

Appendix 1
Threatened and Endangered Species Consultation

United States Department of the Interior



FISH AND WILDLIFE SERVICE

Ecological Services
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September 23, 2013

CH2M Hill
Attn: Magdalena Eshleman
10123 Alliance Road, Suite 300
Cincinnati, OH 45242

TAILS# 03E15000-2013-TA-1258

Reference: AEP - Ohio Central 138kV Loop and Conesville-Bixby 345kV Line in Muskingum Co. OH

Dear Ms. Eshleman,

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. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The Service recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

ENDANGERED SPECIES COMMENTS: All projects in the State of Ohio lie within the range of the **Indiana bat** (*Myotis sodalis*), a federally listed endangered species. Since first listed as endangered in 1967, their population has declined by nearly 60%. Several factors have contributed to the decline of the Indiana bat, including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, and the loss and degradation of forested habitat, particularly stands of large, mature trees. Fragmentation of forest habitat may also contribute to declines. During winter, Indiana bats hibernate in caves and abandoned mines. Summer habitat requirements for the species are not well defined but the following are considered important:

- (1) dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas;
- (2) live trees (such as shagbark hickory and oaks) which have exfoliating bark;
- (3) stream corridors, riparian areas, and upland woodlots which provide forage sites.

Should habitat exhibiting the characteristics described above be present at the proposed project site, we recommend that they, as well as surrounding trees, be saved wherever possible. However, if these trees cannot be avoided, they should only be cut between October 1 and March 31. If implementation of the


seasonal tree cutting restriction is not possible, summer surveys should be conducted to document the presence or likely absence of the Indiana bat within the project area during the summer. The survey must be conducted by an approved surveyor and be designed and conducted in coordination with the Endangered Species Coordinator for this office. Summer surveys must be conducted between May 15 and August 15, when the presence of maternity colonies of Indiana bats could be detected.

If there is a Federal nexus for the project (e.g., Federal funding provided, Federal permits required to construct), no tree clearing on any portion of the parcel should occur until consultation under section 7 of the ESA, between the Service and the Federal action agency, is completed. We recommend that the Federal action agency submit a determination of effects to this office, relative to the Indiana bat, for our review and concurrence.

Due to the project type, size, and location, we do not anticipate adverse effects to any other 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.

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 Endangered Species Act of 1973 (ESA), as amended, and are consistent with the intent of the National Environmental Policy Act of 1969 and the U. S. Fish and Wildlife Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Sincerely,


for Mary Knapp, Ph.D.
Field Supervisor



Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Office of Real Estate

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October 25, 2013

Mark Driscoll
CH2M HILL
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Re: 13-468; Ohio Central 138 kV loop & Conesville-Bixby 345 kV loop

Project: The project involves looping the existing North Bellville-Philo 138 kV line 0.4 miles to the Ohio Central Station and the installation of 1.86 miles of 345 kV transmission line looping the existing Conesville-Bixby 345 kV line to the Ohio Central Station in Muskingum County.

Location: The project is located in Cass, Jefferson and Madison Townships, Muskingum County, 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.

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.

The ODNR Natural Heritage Database has nearby records in the Muskingum River for the snuffbox (*Epioblasma triquetra*), an endangered and federally endangered mussel, the pocketbook (*Lampsilis ovate*), an endangered mussel, the purple wartyback (*Cyclonaias tuberculata*), a species of concern mussel, the long solid (*Fusconaia maculata maculata*), an endangered mussel, the rabbitsfoot (*Quadrula cylindrica cylindrica*), an endangered, and federal species of concern mussel, the black sandshell (*Ligumia recta*), a threatened mussel, and the threehorn wartyback (*Obliquaria reflexa*), a threatened mussel. Due to the location, and the type of habitat being affected, this project is not likely to impact these species.

The ODNR Natural Heritage Database also has nearby records in the Muskingum River for the eastern sand darter (*Ammocrypta pellucida*), a species of concern, and a federal species of concern fish. Due to the location, and the type of habitat being affected, this project is not likely to impact this species.

The project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered amphibian currently being evaluated for Federal Candidate status. A statewide survey has not been completed for this species. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat. Due to the location, and the type of habitat being affected, this project is not likely to impact this species.

The project is within the range of the black bear (*Ursus americanus*), a state endangered species. Due to the mobility of this species, the project is not likely to have an impact on this species.

The project is within the range of the Northern harrier (*Circus cyaneus*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. A statewide survey has not been completed for

this species. A lack of records does not indicate the species is absent from the area. If this habitat will not be impacted, the project is not likely to impact this species.

The ODNR Natural Heritage Database has no records for rare or endangered species at this project site. 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 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.

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.

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Appendix 2
Wetland and Waterbodies Delineation Report



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August 29, 2013

Ms. Rebekah Hovermale
American Electric Power
700 Morrison Road
Gahanna, OH 45230

Subject: Conesville-Bixby 345-kV Line Project, American Electric Power Company, Inc.,
Muskingum County, Ohio, Wetland and Waterbody Delineation Report

Dear Ms. Hovermale:

This Wetland and Waterbody Delineation Report (Report) summarizes the results of wetland and waterbody delineation field surveys conducted on August 12 through 14, 2013, by CH2M HILL Engineers, Inc. (CH2M HILL) on behalf of American Electric Power (AEP) for the Conesville-Bixby Project (the Project; Figure 1 in Attachment A). The Project is located southwest of the town of Dresden in Muskingum County, Ohio, within the Muskingum River watershed (HUC 05040004). AEP is proposing to build a 1.86-mile overhead 345-kilovolt (kV) electric transmission line to loop the existing Conesville-Bixby line to the Ohio Central Station. The proposed Project will be a pole-supported (specific support structure type is to be determined), double-circuit line, and will require a 150-foot-wide, permanent right-of-way (ROW). This report documents the presence or absence of wetlands or other waters that were observed within the Project boundaries, and assesses general ecological conditions within the Project area. The environmental survey area comprised a 200-foot-wide corridor along the proposed transmission line route, totaling 39.6 acres. Eight emergent wetlands and 17 streams were identified within the Project area, as detailed in the sections below.

Background Information

Before conducting the wetland and waterbody delineation, CH2M HILL reviewed the following resources to identify the potential locations and extent of wetlands and waterbodies within the Project area:

- United States Geological Survey (USGS) topographic map (1978)
- ESRI ArcMap Imagery (ERSI) aerial photography (2011)
- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey (2012a)
- USDA NRCS Hydric Soils List (2012b)
- USGS National Hydrography Dataset (NHD-mapped streams) (2013)
- United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) dataset (2012)
- Ohio Department of Natural Resources (ODNR) Ohio Wetland Inventory (OWI) dataset (2001)

The USGS topographic map (Figure 1 in Attachment A) and NHD-mapped streams dataset (Figures 2a through 2c in Attachment A), both of which identify intermittent and perennial streams, show two

unnamed intermittent tributaries to the Muskingum River within the southeast corner of the Project area.

A review of ESRI ArcMap Imagery (2011) of the Project area (Figures 2a through 2c in Attachment A) indicated that surrounding land use consists of forested areas, agricultural land, pasture, old field, and a maintained transmission ROW.

The USDA NRCS Web Soil Survey (2012) shows 18 soil unit types within the Project area (Figure 3 in Attachment A). According to the USDA NRCS Hydric Soils List (2012), there are two mapped hydric soils composing 4.99 acres within the ROW. Generally, hydric soils are those soils that indicate through their color and structure that they have experienced dominantly reducing (i.e., oxygen poor) conditions. Oxygen-poor conditions result from inundation and/or saturation by water.

CH2M HILL used the NWI and OWI datasets as a guide along with other data to indicate the potential presence of wetlands. NWI and OWI mapping is often dated and only sporadically field checked. The presence of an NWI or OWI feature is not a definitive indicator that a wetland or waterbody is present. The NWI and OWI dataset did not identify wetland features within the Project area (Figure 2 in Attachment A). A number of NWI features were identified greater than 300 feet outside of the Project area.

Attachment A includes a USGS topographic and overview map showing relevant boundaries (Figure 1); an aerial site map showing delineated wetlands and streams and NWI, OWI and NHD features (Figure 2); and a NRCS soils map (Figure 3). Attachment B contains photographic documentation of the delineated wetlands, streams, and vegetation communities identified within the Project area. Attachment C contains United States Army Corps of Engineers (USACE) wetland determination data forms and Ohio Environmental Protection Agency (OEPA) Ohio Rapid Assessment Method version 5.0 (ORAM) scoring forms. Attachment D contains OEPA Headwater Habitat Evaluation Index (HHEI) scoring forms.

Methodology

CH2M HILL delineated Project area wetlands and waterbodies in accordance with applicable federal and state regulations and guidance to identify potential resource areas. CH2M HILL field-delineated wetland boundaries according to the routine onsite methodology described in the 2012 USACE *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Version 2.0; USACE, 2012). We identified and delineated Project area waterbodies in accordance with the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (USACE, 2007). Further, we recorded the ordinary high water mark (OHWM) as the jurisdictional boundary.

CH2M HILL delineated and recorded the outer boundaries of each identified wetland and waterbody within the Project area using a Global Positioning System (GPS) unit. As wetland and waterbody features were documented, they were each assigned a unique feature identification (ID). Wetland delineation data are recorded on the USACE wetland determination data forms. Wetland quality and category were assessed according to the Ohio Wetland Water Quality standards using the OEPA ORAM scoring forms (OEPA, 2001). All Project area streams were categorized as headwaters (i.e., having watersheds less than 1 square mile); therefore, stream habitat quality and classification was assessed using OEPA HHEI scoring forms (OEPA, 2009).

Vegetative Communities

CH2M HILL investigated the Project area during site visits on August 12 through 14, 2013, to document existing vegetation communities and hydrologic conditions. CH2M HILL identified and delineated 17 waterbodies within the Project area, comprising 3 intermittent streams and 14 ephemeral streams. CH2M HILL also identified eight wetlands, including five palustrine emergent (PEM) wetlands, one palustrine scrub-shrub (PSS) wetland, and two PEM/PSS wetlands within the Project area. Representative photos of the streams and wetlands are included in Attachment B.

Land use within the Project area consists of woodlands, existing ROW, pasture, old field, scrub-shrub, agricultural land, PSS wetlands, PEM wetlands, and low-density residential properties. Attachment B provides representative photographs of each land use type within the Project area.

The majority of the Project area comprises woodlands consisting of secondary growth forest interspersed with smaller areas of old field, scrub-shrub, new field pasture area, agricultural fields, and residential properties. Dominant canopy vegetation in the forested areas included black locust (*Robinia pseudoacacia*), sugar maple (*Acer saccharum*), American beech (*Fagus grandifolia*), red oak (*Quercus rubra*), sassafras (*Sassafras albidum*), and black cherry (*Prunus serotina*). Generally, forest understory vegetation was densest closest to the existing transmission line ROW and more open in areas away from the ROW. Dominant vegetation in the forest understory included multiflora rose (*Rosa multiflora*), spicebush (*Lindera benzoin*), greenbriers (*Smilax* spp.), Pennsylvania blackberry (*Rubus pensylvanicus*), Virginia creeper (*Parthenocissus quinquefolia*), agrimony (*Agrimonia parviflora*), and poison ivy (*Toxicodendron radicans*).

Dominant vegetation within the maintained ROW and new field pasture areas included multiflora rose, fescue grasses (*Festuca* sp.), Canada goldenrod (*Solidago canadensis*), common milkweed (*Asclepias syriaca*), deer tongue grass (*Dichanthelium clandestinum*), Queen Anne's lace (*Daucus carota*), orchard grass (*Dactylis glomerata*), and Pennsylvania blackberry. Vegetation in the old field and scrub-shrub areas included black locust saplings, multiflora rose, bush honeysuckles (*Lonicera* spp.), blackberries (*Rubus* spp.), poison ivy, Virginia creeper, beggarslice (*Hackelia virginiana*), and agrimony. Agricultural fields were planted with corn (*Zea mays*). PSS wetlands were dominated by black willow (*Salix nigra*), spicebush, and American black elderberry (*Sambucus nigra*). Herbaceous species in PSS wetlands included deer tongue grass, jewel weed (*Impatiens capensis*), common boneset (*Eupatorium perfoliatum*), sensitive fern (*Onoclea sensibilis*), and stinging nettle (*Urtica dioica*). PEM wetlands were dominated by spotted joe-pye weed (*Eutrochium maculatum*), broadleaf cattail (*Typha latifolia*), common boneset, crookedstem aster (*Symphotrichum prenanthoides*), sensitive fern, stinging nettle, common rush (*Juncus effusus*), sedge species (*Carex* spp.), and jewel weed. Residential properties were comprised mostly of mowed turf grass. Attachment B presents site photographs documenting vegetation communities within the Project area.

Wetlands and Waterbodies

Eight wetlands and seventeen streams were identified within the Project area; these are described below. Note that an assessment is made concerning the hydrologic connectivity of each wetland described below. The final decision concerning connectivity and jurisdiction is made by the USACE.

Wetland 2 (0.11 acre) is located east of Northpointe Road (Figure 2a in Attachment A). Based on the ORAM score of 26.5, this wetland was classified as a Category 1 wetland (Mack, 2000). The wetland is dominated by black willow (*Salix nigra*), jewelweed (*Impatiens capensis*), and reed canary grass (*Phalaris arundinacea*). CH2M HILL classified Wetland 2 as PSS per the Cowardin system of classification (1979) based on the presence of scrub species, including black willow and cottonwood saplings. Wetland 2

abuts Stream 2a, which is a tributary to the Muskingum River. CH2M HILL interprets Wetland 2 to be jurisdictional based on its hydrologic connection to Stream 2a.

Wetland 3 (0.06 acre PSS and 0.07 acre PEM) is located to the west of Northpointe Road adjacent to the existing transmission line ROW (Figure 2a in Attachment A). This wetland was identified as PEM/PSS per the Cowardin system of classification (1979) based on the predominance of herbaceous and scrub-shrub vegetation. The wetland was dominated by black willow and jewelweed. Based on the ORAM score of 28, this wetland was classified as a Category 1 wetland (Mack, 2000). Due to the wetland abutting Stream 2a, which flows to Muskingum River, CH2M HILL has interpreted this wetland to be jurisdictional.

Wetland 4 (0.01 acre) is a floodplain wetland along Stream 2b, located west of Northpointe Road (Figure 2a in Attachment A). Based on the ORAM score of 33, this wetland was classified as a Category 1 or 2 Gray Zone wetland (Mack, 2000). The wetland is dominated by reed canary grass and Canadian woodnettle (*Laportea anadensis*). CH2M HILL classified Wetland 4 as PEM per the Cowardin system of classification (1979) based on the dominance of herbaceous species. Wetland 4 abuts Stream 2b, which is a tributary to the Muskingum River. CH2M HILL interprets Wetland 4 to be jurisdictional based on its hydrologic connection to Stream 2b.

Wetland 5 (0.15 acre PSS and 0.21 acre PEM) is a floodplain wetland along Stream 2c, located west of Northpointe Road (Figure 2a in Attachment A). Based on the ORAM score of 43.5, this wetland was classified as a Category 1 or 2 Gray Zone wetland (Mack, 2000). The wetland is dominated by blunt spikerush (*Eleocharis obtusa*) and common rush. CH2M HILL classified Wetland 5 as PSS/PEM per the Cowardin system of classification (1979) based on the presence of herbaceous and scrub/shrub species. Wetland 5 abuts Stream 2c, which is a tributary to the Muskingum River. CH2M HILL interprets Wetland 5 to be jurisdictional based on its hydrologic connection to Stream 2c.

Wetland 6 (0.06 acre) is a floodplain wetland along Stream 2c, located west of Northpointe Road (Figure 2a in Attachment A). Based on the ORAM score of 41, this wetland was classified as a Modified Category 2 wetland (Mack, 2000). The wetland is dominated by jewelweed and wingstem (*Verbesina alternifolia*). CH2M HILL classified Wetland 6 as PEM per the Cowardin system of classification (1979) based on the dominance of herbaceous species. Wetland 6 abuts Stream 2c, which is a tributary to the Muskingum River. CH2M HILL interprets Wetland 6 to be jurisdictional based on its hydrologic connection to Stream 2c.

Wetland 7 (0.04 acre) is located west of Northpointe Road (Figure 2a in Attachment A). Based on the ORAM score of 42, this wetland was classified as a Modified Category 2 wetland (Mack, 2000). The wetland is dominated by jewelweed. CH2M HILL classified Wetland 7 as PEM per the Cowardin system of classification (1979) based on the dominance of herbaceous species. Although Wetland 7 is not located directly adjacent to a surface water, it is possible that Wetland 7 is connected to Wetland 3 and Stream 2a via overland sheet flow. As such, CH2M HILL has interpreted this wetland to be jurisdictional based on overland sheet flow.

Wetland 9 (0.01 acre) is located west of Northpointe Road within an existing maintained transmission line ROW (Figure 2a in Attachment A). Based on the ORAM score of 29.5, this wetland was classified as a Category 1 or 2 Gray Zone wetland (Mack, 2000). The wetland is dominated by sensitive fern (*Onoclea sensibilis*) and common rush. CH2M HILL classified Wetland 9 as PEM per the Cowardin system of classification (1979) based on the dominance of herbaceous species. Wetland 9 extends beyond survey corridor and abuts Stream 2c outside of the survey corridor. Stream 2c is a tributary to the Muskingum

River. CH2M HILL interprets Wetland 9 to be jurisdictional based on its hydrologic connection to Stream 2c.

Wetland 10 (0.09 acre) is located east of Frazeyburg Road/Route 60. (Figure 2a in Attachment A). Based on the ORAM score of 29, this wetland was classified as a Category 1 wetland. The wetland is dominated by jewelweed and reed canary grass. CH2M HILL classified Wetland 10 as PEM per the Cowardin system of classification (1979) based on the dominance of herbaceous species. Wetland 10 extends beyond the survey corridor and abuts Stream 11, which is a tributary to the Muskingum River. CH2M HILL interprets Wetland 10 to be jurisdictional based on its hydrologic connection to Stream 11.

Stream 2a (223 linear feet [LF], Figure 2a in Attachment A) is an ephemeral channel located east and west of Northpointe Road. Stream 2a flows under Northpointe Road via a corrugated plastic culvert. Most of the channel within the Project area was modified by the culvert and riprap within the channel. Stream 2a flows generally east throughout the Project area, connects to Stream 2b, and flows to the Muskingum River. Wetland 2 abuts Stream 2a. The average width of the channel at the OHWM ranges from 1 to 2 feet, with a channel bottom comprising artificial riprap and silt. There were isolated pools of water in the stream channel at the time of survey. Based on the HHEI score of 14, this waterbody was classified as a Modified Class 1 Primary Headwater Habitat (PHWH).

Stream 2b (363 LF, Figure 2a in Attachment A) is an intermittent channel located east and west of Northpointe Road. Stream 2b flows southeast under Northpointe Road via a corrugated plastic culvert. Most of this channel within the Project area was upstream of the culvert and was a natural channel. Downstream of the culvert under Northpointe Road, Stream 2b has artificial riprap within its banks. Wetland 2 and Wetland 4 abut Stream 2b. Stream 2b has riprap within its defined channel east of Northpointe Road. The average width of the channel at the OHWM is 3 feet, with a channel bottom comprising gravel and silt. The stream was flowing at the time of survey, and this stream flows to the Muskingum River. Based on the HHEI score of 61, this waterbody was classified as a Class 2 PHWH.

Stream 2c (1,010 LF, Figure 2a in Attachment A) is an intermittent channel located east and west of Northpointe Road. Stream 2c flows southeast under Northpointe Road via a corrugated plastic culvert. Most of this channel within the Project area was upstream of the culvert and was a natural channel. Downstream of the culvert under Northpointe Road, Stream 2c has artificial riprap within its banks. Stream 2c flows to Stream 2b, which flows to the Muskingum River. Wetland 2 and Wetland 5 abut Stream 2c. Stream 2c has riprap within its defined channel east of Northpointe Road. The average width of the channel at the OHWM ranges from 1 to 2 feet, with a channel bottom comprising gravel and silt. There were isolated pools of water in the stream channel at the time of survey. Based on the HHEI score of 62, this waterbody was classified as a Class 3 PHWH. Although the HHEI score indicates a perennial stream, CH2M HILL has classified Stream 2c as intermittent based on field characteristics.

Stream 3 (119 LF, Figure 2a in Attachment A) is an ephemeral channel located west of Northpointe Road. Stream 3 flows generally southeast to Stream 2c, which flows to Stream 2b, which ultimately flows to the Muskingum River. The average width of the channel at the OHWM is 3 feet, with a channel bottom comprising mainly silt and gravel. There were approximately 3 inches of water in the stream channel at the time of survey. Based on the HHEI score of 51, this waterbody was classified as a Class 2 PHWH. Although the HHEI score indicates an intermittent stream, CH2M HILL has classified Stream 3 as ephemeral based on field characteristics.

Stream 4 (66 LF, Figure 2a in Attachment A) is an intermittent channel located west of Northpointe Road. Stream 4 flows generally east and connects to Stream 2b, which flows to the Muskingum River, outside of the Project area. The average width of the channel at the OHWM is 3 to 4 feet, with a channel

bottom comprising mainly silt and gravel. There were approximately 5.5 inches of water in the stream channel at the time of survey. Stream 4 received an HHEI score of 60 and is classified as a Class 2 PHWH. As noted, CH2M HILL has classified Stream 4 as intermittent based on field characteristics.

Stream 5 (76 LF, Figure 2a in Attachment A) is an ephemeral channel located east of Northpointe Road. Stream 5 flows generally east to Stream 2b, which flows to the Muskingum River. The average width of the channel at the OHWM is 1 foot, with the channel bottom comprising mainly silt. There was no water within the channel at the time of survey. Based on the HHEI score of 20, this waterbody was classified as a Class 1 PHWH.

Stream 7 (129 LF, Figure 2a in Attachment A) is an ephemeral channel located east of Frazeyburg Road. Stream 7 flows generally north through the Project area. The average width of the channel at the OHWM is 2 feet, with a channel bottom comprising mainly silt and leaf pack. There was no water in the stream channel at the time of survey. Stream 7 appears to flow into an unnamed tributary to the Muskingum River outside of the Project area. Based on the HHEI score of 13, this waterbody was classified as a Class 1 PHWH.

Stream 8 (330 LF, Figure 2a in Attachment A) is an ephemeral channel located east of Frazeyburg Road. Stream 8 flows generally north through the Project area. The average width of the channel at the OHWM is 2 feet, with a channel bottom comprising mainly gravel and bedrock. There was no water in the stream channel at the time of survey. Stream 8 appears to flow into an unnamed tributary to the Muskingum River outside of the Project area. Based on the HHEI score of 44, this waterbody was classified as a Class 2 PHWH. Although the HHEI score indicates an intermittent stream, CH2M HILL has classified Stream 8 as ephemeral based on field characteristics.

Stream 9 (502 LF, Figure 2a in Attachment A) is an ephemeral channel located east of Frazeyburg Road. Stream 9 flows generally east through the Project area. The average width of the channel at the OHWM ranges from 1 to 3 feet, with a channel bottom comprising mainly sand and cobbles. There were isolated pools of water approximately 1 inch deep in the stream channel at the time of survey. Stream 9 appears to flow into an unnamed tributary to the Muskingum River outside of the Project area. Based on the HHEI score of 47, this waterbody was classified as a Class 2 PHWH. Although the HHEI score indicates an intermittent stream, CH2M HILL has classified Stream 9 as ephemeral based on field characteristics.

Stream 10 (30 LF, Figure 2a in Attachment A) is an ephemeral channel located east of Frazeyburg Road. Stream 10 flows generally south to Stream 9, which appears to flow into an unnamed tributary to the Muskingum River. The average width of the channel at the OHWM is 1 foot, with a channel bottom comprising mainly gravel and leaf pack. There was no water in the stream channel at the time of survey. Based on the HHEI score of 22, this waterbody was classified as a Class 1 PHWH.

Stream 11 (204 LF, Figure 2b in Attachment A) is an ephemeral channel located east of Frazeyburg Road. Stream 11 flows generally northeast throughout the Project area. The average width of the channel at the OHWM is 1 foot, with a channel bottom comprising mainly silt and leaf pack. There were isolated pools of water approximately 1 inch deep in the stream channel at the time of survey. Wetland 10 abuts Stream 11. Stream 11 appears to flow into an unnamed tributary to the Muskingum River outside of the Project area. Based on the HHEI score of 20, this waterbody was classified as a Class 1 PHWH.

Stream 12 (191 LF, Figure 2b in Attachment A) is an ephemeral channel located east of Frazeyburg Road. Stream 12 flows generally southeast throughout the Project area to Stream 11, which appears to flow into an unnamed tributary to the Muskingum River outside of the Project area. The average width of the channel at the OHWM is 1 foot, with a channel bottom comprising mainly silt and leaf pack. There

was no water in the stream channel at the time of survey. Wetland 10 abuts Stream 12. Based on the HHEI score of 16, this waterbody was classified as a Class 1 PHWH.

Stream 13 (140 LF, Figure 2b in Attachment A) is an ephemeral channel located west of Frazeyburg Road. Stream 13 flows generally north through the Project area; outside of the Project area, this stream appears to flow into Stream 16, which flows into the Muskingum River. The average width of the channel at the OHWM is 1 foot, with a channel bottom comprising mainly silt and leaf pack. There was no water in the stream channel at the time of survey. Based on the HHEI score of 14, this waterbody was classified as a Class 1 PHWH.

Stream 14 (144 LF, Figure 2b in Attachment A) is an ephemeral channel located west of Frazeyburg Road. Stream 14 flows generally north through the Project area; outside of the project area this stream appears to flow into Stream 16, which flows into the Muskingum River. The average width of the channel at the OHWM is 1 foot, with a channel bottom comprising mainly silt and leaf pack. There was no water in the stream channel at the time of survey. Based on the HHEI score of 16, this waterbody was classified as a Class 1 PHWH.

Stream 15 (174 LF, Figure 2b in Attachment A) is an ephemeral channel located west of Frazeyburg Road. Stream 15 flows generally north through the Project area to Stream 16, which flows into the Muskingum River. The average width of the channel at the OHWM is 1 foot, with a channel bottom comprising mainly silt and leaf pack. There was no water in the stream channel at the time of survey. Based on the HHEI score of 14, this waterbody was classified as a Class 1 PHWH.

Stream 16 (307 LF, Figure 2b in Attachment A) is an ephemeral channel located west of Frazeyburg Road. Stream 16 flows generally east throughout the Project area and appears to flow into an unnamed tributary to the Muskingum River outside of the Project area. The average width of the channel at the OHWM is 3 feet, with a channel bottom comprising mainly silt and leaf pack. There were isolated pools of water approximately 3 inches deep in the stream channel at the time of survey. Based on the HHEI score of 41, this waterbody was classified as a Class 2 PHWH. Although the HHEI score indicates an intermittent stream, CH2M HILL has classified Stream 16 as ephemeral based on field characteristics.

Stream 17 (219 LF, Figure 2b in Attachment A) is an ephemeral channel located west of Frazeyburg Road. Stream 17 flows generally north throughout the Project area and appears to flow into an unnamed tributary to the Muskingum River outside of the Project area. The average width of the channel at the OHWM is 4 feet, with a channel bottom comprising mainly silt and boulders. There were isolated pools of water approximately 1 inch deep in the stream channel at the time of survey. Based on the HHEI score of 49, this waterbody was classified as a Class 2 PHWH. Although the HHEI score indicates an intermittent stream, CH2M HILL has classified Stream 17 as ephemeral based on field characteristics.

Conclusion

This letter report summarizes the results of a wetland and waterbody delineation conducted by CH2M HILL within the proposed Conesville-Bixby 345-kV Line Project in Muskingum County, Ohio, on August 12 through 14, 2013. CH2M HILL identified eight wetlands totaling 0.69 acre. Of that, PEM wetlands totaled 0.44 acre and PSS wetlands totaled 0.25 acre. Seventeen waterbodies were also delineated within the Project area, totaling 4,228 linear feet. All wetlands were preliminarily identified as under the jurisdiction of the USACE in accordance with the Clean Water Act. All wetlands are considered Category 1 and 2 wetlands in accordance with the Ohio Wetland Water Quality standards.

We appreciate the opportunity to assist AEP with this project. If you have questions, please feel free to call Mark Driscoll at 617.626.7061.

Sincerely,

CH2M HILL



Magdalena Eshleman
Environmental Scientist



Mark Driscoll
Project Manager

Attachments:

Attachment A, Figures

Attachment B, Site Photographs

Attachment C, Wetland Datasheets

Attachment D, Stream HHEI Datasheets

References

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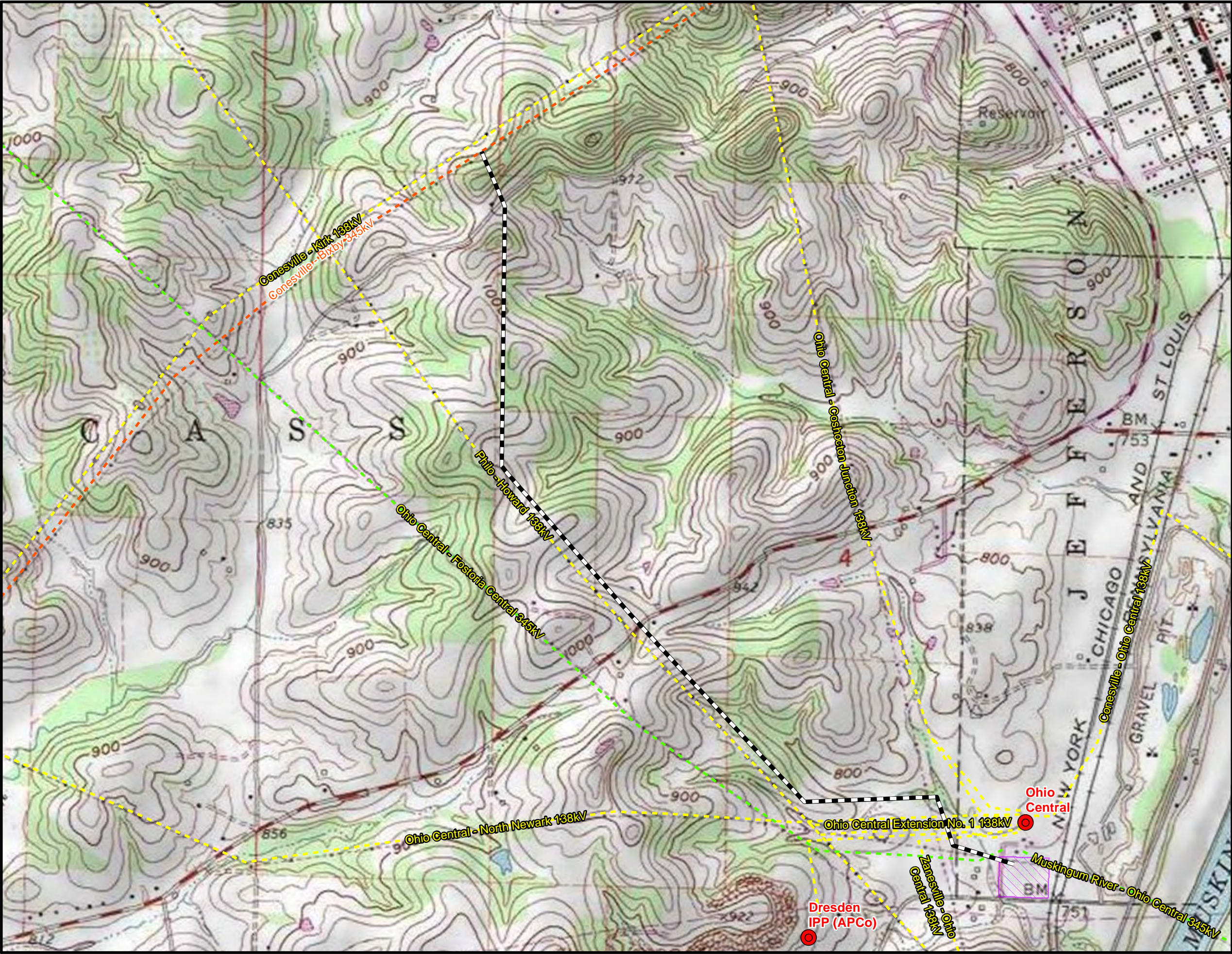
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ATTACHMENT A

Figures

Path: C:\Projects\AEP\Conesville - Bixby\Maps\WDR_Overview.mxd



LOCATOR MAP



LEGEND:

- Ohio Central Substation
- Proposed Conesville-Bixby 345 kV Loop
- Substation Expansion (Under Construction)
- Conesville - Bixby 345 kV Line
- Existing 138 kV Transmission Line
- Existing 345 kV Transmission Line

0 1,000 2,000



Scale In Feet

BASE MAP SOURCE:
USGS 7.5-minute Topographic Quadrangle
Dresden (published 1978)



Conesville - Bixby 345 kV
Line Project

FIGURE 1
OVERVIEW MAP

PN: 466969

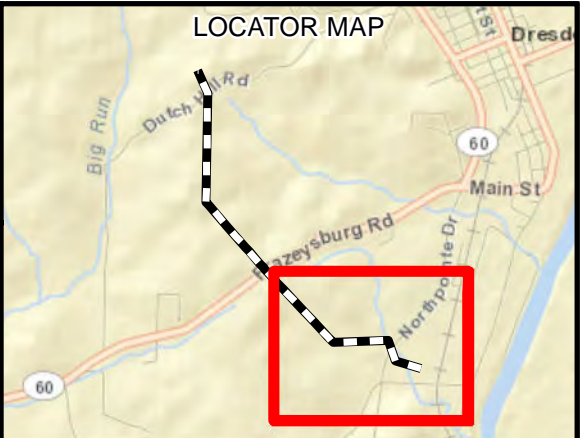
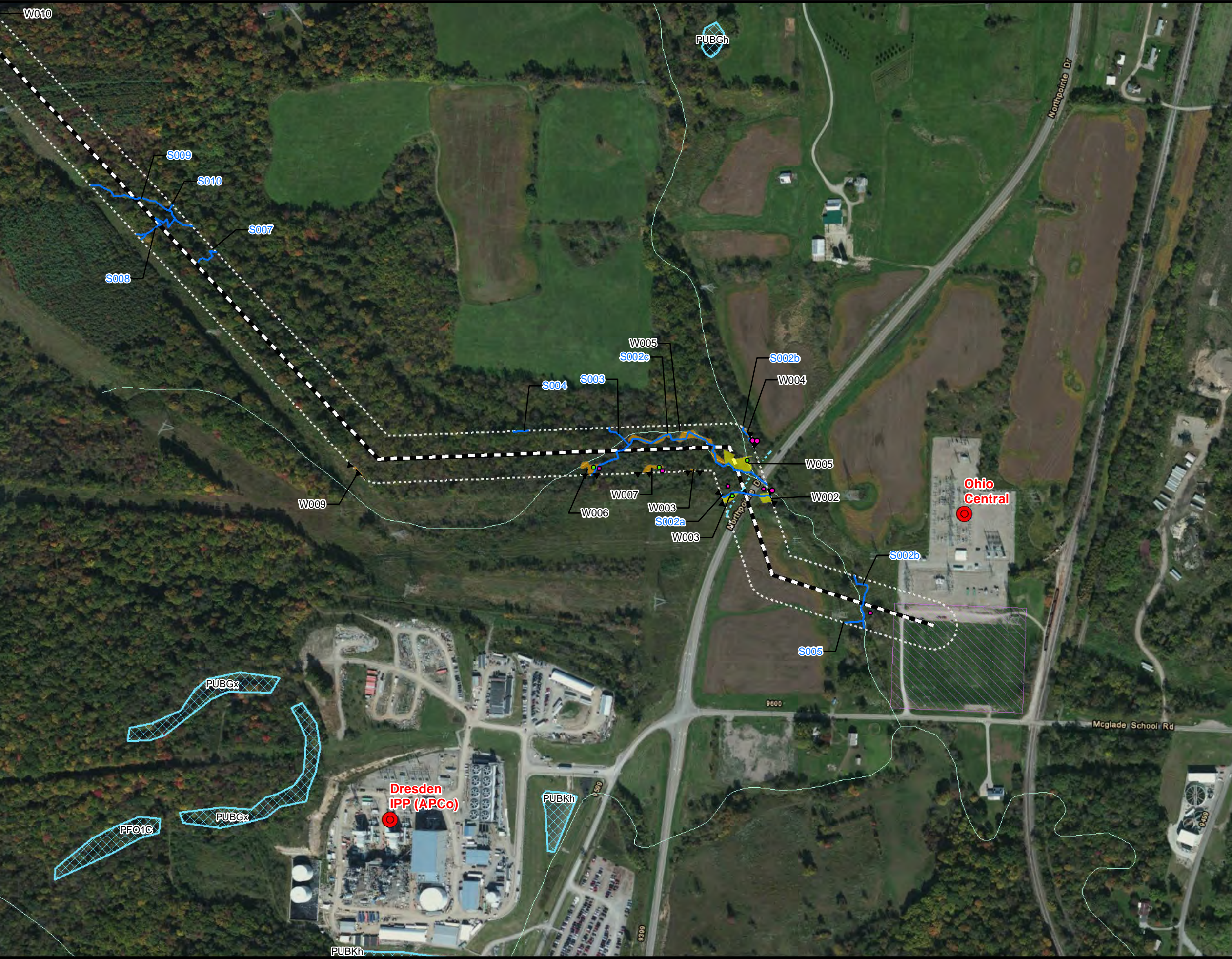
DATE: 8/27/2013

CREATED BY: AC

REVIEWED BY: MD



Path: C:\Projects\AEP\Conesville - Bixby\Maps\WDR_Delineation.mxd



LEGEND:


- Ohio Central Substation
- Proposed Conesville-Bixby 345 kV Loop
- Survey Corridor (200 Foot)
- Substation Expansion (Under Construction)
- Conesville - Bixby 345 kV Line
- Delineated Stream
- Stream (NHD)
- Drainage Ditch
- Wetland (NWI)
- Upland Data Point
- Wetland Data Point

Delineated Wetland

- Palustrine Emergent
- Palustrine Scrub Shrub
- Open Ended Wetland


0 400 800
Scale In Feet

BASE MAP SOURCE:
ESRI ArcMap Imagery - 2011 Microsoft World Imagery

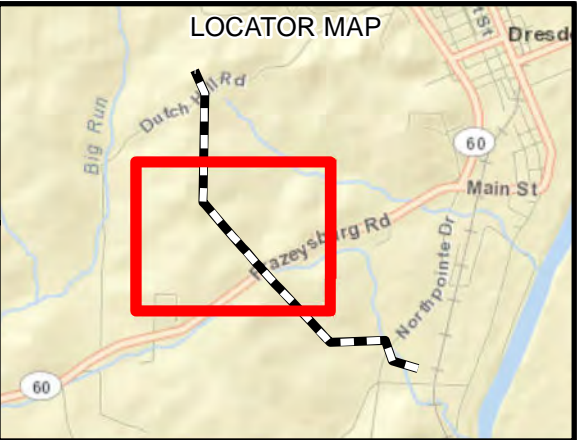


**Conesville - Bixby 345 kV
Line Project**

**FIGURE 2A
STREAM AND WETLAND
DELINEATION MAP**

PN: 466969	DATE: 8/29/2013
CREATED BY: AC	
REVIEWED BY: MD	

Path: C:\Projects\AEP\Conesville - Bixby\Maps\WDR_Delineation.mxd



LEGEND:



- Ohio Central Substation
- Proposed Conesville-Bixby 345 kV Loop
- Survey Corridor (200 Foot)
- Substation Expansion (Under Construction)
- Conesville - Bixby 345 kV Line
- Delineated Stream
- Stream (NHD)
- Drainage Ditch
- Wetland (NWI)
- Upland Data Point
- Wetland Data Point

Delineated Wetland

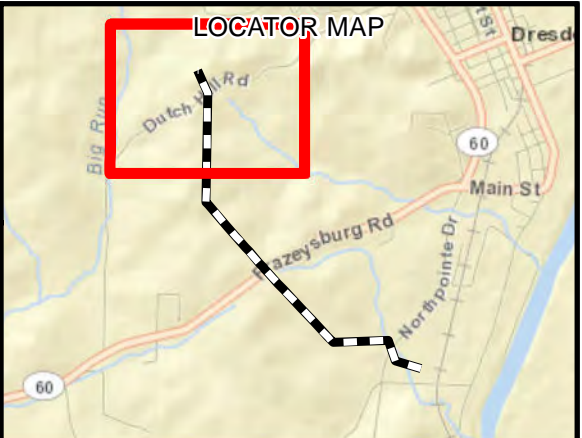
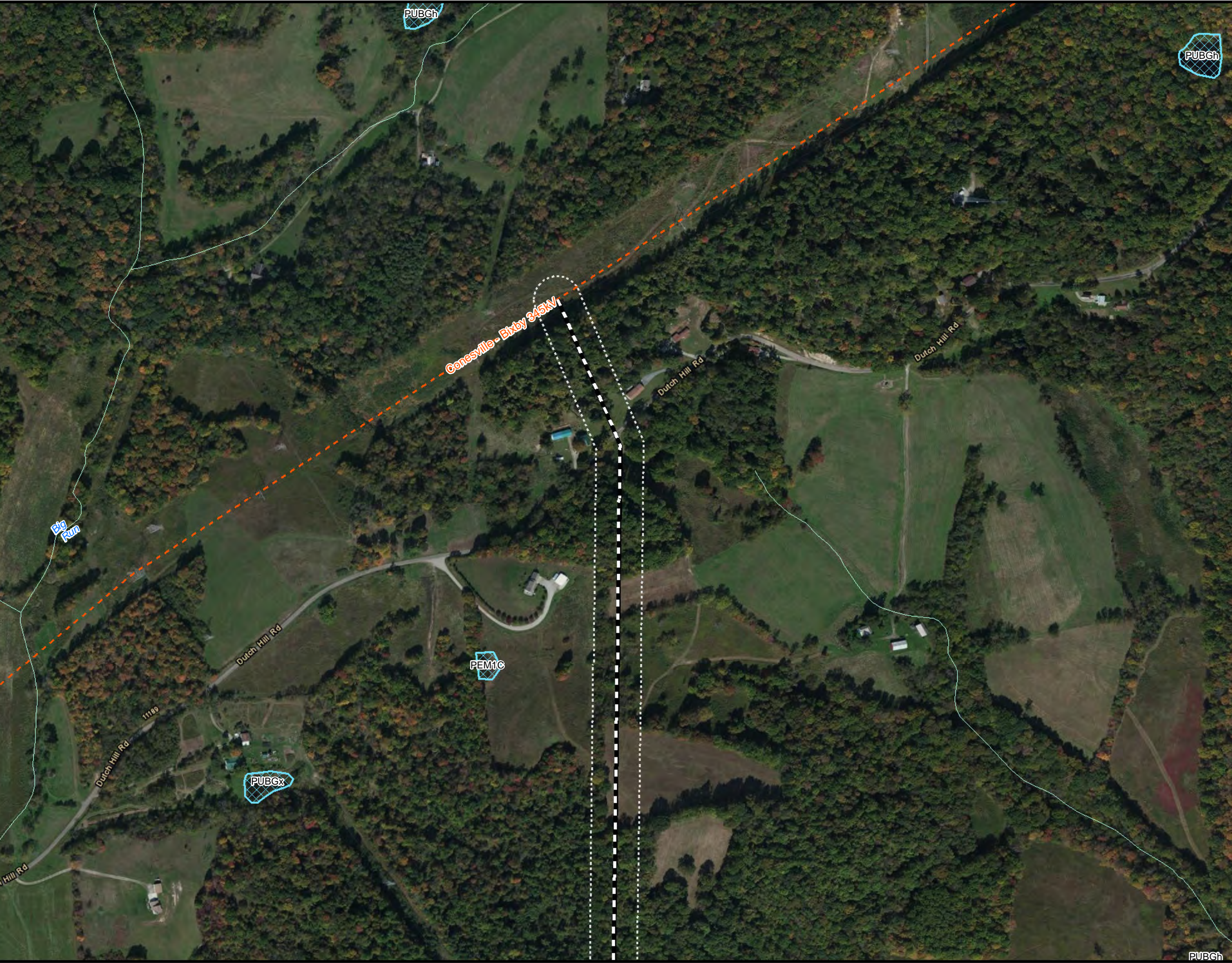
- Palustrine Emergent
- Palustrine Scrub Shrub
- Open Ended Wetland

0 400 800
Scale In Feet

BASE MAP SOURCE:
ESRI ArcMap Imagery - 2011 Microsoft World Imagery

		Conesville - Bixby 345 kV Line Project	
FIGURE 2B STREAM AND WETLAND DELINEATION MAP			
PN: 466969		DATE: 8/29/2013	
CREATED BY: AC			
REVIEWED BY: MD			

Path: C:\Projects\AEP\Conesville - Bixby\Maps\WDR_Delineation.mxd



LEGEND:



- Ohio Central Substation
- Proposed Conesville-Bixby 345 kV Loop
- Survey Corridor (200 Foot)
- Substation Expansion (Under Construction)
- Conesville - Bixby 345 kV Line
- Delineated Stream
- Stream (NHD)
- Drainage Ditch
- Wetland (NWI)
- Upland Data Point
- Wetland Data Point

Delineated Wetland

- Palustrine Emergent
- Palustrine Scrub Shrub
- Open Ended Wetland

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Scale In Feet

BASE MAP SOURCE:
ESRI ArcMap Imagery - 2011 Microsoft World Imagery

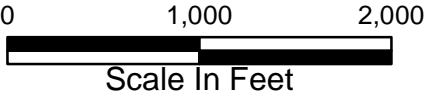
		Conesville - Bixby 345 kV Line Project	
FIGURE 2C STREAM AND WETLAND DELINEATION MAP			
PN: 466969		DATE: 8/29/2013	
CREATED BY: AC			
REVIEWED BY: MD			



Soil Symbol	Soil Name	Hydric Soil
AaC2	Aaron silt loam, 8 to 15 percent slopes, eroded	No
AfC2	Alford silt loam, 8 to 15 percent slopes, eroded	No
ChC	Chili gravelly loam, 8 to 15 percent slopes	No
CkA	Cidermill silt loam, 0 to 3 percent slopes	No
CsC2	Coshocton silt loam, 8 to 15 percent slopes, eroded	No
CsD	Coshocton silt loam, 15 to 25 percent slopes	No
CtE	Coshocton-Westmoreland silt loams, 25 to 40 percent slopes	No
GdC2	Gilpin silt loam, 8 to 15 percent slopes, eroded	No
GfA	Glenford silt loam, 0 to 2 percent slopes	Yes
GfB	Glenford silt loam, 2 to 6 percent slopes	No
GfC2	Glenford silt loam, 6 to 15 percent slopes, eroded	No
KeB	Keene silt loam, 2 to 6 percent slopes	No
Ne	Newark silt loam, frequently flooded	Yes
OmC	Omulga silt loam, 6 to 15 percent slopes	No
RhE	Rigley-Coshocton complex, 25 to 40 percent slopes	No
Ud	Udorthents, loamy, hilly	No
WhC2	Wellston silt loam, 8 to 15 percent slopes, eroded	No
WtD2	Westmoreland silt loam, 15 to 25 percent slopes, eroded	No
WuD2	Westmoreland-Guernsey silt loams, 15 to 25 percent slopes, eroded	No
ZnC2	Zanesville silt loam, 6 to 15 percent slopes, eroded	No

LEGEND:

- Ohio Central Substation
- Proposed Conesville-Bixby 345 kV Loop
- Survey Corridor (200 Foot)
- Substation Expansion (Under Construction)
- Conesville - Bixby 345 kV Line
- Soil Unit
- Hydric Soil Unit



BASE MAP SOURCE:
ESRI ArcMap Imagery - 2011 Microsoft World Imagery



Conesville - Bixby 345 kV
Line Project

FIGURE 3
SOILS MAP

PN: 466969

DATE: 8/29/2013

CREATED BY: AC

REVIEWED BY: MD



ATTACHMENT B

Site Photographs



Photo 1: View of DP4 and W002, looking east.



Photo 2: View of DP5, the upland data point associated with W002, looking east.

American Electric Power
Conesville-Bixby 345 kV Line Project
Muskingum County, Ohio
Photographed on August 12-14, 2013



Photo 3: View of DP6, an upland area, looking east.



Photo 4: View of PSS section of W003 and DP7, looking southwest.

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Conesville-Bixby 345 kV Line Project
Muskingum County, Ohio
Photographed on August 12-14, 2013



Photo 5: View of the PEM section of W002, looking south.



Photo 6: View of DP9 and W004, along S002b, looking east.

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Conesville-Bixby 345 kV Line Project
Muskingum County, Ohio
Photographed on August 12-14, 2013



Photo 7: View of DP10, the upland data point associated with W003, looking west.



Photo 8: View DP11 and W005, looking east.

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Muskingum County, Ohio
Photographed on August 12-14, 2013



Photo 9: View of W005, a floodplain wetland along S002c, looking west.



Photo 10: View of DP12 and W006, looking south.

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Muskingum County, Ohio
Photographed on August 12-14, 2013



Photo 11: View of DP13, the upland data point associated with W006, looking west.



Photo 12: View DP14 and W007, looking west.

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Muskingum County, Ohio
Photographed on August 12-14, 2013



Photo 13: View of DP15, the upland data point associated with W007, looking west.



Photo 14: View of DP16, within an upland area, looking west.

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Conesville-Bixby 345 kV Line Project
Muskingum County, Ohio
Photographed on August 12-14, 2013



Photo 15: View of DP19 and W009, looking east.



Photo 16: View of DP20, the upland data point associated with W009, looking south.

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Muskingum County, Ohio
Photographed on August 12-14, 2013



Photo 17: View of DP21 and W010, looking north.



Photo 18: View of DP22, the upland data point associated with W0010, looking northeast.

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Muskingum County, Ohio
Photographed on August 12-14, 2013



Photo 19: Upstream view of S002a, looking west.



Photo 20: Downstream view of S002a, looking east.

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Muskingum County, Ohio
Photographed on August 12-14, 2013



Photo 21: Upstream view of S002b looking west toward culvert under Northpointe Road.



Photo 22: Downstream view of S002b looking southeast.

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Photo 23: Portion of S002b west of Northpointe Road. Upstream view.



Photo 24: Upstream view of S002c looking west.

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Photo 25: Downstream view of S002c looking east.



Photo 26: Portion of S002c west of Northpointe Road. Upstream view.

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Muskingum County, Ohio
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Photo 27: Upstream view of S003 looking northwest.



Photo 28: Downstream view of S003 looking southeast.

Photos are not available for S004 or S005. S004 is similar in size and substrate to S003. S005 is a small ephemeral drainage that flows into S002b.

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Muskingum County, Ohio
Photographed on August 12-14, 2013



Photo 29: Upstream view of S007 looking south.



Photo 30: Downstream view of S007 looking north.

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Photographed on August 12-14, 2013



Photo 31: Upstream view of S008 looking south.



Photo 32: Downstream view of S008 looking north.

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Muskingum County, Ohio
Photographed on August 12-14, 2013

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in

Case No(s). 13-2036-EL-BLN

Summary: Letter of Notification Ohio Central 345k V Extension Projecr (Part 2 of 3)
electronically filed by Mr. Yazen Alami on behalf of AEP Ohio Transmission Company