed those methods outlined in the U.S. Army Corps of Engineers (USACE) *Corps of Engineers Wetlands Delineation Manual* (1987 Manual) and the USACE *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*. In the 1987 Manual a definition is provided that indicates “wetlands” are essentially areas that have positive evidence of three parameters: hydric soils, wetland hydrology, and hydrophytic vegetation. During the office review, Commonwealth collected available information regarding the three parameters and used the data to make preliminary determinations of wetland presence. A site visit was then conducted to identify vegetation communities, characterize soils, assess hydrology, and note disturbances.

Preliminary data gathered prior to the site visit is summarized in Section 3.1 of this report. The methodology used to examine each parameter is described in the following sections.

Soils: Soil profiles were examined by digging soil pits and recording hydric soil characteristics. A *Munsell Soil Color Chart* was used to identify the hue, value, and chroma of the matrix and mottles of the soil. Generally, mottled soils with a matrix chroma of two or less, and unmottled soils with a matrix chroma of one or less are considered to exhibit hydric soil characteristics. In sandy soils, mottled soils with a matrix chroma of three or less, and unmottled soils with a matrix chroma of two or less are considered to be hydric soils.

Hydrology: The 1987 Manual requires that an area be inundated or saturated to the surface for a minimum of 5 percent of the growing season (areas saturated between 5 percent and 12.5 percent of the growing season may or may not be wetlands, while areas saturated over 12.5 percent of the growing season fulfill the hydrology requirements for wetlands). The Regional Supplements state that the growing season dates are determined through onsite observations of the following indicators of biological activity in a given year: (1) above-ground growth and development of vascular plants, and/or (2) soil temperature at the 12-inch depth is 41°F or higher. Therefore, the beginning of the growing season in a given year is indicated by whichever condition occurs earlier, and the end of the growing season by whichever persists later. The Regional Supplements also state that if onsite data

gathering is not practical, the growing season can be approximated by the median dates (i.e., 5 years in 10, or 50 percent probability) of 28°F.

The soils and ground surface were examined for evidence of wetland hydrology in lieu of seeking detailed hydrological data. This is an acceptable approach according to the 1987 Manual and the Regional Supplements. Evidence indicating wetland hydrology typically includes primary indicators such as surface water (A2), saturation (A3), water marks (B1), sediment deposits (B2), drift deposits (B3), water-stained leaves (B9), and oxidized rhizospheres along living roots (C3), as well as secondary indicators such as drainage patterns (B10), geomorphic position (D2), saturation visible on aerial imagery (C9), and FAC-neutral test (D5).

Vegetation: Dominant vegetation was visually assessed for each stratum (tree, sapling/shrub, herb and woody vine) and an indicator status of obligate (OBL), facultative wet (FACW), facultative (FAC), facultative upland (FACU), and/or upland (UPL) were assigned to each plant species based on the 2012 *National Wetland Plant List*. The wetland indicator status reflects the likelihood of a species occurring in a wetland versus non-wetland habitat. The various indicator status designations are explained further in Table 1 below. An area was determined to have hydrophytic vegetation when, under normal circumstances, 50 percent or more of the composition of the dominant species are OBL, FACW and/or FAC species. Vegetation of an area was determined to be non-hydrophytic when more than 50 percent of the composition of the dominant species was FACU and/or UPL species. In addition to the dominance test, the FAC-Neutral test and prevalence tests were used to determine if a wetland has a predominance of hydrophytic vegetation.

**TABLE 1
WETLAND INDICATOR STATUS DESIGNATIONS**

Indicator Category	Indicator Symbol ¹	Definition
Obligate	OBL	Almost always is a hydrophyte, rarely in uplands
Facultative Wet	FACW	Usually is a hydrophyte but occasionally found in uplands
Facultative	FAC	Commonly occurs as either a hydrophyte or non-hydrophyte
Facultative Upland	FACU	Occasionally is a hydrophyte but usually occurs in uplands
Upland	UPL	Rarely is a hydrophyte, almost always occurs in uplands

¹ Indicator status modifiers (+ and -) are no longer used

2.2.2 Wetland Categorization

Categorizing wetlands at the site followed those methods described in the Ohio Environmental Protection Agency (Ohio EPA) *Ohio Rapid Assessment Method for Wetlands v. 5.0* (ORAM). Under ORAM wetlands are scored on the basis of hydrology, upland buffer, habitat alteration, special wetland communities, and vegetation communities. The score describes the wetland using a range from 0 (low quality and high disturbance) to 100 (high quality and low disturbance). Wetlands scored from 0 to 29.9 are grouped into "Category 1", 30 to 59.9 into "Category 2", and 60 to 100 into "Category 3". Any results obtained through the use of the ORAM are discussed in Section 3.2 of this report. The three categories of wetlands defined by the individual wetland ORAM scores are defined in the following paragraphs:

Category 1 Wetlands – Category 1 wetlands "...support minimal wildlife habitat, hydrological and recreational functions," and "...do not provide for or contain critical habitats for threatened or

endangered species.” In addition, Category 1 wetlands are often hydrologically isolated and have some or all of the following characteristics: low species diversity, no significant habitat or use by wildlife, limited potential to achieve wetland functions, and/or a predominance of non-native species. These limited quality waters are considered to be a resource that has been so degraded or with such limited potential for restoration, or of such low functionality, that no social or economic justification and lower standards for avoidance, minimization, and mitigation are applied.

Category 2 Wetlands – Category 2 wetlands “...support moderate wildlife habitat, or hydrological or recreational functions,” and as wetlands which are “...dominated by native species but generally without the presence of, or habitat for, rare, threatened or endangered species; and wetlands which are degraded but have a reasonable potential for reestablishing lost wetland functions.” Category 2 wetlands constitute the broad middle category of “good” quality wetlands, and can be considered a functioning, diverse, healthy water resource that has ecological integrity and human value.

Category 3 Wetlands – Wetlands that are assigned to Category 3 have “...superior habitat, or superior hydrological or recreational functions.” They are typified by high levels of diversity, a high proportion of native species, and/or high functional values. Category 3 wetlands include wetlands which contain or provide habitat for threatened or endangered species, are high quality mature forested wetlands, vernal pools, bogs, fens, or which are scarce regionally and/or statewide.

2.2.3 Rivers and Streams Assessment

Regulatory activities under the Clean Water Act provide authority for states to issue water quality standards and “designated uses” to all “Waters of the U.S.” upstream to the highest reaches of the tributary streams. In addition, the Federal Water Pollution Control Act (FWPCA) and its amendments require knowledge of the potential fish or biological communities that can be supported in a stream or river, including upstream headwaters. Streams were identified by the presence of a defined bed and bank, and evidence of an ordinary high water mark (OHWM). Results obtained are discussed in Section 3.3 of this report.

3.0 RESULTS

The results presented herein apply to the existing and reasonably foreseeable site conditions at the time of our assessment. They cannot apply to site changes of which Commonwealth is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due to natural processes or human impacts at the Project site or on adjacent properties. Changes in applicable standards may also occur as a result of legislation or the expansion of knowledge over time. Accordingly, the findings of this report may become invalidated, wholly or in part, by changes beyond the control of Commonwealth. The transmission structures referenced in this report are based on the existing structure numbers and physical locations.

3.1 Preliminary Resource Review

Areas of Ecological Concern: Based on published resources, no state forests, national or state parks, designated or proposed wilderness areas, national or state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, or wildlife sanctuaries are crossed by the Project.

Floodplains: A review of FEMA Flood Risk Maps identified no Special Flood Hazard Area (SFHA) within the Project corridor. The project lies outside of any 100-year flood zones.

Topography: The Project is located on the Powell USGS topographic quadrangle map and is depicted as having a mix of open fields and early successional small trees and brush. The landscape is relatively flat with less than a 2% slope and with an approximate Above Mean Sea Level (AMSL) elevation of 935 feet. USGS contours and elevations have been included on all but the Location Map at the end of this report.

Geology: The Project site is located entirely within the physiographic region known as the Central Ohio Clayey Till Plain. The region is distinguished by having a surface of clayey Wisconsin-age till and lacustrine materials over Lower Paleozoic-age carbonate rocks. Elevations in the region vary from 700' to 1150' and relief is moderate (100').

Growing Season: The National Weather Service WETS data for Delaware County was incomplete and an accurate growing season length could not be determined. Data for the Westerville WETS Station, located approximately 10 miles southeast of the Projects in Franklin County, was complete and revealed that, in an average year, the growing season begins on April 18 and ends on October 23, a period of 188 days. Five percent of the growing season equates to approximately 9.5 days.

Hydrologic Units: A review of United States Geological Survey (USGS) watershed data indicates the Project is located within the Deep Run-Olentangy River subwatershed (HUC 050600011101) of the Upper Scioto basin. The location of any surface waters (stream, wetland, pond, ditch) crossed by the Project, has been included on the Overview Map at the end of this report.

Soils: According to the USDA-NRCS Web Soil Survey (WSS), 3 soil series are crossed by the Project. All of the mapping units are listed on the National List of Hydric Soils (USDA, 2014) as “hydric” because they contain components that are hydric or suggest a regime that results in a hydric soil. None of the mapping units are expected to be directly impacted by the Project. A list of the soils that are present, along with their basic attributes, is provided in Table 2. Soil map unit boundaries for the Project are shown on the Soil Map at the end of this report.

**TABLE 2
USDA MAPPED SOILS CROSSED BY THE PROJECT**

Soil Series	Mapping Unit Symbol ¹	Mapping Unit Description	Slopes (%)	Hydric Soil	Hydric Component	Hydric Criteria ²
Blount	Blg1A1	Blount silt loam, ground moraine	0 to 2	yes	Pewamo	2B3 ³
Glynwood	Gwd1B1	Glynwood silt loam	2 to 6	yes	Pewamo	---
Pewamo	PwA	Pewamo silty clay loam	0 to 1	yes	Pewamo	---

¹ Soil Survey of Delaware County, USDA

² USDA-NRCS. Soil Survey Staff. Soil Taxonomy, A Basic System of Soil Classification for Making and Interpreting Soil Surveys, Agriculture Handbook, Second Edition, Service Number 436. 1999

³ Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that are poorly drained or very poorly drained and a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.

National Wetland Inventory: National Wetland Inventory (NWI) wetlands are areas of potential wetland that have been identified from U.S. Fish and Wildlife Service (USFWS) aerial photograph interpretation and have typically not been field verified. Forested and heavy scrub-shrub wetlands are often not shown on NWI maps, as foliage effectively hides the visual signature that indicates the presence of standing water and moist soils from an aerial view. As a result, NWI maps do not show all the wetlands found in a particular area nor do they necessarily provide accurate wetland boundaries. NWI maps are useful for providing indications of potential wetland areas, which are often supported by soil mapping and hydrologic predictions, based upon topographical analysis using USGS topographic maps.

According to the National Wetland Inventory (NWI) *Wetlands Mapper*, the Project corridor does not cross any wetlands.

3.2 Wetland Assessment

Five (5) wetlands totaling 0.75 acre were identified within the 100 foot wide Project corridor. The wetlands are of two habitat types: palustrine forested/emergent (FO/EM) and palustrine emergent (EM). Commonwealth considers all five wetlands to be jurisdictional (i.e., "Waters of the U.S."). Based on ORAM v. 5.0 methodology, wetlands 4 and 5 received ORAM scores of 36 and 29 respectively. Wetlands 1-3 were combined due to their likely historic connection prior to being split by the existing access road and, therefore, received the same ORAM score of 37. ORAM scores resulted in Wetlands 1-4 falling within the range of a Category 2 wetland and Wetland 5 falling within the range of a Category 1 wetland. Wetlands identified within the Project corridor, as well as any anticipated impact, are summarized in Table 3 on the following page. The location and approximate extent of each wetland has been included on the Assessed Features Maps at the end of this report. The completed ORAM Form for each wetland and photographs taken of each wetland during the field portion of the assessment are provided in the appendices.

TABLE 3
WETLANDS IDENTIFIED WITHIN THE PROJECT CORRIDOR

ID	Habitat Type ¹	Description	Size ²	Length ³	ORAM Score	Anticipated Impact
Wetland 1	PFO/EM	Mixed forested/emergent wetland located between the Hyatt Switching Station and the access road to the Hyatt substations.	0.58	282	37	Temporary – pole placement activities
Wetland 2	PFO/EM	Mixed forested/emergent wetland located west of the access road to the Hyatt substations and north of the access drive to the old Hyatt Substation.	0.01	NC	37	None
Wetland 3	PFO/EM	Mixed forested/emergent wetland located west of the access road to the Hyatt substations and south of Wetland 2.	0.02	15	37	None
Wetland 4	PEM	Emergent wetland located and west of the access road to the Hyatt substations and between pole locations 2 and 3.	0.12	50	36	None
Wetland 5	PEM	Emergent wetland located between pole location 4 and the Hyatt 345kV Substation.	0.02	10	29	None
Total			0.75	357		

¹ P = Palustrine, EM = Emergent, SS = Scrub-shrub, FO = Forested. From Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al, 1979)

² Acres of wetland within the right of way corridor.

³ Approximate length crossed by the centerline of the right of way corridor. An “NC” indicates the wetland is not crossed by the centerline.

3.3 Stream Assessment

One stream was identified within the Project corridor. The stream is an ephemeral tributary to the Olentangy River, located approximately 1.5 miles to the east, and is likely the remains of the drainage channel that was constructed to divert water around the old Hyatt Substation. The stream extends approximately 112 feet within the Project corridor and has a bankfull width of approximately 8-10 feet wide. Commonwealth has preliminarily determined the stream to be jurisdictional (i.e., “Waters of the U.S.”) and not navigable or a Section 10 River. The stream is not expected to be impacted by project-related activities. The location and approximate extent of the stream has been included on Map Sheets 1 and 2, as well as on the Overview Map, at the end of this report. Photographs of the stream taken during the field portion of the assessment are provided in Appendix B.

4.0 SUMMARY

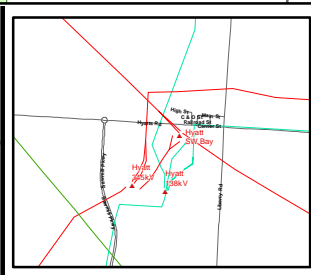
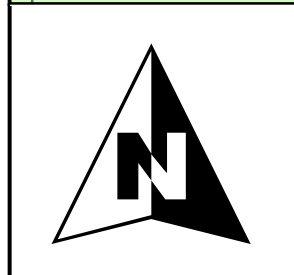
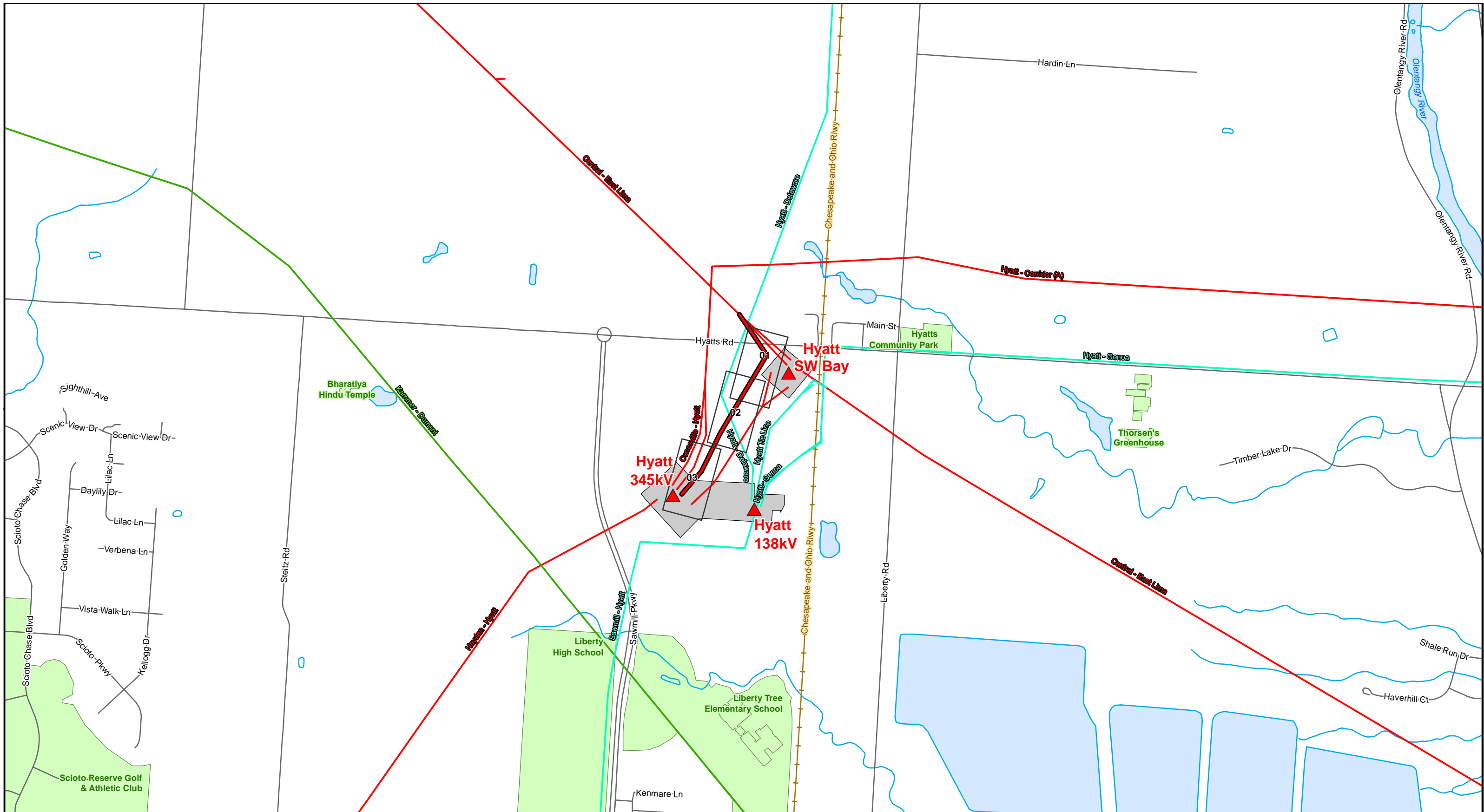
No national or state forests or parks, designated or proposed wilderness areas, national and state wild and scenic rivers, 100-year floodplains, wildlife areas, wildlife refuges, wildlife management areas, or wildlife sanctuaries are crossed by the Project.

During the assessment five wetlands totaling 0.75 acre were identified within the 100-foot wide project corridor. Wetland habitat types for these wetlands include palustrine forested/emergent (FO/EM) and palustrine emergent (EM). Four of the wetlands are Category 2 wetlands and one is a Category 1 wetland. Commonwealth has preliminarily determined all five wetlands to be jurisdictional (i.e., “Waters of the U.S.”).

One stream, totaling 112 linear feet, was identified. Commonwealth has preliminarily determined the stream to be jurisdictional (i.e., “Waters of the U.S.”). The stream is not expected to be impacted by project-related activities.

5.0 CONCLUSION

This report will be used to assist AEP Ohio Transco's efforts to avoid wetlands and streams to the extent feasible during Project design and development. While pole locations and access routes have not been fully engineered to date, it is expected that all wetlands and streams can be spanned due to their locations, size, and infrequency of occurrence. No current structures are located within boundaries of delineated wetlands. No new structures for the Project are expected to be placed within wetlands. Surficial impacts to wetlands, if any, will likely result from vehicular impacts during conductor stringing operations or from equipment use during pole foundation excavation or pole placement activities. Erosion, runoff, and sedimentation control measures will be installed for access and installation of structures. These measures may include temporary and permanent seed, mulch, silt fence, erosion control blankets, temporary construction entrances, timber mat, and concrete washouts. As a consequence, significant impacts to any "Waters of the U.S." identified at the site are not anticipated. Notification or permit applications under Sections 401 and/or 404 of the Clean Water Act are not expected to be required by either the Ohio EPA or the USACE for this project.



- ▲ Substation
- Existing Structure
- Proposed Structure
- Existing 138 kV
- Existing 345 kV
- Existing 765 kV
- Proposed 345 kV
- Railroad
- Road
- River/Stream
- CAI Delineated Stream
- Contour 10'
- 100' Right of Way
- County
- CAI Delineated Wetland
- Water Body

- Hydrologic Unit Code
- Soil Type - BIG1A1 (Blount Silt Loam)
- Soil Type - GwD1B1 (Glynwood Silt Loam)
- Soil Type - PwA (Pewamo Silty Clay Loam)

Scale: 1" = 1,000' (1:12,000)

0 500 1,000 1,500 2,000
Feet

Projected Coordinate System: Ohio State Plane
Datum: North American Datum of 1983
Projection: Lambert Conformal Conic
Zone: North
Linear Unit: Feet

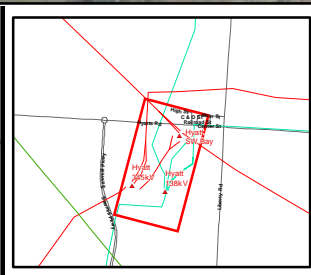
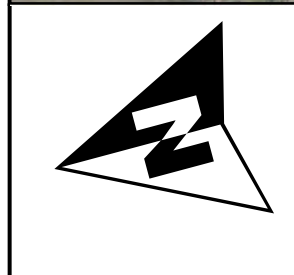
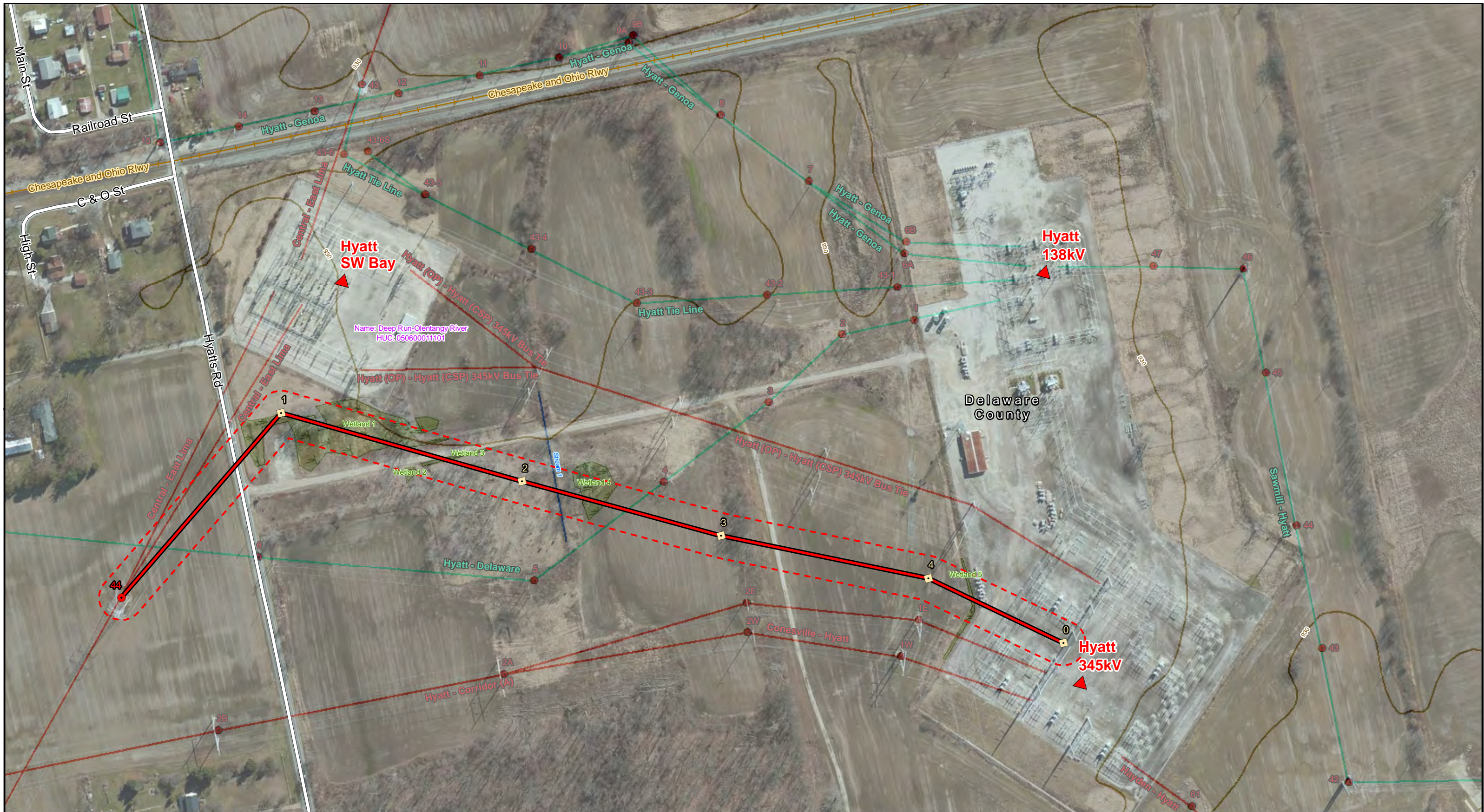
Location Map
Transmission in Vicinity
Hyatt 345kV Extension

Commonwealth
associates, inc.

Source: Commonwealth Associates Inc., AEP, ESRI Comments:	Drawn By: JEK Date: 7/29/2014
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PH: (614) 716-1000
Fax: (614) 552-1818**



- | | | |
|----------------------|--------------------------|--|
| ▲ Substation | — Road | □ Hydrologic Unit Code |
| ● Existing Structure | — River/Stream | □ Soil Type - BoA (Boxford Silt Loam) |
| ■ Proposed Structure | — CAI Delineated Stream | □ Soil Type - GwB (Glynwood Silt Loam) |
| — Existing 138 kV | — Contour 10' | □ Soil Type - PwA (Pewarno Silty Loam) |
| — Existing 345 kV | — 100' Right of Way | |
| — Existing 765 kV | □ County | |
| — Proposed 345 kV | □ CAI Delineated Wetland | |
| — Railroad | □ Water Body | |

Scale: 1" = 200' (1:2,400)

0 100 200 300 400
Feet

Projected Coordinate System: Ohio State Plane
Datum: North American Datum of 1983
Projection: Lambert Conformal Conic
Zone: North
Linear Unit: Feet

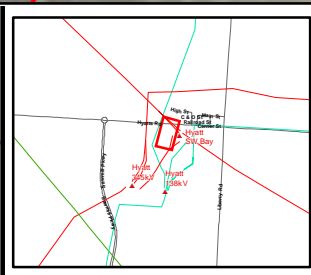
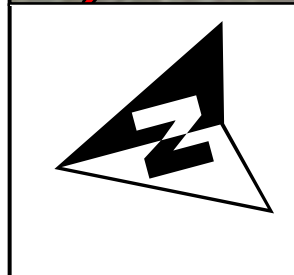
Overview Map
Hyatt 345kV Extension

Commonwealth
associates, inc.

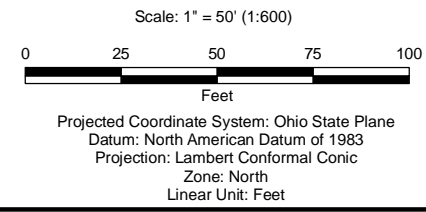
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▲ Substation	— Road	▭ Hydrologic Unit Code
● Existing Structure	— River/Stream	▭ Soil Type - BoA (Boxford Silt Loam)
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— Existing 138 kV	— Contour 10'	▭ Soil Type - PwA (Pewarno Silty Loam)
— Existing 345 kV	- - - 100' Right of Way	
— Existing 765 kV	□ County	
— Proposed 345 kV	▭ CAI Delineated Wetland	
— Railroad	□ Water Body	



Map Sheet 01
 Assessed Features
 Hyatt 345kV Extension

Commonwealth
 associates, inc.

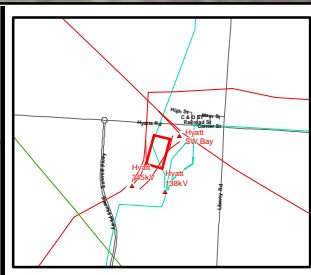
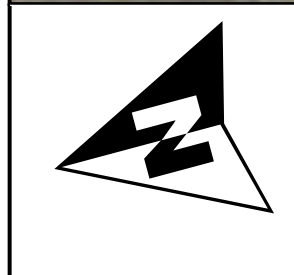
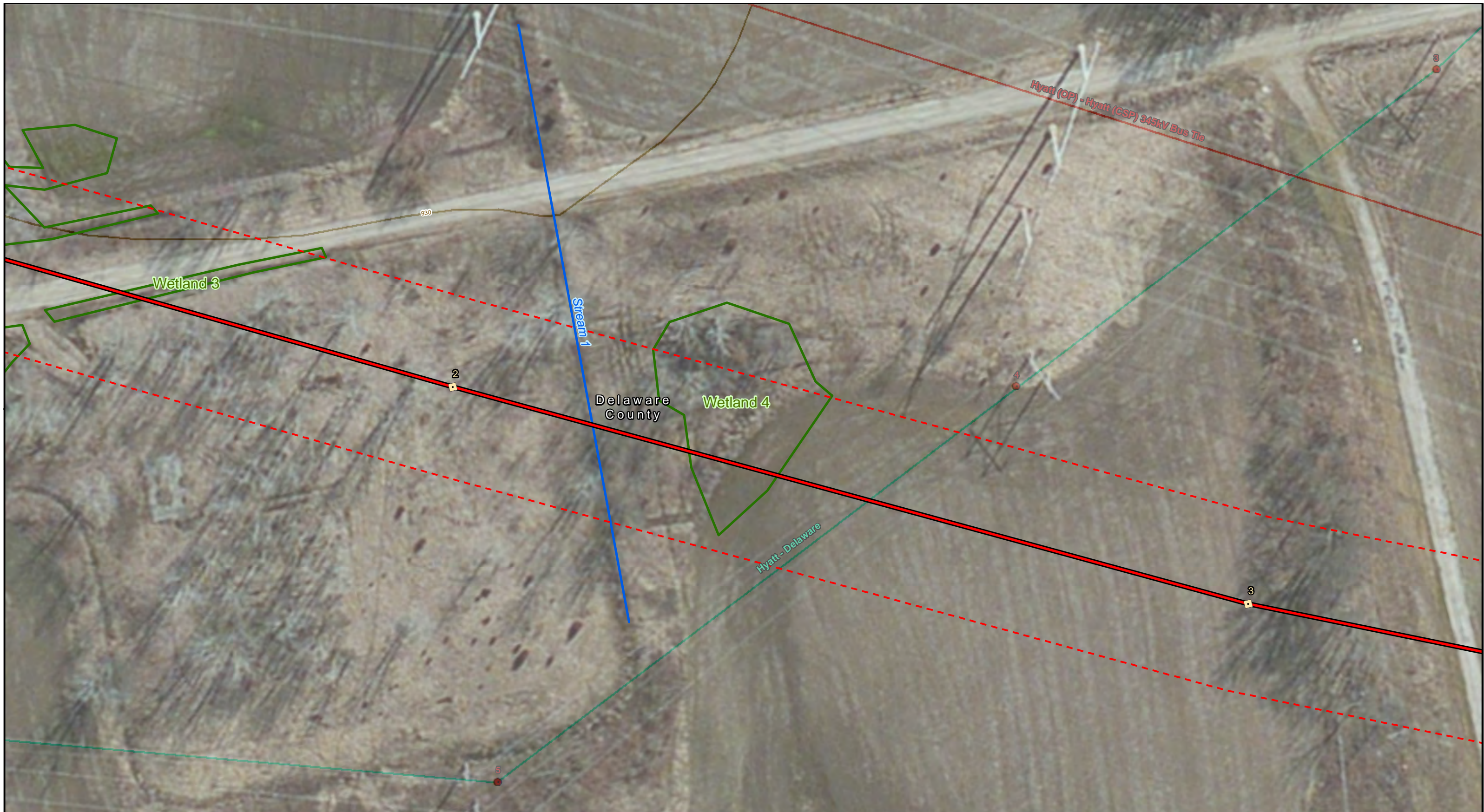
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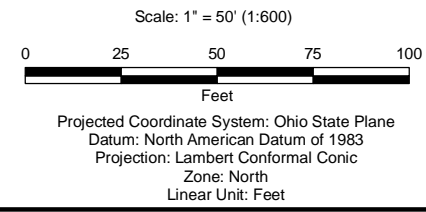
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- ▲ Substation
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- Proposed Structure
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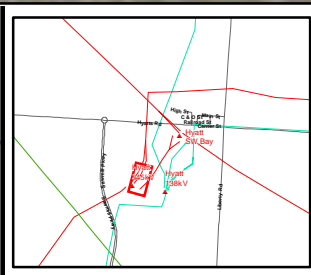
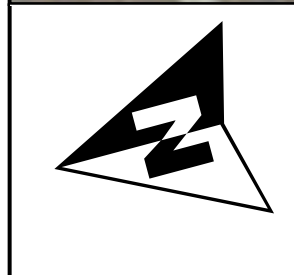
Map Sheet 02
 Assessed Features
 Hyatt 345kV Extension

Commonwealth
 associates, inc.

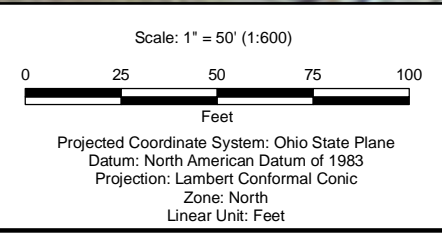
Source: Commonwealth Associates Inc., AEP, ESRI Comments:	Drawn By: JEK Date: 7/29/2014
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**700 Morrison Rd.
 Gahanna, OH 43230-6642
 PH: (614) 716-1000
 Fax: (614) 552-1818**



Substation	Road	Hydrologic Unit Code
Existing Structure	River/Stream	Soil Type - BoA (Boxford Silt Loam)
Proposed Structure	CAI Delineated Stream	Soil Type - GwB (Glynwood Silt Loam)
Existing 138 kV	Contour 10'	Soil Type - PwA (Pewarno Silty Loam)
Existing 345 kV	100' Right of Way	
Existing 765 kV	County	
Proposed 345 kV	CAI Delineated Wetland	
Railroad	Water Body	



Map Sheet 03
 Assessed Features
 Hyatt 345kV Extension

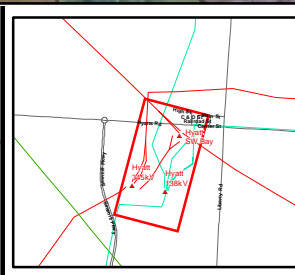
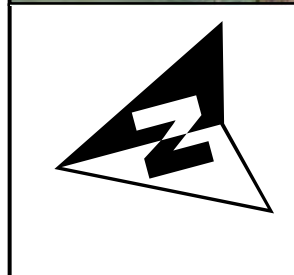
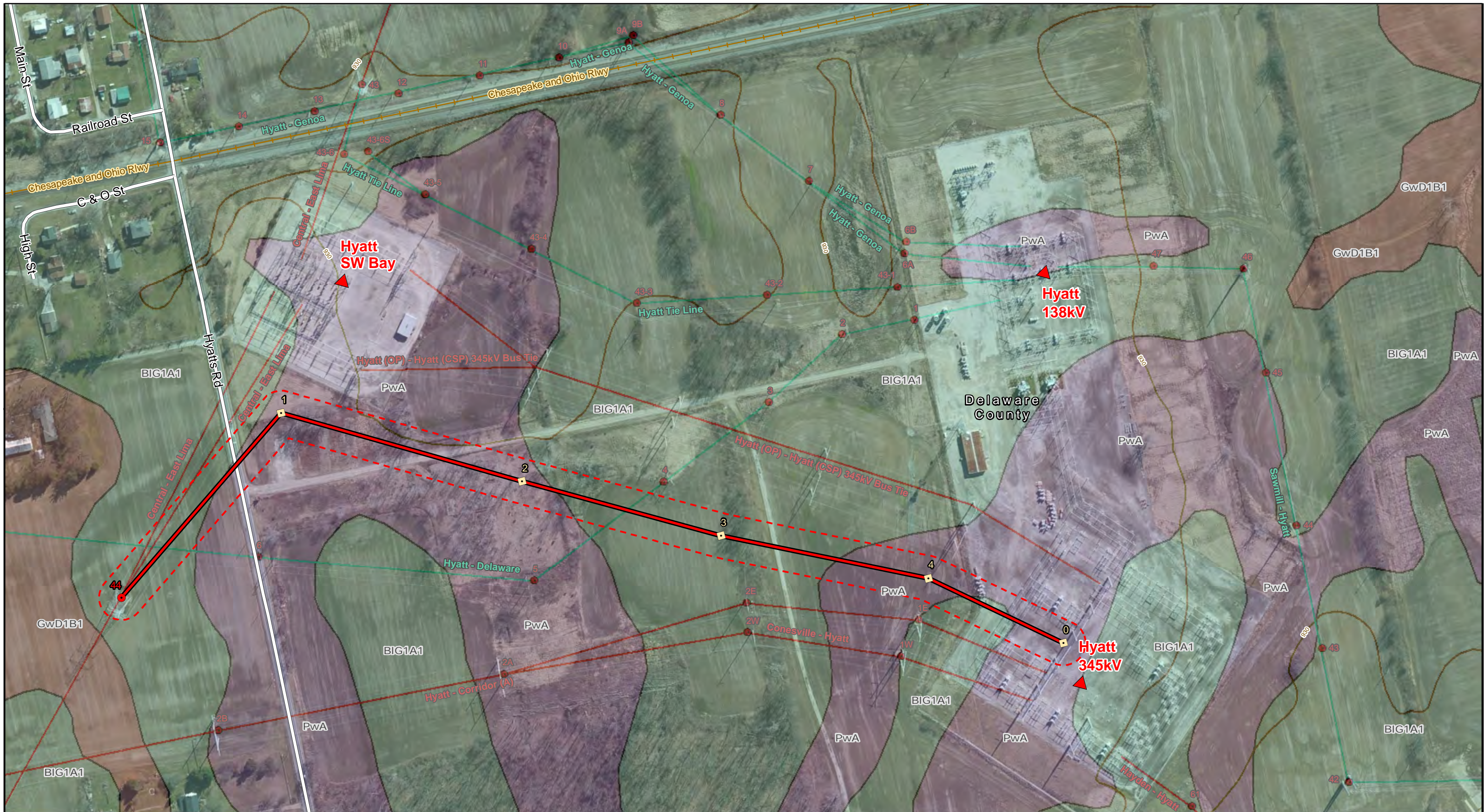
Commonwealth associates, inc.

Source: Commonwealth Associates Inc., AEP, ESRI
 Comments:

Drawn By: JEK
 Date: 7/29/2014

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- ▲ Substation
- Existing Structure
- Proposed Structure
- Existing 138 kV
- Existing 345 kV
- Existing 765 kV
- Proposed 345 kV
- Railroad
- Road
- River/Stream
- CAI Delineated Stream
- Contour 10'
- 100' Right of Way
- County
- CAI Delineated Wetland
- Water Body

- Hydrologic Unit Code
- Soil Type - BIG1A1 (Blount Silt Loam)
- Soil Type - GwD1B1 (Glynwood Silt Loam)
- Soil Type - PwA (Pewarno Silty Clay Loam)

Scale: 1" = 200' (1:2,400)

Projected Coordinate System: Ohio State Plane
 Datum: North American Datum of 1983
 Projection: Lambert Conformal Conic
 Zone: North
 Linear Unit: Feet

Soil Map
Hyatt 345kV Extension

Commonwealth
associates, inc.

Source: Commonwealth Associates Inc., AEP, ESRI
 Comments:

Drawn By: JEK
 Date: 7/29/2014

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APPENDICIES

Appendix A – ORAM v. 5.0 Field Form Quantitative Rating

Appendix B – Photographic Record

APPENDIX A

ORAM v. 5.0 Field Form Quantitative Rating

Site: Hyatt wetland 1,2,3 Rater(s): Tim Walters Date: July 2014

2 **2**
max 8 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

Road splits wetland areas

3 **5**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

15 **20**
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (non stormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

11 **31**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

gravel from old station

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input checked="" type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input checked="" type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

31
subtotal this page

Site: Hyatt Wetland 1, 2, 3 Rater(s): T. Walters Date: July 2014

31

subtotal first page

0 31

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6 37

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

3

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Interspersed low (2)
- Low (1)
- None (0)

2

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

*Phalaris
Rhamnus*

-1

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

2

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

37

GRAND TOTAL (max 100 pts)

Site: Hyatt Wetland 4 Rater(s): Tim Walters Date: July 2014

2 2
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

6 8
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12 20
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lakes or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed

<input checked="" type="checkbox"/> utility	<input type="checkbox"/> point source (industrial/municipal)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

nearby

11 31
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

31
subtotal this page

Site: Hyatt Wet 4 Rater(s): TZW Date: July 2014

31

subtotal first page

0 31

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

5 36

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage.

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

36 GRAND TOTAL (max 100 pts)

Site: Hyatt Wetland 5 Rater(s): Tim Walter Date: July 2014

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

Wetland linear drainage

3 4
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

15 19
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (laka or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

7 26
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

26
subtotal this page

Site: Hyatt Wetland Rater(s): JCW Date: July 2014

26

subtotal first page

0 26

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3 29

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of Invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

Phalms 1

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (8in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

29 GRAND TOTAL (max 100 pts)

APPENDIX B

Photographic Record

Client Name: American Electric Power (AEP)	Project Name: Hyatt 345kV Extension	Photo Location: Delaware County, OH
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Photo No. 1
Date: July 17, 2014
Description: Northeast corner of Wetland 1, facing west.



Photo No. 2
Date: July 17, 2014
Description: Northeast corner of Wetland 1, facing south toward approximate location of proposed pole 1 (arrow). The shovel in the photo is located at sample point 1.



Client Name: American Electric Power (AEP)	Project Name: Hyatt 345kV Extension	Photo Location: Delaware County, OH
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Photo No. 3
Date: July 17, 2014
Description: East side of Wetland 2, facing west. The shovel is located near the center of an access drive that may have been part of the old Hyatt Substation before it was removed.



Photo No. 4
Date: July 17, 2014
Description: North end of Wetland 3, facing south. The photo is being taken from the access drive referenced in the previous photo description.



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Photo No. 5	
Date: July 17, 2014	
Description: In Stream 1, near the centerline of the project, facing east. Flow in the stream is to the east.	

Photo No. 6	
Date: July 17, 2014	
Description: In actively farmed agricultural field on the west side of Wetland 4, facing east.	

Client Name:

American Electric Power (AEP)

Project Name:

Hyatt 345kV Extension

Photo Location:

Delaware County, OH

Photo No. 7

Date:

July 17, 2014

Description:

West end of Wetland 5, facing southeast. The wetland follows the fence line and angles to the east with the fence at the fence corner (arrow).

