HYATT-CORRIDOR 345 KV LINE STRUCTURE REPLACEMENT PROJECT

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

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1.0 PROJECT DESCRIPTION

This document presents the results of the wetland delineation and stream assessment conducted by URS Corporation (URS) for the American Electric Power (AEP) proposed Hyatt-Corridor 345 kV Line Structure Replacement Project (Project). AEP is proposing to replace 14 existing single-circuit structures with new double-circuit steel poles. These structures extend for approximately 2.2 miles in Delaware County, Ohio. The existing line and structures to be replaced are shown on Figure 1. AEP has stated the rebuilt section of transmission line will involve approximately structure for structure replacement with new steel poles with concrete foundations on the existing centerline. Construction will occur within existing right-of-way.

As part of the Ohio Power Siting Board (OPSB) Letter of Notification (LON) requirements, AEP 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 retained URS to review areas of ecological concern, as defined above, within the proposed Project vicinity and conduct a field survey of wetlands and streams within the existing maintained right-of-way (approximately 75-feet on each side of the Project centerline or 150 feet of total width). This report will be used to assist AEP's efforts to avoid impacts to areas of ecological concern present in the study area during construction activities.

2.0 METHODS

2.1 Special Status Ecological Areas

URS reviewed desktop maps and GIS data in order 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. GIS data sources included the ODNR Biodiversity Database and federal land and parks layers available from ESRI. Property ownership within 1,000 feet of the rebuild section of the Project was reviewed to identify parcels that may have special status. URS also noted land use during the field reconnaissance conducted on July 9, 2012.

Floodplains were evaluated based on the Federal Emergency Management Agency's (FEMA) Flood Map Viewer (https://hazards.fema.gov/wps/portal/mapviewer).





2.2 Wetland Delineation

The Project area was evaluated according to the procedures outlined in the U.S. Army Corps of Engineers (USACE) Regional Supplement to the Corps of Engineers Wetland Delineation Manual Version 2.0: Midwest Region (Regional Supplement) (USACE, 2010), and the USACE 1987 Wetland Delineation Manual (1987 Manual) (Environmental Laboratory, 1987). The Regional Supplement was released in August, 2010 by the USACE to address regional wetland characteristics and improve the accuracy and efficiency of wetland delineation procedures. The Regional Supplement and the 1987 Manual define wetlands as areas that have positive evidence of three environmental parameters: hydric soils, wetland hydrology, and hydrophytic vegetation. Wetland boundaries are placed where one or more of these parameters give way to upland characteristics.

Since quantitative data were not available for any of the identified wetlands, URS utilized the routine delineation method described in the 1987 Manual and Regional Supplement that consisted of a pedestrian site reconnaissance, including identifying the vegetation communities, soils identification, a geomorphologic assessment of hydrology, and notation of disturbance. The methodology used to examine each parameter is described in the following sections.

Soils: Soils profiles were examined with soil pits that were excavated with a shovel, and these soil profiles were examined for hydric soil characteristics. A *Munsell Soil Color Chart* (Kollmorgen Corporation, 2000) was used to identify the hue, value, and chroma of the matrix and mottles of the soils. Generally, mottled soils with a matrix chroma of two or less, or unmottled soils with a matrix chroma of one or less are considered to exhibit hydric soil characteristics (Environmental Laboratory, 1987). In sandy soils, mottled soils with a matrix chroma of three or less, or unmottled soils with a matrix chroma of two or less are considered to be hydric soils.

<u>Hydrology:</u> The 1987 Manual requires that an area be inundated or saturated to the surface for an absolute minimum of five percent of the growing season (areas saturated between five 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 Supplement states 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 (12-in. depth) is 41 degree Fahrenheit (°F) or higher as an indicator of soil microbial activity. 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 Supplement* also states that if onsite data gathering is not practical, the growing season can be approximated by the number of days between the average (five years out of ten, or 50 percent probability) date of the last and first 28°F air temperature in the spring and fall, respectively. The National Weather Service WETS data obtained from the NRCS National Water and Climate Center for Delaware County, Ohio reveals that in an average year, this period begins between April 15, and lasts until October 23, or 191 days. In the Project area, five percent of the growing season equates to approximately 9.5 days (USDA, 2012).





The soils and ground surface were examined for evidence of wetland hydrology in lieu of detailed hydrological data. This is an acceptable approach according to the 1987 Manual and the Regional Supplement. Evidence indicating wetland hydrology typically includes primary indicators such as surface water, saturation, water marks, drift deposits, water-stained leaves, sediment deposits and oxidized rhizospheres on living roots; and secondary indicators such as, drainage patterns, geomorphic position, micro-topographic relief, and a positive Facultative (FAC)-neutral test (USACE, 2010).

A review of United States Geological Survey (USGS) watershed data indicates that the Project is located within the Upper Scioto Watershed of the Scioto River Basin Subregion (USGS, 2011). Within this watershed, the project will cross two minor watersheds: Hoover Reservoir-Big Walnut Creek and Prairie Run-Big Walnut Creek (USDA NRCS 2011).

<u>Vegetation:</u> Dominant vegetation was visually assessed for each stratum (tree, sapling/shrub, herb and woody vine) and an indicator status of obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and/or upland (UPL) was assigned to each plant species based on the 1988 National List of Plant Species that Occur in Wetlands: Region 1 (Region 1 encompasses the state of Ohio). An area is 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 are used to determine if a wetland has a predominance of hydrophytic vegetation. Table 2 lists the vegetation that was identified in delineated wetlands during field surveys.

<u>Wetland Classifications:</u> Wetlands were classified based on the naming convention found in Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al, 1979). All identified wetlands within the survey corridor were classified as freshwater, Palustrine Systems, which includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens. One Palustrine wetland class was identified within the Project survey corridor. The wetland class was as follows:

PEM – Emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.

Ohio Rapid Assessment Method v. 5.0: The Ohio Environmental Protection Agency (Ohio EPA) Ohio Rapid Assessment Method for Wetlands v. 5.0 (ORAM) was developed to determine the relative ecological quality and level of disturbance of a particular wetland in order to meet requirements under Section 401 of the Clean Water Act. Wetlands are scored on the basis of hydrology, upland buffer, habitat alteration, special wetland communities, and vegetation communities. Each of these subject areas is further divided into subcategories under ORAM v5.0 resulting in a score that 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 are "Category 2" and 60 to 100 are "Category 3". Transitional zones exist between "Categories 1 and 2" from 30 to 34.9 and between





"Categories 2 and 3" from 60 to 64.9. However, according to the Ohio EPA, if the wetland score falls into the transitional range, it must be given the higher Category unless scientific data can prove it should be in a lower Category (Mack, 2001). The ORAM scores for the wetlands that were delineated 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 wildlife use, limited potential to achieve wetland functions, and/or a predominance of non-native species. These limited quality wetlands are considered to be a resource that has been severely degraded or has a limited potential for restoration, or is of low ecological functionality.

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. Some Category 2 wetlands are lacking in human disturbance and considered to be naturally of moderate quality; others may have been Category 3 wetlands in the past, but have been degraded to Category 2 status.

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. It is important to stress that a wetland may be a Category 3 wetland because it exhibits one or all of the above characteristics. For example, a forested wetland located in the flood plain of a river may exhibit "superior" hydrologic functions (e.g. flood retention, nutrient removal), but not contain mature trees or high levels of plant species diversity.

2.3 Stream and River Crossings

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 of 1972 and its 1977 and 1987 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).





Stream assessments were conducted using the methods described in the Ohio EPA's Methods for Assessing Habitat in Flowing Waters: Using Ohio EPA's *Qualitative Habitat Evaluation Index* (Rankin, 2006) and *Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams, version 3* (Davic, 2012).

Ohio EPA Qualitative Habitat Evaluation Index: The qualitative habitat evaluation index (QHEI) is designed to provide a rapid determination of habitat features that correspond to those physical factors that most affect fish communities and which are generally important to other aquatic life (e.g., macroinvertebrates). The quantitative measure of habitat used to calibrate the QHEI score are Indices (or Index) of Biotic Integrity (IBI) for fish. In most instances the QHEI is sufficient to give an indication of habitat quality, and the intensive qualitative analysis used to measure the IBI is not necessary. It is the IBI, rather than the QHEI, that is directly correlated with the aquatic life use designation for a particular surface water.

The QHEI method is generally considered appropriate for waterbodies with drainage basins greater than one square mile, if natural pools are greater than 40 cm, or if the water feature is shown as blue-line waterways on USGS 7.5-minute topographic quadrangle maps. In order to convey general stream habitat quality to the regulated public, the Ohio EPA has assigned narrative ratings to QHEI scores. The ranges vary slightly for headwater streams (H are those with a watershed area less than or equal to 20 square miles) versus larger streams (L are those with a watershed area greater than 20 square miles). The Narrative Rating System includes: Very Poor (<30 H and L), Poor (30 to 42 H, 30 to 44 L), Fair (43 to 54 H, 45 to 59 L), Good (55 to 69 H, 60 to 74 L) and Excellent (70+ H, 75+ L). One QHEI stream was identified within the Project study area and is discussed in Section 3.3 of this report.

Ohio EPA Primary Headwater Habitat Evaluation Index: Headwater streams are typically considered to be first-order and second-order streams, meaning streams that have no upstream tributaries (or "branches") and those that have only first-order tributaries, respectively. The stream order concept can be problematic when used to define headwater streams because stream-order designations vary depending upon the accuracy and resolution of the stream delineation. Headwater streams are generally not shown on USGS 7.5-minute topographic quadrangles and are sometimes difficult to distinguish on aerial photographs. Nevertheless, headwater streams are now recognized as useful monitoring units due to their abundance, widespread spatial scale and landscape position (Fritz, et al. 2006). Impacts to headwater streams can have a cascading effect on the downstream water quality and habitat value. The headwater habitat evaluation index (HHEI) is a rapid field assessment method for physical habitat that can be used to appraise the biological potential of most Primary Headwater Habitat (PHWH) streams. The HHEI was developed using many of the same techniques as used for QHEI, but has criteria specifically designed for headwater habitats. To use HHEI, the stream must have a "defined bed and bank, with either continuous or periodically flowing water, with watershed area less than or equal to 1.0 mi² (259 ha), and a maximum depth of water pools equal to or less than 15.75 inches (40 cm)" (Davic, 2012).

Headwater streams are scored on the basis of channel substrate composition, bankfull width, and maximum pool depth. Assessments result in a score (0 to 100) that is converted to a specific PHWH





stream class. Streams that are scored from 0 to 29.9 are typically grouped into "Class 1 PHWH Streams", 30 to 69.9 are "Class 2 PHWH Streams", and 70 to 100 are "Class 3 PHWH Streams". Technically, a stream can score relatively high, but actually belong in a lower class, and vice-versa. According to the Ohio EPA, if the stream score falls into a class and the scorer feels that based on site observations that score does not reflect the actual stream class, a decision-making flow chart can be used to determine appropriate PHWH stream class using the HHEI protocol (Davic, 2012). Evidence of anthropogenic alterations to the natural channel will result in a "Modified" qualifier for the stream. Results of HHEI assessed streams are discussed in Section 3.3 of this report.

Class 1 PHWH Streams: Class 1 PHWH Streams are those that have "normally dry channels with little or no aquatic life present" (Davic, 2012). These waterways are usually ephemeral, with water present for short periods of time due to infiltration from snowmelts or rainwater runoff.

Class 2 PHWH Streams: Class 2 PHWH Streams are equivalent to "warm-water habitat" streams. This stream class has a "moderately diverse community of warm-water adapted native fauna either present seasonally or on an annual basis" (Davic, 2012). These species communities are composed of vertebrates (fish and salamanders) and/or benthic macroinvertebrates that are considered pioneering, headwater temporary, and/or temperature facultative species.

Class 3 PHWH Streams: Class 3 PHWH Streams usually have perennial water flow with cool-cold water adapted native fauna. The community of Class 3 PHWH Streams is comprised of vertebrates (either cold water adapted species of headwater fish and or obligate aquatic species of salamanders, with larval stages present), and/or a diverse community of benthic cool water adapted macroinvertebrates present in the stream continuously (on an annual basis).

3.0 RESULTS

3.1 Special Status Ecological Areas

Based on published resources, no national or state forests and parks, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, wildlife sanctuaries or floodplains were identified within 1,000 feet of the Project. No impacts to these special status ecological areas are anticipated.

3.2 Wetland Delineation

A total of five wetlands (0.79 acre) were identified within the Project 150-foot survey corridor. URS considers all five wetlands to be jurisdictional (i.e., "Waters of the U.S."). All of the five wetlands were of a single wetland habitat type: palustrine emergent (PEM). Wetlands identified within the 150-foot survey corridor are summarized in Table 1. Based on ORAM v. 5.0 methodology, three of the five wetlands within the 150-foot survey corridor are Category 1 wetlands, and the remaining two wetlands are Category 2 wetlands. No Category 3 wetlands were identified in the Project survey corridor. Wetland 5 had the lowest ORAM score, 22, and Wetland 4 had the highest score, 39.





Category 1 Wetlands – The three Category 1 wetlands delineated within the 150-foot survey corridor were all identified as PEM wetlands. The highest scoring Category 1 wetland was 29 (Wetland 1 and 2), and the lowest was 22 (Wetland 5). These wetlands typically exhibited narrow upland buffers and intensive use of surrounding upland areas (row cropping, open pasture, residential, or existing rights-of-way), exhibited limited plant community development with a nearly absent to high percentage of invasive species, and characteristically had habitat and hydrology in the early stages of recovering from previous manipulation because of farming or other disturbances.

Category 2 Wetlands – The two Category 2 wetlands delineated within the 150-foot survey corridor were both identified as PEM wetlands. The highest scoring Category 2 wetland was 39 (Wetland 4), and the lowest was 33 (Wetland 3). These wetlands exhibited a fair to moderately-high quality plant community, moderately high to high intensity surrounding land use, and had recovered or were recovering from modification to substrate and habitat.

Category 3 Wetlands - No Category 3 wetlands were identified in the Project survey corridor.

The locations and approximate extents of the wetlands identified within the 150-foot survey corridor are shown on Figures 2A through 2E. Completed USACE wetland delineation and ORAM forms are provided in Appendix A. Color photographs were taken of each delineated wetland during the field survey and are provided in Appendix C. Table 2 lists the vegetation that was identified in delineated wetlands during field surveys.





TABLE 1 DELINEATED WETLANDS WITHIN THE HYATT-CORRIDOR 2nd 345 kV CIRCUIT 150 FOOT SURVEY CORRIDOR

Report Name	Cowardin Wetland Type ^a	Wetland Description	ORAM Score	ORAM Category	Acreage within 150- Foot Corridor	Approximate Length Crossed by Transmission Line (feet) ^b
Wetland 1	PEM	Emergent wetland in existing transmission line right-of way that is a portion of a larger wetland complex.	29	1	0.17	61
Wetland 2	PEM	Emergent wetland in existing transmission line right-of way.	29	1	0.03	NC
Wetland 3	PEM	Emergent wetland in existing transmission line right-of way. Wetland is located abutting Stream 3.	33	2	0.40	196
Wetland 4	PEM	Emergent wetland in existing transmission line right-of-way. Depressional wetland that is located adjacent to agricultural field.	39	2	0.18	4
Wetland 5	PEM	Emergent wetland within transmission line right-of-way. Located between two agricultural fields and has drain tiles within.	22	1	0.12	NC
Total: 5	Wetlands				0.79	260

Wetlands listed from West to East Cowardin Wetland Type^a: PEM – palustrine emergent Linear Feet Crossed by Centerline (feet)^b: NC = Not Crossed by centerline





TABLE 2
VEGETATION IDENTIFIED WITHIN DELINEATED WETLANDS

Common Name	Scientific Name	Stratum ^a	Region 1 Indicator Status ^b
American Wild Mint	Mentha arvensis	Н	FACW
Arrow-Leaf Tearthumb	Polygonum sagittatum	Н	OBL
Black Willow	Salix nigra	S	OBL
Blunt Broom Sedge	Carex tribuloides	Н	OBL
Common Boneset	Eupatorium perfoliatum	Н	OBL
Dark-Green Bulrush	Scirpus atrovirens	Н	OBL
Fox Sedge	Carex vulpinoidea	Н	FACW
Fuller's Teasel	Dipsacus fullonum	Н	FACU
Goldenrod	Solidago sp.	Н	FAC
Indian-Hemp	Apocynum cannabinum	Н	FAC
Lamp Rush	Juncus effusus	Н	OBL
Lesser Poverty Rush	Juncus tenuis	Н	FAC
Narrowleaf Cattail	Typha angustifolia	Н	OBL
Pinkweed	Persicaria pensylvanica	Н	FACW
Reed Canary Grass	Phalaris arundinacea	Н	FACW
Rice Cutgrass	Leersia oryzoides	Н	OBL
Sedge	Carex sp	Н	FAC
Sensitive Fern	Onoclea sensibilis	Н	FACW
Single-Vein Sweetflag	Acorus calamus	Н	OBL
Skunk-Cabbage	Symplocarpus foetidus	Н	OBL
Spotted Touch-Me-Not	Impatiens capensis	Н	FACW
Swamp Milkweed	Asclepias incarnata	Н	OBL
Swamp Verbena	Verbena hastata	Н	FACW

^a H = herb, S = shrub or sapling, T = tree, V = vine

OBL - Obligate Wetland - Occurs almost always (99% probability) in wetlands

FACW - Facultative Wetlands - Usually occurs in wetlands (67 - 99% probability)

FAC - Facultative - Equally likely to occur in wetlands or non-wetlands (34 - 66% probability)

FACU - Facultative Upland - Usually occurs in non-wetlands (67 - 99% probability)

UPL - Obligate Upland - Occurs almost always in non-wetlands (99% probability)

<u>Preliminary Soils Evaluation:</u> According to the Web Soil Survey for Delaware County, Ohio (USDA, 2012) and the Natural Resources Conservation Services Hydric Soils List of Ohio, nine soil map units from seven soil series are mapped within the 150-foot survey corridor, and include seven soil series with hydric soil map units (USDA, 2011). Soils in each wetland were observed and documented as part of the

b Wetland Indicator Status for Region 1 (The State of Ohio, including the entire project area, is in Region 1)





delineation methodology. Soil series located within the Project area are shown on Figures 2A through 2E. Table 3 provides a list of these soil map units along with their basic attributes.

TABLE 3 **HYATT-CORRIDOR 2nd 345 kV CIRCUIT** 150-FOOT SURVEY CORRIDOR SOIL MAP UNITS AND DESCRIPTIONS

Soil Series	Symbol	Map Unit Description	Percent of Survey Corridor by Series	Topographic Setting	Hydric	Hydric Component (%)
Amanda	AmF	Amanda silt loam, 25 to 50 percent slopes	3.6	End moraines, ground moraines	no	n/a
	BeA	Bennington silt loam, 0 to 2 percent slopes	31.5	Flats on ground moraines, rises on ground moraines, flats on end moraines, rises on end moraines	Inclusions	Pewamo (5), Condit (5)
Bennington	BeB	Bennington silt loam, 2 to 6 percent slopes	2.4	Flats on ground moraines, rises on ground moraines, flats on end moraines, rises on end moraines	Inclusions	Pewamo (2), Condit (3)
Centerburg	CeB	Centerburg silt loam, 2 to 6 percent slopes, eroded	14.3	Till plains, moraines	Inclusions	Pewamo (5)
, and a	CeC2	Centerburg silt loam, 6 to 12 percent slopes, eroded	0.4	Till plains, moraines	no	n/a
Gallman	GbB	Gallman silt loam, loamy substratum, 2 to 6 percent slopes	0.8	Outwash plains, kames, moraines, and outwash terraces	Inclusions	Millgrove (5)
Pewamo	PwA	Pewamo silty clay loam, 0 to 1 percent slopes	29.2	Depressions on ground moraines, flats on ground moraines, drainageways on ground moraines, depressions on end moraines, flats on end moraines, drainageways on end moraines	yes	Pewamo (85)
Sloan	SnA	Sloan silt loam, till substratum, 0 to 2 percent slopes, occasionally flooded	1.7	Depressions on ground moraines, flats on ground moraines, drainageways on ground moraines, depressions on end moraines, flats on end moraines, drainageways on end moraines	yes	Sloan (85)
Smothers	SsA	Smothers silt loam, 0 to 2 percent slopes	16.1	Ground moraines	Inclusions	Pewamo (5)

NOTES:

- (1) Percentages do not add up to exactly 100% due to rounding
- (2) Data sources include:

USDA, NRCS. 2011 Soil Survey Geographic (SSURGO) Database. Available online at: http://soildatamart.nrcs.usda.gov/USDA, NRCS. February 2011. National Hydric Soils List by State. Available online at: ftp://ftp-

fc.sc.egov.usda.gov/NSSC/Hydrlc_Soils/Lists/hydric_soils.xlsx

USDA, NRCS. 1995. Soil Survey of Fairfield County, Ohio.

USDA, NRCS. 1976. Soil Survey of Franklin County, Ohio. USDA, NRCS. 1986. Soil Survey of Licking County, Ohio.





National Wetland Inventory Map Review: National Wetland Inventory (NWI) wetlands are areas of potential wetland that have been identified from USFWS aerial photograph interpretation which 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 NWI map of the Sunbury, Ohio quadrangle, the survey corridor contained one mapped NWI wetland, a Palustrine Freshwater Emergent, seasonally flooded wetland (PEM1C)¹. The mapped NWI wetland was not crossed by any of the delineated wetlands, but was located approximately 25-feet northwest of Wetland 2.

3.3 Stream and River Crossings

Streams within the 150-foot survey corridor are provided in Table 4. The locations of streams identified within the 150-foot survey corridor are shown on Figures 2A through 2E. Within the 150-foot survey corridor, five streams, totaling 1,244 feet, were assessed: one ephemeral and four intermittent waterbodies. Four streams were assessed using the HHEI methodology (drainage area less than 1 mi²), while one stream was assessed using the QHEI methodology (drainage area greater than 1 mi²). Based on USGS topographic quadrangle maps, none of these streams appear to be named. URS has preliminarily determined the five streams appear to be jurisdictional (i.e., "Waters of the U.S."), as they all appear to be tributaries that flow into or combine with other streams. Completed QHEI and HHEI forms are provided in Appendix B. Color photographs were taken of each stream during the field survey and are provided in Appendix C.

TABLE 4
STREAMS IDENTIFIED WITHIN THE
HYATT-CORRIDOR 2nd 345 kV CIRCUIT 150-FOOT SURVEY CORRIDOR¹

Stream Name	Flow Type	Estimated Width of Stream Crossing (feet)	Maximum Pool Depth (inches)	Approximate Length Within Survey Corridor (feet)	Assessment Used	Score	Narrative Description
Stream 1	Ephemeral	4	0	142	HHEI	40	Modified Class 2
Stream 2	Intermittent	5.5	0	267	HHEI	46	Modified Class 2
Stream 3	Intermittent	6	0	160	HHEI	41	Modified Class 2
Stream 4	Intermittent	4.5	12	369	QHEI	44	Fair Warmwater Habitat
Stream 5	Intermittent	2	3	306	HHEI	39	Modified Class 2
Total: 5 St	reams			1,244			

Streams are listed from west to east.

USFWS National Wetland Inventory Classification De-coder: http://137.227.242.85/Data/interpreters/wetlands.aspx





Qualitative Habitat Evaluation Index: Field surveys along the ecology survey corridor identified one Qualitative Habitat Evaluation Index stream. Stream 4 was identified as a Fair Warmwater habitat stream.

<u>Primary Headwater Habitat Evaluation Index:</u> Field surveys along the ecology survey corridor identified four primary headwater streams: four Class 2 streams.

<u>Class 1 Headwater Streams</u> – No Class 1 headwater streams were evaluated during the field investigations.

<u>Class 2 Headwater Streams</u> – No Class 2 headwater streams were evaluated during the field investigations.

<u>Modified Class 2 Headwater Streams -</u> Four Modified Class 2 headwater streams, approximately 1,244 linear feet in length, were identified during the field investigation. One of the streams was ephemeral and the remaining four streams were intermittent, with scores that range between 39 and 46. The substrates consisted mainly of cobble and gravel, with lesser amounts of clay and silt. The streams all contained evidence of stream channel modification (riparian vegetation clearance), which resulted in the stream receiving a Modified Class 2 designation. The streams were all dry at the time of the field investigations, and the bank full width did not exceed six feet.

<u>Class 3 Headwater Streams</u> – No Class 3 headwater streams were evaluated during the field investigations.

4.0 SUMMARY

No national or state forests and parks, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, wildlife sanctuaries or floodplains were identified within 1,000 feet of the rebuild sections of the Project.

During the field survey, a total of five wetlands were identified within the 150-foot survey corridor. The five wetlands totaled 0.79 acres within the survey area. These wetlands are of a single wetland habitat type: palustrine emergent (PEM). Three of the wetlands were classified as Category I wetlands, and the remaining two wetlands were classified as a Category II wetlands.

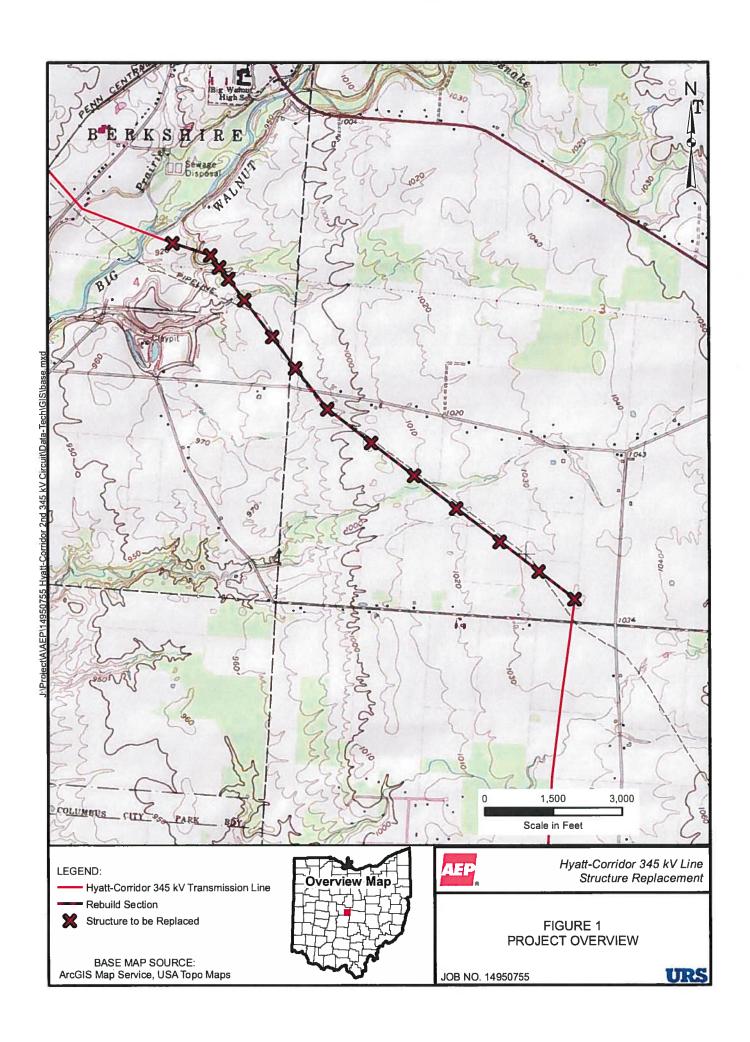
Within the 150-foot survey corridor, five streams, totaling 1,244 feet, were assessed: one ephemeral and four intermittent. Four streams were assessed using the HHEI methodology (drainage area less than 1 mi²) and one stream was assessed using the QHEI methodology (drainage area greater than 1 mi²). The four HHEI streams were all identified as Modified Class 2 streams, while the QHEI stream was identified as a Fair Warmwater habitat stream.

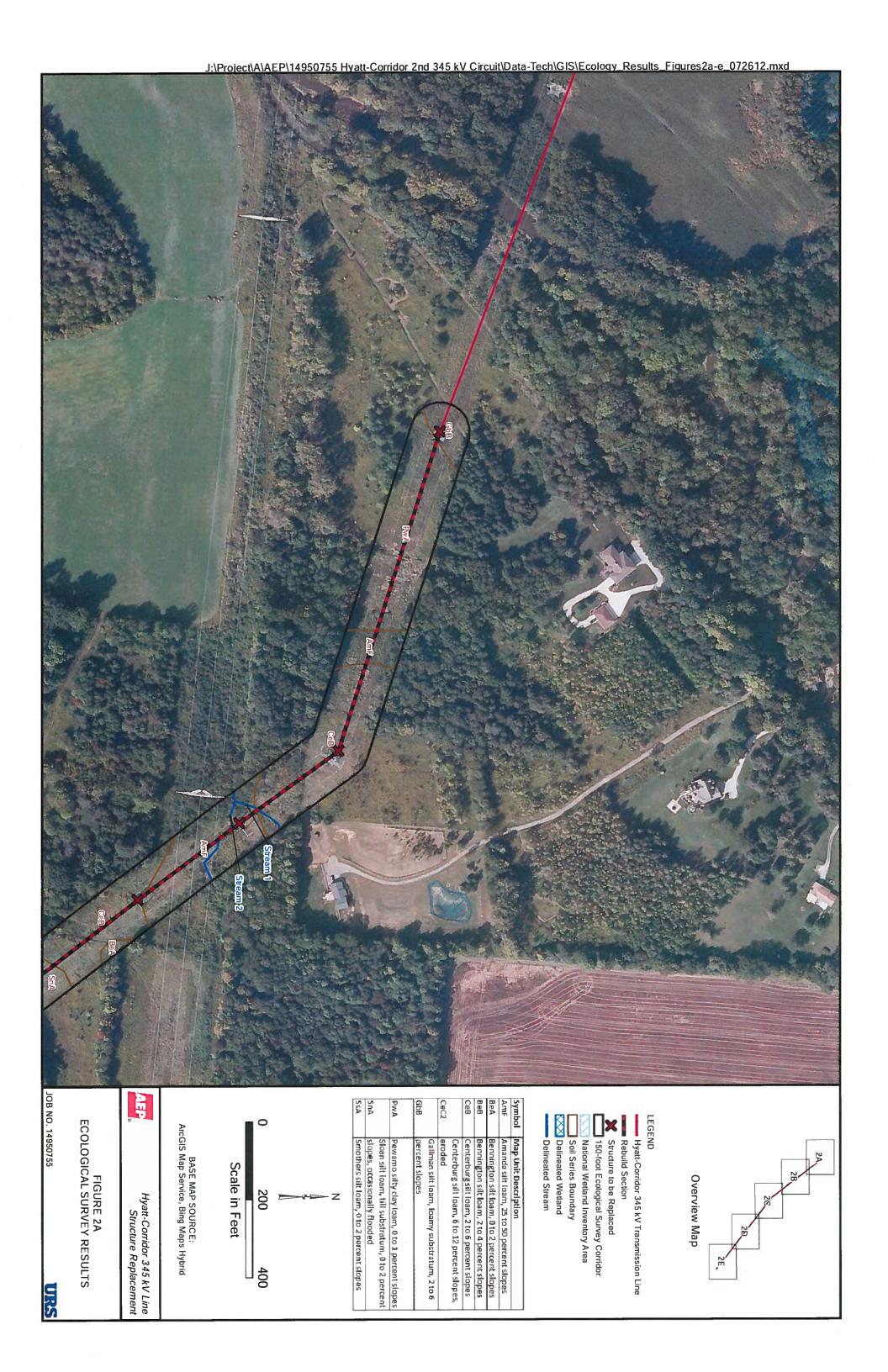


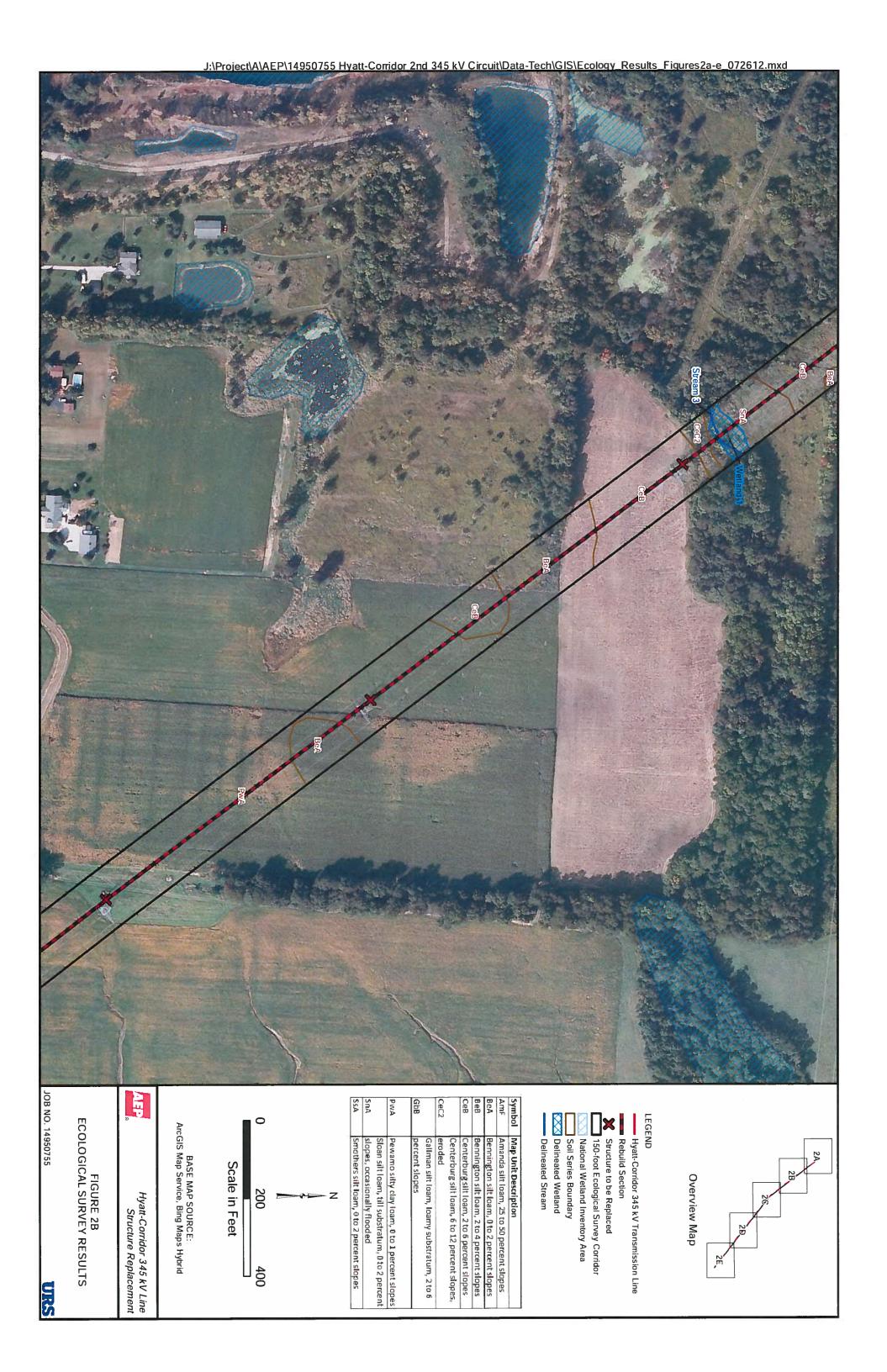


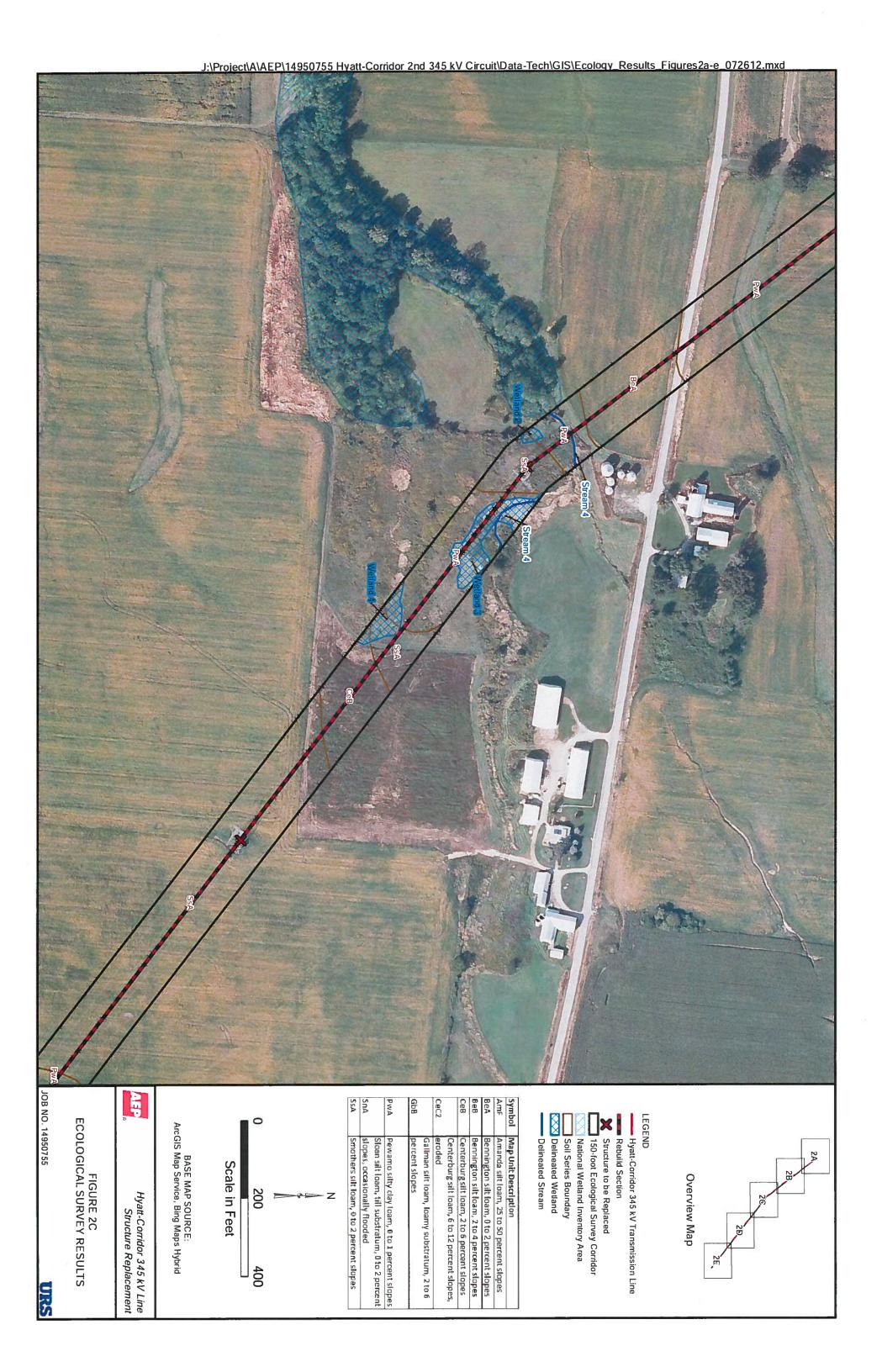
5.0 CONCLUSION

This report will be used to assist AEP's efforts to avoid wetlands and streams to the extent possible during the installation of additional structures and use of construction access routes, thereby minimizing impacts to any wetlands and streams identified along the length of the new circuit. While pole placement and access roads have not been fully engineered to date, it is expected that most wetlands and streams can be spanned due to their locations, size, and infrequency of occurrence. Surficial impacts to wetlands, if any, will likely result from vehicular impacts during rebuild operations. Erosion control methods including silt fencing are expected to be used where appropriate to minimize runoff related impacts to wetlands and stream channels. As a consequence, significant impacts to these "Waters of the U.S." 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.













APPENDIX A

DELINEATED WETLAND FORMS

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site HITP HYATT- CORRIDOR IN	345KV C	ity/County: Sun Bu	DELAWARE Sampling Date: 09, July 20,
Applicant/Owner: AEP	<u> </u>	y. Godiniy	State: OH Sampling Point: WET, 7
	S		inge:
,			(concave, convex, none):CONCAVE
			8 % Datum.
Soil Map Unit Name: SnA, SOAN SOTLOAM		ong	AllAll elections MA
Are climatic / hydrologic conditions on the site typical for thi			
			"Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology	naturally prob	lematic? (If ne	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showings	sampling point I	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes N			
Hydric Soil Present? Yes X		Is the Sampled	nd? Yes No
Wetland Hydrology Present? Yes 🔟 N	<u> </u>	within a wetiai	nd? Yes _ / _ No
REMARKS: PETM WETZAND PORTION OF A LAR	GIR Can	. Alw Tun-	
On the Company of the state of	-7C C CO7	representations	SKIENDS INTO ADJACENT WOODED
AREAS, PEM PORTION IS WIN EXIS		LANS 100W &	19 ABUTTINH STREAM 3
VEGETATION – Use scientific names of plants			
Tree Stratum (Plot size:)		Dominant Indicator Species? Status	Dominance Test worksheet:
1		Oldido:	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			
3.			Total Number of Dominant Species Across All Strata: (B)
4.			
5			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	=	: Total Cover	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size:) 1. SALLE Algra		V 081	Total % Cover of: Multiply by:
			OBL species 7 x 1 = 7
2			FACW species 90 x 2 = 780
4.			FAC species 25 x 3 = 75
5.	6		FACU species x 4 =
	2 =	Total Cover	UPL species x 5 =
Herb Stratum (Plot size:)	1-	d (m)	Column Totals: 122 (A) 262 (B)
1. Phalais arundinacea	70	X PHCW	Prevalence Index = B/A = 2.15
2. IMPITIONS Capensis	20_	- ACW	Hydrophytic Vegetation Indicators:
3. Symplocarpus foctidus 4. Carex Sp.	<u> </u>		1 - Rapid Test for Hydrophytic Vegetation
5. Solidago Sp.			≤ 2 - Dominance Test is >50%
6	•		3 - Prevalence Index is ≤3.0¹
7			4 - Morphological Adaptations (Provide supporting
8			data in Remarks or on a separate sheet)
9.			Problematic Hydrophytic Vegetation¹ (Explain)
10.			Indiana of harman and
	120 =	Tolal Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:			
1			Hydrophytic Vegetation
2.		Total Cause	Present? Yes No
Remarks: (Include photo numbers here or on a separate		Total Cover	
trializa prista namena nela or on a apparate			

SOIL

w-beo	7/9/12-	4
Sampling	Point:	-

Profile Description: (Describe to the de					,
Depth Matrix (inches) Color (moist) %	Color (moist)	x Features	Loc²	Texture	Remarks
0-14" 104R 3/1 80	1 /-				Remarks
0 19 10/K s/1 00	10/12 0/10	70 RM		silty day	
Type: C=Concentration D=Depletter Di	M=Dadward Matrix A46			21 51 .5	
Type: C=Concentration, D=Depletion, RI Hydric Soil Indicators:	wi-Reduced Matrix, MS	s=masked Sand Grai	ns.	"Location: PL=F	ore Lining, M=Matrix. oblematic Hydric Solls ³ :
122 11	0	N			
Histosol (A1) Histic Epipedon (A2)		Sleyed Matrix (S4)		Coast Prairie	
Black Histic (A3)		Redox (S5)		Dark Surface	• •
Hydrogen Sulfide (A4)		Matrix (S6)			se Masses (F12)
Stratified Layers (A5)		Mucky Mineral (F1)			Dark Surface (TF12)
2 cm Muck (A10)	Loanly C	Gleyed Matrix (F2)		Other (Explain	in Remarks)
Depleted Below Dark Surface (A11)		a Matrix (F3) Dark Surface (F6)			
Thick Dark Surface (A12)		d Dark Surface (F7)		3Indicators of hud	ophytic vegetation and
Sandy Mucky Mineral (S1)		Depressions (F8)			ogy must be present,
5 cm Mucky Peat or Peal (S3)		70p100010110 (1 0)		•	ed or problematic
Restrictive Layer (if observed):				ancos distars	ed of problematic
Туре:					V
Depth (inches):				Hydric Soli Preser	t? Yes No
Remarks:					
VDPOLOGY	W. W				
Vetland Hydrology Indicators:					
Vetland Hydrology Indicators: Primary Indicators (minimum of one is requ					ators (minimum of two required)
Wetland Hydrology Indicators: rimary Indicators (minimum of one is requ Surface Water (A1)	Water-Stair	ned Leaves (B9)		Surface So	Cracks (B6)
letland Hydrology Indicators: rimary Indicators (minimum of one is requ Surface Water (A1) High Water Table (A2)	Water-Stair Aquatic Fa	ned Leaves (B9) una (B13)		Surface So Z Drainage P	Cracks (B6) atterns (B10)
letland Hydrology Indicators: rimary Indicators (minimum of one is requ Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stair Aquatic Fa True Aquat	ned Leaves (B9) una (B13) ic Plants (B14)		Surface So Z Drainage P	Cracks (B6)
Vetland Hydrology Indicators: rimary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)		ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1)		Surface Son Dralnage P Dry-Seasor Crayfish Bu	I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8)
Vetland Hydrology Indicators: rimary Indicators (minimum of one is requestriate Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)		ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1) hizospheres on Livin	g Roots (C3	Surface Son Dralnage P Dry-Seasor Crayfish Bu	l Cracks (B6) atterns (B10) Water Table (C2)
Vetland Hydrology Indicators: rimary Indicators (minimum of one is requestriated by Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)		ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1)	g Roots (C3	Surface Sol Drainage P Dry-Seasor Crayfish Bu Saturation V Stunted or	I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) //sible on Aerial Imagery (C9)
Vetland Hydrology Indicators: rimary Indicators (minimum of one is requestriate Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stain Aquatic Far True Aquat Hydrogen S Oxidized R Presence of	ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1) hizospheres on Livin		Surface Sol Drainage P Dry-Seasor Crayfish Bu Saturation V Stunted or	I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) //sible on Aerial Imagery (C9)
Vetland Hydrology Indicators: rimary Indicators (minimum of one is requestrians of the second secon	Water-Stain Aquatic Fai True Aqual Hydrogen S Oxidized R Presence of Recent Iror Thin Muck	ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1) hizospheres on Livin of Reduced Iron (C4)		Surface Soi Dralnage Porty-Seasor Crayfish Bu Saturation V	I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2)
Vetland Hydrology Indicators: Primary Indicators (minimum of one is requestriance Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stain Aquatic Far True Aquat Hydrogen S Oxidized R Presence of Recent Iror Thin Muck	ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1) hizospheres on Livin if Reduced Iron (C4) in Reductlon In Tilled		Surface So Dralnage P Dry-Seasor Crayfish Bu Saturation V Stunted or S Geomorphi	I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2)
Vetland Hydrology Indicators: Primary Indicators (minimum of one is requestriance Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Water-Stain Aquatic Far Aquatic Far True Aquat Hydrogen S Oxidized R Presence or Recent Iron Thin Muck B7) Gauge or V	ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1) hizospheres on Livin of Reduced Iron (C4) a Reduction in Tilled		Surface So Dralnage P Dry-Seasor Crayfish Bu Saturation V Stunted or S Geomorphi	I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2)
Vetland Hydrology Indicators: rimary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Base) Sparsely Vegetated Concave Surface ield Observations:	Water-Stain Aquatic Far Aquatic Far True Aquat Hydrogen S Oxidized R Presence of Recent Iror Thin Muck B7) Gauge or V (B8) Other (Exp	ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1) hizospheres on Livin of Reduced Iron (C4) n Reduction in Tilled (Surface (C7) Vell Data (D9) lain in Remarks)	Soils (C6)	Surface So Dralnage P Dry-Seasor Crayfish Bu Saturation V Stunted or S Geomorphi	I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2)
Vetland Hydrology Indicators: Primary Indicators (minimum of one is requested in Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Base) Sparsely Vegetated Concave Surface	Water-Stain Aquatic Far Aquatic Far True Aquat Hydrogen S Oxidized R Presence of Recent Iror Thin Muck B7) Gauge or V (B8) Other (Exp	ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1) hizospheres on Livin of Reduced Iron (C4) n Reduction in Tilled (Surface (C7) Vell Data (D9) lain in Remarks)	Soils (C6)	Surface So Dralnage P Dry-Seasor Crayfish Bu Saturation V Stunted or S Geomorphi	I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2)
Metland Hydrology Indicators: Primary Indicators (minimum of one is requested in the second in the	Water-Stain Aquatic Far Aquatic Far True Aquat Hydrogen S Oxidized R Presence of Recent Iron Thin Muck B7) Gauge or W (B8) Other (Expl	ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1) hizospheres on Living f Reduced Iron (C4) Reduction in Tilled (Surface (C7) Vell Data (D9) lain in Remarks)	Soils (C6)	Surface So Dralnage P Dry-Seasor Crayfish Bu Saturation V Stunted or S Geomorphi	I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2)
Metland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Incompanies of the Concave Surface Steld Observations: Surface Water Present? Vater Table Present? Yes Vater Table Present?	Water-Stain Aquatic Fai Aquatic Fai True Aquat Hydrogen S Oxidized R Presence of Recent Iron Thin Muck B7) Gauge or V (B8) Other (Expl	ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1) hizospheres on Living Reduced Iron (C4) Reduction in Tilled Surface (C7) Vell Data (D9) lain in Remarks) hes):	Soils (C6)	Surface Sol Dralnage P. Dry-Seasor Crayfish Bu Saturation V Stunted or S Geomorphi X FAC-Neutra	I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2) I Test (D5)
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Vetland Hydrology Indicators: Primary Indicators (minimum of one is requested in the second in the	Water-Stain Aquatic Fai Aquatic Fai True Aquat Hydrogen S Oxidized R Presence of Recent Iron Thin Muck B7) Gauge or W (B8) Other (Expl No X Depth (inc.) No X Depth (Inc.)	ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1) hizospheres on Living Reduced Iron (C4) Reduction in Tilled (C7) Vell Data (D9) lain in Remarks) hes): hes):	Soils (C6)	Surface So Dralnage P Dry-Seasor Crayfish Bu Saturation N Stunted or S Geomorphi X FAC-Neutra	I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2) I Test (D5)
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Vetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface iteld Observations: Furface Water Present? Vater Table Present? Vater Table Present? Vater Table Present? Ves Ves Ves Ves Ves Ves Ves Ve	Water-Stain Aquatic Fai Aguatic Fai Aguati	ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1) hizospheres on Living f Reduced Iron (C4) Reduction in Tilled Surface (C7) Vell Data (D9) lain in Remarks) hes): hes): hes):	Wetland	Surface So Drainage P. Dry-Seasor Crayfish Bu Saturation N Stunted or S Geomorphi X FAC-Neutra	I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2) I Test (D5) nt? Yes No
Vetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface iteld Observations: Furface Water Present? Vater Table Present? Vater Table Present? Vater Table Present? Ves Ves Ves Ves Ves Ves Ves Ve	Water-Stain Aquatic Fai Aguatic Fai Aguati	ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1) hizospheres on Living f Reduced Iron (C4) Reduction in Tilled Surface (C7) Vell Data (D9) lain in Remarks) hes): hes): hes):	Wetland	Surface So Drainage P. Dry-Seasor Crayfish Bu Saturation N Stunted or S Geomorphi X FAC-Neutra	I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2) I Test (D5) nt? Yes No
Vetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Inc. Sparsely Vegetated Concave Surface iteld Observations: urface Water Present? Vater Table Present? Vater Table Present? Ves aturation Present? Yes aturation Present? Yes coludes capillary fringe) Vescribe Recorded Data (stream gauge, meaning the stream of the stream gauge, meaning the stream gauge and the st	Water-Stain Aquatic Fai Aguatic Fai Aguati	ned Leaves (B9) una (B13) ic Plants (B14) Sulfide Odor (C1) hizospheres on Living f Reduced Iron (C4) Reduction in Tilled Surface (C7) Vell Data (D9) lain in Remarks) hes): hes): hes):	Wetland	Surface So Drainage P. Dry-Seasor Crayfish Bu Saturation N Stunted or S Geomorphi X FAC-Neutra	I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2) I Test (D5) nt? Yes No

W-BAO-070918-63

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: AED HYATT-CORRIDOR #2	34520	/ Citv/Cou	intv. SUNBUI	MY DEZAWARE Sampling Date: 07000
Applicant/Owner: At-P		,		State: OH Sampling Point:
Investigator(s): B.Otto M. THOMAYER		Section.	Township Ra	
Landform (hillslope, terrace, etc.):			Local relief	(concave convex none): Concave
Slope (%): Lat: 40, 216765	1	.ona:	-82.84	(27-11 Datum:
Soil Map Unit Name: BRA SIA PWA				NWI classification: UA
Are climatic / hydrologic conditions on the site typical for this				
Are Vegetation 1, Soil 2, or Hydrology 1 significant				
Are Vegetation N, Soil N, or Hydrology N na				peded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map s				
Hydrophyllc Vegetation Present? Yes X No				
Hydric Soil Present? Yes X No		ls	the Sampled	Area
Wetland Hydrology Present? Yes 🛨 No		W	/Ithin a Wetlar	nd? Yes <u>X</u> No
Remarks:				
PEM WETLAND LOCATED ABUTTING STR	EAM S	-NOT	-070912	-03 (INT.)
VEGETATION – Use scientific names of plants.				
			ant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Specie:	s? Status	Number of Dominant Species
2	•			That Are OBL, FACW, or FAC: (A)
3.				Total Number of Dominant Species Across All Strata: (B)
4.				
5				Percent of Dominant Species That Are OBL, FACW, or FAC:
Sapling/Shrub Stratum (Plot size:)		= Total (Cover	Prevalence Index worksheet:
1.				Total % Cover of: Multiply by:
2.				OBL species <u>55</u> x1 = <u>55</u>
3.				FACW species
4.				FAC species
5				FACU species x 4 =
Herb Stratum (Plot size:)		= Total C	Cover	UPL species
1. S. Nortener - Acoknus Calamus	40	V	OBL	Column Totals: 125 (A) 235 (B)
2. Vorbena hasterta	10		FACW	Prevalence Index = B/A = / 6
3. Scirpus a Hovirens	15		OBL	Hydrophytic Vegetation Indicators:
4. PET CAMPY GHASS - Phaloris arundinacea	30	\bot	FACW	1 - Rapid Test for Hydrophylic Vegetation
5. TEASEX - DIPSACUS	/0		NI(upz)	2 - Dominance Test is >50%
6. MENTHA DRUENSIS	_5		FACW	× 3 - Prevalence Index is ≤3.01
7. SOLIDAGIOSP	10		- FAC	4 - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)
8. FOX SF-DI-F-CONTE VULPINOIDEA	5	7	FACW	Problematic Hydrophytic Vegetation¹ (Explain)
9				
Woody Vine Stratum (Plot size:)	195 :	Total (Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.				The decided to
2.				Hydrophytic Vegetation
	=	Total C	Cover	Present? Yes No
Remarks: (Include photo numbers here or on a separate sh				

W-BAO-070912=03

SOIL

HYATT WETLAND 3

Sampling Point: ____

00,	יייע				

i .			n the absence of indicators.)
Depth Matrix	Redox Featu	res	
(inches) Color (moist) %	Color (moist) %	Type¹ Loc²	Texture Remarks
0-8 11 101/R 2/1 90	10484/8 10	PM M	SILY
· '	/		CLAU
	·····		
¹ Type: C=Concentration, D=Depletion, RM=	Reduced Matrix, MS=Mask	ed Sand Grains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:			Indicators for Problematic Hydric Solls ³ :
Histosol (A1)	Sandy Gleyed i		Coast Prairie Redox (A16)
Histic Epipedon (A2)	Sandy Redox (S	-	Dark Surface (S7)
Black Histic (A3)	Stripped Matrix	• •	Iron-Manganese Masses (F12)
Hydrogen Sulfide (A4)	Loamy Mucky N	. ,	Very Shallow Dark Surface (TF12)
Stratified Layers (A5)	Loamy Gleyed I		Other (Explain in Remarks)
2 cm Muck (A10) Depleted Below Dark Surface (A11)	Depleted Matrix	. ,	
Thick Dark Surface (A12)	Redox Dark Sur		³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Redox Depress		wetland hydrology must be present,
5 cm Mucky Peat or Peat (S3)		iono (1 0)	unless disturbed or problematic
Restrictive Layer (If observed):			and and and an properties.
Type: BEDILOCK			
Depth (inches): 8-9"			Hydric Soil Present? Yes X No
Remarks:			
DARK IN COLOR 2/	DISTING ME	TTES	
	DISTING ME	TTES	
HYDROLOGY	DISTING ME	irres	
HYDROLOGY Wetland Hydrology Indicators:		erres	Coopedant la disetere (minimum of hun ya mirad)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is require	ed; check all that apply)		Secondary Indicators (minimum of two required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is require Surface Water (A1)	ed; check all that apply) Water-Stained Lea	aves (B9)	Surface Soil Cracks (B6)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required) Surface Water (A1) High Water Table (A2)	ed; check all that apply) Water-Stained Lea Aquatic Fauna (B1	aves (B9)	Surface Soil Cracks (B6) X Drainage Patterns (B10)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required and a second and a s	ed; check all that apply) — Water-Stained Lea — Aquatic Fauna (B1	aves (B9) 3) is (B14)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required and included and inc	ed; check all that apply) — Water-Stained Lea — Aquatlc Fauna (B1 — True Aquatic Plant	aves (B9) 3) is (B14) Odor (C1)	Surface Soil Cracks (B6) ★ Drainage Patterns (B10) _ Dry-Season Water Table (C2) _ Crayfish Burrows (C8)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required and in the second and in the se	ed; check all that apply) Water-Stained Lea Aquatlc Fauna (B1 True Aquatic Plani Hydrogen Sulfide	aves (B9) 3) Is (B14) Odor (C1) Ieres on Living Roots	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required and in the second and in the se	ed; check all that apply) Water-Stained Lea Aquatlc Fauna (B1 True Aquatic Plani Hydrogen Sulfide	aves (B9) 3) Is (B14) Odor (C1) Interes on Living Roots Cod Iron (C4)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required in the second in the seco	ed; check all that apply) — Water-Stained Lea — Aquatic Fauna (B1 — True Aquatic Plani — Hydrogen Sulfide (— Oxidized Rhizosph — Presence of Redu	aves (B9) 3) Is (B14) Odor (C1) Ineres on Living Roots Ced Iron (C4) Ctlon In Tilled Soils (C6	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required and incident of the image) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	ed; check all that apply) — Water-Stained Lea — Aquatic Fauna (B1 — True Aquatic Plani — Hydrogen Sulfide (— Oxidized Rhizosph — Presence of Reduction Reduction (Control Reduction (C	aves (B9) 3) Is (B14) Odor (C1) Interes on Living Roots Ced Iron (C4) Itlon In Tilled Soils (C6) Is (C7)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required and in the second and in the se	ed; check all that apply) — Water-Stained Lea — Aquatic Fauna (B1 — True Aquatic Plant — Hydrogen Sulfide (Control of Reduction Reducti	aves (B9) 3) is (B14) Odor (C1) heres on Living Roots ced Iron (C4) ctlon In Tilled Soils (C6) e (C7) ia (D9)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) 6) Geomorphic Position (D2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required and in the second and in the se	ed; check all that apply) — Water-Stained Lea — Aquatic Fauna (B1 — True Aquatic Plani — Hydrogen Sulfide (Company) — Presence of Reduction Reduction Reduction Reduction (Company) — Thin Muck Surface (Company)	aves (B9) 3) is (B14) Odor (C1) heres on Living Roots ced Iron (C4) ctlon In Tilled Soils (C6) e (C7) ia (D9)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) 6) Geomorphic Position (D2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required in the second in the seco	ed; check all that apply) — Water-Stained Lea — Aquatic Fauna (B1 — True Aquatic Plant — Hydrogen Sulfide of Mizosph — Presence of Redurence of Red	aves (B9) (3) Is (B14) Odor (C1) heres on Living Roots ced Iron (C4) ction in Tilled Soils (C6 (C7) (a (D9) Remarks)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required in the second in the seco	ed; check all that apply) — Water-Stained Lea — Aquatic Fauna (B1 — True Aquatic Plant — Hydrogen Sulfide (— Oxidized Rhizosph — Presence of Redurung Recent Iron Reducturg Thin Muck Surface (B) — Gauge or Well Date (B) — Other (Explain in Falso	aves (B9) 3) is (B14) Odor (C1) heres on Living Roots ced Iron (C4) ction in Tilled Soils (C6 c (C7) ia (D9) Remarks)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required in the second in the sec	ed; check all that apply) Water-Stained Lea Aquatic Fauna (B1 True Aquatic Plani Hydrogen Sulfide (Considized Rhizosph Presence of Redu Recent Iron Reduc Thin Muck Surface Thin Muck Surface Other (Explain in Face) O L	aves (B9) (3) Is (B14) Odor (C1) Ineres on Living Roots Ced Iron (C4) Itlon In Tilled Soils (C6 (C7) Ia (D9) Remarks)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required in the second in the seco	ed; check all that apply) Water-Stained Lea Aquatic Fauna (B1 True Aquatic Plant Hydrogen Sulfide of XOxidized Rhizosph Presence of Redur Recent Iron Reduc Thin Muck Surface Gauge or Well Dat Bo Y Depth (inches): Depth (inches):	aves (B9) (3) is (B14) Odor (C1) heres on Living Roots ced Iron (C4) ction in Tilled Soils (C6 (C7) ia (D9) Remarks) Weti	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required and in the second and indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Field Observations: Surface Water Present? Yes No Saturation Present? Yes	ed; check all that apply) Water-Stained Lea Aquatic Fauna (B1 True Aquatic Plant Hydrogen Sulfide of XOxidized Rhizosph Presence of Redur Recent Iron Reduc Thin Muck Surface Gauge or Well Dat Bo Y Depth (inches): Depth (inches):	aves (B9) (3) is (B14) Odor (C1) heres on Living Roots ced Iron (C4) ction in Tilled Soils (C6 (C7) ia (D9) Remarks) Weti	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required in the second in the seco	ed; check all that apply) Water-Stained Lea Aquatic Fauna (B1 True Aquatic Plant Hydrogen Sulfide of XOxidized Rhizosph Presence of Redur Recent Iron Reduc Thin Muck Surface Gauge or Well Dat Bo Y Depth (inches): Depth (inches):	aves (B9) (3) is (B14) Odor (C1) heres on Living Roots ced Iron (C4) ction in Tilled Soils (C6 (C7) ia (D9) Remarks) Weti	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required and in the property of the property o	ed; check all that apply) Water-Stained Lea Aquatic Fauna (B1 True Aquatic Plant Hydrogen Sulfide of XOxidized Rhizosph Presence of Redur Recent Iron Reduc Thin Muck Surface Gauge or Well Dat Bo Y Depth (inches): Depth (inches):	aves (B9) (3) is (B14) Odor (C1) heres on Living Roots ced Iron (C4) ction in Tilled Soils (C6 (C7) ia (D9) Remarks) Weti	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required and in the property of the property o	ed; check all that apply) Water-Stained Lea Aquatic Fauna (B1 True Aquatic Plant Hydrogen Sulfide of XOxidized Rhizosph Presence of Redur Recent Iron Reduc Thin Muck Surface Gauge or Well Dat Bo Y Depth (inches): Depth (inches):	aves (B9) (3) is (B14) Odor (C1) heres on Living Roots ced Iron (C4) ction in Tilled Soils (C6 (C7) ia (D9) Remarks) Weti	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required and in the primary Indicators (minimum of one is required and in the primary Indicators (minimum of one is required and in the primary Indicators (Maximum of one is required and in the primary Indicators (Maximum of one is required and in the primary Indicators (Maximum of one is required and in the primary Indicators (Maximum of one is required and in the primary Indicators (Maximum of one is required and in the primary Indicators (Maximum of one is required and in the primary Indicators (Maximum of one is required and in the primary Indicators (Maximum of one is required and in the primary Indicators (Maximum of one is required and in the primary Indicators (Maximum of one is required and indicator	ed; check all that apply) Water-Stained Lea Aquatic Fauna (B1 True Aquatic Plant Hydrogen Sulfide of XOxidized Rhizosph Presence of Redur Recent Iron Reduc Thin Muck Surface Gauge or Well Dat Bo Y Depth (inches): Depth (inches):	aves (B9) (3) is (B14) Odor (C1) heres on Living Roots ced Iron (C4) ction in Tilled Soils (C6 (C7) ia (D9) Remarks) Weti	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: AEP HURFT - CORRIDOR H.	2 345K	City /County	: SUNBU	Ry DRAGIANE Sampling Date: 0709/2
Applicant/Owner: $A \in P$				State: OH Sampling Point:
Investigator(s): B. OTTO, M. THOMILLIER		Section, To	wnship, Ra	nge:
Landform (hillslope, lerrace, etc.):			Local relief	(concave, convex, none): Concave
Landform (hillslope, lerrace, etc.):		Long: - 8	32.847	- 4L3 Datum
Soil Map Unit Name: PWA, SSA, CEB				NWI classification://A
Are climatic / hydrologic conditions on the site typical for this				
Are Vegetation N, Soil V, or Hydrology N si				
Are Vegetation $\frac{\mathcal{N}}{\mathcal{N}}$, Soil $\frac{\mathcal{N}}{\mathcal{N}}$, or Hydrology $\frac{\mathcal{N}}{\mathcal{N}}$				Normal Circumstances" present? Yes No
				eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map s	showing	samplin	g point le	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No				
Hydric Soil Present? Yes X		1	e Sampled	
Welland Hydrology Present? Yes X No		With	in a Wetlar	nd? Yes No
Remarks:				1
DEPRESSIONAL PEM WETLAND LOCH	TED W	VIN EX	155,NH	TRANS ROW & ADJACENT TO AGLAND
VEGETATION – Use scientific names of plants.				
Tree-Stratum (Plot size:)		Dominant		Dominance Test worksheet:
1.	78 COVE	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			•	
3.				Total Number of Dominant Species Across All Strata: (B)
4.				
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
		= Total Co	ver	
Sapling(Shrub Stratum (Plot size:)				Prevalence Index worksheet:
1.				Total % Cover of:Multiply by:
3.	·			OBL species $1/6$ $\times 1 = 1/5$ FACW species 27 $\times 2 = 54$
3.				FAC species x3=
5.				FACU species x 4 =
		= Total Co	/er	UPL species <u>6</u> x 5 = 25
Herb Stratum (Plot size:)				Column Totals: 147 (A) 194 (B)
1. PER CON MINSS - Learsia Originales	40		085	122
2. Verbana hastata	2		FACW	Prevalence Index = B/A =
3. MESSAGA GEVENSIS	<u>10</u>		FACW OBL	Hydrophytic Vegetation Indicators:
4. JUNEOR FERUSUS 5. TEWN WEST - IMPATIENS CAPENSIS	10			1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
6. Acorns Calamys	30	*	FACW OBL	X 3 - Prevalence Index is ≤3.0¹
7. Boussit - Euphatorium perfoliatum	15.	5.11	OBL	4 - Morphological Adaptations¹ (Provide supporting
8. Fox Stoff - Carex MULPINONICA	2		PACW	data in Remarks or on a separate sheet)
9. POLYGONUM SAGINATUM	5		OBL	Problematic Hydrophytic Vegetation¹ (Explain)
10. PARIC CAPTEN BULYEUS H - SCIPPUS atrovires	, 20		OBL	
JENSEL 5 N((UPL) Woody Vine Stratum (Plotsize:)	147	= Total Co	/er	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.				Hydrophytic
2				Vegetation Present? Yes No
		= Total Co	/er	Les V NO
Remarks: (Include photo numbers here or on a separate s	neet.)			
				,

OIL								Sampling Point:
Profile Description	on: (Describe	o the dept	h needed to docum	nent the i	ndicator o	r confirr	m the absence	of indicators.)
Depth	Matrix			x Feature				
	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc²	<u>Texture</u>	Remarks
0-8 /	04/60/1	90	104R6/8	10	Rull	Tel	SILVY	DANK 3011S
REFUSIN							CLAY	MEANY DISTINCT
							·	
							. 	
Type: C=Concer	ntration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Grai	ns.	² Location	PL=Pore Lining, M=Matrix.
Hydric Soil Indic							Indicators	for Problematic Hydrlc Soils³:
Histosol (A1)			Sandy C	Sleyed Ma	atrix (S4)		Coast I	Prairie Redox (A16)
Histic Epiped	on (A2)			Redox (S5	•		_	urface (S7)
Black Histic (-		— …	Matrix (S				anganese Masses (F12)
Hydrogen Su				-	neral (F1)			hallow Dark Surface (TF12)
Stratified Lay 2 cm Muck (A				Gleyed Ma d Matrix (Other (Explain in Remarks)
	ow Dark Surface	(A11)		Dark Surfa				
Thick Dark S		, , , ,			rface (F7)		3Indicators	of hydrophytic vegetation and
Sandy Mucky			Redox [Depressio	ns (F8)			i hydrology must be present,
	Peat or Peat (S3)					unless	disturbed or problematic
Restrictive Laye								
••	DROCK						Hydric Soil	Present? Yes No No
Depth (inches)): <u>SIN</u>						Tiyanc 3011	rieseliti ies NO
					·····			
YDROLOGY	Indiadama							
Wetland Hydrold		an in conside	ed; check all that ap	mha)			Cononda	an Indicators (minimum of hus required)
		ie is require			aa (BO)			ry Indicators (minimum of two required)
Surface Water T			Water-Stai					ace Soil Cracks (B6) nage Patterns (B10)
Saturation (A			True Aqua	•	•			Season Water Table (C2)
Water Marks	•		Hydrogen					fish Burrows (C8)
Sediment De			X,Oxidized F			na Roots		ration Visible on Aerial Imagery (C9)
Drift Deposits			Presence	•		_	-	ated or Stressed Plants (D1)
Algal Mat or 0			Recent Iro		, ,			morphic Position (D2)
Iron Deposits			Thin Muck			•		-Neutral Test (D5)
Inundation Vi	sible on Aerial I	nagery (B7						
Sparsely Veg	etated Concave	Surface (B	8) Other (Exp	lain in Re	emarks)			
ield Observatio	ns:					<u> </u>		
Surface Water Pr	esent? Ye	es N	lo 🔽 Depth (inc	ches):		_		
Water Table Pres	ent? Ye	es N	lo 🚣 Depth (inc	ches):		_		
Saturation Preser	nt? Ye	es N	lo 🔟 Depth (Inc	ches):		Wet	land Hydrolog	y Present? Yes 🗶 No
(includes capillary	/ fringe)						if a reliable.	
Describe Recorde	eo Data (stream	gauge, moi	nitoring well, aerial į	motos, pr	evious insp	ections)	, ir available:	
Remarks:								
DEONES	SIONAL AI	lea Til	AT GETS	A4. F	FIELD P	UNDF	F	
1	-		40 (37)					1

HYATT WETHNDS

W-BAD-0709/2-01

Project/Site: AEP HYATT-CORRIDOR 2nd 34: Applicant/Owner: AED	5KV (City/County:		PEZAWARE	Sampling Date: OGJVYX
Applicant/Owner: 4ED	····			State: <u>Ο </u>	Sampling Point: 8/
Investigator(s): BOTTO, M. THOM184FEC		Section, Tov	vnship, Ra	nge:	
Landform (hillslope, terrace, etc.): Slope (%): Lat: 40.7(0455 Soil Map Unit Name: BeB Po A		Long: 8	2.83	7891	Datum.
Soil Map Unit Name: BeB PuA			Ti.	NWI class	ification: WA-
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soll, or Hydrology si					•
Are Vegetation N., Soil N., or Hydrology N. na					
•					
SUMMARY OF FINDINGS – Attach site map s		Sampling	3 boint i		ts, important features, etc.
)	le the	Sampled	Aroa	
)		n a Wetlar		√ No
Remarks:					
TO THE TO THE TOTAL THE TOTAL TO THE TOTAL TOTAL TO THE T					
PEM WETLAND LOCATED BETWEEN AG. 1	FIFLDS	12174	Grann =	SDECUE DIVERS	100
VEGETATION – Use scientific names of plants.		- 11 11		Profes Pro	
FEGETATION - OSE SCIENTIFIC HATTIES OF Plants.	Absolute	Dominant	Indiantas	Daminana Tantura	ules books
Tree Stratum (Plot size:)		Species?		Dominance Test wo Number of Dominant	
1.				That Are OBL, FACV	
2				Total Number of Don	ninant
3.				Species Across All S	,
4.				Percent of Dominant	Species .
5.				That Are OBL, FACV	
Sapling/Shrub Stratum (Plot size:)		= Total Cov	er	Prevalence Index w	orksheet;
1				Total % Cover of	: Multiply by:
2.				OBL species	7 x1= 77
3.				FACW species	$20 \times 2 = 52$
4.				FAC species	35 x3= <u>/05</u>
5,				FACU species	
Herb Stratum (Plot size:)		= Total Cov	er	UPL species	x5=
1. TNOIDNHTIMP - APORYOUM CANDADIOUM	15		PAC	Column Totals:	
2. Surup MILLY WISED - ASCIPIUS INCREMENTO	5		1 BC	Prevalence Ind	ex = B/A = 1.69
3. PATHILUSH - Junus tenuis	10		FAC	Hydrophytic Vegeta	
4. JUNCUS EFFUSIG	∂ ∞ ∘	$\overline{}$	OBL	1 - Rapid Test fo	r Hydrophytic Vegetation
5. JAREGIREN BULBURH - SCIPUS OURONIAM	/0		OBL	≥ 2 - Dominance T	est is >50%
6. BLUE VIRGUAIN - Verbana hastava	2.		FACW	≥3 - Prevalence Ir	ndex is ≤3.0 ¹
7. SOLISAFIO SP	10 .		FAC		I Adaptations¹ (Provide supporting rks or on a separate sheet)
8. Carex + ribigloides	20	_X_	1034		rophytic Vegetation ¹ (Explain)
9. Polytonum Pennsylvanicum	5.		FACW	r roblematic riyo	Topitytic vegetation (Explain)
10. for Seage - Carex Julginoidea	15		FACW	Indicators of hydric	soil and wetland hydrology must
SCUSITIVE FOUN - 2 Macw Woody Vine Stratum (Plot size:)	138	= Total Cov	er		sturbed or problematic.
1.				Hudrophytic	
2.				Hydrophytic Vegetation	
6		= Total Cov	er	Present?	Yes <u>×</u> No
Remarks: (Include photo numbers here or on a separate s				I	**************************************
Lelona bryzófas: 15 OBL	- 11	ARROWLER	ACC PATA	1¥	
Control of Tolland	1.0	(TYPHA	11 -4111 11	~ \ 2 0	BL

OBL

- 20912-01

HYATT WETLANDS

W- BAO-040912-0

SOIL

OIL				Sampling Point:
Profile Description: (Describe to the o	lepth needed to document the indicat	or or confirm	m the absence o	f indicators.)
Depth Matrix	Redox Features			
(inches) Color (moist) %	Color (moist) % Type	Loc ²	<u>Texture</u>	Remarks
9-14 <u>10464/2 90</u>	7.54R 5/8 /O RM		SIETYCI RY LOHIM	FEW/DISTINET
Type: C=Concentration, D=Depletion, Flydric Soil Indicators:	M=Reduced Matrix, MS=Masked Sand	Grains.		PL=Pore Lining, M=Matrix. or Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4	1)		rairie Redox (A16)
Histic Epipedon (A2)	Sandy Redox (S5)	,	Dark Su	• •
Black Histic (A3)	Stripped Matrix (S6)			nganese Masses (F12)
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F	1)		allow Dark Surface (TF12)
Stratified Layers (A5)	Loamy Gleyed Matrix (F:	-		ixplain in Remarks)
2 cm Muck (A10)	Depleted Matrix (F3)	-/	011101 (12	Apiani is Noriality
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6	١.		
_ Thick Dark Surface (A12)	Depleted Dark Surface (•	3Indicators of	of hydrophytic vegetation and
_ Sandy Mucky Mineral (S1)	Redox Depressions (F8)	•		hydrology must be present.
5 cm Mucky Peat or Peat (S3)	redux popiessions (i o)			listurbed or problematic.
estrictive Layer (if observed):				
Type:			Undein Call C	resent? Yes No
Depth (inches):			riyuric Suii F	resentr resNo
Solis Whet Rear Day	11 11 20 20 07			27
/DROLOGY			7	
letland Hydrology Indicators:				
rimary Indicators (minimum of one is red	uired; check all that apply)		Secondary	Indicators (minimum of two required)
Surface Water (A1)	Water-Stained Leaves (B9)			ce Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)			age Patterns (B10)
Saturation (A3)	True Aquatic Plants (B14)			eason Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1	1		sh Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on I			
	•	•		ation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (•		ed or Stressed Plants (D1)
_ Algal Mat or Crust (B4)	Recent Iron Reduction in Ti	iled Soils (Ci	/	orphic Position (D2)
_ Iron Deposits (B5)	Thin Muck Surface (C7)		FAC-1	Neutral Test (D5)
_ Inundation Visible on Aerial Imagery	(B7) Gauge or Well Data (D9)			
Sparsely Vegetated Concave Surface	e (88) Other (Explain in Remarks)			
eld Observations:	245			4.
urface Water Present? Yes	No 🔀 Depth (inches):			
ater Table Present? Yes	No 🔀 Depth (inches):			
ncludes capillary fringe)	No X Depth (inches):			Present? Yes No
escribe Recorded Data (stream gauge,	monitoring well, aerial photos, previous	nspections),	if available:	
emarks:				

HYATT WETLAND 1_ Date: 07-09-10

	JATT-CORRIDOR JAL 345KV Rater(s): BAO, MDT	Date: 07-09-10
2 2	Metric 1. Wetland Area (size).	2
max 6 pts. subtotal	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) >	
3 5	Metric 2. Upland buffers and surrounding land use.	
max 14 pts. subtotal	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), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallo HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	w field. (3)
20 25	Metric 3. Hydrology.	
max 30 pts. subtotal	Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 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) Part of wetland/up	n (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) tration. Score one or dbl check ntly inundated/saturated (4) ed/saturated (3) ated (2) ted in upper 30cm (12in) (1)
8 33	Metric 4. Habitat Alteration and Development.	
max 20 pts. subtotal	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) Check all disturbances observed	
77	Recovered (6) Recovering (3) Recent or no recovery (1) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (3) Shrub/sapling remains the remains and the repart of the remains and t	
33	woody debris removal farming toxic pollutants nutrient enrichmen	t

Site: AEPHYATT-CORRIDOR DIL 345KW Rate	er(s): BAG	O MAT	Date: 0709/2
subtotal first page Metric 5. Special Wetla	nds.		
max 10 pts. subtotal 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 Lake Plain Sand Prairies (Oak Open Relict Wet Prairies (10) Known occurrence state/federal the Significant migratory songbird/wate Category 1 Wetland. See Questio	d-restricted hydrol enings) (10) preatened or enda er fowl habitat or	ogy (5) Ingered species (10) usage (10)	
Metric 6. Plant commun	nities, inte	erspersion, micro	topography.
max 20 pts, subtotal 6a. Wetland Vegetation Communities.	Vegetation (Community Cover Scale	
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
Aquatic bed	1	Present and either comprises	
Emergent		vegetation and is of moderal	te quality, or comprises a
/ Shrub		significant part but is of low	
Forest	2	Present and either comprises	-
Mudflats		vegetation and is of moderat	te quality or comprises a small
Open water		part and is of high quality	
Other	3	Present and comprises signific	cant part, or more, of wetland's
6b. horizontal (plan view) Interspersion.		vegetation and is of high qua	ality
Select only one.			
High (5)	Narrative De	escription of Vegetation Qualit	у
Moderately high(4)	low	Low spp diversity and/or predo	ominance of nonnative or
Moderate (3)		disturbance tolerant native s	pecies
Moderately low (2)	mod	Native spp are dominant comp	onent of the vegetation,
Low (1)		although nonnative and/or di	sturbance tolerant native spp
✓ None (0)		can also be present, and spe	ecies diversity moderate to
6c. Coverage of invasive plants. Refer		moderately high, but general	lly w/o presence of rare
to Table 1 ORAM long form for list. Add		threatened or endangered sp	pp
or deduct points for coverage	high	A predominance of native spec	cies, with nonnative spp
Extensive >75% cover (-5)		and/or disturbance tolerant n	ative spp absent or virtually
Moderate 25-75% cover (-3)		absent, and high spp diversit	y and often, but not always,
✓		the presence of rare, threate	ned, or endangered spp
Nearly absent <5% cover (0)	3. 3.44		
Absent (1)	Mudflat and	Open Water Class Quality	
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47	acres)
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9	.88 acres)
① Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
Standing dead >25cm (10in) dbh	200		
Amphibian breeding pools	Microtopogr	aphy Cover Scale	
	0	Absent	
	1	Present very small amounts or	if more common
PAT 1	Village Control	of marginal quality	
π	2	Present in moderate amounts,	but not of highest
		quality or in small amounts of	f highest quality
	3	Present in moderate or greater	amounts
1		and of highest quality	

End of Quantitative Rating. Complete Categorization Worksheets.

Site: A	EP H	until Corridor #12 345/N Rater(s): M. Thon	iayer B. Otto	Date: 9 July 2012
	2/				
	12				
SL	ubtotal first pa				
6	25	Metric 5. Special Wetland	ds.		
max 10 pts.	subtotal	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-ur	•	.	
		Lake Erie coastal/tributary wetland-re	•	ogy (5)	
		Lake Plain Sand Prairies (Oak Openii Relict Wet Prairies (10)	ngs) (10)		
		Known occurrence state/federal threa	itened or endar	ngered species (10)	
		Significant migratory songbird/water f	owl habitat or u	sage (10)	
	-	Category 1 Wetland. See Question 1			
, ,	29	Metric 6. Plant communi	ties, inte	erspersion, microto	pography.
4	161				
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.		Community Cover Scale	4-4
		Score all present using 0 to 3 scale. Aquatic bed	01	Absent or comprises <0.1ha (0.24) Present and either comprises small	
		3 Emergent	•	vegetation and is of moderate q	•
		Shrub		significant part but is of low qua	lity
		Forest	2	Present and either comprises sign	
		Mudflats Open water		vegetation and is of moderate q part and is of high quality	uality or comprises a small
		Other	3	Present and comprises significant	t part, or more, of wetland's
		6b. horizontal (plan view) Interspersion.		vegetation and is of high quality	•
		Select only one.			
		High (5) Moderately high(4)	low	scription of Vegetation Quality Low spp diversity and/or predomin	nance of nonnative or
		Moderate (3)	IOW	disturbance tolerant native spec	
		Moderately low (2)	mod	Native spp are dominant component	
		Low (1)		although nonnative and/or distu	
		None (0) 6c. Coverage of invasive plants. Refer		can also be present, and specie	•
		to Table 1 ORAM long form for list. Add		moderately high, but generally was threatened or endangered spp	wo presence of rare
		or deduct points for coverage	high	A predominance of native species	s, with nonnative spp
		Extensive >75% cover (-5)		and/or disturbance tolerant nativ	
		Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)		absent, and high spp diversity a the presence of rare, threatened	
		by X Nearly absent <5% cover (0)		the presence of fare, threatened	i, or endangered spp
		Absent (1)	Mudflat and	Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	
		Vegetated hummucks/tussucks Coarse woody debris >15cm (6in)	2	Moderate 1 to <4ha (2.47 to 9.88 High 4ha (9.88 acres) or more	acres)
		Standing dead >25cm (10in) dbh		1. ug.: The (elect delect) of there	
		Amphibian breeding pools	Microtopogra	aphy Cover Scale	
			0	Absent	
			1	Present very small amounts or if no of marginal quality	nore common
			2	Present in moderate amounts, but	t not of highest
				quality or in small amounts of hi	
	1 C.L.	A0(4 /	3	Present in moderate or greater an	nounts
	1 411	CW T 1 14		and of highest quality	

End of Quantitative Rating. Complete Categorization Worksheets.

Metric 1. Wetland Area (size). Select one size class and assign score. **26 acres (*10.20) (6 / fpl) 10 to *25 acres (*10.10 to *10.10) (¢ / fpl) 10 to *25 acres (*10.10 to *10.10) (¢ / fpl) 10 to *25 acres (*10.10 to *10.10) (¢ / fpl) 10 to *25 acres (*10.10 to *10.10) (¢ / fpl) 10 to *25 acres (*10.10 to *10.10) (¢ / fpl) 10 to *30 acres (*10.10 to *30 a	Site: W-BAE	0-070912-03	Rater(s): B.o	TO, M. THE	OMBYER	Date: Ø	70912
Sol acres (P20.2hs) (6 pis) 25 to 450 acres (10 - to <20.2hs) (6 pts) 10 to <25 acres (4 to <10.1hs) (4 pts) 10 to <25 acres (4 to <10.1hs) (4 pts) 20.3 to <3 acres (0.12 to <1.2hs) (2pts) 20.3 to <1.2 to	22	Metric 1. Wetland A	Area (size).				
Wide Suffers average buffer width. Select only one and assign score. Do not double check WiDE. Buffers average 50m (164ft) or more around welfand perimeter (7) More of the More of	max 6 pts. subtotal	>50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to < 10 to <25 acres (4 to <10. 3 to <10 acres (1.2 to <4h >0.3 to <3 acres (0.12 to <10.1 to <0.3 acres (0.04 to <10.1 to <0.3 acres (0.04 to <10.1 to <0.3 acres (0.04 to <10.1 to <0.05 acres (0.04 to <10.1 to <10.1 to <0.05 acres (0.04 to <10.1 t	s) 20.2ha) (5 pts) 1ha) (4 pts) a) (3 pts) .2ha) (2pts) <0.12ha) (1 pt)				
WIDE. Buffers average 50m (164fl) or more around wetland parimater (7) MRROW. Buffers average 10m to <50m (25m to <50m (25m to <50m) (21m	3 5	Metric 2. Upland bu	ıffers and su	rrounding	g land use.		
mex 30 pts. subtotal 3a. Sources of Water. Score all that apply. High pH groundwater (5) Other groundwater (3) Perceptiation (1) Seasonal/Intermittent surface water (3) Perennial surface water (4) Perennial surface water (4) Perennial surface water (4) Perennial surface water (5) 3c. Maximum water depth. Select only one and assign score. >0.7 (27.6in) (3) 3.6. Modifications to natural hydrologic regime. Score one or double check and average. None or none apparent (12) Recovered (7) Recovered (7) Recovered (7) Recovered (8) Recovered (9)	max 14 pts. subtotal	WIDE. Buffers average 50 MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land use VERY LOW. 2nd growth of LOW. Old field (>10 years WODERATELY HIGH. Re	om (164ft) or more arour a 25m to <50m (82 to <1) pe 10m to <25m (32ft to average <10m (<32ft) a second constant of the average of the average or older forest, prairie, second constant of the average o	d wetland perime 64ft) around wetle 68ft) around wet round wetland pe check and avera wannah, wildlife a ond growth fores a park, conserval	eter (7) and perimeter (4) etland perimeter (1) erimeter (0) ge. area, etc. (7) st. (5)	w field. (3)	
High pit groundwater (3) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. 3c. Maximum water depth. Select only one and assign score. 3c. Modifications to natural hydrologic regime. Score one or double check and average. None or none apparent (12) Recovering (3) Recovering (3) Recovering (3) Recovering (3) Recovering (2) Recovering (2) Recovering (3) Recovering (4) Recovering (4) Recovering (5) Recovering (6) Recovering (7) Recovering	20 25						
Recovering (3) Recent or no recovery (1) A		High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/intermittent surfa Perennial surface water (la 3c. Maximum water depth. Select o >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in)					

ORAM v. 5.0 Field Form Quantitative Rating

Site: _{\(\lambda\)}	N-1340-07	1-0912-03	Rater(s):	BAO.	mot	Date: 0709/2
				, , , , , , , , , , , , , , , , , , ,		
su	34 ibtotal first page					
0	34	Metric 5. Specia	l Wetlands			
max 10 pts.	subtotal C	heck all that apply and score Bog (10)	as indicated.			
		Fen (10)				
		Old growth forest (10 Mature forested wetli	•			
		Lake Erie coastal/trib		tricted hydro	plogy (10)	
		Lake Erie coastal/trib	-		gy (5)	
		Lake Plain Sand Pra) (10)		
		Known occurrence st	ate/federal threaten			
		Significant migratory Category 1 Wetland.				
		***************************************			rspersion, microto	nography
-	33	netile o. Tialit t	,ommunitie	ss, iiite	ispersion, microto	pograpny.
max 20 pts.	subtotal 6	a. Wetland Vegetation Comm		egetation C	ommunity Cover Scale	
	S	core all present using 0 to 3 s Aquatic bed	cale.	0	Absent or comprises <0.1ha (0.24	
10		☐ Aquatic bed☐ ☐ Emergent		1 '	Present and either comprises sma vegetation and is of moderate qu	
	ź	Chrush			significant part but is of low quali	•
	<i>-</i>	Forest	_	2	Present and either comprises sign	
		Mudflats			vegetation and is of moderate qu	iality or comprises a small
		Open water Other	_	3	part and is of high quality Present and comprises significant	port or more of wetlend's
	61	o. horizontal (plan view) Inter	spersion.	J	vegetation and is of high quality	part, or more, or wettand's
	S	elect only one.	Salita			
		High (5)	Na		cription of Vegetation Quality	
		Moderately high(4) Moderate (3)		low	Low spp diversity and/or predomin disturbance tolerant native species	
	0	Moderately low (2)	_	mod	Native spp are dominant compone	
		Low (1)			although nonnative and/or disturl	
		None (0)			can also be present, and species	diversity moderate to
		 Coverage of invasive plants Table 1 ORAM long form for 			moderately high, but generally was threatened or endangered spp	o presence of rare
		deduct points for coverage		high	A predominance of native species,	with nonnative snn
		Extensive >75% cove		9	and/or disturbance tolerant native	
	_3	Moderate 25-75% co			absent, and high spp diversity an	d often, but not always,
		Sparse 5-25% cover Nearly absent <5% c			the presence of rare, threatened,	or endangered spp
		Absent (1)	\-\ \-\ \	udflat and C	pen Water Class Quality	
	60	l. Microtopography.	<u></u>		Absent <0.1ha (0.247 acres)	
	St	core all present using 0 to 3 se		1	Low 0.1 to <1ha (0.247 to 2.47 acre	
		O Vegetated hummucks			Moderate 1 to <4ha (2.47 to 9.88 a	icres)
	€	û Coarse woody debrisΩ Standing dead >25cn		3	High 4ha (9.88 acres) or more	
		n Amphibian breeding		crotopogra	phy Cover Scale	
				0	Absent	
					Present very small amounts or if mo of marginal quality	ore common
CAT	2			2	Present in moderate amounts, but a quality or in small amounts of high	
			_	3	Present in moderate or greater amo	
- 0				1	mand and behalfer and account to a	

End of Quantitative Rating. Complete Categorization Worksheets.

HYATT WETLANDY

Site: W-BAO	-07096-02	Rater(s): Botto, M. THOMPHER	Date: 070912
2 -	Metric 1. Wetland A		
2 2 max 6 pts. subtotal	Select one size class and assign scores (>20.2ha) (6 pts 25 to <50 acres (10.1 to < 10 to <25 acres (4 to <10.3 to <10 acres (1.2 to <4h >< 0.3 to <3 acres (0.12 to < 0.1 to <0.3 acres (0.04 to <0.1 acres (0.04ha) (0 pts	ore. 20.2ha) (5 pts) 1ha) (4 pts) a) (3 pts) .2ha) (2pts) <0.12ha) (1 pt)	
10 8	7	ıffers and surrounding land ເ	ise.
max 14 pts. subtotal	WIDE. Buffers average 50 MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land us VERY LOW. 2nd growth LOW. Old field (>10 years MODERATELY HIGH. Ro	Select only one and assign score. Do not double cherom (164ft) or more around wetland perimeter (7) as 25m to <50m (82 to <164ft) around wetland perimeter ge 10m to <25m (32ft to <82ft) around wetland perimeter (0) average <10m (<32ft) around wetland perimeter (0) as Select one or double check and average. Or older forest, prairie, savannah, wildlife area, etc. (7) as sidential, fenced pasture, park, conservation tillage, number pasture, row cropping, mining, construction. (1)	er (4) eter (1)
17 25	Metric 3. Hydrolog		
max 30 pts. subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surf Perennial surface water (8) 3c. Maximum water depth. Select (2) >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) (3e. Modifications to natural hydrology (1) Recovered (7) Recovered (7) Recovering (3) Recent or no recovery (1)	100 year file Between seace water (3) ace water (3) ake or stream) (5) nly one and assign score. 3d. Duration Inundation Inundat	loodplain (1) stream/lake and other human use (1) tland/upland (e.g. forest), complex arian or upland corridor (1) ion/saturation. Score one or dbl ch ermanently inundated/saturated (4) inundated/saturated (3) y inundated (2) y saturated in upper 30cm (12in) (1) ce (nonstormwater) ing
10 35	Metric 4. Habitat A	teration and Development.	
max 20 pts. subtotal	Moderately good (4) Fair (3) Poor to fair (2) Poor (1)	ly one and assign score.	
35 subtotal this p	4c. Habitat alteration. Score one or None or none apparent (9 Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed mowing shrub/sapli	

HYPATT WETLANDY

Site:	N-BI	40-070912-02	Rater(s): <i>B.011</i>	O. M. THOMAYER	Date: 0709/2
	35				
s	subtotal first pa	oce.			
0	35	Metric 5. Special W	<i>l</i> etlands.		
max 10 pts.	subtotal	Check all that apply and score as inc	dicated.		
		Bog (10)			
		Fen (10) Old growth forest (10)			
		Mature forested wetland (5)		
		Lake Erie coastal/tributary	wetland-unrestricted hyd	rology (10)	
		Lake Erie coastal/tributary	•	ogy (5)	
		Lake Plain Sand Prairies (Oak Openings) (10)		
		Relict Wet Prairies (10) Known occurrence state/fe	ederal threatened or enda	ngered species (10)	
		Significant migratory song			
		Category 1 Wetland. See	Question 1 Qualitative Ra	ating (-10)	
4	39	Metric 6. Plant con	nmunities, inte	erspersion, microto	opography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communitie	es. Vegetation (Community Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	471 acres) contiguous area
		Aquatic bed	1	Present and either comprises sm	
		Emergent Shrub		vegetation and is of moderate of	
		2 Forest		significant part but is of low qua Present and either comprises sig	
		Mudflats	-	vegetation and is of moderate of	
		Open water		part and is of high quality	,,
		Other	3	Present and comprises significan	
		6b. horizontal (plan view) Interspers	ion.	vegetation and is of high quality	/
		Select only one. High (5)	Narrative De	scription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predomi	nance of nonnative or
		Ø Moderate (3)		disturbance tolerant native spec	
		Moderately low (2)	mod	Native spp are dominant compon	
		Low (1)		although nonnative and/or distu	
		None (0) 6c. Coverage of invasive plants. Re	efer	can also be present, and species moderately high, but generally	
		to Table 1 ORAM long form for list.		threatened or endangered spp	w/o presence or rare
		or deduct points for coverage	high	A predominance of native species	s, with nonnative spp
		Extensive >75% cover (-5		and/or disturbance tolerant nati	
		Moderate 25-75% cover (-	3)	absent, and high spp diversity a	
		Sparse 5-25% cover (-1) Nearly absent <5% cover	(0)	the presence of rare, threatener	a, or endangered spp
		Absent (1)	• •	Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	
		Vegetated hummucks/tuss		Moderate 1 to <4ha (2.47 to 9.88	acres)
		Coarse woody debris >150 Standing dead >25cm (10)		High 4ha (9.88 acres) or more	
		Amphibian breeding pools	*	aphy Cover Scale	
		tidad · Opening	0	Absent	
		2	1	Present very small amounts or if r of marginal quality	
(A.	∽		2	Present in moderate amounts, bu quality or in small amounts of hi	
CAT	, od		3	Present in moderate or greater an	
70	7		•	and of highest quality	

End of Quantitative Rating. Complete Categorization Worksheets.

total	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 do	ouble check and average.	
		None or none apparent (9)	Check all disturbances observed	
		Recovered (6)	mowing	shrub/sapling removal
		Recovering (3)	grazing	herbaceous/aquatic bed removal
		- Tel (0)		I IIIOIDAGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG

Recent or no recovery (1)

clearcutting

selective cutting

toxic pollutants

woody debris removal

sedimentation

nutrient enrichment

dredaina

farming



last revised 1 February 2001 jjm

		om Quantitative Rating				
Site:	W-BA	0-070912-01	Rater(s):	BOY	O, M. THOMAYOR	Date: 070912
	19 ubtotal first pa		Vetlands.			
max 10 pts.	subtotal] Check all that apply and score as in	dicated			
		Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (Lake Erie coastal/tributan Lake Erie coastal/tributan Lake Plain Sand Prairies Relict Wet Prairies (10) Known occurrence state/t Significant migratory song Category 1 Wetland. See	(5) y wetland-unrestr y wetland-restrict (Oak Openings) federal threatene gbird/water fowl h	ed hydrolo (10) d or endar abitat or u	ngy (5) ngered species (10) sage (10)	
3	22	Metric 6. Plant cor	nmunitie	s, inte	erspersion, microto	opography.
max 20 pts.	subtotal	J 6a. Wetland Vegetation Communiti	es. Ve	getation C	ommunity Cover Scale	
		Score all present using 0 to 3 scale		0	Absent or comprises <0.1ha (0.2	471 acres) contiguous area
		Aquatic bed		1	Present and either comprises sm	
		2 Emergent			vegetation and is of moderate	
		Shrub Forest	-	2	significant part but is of low qua	· ·
		Mudflats		2	Present and either comprises sig vegetation and is of moderate of	
		Open water			part and is of high quality	quality of comprises a small
		Other		3	Present and comprises significan	t part or more of wetland's
		6b. horizontal (plan view) Intersper	sion.	Ü	vegetation and is of high quality	
		Select only one.			1	
		High (5)	Naı	rative De	scription of Vegetation Quality	
		Moderately high(4)		low	Low spp diversity and/or predom	
		Moderate (3)			disturbance tolerant native spe	
		Moderately low (2)		mod	Native spp are dominant compor	•
		Low (1)			although nonnative and/or distu	• • • • • • • • • • • • • • • • • • • •
		✓ None (0)	_t		can also be present, and specie	•
		 Coverage of invasive plants. R Table 1 ORAM long form for list. 			moderately high, but generally threatened or endangered spp	w/o presence of rare
		or deduct points for coverage		high	A predominance of native specie	s with nonnative son
		Extensive >75% cover (-5	5)	111911	and/or disturbance tolerant nati	
		Moderate 25-75% cover (absent, and high spp diversity	
		Sparse 5-25% cover (-1)			the presence of rare, threatene	d, or endangered spp
		Nearly absent <5% cover	(0)			
		Absent (1)	Mu	dflat and	Open Water Class Quality	
		6d. Microtopography.	_	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.		1	Low 0.1 to <1ha (0.247 to 2.47 ac	
		Vegetated hummucks/tus		2	Moderate 1 to <4ha (2.47 to 9.88	acres)
		Coarse woody debris >15		3	High 4ha (9.88 acres) or more	· · · · · · · · · · · · · · · · · · ·
		Standing dead >25cm (10		rotonoar	aphy Cover Scale	
		L. L brack of eeding pools	19110	0	Absent	
				1	Present very small amounts or if of marginal quality	more common
		9		2	Present in moderate amounts, but quality or in small amounts of h	
00	7	CAT 1		3	Present in moderate or greater ar and of highest quality	
177					• • • • • • • • • • • • • • • • • • • •	

End of Quantitative Rating. Complete Categorization Worksheets.

APPENDIX B

STREAM EVALUATION FORMS

Modified Class 2 HYATT STREAM 1

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3) : SITE NAME/LOCATION _ hr Md 17/9/2017 / SITE NUMBER RIVER BASIN DRAINAGE AREA (mi²) < /m LENGTH OF STREAM REACH (ft) LAT. 40. 2350 LONG-82.8572 RIVER CODE RIVER MILE DATE 9 July 12 SCORER MDT, BAO COMMENTS No (100) (100) IN ROW. NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions ☐ NONE / NATURAL CHANNEL ☐ RECOVERED (RECOVERING ☐ RECENT OR NO RECOVERY STREAM CHANNEL SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40), Add total number of significant substrate types found (Max of 8), Final metric score is sum of boxes A & B. HHEI TYPE PERCENT Metric TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] **Points** BOULDER (>256 mm) [16 pis] LEAF PACK/WOODY DEBRIS [3 pts] Substrate BEDROCK [16 pt] FINE DETRITUS [3 pls] Max = 40COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] GRAVEL (2-64 mm) [9 pls] MUCK [0 pls] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of Bldr Slabs, Boulder, Cobbie, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30> 5 cm - 10 cm [15 pls] > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] NO WATER OR MOIST CHANNEL [0 pls] > 10 - 22.5 cm [25 pls] MAXIMUM POOL DEPTH (centimeters): COMMENTS BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width > 3.0 m - 4.0 m (> 9' 7" - 13') (25 pts) 1.0 m (± 3' 3") [5 pls]. Max=30 > 1.5 m - 3.0 m (> 458" - 9' 7") [20 pts] AVERAGE BANKFULL WIDTH (muters) COMMENTS This information must also be completed NOTE: River Left (L) and Right (R) as looking downstream ☆ RIPARIAN ZONE AND FLOODPLAIN QUALITY **FLOODPLAIN QUALITY** RIPARIAN WIDTH (Per Bank) (Most Predominant per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Immalure Forest, Shrub or Old Moderate 5-10m Urban or industrial Open Pasture, Row oo Narrow <5m Residential, Park, New Field Crop None Fenced Pasture Mining or Construction

PHWH Form Page - 1

Moist Channel, isolated pools, no flow (Intermittent)

3.0

Severe (10 for 60 fg)

Dry channel, no water (Ephemeral)

(Check ONLY one box):

Moderate to Severe

2.0

☐ Flat (0.5 π/100 ft)

COMMENTS

Stream Flowing

COMMENTS

STREAM GRADIENT ESTIMATE

None

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

SINUOSITY (Number of bends per 61 m (200 ft) of channel)

1.0

Moderate (2 minute)

Subsurface flow with isolated pools (Interstitial)

☐ Fial to Moderate

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
QHEI PERFORMED? - Tyes No QHEI Score(If Yes, Altac	ch Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	
USGS Quadrangle Name: 50 x Bury of NRCS Soil Map Pa	
County: Delaware Township/City:	SUN BURY
MISCELLANEOUS	/1 /
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantily: VALLYOW 4
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open): 90	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. an	nd attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	
Is the sampling reach representative of the stream (Y/N) If not, please explain	
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional.	MOTE: all valueber camples exact be lebeled with at
ID number. Include appropriate field data sheets from the Prin	nary Headwaler Habilal Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrate	Voucher? (Y/N)/
Comments Regarding Biology Aquatic Macroinvertebrate	es Observed? (Y/N) // / Voucher? (Y/N)
X	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM R	
Include important landmarks and other features of interest for site evaluation and	a a narrative description of the stream's location
	X
9	
FLOW	
Cost t	
552	The state of the s
AN A NO A	
Tate Sp. 1	5-/
TANK TO THE PARTY OF THE PARTY	of the second se

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

- 9	1/1	٦
- 8	410	8
- 34	/ W	В

SITE NAMELOCATION ALP HYATT CORNOOR and 345 KV	ore (sum of filetrics 1, 2, 3) .
VASSLIL SUA STREAM REACH (fi) /50' LAT 40. 2252 LONG. 82.857/ DATE O7/9/2 SCORER BAD MAT COMMENTS TWEEN NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual	DRAINAGE AREA (mi²) ∠ / Δ, 2 RIVER CODE RIVER MILE
MODIFICATIONS: STREAM IS LOCATED WIND EXISTING TRAN	
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONL (Max of 40). Add total number of significant substrate types found (Max of 8). Final TYPE	Y two predominant substrate TYPE boxes metric score is sum of boxes A & B. PERCENT /5 OODY DEBRIS [3 pts] IS [3 pts] PAN [0 pt] /5 OPAN [0 pt]
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check Companies of the compa	ONLY one box): n [15 pts] OR MOIST CHANNEL [0 pts]
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): 1 (> 3' 3" - 4' 8") [15 pts] Solution
RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation) RIPARIAN WIDTH L R (Most Predominant per Bank) Malure Forest, Wetland Immalure Forest, Shrub or Oto Field Residential, Park, New Field Fenced Pasture COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing	Dennel, isolated pools, no flow (Intermittent)
STREAM GRADIENT ESTIMATE Flat (0.5 trulo 4)	rale to Severe Severe (10 % in the

HYATT STREAM 2

DOWNSTREAM DESIG	Yes INO QHEI Score	(II Yes, Attach Complete	ed QHEI Form)	
		Distance	from Evaluated Stream	
CWH Name:		Distance	from Evaluated Stream	
☐ EWH Name:		Distance	from Evaluated Stream	
	PIES OF MAPS, INCLUDING THE ENTIF			
	BURY, OH			
County: DEZAWARE	Township	o/City	SUNBURY	
MISCELLANEOUS		,		
Base Flow Conditions? (Y/N):/	Date of last precipitation:	JAJ Quantil	y: UKW	
Photograph Information: 2	pies			
Elevated Turbidity? (Y/N):	Canopy (% open):	- Arthur		
Were samples collected for water c	hemistry? (Y/N): (Note lab sa	imple no. or id. and attach re	sults) Lab Number:	
Field Measures: Temp (°C)	Dissolved Oxygen (mg/l)	pH (S.U.) Con	ductivity (µmhos/cm)	
Is the sampling reach representativ	e of the stream (Y/N) If not, ple	ase explain:		
Additional comments/description of	pollution impacts:			
BIOTIC EVALUATION				
BIOTIC EVALUATION Performed? (Y/N): (If Y ID n Fish Observed? (Y/N) (Y/N) Vou Frogs or Tadpoles Observed? (Y/N)	res, Record all observations. Voucher co number. Include appropriate field data sh ncher? (Y/N) Salamanders Obse ncher? (Y/N) Aquatic N	neets from the Primary Headwa erved? (Y/N)/UVoucher Macroinvertebrates Observed		nual) (/N)
BIOTIC EVALUATION Performed? (Y/N): P (If Y ID n Fish Observed? (Y/N) Vou Frogs or Tadpoles Observed? (Y/N)	umber. Include appropriate field data shicker? (Y/N) Salamanders Obse	neets from the Primary Headwa erved? (Y/N)/UVoucher Macroinvertebrates Observed		nual) (/N)
BIOTIC EVALUATION Performed? (Y/N): P (If Y ID n Fish Observed? (Y/N) Vou Frogs or Tadpoles Observed? (Y/N)	umber. Include appropriate field data shocker? (Y/N) Salamanders Obse Voucher? (Y/N) Aquatic N	neets from the Primary Headwa erved? (Y/N)/UVoucher Macroinvertebrates Observed		nual) (/N)
BIOTIC EVALUATION Performed? (Y/N):	umber. Include appropriate field data shicher? (Y/N) Salamanders Obse	eels from the Primary Headwa erved? (Y/N) <u>V</u> Voucher Macroinvertebrates Observed	oler Habilal Assessment Ma ? (Y/N) !? (Y/N)A]_ Voucher? (\	nual) (/N)
BIOTIC EVALUATION Performed? (Y/N).	umber. Include appropriate field data shicker? (Y/N) Salamanders Obseto of Voucher? (Y/N) Aquatic N	reels from the Primary Headward erved? (Y/N)	aler Habilal Assessment Ma ? (Y/N) ? (Y/N) A Voucher? (Y/N) This must be comple	rted);
BIOTIC EVALUATION Performed? (Y/N)	umber. Include appropriate field data shicher? (Y/N) Salamanders Obse	reels from the Primary Headward erved? (Y/N)	aler Habilal Assessment Ma ? (Y/N) ? (Y/N) A Voucher? (Y/N) This must be comple	rted);
BIOTIC EVALUATION Performed? (Y/N): (If Y ID n Fish Observed? (Y/N) Vou Frogs or Tadpoles Observed? (Y/N) Comments Regarding Biology. DRAWING AND N	umber. Include appropriate field data shicker? (Y/N) Salamanders Obseto of Voucher? (Y/N) Aquatic N	reels from the Primary Headward (Y/N) \(\frac{N}{2} \) Voucher Macroinvertebrates Observed F STREAM REACH (The evaluation and a narrally	aler Habilal Assessment Ma ? (Y/N) ? (Y/N) A Voucher? (Y/N) This must be comple	rted);
BIOTIC EVALUATION Performed? (Y/N).	umber. Include appropriate field data shocker? (Y/N) Salamanders Obsertion of Voucher? (Y/N) Aquatic Notes and other features of Interest for standard other features of Interest for standard other features.	F STREAM REACH (T le evaluation and a narrally	aler Habilal Assessment Ma ? (Y/N) !? (Y/N) Al Voucher? (Vinchis must be completed description of the streat	rted);
BIOTIC EVALUATION Performed? (Y/N): P (If Y ID n Fish Observed? (Y/N) Vou Frogs or Tadpoles Observed? (Y/N) Comments Regarding Biology: DRAWING AND N Include Important landmarks	umber. Include appropriate field data shicker? (Y/N) Salamanders Obseto of Voucher? (Y/N) Aquatic N	F STREAM REACH (T le evaluation and a narrally Thank Thank LINES	aler Habilal Assessment Ma ? (Y/N) ? (Y/N) A Voucher? (Y/N) This must be comple	rted);
BIOTIC EVALUATION Performed? (Y/N): P (If Y ID n) Fish Observed? (Y/N) Vou Frogs or Tadpoles Observed? (Y/N) Comments Regarding Biology: DRAWING AND N Include Important landmarks	umber. Include appropriate field data shocker? (Y/N) Salamanders Obsertion of Voucher? (Y/N) Aquatic Notes and other features of Interest for standard other features of Interest for standard other features.	F STREAM REACH (T le evaluation and a narrally Thank Thank LINES	replace the street of the stre	rted):
BIOTIC EVALUATION Performed? (Y/N): P (If Y ID n Fish Observed? (Y/N) N Vou Frogs or Tadpoles Observed? (Y/N) Comments Regarding Biology: DRAWING AND N Include Important landmark:	umber. Include appropriate field data shocker? (Y/N) Salaman ders Obsevent of Voucher? (Y/N) Aquatic Notes and other features of Interest for significant of the same	F STREAM REACH (T le evaluation and a narrally Thank Thank LINES	replace the street of the stre	oted): m's location
BIOTIC EVALUATION Performed? (Y/N): P (If Y ID n) Fish Observed? (Y/N) Vou Frogs or Tadpoles Observed? (Y/N) Comments Regarding Biology: DRAWING AND N Include Important landmarks	umber. Include appropriate field data shocker? (Y/N) Salaman ders Obsevent of Voucher? (Y/N) Aquatic Notes and other features of Interest for significant of the same	F STREAM REACH (T le evaluation and a narrally Thank Thank LINES	aler Habilal Assessment Ma ? (Y/N) !? (Y/N) Al Voucher? (Vinchis must be completed description of the streat	rted):

HYATT STREAM 3

Primary Headwater Habitat Evaluation Form

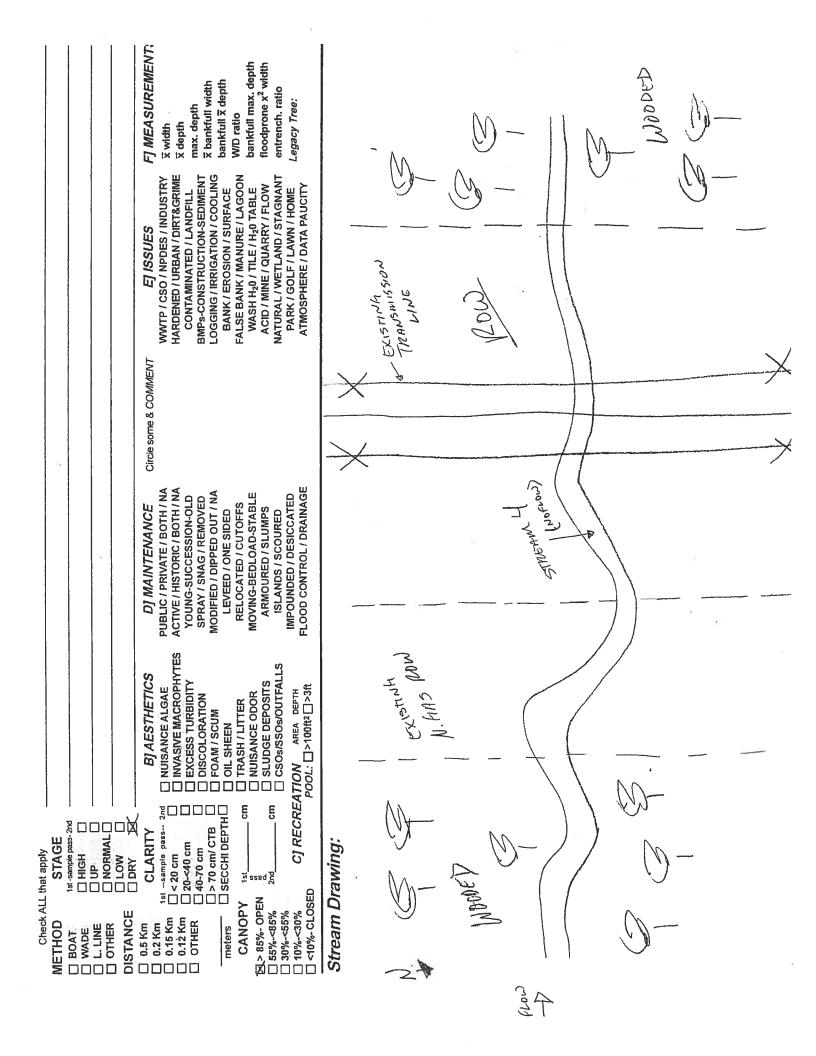
		core (sum of metrics 1, 2, 3):	and the same of th
SITE NAMELOCATION AFP- N-4P-	T-CORRUDOR 2ND 345K		
SITE NUMBER	RIVER BASIN	DRAINAGE AREA (mi²)	***************************************
LENGTH OF STREAM REACH (ft)	AT. 40. 2335 LONG. 82.8560	RIVER CODE RIVER MILE	
DATE 07-09/2 SCORER BAO, MO	COMMENTSINTER	MITTENT	
NOTE: Complete All items On This Form	- Refer to "Field Evaluation Man	ual for Ohio's PHWH Streams" for Inst	ructions
STREAM CHANNEL NONE / NATI	IRAL CHANNEL TRECOVERED	RECOVERING TRECENT OR NO REC	OVERY
MODIFICATIONS: STREAM REPARLA			DOMESTICAL STREET
ANE HAM DEPARTE	O ATTEN TO THE FINANCE	1 CLEHIETS 170 E 18 1200	- Jakini evil
SUBSTRATE (Estimate percent of ever	type of substrate present. Check OA	LY two predominant substrate TYPE boxes	1
(Max of 40). Add total number of significa	- T (0)		HHEI Metric
TYPE PE P	RCENT TYPE SILT [3 pt]	PERCENT /O	Points
□ □ BOULDER (>256 mm) [16 pts]	LEAF PACKA	NOODY DEBRIS [3 pts]	Out about
BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts]	FINE DETRIT	US [3 pts]	Substrate Max = 40
COBBLE (65-256 mm) [12 pts]	CLAY OF HAR		
	5 0 ARTIFICIAL [21
Total of Percentages of		(B)	The second second
Bidr Slabs, Boulder, Cobble, Bedrock	40 (A) 2	5	A+B
SCORE OF TWO MOST PREDOMINATE SUBST	RATE TYPES: TOTAL	NUMBER OF SUBSTRATE TYPES:	
2. Maximum Pool Depth (Measure the ma	rimum pool depth within the 61 meter	(200 ft) evaluation reach at the time of	Pool Depth
evaluation. Avoid plunge pools from road			Max = 30
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts]	☐ > 5 cm - 10		
> 10 - 22.5 cm [25 pts]	NO WATER	OR MOIST CHANNEL [0 pts]	
COMMENTS DRY TIME OF	YEAR MAXII	NUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the a		State of the state	Bankfull
> 4.0 meters (> 13') [30 pts]	☐ > 1.0 m - 1.5	im (> 3' 3" - 4' 8") [15 pts]	Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	☐ ≤ 1.0 m (≤ 3	· ·	Max≃30
		ft. 6'	20
COMMENTS	AVER	AGE BANKFULL WIDTH (meters)	
MANUFACTURE OF THE PARTY OF THE			
RIPARIAN ZONE AND FLOODPI	This information <u>must</u> also be co AIN QUALITY ☆NOTE: River Left	impleted (L) and Right (R) as looking downstream☆	
RIPARIAN WIDTH	FLOODPLAIN QUALITY		
L R (Per Bank) Wide >10m	L R (Most Predominant per Ban Mature Forest, Wetland		
Moderate 5-10m	Immature Forest, Shrub or	Old CT CT	
	Field	0 0 1 0	
⊠ S Narrow <5m	Residential, Park, New Field	Open Pasture, Row Crop	
☐ None COMMENTS WETLA	D Fenced Pasture	☐ ☐ Mining or Construction	
			-
FLOW REGIME (At Time of Evalu	ation) (Check ONLY one box):	t Channel, isolated pools, no flow (Intermittent)	
Subsurface flow with isolated pools	(Interstitial)	channel, no water (Ephemeral)	,
COMMENTS	/ NITER MITTER	7	_
	61 m (200 ft) of channel) (Check ON		
☐ None ☐ ☐ 0.5 ☐	1.0 \(\sum_{-2.0} \) 1.5 \(\sum_{-2.5} \)	☐ 3,0 ☐ >3	
	🗀 2,0		
STREAM GRADIENT ESTIMATE Flat (0.5 tl/100 tt) Flat to Moderate	Moderate (2 t/100 t)	derate to Severe 10 tu	ሰብ ልነ
_ rat production rat to moderate	Zarodorato (r. andert)	CONTROL CO CONTROL CON	00 H)

ADDITIONAL STREAM INFORMATION (This information Must Also be Completed):
QHEI PERFORMED? - Yes XI No QHEI Score(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: ☐ UMANUT CREEK Distance from Evaluated Stream AFROK. 3700 ☐ CWH Name: ☐ Distance from Evaluated Stream ☐ EWH Name: ☐ Distance from Evaluated Stream ☐ Dista
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Sungury, OH NRCS Soil Map Page: NRCS Soil Map Stream Order
County: DEZHWARE Township/City PERKSHIRE/SUNBURY
MISCELLANEOUS
Base Flow Conditions? (Y/N): Date of last precipitation: UICO Quantity.
Photograph Information: 3 PH-108
Elevated Turbidity? (Y/N): N Canopy (% open): 100
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) V If not, please explain:
Additional comments/description of pollution impacts:
BIOTIC EVALUATION
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site
ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):
Include Important landmarks and other features of interest for site evaluation and a narrative description of the stream's location = EXISTINAL TRANSMISSION STREAMS
STRUCTURE 3
CSQ \ V \
WETDAND COTON
FLOW
WETLAND WETLAND
1 75 71
EXISTING WOODED
QUALITY () } = ROW -> TURANT
PHWH Form Page - 2

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:	44
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04	4 0 . 1					
Stream & Location	ALT HYATT-	CORMINON 2nd	345 KV	<i>RM:</i>	Date: <u>@</u>	1109112
			s Full Name & Affiliatio			
River Code:	<i>stol</i>	RET#:	Lat./ Long.: 40. 21	1 +1 182	.8484	Office verified location
1] SUBSTRATE Che	ck ONLY Two substrate mate % or note every type	TYPE BOXES;	N.	k ONE (Or 2		
BEST TYPES	POOL RIFFLE OT	LED TYPES	ODICIN	NONE (O/ 2)	QUALI	ΓY
☐ ☐ BLDR/SLABS [10	LOOF KILLE	HARDPAN[4]	RIFFLE ORIGIN		☐ HEAVY 132	-
□□ BOULDER [9]		DETRITUS[3]		SILT	MODERAT	
☐ ☐ COBBLE [8]		MUCK [2] /0 5 Lt [2] 50	WETLANDS [0]		NORMAL	
SAND BI		ARTIFICIAL [0]	BANDSTONE	ກາວກວ.		
□ □ BEDROCK [5]		(Score natural substrat	es: ignore RIP/RAP [0]	E CON	MODERAT	Mayimu
NUMBER OF BEST	TYPES: ☐ 4 or mon	sludge from point	-sources) LACUSTURINE SHALE [A]	101 11	□ EXTENSIV □ MODERATI □ NORMALI □ NONE (1)	20
Comments	△ D OF HESS	int.	COALFINES	21	L NONE 11	
	10				6	
2] INSTREAM COV	FR Indicate presence 0	to 3: 0-Absent; 1-Very	small amounts or if more com	mon of margin	ai AMOU	NT
quality; 3-Highest quality	' in moderate or greater a	amounts (e.g., verv jar	phest quality or in small amour ge boulders in deep or fast wa	ter, large	Check ONE (Or	
UNDERCUT BANK	e, well developed rootwa	id in deep / fast water,	or deep, well-defined, function	nal pools. [EXTENSIVE >	
OVERHANGING V	EGETATION [1]	_ POOLS > 70cm [2] _ ROOTWADS [1]	GXBOWS; BACKWA		MODERATE 2.	
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Primary Headwater Habitat Evaluation Form
HHEI Score (sum of metrics 1, 2, 3):

STRE	AME/LOCATION ACP HYPIT- CORRIDOR OND 345 KU MDT-D7012-03 SITE NUMBER RIVER BASIN DRAINAGE AREA (mi²) / H OF STREAM REACH (ft) LAT. 40,2125 LONG. 82,840 RIVER CODE RIVER MILE 040912 SCORER BAO COMMENTS INTERMITED TO E: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruct AM CHANNEL DNONE/NATURAL CHANNEL PRECOVERED PRECOVERING RECENT OR NO RECOVE FICATIONS: STATM WIN EXISTING NOW & MPARMY AND RECENTURY	ons RY	
1.	SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY Iwo predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. PERCENT TYPE PERCENT PER	HEI letric oints ubstrate ax = 40	
3. O :	eveluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts]	ol Depth ax = 30 5 ankfull Width ax=30	
	This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY PROTE: River Left (L) and Right (R) as looking downstream? RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L R (Most Predominant per Bank) Malure Forest, Wetland Moderale 5-10m Immalure Forest, Shrub or Old Immalure Forest, Shrub or Old Wide >10m Residential, Park, New Field Open Pasture, Row Crop None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS Moist Channel, isolated pools, no flow (Intermillent) Dry channel, no water (Ephemeral) SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 3.0 3.0 3.0 3.0 3.0 3		
STREAM GRADIENT ESTIMATE ☐ Flat (ம்.கும்மும்) ☐ Moderate (2 ம்.மும்)			

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):			
QHEI PERFORMED? - Tyes B.No QHEI Score(If Yes, Altac	ch Completed QHEi Form)		
DOWNSTREAM DESIGNATED USE(S)	90		
WWH Name:	Distance from Evaluated Stream		
☐ CWH Name:	Distance from Evaluated Stream		
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION			
USGS Quadrangle Name: SUBBY, OH NRCS Soil Map Page: NRCS Soil Map Stream Order			
County:	SUNBURY		
MISCELLANEOUS			
Base Flow Conditions? (Y/N):/\(\mathcal{N}\) Date of last precipitation:(\mathcal{J}\mathcal{L}\mathcal{N}\), Quantity:			
Photograph information: 2 Photos			
Elevated Turbidity? (Y/N):/ Canopy (% open):/@			
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number;			
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)			
is the sampling reach representative of the stream (Y/N) / if not, please explain:			
Additional comments/description of pollution impacis: #6. RUNOFF			
BIOTIC EVALUATION			
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site			
ID number. Include appropriate field data sheets from the Primary Headwaler Habitat Assessment Manual)			
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)			
Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrate	s Observed? (Y/N) Voucher? (Y/N)		
Comments Regarding Biology.			
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):			
Include Important landmarks and other features of interest for site evaluation and a narrative description of the stream's location			
MAT CHESTING TREAMS.			
Die Tolk			
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FLOW -			
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APPENDIX C

PHOTOGRAPHS



Representative Stream and Wetland Photographs

Client Name:

Site Location:

Project No.

AEP

Hyatt-Corridor 2nd 345 kV Circuit

14950755

Photo No. 1

Date/Location:

July 9, 2012

Description:

Evaluated Stream Stream 1

Facing upstream

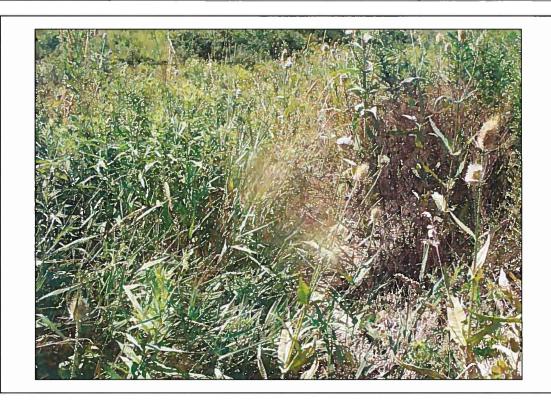


Photo No. 2

Date/Location:

July 9, 2012

Description:

Evaluated Stream Stream 2

Facing upstream





Representative Stream and Wetland Photographs

Client Name:

Site Location:

Project No.

AEP

Hyatt-Corridor 2nd 345 kV Circuit

14950755

Photo No. 3

Date/Location:

July 9, 2012

Description:

Delineated Wetland Wetland 1

Facing Southwest across existing ROW

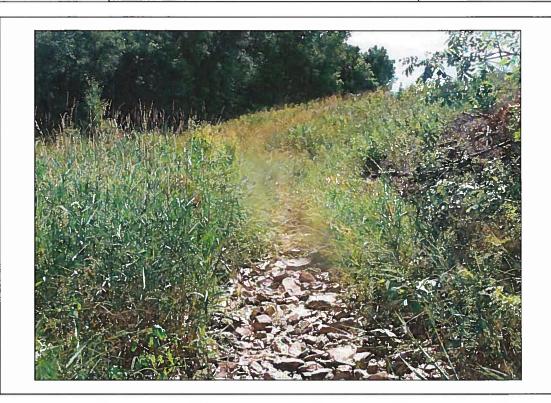


Photo No. 4

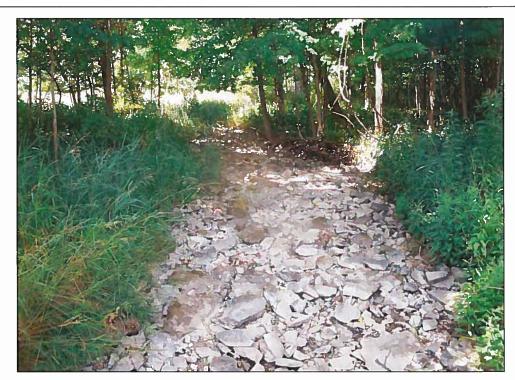
Date/Location:

July 9, 2012

Description:

Evaluated Stream Stream 3

Facing upstream





Representative Stream and Wetland

Photographs

Client Name:

Site Location:

Project No.

AEP

Hyatt-Corridor 2nd 345 kV Circuit

14950755

Photo No. 5

Date/Location:

July 9, 2012

Description:

Evaluated Stream Stream 4

Facing upstream



Photo No. 6

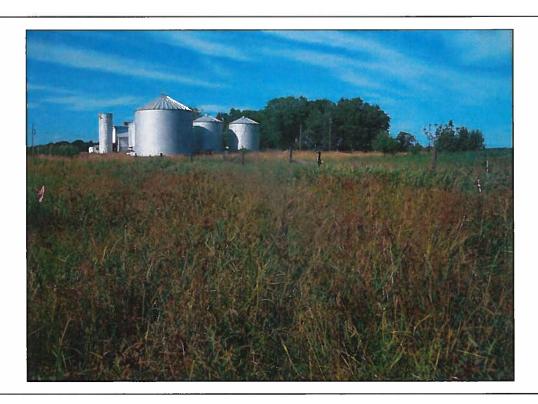
Date/Location:

July 9, 2012

Description:

Delineated Wetland Wetland 2

Facing North across existing ROW





Representative Stream and Wetland

Photographs

Site Location:

Project No.

AEP

Hyatt-Corridor 2nd 345 kV Circuit

14950755

Photo No. 7

Date/Location:

July 9, 2012

Description:

Delineated Wetland Wetland 3

Facing Northwest across existing ROW



Photo No. 8

Date/Location:

July 9, 2012

Description:

Delineated Wetland Wetland 4

Facing West across existing ROW





Representative Stream and Wetland Photographs

Client Name:

Site Location:

Project No.

AEP

Hyatt-Corridor 2nd 345 kV Circuit

14950755

Photo No. 9

Date/Location:

July 9, 2012

Description:

Evaluated Stream Stream 5

Facing downstream

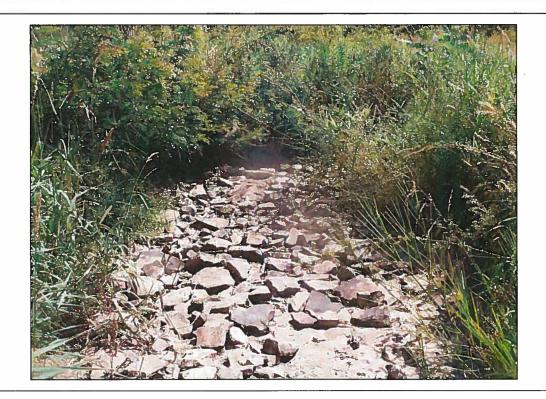


Photo No. 10

Date/Location:

July 9, 2012

Description:

Evaluated Stream Wetland 5

Facing Northwest across existing ROW



This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

8/7/2012 2:11:06 PM

in

Case No(s). 12-2222-EL-BLN

Summary: Letter of Notification of Hyatt Corridor 345kV Structure Replacement Project (Part 2) electronically filed by Erin C Miller on behalf of AEP Ohio Transmission Company, Inc.