

Wetlands and Other Waters Delineation Report

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for the

Trumbull Energy Center

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Project No. 8940 Date: December 12, 2016

STATEMENT OF CERTIFICATION

The analyses, opinions and conclusions in this report are based entirely on EnviroScience's unbiased, professional judgment. EnviroScience's compensation is not in any way contingent on any action or event resulting from this study. Neither EnviroScience nor any EnviroScience employee has any vested interest in the property examined in this study.



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EXECUTIVE SUMMARY

EnviroScience, Inc. performed a delineation of wetlands and other waters in February and August 2016 for Tetra Tech within the 110.1 acre area associated with the proposed Trumbull Energy Center project located in the Village of Lordstown, Trumbull County, Ohio (the Study Area). The Study Area is bound on the south by Hallock-Young Road, on the west by Tod Avenue, and is located south of Henn Parkway. An easement containing overhead transmission lines crosses the eastern portion of the Study Area. This easement is approximately 200 feet wide and runs northeast to southwest through the Study Area. A narrow gravel access driveway, that originates at Hallock-Young Road, is located in the eastern portion of the Study Area. This access drive is approximately 475 feet and ends at a natural gas storage tank.

Seventeen wetlands were identified and delineated within the entire Study Area and account for 35.362 acres. One perennial stream, one intermittent stream, and three ephemeral streams were identified and delineated on-site, accounting for a total of 4,729 linear feet (1.120 acres). No other open water resources were identified within the Study Area. The Study Area is surrounded by industrial, residential, and forested land uses and includes open field, old field, forest, and wetland plant communities with the Study Area. Seven distinct vegetative communities were identified within the Study Area including three wetland community types, palustrine emergent, palustrine scrub/shrub, and palustrine forest.

Wetlands and waterbodies are under the jurisdiction of the Ohio Environmental Protection Agency or United States Army Corps of Engineers. No filling may occur within these areas without their written permission.



1.0 INTRODUCTION AND SITE DESCRIPTION

EnviroScience, Inc. (EnviroScience) performed a delineation of wetlands and other waters in February and August 2016 for Tetra Tech, Inc. (Tetra Tech) within the 110.1 acre area associated with the proposed Trumbull Energy Center (the Project) in the Village of Lordstown, Trumbull County, Ohio (the Study Area). The Study Area is bound on the south by Hallock-Young Road, on the west by Tod Avenue (OH-45), and is located south of Henn Parkway. An easement containing overhead transmission lines crosses the eastern portion of the Study Area. This easement is approximately 200 feet wide and runs northeast to southwest through the Study Area. A narrow gravel access driveway, that originates at Hallock-Young Road, is located in the eastern portion of the Study Area. This access drive is approximately 475 feet and ends at a natural gas storage tank.

Seven distinct vegetative communities were identified within the Study Area, including three wetland community types. The Study Area exists primarily as forest and wetland; the utility easement is dominated by open field, old field, and wetland communities. The land just northwest of the Study Area was actively being constructed during the field visit. The land to the northeast contains industrial buildings and associated stormwater feature. The land east of the Study Area includes residential development. The land use immediately west and south of the Study Area includes forest. The Study Area crosses seventeen wetlands, one perennial stream, one intermittent stream, and three ephemeral streams.

The Study Area is located in the Mahoning River drainage basin (Hydrologic # 05030103) which drains approximately 540 square miles in northeast Ohio and western Pennsylvania. It is within the Erie Drift Plain Plateau ecoregion (Woods *et al.* 1998) of Ohio. The Study Area is located within the area covered by the Northcentral and Northeast Regional Supplement (United States Army Corps of Engineers [USACE] 2012) and associated plant list (Lichvar 2012). The Study Area is regulated by the USACE Pittsburgh District.

2.0 METHODS

Government agencies regulate coastal and inland waters for commerce, flood control, and water quality. These water bodies provide numerous functions and values necessary to protect and sustain our quality of life. Wetlands comprise a significant portion of regulated waters. The USACE and United States Environmental Protection Agency (USEPA) jointly define wetlands as:

"Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a



prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

The remaining deepwater aquatic habitats (open waters) are defined by the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) as:

". . . areas that are permanently inundated at mean annual water depths >6.6 ft or permanently inundated areas <6.6 ft in depth that do not support rooted emergent or woody plant species."

The methods used for determining and delineating wetlands and other waters (ponds, lakes, streams, rivers, etc.) strictly adhere to those found in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (USACE 2012). Wetlands and open water boundaries were determined by the disappearance of one or more of their diagnostic characteristics.

Ordinary high water marks (OHWM) defined the outermost regulatory boundaries of ephemeral and open waters.

Each sample plot and the perimeter of each wetland and other water was surveyed and marked in the field with plain pink flags and pink "wetland boundary" flags, respectively. A global positioning system (GPS) unit with submeter accuracy was used, in conjunction with aerial photography and topographic figures, for the survey. Computer Aided Design (CAD) software was used to determine wetland dimensions and Geographic Information Systems (GIS) software was used to produce a map of the Study Area showing wetlands and other waters.

2.1 WETLANDS

2.1.1 Determination

A review of secondary literature sources was performed to find known wetlands and other significant ecological resources and areas with high potential for wetlands in or near the proposed Study Area. Resources include the following:

- United States Geological Survey (USGS) topographic maps;
- 2. National Wetlands Inventory (NWI) maps;
- 3. Web Soil Survey; and
- 4. Aerial Photographs.

A field inspection of the Study Area was then completed to identify major plant communities and to visually locate potential wetlands. The routine, on-site (Level 2) wetland determination was used to perform the delineation. Wetland communities were



classified according to the classification scheme of Cowardin *et al.* (1979) (Table 1). Mature non-wetland communities that had reached a stable equilibrium were classified according to Anderson (1982) and Gordon (1966, 1969). Disturbed and successional non-wetland communities were classified as one of the categories described in Table 2.

Table 1. Wetland Communities (Cowardin et al. 1979)

Community	Description					
PEM	PEM Palustrine Emergent					
PSS	Palustrine Scrub-Shrub					
PFO	Palustrine Forested					
POW	Palustrine Open Water					

Table 2. Disturbed and Successional Non-Wetland Communities

Community		Description		
ed	Urban	regularly maintained land; residential; industrial		
Disturbed	Agricultural	land used for producing crops or raising livestock; cropland; pastureland		
Ö	Cleared	disturbed areas devoid of most vegetation from recent clearing, grading or filling		
_	Open Field	herbaceous community without woody vegetation		
ional	Old Field	herbaceous community having woody vegetation coverage of <50%		
Successional	Scrub- Shrub	community dominated by woody vegetation <6 meters (m) (20 feet [ft]) tall		
"	Forest	community dominated by woody vegetation >6 m (20 ft) tall		

Sample plots were established within each natural community and potential wetland within the Study Area. Complete data for each sample plot were collected and recorded on the USACE's Routine Wetland Determination Data Forms contained in the applicable USACE Regional Supplement (USACE 2012). Vegetation, hydrology, and soils were evaluated at each sample plot.

2.1.1.1 Vegetation

To detect the presence or absence of hydrophytic vegetation, four plant strata were evaluated within specific radii of the plot center. Each stratum was ranked by aerial cover in descending order of abundance. Table 3 provides information on each vegetative stratum.



Table 3. Vegetative Strata

Stratum	Definition	Survey Area
Tree	woody plants > or equal to 3 inches (in) (7.6 centimeters [cm]) diameter at breast height (dbh), regardless of height	30 ft (9.1 m) radius
Sapling/shrub	woody plants $<$ 3 in. (7.6 cm) dbh and \geq 3.28 ft (1 m) tall	15 ft (4.6 m) radius
Herbaceous	herbs and woody plants less than 3.28 ft (1 m) in height	5 ft (1.5 m) radius
Woody vines	woody vines > 3.28 ft (1 m) in height	30 ft (9.1 m) radius

Percent dominance was obtained for each species and within each stratum. Dominant species are those which cumulatively totaled in order of abundance immediately exceed 50 percent (%) and also include any individual species with an abundance of 20% or more (USACE 2012). Dominant taxa were identified using recognized local guides: nomenclature follows the *National List of Scientific Plant Names* (USDA 1982). Following the identification of each plant species present within the plot, all dominant species within each stratum were assigned a wetland indicator status according to Lichvar (2014). Indicators are summarized in Table 4.

Table 4. Plant Indicators

Indicator	Category	Definition
OBL	Obligate Wetland	almost exclusively (> 99% of occurrences) found in wetlands
FACW	Facultative Wetland	most likely found in wetlands (67-99% of occurrences)
FAC	Facultative	equally likely found in wetlands or non- wetlands (34-66%)
FACU	Facultative Upland	most likely found in non-wetlands (1-33% occurrence in wetlands)
UPL	Obligate Upland	almost exclusively found in non-wetlands (< 1% occurrence in wetlands)

An 'NI' (no indicator) designation represents species where not enough information is available to assign an indicator; an 'NL' (no listing) designation is given to species whose identification was not determined sufficiently enough to assign an indicator. Once the indicator status is assigned to each dominant species, the evaluator can perform the percent dominance test according to the protocol outlined within the applicable Regional Supplement (USACE 2012) to determine if the plot meets the criterion for hydrophytic vegetation.



2.1.1.2 Hydrology

To detect the presence or absence of wetland hydrology, surface, and subsurface hydrologic indicators were evaluated at the sample plot and throughout the adjacent community. Primary sources of wetland hydrology include direct precipitation, headwater flooding, backwater flooding, groundwater or any combination of these. When obtaining data at each sample plot, the evaluator observes evidence of hydrology. Primary indicators of hydrology (only one of these is necessary to indicate sufficient wetland hydrology) include the presence of surface water, water marks, sediment deposits, drift deposits, etc. (USACE 2012). Secondary indicators of hydrology (which requires two or more at each sample plot) include surface soil cracks, drainage patterns, crayfish burrows, etc. (USACE 2012).

2.1.1.3 Soils

The upper horizons of the soil at each sample plot were examined to detect the presence or absence of hydric soils indicators. Current USACE guidance requires the evaluator to assess the upper 20 inches of soil for hydric soil characteristics. Most indicators of hydric soils require an assessment of soil matrix color and mottle characteristics (Environmental Laboratory 1987, USACE 2012) for each horizon. These characteristics were determined by comparing a moist sample with *Munsell Soil Color Chart* (Munsell Color 2009) or *The Globe Soil Color Book* (Visual Color Systems 2004).

2.1.2 ORAM Categorization

Each wetland system was categorized in accordance with version 5.0 of the Ohio Environmental Protection Agency's (Ohio EPA's) Ohio Rapid Assessment Method for Wetlands (ORAM) (Mack 2000, 2001). Field scoring forms are contained in Appendix D.

Ohio EPA has established three primary and three intermediate categories of wetland quality which are based on a wetland's size, its hydrologic function, the types of plant communities present, the physical structure of the wetland plant community and the wetland's level of disturbance (OAC 3745-1-54). The relationship between the various wetland categories and their respective ORAM scores is presented in Table 5. EnviroScience also evaluated the Study Area for the presence of state threatened and endangered species as part of the ORAM evaluation.



Table 5. ORAM Scores and Categories

ORAM Score	ORAM Category	Description
0-29.9	Category 1	Lowest quality, and are generally characterized by hydrological isolation, lack of plant species diversity, insufficient habitat availability, and limited potential to perform major wetland functions.
30-34.9	Category 1 or 2 (Gray Zone)	ORAM score is insufficient to categorize wetland. In absence of a non-rapid method such as VIBI, assign the wetland to the higher functional category (Category 2)
35-44.9	Modified Category 2 (Modified 2)	Category 2 wetlands that may be of lower quality or degraded but have reasonable potential to be restored.
45-59.9	Category 2	Wetlands that have the capability to support a moderate wildlife community or maintain mid-level hydrological functions.
60-64.9	Category 2 or 3 (Gray Zone)	ORAM score is insufficient to categorize wetland. In absence of a non-rapid method such as VIBI, assign the wetland to the higher functional category (Category 3)
65-100	Category 3	Highest quality, generally characterized by a high level of biological diversity and topographical variation, threatened or endangered species, large numbers of native species, or a high level of functional importance to its surroundings.

Category 3 wetlands have the highest quality, and are generally characterized by a high level of biological diversity and topographical variation, large numbers of native species or a high level of functional importance to its surroundings. Category 2 wetlands have the capability to support a moderate wildlife community or maintain mid-level hydrological functions. Category 2 also includes wetlands that may be of lower quality or degraded, but have reasonable potential to be restored (Modified Category 2). Category 1 wetlands are of the lowest quality, and are generally characterized by hydrological isolation, lack of plant species diversity, insufficient habitat availability, and limited potential to perform major wetland functions (OAC 3745-1-54).

Since the ORAM is a rapid assessment method, there are certain wetland scores which fail to clearly differentiate the wetland's functional category. The so-called "gray zone" wetlands fall between the definite scoring breaks between the categories. Ohio EPA requires that "gray zone" wetlands be considered as the higher category unless more detailed functional assessments such as the VIBI or AmphIBI are conducted on those wetlands. As a result of this requirement, wetlands whose scores fall between the breakpoints for Categories 1 and 2 (1 or 2 gray zone wetlands) wetlands will be considered as Category 2 wetland for purposes of this report. Wetlands whose scores fall between the breakpoints for Categories 2 and 3 wetlands (2 or 3 gray zone wetlands) will be considered a Category 3 wetland for purposes of this report.



2.1.3 Cowardin Wetland Classification

The United States Fish and Wildlife Service (USFWS) NWI uses the *Classification of Wetlands and Deepwater Habitats of the United States* to classify wetland habitat types (Cowardin *et al.* 1979). This classification system is hierarchical and defines five major systems – Marine, Estuarine, Riverine, Lacustrine, and Palustrine. The Palustrine system was the only type of wetland system identified within the Study Area and is defined as including all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean driven-derived salts is below 0.5 percent (Cowardin *et al.* 1979).

2.2 OTHER WATERS

Other waters include ephemeral and open waters. These waters are broken down into two categories: 1) ponds and lakes; and 2) streams and rivers.

2.2.1 Ponds and Lakes

Palustrine systems other than wetlands, and lacustrine waters are addressed as ponds and lakes, respectively. These non-linear open waters may harbor important aquatic communities such as vegetated shallows (aquatic bed) and mud flats. They are classified according to Cowardin *et al.* (1979).

2.2.2 Streams and Rivers

Riverine systems are linear flowing waters bounded by a channel. Cowardin *et al.* (1979) divides these system into four groups, however, for the purpose of this report streams are placed into three regulatory types, listed below.

Ephemeral: An ephemeral stream only conveys runoff precipitation and meltwater. It is permanently located above the water table and is most often dry.

Intermittent: An intermittent stream is located below the water table for parts of the year, but does have dry periods.

Perennial: A perennial stream typically has flowing water throughout the entire year.

In addition to flow characteristics, the USACE has defined other regulatory categories that apply to streams, which are listed below (USACE and USEPA, 2007).



- <u>Traditional Navigable Waters (TNW)</u>: all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
- Relatively Permanent Waters (RPW): non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months).
- Non-Relatively Permanent Waters (Non-RPW): non-navigable tributaries of traditional navigable waters that are not relatively permanent where the tributaries typically do not have continuous flow at least seasonally (e.g., typically three months).

The USACE and USEPA will assert jurisdiction under the Clean Water Act on Traditional Navigable Waters (TNWs) and all wetlands adjacent to them, non-navigable tributaries of TNWs that are Relatively Permanent Waters (RPW) (i.e., tributaries that typically flow year-round or have continuous flow at least seasonally); and wetlands that directly abut such tributaries. In addition, the agencies will assert jurisdiction over every water body that is not an RPW if that water body is determined (on the basis of a fact-specific analysis) to have a significant nexus with a TNW.

"A significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or an insubstantial effect on the chemical, physical, and/or biological, integrity of a TNW. Principal considerations when evaluating significant nexus include the volume, duration, and frequency of the flow of water in the tributary and the proximity of the tributary to a TNW, plus the hydrologic, ecologic, and other functions performed by the tributary and all of its adjacent wetlands." (Rapanos 2006).

2.2.3 HHEI and QHEI

Data collection for all streams included the completion of either the Ohio EPA Headwater Habitat Evaluation Index (HHEI) for primary headwater habitat (PHWH) streams or the Qualitative Habitat Evaluation Index (QHEI) for larger streams. Biologists are Ohio EPA trained to assess streams using the QHEI and HHEI. Following the Ohio EPA guidance, any stream with a drainage area of less than or equal to one square mile (2.589 square kilometer) and pools with a maximum water depths less than or equal to 15.75 in (40 cm) were evaluated using the HHEI (Ohio EPA 2012). The QHEI was used to evaluate streams with drainage areas greater than one square mile and pools with maximum water



depths greater than 15.75 in (40 cm; Ohio EPA 2006). The assessment location is representative of the stream/headwater within the Study Area.

3.0 LITERATURE REVIEW

3.1 USGS TOPOGRAPHIC MAP

The USGS 7.5-minute topographic series (Warren Quadrangle) is shown on Figure 2 (Appendix A). The Study Area is depicted as relatively flat with elevations ranging from approximately 950 feet above mean sea level (AMSL) to 970 feet AMSL. One USGS named stream, Mud Creek, is depicted flowing northeast through the Study Area.

3.2 NWI MAP

The NWI map (Warren Quadrangle) of the Study Area is shown on Figure 3 in Appendix A. Two wetland systems are depicted within the Study Area and along Mud Creek. A portion of a palustrine forested, broad-leaved deciduous/emergent, persistent, seasonally flooded (PFO1/EM1C) system is shown along the northern border and a palustrine scrubshrub, broad-leaved deciduous, temporarily flooded (PSS1A) system is shown in the southwestern portion of the Study Area. Both identified wetland systems correspond with Wetland W-1.

3.3 COUNTY SOIL SURVEY

The Study Area is found on the *Soil Survey of Trumbull County, Ohio* and was accessed on the Soil Survey Geographic (SSURGO) Database (USDA, 2010) (Figure 4, Appendix A). Eight soil types and Water (W), which comprises 1.0 acre (0.7%) of the Study Area, are depicted within the Study Area. Two of these soil types are listed as predominantly hydric within Trumbull County. All soil types and descriptions are listed in Table 6.

Table 6. Soil Types Mapped within the Study Area

Symbol	Soil Type	Soil Type Status Common Landform		Percent Hydric	Acres in Study Area	Percent Within Study Area
Ct	Condit silt loam	Predominantly Hydric	depressions on till plains, flats on till plains	95	9.1	8.3
Но	Holly silt loam, frequently flooded	Predominantly Hydric	flood plains	92	20.8	18.9
MgA	Mahoning silt loam, 0 to 2 percent slopes	Predominantly Non-Hydric	depressions	10	0.8	0.7



Symbol	Soil Type	Status	Common Landform	Percent Hydric	Acres in Study Area	Percent Within Study Area
MgB	Mahoning silt loam, 2 to 6 percent slopes	Predominantly Non-Hydric	depressions	10	4.6	4.2
RsB	Rittman silt loam, 2 to 6 percent slopes	I Not Hydric I knolls on till plains		0	3.4	3.1
RsC	Rittman silt loam, 6 to 12 percent slopes	I Not Hydric I plains ridges on till		0	3.6	3.3
WbA	Wadsworth silt loam, 0 to 2 percent slopes	Predominantly Non-Hydric	depressions	8	40.1	36.5
WbB	Wadsworth silt loam, 2 to 6 percent slopes	Predominantly Non-Hydric	till plains	8	26.7	24.3

3.4 AERIAL PHOTOGRAPHY

A recent aerial photograph of the Study Area is shown on Figure 5 (Appendix A). The Study Area is bound on the south by Hallock-Young Road, on the west by OH-45, and is located south of Henn Parkway. The Study Area is depicted as predominantly forested land. An easement crosses the eastern portion of the Study Area. This easement is approximately 200 feet wide and runs northeast to southwest through the Study Area. A narrow gravel access driveway, that originates at Hallock-Young Road, is depicted in the eastern portion of the Study Area. This access drive is approximately 475 feet and ends at a natural gas storage tank. The aerial map depicts a structure near the southwest corner of the Study Area. This structure was not present during the field survey. Several wetlands and stream crossings are visible on the aerial map. The surrounding land use consists of residential, forested, and industrial property.

3.5 U.S. FISH AND WILDLIFE SERVICE

The Study Area was examined for suitable habitat for federally listed species whose known range includes Trumbull County, Ohio. These species are the federally endangered Indiana bat (*Myotis sodalis*), the federally threatened northern long-eared bat (*Myotis septentrionalis*), the federally endangered clubshell (*Pleurobema clava*), the federally threatened eastern massasauga (*Sistrurus catenatus catenatus*), the federal species of concern eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), and the federal species of concern bald eagle (*Haliaeetus leucocephalus*).

Living or dead trees with shedding or peeling bark or cavities may serve as roosting trees for the Indiana bat and/or the northern long-eared bat. In addition, sheds and barns may serve as roosting habitat for the northern long-eared bat. No potential winter



hibernaculum, barns or sheds are located within the Study Area. The Study Area is predominantly forested and contains a significant riparian corridor. An in-depth habitat analysis was not performed; however, all on-site forested areas contained some trees that displayed suitable habitat features. Suitable habitat features include, but are not limited to, larger canopy trees, trees exhibiting peeling bark, holes or crevices, open understory, and stream or wetland corridors. All tree clearing is recommended to occur within the USFWS approved seasonal clearing window of October 1 through March 31. If the seasonal clearing restriction cannot be followed, further coordination with the USFWS is recommended prior to clearing any trees within the Study Area.

The clubshell mussel prefers clean, loose sand and gravel in medium to small rivers and streams. Mud Creek is a larger stream with appropriate substrate for the clubshell. However, Mud Creek is not listed in Appendix A of the Ohio Mussel Protocol and does not have a drainage area over ten square miles.

Preferred habitat for the eastern massasauga includes wet areas including wet prairies, marshes, and low areas along rivers and lakes. Massasaugas also use adjacent uplands during part of the year. The majority of the Study Area is composed of upland and wetland forest, which is not preferable habitat for the eastern massasauga. However, the existing transmission easement has potential eastern massasauga habitat, especially around the delineated PEM wetlands.

The eastern hellbender is found in habitats with swift-running, fairly shallow, and highly oxygenated water. They require an abundance of large, flat rocks or logs for use as cover objects. Mud Creek does not provide appropriate habitat for the eastern hellbender.

The bald eagle nests in large trees near water. No bald eagle habitat was observed within the Study Area.

If wetlands or streams will be impacted in association with the Project, USFWS coordination will be initiated by the USACE. If no wetland or stream impacts are proposed, USFWS coordination is not required. Coordination with the Ohio Department of Natural Resources (ODNR) is recommended in accordance with Ohio's rules regarding threatened and endangered species.

3.6 FEMA FLOOD INSURANCE RATE MAP

The Federal Emergency Management Agency (FEMA) produces Flood Insurance Rate Maps (FIRM) that shows the locations of predictable floodplain during precipitation flood events. The FIRM map of the Study Area identified one area located within the FEMA-defined 100-year flood zone located within the Study Area (Figure 6, Appendix A). This



area corresponds to the floodplain of Mud Creek. Prior to construction in the 100-year flood zone, coordination with the Village of Lordstown is recommended.

4.0 RESULTS

Thirty-four sample plots were established within seven natural communities. Three of these communities are considered wetland. Table 7 summarizes the sample plot data.

Table 7. Sample Plot Results

Sample Plot	Photo*	Community**	Hydrophytic Vegetation	Wetlands Hydrology	Hydric Soil	Status	Location
SP-1	1	maintained lawn			Х	Non-Wetland	SP-1
SP-2	2	PSS	Х	X	Х	Wetland	W-1
SP-3	3	PFO	Х	Х	Х	Wetland	W-1
SP-4	4	PFO	Х	Х	Х	Wetland	W-2
SP-5	5	Forest		Х		Non-Wetland	SP-5
SP-6	6	PFO	Х	Х	Х	Wetland	W-1
SP-7	7	PEM	Х	Х	Х	Wetland	W-1
SP-8	8	PSS	Х	Х	Х	Wetland	W-1
SP-9	9	PFO	Х	Х	Х	Wetland	W-3
SP-10	10	Forest				Non-Wetland	SP-10
SP-11	11	PFO	Х	Х	Х	Wetland	W-4
SP-12	12	PFO	Х	Х	Х	Wetland	W-5
SP-13	13	PFO	Х	Х	Х	Wetland	W-1
SP-14	14	PEM	Х	Х	Х	Wetland	W-1
SP-15	15	PEM	Х	Х	Х	Wetland	W-1
SP-16	16	PFO	Х	Х	Х	Wetland	W-1
SP-17	17	PFO	Х	Х	Х	Wetland	W-1
SP-18	18	Forest		Х		Non-Wetland	SP-18
SP-19	19	PFO	Х	Х	Х	Wetland	W-6
SP-20	20	PEM	Х	Х	Х	Wetland	W-7
SP-21	21	Old field			Х	Non-Wetland	SP-21
SP-22	22	Forest		Х		Non-Wetland	SP-22
SP-23	23	PFO	Х	Х	Х	Wetland	W-7
SP-24	24	PSS	Х	Х	Х	Wetland	W-10
SP-25	25	Open field				Non-Wetland	SP-25
SP-26	26	PEM	Х	Х	Х	Wetland	W-11



Sample Plot	Photo*	Community**	Hydrophytic Vegetation	Wetlands Hydrology	Hydric Soil	Status	Location
SP-27	27	PEM	X	Х	Х	Wetland	W-13
SP-28	28	PEM	X	X	Х	Wetland	W-14
SP-29	29	PFO	X	X	Х	Wetland	W-13
SP-30	30	Forest		X		Non-Wetland	SP-30
SP-31	31	PFO	X	X	Х	Wetland	W-17
SP-32	32	Open Field				Non-Wetland	SP-32
SP-33	33	PSS	X	Х	Х	Wetland	W-7
SP-34	34	PFO	X	Х	Х	Wetland	W-8

^{*}photos are located in Appendix B

Each sample plot, delineated wetland, and other waters are illustrated on Figure 5 (Appendix A). The following section describes general conditions found within each plant community and summarizes relevant information from the data forms, located in Appendix C.

4.1 Non-Wetlands

Four upland communities exist within the Study Area and include maintained lawn, open field, old field, and forest. The maintained lawn community is represented by Sample Plot 1. Typical vegetation within this community includes Kentucky bluegrass (*Poa pratensis*, FACU), common selfheal (*Prunella vulgaris*, FACU), white clover (*Trifolium repens*, FACU), red clover (*Trifolium pratense*, FACU), bird's foot trefoil (*Lotus corniculatus*, FACU), orchard grass (*Dactylis glomorata*, FACU), reed canary grass (*Phalaris arundinacea*, FACW), Queen Anne's lace (*Daucus carota*, FACU), great plantain (*Plantago major*, FACU), and common dandelion (*Taraxacum officinale*, FACU) in the herbaceous layer.

The open field community is represented by Sample Plots 25 and 32. Dominant herbaceous species within this community include Kentucky bluegrass, orchard grass, oldfield cinquefoil (*Potentilla simplex*, FACU), tall goldenrod (*Solidago altissima*, FACU), Canadian horseweed (*Conyza canadensis*, FACU), common yarrow (*Achillea millefolium*, FAC), flat-top goldenrod (*Euthamia graminifolia*, FAC), rough-leaf goldenrod (*Solidago rugosa*, FAC), eastern daisy fleabane (*Erigeron annuus*, FACU), Canada goldenrod (*Solidago canadensis*, FACU), and common evening primrose (*Oenothera biennis*, FACU).



^{**} PEM = Palustrine Emergent; PSS = Palustrine Scrub/Shrub; PFO = Palustrine Forest.

The old field community is represented by Sample Plot 21. This community consists of similar herbaceous species as the open field community, but has a higher percentage of woody shrub species including Allegheny blackberry (*Rubus allegheniensis*, FACU), rambler rose (*Rosa multiflora*, FACU), and glossy buckthorn (*Frangula alnus*, FAC).

The forested vegetative community is represented by Sample Plots 5, 10, 18, 22, and 30. Typical tree species include pin oak (*Quercus palustris*, FACW), sugar maple (*Acer saccharum*, FACU), red maple (*Acer rubrum*, FAC), black cherry (*Prunus serotina*, FACU), American elm (*Ulmus americana*, FACW), green ash (*Fraxinus americana*, FACW), crab apple (*Malus coronaria*, UPL), and bigtooth aspen (*Populus grandidentata*, FACU). The shrub layer of this community contains tree saplings, glossy buckthorn, rambler rose, Allegheny blackberry, spicebush (*Lindera benzoin*, FACW), and silky dogwood (*Cornus amomum*, FACW). Typical herbaceous plants within the forest include Pennsylvania sedge (*Carex pennsylvanica*, UPL), rough-leaf goldenrod, Christmas fern (*Polystichum acrostichoides*, FAC), Spinulose wood fern (*Dryopteris carthusiana*, FACW), upright wood sorrel (*Oxalis stricta*, FACU), jumpseed (*Persicaria virginiana*, FAC), cream avens (*Geum virginianum*, FACU), woodland strawberry (*Fragaria vesca*, UPL), and common selfheal. The woody vine layer of the forest community is dominated by eastern poison ivy (*Toxicodendron radicans*, FAC).

4.2 WETLANDS

Seventeen wetlands were identified and delineated within the Study Area. On-site wetlands are composed of PEM, PSS, and PFO vegetative communities. The delineated wetlands have been categorized using the ORAM; scoring forms are included in Appendix D. Wetland results are given in Table 8 and are briefly described in the following section. Wetland size has been determined for areas within the Study Area. Wetlands are illustrated on Figure 5 (Appendix A).

Table 8. Wetland Results within the Study Area

Wetland		Photo*	Cowardin Classification	ORAM Score	ORAM Category	Size within Study Area (acres)
			PEM			1.819
W-1	а	35-37	PSS	52	2	2.833
VV-1			PFO			13.871
	b		PFO			0.123
W-	2	38	PFO	52	2	0.157
W-3		39	PFO	39 Modified 2		0.272
W-4		40	PFO	39	Modified 2	1.951
W-	5	41	PFO	52	2	0.064



Wetland	Photo*	Cowardin Classification	ORAM Score	ORAM Category	Size within Study Area (acres)	
W-6	42	PFO	35	Modified 2	0.064	
W-7	43-44	PEM			3.310	
		PSS	44	Modified 2	2.386	
		PFO			7.152	
W-8	45	PEM	44	Modified 2	0.029	
		PFO	44	iviodilled 2	0.189	
W-9	46	PFO	52	2	0.073	
W-10	47	PSS	21.5	1	0.107	
W-11	48	PEM	36	Modified 2	0.023	
W-12	49	PEM	36	Modified 2	0.032	
W-13	50-51	PEM	26	Modified 2	0.081	
		PFO	36		0.729	
W-14	52	PEM	36	Modified 2	0.013	
W-15	53	PFO	35.5	Modified 2	0.049	
W-16	54	PFO	35.5	Modified 2	0.012	
W-17	55	PFO	35.5	Modified 2	0.023	
	35.362					

^{*}photos are located in Appendix B

All of Wetlands W-2, W-3, W-4, W-5, W-6, W-9, W-15, W-16, W-17, and a portion of Wetlands W-1, W-7, W-8, and W-13 are dominated by PFO vegetation. On-site PFO wetlands are represented by Sample Plots 3, 4, 6, 9, 11, 12, 13, 16, 17, 19, 23, 29, 31, and 34. Typical trees within the PFO community include red maple, American elm, green ash, pin oak, hawthorn, and silver maple (*Acer saccharinum*, FACW). The shrub layer is comprised of young trees, rambler rose, gray dogwood (*Cornus racemosa*, FAC), glossy buckthorn, and spicebush. The herbaceous layer contains tree and shrub seedlings, common fox sedge (*Carex vulpinoidea*, OBL), lamp rush (*Juncus effusus*, OBL), fowl manna grass (*Glyceria striata*, OBL), rice cut grass (*Leersia oryzoides*, OBL), reed canary grass, farewell summer (*Symphyotrichum lateriflorum*, FACW), white avens (*Geum canadense*, FAC), Spinulose wood fern, harvestlice (*Agrimonia parviflora*, FAC), white grass (*Leersia virginica*, FACW), sensitive fern (*Onoclea sensibilis*, FACW), cream avens, rough-leaf goldenrod, green bulrush (*Scirpus atrovirens*, OBL), spotted touch-me-not (*Impatiens capensis*, FACW), and jumpseed. The vine layer contains eastern poison ivy.

All of Wetland W-10 and portions of Wetlands W-1 and W-7 are dominated by PSS vegetation. On-site PSS wetlands are represented by Sample Plots 2, 8, 24, and 33. Typical shrub species within the on-site PSS wetlands include gray dogwood, spicebush, false glossy buckthorn, and pin oak saplings. Herbaceous vegetation within this



community includes rice cut grass, cardinal flower (*Lobelia cardinalis*, OBL), reed canary grass, arrow leaf tearthumb (*Persicaria sagittata*, OBL), spotted touch-me-not, fowl manna grass, and eastern poison ivy.

All of Wetlands W-11, W-12, W-14, and portions of Wetlands W-1, W-7, W-8, and W-13 are dominated by PEM vegetation. On-site PEM wetlands are represented by Sample Plots 7, 14, 15, 20, 26, 27, and 28. Herbaceous species within on-site PEM wetlands include reed canary grass, broom sedge (*Carex scoparia*, FACW), hop sedge (*Carex lupulina*, OBL), squarrose sedge (*Carex squarrosa*, OBL), cottongrass bulrush (*Scirpus cyperinus*, OBL), flat-top goldenrod, pin oak seedlings, panic grass (*Panicum* sp., NI), poverty rush (*Juncus tenuis*, FAC), lamp rush, rice cut grass, and false glossy buckthorn seedlings.

Wetland W-1 is a large riparian wetland complex that is associated with Mud Creek, a perennial stream. This wetland is largely comprised of PFO vegetation, but also contains portions of PSS and PEM wetland. Wetland W-1 has several ephemeral and intermittent stream channels that provide hydrology. **Wetland W-2**, a PFO wetland, is hydrologically connected to Wetland W-1 by way of Stream S-3. **Wetland W-5**, a PFO wetland, is connected by sheet flow to Stream S-2, which flows into Wetland W-1. **Wetland W-9**, a PFO wetland, is located within the floodplain near Wetland W-1. Due to their proximity, similar plant communities, and hydrologic connection, these wetlands were scored together using the ORAM scoring method. These wetlands fell within the range for Category 2 wetlands due to large size, medium buffers, moderately high interspersion, and moderate amount of microtopographic features. Invasive species, including glossy buckthorn and reed canary grass, are present in extensive amounts.

Wetlands W-3 and **W-4** are both PFO wetlands that are located east of the Mud Creek complex. These wetlands are close in proximity and have a similar plant community and were scored together using the ORAM scoring method. These wetlands scored within the range for Modified Category 2 wetlands. Both wetlands were likely formed due to past farming activities as evidenced by the presence of remnant furrows. These wetlands have medium buffers and low surrounding land use. Modifications are primarily due to past farming and filling. The invasive glossy buckthorn is present in moderate amounts in both wetlands.

Wetland W-6 is a PFO wetland located on the south side of Stream S-1. This wetland is within the range for a Modified Category 2 wetland. This wetland has modifications due to the dredging of Stream S-1. This wetland has a sparse amount of the invasive glossy buckthorn.



Wetlands W-7 and **W-8** are artificially separated by a narrow driveway and were scored together. These wetlands assessed as Modified Category 2 wetlands using the ORAM scoring method. These wetlands have modifications due to road and driveway filling/grading, ATV trails, easement construction, mowing, and dredging. Wetland W-7 has a mix of PEM, PSS, and PFO vegetative communities and is located partially within the cleared transmission easement. Wetland W-8 is dominated by PFO vegetation with a small section of PEM along Hallock Young Road. Invasive species, including glossy buckthorn and reed canary grass are present at a moderate level within these wetlands.

Wetland W-10 is a PSS wetland located within the transmission easement. Due to the easement, this wetland has narrow buffers and moderately high surrounding land use. Impacts due to herbicide application, mowing, clear cutting, ATV activity, and filling are evident within this wetland. This wetland assessed within the range for a Category 1 wetland.

Wetland W-13 has PFO and PEM communities and is partially located within the transmission easement. **Wetlands W-11**, **W-12**, and **W-14** are PEM wetlands located entirely within the transmission easement and are hydrologically connected to Wetland W-13. Therefore, these wetlands were scored together and assessed within the range for Modified Category 2 wetlands. Impacts due to herbicide application, mowing, clear cutting, ATV activity, and filling are evident within these wetlands. These wetlands have a moderate coverage of invasive species cover.

Wetlands W-15 and **W-16** are both PFO wetlands located within the northeast corner of the Study Area. These wetlands were scored together and assessed within the range for Modified Category 2 wetlands. These wetlands have modifications due to ATV usage, filling, and selective cutting. Invasive species coverage is sparse within these wetlands.

Wetland W-17 is located south of Wetland W-13 and has a PFO vegetative cover. This wetland has medium buffers and low surrounding land use. Observed modifications are due to ATV usage, minor filling, and selective cutting. The invasive glossy buckthorn is present in this wetland in sparse amounts.

4.3 STREAMS AND RIVERS

One perennial stream, one intermittent stream, and three ephemeral streams were identified and delineated within the Study Area. The results are depicted in Table 9 and illustrated on Figure 5 (Appendix A). Ephemeral and intermittent streams have been assessed using the HHEI and the perennial stream was assessed using the QHEI; the scoring forms are included in Appendix E. Each stream classification, based on the QHEI



or HHEI score, is located in Table 9. Locations of these streams are depicted in Appendix A, Figure 5 and representative photographs are included in Appendix B.

Table 9. Stream Results within the Study Area

Stream	Photos*	Туре	Average Bankfull Width (feet)	Average Depth at Time of Survey (inch)	Length Within Study Area (linear feet)	Area Within Study Area (acres)	QHEI/ HHEI Score
Mud Creek	56-57	Perennial	12	12	3,803	1.048	52.75
S-1	58-59	Ephemeral	4	0	648	0.060	22
S-2	60-61	Ephemeral	1.5	0	44	0.002	23
S-3	62-63	Ephemeral	1.5	0	59	0.002	25
S-4	64-65	Intermittent	2	0	175	0.008	18
	То	4,729	1.120				

^{*}photos are located in Appendix B

Mud Creek originates within the Study Area from a culvert under Hallock Young Road. Mud Creek is flowing north through the Study Area and draining east into Meander Creek Reservoir. The assessment of the on-site portion of Mud Creek resulted in a QHEI score of 52.75, classifying it as a Warmwater Habitat Aquatic Life Use Potential and 'Fair' using the narrative rating. A white heelsplitter mussel (*Lasmigona complanata*) was identified on-site within Mud Creek. Additionally, beaver activity was observed along the southern reach of the stream.

Stream S-1 is an ephemeral stream that appears to be either man-made or channelized. Stream S-1 originates in Wetland W-7 and flows west into Mud Creek. This stream assessed within the range for a Modified Class I Primary Headwater Habitat (PHWH) stream using the HHEI.

Stream S-2 is an ephemeral stream that is conveying sheet flow west into Mud Creek. This stream assessed as a Class I PHWH stream.

Stream S-3 is an ephemeral stream that connects Wetland W-2 to Wetland W-1, which is located along the banks of Mud Creek. Stream S-3 assessed within the range for a Class I PHWH stream.

Stream S-4 is located within Wetland W-1 and is conveying water east towards Mud Creek. This stream assessed as a Class I PHWH stream.



4.4 PONDS AND LAKES

No open water aquatic resources were identified within the Study Area.

5.0 ASSUMPTIONS AND DISCLAIMERS

The constant influence of human activity on the Study Area can result in a rapid change of ecological boundaries. Over time, natural succession and changes in hydrology can also affect their boundaries. Precision of GPS collected data is subject to variation caused by canopy cover, atmospheric interference and satellite configuration. Because slight inaccuracies are possible, all acreages and derived boundaries presented in this report are approximate.

The results and conclusions contained in this report apply to the year and date in which the data were collected. This report is not considered officially valid until it is approved by the USACE. The report is then valid for a period of five years. Refer to the USACE's Regulatory Guidance Letter # 94-1 (23 May 1994).



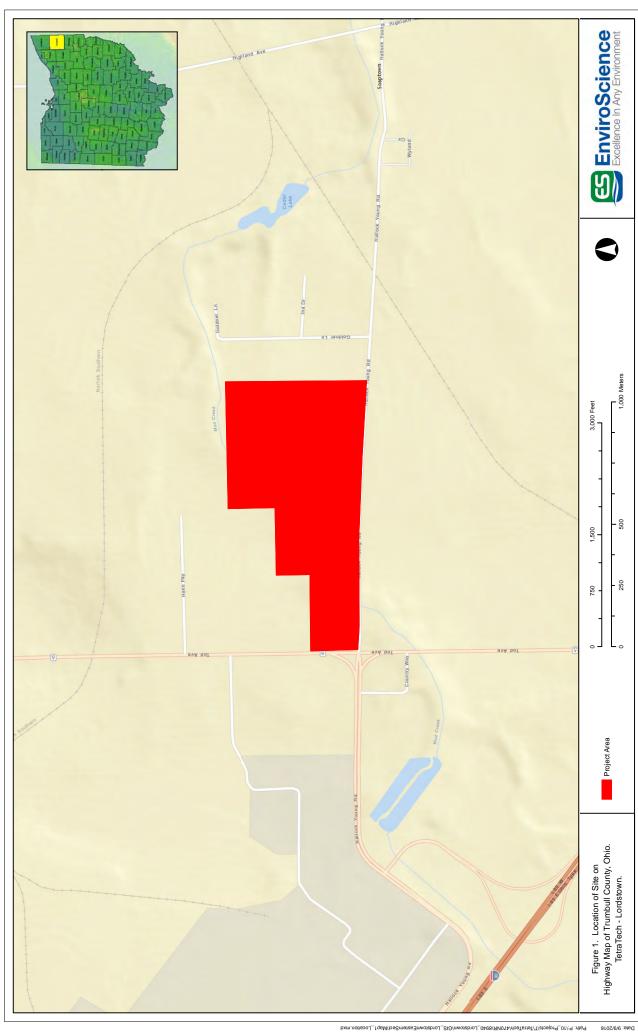
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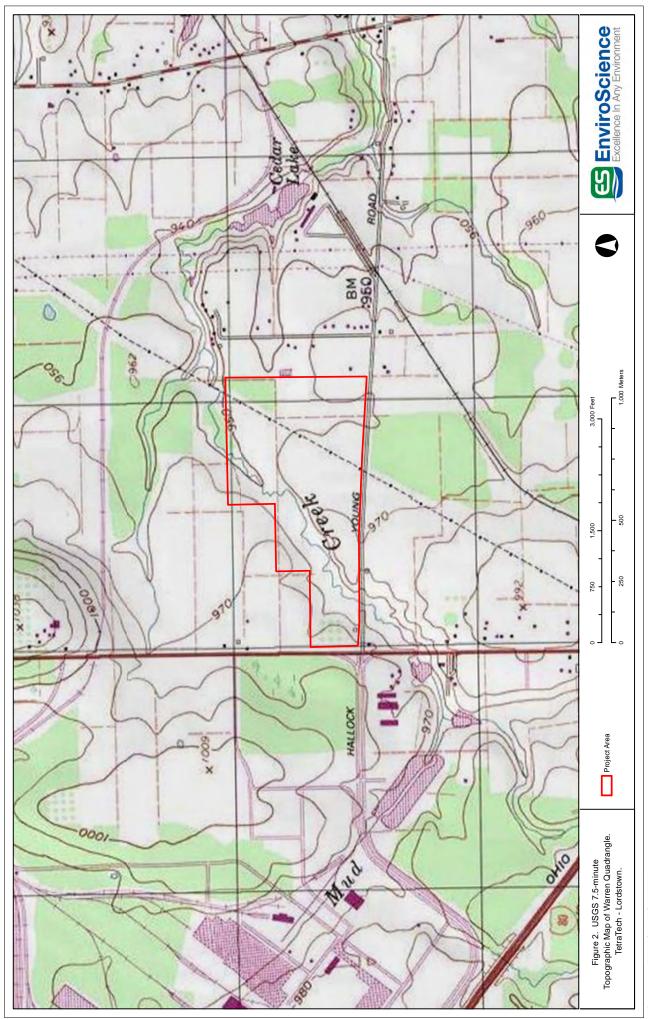
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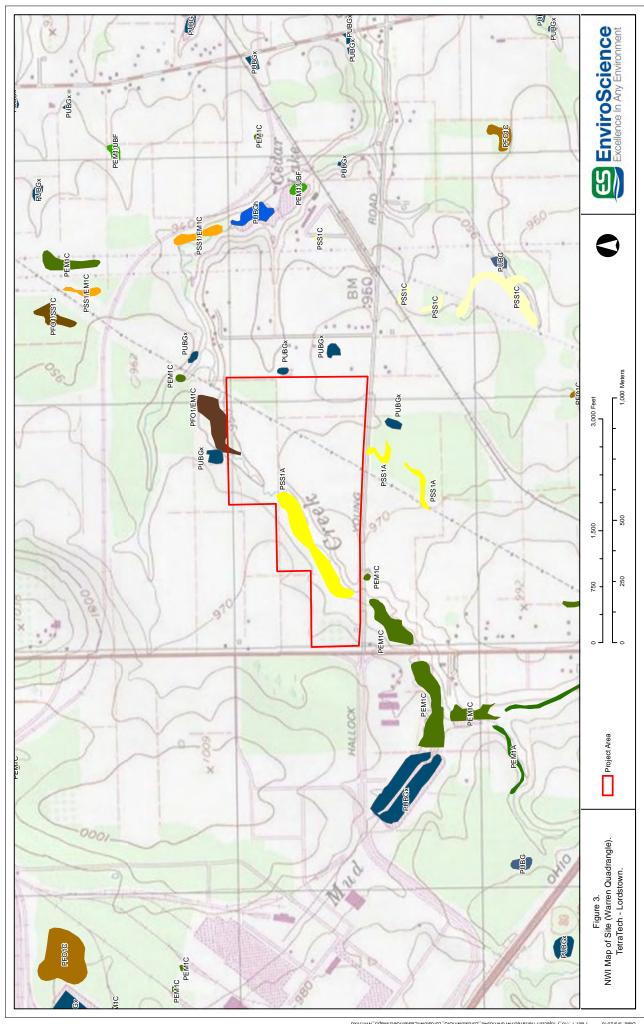
Appendix A:

Figures

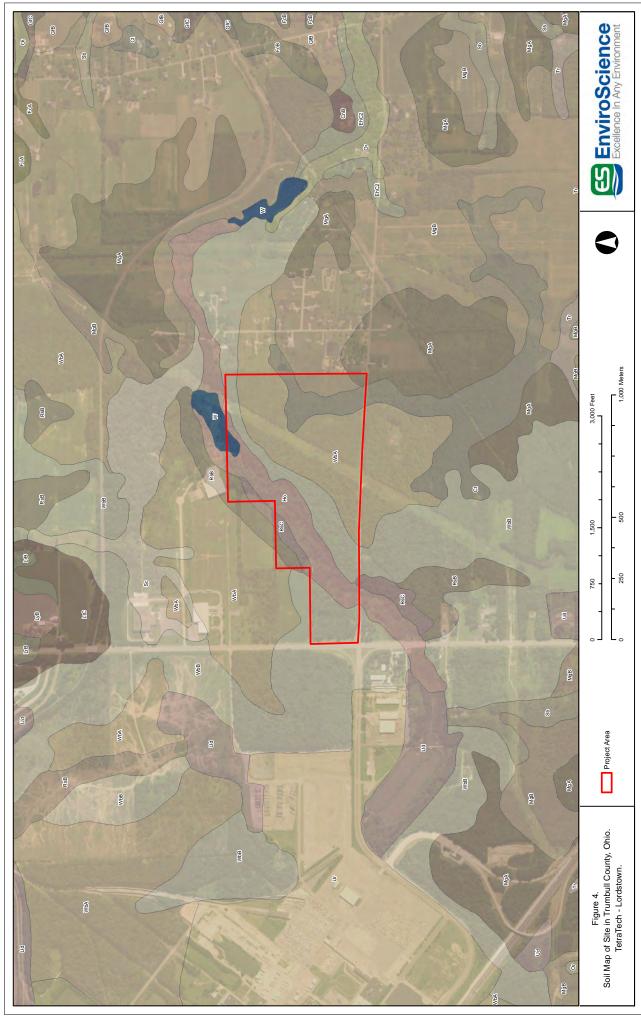




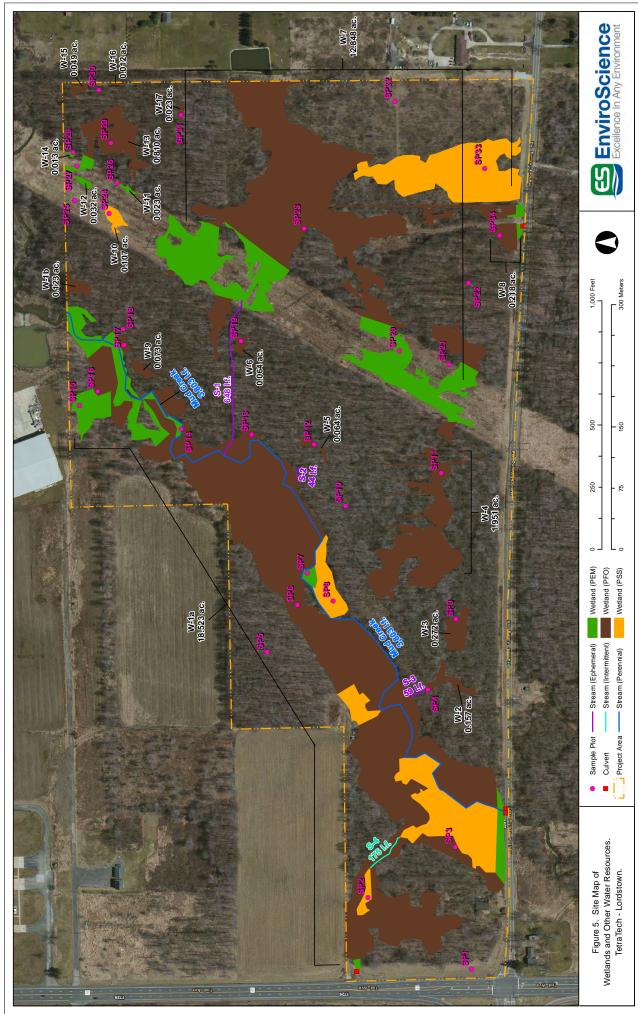
rap courtesy of National Geographic Society (2013



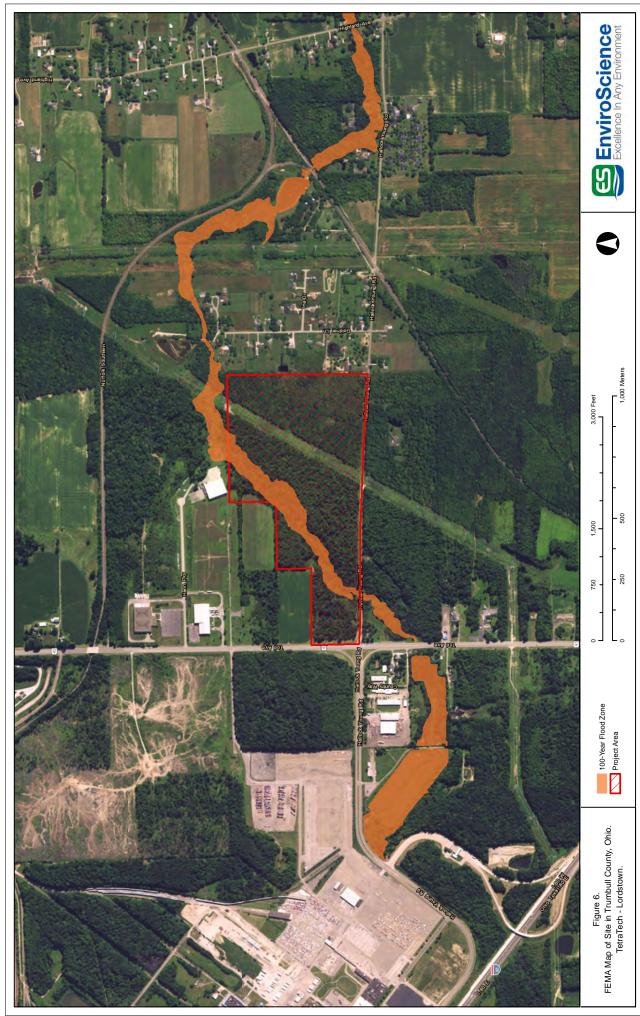
courtesy of National Geographic Society (2013). NW



nap courtesy of Esri. Soil data co



in English of English



asemap courtesy of Esri. Flood data courtesy of FEMA.

Appendix B:

Photographs

Trumbull Energy Center Photographed February 2016 through August 2016.



Photo 1. Sample Plot 1 representing mowed field.



Photo 2. Sample Plot 2 within a PSS portion of Wetland W-1a.

Trumbull Energy Center Photographed February 2016 through August 2016.



Photo 3. Sample Plot 3 within a PFO portion of Wetland W-1a.



Photo 4. Sample Plot 4 within Wetland W-2.



Photo 5. Sample Plot 5 representing a forest community.



Photo 6. Sample Plot 6 within a PFO portion of Wetland W-1a.



Photo 7. Sample Plot 7 within a PEM portion of a Wetland W-1a



Photo 8. Sample Plot 8 within a PSS portion of Wetland W-1a.



Photo 9. Sample Plot 9 within Wetland W-3.



Photo 10. Sample Plot 10 representing a forest community.



Photo 11. Sample Plot 11 in Wetland W-4.



Photo 12. Sample Plot 12 within Wetland W-5.



Photo 13. Sample Plot 13 within a PFO portion of Wetland W-1a.



Photo 14. Sample Plot 14 within a PEM portion of Wetland W-1a.



Photo 15. Sample Plot 15 within a PEM portion of Wetland W-1a.



Photo 16. Sample Plot 16 within a PFO portion of Wetland W-1a.



Photo 17. Sample Plot 17 within a PFO portion of Wetland W-1a.



Photo 18. Sample Plot 18 representing a forest community.



Photo 19. Sample Plot 19 in Wetland W-6.



Photo 20. Sample Plot 20 within a PEM portion of Wetland W-7.



Photo 21. Sample Plot 21 representing an old field community.



Photo 22. Sample Plot 22 representing a forest community.



Photo 23. Sample Plot 23 in a PFO portion of Wetland W-7.



Photo 24. Sample Plot 24 within Wetland W-10.



Photo 25. Sample Plot 25 representing an open field community.



Photo 26. Sample Plot 26 within W-11.



Photo 27. Sample Plot 27 within the PEM portion of Wetland W-13.



Photo 28. Sample Plot 28 within Wetland W-14.



Photo 29. Sample Plot 29 within the PFO portion of Wetland W-13.



Photo 30. Sample Plot 30 representing a forest community.



Photo 31. Sample Plot 31 within Wetland W-17.



Photo 32. Sample Plot 32 representing an open field community.



Photo 33. Sample Plot 33 within the PSS portion of Wetland W-7.



Photo 34. Sample Plot 34 within Wetland W-8.



Photo 35. Wetland W-1, PEM, facing northeast.



Photo 36. Wetland W-1, PSS, facing east.



Photo 37. Wetland W-1, PFO, facing east.



Photo 38. Wetland W-2 facing southeast.



Photo 39. Wetland W-3 facing west.



Photo 40. Wetland W-4 facing west.



Photo 41. Wetland W-5 facing south.



Photo 42. Wetland W-6 facing west.



Photo 43. Wetland W-7, PEM, facing west.



Photo 44. Wetland W-7, PFO, facing west.



Photo 45. Wetland W-8 facing south.



Photo 46. Wetland W-9 facing north.



Photo 47. Wetland W-10 facing northwest.



Photo 48. Wetland W-11 facing southwest.



Photo 49. Wetland W-12 facing northeast.



Photo 50. Wetland W-13, PFO, facing east.



Photo 51. Wetland W-13, PEM, facing south.



Photo 52. Wetland W-14 facing north.



Photo 53. Wetland W-15 facing north.



Photo 54. Wetland W-16 facing north.



Photo 55. Wetland W-17 facing east.



Photo 56. Mud Creek facing south, upstream.



Photo 57. Mud Creek facing north, downstream.



Photo 58. Stream S-1 facing east, upstream.



Photo 59. Stream S-1 facing west, downstream.



Photo 60. Stream S-2 facing east, upstream.



Photo 61. Stream S-2 facing west, downstream.



Photo 62. Stream S-3 facing southeast, upstream.



Photo 63. Stream S-3 facing northwest, downstream.



Photo 64. Stream S-4 facing northwest, upstream.



Photo 65. Stream S-4 facing southeast, downstream.

Appendix C:

Routine Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 23 Aug 2016					
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-1					
Investigator(s): A. Gilmore, R. Warren; EnviroScience, Inc. Section, Township, Range:						
	ocal relief (concave, convex, none): non Slope (%):					
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.143973	Long: -80.85868 Datum: WGS 84					
Soil Map Unit Name: WbB - Wadsworth silt loam, 2 to 6 percent slopes						
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No						
						
Are Vegetation, Soil, or Hydrologynaturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes No_X_	Is the Sampled Area					
Hydric Soil Present? Yes X No	within a Wetland? Yes No X					
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:					
Remarks: (Explain alternative procedures here or in a separate report.) Mowed open field.						
HYDROLOGY						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)					
Surface Water (A1) Water-Stained						
High Water Table (A2) Aquatic Fauna And Deposits (A2)	i i i i i i i i i i i i i i i i i i i					
Saturation (A3) Marl Deposits (
Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)						
Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery Processes of Reduced Iron (C4) Stunted or Streeged Rights (D4)						
Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)						
Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Re Thin Muck Surf						
Inundation Visible on Aerial Imagery (B7) Other (Explain						
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)					
Field Observations:						
Surface Water Present? Yes No X Depth (inches	s)·					
Water Table Present? Yes No X Depth (inches						
Saturation Present? Yes No X Depth (inches						
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:					
Remarks:						
No hydrology observed.						

Northcentral and Northeast Region – Version 2.0

US Army Corps of Engineers

VEGETATION – Use scientific names of p	iants.			Sampling Poin	it: SP-1	
<u>Tree Stratum</u> (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1				Number of Dominant Species That Are OBL, FACW, or FAC:	0 (/	(A)
3. 4.				Total Number of Dominant Species Across All Strata:	(I	(B)
5				Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0% (/	(A/B)
7				Prevalence Index worksheet:		
		=Total Cover		Total % Cover of:	Multiply by:	_
Sapling/Shrub Stratum (Plot size: 15'))			OBL species0 x 1	= 0	_
1.				FACW species 0 x 2	= 0	_
2.				FAC species 0 x 3	= 0	_
3.				FACU species 100 x 4	= 400	•
4.					= 0	-
5					400	– (B)
				Prevalence Index = B/A =		- (-)
6. 7.				Hydrophytic Vegetation Indicato		
·· -		=Total Cover		1 - Rapid Test for Hydrophytic		
Horb Stratum (Diot aiza: E')		- Total Gover		2 - Dominance Test is >50%	Vogetation	
Herb Stratum (Plot size: 5')	70	V	E4011	1 		
1. Dactylis glomerata	70	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹	1.5	
2. Lotus corniculatus	20	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
3. <u>Taraxacum officinale</u>	5	No	FACU			
4. Trifolium pratense	5	No	FACU	Problematic Hydrophytic Vege	etation ¹ (Explain	1)
56.				¹ Indicators of hydric soil and wetlar be present, unless disturbed or pro		ust
7.				Definitions of Vegetation Strata:		
8.						
9.				Tree – Woody plants 3 in. (7.6 cm) at breast height (DBH), regardless		metei
10				Sapling/shrub – Woody plants les		Н
11				and greater than or equal to 3.28 ft	(1 m) tall.	
12				Herb – All herbaceous (non-woody	/) plants, regard	lless
	100	=Total Cover		of size, and woody plants less than	1 3.28 ft tall.	
Woody Vine Stratum (Plot size: 30') 1.)			Woody vines – All woody vines gr height.	eater than 3.28	ft in
				g.m		
				Hydrophytic		
				Vegetation	NI- V	
4				Present? Yes	No X	
		=Total Cover				
Remarks: (Include photo numbers here or on a sep	arate sheet.)					

SOIL Sampling Point: SP-1 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Color (moist) % Color (moist) Loc² (inches) % Type¹ Texture Remarks Loamy/Clayey 10YR 4/2 0-8 85 10YR 5/6 10 С Μ Prominent redox concentrations 2.5YR 3/2 5 silty loam with gravel ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) ? Redox Depressions (F8) Very Shallow Dark Surface (TF12) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): **Hydric Soil Present?** Yes This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 23 Aug 2016					
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-2					
Investigator(s): A. Gilmore, R. Warren; EnviroScience, Inc. Section, Township, Range:						
	Local relief (concave, convex, none): concave Slope (%):					
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.145103	Long: -80.855789 Datum: WGS 84					
Soil Map Unit Name: WbB - Wadsworth silt loam, 2 to 6 percent slope						
·						
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No						
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area					
Hydric Soil Present? Yes X No	within a Wetland? Yes X No					
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-1.					
Remarks: (Explain alternative procedures here or in a separate report.) PSS in W-1.						
HYDROLOGY						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that apply)						
Surface Water (A1) Water-Stained						
High Water Table (A2) Aquatic Fauna And Reposition						
Saturation (A3) Marl Deposits						
	fide Odor (C1) Crayfish Burrows (C8) Crayfish Burrows (C8) Crayfish Burrows (C8)					
1 	espheres on Living Roots (C3) <u>x</u> Saturation Visible on Aerial Imagery (C9) Reduced Iron (C4) Stunted or Stressed Plants (D1)					
1 	reduction in Tilled Soils (C6) x Geomorphic Position (D2)					
Iron Deposits (B5) Thin Muck Su	· · · · · · · · · · · · · · · · · · ·					
Inundation Visible on Aerial Imagery (B7) Other (Explain						
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)					
Field Observations:	_					
Surface Water Present? Yes No X Depth (inche	es):					
Water Table Present? Yes No X Depth (inche						
Saturation Present? Yes No X Depth (inche	es): Wetland Hydrology Present? Yes X No					
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:					
Remarks:						

Northcentral and Northeast Region – Version 2.0

US Army Corps of Engineers

	Absolute	Dominant	Indicator			
Tree Stratum (Plot size: 30')	% Cover	Species?	Status	Dominance Test worksheet:		
1				Number of Dominant Species		
2				That Are OBL, FACW, or FAC:	4	(A)
3.				Total Number of Dominant		
4				Species Across All Strata:	4	_(B)
5				Percent of Dominant Species		
6.				That Are OBL, FACW, or FAC:	100.0%	_ (A/B
7.				Prevalence Index worksheet:		
		=Total Cover		Total % Cover of:	Multiply by:	
Sapling/Shrub Stratum (Plot size: 15')	-			OBL species	<1 =	
Cornus racemosa	45	Yes	FAC		(2 =	
2.					< 3 =	
ว					< 4 =	
4					< 5 =	
	·			Column Totals:		
				Prevalence Index = B/A		—,
7		-		Hydrophytic Vegetation Indica		_
<i>1</i> .	45	=Total Cover		1 - Rapid Test for Hydrophy		
Howh Ctratum (Diet einer E'	45	= Total Cover		1 	•	
Herb Stratum (Plot size: 5')	00		ODI	X 2 - Dominance Test is >50%		
1. Leersia oryzoides		Yes Yes	OBL	3 - Prevalence Index is ≤3.0		
2. Lobelia cardinalis	20	Yes	OBL	4 - Morphological Adaptation data in Remarks or on a		
3. Cornus racemosa	20	Yes	FAC			
4. Phalaris arundinacea	15	<u>No</u>	FACW	Problematic Hydrophytic Ve	egetation¹ (Expl	lain)
Persicaria sagittata 6.	15	No	OBL	¹ Indicators of hydric soil and we be present, unless disturbed or		must
7.				Definitions of Vegetation Stra		
8.				1		
9.				Tree – Woody plants 3 in. (7.6 of at breast height (DBH), regardle		diamet
10				Sapling/shrub – Woody plants	less than 3 in.	DBH
11				and greater than or equal to 3.2		
12.				Herb – All herbaceous (non-woo	ndv) plants red	ardles
	100	=Total Cover		of size, and woody plants less the		ai aioo
Woody Vine Stratum (Plot size: 30')		-		Woody vines – All woody vines	areater than 3	28 ft ir
1.				height.	greater triair 5	.20 11 11
2.						
3.				Hydrophytic		
4.		-		Vegetation Present? Yes X	No	
	-	=Total Cover		1105cm: 105 <u>X</u>	- "-	
		= TOTAL COVEL				

SOIL Sampling Point: SP-2 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) % Color (moist) Loc² (inches) % Type Texture Remarks 98 2 PL0-4 10YR 4/1 10YR 5/6 С Loamy/Clayey Prominent redox concentrations 4-16 2.5Y 5/1 75 7.5YR 5/6 25 С M Loamy/Clayey ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) ? Redox Depressions (F8) Very Shallow Dark Surface (TF12) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): **Hydric Soil Present?** Yes Remarks: This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 23 Aug 2016			
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-3			
Investigator(s): A. Gilmore, R. Warren; EnviroScience, Inc.	Section, Township, Range:			
-	Local relief (concave, convex, none): concave Slope (%):			
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.144128	Long: -80.855077 Datum: WGS 84			
	NWI classification: PSS1A			
Soil Map Unit Name: Ho - Hilly silt loam, frequently flooded				
Are climatic / hydrologic conditions on the site typical for this time of				
Are Vegetation, Soil, or Hydrologysignificar				
Are Vegetation, Soil, or Hydrologynaturally	problematic? (If needed, explain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area			
Hydric Soil Present? Yes X No	within a Wetland? Yes X No			
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-1.			
Remarks: (Explain alternative procedures here or in a separate rep				
PFO in W-1.	J.			
HYDROLOGY				
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; check all that apply				
	d Leaves (B9) Drainage Patterns (B10)			
High Water Table (A2) Aquatic Faun				
Saturation (A3)Marl Deposits				
	Crayfish Burrows (C8)			
	zospheres on Living Roots (C3) x Saturation Visible on Aerial Imagery (C9)			
	Reduced Iron (C4) Stunted or Stressed Plants (D1)			
	Reduction in Tilled Soils (C6) x Geomorphic Position (D2)			
Iron Deposits (B5)Thin Muck St				
	in in Remarks) Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)			
Field Observations:				
Surface Water Present? Yes No X Depth (inch				
Water Table Present? Yes No X Depth (inch				
Saturation Present? Yes No _X Depth (inch (includes capillary fringe)	les): Wetland Hydrology Present? Yes X No			
Describe Recorded Data (stream gauge, monitoring well, aerial pho	tos previous inspections) if available:			
Describe Necorated Data (officially gauge, file-morning work, decise, p	tos, previous inspections, ii available.			
Remarks:				

Northcentral and Northeast Region – Version 2.0

VEGETATION – Use scientific names of plants.			Sampling Point:	SP-3
Absolute	Dominant	Indicator	T .	

<u>Tree Stratum</u> (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	55	Yes	FAC	
2. Ulmus americana	20	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)
3. Fraxinus pennsylvanica	10	No	FACW	Total Number of Dominant
4.				Species Across All Strata: 9 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 77.8% (A/B)
7.				Prevalence Index worksheet:
	85	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				OBL species x 1 =
1. Rosa multiflora	25	Yes	FACU	FACW species x 2 =
2. Cornus racemosa	15	Yes	FAC	FAC species x 3 =
3. Fraxinus pennsylvanica	10	No	FACW	FACU species x 4 =
4. Frangula alnus	10	No	FAC	UPL species x 5 =
5.				Column Totals: (A)(B)
6.				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
	60	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5')				X 2 - Dominance Test is >50%
Glyceria striata	20	Yes	OBL	3 - Prevalence Index is ≤3.0 ¹
2. Onoclea sensibilis	20	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supporting
3. Impatiens capensis	15	Yes	FACW	data in Remarks or on a separate sheet)
4. Solidago gigantea	15	Yes	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Geum canadense	10	No	FAC	¹ Indicators of hydric soil and wetland hydrology must
6. Solidago rugosa	10	No	FAC	be present, unless disturbed or problematic.
7. Agrimonia parviflora	10	No	FAC	Definitions of Vegetation Strata:
8. Juncus effusus	5	No	OBL	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
9. Symphyotrichum prenanthoides	5	No	FAC	at breast height (DBH), regardless of height.
10. Scirpus atrovirens	5	No	OBL	Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	115	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
Parthenocissus quinquefolia	10	Yes	FACU	height.
2.				
3				Hydrophytic Vegetation
4				Present? Yes X No
	10	=Total Cover		
Remarks: (Include photo numbers here or on a separ	ate sheet.)			

SOIL Sampling Point: SP-3 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) % Color (moist) Loc² (inches) % Type Texture Remarks PL/M 0-10 10YR 4/1 90 7.5YR 5/8 10 С Loamy/Clayey Prominent redox concentrations 10-16 2.5Y 5/2 85 7.5YR 5/8 15 С Μ Loamy/Clayey ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) ? Redox Depressions (F8) Very Shallow Dark Surface (TF12) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): **Hydric Soil Present?** Yes Remarks: This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 24 Aug 2016				
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-4				
Investigator(s): L. Sayre; EnviroScience, Inc. Section, Township, Range:					
Landform (hillside, terrace, etc.): depression	Local relief (concave, convex, none): concave Slope (%):				
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.144					
Soil Map Unit Name: Wadsworth silt loam, 2 to 6 percent slope					
Are climatic / hydrologic conditions on the site typical for this ti	<u> </u>				
Are Vegetation, Soil, or Hydrologysig	 -				
Are Vegetation, Soil, or Hydrologyna					
SUMMARY OF FINDINGS – Attach site map sho	wing sampling point locations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area				
Hydric Soil Present? Yes X No	within a Wetland? Yes X No				
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-2				
Remarks: (Explain alternative procedures here or in a separa					
PFO	io roporta)				
HYDROLOGY					
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)				
Primary Indicators (minimum of one is required; check all tha	apply) Surface Soil Cracks (B6)				
l 	Stained Leaves (B9) Drainage Patterns (B10)				
I 	Fauna (B13) Moss Trim Lines (B16)				
I 	eposits (B15) Dry-Season Water Table (C2)				
I `	en Sulfide Odor (C1) Crayfish Burrows (C8)				
I 	d Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)				
I 	ce of Reduced Iron (C4) X Stunted or Stressed Plants (D1)				
I 	Iron Reduction in Tilled Soils (C6) X Geomorphic Position (D2)				
I 	uck Surface (C7) Shallow Aquitard (D3)				
I 	Explain in Remarks) Microtopographic Relief (D4)				
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)				
Field Observations: Surface Water Present? Yes No X Depti	(inches):				
	(inches):				
·	(inches): Wetland Hydrology Present? Yes X No				
(includes capillary fringe)	Wedand Hydrology Freschi: 165 _X NO				
Describe Recorded Data (stream gauge, monitoring well, aer	al photos, previous inspections), if available:				
, , , , , , , , , , , , , , , , , , ,					
Remarks:					
US Army Corps of Engineers	Northcentral and Northeast Region – Version 2.0				

VEGETATION – Use scientific names of plants. Sampling Point: SP-4 Absolute Dominant Indicator <u>Tree Stratum</u> (Plot size: 30') Species? Status **Dominance Test worksheet:** % Cover Acer rubrum Yes FAC 1. **Number of Dominant Species** 20 2. Ulmus americana Yes **FACW** That Are OBL, FACW, or FAC: 7 (A) 3. 15 **FACW** Quercus palustris Yes Total Number of Dominant 4. Species Across All Strata: 7 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: Multiply by: 60 =Total Cover Total % Cover of: Sapling/Shrub Stratum (Plot size: 15' OBL species ___ x1=_ Ulmus americana 10 Yes **FACW** FACW species x 2 = 2. Cornus racemosa 8 Yes FAC FAC species x 3 = x 4 = 5 FACU species 3. Fraxinus pennsylvanica Nο **FACW** 5 4. Rosa multiflora No **FACU** UPL species x 5 = 5. Column Totals: Prevalence Index = B/A = 6. **Hydrophytic Vegetation Indicators:** 7. 1 - Rapid Test for Hydrophytic Vegetation =Total Cover Herb Stratum (Plot size: X 2 - Dominance Test is >50% Persicaria virginiana Yes FAC 3 - Prevalence Index is ≤3.01 2. Toxicodendron radicans 5 FAC 4 - Morphological Adaptations¹ (Provide supporting Yes data in Remarks or on a separate sheet) 3 3. Glyceria striata No OBL 4. Potentilla simplex 3 No **FACU** Problematic Hydrophytic Vegetation¹ (Explain) 5. Geum canadense No FAC ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. **Herb** – All herbaceous (non-woody) plants, regardless 18 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height.

=Total Cover

Remarks: (Include photo numbers here or on a separate sheet.)

2.

3.

Yes X No

Hydrophytic

Vegetation

Present?

SOIL								Sampling Point:	SP-4
Profile De	escription: (Describ	e to the de	epth needed to docu	ıment th	e indicato	or or con	firm the absence	of indicators.)	
Depth	Matrix			x Featur		-			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-8	10YR 4/2	80	10YR 4/6	20	<u> </u>	M	Loamy/Clayey	Prominent redox cond	entrations
1Type: C-		nletion Pl	M-Reduced Matrix M	Mack	ed Sand (Praine	21 00	cation: PL=Pore Lining, M	-Matrix
	oil Indicators:	piction, rei	vi–i teduced iviatrix, iv	io-iviasi	ca Garia C	Jianis.		r Problematic Hydric So	
_	sol (A1)		Polyvalue Belov	v Surface	e (S8) (LR	RR,		ck (A10) (LRR K, L, MLR	
	Epipedon (A2)		MLRA 149B)		, , ,			airie Redox (A16) (LRR K	
Black	Histic (A3)		Thin Dark Surfa	ice (S9)	(LRR R, M	LRA 149			
Hydro	gen Sulfide (A4)		High Chroma S	ands (S1	1) (LRR K	(, L)	Polyvalue	e Below Surface (S8) (LRF	₹ K , L)
	fied Layers (A5)		Loamy Mucky N			(, L)		k Surface (S9) (LRR K, L)	
	ted Below Dark Surfa	ice (A11)	Loamy Gleyed I	•	2)		Iron-Manganese Masses (F12) (LRR K, L, R)		
	Dark Surface (A12)		X Depleted Matrix	• •	• • • • • • • • • • • • • • • • • • • •		Piedmont Floodplain Soils (F19) (MLRA 149B)		
	y Mucky Mineral (S1) y Gleyed Matrix (S4)		Redox Dark Sur Depleted Dark S	•	•		Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
	y Redox (S5)		? Redox Depress				Very Shallow Dark Surface (TF12)		
	ed Matrix (S6)		Marl (F10) (LRF	` ′	,		Other (Explain in Remarks)		
	Surface (S7)			, ,				,	
	s of hydrophytic veget		wetland hydrology mu	ust be pro	esent, unle	ess distur	bed or problematic.		
	e Layer (if observed)):							
Type: _									
Depth (i	nches):						Hydric Soil Pre	esent? Yes X	No
	form is revised from N 0 March 2013 Errata.		-		•			RCS Field Indicators of Hydicx)	dric Soils

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 23 Aug 2016
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-5
Investigator(s): A. Gilmore; EnviroScience, Inc.	Section, Township, Range:
Landform (hillside, terrace, etc.): hillside	Local relief (concave, convex, none): non Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.146167	-
Soil Map Unit Name: RsC - Rittman silt loam, 6 to 12 percent slop	
Are climatic / hydrologic conditions on the site typical for this time	
Are Vegetation, Soil, or Hydrology signific	
Are Vegetation, Soil, or Hydrologynatura	
SUMMARY OF FINDINGS – Attach site map showi	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes No X	
Wetland Hydrology Present? Yes No X	<u> </u>
Remarks: (Explain alternative procedures here or in a separate r	eport.)
Forest.	
HYDROLOGY	
	Secondary Indicators (minimum of two required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that app	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)
	ined Leaves (B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fa	
Saturation (A3) Marl Depos	
1 	Sulfide Odor (C1) Crayfish Burrows (C8)
— · · · · · — · · · · · — · · · · · ·	Chizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
1 	of Reduced Iron (C4) Stunted or Stressed Plants (D1)
l · · · · ·	n Reduction in Tilled Soils (C6) Geomorphic Position (D2)
1 	Surface (C7) Shallow Aquitard (D3)
— · · · · · · — · — · · · · · · · · ·	olain in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _X Depth (in	ches):
Water Table Present? Yes No _X Depth (in	ches):
Saturation Present? Yes No X Depth (in	iches): Wetland Hydrology Present? Yes No X
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial p	hotos, previous inspections), if available:
Remarks:	
No hydrology observed.	
The hydrelogy essentes.	

Northcentral and Northeast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-5 Absolute Dominant Indicator Tree Stratum (Plot size: 30') Status **Dominance Test worksheet:** % Cover Species? Acer rubrum **FAC** Yes **Number of Dominant Species** 10 2. No NI That Are OBL, FACW, or FAC: Malus sp. 4 (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 4 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: 75 =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' OBL species x 1 = Frangula alnus 30 FAC **FACW** species 0 x 2 = Rosa multiflora 5 No **FACU** FAC species 130 x 3 = 390 x 4 = 3. FACU species 15 4. **UPL** species 0 x 5 = 5. Column Totals: 145 450 Prevalence Index = B/A =3.10 6. **Hydrophytic Vegetation Indicators:** 35 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: X 2 - Dominance Test is >50% Persicaria virginiana 20 Yes FAC 3 - Prevalence Index is ≤3.01 15 FAC 4 - Morphological Adaptations¹ (Provide supporting 2. Cornus racemosa Yes data in Remarks or on a separate sheet) 5 3. Geum virginianum No **FACU** 4. Rubus allegheniensis 5 No **FACU** Problematic Hydrophytic Vegetation¹ (Explain) 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. **Definitions of Vegetation Strata:** 7. 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 45 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines - All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes X No __ Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

SOIL			Sampling Point: SP-5
Profile Description: (Describe to the d	epth needed to document the indicator or confi	rm the absence of ind	icators.)
Depth Matrix	Redox Features		
(inches) Color (moist) %	Color (moist) % Type ¹ Loc ²	Texture	Remarks
0-10 10YR 5/3 100		Loamy/Clayey	
101111111111111111111111111111111111111		Loamyrolaycy	
¹ Type: C=Concentration, D=Depletion, R	M=Reduced Matrix, MS=Masked Sand Grains.	² Location:	PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:	,		olematic Hydric Soils ³ :
Histosol (A1)	Polyvalue Below Surface (S8) (LRR R,		0) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)	MLRA 149B)		ledox (A16) (LRR K, L, R)
Black Histic (A3)	Thin Dark Surface (S9) (LRR R, MLRA 149B		eat or Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4)	High Chroma Sands (S11) (LRR K, L)	· —	w Surface (S8) (LRR K, L)
Stratified Layers (A5)	Loamy Mucky Mineral (F1) (LRR K, L)	Thin Dark Surfa	ace (S9) (LRR K, L)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Iron-Manganes	e Masses (F12) (LRR K, L, R)
Thick Dark Surface (A12)	Depleted Matrix (F3)	Piedmont Floor	dplain Soils (F19) (MLRA 149B)
Sandy Mucky Mineral (S1)	Redox Dark Surface (F6)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Gleyed Matrix (S4)	Depleted Dark Surface (F7)	Red Parent Ma	terial (F21)
Sandy Redox (S5)	Redox Depressions (F8)	Very Shallow D	ark Surface (TF12)
Stripped Matrix (S6)	Marl (F10) (LRR K, L)	Other (Explain	in Remarks)
Dark Surface (S7)			
³ Indicators of hydrophytic vegetation and	wetland hydrology must be present, unless disturbe	ed or problematic.	
Restrictive Layer (if observed):			
Туре:			
Depth (inches):		Hydric Soil Present?	Yes No X
Remarks:			
	al and Northeast Regional Supplement Version 2.0	to include the NRCS Fi	eld Indicators of Hydric Soils
	w.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs		•

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 24 Aug 2016
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-6
Investigator(s): L. Sayre; EnviroScience, Inc.	Section, Township, Range:
Landform (hillside, terrace, etc.): depression	Local relief (concave, convex, none): concave Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.145824	Long: -80.851498 Datum: WGS 84
Soil Map Unit Name: Holly silt loam, frequently flooded (Ho)	NWI classification: PSS1A
Are climatic / hydrologic conditions on the site typical for this time of	
	
Are Vegetation, Soil, or Hydrologysignifica	
Are Vegetation, Soil, or Hydrologynaturally	
SUMMARY OF FINDINGS – Attach site map showin	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-1a
Remarks: (Explain alternative procedures here or in a separate rep	port.)
PFO	, and the second
LIVERDI COV	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	
I— · · · · —	ed Leaves (B9) X Drainage Patterns (B10)
X High Water Table (A2) Aquatic Faul	
X Saturation (A3) — Marl Deposit	
1 	ulfide Odor (C1) Crayfish Burrows (C8)
I 	izospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
I — · · · · · · · · —	Reduced Iron (C4) Stunted or Stressed Plants (D1)
1 	Reduction in Tilled Soils (C6) X Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck S	
Inundation Visible on Aerial Imagery (B7)Other (Expla Sparsely Vegetated Concave Surface (B8)	in in Remarks) Microtopographic Relief (D4) X FAC-Neutral Test (D5)
	X TAC-Neutral Test (D3)
Field Observations: Surface Water Present? Yes X No Depth (incl	nas)· 1
Water Table Present? Yes X No Depth (incl	·
Saturation Present? Yes X No Depth (incl	
(includes capillary fringe)	Wettalia Hydrology Freschi: 163_X NO
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
3,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Remarks:	
US Army Corps of Engineers	Northcentral and Northeast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-6 Absolute Dominant Indicator Tree Stratum (Plot size: 30') Species? Status **Dominance Test worksheet:** % Cover Acer rubrum Yes FAC 1. **Number of Dominant Species** 15 **FACW** 2. Ulmus americana Yes That Are OBL, FACW, or FAC: 5 (A) 10 3. **FACW** Fraxinus pennsylvanica No **Total Number of Dominant** 4. Species Across All Strata: 5 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: 55 =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' OBL species ___ x1=_ 1. Frangula alnus 30 FAC FACW species x 2 = 2. FAC species x 3 = x 4 = 3. FACU species x 5 = 4. UPL species 5. Column Totals: Prevalence Index = B/A = 6. **Hydrophytic Vegetation Indicators:** 7. 30 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: X 2 - Dominance Test is >50% Impatiens capensis 40 Yes **FACW** 3 - Prevalence Index is ≤3.01 2. Toxicodendron radicans 20 FAC 4 - Morphological Adaptations¹ (Provide supporting Yes data in Remarks or on a separate sheet) 10 3. Glyceria striata No OBL 5 4. Carex sp. No Problematic Hydrophytic Vegetation¹ (Explain) 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. **Herb** – All herbaceous (non-woody) plants, regardless 75 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. 2. Hydrophytic Vegetation Yes X No Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: SP-6 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Loc² Color (moist) % Color (moist) % (inches) Type Texture Remarks 10YR 4/2 98 2 С 0-3 7.5YR 4/6 M Loamy/Clayey Prominent redox concentrations 3-10 10YR 5/1 55 10YR 4/2 45 С Μ Loamy/Clayey 10-12 10YR 5/4 60 10YR 6/2 40 Distinct redox concentrations С M Loamy/Clayey ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Stripped Matrix (S6) Marl (F10) (**LRR K, L**) Other (Explain in Remarks) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): **Hydric Soil Present?** Yes This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 26 Aug 2016
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-7
Investigator(s): A. Gilmore; EnviroScience, Inc.	Section, Township, Range:
Landform (hillside, terrace, etc.): depression	Local relief (concave, convex, none): concave Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.145706	Long: -80.851035 Datum: WGS 84
Soil Map Unit Name: Ho - Holly silt loam	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of	
Are Vegetation, Soil, or Hydrologysignifica	
Are Vegetation, Soil, or Hydrologynaturally	y problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-1
Remarks: (Explain alternative procedures here or in a separate report PEM on RDB of Mud Creek.	port.)
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	y) Surface Soil Cracks (B6)
I 	ed Leaves (B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fau	
Saturation (A3)Marl Deposit	
	ulfide Odor (C1) Crayfish Burrows (C8)
	izospheres on Living Roots (C3) X Saturation Visible on Aerial Imagery (C9)
	Reduced Iron (C4) Stunted or Stressed Plants (D1) X Geomorphic Position (D2)
Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Thin Muck S	· · · · · · · · · · · · · · · · · · ·
	nin in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	<u></u>
Surface Water Present? Yes No X Depth (inch	nes):
Water Table Present? Yes No X Depth (inch	
Saturation Present? Yes No X Depth (inch	nes): Wetland Hydrology Present? Yes _ X No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
Remarks:	
Nemarks.	

Northcentral and Northeast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-7 Absolute Dominant Indicator Species? <u>Tree Stratum</u> (Plot size: 30') % Cover Status **Dominance Test worksheet:** 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: 7 (A) 3. Total Number of Dominant 4. Species Across All Strata: 8 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 87.5% (A/B) Prevalence Index worksheet: Multiply by: =Total Cover Total % Cover of: Sapling/Shrub Stratum (Plot size: 15' OBL species ___ x 1 = ___ Fraxinus pennsylvanica FACW species x 2 = _____ **FACW** Cephalanthus occidentalis 5 Yes OBL FAC species x 3 = ___ 3. Cornus amomum 5 Yes **FACW** FACU species x 4 = 4. UPL species x 5 = 5. Column Totals: 6. Prevalence Index = B/A =**Hydrophytic Vegetation Indicators:** 18 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: X 2 - Dominance Test is >50% Phalaris arundinacea 35 Yes **FACW** 3 - Prevalence Index is ≤3.0¹ 20 4 - Morphological Adaptations (Provide supporting 2. Urtica dioica Yes FAC data in Remarks or on a separate sheet) Impatiens capensis 3. 20 Yes **FACW** 4. Mentha arvensis 15 No **FACW** Problematic Hydrophytic Vegetation¹ (Explain) 5. Lysimachia nummularia 15 No **FACW** ¹Indicators of hydric soil and wetland hydrology must 10 No 6. Persicaria sagittata OBL be present, unless disturbed or problematic. 5 **FACW Definitions of Vegetation Strata:** 7. Vernonia noveboracensis Nο 5 **FACU** 8. Cirsium arvense No Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. at breast height (DBH), regardless of height. 10. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. 11. Herb - All herbaceous (non-woody) plants, regardless 125 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 20 FAC Vitis riparia Yes height. 2. Parthenocissus quinquefolia 10 Yes **FACU** Hydrophytic 3. Vegetation Yes X No_ Present? 30 =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

SOIL								Sa	ampling Point:	SP-7
Profile Des	scription: (Describe	to the de	epth needed to docu	ument th	e indicato	r or con	firm the absence o	of indicat	ors.)	
Depth	Matrix		Redo	x Featur	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-16	10YR 4/1	90	7.5YR 4/6	_10	C	_PL_	Loamy/Clayey			
										
1Typo: C-6	Concentration, D=De	nlotion Pl	M-Poducod Matrix N	 19_Mack	od Sand (Proinc	21.00	ation: DI	Pore Lining, M	
	il Indicators:	pietion, Ki	vi=Reduced Matrix, iv	/IS=IVIASK	teu Sanu C	nains.			natic Hydric So	•
Histos			Polyvalue Belov	w Surface	e (S8) (LR	R R.			LRR K, L, MLR	
	Epipedon (A2)		MLRA 149B)		- ()(,			ox (A16) (LRR K	
_	Histic (A3)		Thin Dark Surfa	ace (S9) ((LRR R, M	LRA 149			or Peat (S3) (LR	
Hydro	gen Sulfide (A4)		High Chroma S	ands (S1	1) (LRR K	, L)	Polyvalue	Below S	urface (S8) (LRI	₹ K, L)
	ed Layers (A5)		Loamy Mucky N			(, L)			(S9) (LRR K, L)	
I —	ed Below Dark Surfa	ce (A11)	Loamy Gleyed	•	2)		Iron-Manganese Masses (F12) (LRR K, L, R)			
I —	Dark Surface (A12)		X Depleted Matrix				Piedmont Floodplain Soils (F19) (MLRA 149B)			
I —	Mucky Mineral (S1)		Redox Dark Su Depleted Dark S				Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)			
	Gleyed Matrix (S4) Redox (S5)		? Redox Depress				Very Shallow Dark Surface (TF12)			
	ed Matrix (S6)		Marl (F10) (LRF	` ′			Other (Explain in Remarks)			
	Surface (S7)			, ,					,	
³ Indicators	of hydrophytic vegeta	ation and v	wetland hydrology mu	ust be pre	esent, unle	ss distur	bed or problematic.			
l	Layer (if observed):								
Type:										
Depth (ir	nches):						Hydric Soil Pre	sent?	Yes_X_	No
Remarks:										
	orm is revised from N								Indicators of Hy	dric Soils
version 7.0	March 2013 Errata.	(nttp://wwv	w.nrcs.usua.gov/inter	nevrse_		:1015/110	:S142p2_051293.000	SX)		

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 24 Aug 2016
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-8
Investigator(s): L. Sayre; EnviroScience, Inc.	Section, Township, Range:
Landform (hillside, terrace, etc.): depression	Local relief (concave, convex, none): concave Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.145427	Long: -80.851449 Datum: WGS 84
Soil Map Unit Name: Holly silt loam, frequently flooded (Ho)	NWI classification: PSS1A
Are climatic / hydrologic conditions on the site typical for this time of	
Are Vegetation, Soil, or Hydrology significa	
Are Vegetation, Soil, or Hydrologynaturally	
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-1a
Remarks: (Explain alternative procedures here or in a separate rep	port.)
PSS	,
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	· · · · · · · · · · · · · · · · · · ·
	ed Leaves (B9) X Drainage Patterns (B10)
X High Water Table (A2) Aquatic Faur	
X Saturation (A3) Marl Deposit	
I 	ulfide Odor (C1) Crayfish Burrows (C8)
1 	zospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
I 	Reduced Iron (C4) Stunted or Stressed Plants (D1)
	Reduction in Tilled Soils (C6) X Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck S	· · · · · · · · · · · · · · · · · · ·
	
Inundation Visible on Aerial Imagery (B7)Other (Expla Sparsely Vegetated Concave Surface (B8)	in in Remarks) Microtopographic Relief (D4) X FAC-Neutral Test (D5)
Field Observations:	A TAGRICULIA TEST (BO)
Surface Water Present? Yes X No Depth (inch	nas): 2
Water Table Present? Yes X No Depth (inch	· 1
Saturation Present? Yes X No Depth (inch	
(includes capillary fringe)	wettallu flydfology Fleselit: 1es No
Describe Recorded Data (stream gauge, monitoring well, aerial pho	ntos previous inspections) if available:
Describe recorded bata (stream gauge, monitoring wen, acriai pric	nos, previous inspections), il available.
Remarks:	
US Army Corps of Engineers	Northcentral and Northeast Region – Version 2.0

Absolute	Dominant	Indicator	T	oint: SP-8	3
% Cover	Species?	Status	Dominance Test worksheet:		
			Number of Dominant Species That Are OBL, FACW, or FAC:	3	_(A)
			Total Number of Dominant Species Across All Strata:	3	(B)
			Percent of Dominant Species	100.09/	_ · · ·
				100.0 /6	_ (A/E
	=Total Cover			Multiply by:	
, 50	Yes	FAC			_
20	Yes				_
15	No			-	_
10	No	FAC			_
				(A)	<u> </u>
					— `
			Hydrophytic Vegetation Indica	ators:	_
	=Total Cover		1 - Rapid Test for Hydrophy	tic Vegetation	
			X 2 - Dominance Test is >50°	%	
65	Yes	FACW	3 - Prevalence Index is ≤3.	D ¹	
14	No	FACW	4 - Morphological Adaptation	ons ¹ (Provide su	pport
10	No	OBL	data in Remarks or on a	separate sheet)	
5	No	OBL	Problematic Hydrophytic Ve	egetation ¹ (Expl	ain)
3	No	FAC	¹ Indicators of hydric soil and we	tland hydrology	muei
3	No	FAC			musi
			Definitions of Vegetation Stra	ta:	
			• · · · · · · · · · · · · · · · · · · ·		liame
			1 . •		ЭВН
	=Total Cover				ardles
)			Woody vines – All woody vines		28 ft í
			g.m.		
			Hydrophytic		
			Present? Yes X	No	
	50 20 15 10 95 65 14 10 5 3 3	% Cover Species?	% Cover Species? Status ————————————————————————————————————	Species Status Dominance Test worksheet:	No No No No No No No No

SOIL Sampling Point: SP-8 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Loc² Color (moist) % Color (moist) (inches) % Type Texture Remarks 10YR 5/2 75 20 С 0-12 10YR 5/6 M Loamy/Clayey Prominent redox concentrations N 6/ 5 С M ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) ? Redox Depressions (F8) Very Shallow Dark Surface (TF12) Stripped Matrix (S6) Marl (F10) (**LRR K, L**) Other (Explain in Remarks) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): **Hydric Soil Present?** Yes This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 23 Aug 2016				
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-9				
Investigator(s): A. Gilmore; EnviroScience, Inc.	Section, Township, Range:				
Landform (hillside, terrace, etc.): depression	Local relief (concave, convex, none): concave Slope (%):				
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.144075	<u> </u>				
Soil Map Unit Name: WbB- Wadsworth silt loam, 2 to 6 percent sl					
Are climatic / hydrologic conditions on the site typical for this time of	<u> </u>				
Are Vegetation, Soil, or Hydrologysignific					
Are Vegetation, Soil, or Hydrologynatura					
	ng sampling point locations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area				
Hydric Soil Present? Yes X No	within a Wetland? Yes X No				
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-3.				
PFO in W-3. Sample Plot was originally delineated in June 23, 2015 and revisited and verified Aug 23, 2016.					
HYDROLOGY					
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)				
Primary Indicators (minimum of one is required; check all that app					
-	ined Leaves (B9) Drainage Patterns (B10) Many Trip Lines (B10)				
X High Water Table (A2) Aquatic Fa					
Saturation (A3) — Marl Depos					
1 	Sulfide Odor (C1) Crayfish Burrows (C8) thizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)				
— · · · · · · — · · · · — · · · · · ·	of Reduced Iron (C4) Stunted or Stressed Plants (D1)				
1 	n Reduction in Tilled Soils (C6) Geomorphic Position (D2)				
I — · · · · · · —	Surface (C7) Shallow Aquitard (D3)				
l 	olain in Remarks) Microtopographic Relief (D4)				
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)				
Field Observations:					
Surface Water Present? Yes No _X Depth (in	ches):				
Water Table Present? Yes X No Depth (inc					
Saturation Present? Yes No X Depth (inc					
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial pl	hotos, previous inspections), if available:				
Remarks:					
Standing water about 0.25" recent precipitaiton.					

Northcentral and Northeast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-9 Absolute Dominant Indicator Tree Stratum (Plot size: 30' ___) Status **Dominance Test worksheet:** % Cover Species? Acer rubrum Yes **FAC Number of Dominant Species** 30 2. Yes NI That Are OBL, FACW, or FAC: Crateagus sp. 7 (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 8 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 87.5% (A/B) Prevalence Index worksheet: 90 =Total Cover Multiply by: Total % Cover of: Sapling/Shrub Stratum (Plot size: 15' OBL species x 1 = FACW species Ulmus americana 30 **FACW** x 2 = ____ 2. Cornus racemosa 20 Yes FAC FAC species x 3 = ___ 3. FACU species x 4 = 4. **UPL** species x 5 = 5. Column Totals: 6. Prevalence Index = B/A =**Hydrophytic Vegetation Indicators:** 50 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: X 2 - Dominance Test is >50% Fraxinus pennsylvanica 25 Yes **FACW** 3 - Prevalence Index is ≤3.01 20 OBL 4 - Morphological Adaptations (Provide supporting 2. Glyceria striata Yes data in Remarks or on a separate sheet) 3. Impatiens capensis 20 Yes **FACW** 5 4. Toxicodendron radicans No FAC Problematic Hydrophytic Vegetation¹ (Explain) 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. **Herb** – All herbaceous (non-woody) plants, regardless 70 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 10 1. Parthenocissus quinquefolia FAC height. 2. Hydrophytic 3. Vegetation Yes X No_ Present? 10 =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: SP-9 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) % Color (moist) Loc² (inches) Type² Texture Remarks 10YR 5/2 0-3 100 Loamy/Clayey silty clay 3-16 2.5Y 5/1 60 2.5Y 5/2 40 D M Loamy/Clayey ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): **Hydric Soil Present?** Yes This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site: Trumbull Energy Center	City/County: Lord	dstown/Trumbull	Sampling Date: 26 Aug 2016		
Applicant/Owner: TetraTech		State:			
Investigator(s): A. Gilmore; EnviroScience, Inc.	Section, Townshi	b. Range:			
Landform (hillside, terrace, etc.): hilltop		re, convex, none): convex	Slope (%):		
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.1452		Long: -80.850065	Datum: WGS 84		
Soil Map Unit Name: WbB - Wadsworth silt loam, 2 to 6 percer		_	fication: N/A		
	•				
Are climatic / hydrologic conditions on the site typical for this tir	_		n in Remarks.)		
Are Vegetation, Soil, or Hydrologysig		re "Normal Circumstances" pr			
Are Vegetation, Soil, or Hydrologynat	urally problematic? (I	f needed, explain any answers	s in Remarks.)		
SUMMARY OF FINDINGS – Attach site map sho	wing sampling poi	nt locations, transects,	, important features, etc.		
Hydrophytic Vegetation Present? Yes X No	Is the Samp	led Area			
Hydric Soil Present? Yes No			No X		
Wetland Hydrology Present? Yes No		al Wetland Site ID:			
Remarks: (Explain alternative procedures here or in a separa	te report.)				
Forest.					
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indic	cators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that	apply)	•	oil Cracks (B6)		
· · · · · · · · · · · · · · · · · · ·	Stained Leaves (B9)		Patterns (B10)		
	Fauna (B13)	Moss Trim Lines (B16)			
1 	eposits (B15)	Dry-Season Water Table (C2)			
1 	en Sulfide Odor (C1)	Crayfish Burrows (C8)			
1 	d Rhizospheres on Living	Roots (C3) Saturation	Visible on Aerial Imagery (C9)		
<u> </u>	ce of Reduced Iron (C4)	· · · · —	Stressed Plants (D1)		
Algal Mat or Crust (B4) Recent	Iron Reduction in Tilled S		ic Position (D2)		
1 	uck Surface (C7)	Shallow Aq			
Inundation Visible on Aerial Imagery (B7) Other (I	Explain in Remarks)	Microtopog	graphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)	•	X FAC-Neutra			
Field Observations:					
	i (inches):				
· — — — — — — — — — — — — — — — — — — —	i (inches):				
Saturation Present? Yes No X Depth	(inches):	Wetland Hydrology Present	t? Yes No_X		
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspec	tions), if available:			
Remarks:					
No hydrology observed.					
1.0.19.1.1.39.1.1.1.1					

Northcentral and Northeast Region – Version 2.0

VEGETATION – Use scientific names of _ا	plants.	Sampling Point: _	SP-10

Trace Charathurs (Diet sine) 201	Absolute	Dominant	Indicator	Barringura Test wardebast			
<u>Tree Stratum</u> (Plot size:) 1. Acer rubrum	% Cover 40	Species? Yes	Status FAC	Dominance Test worksheet:			
Ulmus americana	20	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)			
Fraxinus pennsylvanica	10	No	FACW	That Are OBE, I AGW, OF I AC.			
4.	10	INO	FACW	Total Number of Dominant Species Across All Strata: 8 (B)			
5.				Species Across Air Strata.			
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)			
7				That Are OBL, FACW, or FAC:			
	70	=Total Cover					
Conling/Chrub Strotum (Diot size: 15')	70	= rotal Cover					
Sapling/Shrub Stratum (Plot size: 15')	20	V	E40	OBL species 0 x1 = 0			
1. Acer rubrum	30	Yes	FAC	FACW species 55 x 2 = 110			
2. Lindera benzoin	15	Yes	FACW	FAC species 80 x 3 = 240			
3. Rosa multiflora	10	No	FACU	FACU species 32 x 4 = 128			
4				UPL species <u>27</u> x 5 = <u>135</u>			
5				Column Totals: 194 (A) 613 (B)			
6				Prevalence Index = B/A = 3.16			
7				Hydrophytic Vegetation Indicators:			
	55	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
Herb Stratum (Plot size: 5')				X 2 - Dominance Test is >50%			
Carex pensylvanica	25	Yes	UPL	3 - Prevalence Index is ≤3.0 ¹			
2. Fraxinus pennsylvanica	10	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supportin			
3. Syphyotrichum sp.	5	No	NI	data in Remarks or on a separate sheet)			
4. Fragaria vesca	2	No	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)			
5. Geum virginianum	2	No	FACU	¹ Indicators of hydric soil and wetland hydrology must			
6.				be present, unless disturbed or problematic.			
7				Definitions of Vegetation Strata:			
8.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter			
9.				at breast height (DBH), regardless of height.			
10				Sapling/shrub – Woody plants less than 3 in. DBH			
11.				and greater than or equal to 3.28 ft (1 m) tall.			
12.				Herb – All herbaceous (non-woody) plants, regardless			
	44	=Total Cover		of size, and woody plants less than 3.28 ft tall.			
Woody Vine Stratum (Plot size: 30')		ı					
Parthenocissus quinquefolia	20	Yes	FACU	Woody vines – All woody vines greater than 3.28 ft in height.			
2. Toxicodendron radicans	10	Yes	FAC				
3.				Hydrophytic			
4.				Vegetation Present? Yes X No			
	30	=Total Cover					
Remarks: (Include photo numbers here or on a separ				1			

SOIL Sampling Point: SP-10 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) % Color (moist) Loc² (inches) Type¹ Texture Remarks 0-4 10YR 4/2 100 Loamy/Clayey silt loam 4-8 10YR 5/2 90 10YR 5/6 silt loam with rocks Loamy/Clayey 8-12 10YR 6/3 100 Loamy/Clayey silt loam ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Stripped Matrix (S6) Marl (F10) (LRR K, L) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): **Hydric Soil Present?** No This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site: Trumbull Energy Center	City/0	County: Lordstown/Trumbull	Sampling Date: 24 Aug 2016
Applicant/Owner: TetraTech	_	State:	OH Sampling Point: SP-11
Investigator(s): L. Sayre; EnviroScience, In	c. Secti	on, Township, Range:	
Landform (hillside, terrace, etc.): depression		elief (concave, convex, none): concave	Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 1		Long: -80.849613	Datum: WGS 84
Soil Map Unit Name: Wadsworth silt loam, 0			fication: none
•			
Are climatic / hydrologic conditions on the si			n in Remarks.)
Are Vegetation, Soil, or Hyd	<u> </u>		
Are Vegetation, Soil, or Hyd	Irologynaturally problen	natic? (If needed, explain any answer	s in Remarks.)
SUMMARY OF FINDINGS – Attack	site map showing sam	pling point locations, transects	, important features, etc.
Hudronbutio Vegetation Present?	/es X No I	s the Sampled Area	
' ' ' °		s the Sampled Area vithin a Wetland? Yes X	No
		f yes, optional Wetland Site ID: Wetland	
Remarks: (Explain alternative procedures I		<u></u>	
PFO	icic oi iii a separate report.)		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)
Primary Indicators (minimum of one is requ	red; check all that apply)	Surface So	oil Cracks (B6)
Surface Water (A1)	X Water-Stained Leave	es (B9) X Drainage F	Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim	Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Seaso	n Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Od	or (C1) Crayfish B	urrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospher	es on Living Roots (C3) Saturation	Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced	d Iron (C4) Stunted or	Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction	on in Tilled Soils (C6) Geomorph	ic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7) Shallow Ad	quitard (D3)
Inundation Visible on Aerial Imagery (E	7) Other (Explain in Rer	marks) Microtopog	raphic Relief (D4)
Sparsely Vegetated Concave Surface	B8)	FAC-Neutr	al Test (D5)
Field Observations:			
Surface Water Present? Yes	No X Depth (inches):		
Water Table Present? Yes	No X Depth (inches):		
Saturation Present? Yes	No X Depth (inches):	Wetland Hydrology Presen	t? Yes <u>X</u> No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, m	onitoring well, aerial photos, pre	vious inspections), if available:	
Remarks:			
Nemarks.			
US Army Corps of Engineers		Northcentral and No	rtheast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-11 Absolute Dominant Indicator <u>Tree Stratum</u> (Plot size: 30') Status **Dominance Test worksheet:** % Cover Species? Acer rubrum Yes FAC **Number of Dominant Species** 30 **FACW** 2. Quercus palustris Yes That Are OBL, FACW, or FAC: 8 (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 8 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: 70 =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' OBL species ___ x1=_ Frangula alnus 25 Yes FAC FACW species x 2 = 2. Ulmus americana 15 Yes **FACW** FAC species x 3 = x 4 = FACU species 3. Fraxinus pennsylvanica 15 Yes **FACW** 5 4. Rosa multiflora No **FACU** UPL species x 5 = 5. Column Totals: 6. Prevalence Index = B/A = 7. **Hydrophytic Vegetation Indicators:** 60 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: X 2 - Dominance Test is >50% Solidago rugosa 20 Yes FAC 3 - Prevalence Index is ≤3.01 2. Toxicodendron radicans 20 FAC 4 - Morphological Adaptations¹ (Provide supporting Yes data in Remarks or on a separate sheet) 15 3. Glyceria striata Yes OBL 5 4. Geum canadense No FAC Problematic Hydrophytic Vegetation¹ (Explain) 5 5. Quercus palustris No **FACW** ¹Indicators of hydric soil and wetland hydrology must 2 6. Oxalis stricta No **FACU** be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree – Woody plants 3 in. (7.6 cm) or more in diameter 9. at breast height (DBH), regardless of height. 10. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. **Herb** – All herbaceous (non-woody) plants, regardless 67 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. 2. Hydrophytic 3. Vegetation

=Total Cover

Remarks: (Include photo numbers here or on a separate sheet.)

Yes X No

Present?

SOIL Sampling Point: SP-11

Depth	Matrix	to the u	epth needed to docu Redox	c Feature		or con	illilli tile abselice	of mulcators.
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12	10YR 4/2	85	10YR 4/6	2	<u> </u>	M	Loamy/Clayey	Prominent redox concentrations
		_			<u> </u>	_		
				<u> </u>	_			
		_		<u> </u>	_	_		
¹ Type: C=	Concentration, D=Dep	oletion, R	——————————————————————————————————————	S=Mask	ed Sand (Grains.		ocation: PL=Pore Lining, M=Matrix.
Hydric So	il Indicators:						Indicators f	or Problematic Hydric Soils ³ :
	sol (A1)		Polyvalue Below	Surface	e (S8) (LR	RR,		uck (A10) (LRR K, L, MLRA 149B)
	Epipedon (A2)		MLRA 149B)					rairie Redox (A16) (LRR K, L, R)
	Histic (A3)		Thin Dark Surface					ucky Peat or Peat (S3) (LRR K, L, R)
	gen Sulfide (A4)		High Chroma Sa			-		ue Below Surface (S8) (LRR K, L)
	ied Layers (A5)		Loamy Mucky M			(, L)		rk Surface (S9) (LRR K, L)
	ted Below Dark Surfac	ce (A11)	Loamy Gleyed M		2)			nganese Masses (F12) (LRR K, L, R)
Thick	Dark Surface (A12)		X Depleted Matrix	(F3)			Piedmo	nt Floodplain Soils (F19) (MLRA 149B)
Sandy	Mucky Mineral (S1)		Redox Dark Surf	ace (F6))		Mesic S	podic (TA6) (MLRA 144A, 145, 149B)
Sandy	Gleyed Matrix (S4)		Depleted Dark S	urface (I	F7)		Red Par	rent Material (F21)
Sandy	Redox (S5)		Redox Depression	ons (F8)			Very Sh	allow Dark Surface (TF12)
Stripp	ed Matrix (S6)		Marl (F10) (LRR	K , L)			Other (E	Explain in Remarks)
	Surface (S7)		_				<u>—</u>	
			wetland hydrology mu	st be pre	esent, unle	ess distur	bed or problemation	2.
Type:	e Layer (if observed)	:						
Depth (ii	nches):						Hydric Soil Pr	resent? Yes X No
			al and Northeast Region w.nrcs.usda.gov/Interr		•			RCS Field Indicators of Hydric Soils ocx)

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 24 Aug 2					
Applicant/Owner: TetraTech	State: OH Sampling Point: Sl					
Investigator(s): L. Sayre; EnviroScience, Inc. Section, Township, Range:						
Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%):						
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 4						
Soil Map Unit Name: Wadsworth silt loam, 2 to 6 percent						
Are climatic / hydrologic conditions on the site typical for						
Are Vegetation, Soil, or Hydrology	 -					
Are Vegetation, Soil, or Hydrology	naturally problematic? (If needed, explain any answers in Remarks.)					
SUMMARY OF FINDINGS – Attach site map	p showing sampling point locations, transects, important features, e					
Hydrophytic Vegetation Present? Yes X	No Is the Sampled Area					
Hydric Soil Present? Yes X	No within a Wetland? Yes X No					
Wetland Hydrology Present? Yes X	No If yes, optional Wetland Site ID: Wetland W-5					
Remarks: (Explain alternative procedures here or in a s						
PFO	ooparato roporti,					
HYDROLOGY						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two requirements)					
Primary Indicators (minimum of one is required; check a	all that apply) Surface Soil Cracks (B6)					
I 	Water-Stained Leaves (B9) X Drainage Patterns (B10)					
I 	Aquatic Fauna (B13) Moss Trim Lines (B16)					
I 	Marl Deposits (B15) Dry-Season Water Table (C2)					
I 	Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)					
I —	Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9					
I 	Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1)					
I 	Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) This Mark Confere (C7)					
I 	Thin Muck Surface (C7) Shallow Aquitard (D3) Others (Further in Personal Parties (D4)					
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks) —Microtopographic Relief (D4) FAC-Neutral Test (D5)					
Field Observations:	(D3)					
	Depth (inches):					
<u> </u>	Depth (inches): Wetland Hydrology Present? Yes X No					
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring well	ell, aerial photos, previous inspections), if available:					
Remarks:						
US Army Corps of Engineers	Northcentral and Northeast Region – Version 2.0					

VEGETATION – Use scientific names of plants. Sampling Point: SP-12 Absolute Dominant Indicator Tree Stratum (Plot size: 30') Species? Status **Dominance Test worksheet:** % Cover Quercus palustris **FACW Number of Dominant Species** 2. That Are OBL, FACW, or FAC: 3 (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 3 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: 30 =Total Cover Total % Cover of: Multiply by: x 1 = Sapling/Shrub Stratum (Plot size: 15' OBL species Frangula alnus 10 FAC FACW species x 2 = 5 2. Fraxinus pennsylvanica Yes **FACW** FAC species x 3 = x 4 = 3. FACU species 4. UPL species x 5 = 5. Column Totals: Prevalence Index = B/A = 6. 7. **Hydrophytic Vegetation Indicators:** 15 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 5') X 2 - Dominance Test is >50% Glyceria striata 3 - Prevalence Index is ≤3.01 2. 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 3. 4. Problematic Hydrophytic Vegetation¹ (Explain) 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 3 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. 2. Hydrophytic Vegetation Yes X No Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix	to the u	•	x Feature		or 00 11	iiiiii tile absence	or maiout	010.)	
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture		Remarks	
0-12	10YR 4/1	85	10YR 4/4	15	С	М	Loamy/Clayey	Dist	inct redox concer	ntrations
							_			
	Concentration, D=Dep	letion, R	M=Reduced Matrix, M	IS=Mask	ed Sand (Grains.			_=Pore Lining, M=	
	il Indicators:								natic Hydric Soil	
_	sol (A1)		Polyvalue Below	v Surface	e (S8) (LR	R R,			LRR K, L, MLRA	
	Epipedon (A2)		MLRA 149B)					Coast Prairie Redox (A16) (LRR K, L, R)		
_	Histic (A3)		Thin Dark Surfa							
	gen Sulfide (A4)							Polyvalue Below Surface (S8) (LRR K, L)		
	ïed Layers (A5)		Loamy Mucky M			(, L)	Thin Dark Surface (S9) (LRR K, L)			
_	ted Below Dark Surface	e (A11)	Loamy Gleyed I		2)		Iron-Manganese Masses (F12) (LRR K, L, R)			
_	Dark Surface (A12)		X Depleted Matrix				Piedmont Floodplain Soils (F19) (MLRA 149B)			
	Mucky Mineral (S1)		Redox Dark Sur				Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			45, 149B)
	Gleyed Matrix (S4)		Depleted Dark S				Red Parent Material (F21)			
	Redox (S5)		? Redox Depress				Very Shallow Dark Surface (TF12)			
	ed Matrix (S6)		Marl (F10) (LRF	R K, L)			Other (Explain in Remarks)			
Dark S	Surface (S7)									
3Indicators	of budrophytic vogetet	ion and	watland bydralagy my	ot ha pro	oont unk	oo diatur	had ar problematic			
	of hydrophytic vegetate e Layer (if observed):	ion and	welland hydrology mit	ist be pre	esent, unit	ess disturi	l ed or problematic	· <u>·</u>		
Type:	e Layer (II observed).									
_							11		Waa V	NI.
Depth (ii	ncnes):						Hydric Soil Pr	esent?	Yes <u>X</u>	No
	form is revised from No O March 2013 Errata. (h								Indicators of Hyd	ric Soils

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 26 Aug 2016				
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-13				
Investigator(s): A. Gilmore; EnviroScience, Inc.	Section, Township, Range:				
Landform (hillside, terrace, etc.): depression	Local relief (concave, convex, none): concave Slope (%):				
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.14629	Long: 80.848996 Datum: WGS 84				
Soil Map Unit Name: Ho - Hlly silt loam, frequently flooded	NWI classification: PSS1A				
Are climatic / hydrologic conditions on the site typical for this time of					
Are Vegetation, Soil, or Hydrologysignifica					
Are Vegetation, Soil, or Hydrology naturally					
	g sampling point locations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area				
Hydric Soil Present? Yes X No	within a Wetland? Yes X No				
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-1.				
PFO in W-1.					
HYDROLOGY					
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)				
Primary Indicators (minimum of one is required; check all that apply	<u> </u>				
l —	ed Leaves (B9) Drainage Patterns (B10)				
High Water Table (A2) Aquatic Faul					
Saturation (A3) Marl Deposit					
I— : : : : : : : : : : : : : : : : : : :	ulfide Odor (C1) Crayfish Burrows (C8) izospheres on Living Roots (C3) X Saturation Visible on Aerial Imagery (C9)				
1 	izospheres on Living Roots (C3) X Saturation Visible on Aerial Imagery (C9) Reduced Iron (C4) Stunted or Stressed Plants (D1)				
— · · · · · · — · · · · — · · · · · ·	Reduction in Tilled Soils (C6) X Geomorphic Position (D2)				
Iron Deposits (B5) Thin Muck S					
I — · · · · · · — —	ain in Remarks) Microtopographic Relief (D4)				
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)				
Field Observations:					
Surface Water Present? Yes No X Depth (inch	hes):				
Water Table Present? Yes No X Depth (inch	· 				
Saturation Present? Yes No X Depth (inch	I				
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:				
Remarks:					

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VEGETATION – Use scientific names of plants. Sampling Point: SP-13 Absolute Dominant Indicator Tree Stratum (Plot size: 30' ___) Status **Dominance Test worksheet:** % Cover Species? Acer rubrum FAC **Number of Dominant Species** 5 **FACW** 2. Ulmus americana No That Are OBL, FACW, or FAC: 7 (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 8 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 87.5% (A/B) Prevalence Index worksheet: 35 =Total Cover Multiply by: Total % Cover of: Sapling/Shrub Stratum (Plot size: 15' OBL species ___ x 1 = ___ Lindera benzoin FACW species x 2 = ____ 25 Yes **FACW** 2. 15 Yes FAC FAC species x 3 = ___ Cornus racemosa 3. Fraxinus pennsylvanica 5 No **FACW** FACU species x 4 = 4. UPL species x 5 = 5. Column Totals: 6. Prevalence Index = B/A =**Hydrophytic Vegetation Indicators:** 45 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 5' ____) X 2 - Dominance Test is >50% Leersia virginica 10 Yes **FACW** 3 - Prevalence Index is ≤3.01 10 **FACW** 4 - Morphological Adaptations¹ (Provide supporting 2. Onoclea sensibilis Yes data in Remarks or on a separate sheet) 3. Dryopteris carthusiana 10 Yes **FACW** 5 4. Symphyotrichum lateriflorum No FAC Problematic Hydrophytic Vegetation¹ (Explain) 5 5. Glechoma hederacea No **FACU** ¹Indicators of hydric soil and wetland hydrology must 2 FAC 6. Geum canadense No be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. **Herb** – All herbaceous (non-woody) plants, regardless 42 =Total Cover of size, and woody plants less than 3.28 ft tall.

Remarks: (Include photo numbers here or on a separate sheet.)

30'

15

10

25

Yes

Yes

=Total Cover

FACU

FAC

height.

Hydrophytic

Vegetation

Present?

Woody Vine Stratum (Plot size:

Parthenocissus quinquefolia

Toxicodendron radicans

2.

3.

Woody vines – All woody vines greater than 3.28 ft in

Yes X No_

SOIL Sampling Point: SP-13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix			c Feature		. 2	- .	
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-8	10YR 4/1	98	10YR 5/8	2	<u>C</u>	PL/M	Loamy/Clayey	Prominent redox concentrations
8-16	10YR 4/1	88	7.5YR 5/8	12	С	M	Loamy/Clayey	п
								_
¹ Type: C=	-Concentration, D=De	pletion, RI	M=Reduced Matrix, M	S=Maske	ed Sand (Grains.	² Lc	ocation: PL=Pore Lining, M=Matrix.
Hydric So	il Indicators:						Indicators for	or Problematic Hydric Soils ³ :
	sol (A1)		Polyvalue Below	Surface	(S8) (LR	RR,		uck (A10) (LRR K, L, MLRA 149B)
	Epipedon (A2)		MLRA 149B)					rairie Redox (A16) (LRR K, L, R)
	Histic (A3)		Thin Dark Surface				· —	ucky Peat or Peat (S3) (LRR K, L, R)
	ogen Sulfide (A4)		High Chroma Sa			-		ue Below Surface (S8) (LRR K, L)
	fied Layers (A5)	oo (A11)	Loamy Mucky Mi			(, L)		rk Surface (S9) (LRR K, L)
_	eted Below Dark Surface (A12)	ce (ATT)	Loamy Gleyed M X Depleted Matrix		()			nganese Masses (F12) (LRR K, L, R) nt Floodplain Soils (F19) (MLRA 149B)
	y Mucky Mineral (S1)		Redox Dark Surf	. ,				podic (TA6) (MLRA 144A, 145, 149B)
	y Gleyed Matrix (S4)		Depleted Dark S					rent Material (F21)
	y Redox (S5)		Redox Depression		')			allow Dark Surface (TF12)
	ed Matrix (S6)		Marl (F10) (LRR	, ,				Explain in Remarks)
	Surface (S7)		Wan (1 10) (ERR	ix, L)				Explain in Kemarks)
—	Cumaco (C.)							
³ Indicators	s of hydrophytic vegeta	ation and	wetland hydrology mus	st be pre	sent, unle	ess distur	bed or problemation	c.
Restrictiv	e Layer (if observed)):						
Type:								
Depth (i	nches):						Hydric Soil Pr	resent? Yes X No No
			al and Northeast Regic w.nrcs.usda.gov/Intern					RCS Field Indicators of Hydric Soils ocx)

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 26 Aug 2016
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-14
Investigator(s): A. Gilmore; EnviroScience, Inc.	Section, Township, Range:
Landform (hillside, terrace, etc.): floodplain	Local relief (concave, convex, none): concave Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.147067	Long: -80.8489 Datum: WGS 84
Soil Map Unit Name: Ho - Holly silt loam, frequently flooded	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of	
Are Vegetation, Soil, or Hydrologysignifical	
Are Vegetation, Soil, or Hydrologynaturally	y problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-1.
Remarks: (Explain alternative procedures here or in a separate rep PEM in W-1, active floodplain.	port.)
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	y) Surface Soil Cracks (B6)
	ed Leaves (B9) Drainage Patterns (B10)
X High Water Table (A2) Aquatic Faur	
X Saturation (A3) Marl Deposit	
	ulfide Odor (C1) Crayfish Burrows (C8)
l 	izospheres on Living Roots (C3) X Saturation Visible on Aerial Imagery (C9) Reduced Iron (C4) Stunted or Stressed Plants (D1)
	Reduction in Tilled Soils (C6) X Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Si	· · · · · · · · · · · · · · · · · · ·
	nin in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	<u></u>
Surface Water Present? Yes No _ X _ Depth (inch	nes):
Water Table Present? Yes X No Depth (inch	
Saturation Present? Yes X No Depth (inch	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
6 1.	
Remarks:	

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VEGETATION – Use scientific names of plants. Sampling Point: SP-14 Dominant Absolute Indicator Species? <u>Tree Stratum</u> (Plot size: 30') % Cover Status **Dominance Test worksheet: Number of Dominant Species** That Are OBL, FACW, or FAC: 4 (A) 3. Total Number of Dominant 4. Species Across All Strata: 5 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 80.0% (A/B) Prevalence Index worksheet: =Total Cover Multiply by: Total % Cover of: Sapling/Shrub Stratum (Plot size: 15' OBL species __ x 1 = ___ x 2 = ____ FACW species FAC species x 3 = ___ 3. FACU species x 4 = 4. UPL species x 5 = 5. Column Totals: 6. Prevalence Index = B/A =**Hydrophytic Vegetation Indicators:** =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: X 2 - Dominance Test is >50% Phalaris arundinacea 30 Yes **FACW** 3 - Prevalence Index is ≤3.01 20 **FACW** 4 - Morphological Adaptations (Provide supporting 2. Impatiens capensis Yes data in Remarks or on a separate sheet) 20 3. Persicaria sagittata Yes OBL 4. Poa palustris 20 Yes **FACW** Problematic Hydrophytic Vegetation¹ (Explain) 5. Boehmeria cylindrica 10 No OBL ¹Indicators of hydric soil and wetland hydrology must FAC 6. Urtica dioica No be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. **Herb** – All herbaceous (non-woody) plants, regardless 105 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 10 **UPL** 1. Convolvulus arvensis height. 2. Hydrophytic 3. Vegetation Yes X No __ Present? 10 =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: SP-14

Depth	Matrix			x Feature	es			·
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-1	10YR 4/1	100					Sandy	
1-5	10YR 4/2	80	10YR 5/8	20	<u> </u>	<u>M</u>	Sandy	
5-16	5Y 4/1	70	5YR 4/6	30	<u>C</u>	<u>M</u>	Sandy	Prominent redox concentrations
				—				-
						—		
		·			·		_	
				_				
						—		
		pletion, R	M=Reduced Matrix, M	IS=Mask	ed Sand G	Grains.		ocation: PL=Pore Lining, M=Matrix.
•	il Indicators: sol (A1)		Polyvalue Belov	v Surface	(S8) (I R I	R R.		for Problematic Hydric Soils ³ : uck (A10) (LRR K, L, MLRA 149B)
	Epipedon (A2)		MLRA 149B)	, Gariago	, (00) (Li tt			Prairie Redox (A16) (LRR K, L, R)
	Histic (A3)		Thin Dark Surfa	ce (S9) (LRR R, M	LRA 149E		ucky Peat or Peat (S3) (LRR K, L, R)
	gen Sulfide (A4)		High Chroma Sa					ue Below Surface (S8) (LRR K, L)
Stratif	ied Layers (A5)		Loamy Mucky M	1ineral (F	1) (LRR K	(, L)	Thin Da	rk Surface (S9) (LRR K, L)
Deple	ted Below Dark Surfa	ce (A11)	Loamy Gleyed N	√latrix (F2	2)		Iron-Ma	nganese Masses (F12) (LRR K, L, R)
Thick	Dark Surface (A12)		Depleted Matrix	(F3)			Piedmo	nt Floodplain Soils (F19) (MLRA 149B)
Sandy	Mucky Mineral (S1)		Redox Dark Sur	face (F6))		Mesic S	Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy	Gleyed Matrix (S4)		Depleted Dark S	Surface (F	F7)		Red Par	rent Material (F21)
X Sandy	Redox (S5)		Redox Depressi	ons (F8)			Very Sh	nallow Dark Surface (TF12)
? Stripp	ed Matrix (S6)		Marl (F10) (LRR	≀ K, L)			Other (E	Explain in Remarks)
Dark S	Surface (S7)							
³ Indicators	of hydrophytic veget	ation and	wetland hydrology mu	ist he nre	esent unle	ss disturb	ed or problemation	c
	e Layer (if observed		would fry drology file	ot bo pro	ooni, anio	oo alotaib	od or problematic	<u>, , , , , , , , , , , , , , , , , , , </u>
Type:								
Depth (ii	nches):						Hydric Soil Pr	resent? Yes X No No
Remarks:						,		
								RCS Field Indicators of Hydric Soils
version 7.0) March 2013 Errata.	(http://ww	w.nrcs.usda.gov/Inter	net/FSE_{-}	_DOCUME	NTS/nrcs	142p2_051293.d	locx)

Project/Site: _Trumbull Energy Center	City/County: Lordstown, Trumbull Sampling Date: 12/16/2015
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-15
Investigator(s): B. Slaby and M. Gilmore, EnviroScience, Inc.	Section, Township, Range:
Landform (hillside, terrace, etc.): depression/slope	Local relief (concave, convex, none): concave Slope (%): 5
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.148187	Long: -80.848528 Datum: WGS84
Soil Map Unit Name: Rittman silt loam, 2 to 6 percent slopes (RsB)	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of	
	
Are Vegetation, Soil, or Hydrologysignifical	
Are Vegetation, Soil, or Hydrologynaturally	
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: W-1
Remarks: (Explain alternative procedures here or in a separate rep	port.)
PEM.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	
	ed Leaves (B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Faur	
Saturation (A3) Marl Deposit	
-	ulfide Odor (C1) Crayfish Burrows (C8)
—	izospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
1 _	Reduced Iron (C4) Stunted or Stressed Plants (D1)
l · · · · · /	Reduction in Tilled Soils (C6) X Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck S	
	in in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inch	nes):
Water Table Present? Yes No X Depth (inch	nes):
Saturation Present? Yes No X Depth (inch	I
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
2	
Remarks:	

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	Absolute	Dominant	Indicator	Sampling Point:	
<u>Tree Stratum</u> (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:	
2.				Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
3.4.				Total Number of Dominant Species Across All Strata:	2 (B)
5.6.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0% (A/B)
7.				Prevalence Index worksheet:	
		=Total Cover		Total % Cover of: Mi	ultiply by:
Sapling/Shrub Stratum (Plot size: 15')			OBL species 50 x 1 =	
1.	•			FACW species 100 x 2 =	200
2.				FAC species 0 x 3 =	0
3.				FACU species 1 x 4 =	4
4.				UPL species 0 x 5 =	0
5.				Column Totals: 151 (A)	254 (B)
6.				Prevalence Index = B/A =	
7.				Hydrophytic Vegetation Indicators:	
		=Total Cover		1 - Rapid Test for Hydrophytic Ve	
Herb Stratum (Plot size: 5')				X 2 - Dominance Test is >50%	
Phalaris arundinacea	100	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹	
2. Persicaria sagittata	50	Yes	OBL	4 - Morphological Adaptations ¹ (F	Provide supporting
3. Rubus sp.	5	No	NL	data in Remarks or on a separa	ate sheet)
4. Cirsium arvense		No	FACU	Problematic Hydrophytic Vegetat	ion¹ (Explain)
5.				¹ Indicators of hydric soil and wetland	hydrology must
6.				be present, unless disturbed or proble	
7.				Definitions of Vegetation Strata:	
8.				Tree – Woody plants 3 in. (7.6 cm) or	r moro in diamoto
9.				at breast height (DBH), regardless of	
10.				Sapling/shrub – Woody plants less t	han 3 in DRH
11.				and greater than or equal to 3.28 ft (1	
12.				Herb – All herbaceous (non-woody) p	lante regardless
	156	=Total Cover		of size, and woody plants less than 3.	
Woody Vine Stratum (Plot size: 30')			Woody vines – All woody vines great	ter than 3 28 ft in
1.				height.	tor triair 0.20 it iii
2.					
3				Hydrophytic Vegetation	
4.				_	lo
		=Total Cover			
Remarks: (Include photo numbers here or on a se	parate sheet.)				

SOIL Sampling Point: SP-15

Profile De	escription: (Describe	to the d	epth needed to docu	ment the	indicate	or or con	firm the absence of	of indicators.)	
Depth	Matrix		Redox	(Feature					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-3	10YR 3/2	98	10YR 6/8	2	<u>C</u>	PL/M	Loamy/Clayey	Prominent redox concentrations	
3-10	2.5Y 4/2	92	10YR 5/6	8	С	PL/M	Loamy/Clayey	Prominent redox concentrations	
10-20	10YR 4/1	85	2.5Y 6/3	10	<u>C</u>	M	Loamy/Clayey	Distinct redox concentrations	
			5YR 4/6	5	<u>C</u>	PL		Prominent redox concentrations	
								decomposing wood at 10 inches	
¹ Type: C=	-Concentration, D=Dep	pletion, R	M=Reduced Matrix, MS	S=Mask	ed Sand (Grains.	² Loc	cation: PL=Pore Lining, M=Matrix.	
Hydric So	oil Indicators:						Indicators fo	r Problematic Hydric Soils ³ :	
Histos	sol (A1)		Polyvalue Below	Surface	(S8) (LR	RR,	2 cm Mud	ck (A10) (LRR K, L, MLRA 149B)	
— Histic	Epipedon (A2)		MLRA 149B)				? Coast Pra	airie Redox (A16) (LRR K, L, R)	
— Black	Histic (A3)		Thin Dark Surfac	e (S9) (I	_RR R, N	ILRA 149	B) 5 cm Mu	cky Peat or Peat (S3) (LRR K, L, R)	
Hydro	gen Sulfide (A4)		High Chroma Sa	nds (S1	1) (LRR H	(, L)	Polyvalue	e Below Surface (S8) (LRR K, L)	
	fied Layers (A5)		Loamy Mucky Mi			-		Surface (S9) (LRR K, L)	
	eted Below Dark Surface	oo (A11)	Loamy Gleyed M			 _/			
		ce (ATT)			.)		Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Dark Surface (A12)		X Depleted Matrix (
Sandy	y Mucky Mineral (S1)		Redox Dark Surf	ace (F6)			Mesic Sp	odic (TA6) (MLRA 144A, 145, 149B)	
Sandy	y Gleyed Matrix (S4)		Depleted Dark S	urface (F	7)		Red Pare	ent Material (F21)	
Sandy	y Redox (S5)		? Redox Depression	ons (F8)			Very Sha	llow Dark Surface (TF12)	
	ped Matrix (S6)		Marl (F10) (LRR					plain in Remarks)	
	Surface (S7)			, _/				the management	
Daik .	Surface (ST)								
			wetland hydrology mus	st be pre	sent, unle	ess distur	bed or problematic.		
Type:	e Layer (if observed)):							
Depth (i	nches):						Hydric Soil Pre	sent? Yes X No	
Remarks:							1,		
	form is ravised from N	orthoontr	al and Northoast Pagis	anal Sun	nlomont \	forcion 2	O to include the NP	CS Field Indicators of Hydric Soils	
			w.nrcs.usda.gov/Intern						
version 7.0	U Maich 2013 Litala. ((IIIIp.//www	w.mcs.usua.gov/mtem	iei/i-SL_	DOCOM	_1113/1110	.5142p2_051295.00	CX)	

Project/Site: Trumbull Energy Center	City/County: Lordstown, Trumbull Sampling Date: 12/16/2015
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-16
Investigator(s): B. Slaby and M. Gilmore, EnviroScience, Inc.	Section, Township, Range:
Landform (hillside, terrace, etc.): depression/slope	Local relief (concave, convex, none): concave Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.147983	Long: -80.848324 Datum: WGS84
Soil Map Unit Name: Holly silt loam, frequently flooded (Ho)	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of	f year? Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significa	
Are Vegetation, Soil, or Hydrology naturally	y problematic? (If needed, explain any answers in Remarks.)
	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: W-1
PFO.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	<u> </u>
l —	ed Leaves (B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Faul	
Saturation (A3) Marl Deposit	
l —	ulfide Odor (C1) Crayfish Burrows (C8)
1 	sizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
1 — · · · · · · —	Reduced Iron (C4) Stunted or Stressed Plants (D1) Reduction in Tilled Soils (C6) X Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck S	
1 — · · · · · · —	ain in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	_ `
Surface Water Present? Yes No X Depth (inch	hes):
Water Table Present? Yes No X Depth (inch	·
Saturation Present? Yes No X Depth (inch	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
Remarks:	

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<u>Tree Stratum</u> (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
Fraxinus pennsylvanica	30	Yes	FACW				
2. Acer rubrum	30	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)			
3. 4.				Total Number of Dominant Species Across All Strata: 7 (B)			
5. 6.				Percent of Dominant Species That Are OBL, FACW, or FAC:100.0% (A/B			
7				Prevalence Index worksheet:			
	60	=Total Cover		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size:)				OBL species 20 x 1 = 20			
1. Cornus amomum	40	Yes	FACW	FACW species 90 x 2 = 180			
2. Frangula alnus	35	Yes	FAC	FAC species 73 x 3 = 219			
3. Rosa multiflora	10	No	FACU	FACU species19 x 4 =76			
4. Rubus allegheniensis	5	No	FACU	UPL species 0 x 5 = 0			
5				Column Totals: 202 (A) 495 (B			
6.				Prevalence Index = B/A = 2.45			
7				Hydrophytic Vegetation Indicators:			
	90	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
Herb Stratum (Plot size: 5')				X 2 - Dominance Test is >50%			
1. Carex squarrosa	20	Yes	OBL	X 3 - Prevalence Index is ≤3.0 ¹			
2. Phalaris arundinacea	20	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supporting			
3. Symphyotrichum sp.	5	No	NL	data in Remarks or on a separate sheet)			
4. Poaceae sp.	5	No	NL	Problematic Hydrophytic Vegetation ¹ (Explain)			
5. Rubus allegheniensis	2	No	FACU	¹ Indicators of hydric soil and wetland hydrology must			
6. Toxicodendron radicans	2	No	FAC	be present, unless disturbed or problematic.			
7. Achillea millefolium	2	No	FACU	Definitions of Vegetation Strata:			
8. Geum canadense	1	No	FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diamet			
9.				at breast height (DBH), regardless of height.			
10				Sapling/shrub – Woody plants less than 3 in. DBH			
11.				and greater than or equal to 3.28 ft (1 m) tall.			
12				Herb – All herbaceous (non-woody) plants, regardles:			
	57	=Total Cover		of size, and woody plants less than 3.28 ft tall.			
Woody Vine Stratum (Plot size:30')		•		Woody vines – All woody vines greater than 3.28 ft in			
1. Vitis riparia	5	Yes	FAC	height.			
2.				Hydrophytic			
3.				Vegetation			
4.				Present? Yes X No No			
	5	=Total Cover					
Pomorko: (Includo photo numboro boro or on a cons							

Remarks: (Include photo numbers here or on a separate sheet.) Symphyotrichum sp. is probably lanceolatum.

SOIL Sampling Point: SP-16

Depth	Matrix		lepth needed to docu Redo	x Featur			mini the absence	or mulcators.
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-2	10YR 3/2	100					Loamy/Clayey	
2-12	10YR 4/2	90	5YR 3/4	10	С	PL/M	Loamy/Clayey	Prominent redox concentrations
12-16	2.5Y 5/3	60	7.5YR 6/8	40	С	PL/M	Loamy/Clayey	Prominent redox concentrations
								refusal at 16 in. (roots)
							_	
								-
							_	
¹ Type: C=	-Concentration, D=De	epletion, R	M=Reduced Matrix, M	S=Mask	ed Sand	Grains.	2Loc	cation: PL=Pore Lining, M=Matrix.
	il Indicators:		·					or Problematic Hydric Soils ³ :
	sol (A1)		Polyvalue Below	/ Surface	e (S8) (LR	RR,		ck (A10) (LRR K, L, MLRA 149B)
_	Epipedon (A2)		MLRA 149B)	(00) (U DA 44		rairie Redox (A16) (LRR K, L, R)
	Histic (A3) ogen Sulfide (A4)		Thin Dark Surface High Chroma Sa				· —	cky Peat or Peat (S3) (LRR K, L, R) e Below Surface (S8) (LRR K, L)
	fied Layers (A5)		Loamy Mucky M			-		k Surface (S9) (LRR K, L)
	ted Below Dark Surfa	ace (A11)	Loamy Gleyed N			-, -,		nganese Masses (F12) (LRR K, L, R)
	Dark Surface (A12)		X Depleted Matrix					nt Floodplain Soils (F19) (MLRA 149B)
Sandy	y Mucky Mineral (S1)		Redox Dark Sur	face (F6)		Mesic Sp	oodic (TA6) (MLRA 144A, 145, 149B)
Sandy	Gleyed Matrix (S4)		Depleted Dark S	Surface (F7)		Red Pare	ent Material (F21)
	y Redox (S5)		? Redox Depressi					allow Dark Surface (TF12)
	ed Matrix (S6)		Marl (F10) (LRR	(K , L)			Other (E	xplain in Remarks)
Dark :	Surface (S7)							
³ Indicators	of hydrophytic veget	ation and	wetland hydrology mu	st be pre	esent, unle	ess distu	rbed or problematic	
	e Layer (if observed):						
Type:							Undela Call Day	
Depth (i	ncnes):						Hydric Soil Pre	esent? Yes X No No
			al and Northeast Regi w.nrcs.usda.gov/Interi					RCS Field Indicators of Hydric Soils

Project/Site: Trumbull Energy Center	City/County: Lordstown, Trumbull Sampling Date: 26 Aug 2016
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-17
Investigator(s): Ann Gilmore, EnviroScience, Inc.	Section, Township, Range:
Landform (hillside, terrace, etc.): floodplain	Local relief (concave, convex, none): concave Slope (%): 5-10
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.147681	Long: -80.847653 Datum: WGS84
Soil Map Unit Name: Ho - Holly silt loam, frequently flooded	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of	
Are Vegetation, Soil, or Hydrologysignifica	
Are Vegetation, Soil, or Hydrologynaturally	y problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: W-1
Remarks: (Explain alternative procedures here or in a separate rep	port.)
PFO.	
L HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	
	ned Leaves (B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Faul	
Saturation (A3) Marl Deposit	——————————————————————————————————————
	ulfide Odor (C1) Crayfish Burrows (C8)
	nizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
ı— — —	f Reduced Iron (C4) Stunted or Stressed Plants (D1)
	Reduction in Tilled Soils (C6) X Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck S	
	ain in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _X Depth (incl	hes):
Water Table Present? Yes No _X Depth (incl	hes):
Saturation Present? Yes No X Depth (incl	hes): Wetland Hydrology Present? Yes X No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
Remarks:	
	cators weaker than further within wetland (which has water stained leaves)
	,

Northcentral and Northeast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-17 Absolute Dominant Indicator Tree Stratum (Plot size: _ 30' Status **Dominance Test worksheet:** % Cover Species? Fraxinus pennsylvanica **FACW** Yes **Number of Dominant Species** 2. Acer rubrum 15 Yes FAC That Are OBL, FACW, or FAC: 6 (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 6 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: 45 =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' **OBL** species x 1 = Cornus amomum 45 **FACW FACW** species 100 x 2 = 200 75 Acer rubrum 10 No FAC FAC species x 3 = 225 x 4 = 3. FACU species 0 0 4. **UPL** species 0 x 5 = 5. Column Totals: 205 455 Prevalence Index = B/A =2.22 6. **Hydrophytic Vegetation Indicators:** 1 - Rapid Test for Hydrophytic Vegetation =Total Cover Herb Stratum (Plot size: X 2 - Dominance Test is >50% Carex vulpinoidea 30 Yes OBL X 3 - Prevalence Index is ≤3.0¹

20 **FACW** 4 - Morphological Adaptations¹ (Provide supporting 2. Phalaris arundinacea Yes data in Remarks or on a separate sheet) 3. Symphyotrichum lateriflorum 10 No FAC 4. 10 No FAC Problematic Hydrophytic Vegetation¹ (Explain) Geum canadense 5. Dryopteris carthusiana 5 No **FACW** ¹Indicators of hydric soil and wetland hydrology must 6. Agrimonia parviflora No FAC be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 80 =Total Cover of size, and woody plants less than 3.28 ft tall. 30' Woody Vine Stratum (Plot size: Woody vines – All woody vines greater than 3.28 ft in 1. Toxicodendron radicans FAC height. 2. Hydrophytic 3. Vegetation Yes X No_ Present? 25 =Total Cover

SOIL Sampling Point: SP-17

Depth	scription: (Describe Matrix	to the d	epth needed to docu Redox	ment the Feature		or or cor	ifirm the absence	of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-5	10YR 4/1	90	7.5YR 5/8	10	С	PL/M	Loamy/Clayey	Prominent redox concentrations
5-10	10YR 4/1	70	7.5YR 5/8	30	С	M	Loamy/Clayey	
				—				
		—		—				
		_						
		oletion, R	M=Reduced Matrix, M	S=Mask	ed Sand	Grains.		cation: PL=Pore Lining, M=Matrix.
•	I Indicators:				(00) (1 -			or Problematic Hydric Soils ³ :
— Histos			Polyvalue Below MLRA 149B)	Surface	(S8) (LR	KKK,		rairia Paday (A16) (LRR K, L, MLRA 149B)
	Epipedon (A2) Histic (A3)		Thin Dark Surface	e (S9) (IRRR M	II RA 149		rairie Redox (A16) (LRR K, L, R) ucky Peat or Peat (S3) (LRR K, L, R)
	gen Sulfide (A4)		High Chroma Sa					e Below Surface (S8) (LRR K, L)
	ed Layers (A5)		Loamy Mucky M			-		rk Surface (S9) (LRR K, L)
	ed Below Dark Surface	ce (A11)	Loamy Gleyed M			, ,		nganese Masses (F12) (LRR K, L, R)
	Dark Surface (A12)	, ,	X Depleted Matrix		•			nt Floodplain Soils (F19) (MLRA 149B)
Sandy	Mucky Mineral (S1)		Redox Dark Surf	ace (F6))			podic (TA6) (MLRA 144A, 145, 149B)
Sandy	Gleyed Matrix (S4)		Depleted Dark S	urface (l	F7)		Red Par	ent Material (F21)
Sandy	Redox (S5)		? Redox Depression	ons (F8)			Very Sha	allow Dark Surface (TF12)
Strippe	ed Matrix (S6)		Marl (F10) (LRR	K , L)			Other (E	xplain in Remarks)
Dark S	Surface (S7)							
2								
			wetland hydrology mus	st be pre	sent, unl	ess distu	rbed or problemation	
	e Layer (if observed)	:						
Type:								
Depth (in	nches):						Hydric Soil Pr	esent? Yes X No No
			al and Northeast Region w.nrcs.usda.gov/Interr					RCS Field Indicators of Hydric Soils ocx)

Project/Site: Trumbull Energy Center	City/County: Lordstown, Trumbull Sampling Date: 26 Aug 2016					
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-18					
Investigator(s): Ann Gilmore, EnviroScience, Inc.	Section, Township, Range:					
Landform (hillside, terrace, etc.): terrace	Local relief (concave, convex, none): convex Slope (%): 5-10					
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.14769	Long: -80.847653 Datum: WGS84					
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent sk						
· · · · · · · · · · · · · · · · · · ·	· — — — — — — — — — — — — — — — — — — —					
Are climatic / hydrologic conditions on the site typical for this time of						
Are Vegetation, Soil, or Hydrologysignific						
Are Vegetation, Soil, or Hydrologynatural						
SUMMARY OF FINDINGS – Attach site map showin	ng sampling point locations, transects, important features, etc.					
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area					
Hydric Soil Present? Yes No X	- 1					
Wetland Hydrology Present? Yes No X						
Forest upslope of floodplain wetland system.						
HYDROLOGY						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that app	Surface Soil Cracks (B6)					
1 — · · · · · — · · · · — · · · · · · ·	ned Leaves (B9) Drainage Patterns (B10)					
High Water Table (A2) Aquatic Fat And Branch						
Saturation (A3) — Marl Depos						
	Sulfide Odor (C1) Crayfish Burrows (C8) hizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)					
-	of Reduced Iron (C4) Stunted or Stressed Plants (D1)					
1 — · · · · · · · — —	n Reduction in Tilled Soils (C6) Geomorphic Position (D2)					
1— · · · · —	Surface (C7) Shallow Aquitard (D3)					
Inundation Visible on Aerial Imagery (B7) Other (Expl						
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)					
Field Observations:						
Surface Water Present? Yes No _X Depth (inc						
	ches):					
Saturation Present? Yes No _X Depth (inc	ches): Wetland Hydrology Present? Yes No _X					
(includes capillary fringe)	actor proving increasions) if a validable.					
Describe Recorded Data (stream gauge, monitoring well, aerial ph	notos, previous inspections), if available:					
Remarks:						
No hydrology observed.						

Northcentral and Northeast Region – Version 2.0

VEGETATION – Use scientific names of plants.	Sampling Point:	SP-1
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<u>Tree Stratum</u> (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	30	Yes	FAC	North or of Bossic and On arise
2. Prunus serotina	10	Yes	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
3. Quercus palustris	5	No	FACW	Total Number of Dominant
4.				Species Across All Strata:6 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 66.7% (A/B)
7				Prevalence Index worksheet:
	45	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species 0 x 1 = 0
1. Cornus amomum	65	Yes	FACW	FACW species 75 x 2 = 150
2				FAC species 95 x 3 = 285
3				FACU species 12 x 4 = 48
4				UPL species25 x 5 =125
5				Column Totals: 207 (A) 608 (B)
6.				Prevalence Index = B/A = 2.94
7				Hydrophytic Vegetation Indicators:
	65	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5')				X 2 - Dominance Test is >50%
Carex pensylvanica	25	Yes	UPL	3 - Prevalence Index is ≤3.0 ¹
2. Solidago rugosa	15	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting
3. Polystichum acrostichoides	10	No	FAC	data in Remarks or on a separate sheet)
4. Lycopodium clavatum	10	No	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Dryopteris carthusiana	5	No	FACW	¹ Indicators of hydric soil and wetland hydrology must
6. Crataegus sp.	5	No	NI	be present, unless disturbed or problematic.
7. Oxalis stricta	2	No	FACU	Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
9				at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	72	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1. Toxicodendron radicans	30	Yes	FAC	height.
2.				Hydrophytic
3				Vegetation
4	-			Present?
	30	=Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.) Symphyotrichum sp. is probably lanceolatum.

SOIL Sampling Point: SP-18 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) % Color (moist) Loc² (inches) Type¹ Texture Remarks 10YR 4/4 0-8 100 Loamy/Clayey ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: roots Depth (inches): **Hydric Soil Present?** No Remarks: This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site: Trumbull Energy Center		City/County: Lordstown/Trumbull	Sampling Date: 24 Aug 2016
Applicant/Owner: TetraTech		State:	OH Sampling Point: SP-19
Investigator(s): L. Sayre; EnviroScience, In	IC.	Section, Township, Range:	
Landform (hillside, terrace, etc.): depression	on Lo	ocal relief (concave, convex, none): concave	Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 1		Long: -80.847628	Datum: WGS 84
Soil Map Unit Name: Wadsworth silt loam, 0			ification: none
Are climatic / hydrologic conditions on the si			n in Remarks.)
			
Are Vegetation, Soil, or Hyd			
Are Vegetation, Soil, or Hyd			,
SUMMARY OF FINDINGS – Attack	n site map showing	sampling point locations, transects	, important features, etc.
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area	
	Yes X No	within a Wetland? Yes X	No
	Yes X No	If yes, optional Wetland Site ID: Wetland	
Remarks: (Explain alternative procedures I			
PFO (Explain diternative pressual est	noro or m a coparato ropor	~ <i>,</i>	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)
Primary Indicators (minimum of one is requ			oil Cracks (B6)
Surface Water (A1)	X Water-Stained		Patterns (B10)
High Water Table (A2)	Aquatic Fauna		Lines (B16)
Saturation (A3)	Marl Deposits (on Water Table (C2)
Water Marks (B1)	Hydrogen Sulfi		urrows (C8)
Sediment Deposits (B2)			Visible on Aerial Imagery (C9)
Drift Deposits (B3)			Stressed Plants (D1)
Algal Mat or Crust (B4)			ic Position (D2)
Iron Deposits (B5)	Thin Muck Surf		quitard (D3)
Inundation Visible on Aerial Imagery (E Sparsely Vegetated Concave Surface (X FAC-Neutr	graphic Relief (D4)
Field Observations:	(00)	<u> </u>	ai rest (DO)
Surface Water Present? Yes	No X Depth (inches	s)·	
Water Table Present? Yes	No X Depth (inches		
Saturation Present? Yes	No X Depth (inches		it? Yes X No
(includes capillary fringe)		· —	
Describe Recorded Data (stream gauge, m	onitoring well, aerial photo	s, previous inspections), if available:	
Remarks:			

US Army Corps of Engineers		inorthcentral and No	ortheast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-19 Absolute Dominant Indicator Tree Stratum (Plot size: 30') Species? Status **Dominance Test worksheet:** % Cover Quercus palustris **FACW Number of Dominant Species** 2. 30 Acer rubrum Yes FAC That Are OBL, FACW, or FAC: 6 (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 6 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: 80 =Total Cover Total % Cover of: Multiply by: __ x 1 = Sapling/Shrub Stratum (Plot size: 15' OBL species 1. Frangula alnus 20 FAC FACW species x 2 = 2. FAC species x 3 = 3. FACU species x 4 = 4. UPL species x 5 = 5. Column Totals: Prevalence Index = B/A = 6. **Hydrophytic Vegetation Indicators:** 7. 20 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: X 2 - Dominance Test is >50% Toxicodendron radicans 10 Yes FAC 3 - Prevalence Index is ≤3.01 7 2. Yes OBL 4 - Morphological Adaptations¹ (Provide supporting Glyceria striata data in Remarks or on a separate sheet) 5 3. Cinna arundinacea Yes **FACW** 3 4. Osmunda spectabilis No OBL Problematic Hydrophytic Vegetation¹ (Explain) 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 25 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. 2. Hydrophytic 3. Vegetation Yes X No Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: SP-19

Depth	Matrix	to the u	epth needed to docu Redox	x Feature		or cor	illilli tile absence	of ilidicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12	10YR 4/1	80	10YR 4/6		<u>C</u>	<u>M</u>	Loamy/Clayey	Prominent redox concentrations
				_				
					_			
					_			
					<u> </u>	<u> </u>		
¹ Type: C=	 Concentration, D=De	pletion, R	 M=Reduced Matrix, M	 S=Maske	ed Sand (Grains.	2Lo	cation: PL=Pore Lining, M=Matrix.
Hydric So	il Indicators:						Indicators for	or Problematic Hydric Soils ³ :
Histos	ol (A1)		Polyvalue Below	Surface	(S8) (LR	R R,	2 cm Mu	uck (A10) (LRR K, L, MLRA 149B)
Histic	Epipedon (A2)		MLRA 149B)				? Coast P	rairie Redox (A16) (LRR K, L, R)
Black	Histic (A3)		Thin Dark Surface	ce (S9) (I	LRR R, M	LRA 149	9B)5 cm Μι	icky Peat or Peat (S3) (LRR K, L, R)
Hydro	gen Sulfide (A4)		High Chroma Sa	nds (S1	1) (LRR K	(, L)	Polyvalu	ie Below Surface (S8) (LRR K, L)
Stratif	ied Layers (A5)		Loamy Mucky M	ineral (F	1) (LRR k	(, L)	Thin Da	rk Surface (S9) (LRR K, L)
— Deplet	ted Below Dark Surfac	ce (A11)	Loamy Gleyed M	/latrix (F2	2)		Iron-Mar	nganese Masses (F12) (LRR K, L, R)
	Dark Surface (A12)	, ,	X Depleted Matrix		,			nt Floodplain Soils (F19) (MLRA 149B)
_	Mucky Mineral (S1)		Redox Dark Surf	` '				podic (TA6) (MLRA 144A, 145, 149B)
	Gleyed Matrix (S4)		Depleted Dark S					ent Material (F21)
					1)			
	Redox (S5)		? Redox Depression					allow Dark Surface (TF12)
	ed Matrix (S6)		Marl (F10) (LRR	K, L)			Other (E	xplain in Remarks)
_	Surface (S7)							
			wetland hydrology mu	st be pre	sent, unle	ess distur	bed or problematio). -
Type:	e Layer (if observed)):						
Depth (ir	nches):						Hydric Soil Pr	esent? Yes X No
			al and Northeast Region w.nrcs.usda.gov/Interr		•			RCS Field Indicators of Hydric Soils ocx)

Project/Site: Trumbull Energy Center	City/County: Lordsto	own/Trumbull	Sampling Date: 24 Aug 2016
Applicant/Owner: TetraTech		State: 0	OH Sampling Point: SP-20
Investigator(s): L. Sayre; EnviroScience, Inc.	Section, Township, F		
Landform (hillside, terrace, etc.): depression		convex, none): concave	Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139		Long: -80.847819	Datum: WGS 84
Soil Map Unit Name: Wadsworth silt loam, 0 to 2 p		NWI classific	
·	· , ,		
Are climatic / hydrologic conditions on the site typic		 `	
Are Vegetation, Soil, or Hydrology		'Normal Circumstances" pres	
Are Vegetation, Soil, or Hydrology	naturally problematic? (If ne	eeded, explain any answers i	n Remarks.)
SUMMARY OF FINDINGS – Attach site	map showing sampling point I	locations, transects, i	mportant features, etc.
Hydrophytic Vegetation Present? Yes	X No Is the Sampled	Aron	
	X No Is the Sampled Within a Wetlar		No
<u> </u>		Wetland Site ID: Wetland W	
Remarks: (Explain alternative procedures here or			
PEM	in a coparate roporti,		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of one is required; c	neck all that apply)	Surface Soil	Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	X Drainage Pat	terns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Li	nes (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season '	Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burr	rows (C8)
Sediment Deposits (B2)	X Oxidized Rhizospheres on Living Ro	oots (C3) Saturation Vi	sible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or St	tressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils	Geomorphic	Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aqui	tard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopogra	phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		X FAC-Neutral	Test (D5)
Field Observations:		<u> </u>	
Surface Water Present? Yes No	X Depth (inches):		
Water Table Present? Yes No	X Depth (inches):		
Saturation Present? Yes No	X Depth (inches): We	etland Hydrology Present?	YesX No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitori	ng well, aerial photos, previous inspection	ns), if available:	
Remarks:			
US Army Corps of Engineers		Northcentral and North	neast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-20 Absolute Dominant Indicator % Cover Species? <u>Tree Stratum</u> (Plot size: 30') Status **Dominance Test worksheet:** 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: 4 (A) 3. Total Number of Dominant 4. Species Across All Strata: 5 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 80.0% (A/B) Prevalence Index worksheet: =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' OBL species ___ x1=_ Cornus amomum Yes **FACW** FACW species x 2 = 5 2. Frangula alnus Yes FAC FAC species x 3 = x 4 = 5 FACU species 3. Rubus allegheniensis Yes **FACU** 3 x 5 = 4. Viburnum dentatum FAC UPL species 5. Column Totals: 6. Prevalence Index = B/A = 7. **Hydrophytic Vegetation Indicators:** 23 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: X 2 - Dominance Test is >50% Phalaris arundinacea 75 Yes **FACW** 3 - Prevalence Index is ≤3.01 2. Scirpus cyperinus 25 Yes OBL 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 3. 4. Problematic Hydrophytic Vegetation¹ (Explain) 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 100 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. 2. Hydrophytic Vegetation Yes X No Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: SP-20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redo	x Feature	es				,	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-12	10YR 4/2	90	10YR 3/4	10	С	PL	Loamy/Clayey	Dist	inct redox concentrations	
										—
						—				—
1=			M. D. door d Matrice M				21		Daniel Calania M. Matata	
	Concentration, D=Dep il Indicators:	letion, R	W=Reduced Matrix, M	S=IVIask	ed Sand (Jrains.			_=Pore Lining, M=Matrix. natic Hydric Soils ³ :	
_	sol (A1)		Polyvalue Below	Surface	(S8) (I D	D D			LRR K, L, MLRA 149B)	
	Epipedon (A2)		MLRA 149B)	Suriace	(30) (LN	ικ ικ,			ox (A16) (LRR K, L, R)	
	Histic (A3)		Thin Dark Surface	ce (S9) (IRRR N	II RA 149I			or Peat (S3) (LRR K, L, R)	i
_	gen Sulfide (A4)		High Chroma Sa					-	urface (S8) (LRR K, L)	
_	ied Layers (A5)		Loamy Mucky M			-			(S9) (LRR K, L)	
_	ted Below Dark Surfac	e (A11)	Loamy Gleyed N			-, -,			lasses (F12) (LRR K, L, R)	.)
	Dark Surface (A12)	` ,	X Depleted Matrix		,		Piedmont Floodplain Soils (F19) (MLRA 149B)			
	Mucky Mineral (S1)		Redox Dark Surf)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
Sandy	Gleyed Matrix (S4)		Depleted Dark S	urface (F7)		Red Parent Material (F21)			
Sandy	Redox (S5)		? Redox Depressi	ons (F8)			Very Shallow Dark Surface (TF12)			
Stripp	ed Matrix (S6)		Marl (F10) (LRR	K , L)			Other (Explain in Remarks)			
Dark S	Surface (S7)									
2										
	of hydrophytic vegetat		wetland hydrology mu	st be pre	esent, unle	ess disturb	oed or problemation			
	e Layer (if observed):									
Type: _										
Depth (ii	nches):						Hydric Soil Pr	esent?	Yes <u>X</u> No	_
Remarks:										
									Indicators of Hydric Soils	
version 7.0) March 2013 Errata. (h	nttp://ww	w.nrcs.usda.gov/Interr	net/FSE_	_DOCUMI	=NIS/nrcs	s142p2_051293.d	ocx)		

Project/Site: Trumbull Energy Center	City/County: Lo	ordstown/Trumbull	Sampling Date: 24 Aug 2016
Applicant/Owner: TetraTech		State:	OH Sampling Point: SP-21
Investigator(s): L. Sayre; EnviroScience, Inc.	Section, Towns	hip, Range:	
Landform (hillside, terrace, etc.): flat		ave, convex, none): none	Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 4		Long: -80.848023	Datum: WGS 84
Soil Map Unit Name: Wadsworth silt loam, 0 to 2 percer	. , ,		fication: none
Are climatic / hydrologic conditions on the site typical for	•		in Remarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" pr	resent? Yes X No
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answers	s in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	p showing sampling po	int locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes	No X Is the Sam	pled Area	
Hydric Soil Present? Yes X		/etland? Yes	No X
Wetland Hydrology Present? Yes	No X If yes, option	onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a old field	separate report.)		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary India	cators (minimum of two required)
Primary Indicators (minimum of one is required; check	all that annly)	·	oil Cracks (B6)
	Water-Stained Leaves (B9)		Patterns (B10)
	Aquatic Fauna (B13)		Lines (B16)
	Marl Deposits (B15)		n Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Bu	ırrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Livir	ng Roots (C3) Saturation	Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or	Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled	Soils (C6) Geomorphi	ic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aq	uitard (D3)
I —	Other (Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutra	al Test (D5)
Field Observations:			
Surface Water Present? Yes No _X	Depth (inches):		
Water Table Present? Yes No X	Depth (inches):		
Saturation Present? Yes No X	Depth (inches):	Wetland Hydrology Present	t? Yes No _X
(includes capillary fringe)	II agrici shataa swayiaya isan	actions) if available.	
Describe Recorded Data (stream gauge, monitoring we	eii, aeriai priotos, previous insp	ections), if available:	
Remarks:			
US Army Corps of Engineers		Northcentral and No	rtheast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-21 Absolute Dominant Indicator % Cover Species? <u>Tree Stratum</u> (Plot size: _____30' ____) Status **Dominance Test worksheet:** 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: 2 (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 5 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 40.0% (A/B) Prevalence Index worksheet: =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' OBL species x 1 = Rubus allegheniensis 15 **FACU FACW** species 0 x 2 = 0 50 2. Frangula alnus 10 Yes FAC FAC species x 3 = 150 x 4 = 67 3. FACU species 268 0 4. UPL species x 5 = 5. Column Totals: 120 421 Prevalence Index = B/A = 3.51 6. **Hydrophytic Vegetation Indicators:** 7. 25 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 2 - Dominance Test is >50% Dactylis glomerata 25 Yes **FACU** 3 - Prevalence Index is ≤3.01 2. 25 FAC 4 - Morphological Adaptations¹ (Provide supporting Solidago rugosa Yes data in Remarks or on a separate sheet) 3. Poa pratensis 22 Yes **FACU** 4. Euthamia graminifolia 15 No FAC Problematic Hydrophytic Vegetation¹ (Explain) Potentilla simplex 5 5. No **FACU** ¹Indicators of hydric soil and wetland hydrology must NI 5 No 6. Symphyotrichum sp. be present, unless disturbed or problematic. 3 7. Scirpus cyperinus No OBL **Definitions of Vegetation Strata:** 8. Tree – Woody plants 3 in. (7.6 cm) or more in diameter 9. at breast height (DBH), regardless of height. 10. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 100 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. 2. Hydrophytic 3. Vegetation Yes No X Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox	k Feature	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-6	10YR 4/2	100					Loamy/Clayey		
6-12	10YR 4/2	90	10YR 4/6	10	С	М	Loamy/Clayey		
								-	
	Concentration, D=Dep	oletion, R	M=Reduced Matrix, M	S=Mask	ed Sand (Grains.		ocation: PL=Pore Lining, M=Matrix.	
-	oil Indicators:		5.1.5.	0 ((00) (1.5			for Problematic Hydric Soils ³ :	
	sol (A1)		Polyvalue Below	Surface	(S8) (LR	KK,		uck (A10) (LRR K, L, MLRA 149B)	
	Epipedon (A2)		MLRA 149B)	oo (CO) (I	DDD M	I DA 440		Prairie Redox (A16) (LRR K, L, R)	
	Histic (A3) ogen Sulfide (A4)		Thin Dark Surface High Chroma Sa				· —	ucky Peat or Peat (S3) (LRR K, L, R) ue Below Surface (S8) (LRR K, L)	
	fied Layers (A5)		Loamy Mucky M			-		irk Surface (S9) (LRR K, L)	
	eted Below Dark Surfac	·e (Δ11)	Loamy Gleyed N			(, L)		inganese Masses (F12) (LRR K, L, R)	
	Dark Surface (A12)	<i>(</i> A11)	X Depleted Matrix		-)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
	y Mucky Mineral (S1)		Redox Dark Surf		1		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	y Gleyed Matrix (S4)		Depleted Dark S				Red Parent Material (F21)		
	y Redox (S5)		Redox Depression		.,		Very Shallow Dark Surface (TF12)		
	ed Matrix (S6)		Marl (F10) (LRR					Explain in Remarks)	
	Surface (S7)			,			 `	•	
³ Indicators	s of hydrophytic vegeta	tion and	wetland hydrology mu	st be pre	sent, unle	ess distur	bed or problemation	c.	
Restrictiv	e Layer (if observed)	:							
Type:									
Depth (i	nches):						Hydric Soil Pr	resent? Yes X No	
Remarks:									
	form is revised from N	orthcentr	al and Northeast Region	onal Sup	plement \	/ersion 2	.0 to include the N	IRCS Field Indicators of Hydric Soils	
version 7.0	0 March 2013 Errata. (http://ww	w.nrcs.usda.gov/Interr	net/FSE_	DOCUME	ENTS/nrc	s142p2_051293.d	locx)	

Project/Site: Trumbull Energy Center	City/County: Lo	rdstown/Trumbull	Sampling Date: 24 Aug 2016
Applicant/Owner: TetraTech		State:	OH Sampling Point: SP-22
Investigator(s): L. Sayre; EnviroScience, Inc.	Section, Towns	hip, Range:	
Landform (hillside, terrace, etc.): terrace		ave, convex, none): none	Slope (%): 3
Subregion (LRR or MLRA): LRR R, MLRA 139		Long: -80.846843	Datum: WGS 84
	•		
Soil Map Unit Name: Wadsworth silt loam, 0 to 2	· · · · · · · · · · · · · · · · · · ·		ication: none
Are climatic / hydrologic conditions on the site typi	•	X No (If no, explain	
Are Vegetation, Soil, or Hydrolog	ysignificantly disturbed?	Are "Normal Circumstances" pr	esent? Yes X No
Are Vegetation, Soil, or Hydrolog	ynaturally problematic?	(If needed, explain any answers	s in Remarks.)
SUMMARY OF FINDINGS – Attach site	e map showing sampling po	int locations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	X No Is the Sam	pled Area	
Hydric Soil Present? Yes	No X within a W	etland? Yes	NoX
Wetland Hydrology Present? Yes	No X If yes, option	onal Wetland Site ID:	
Remarks: (Explain alternative procedures here of Forest	r in a separate report.)		
LHYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	cators (minimum of two required)
Primary Indicators (minimum of one is required; of	check all that apply)	Surface So	il Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage P	atterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim	Lines (B16)
Saturation (A3)	Marl Deposits (B15)		n Water Table (C2)
— Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Bu	
Sediment Deposits (B2)	Oxidized Rhizospheres on Livir		Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)		Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled	` ' 	c Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aq	
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)	FAC-Neutra	raphic Relief (D4)
	<u> </u>	FAC-Neutra	ar rest (D5)
Field Observations: Surface Water Present? Yes No	X Depth (inches):		
'	X Depth (inches):		
	X Depth (inches):	Wetland Hydrology Present	? Yes No_X_
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, previous insp	ections), if available:	
Remarks:			
US Army Corps of Engineers		Northcentral and No	rtheast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-22 Absolute Dominant Indicator 30'___) Tree Stratum (Plot size: Species? Status **Dominance Test worksheet:** % Cover Acer saccharum **FACU Number of Dominant Species** 20 **FACW** 2. Quercus palustris Yes That Are OBL, FACW, or FAC: 2 (A) 3 3. Prunus serotina **FACU** No Total Number of Dominant 4. Species Across All Strata: 3 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 66.7% (A/B) Prevalence Index worksheet: 63 =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' OBL species ___ x1=_ 1. Frangula alnus 45 FAC FACW species x 2 = 2. FAC species x 3 = x 4 = 3. FACU species x 5 = 4. UPL species 5. Column Totals: Prevalence Index = B/A = 6. **Hydrophytic Vegetation Indicators:** 45 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 5') X 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 2. 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 3. 4. Problematic Hydrophytic Vegetation¹ (Explain) 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes X No Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: SP-22 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Loc² Color (moist) % Color (moist) Texture (inches) Type¹ Remarks 10YR 4/2 100 0-6 Loamy/Clayey ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Stripped Matrix (S6) Marl (F10) (**LRR K, L**) Other (Explain in Remarks) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Compacted Soils Depth (inches): **Hydric Soil Present?** No Remarks: This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 30 Aug 2016
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-23
Investigator(s): N.Knowles; EnviroScience, Inc.	Section, Township, Range:
Landform (hillside, terrace, etc.): depression	Local relief (concave, convex, none): concave Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.154669	Datum: WGS 84
Soil Map Unit Name: Condit silt loam	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time	
Are Vegetation, Soil, or Hydrologysignifi	
Are Vegetation, Soil, or Hydrologynatura	
	ing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-7
PFO	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that ap	
l —	ined Leaves (B9) X Drainage Patterns (B10)
l— ·	Moss Trim Lines (B16) Moss Trim Lines (B16)
Saturation (A3) Marl Depo	
1 	Sulfide Odor (C1) Crayfish Burrows (C8) Crayfish Burrows (C8) Saturation Visible on April Imageny (C9)
1 	Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
1 	of Reduced Iron (C4) Stunted or Stressed Plants (D1) on Reduction in Tilled Soils (C6) Geomorphic Position (D2)
_	Surface (C7) Shallow Aquitard (D3)
_	plain in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (ir	nches):
	nches):
Saturation Present? Yes No X Depth (in	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial p	photos, previous inspections), if available:
Remarks:	

Northcentral and Northeast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-23 Absolute Dominant Indicator Tree Stratum (Plot size: 30' ___) % Cover Species? Status **Dominance Test worksheet:** Quercus palustris Yes **FACW Number of Dominant Species** 30 2. Acer saccharinum Yes **FACW** That Are OBL, FACW, or FAC: (A) 20 **FACW** 3. Ulmus americana Yes Total Number of Dominant 4. Species Across All Strata: (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: Prevalence Index worksheet: 90 =Total Cover Multiply by: Total % Cover of: Sapling/Shrub Stratum (Plot size: 15' OBL species ___ x 1 = ___ FACW species x 2 = ____ FAC species x 3 = ___ 3. FACU species x 4 = 4. UPL species x 5 = 5. Column Totals: 6. Prevalence Index = B/A =**Hydrophytic Vegetation Indicators:** =Total Cover X 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 5') 2 - Dominance Test is >50% Cornus racemosa 15 Yes FAC 3 - Prevalence Index is ≤3.01 15 Yes FAC 4 - Morphological Adaptations (Provide supporting 2. Frangula alnus data in Remarks or on a separate sheet) 15 3. Glyceria striata Yes OBL 4. Carex sp. No NL Problematic Hydrophytic Vegetation¹ (Explain) 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. **Definitions of Vegetation Strata:** 7. 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. **Herb** – All herbaceous (non-woody) plants, regardless 50 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes X No ___ Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: SP-23

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

nches)	Color (moist)	%	Color (moist)	x Feature: %	Type ¹	Loc ²	Texture	Remarks
0-12	10YR 5/1	90	10YR 5/8	10	С	PL	Loamy/Clayey	Prominent redox concentrations
					<u> </u>	<u> </u>		T TOTAL TO CONTROL CON
	_						_	
— -								
ype: C=C	oncentration, D=De	pletion, RI	M=Reduced Matrix, M	S=Maske	ed Sand C	Frains.	² Loc	cation: PL=Pore Lining, M=Matrix.
dric Soil	Indicators:						Indicators fo	r Problematic Hydric Soils ³ :
_ Histosol			Polyvalue Below	/ Surface	(S8) (LR	R R,		ck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B)	(00) (1	DD D 14	I D A 4 401		airie Redox (A16) (LRR K, L, R)
	istic (A3)		Thin Dark Surface				· —	cky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)		High Chroma Sa Loamy Mucky M			-		e Below Surface (S8) (LRR K, L) k Surface (S9) (LRR K, L)
	d Below Dark Surfa	ce (A11)	Loamy Gleyed N			, L)		ganese Masses (F12) (LRR K, L, R)
_	ark Surface (A12)	50 (711.1)	X Depleted Matrix		,			t Floodplain Soils (F19) (MLRA 149B)
_	Mucky Mineral (S1)	,	Redox Dark Sur					podic (TA6) (MLRA 144A, 145, 149B)
_	Gleyed Matrix (S4)	,	Depleted Dark S		7)			ent Material (F21)
Sandy F	Redox (S5)	,	? Redox Depressi	ons (F8)			Very Sha	allow Dark Surface (TF12)
Stripped	d Matrix (S6)		Marl (F10) (LRR	K, L)			Other (E:	xplain in Remarks)
_ Dark Su	ırface (S7)							
	Layer (if observed)		wetland hydrology mu	st be pres	sent, unie	ess disturb	ed or problematic.	
Type:	Layer (II Observed))-						
Depth (inc	thes):						Hydric Soil Pre	esent? Yes X No
Dopui (iiio							,	700.IR. 100 <u>7.</u> IV.

Project/Site: _Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 30 Aug 2016							
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-24							
Investigator(s): A. Gilmore; EnviroScience, Inc.	Section, Township, Range:							
	Local relief (concave, convex, none): concave Slope (%):							
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.14782	Long: -80.845726 Datum: WGS 84							
Soil Map Unit Name: WbB - Wadsworth silt loam, 2 to 6 percent slope								
Are climatic / hydrologic conditions on the site typical for this time of y								
Are Vegetation X, Soil X, or Hydrology significant								
Are Vegetation, Soil, or Hydrologynaturally p								
	sampling point locations, transects, important features, etc.							
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area							
Hydric Soil Present? Yes X No	within a Wetland? Yes X No							
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-10.							
Remarks: (Explain alternative procedures here or in a separate report.) PSS, soil and vegeatation disturbed in ROW. Veg appears to have been sprayed this season, and soil within ROW is fill dirt with lots of rocks, as wee as ATV traffic. Fill dirt is creating an artificial shallow aquitard.								
HYDROLOGY								
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)							
Primary Indicators (minimum of one is required; check all that apply)								
Surface Water (A1) Water-Stained								
High Water Table (A2) Aquatic Fauna And Reposite								
Saturation (A3)Marl Deposits								
Water Marks (B1) Hydrogen Sulf								
 -	ospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Reduced Iron (C4) Stunted or Stressed Plants (D1)							
1 	reduction in Tilled Soils (C6) Geomorphic Position (D2)							
Iron Deposits (B5) Thin Muck Sur	• • • • • • • • • • • • • • • • • • • •							
Inundation Visible on Aerial Imagery (B7) Other (Explain								
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)							
Field Observations:								
Surface Water Present? Yes No X Depth (inche	es):							
Water Table Present? Yes No X Depth (inche								
Saturation Present? Yes No X Depth (inche								
(includes capillary fringe)								
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:							
Remarks:								

Northcentral and Northeast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-24 Absolute Dominant Indicator Species? <u>Tree Stratum</u> (Plot size: 30') % Cover Status **Dominance Test worksheet:** 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: 5 (A) 3. Total Number of Dominant 4. Species Across All Strata: 6 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 83.3% (A/B) Prevalence Index worksheet: =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' OBL species ___ x 1 = ___ Frangula alnus x 2 = ____ 30 Yes FAC FACW species 2. Rubus allegheniensis 15 Yes **FACU** FAC species x 3 = ___ 5 3. Quercus palustris No **FACW** FACU species x 4 = 4. UPL species x 5 = 5. Column Totals: 6. Prevalence Index = B/A =7. **Hydrophytic Vegetation Indicators:** 50 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: X 2 - Dominance Test is >50% Dichanthelium clandestinum 30 Yes **FACW** 3 - Prevalence Index is ≤3.01 25 **FACW** 4 - Morphological Adaptations (Provide supporting 2. Carex scoparia Yes data in Remarks or on a separate sheet) 3. Frangula alnus 20 Yes FAC 4. Phalaris arundinacea 20 Yes **FACW** Problematic Hydrophytic Vegetation¹ (Explain) 5. Solidago gigantea No **FACW** ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. **Herb** – All herbaceous (non-woody) plants, regardless 100 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes X No __ Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: SP-24

Profile De	scription: (Describe	to the de	pth needed to docu	ment the	e indicate	or or cor	nfirm the absence	of indicators.)
Depth	Matrix			Feature				
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-5	10YR 3/2	90	10YR 5/8	10	<u>C</u>	PL_	Sandy	Prominent redox concentrations
5-7	10YR 5/3	70	10YR 5/1	20	RM	M	Loamy/Clayey	Sandy silt loam
			10YR 5/8	10	<u>C</u>	M		Prominent redox concentrations
7-12	10YR 5/4	100						Fill dirt
1= 0							2,	
	:Concentration, D=De il Indicators:	pletion, RN	M=Reduced Matrix, M	S=Maske	ed Sand (irains.		cation: PL=Pore Lining, M=Matrix.
•	sol (A1)		Polyvalue Below	Surface	(S8) (I R	R R		or Problematic Hydric Soils ³ : ck (A10) (LRR K, L, MLRA 149B)
	Epipedon (A2)		MLRA 149B)	Ouriacc	(00) (L IX	ις ις,		rairie Redox (A16) (LRR K, L, R)
	Histic (A3)		Thin Dark Surface	e (S9) (I	RR R M	II RA 149		cky Peat or Peat (S3) (LRR K, L, R)
_	gen Sulfide (A4)		High Chroma Sa				· —	e Below Surface (S8) (LRR K, L)
_	ied Layers (A5)	•	Loamy Mucky M			-		k Surface (S9) (LRR K, L)
_		00 (011)				 L)		
	ted Below Dark Surfa	ce (ATT)	Loamy Gleyed M		.)			nganese Masses (F12) (LRR K, L, R)
_	Dark Surface (A12)		Depleted Matrix	` '				nt Floodplain Soils (F19) (MLRA 149B)
	Mucky Mineral (S1)		Redox Dark Surf					podic (TA6) (MLRA 144A, 145, 149B)
Sandy	Gleyed Matrix (S4)		Depleted Dark S	urface (F	7)		Red Par	ent Material (F21)
X Sandy	Redox (S5)		Redox Depression	ons (F8)			Very Sha	allow Dark Surface (TF12)
? Stripp	ed Matrix (S6)		Marl (F10) (LRR	K, L)			Other (E	xplain in Remarks)
Dark S	Surface (S7)	•	_				<u> </u>	
³ Indicators	of hydrophytic vegets	ation and v	vetland hydrology mus	st he nre	sent unle	es distru	rhed or problematic	
	e Layer (if observed)		Todalia Hydrology Illus	or po bie	Joint, Wille	, oo alotul	Problematic	•
Type: A	quitard?							
Depth (ii	nches):	12"					Hydric Soil Pro	esent? Yes X No No
Remarks:								
This data f	form is revised from N	Iorthcentra	I and Northeast Region	nal Sup	plement \	ersion 2	2.0 to include the NF	RCS Field Indicators of Hydric Soils
version 7.0	March 2013 Errata.	(http://www	v.nrcs.usda.gov/Intern	et/FSE_	DOCUME	ENTS/nrc	cs142p2_051293.dd	ocx)

Project/Site: Trumbull Energy Center	City/County: Lordstown, Trumbull Sampling Date: 30 Aug 2016			
Applicant/Owner: TetraTech		State:		
Investigator(s): Ann Gilmore, EnviroScience, Inc.	Section, Towns	ship. Range:		
			Slope (%): 5-10	
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 4		Long: -80.845726	Datum: WGS84	
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2				
·				
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) Are 'Vegetation X Soil X or Hydrology a cignificantly disturbed? Are "Normal Circumstances" process?				
Are Vegetation X , Soil X , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No				
Are Vegetation, Soil, or Hydrologynaturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes	No V Is the Sai	malad Araa		
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes		mpled Area Wetland? Yes	No X	
Wetland Hydrology Present?		tional Wetland Site ID:		
Open field, disturbed veg (sprayed in ROW) and soil (compacted, and fill dirt, hard to dig soil pit).				
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil Cracks (B6)		
	Water-Stained Leaves (B9)		Patterns (B10)	
-	Aquatic Fauna (B13)		Lines (B16)	
1 	Marl Deposits (B15)		on Water Table (C2)	
1 	Water Marks (B1) Hydrogen Sulfide Odor (C1) Sodiment Deposits (B2) Ovidized Phizopheres on Living Rect		urrows (C8) Visible on Aerial Imagery (C9)	
1 	Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4	· · · —	Stressed Plants (D1)	
1 <u>—</u> —	,	· —		
<u> </u>				
1 	Other (Explain in Remarks)		graphic Relief (D4)	
Sparsely Vegetated Concave Surface (B8)	Miler (Explain in Nomano,		ral Test (D5)	
Field Observations:		<u></u>	<u> </u>	
	Depth (inches):			
	Depth (inches):			
· — —	Depth (inches):	Wetland Hydrology Presen	nt? Yes No_X_	
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks: No hydrology observed.				

Northcentral and Northeast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-25 Absolute Dominant Indicator Species? <u>Tree Stratum</u> (Plot size: 30') % Cover Status **Dominance Test worksheet: Number of Dominant Species** That Are OBL, FACW, or FAC: 1 (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 5 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 20.0% (A/B) Prevalence Index worksheet: =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' OBL species x 1 = **FACW** species 0 x 2 = FAC species 35 x 3 = 105 50 x 4 = 3. FACU species 200 4. UPL species 0 x 5 = 5. Column Totals: 85 305 Prevalence Index = B/A =3.59 6. **Hydrophytic Vegetation Indicators:** =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 5') 2 - Dominance Test is >50% Oenothera biennis 20 Yes **FACU** 3 - Prevalence Index is ≤3.01 20 **FACU** 4 - Morphological Adaptations¹ (Provide supporting 2. Solidago altissima Yes data in Remarks or on a separate sheet) 3. Conyza canadensis 15 Yes DACU 4. Achillea millefolium 15 Yes FAC Problematic Hydrophytic Vegetation¹ (Explain) 5. Euthamia graminifolia 10 No FAC ¹Indicators of hydric soil and wetland hydrology must 10 FAC 6. Solidago rugosa No be present, unless disturbed or problematic. 10 **FACU Definitions of Vegetation Strata:** 7. Erigeron annuus No 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. **Herb** – All herbaceous (non-woody) plants, regardless 100 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. Yes height. Hydrophytic Vegetation Present? Yes ____ No _X 20 =Total Cover Remarks: (Include photo numbers here or on a separate sheet.) Symphyotrichum sp. is probably lanceolatum.

SOIL Sampling Point: SP-25 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) % Color (moist) Loc² (inches) Type¹ Texture Remarks 10YR 4/2 0-2 100 Loamy/Clayey silt loam with rocks ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: rocks Depth (inches): **Hydric Soil Present?** No Remarks: This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site: _Trumbull Energy Center	City/County: Lordstown, Trumbull Sampling Date: 12/16/2015		
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-26		
Investigator(s): B. Slaby and M. Gilmore, EnviroScience, Inc.	Section, Township, Range:		
	Local relief (concave, convex, none): none Slope (%):		
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.147724	Long: -80.845286 Datum: WGS84		
Soil Map Unit Name: Wadsworth silt loam, 0 to 2 percent slopes (Wb	pA) NWI classification: N/A		
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)			
Are Vegetation, Soil, or Hydrologysignificantly disturbed? Are "Normal Circumstances" present? Yes _X _No			
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area		
Hydric Soil Present? Yes X No	within a Wetland? Yes X No No		
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: W-11		
PEM.			
HYDROLOGY			
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that apply	• • • • • • • • • • • • • • • • • • • •		
l 	d Leaves (B9) Drainage Patterns (B10)		
High Water Table (A2) Aquatic Faun			
Saturation (A3)Marl Deposits			
	Ulfide Odor (C1) Crayfish Burrows (C8)		
1 	zospheres on Living Roots (C3) X Saturation Visible on Aerial Imagery (C9)		
Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)			
Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron F Thin Muck Su			
1 — · · · · · · — —	in in Remarks) Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)		
Field Observations:			
Surface Water Present? Yes No X Depth (inch	nes).		
Water Table Present? Yes No X Depth (inch			
Saturation Present? Yes No X Depth (inch			
(includes capillary fringe)	Westuria Hydrology Fresent: Fes X No		
Describe Recorded Data (stream gauge, monitoring well, aerial pho	tos, previous inspections), if available:		
Remarks:			
Phalaris exhibiting very few oxidized rhizospheres (weak hydrology)			

Northcentral and Northeast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-26 Absolute Dominant Indicator Species? <u>Tree Stratum</u> (Plot size: 30') % Cover Status **Dominance Test worksheet:** 1. **Number of Dominant Species** That Are OBL, FACW, or FAC: 2 (A) 3. Total Number of Dominant 4. Species Across All Strata: 2 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' OBL species x 1 = **FACW** species 81 x 2 = 162 FAC species 16 x 3 = 0 3. FACU species x 4 = 0 0 4. UPL species x 5 = 5. Column Totals: 101 214 Prevalence Index = B/A = 2.12 6. **Hydrophytic Vegetation Indicators:** =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: X 2 - Dominance Test is >50% Phalaris arundinacea 40 Yes **FACW** X 3 - Prevalence Index is ≤3.0¹ 40 **FACW** 4 - Morphological Adaptations (Provide supporting 2. Carex scoparia Yes data in Remarks or on a separate sheet) 3. Euthamia graminifolia 10 No FAC 4. 3 No OBL Problematic Hydrophytic Vegetation¹ (Explain) Juncus effusus 5. Dichanthelium implicatum 3 No FAC ¹Indicators of hydric soil and wetland hydrology must 2 No 6. Frangula alnus FAC be present, unless disturbed or problematic. 1 **FACW Definitions of Vegetation Strata:** 7. Quercus palustris No 1 8. Juncus tenuis No **FAC** Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. Lycopus sp. No OBL at breast height (DBH), regardless of height. 10. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. 11. **Herb** – All herbaceous (non-woody) plants, regardless 101 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes X No __ Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

Depth	Matrix	0/		x Feature		Loc ²	T#	Damada	
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹		Texture	Remarks	
0-15	10YR 4/2	70	5YR 3/4	25	<u> </u>	PL/M	Loamy/Clayey	Prominent redox concentrations	
			7.5YR 5/6	5	<u>C</u>	PL/M		Prominent redox concentrations	
15-20	2.5Y 5/1	60	7.5YR 5/8	40	С	M	Sandy	Prominent redox concentrations	
						—			
							·		
1Typo: C-	Concentration D-Do	nlotion P	——————————————————————————————————————		nd Sand (Grains	21.0	cation: PL=Pore Lining, M=Matrix.	
	il Indicators:	pielion, ix	w=Reduced Matrix, iv	IS=IVIASKE	su Sanu i	Jianis.		or Problematic Hydric Soils ³ :	
-	sol (A1)		Polyvalue Below	/ Surface	(S8) (LR	RR,		ck (A10) (LRR K, L, MLRA 149B)	
Histic Epipedon (A2)			MLRA 149B)				? Coast Prairie Redox (A16) (LRR K, L, R)		
	Histic (A3)		Thin Dark Surfa						
	gen Sulfide (A4)		High Chroma Sa			-	Polyvalue Below Surface (S8) (LRR K, L)		
	ied Layers (A5)		Loamy Mucky M			(, L)	Thin Dark Surface (S9) (LRR K, L)		
	ted Below Dark Surfa	ce (A11)	Loamy Gleyed N		2)		Iron-Manganese Masses (F12) (LRR K, L, R)		
	Dark Surface (A12)		X Depleted Matrix				Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Mucky Mineral (S1)		Redox Dark Sur				Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Gleyed Matrix (S4)		Depleted Dark S		7)		Red Parent Material (F21)		
_	Redox (S5)		? Redox Depressi				Very Shallow Dark Surface (TF12)		
	ed Matrix (S6)		Marl (F10) (LRR	! K , L)			Other (Explain in Remarks)		
Dark	Surface (S7)								
³ Indicators	of hydrophytic vegeta	ation and	wetland hydrology mu	st be pre	sent, unle	ess distui	bed or problematic		
	e Layer (if observed)):							
Type:									
Depth (ii	nches):						Hydric Soil Pre	esent? Yes X No No	
			al and Northeast Regi w.nrcs.usda.gov/Interi					RCS Field Indicators of Hydric Soils	

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 30 Aug 2016
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-27
Investigator(s): A. Gilmore; EnviroScience, Inc.	Section, Township, Range:
Landform (hillside, terrace, etc.): depression	Local relief (concave, convex, none): concave Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.148165	Long: -80.845026 Datum: WGS 84
Soil Map Unit Name: WbB - Wadsworth silt loam, 2 to 6 percent slo	
	·
Are climatic / hydrologic conditions on the site typical for this time o	
Are Vegetation, Soil, or Hydrologysignification,	
Are Vegetation, Soil, or Hydrologynaturall	y problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-13.
Remarks: (Explain alternative procedures here or in a separate re PEM.	port.)
FLIVI.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that appl	<u> </u>
I — — — — — — — — — — — — — — — — — — —	Drainage Patterns (B10)
High Water Table (A2) Aquatic Fau Aquatic Fau	
Saturation (A3) Marl Deposi	
	ulfide Odor (C1) Crayfish Burrows (C8)
1 	nizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
	f Reduced Iron (C4) Stunted or Stressed Plants (D1) Participation in Tilled Scills (C6) Stunted or Stressed Plants (D2)
 -	Reduction in Tilled Soils (C6) Geomorphic Position (D2)
	Surface (C7) Shallow Aquitard (D3) Microtopagraphic Relief (D4)
Inundation Visible on Aerial Imagery (B7) Other (Explain Sparsely Vegetated Concave Surface (B8)	ain in Remarks) Microtopographic Relief (D4) X FAC-Neutral Test (D5)
Field Observations:	A PAG-Neutral Test (D3)
Surface Water Present? Yes No X Depth (inc	hes):
Water Table Present? Yes No X Depth (inc	
Saturation Present? Yes No X Depth (inc	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial ph	otos, previous inspections), if available:
Remarks:	

Northcentral and Northeast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-27 Dominant Absolute Indicator Species? <u>Tree Stratum</u> (Plot size: 30') % Cover Status **Dominance Test worksheet: Number of Dominant Species** That Are OBL, FACW, or FAC: 2 (A) 3. Total Number of Dominant 4. Species Across All Strata: 3 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 66.7% (A/B) Prevalence Index worksheet: =Total Cover Multiply by: Total % Cover of: Sapling/Shrub Stratum (Plot size: _____15' ____) OBL species ___ x 1 = ___ x 2 = ____ FACW species FAC species x 3 = ___ 3. FACU species x 4 = 4. UPL species x 5 = 5. Column Totals: 6. Prevalence Index = B/A =**Hydrophytic Vegetation Indicators:** =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 5') X 2 - Dominance Test is >50% Carex scoparia 35 Yes **FACW** 3 - Prevalence Index is ≤3.0¹ 25 **FACW** 4 - Morphological Adaptations (Provide supporting 2. Lotus corniculatus Yes data in Remarks or on a separate sheet) 20 3. Rubus allegheniensis Yes **FACU** 4. Doellingeria umbellata 12 No **FACW** Problematic Hydrophytic Vegetation¹ (Explain) 5. Frangula alnus 12 No FAC ¹Indicators of hydric soil and wetland hydrology must 10 No OBL 6. Scirpus cyperinus be present, unless disturbed or problematic. 10 **FACW Definitions of Vegetation Strata:** 7. Phalaris arundinacea No 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 124 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes X No ___ Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

		to the d	epth needed to docu			or or con	firm the absence	of indicators.)
Depth	Matrix	0/		c Feature		12	T	Days and a
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 4/1	80	7.5YR 4/6	20	<u>C</u>	<u>M</u>	Loamy/Clayey	Prominent redox concentrations
4-10	2.5Y 7/3	60	2.5Y 6/1	10	RM	<u>M</u>	Loamy/Clayey	
			10YR 5/8	30	<u>C</u>	<u>M</u>		Prominent redox concentrations
		pletion, R	M=Reduced Matrix, M	S=Maske	ed Sand (Grains.		cation: PL=Pore Lining, M=Matrix.
	oil Indicators: sol (A1)		Polyvalue Below	Surface	(S8) (I R	R R		or Problematic Hydric Soils ³ : ack (A10) (LRR K, L, MLRA 149B)
	Epipedon (A2)		MLRA 149B)	Junace	(30) (LI	ΙΧ ΙΧ,		rairie Redox (A16) (LRR K, L, R)
	Histic (A3)		Thin Dark Surfac	e (S9) (I	RR R. M	ILRA 149		icky Peat or Peat (S3) (LRR K, L, R)
	gen Sulfide (A4)		High Chroma Sa				· —	e Below Surface (S8) (LRR K, L)
	fied Layers (A5)		Loamy Mucky M			-		k Surface (S9) (LRR K, L)
	ted Below Dark Surfa	ce (A11)	Loamy Gleyed M			, ,		nganese Masses (F12) (LRR K, L, R)
	Dark Surface (A12)	(* * * * * *)	X Depleted Matrix		,			nt Floodplain Soils (F19) (MLRA 149B)
	y Mucky Mineral (S1)		Redox Dark Surf	. ,				podic (TA6) (MLRA 144A, 145, 149B)
	y Gleyed Matrix (S4)		Depleted Dark S				_	ent Material (F21)
	y Redox (S5)		? Redox Depression		')			allow Dark Surface (TF12)
	ped Matrix (S6)		Marl (F10) (LRR					xplain in Remarks)
			Wall (F10) (LKK	K, L)			Other (E	xpiair iii Remarks)
Dark :	Surface (S7)							
			wetland hydrology mus	st be pre	sent, unle	ess distur	bed or problematic	
_	e Layer (if observed)):						
Type: _ Depth (i	nches):						Hydric Soil Pro	esent? Yes X No
							Tiyane Son Ti	resNo
Remarks:	form is revised from N	lorthcentra	al and Northeast Regio	onal Supi	olement \	/ersion 2	0 to include the NE	RCS Field Indicators of Hydric Soils
			w.nrcs.usda.gov/Intern					
			-					

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 30 Aug 2016
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-28
Investigator(s): A. Gilmore; EnviroScience, Inc.	Section, Township, Range:
Landform (hillside, terrace, etc.): depression	Local relief (concave, convex, none): concave Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.148202	Long: -80.844829 Datum: WGS 84
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent slop	
Are climatic / hydrologic conditions on the site typical for this time of	
Are Vegetation X, Soil X, or Hydrology significa	
Are Vegetation, Soil, or Hydrologynaturally	y problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-14.
Remarks: (Explain alternative procedures here or in a separate report PEM in ROW, veg and soil siturbed from spraying, fill dirt, machina	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	y) Surface Soil Cracks (B6)
Surface Water (A1) X Water-Staine	
High Water Table (A2) Aquatic Faul	
Saturation (A3) Marl Deposit	
	ulfide Odor (C1) Crayfish Burrows (C8) sizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
	izospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Reduced Iron (C4) Stunted or Stressed Plants (D1)
	Reduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck S	
	ain in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _X Depth (inch	hes):
Water Table Present? Yes No X Depth (inch	
Saturation Present? Yes No X Depth (inch	hes): Wetland Hydrology Present? Yes X No
(includes capillary fringe)	-toious inspections) if availables
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), ir available:
Remarks:	

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VEGETATION – Use scientific names of plants. Sampling Point: SP-28 Dominant Absolute Indicator Species? <u>Tree Stratum</u> (Plot size: 30') % Cover Status **Dominance Test worksheet: Number of Dominant Species** That Are OBL, FACW, or FAC: 3 (A) 3. Total Number of Dominant 4. Species Across All Strata: 4 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 75.0% (A/B) Prevalence Index worksheet: Multiply by: =Total Cover Total % Cover of: Sapling/Shrub Stratum (Plot size: 15' OBL species ___ x 1 = ___ x 2 = ____ FACW species 15 Yes FAC species x 3 = ___ 3. FACU species x 4 = 4. UPL species x 5 = 5. Column Totals: 6. Prevalence Index = B/A =**Hydrophytic Vegetation Indicators:** 15 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: X 2 - Dominance Test is >50% Phalaris arundinacea 15 Yes **FACW** 3 - Prevalence Index is ≤3.0¹ 15 **FACW** 4 - Morphological Adaptations (Provide supporting 2. Carex scoparia Yes data in Remarks or on a separate sheet) 15 3. Carex lupulina Yes OBL 4. Carex squarrosa 10 No OBL Problematic Hydrophytic Vegetation¹ (Explain) 5 5. Quercus palustris No **FACW** ¹Indicators of hydric soil and wetland hydrology must 6. Frangula alnus No FAC be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. **Herb** – All herbaceous (non-woody) plants, regardless 65 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes X No ___ Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

Depth	scription: (Describe Matrix	e to the d	epth needed to docu Redox	ment the c Feature		or or cor	ifirm the absence	of indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-2	10YR 5/1	90	10YR 5/8	10	С	PL/M	Loamy/Clayey	Distinct Redox Concentrations	
2-8	10YR 5/1	70	10YR 5/8	30	С	PL	Loamy/Clayey	Prominent Redox Concentrations	
¹ Type: C=	Concentration, D=De	pletion, R	M=Reduced Matrix, M	S=Mask	ed Sand	Grains.		cation: PL=Pore Lining, M=Matrix.	
•	il Indicators:				(00) (1 -			or Problematic Hydric Soils ³ :	
	ol (A1)		Polyvalue Below	Surface	e (S8) (LR	RR,		ick (A10) (LRR K, L, MLRA 149B)	
	Epipedon (A2) Histic (A3)		MLRA 149B) Thin Dark Surface	n (SO) (IDDD M	II DA 1 <i>1</i> 0		rairie Redox (A16) (LRR K, L, R) ucky Peat or Peat (S3) (LRR K, L, R)	
	gen Sulfide (A4)		High Chroma Sa					e Below Surface (S8) (LRR K, L)	
	ed Layers (A5)		Loamy Mucky M			-		k Surface (S9) (LRR K, L)	
	ed Below Dark Surface	ce (A11)	Loamy Gleyed M			1, - /		nganese Masses (F12) (LRR K, L, R)	
	Dark Surface (A12)	00 (/ 11 1)	X Depleted Matrix		-/		Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Mucky Mineral (S1)		Redox Dark Surf	` ′)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Gleyed Matrix (S4)		Depleted Dark S				Red Parent Material (F21)		
	Redox (S5)		? Redox Depression				Very Shallow Dark Surface (TF12)		
	ed Matrix (S6)		Marl (F10) (LRR				Other (Explain in Remarks)		
	Surface (S7)			11, =/				Aprain in remaine)	
3									
	of hydrophytic vegeta Layer (if observed)		wetland hydrology mus	st be pre	esent, unle	ess distu	rbed or problematic		
Type:	e Layer (II Observed)).							
Depth (ir	nches):						Hydric Soil Pro	esent? Yes X No	
Remarks:							-		
								RCS Field Indicators of Hydric Soils	
version 7.0	March 2013 Errata.	(http://ww	w.nrcs.usda.gov/Interr	et/FSE_	_DOCUMI	ENTS/nro	cs142p2_051293.dd	ocx)	

Project/Site: Trumbull Energy Center	City/County: Lordstown, Trumbull Sampling Date: 12/16/2015
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-29
Investigator(s): B. Slaby and M. Gilmore, EnviroScience, Inc.	Section, Township, Range:
	Local relief (concave, convex, none): concave Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.147784	Long: -80.844698 Datum: WGS84
Soil Map Unit Name: Wadsworth silt loam, 0 to 2 percent slopes (Wt	
Are climatic / hydrologic conditions on the site typical for this time of	
Are Vegetation, Soil, or Hydrologysignifical	
Are Vegetation, Soil, or Hydrologynaturally	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: W-4
PFO. Sample Plot was re-veisited and cerified in 2016.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	y) Surface Soil Cracks (B6)
Surface Water (A1) X Water-Staine	
High Water Table (A2) Aquatic Faur	
Saturation (A3)Marl Deposits	
	ulfide Odor (C1) Crayfish Burrows (C8)
	zospheres on Living Roots (C3) X Saturation Visible on Aerial Imagery (C9) Reduced Iron (C4) Stunted or Stressed Plants (D1)
	Reduction in Tilled Soils (C6) X Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Si	
	in in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inch	nes):
Water Table Present? Yes No X Depth (inch	
Saturation Present? Yes No X Depth (inch	nes): Wetland Hydrology Present? Yes X No
(includes capillary fringe)	to any to a large start of the state of the
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), ir available:
Remarks:	

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VEGETATION – Use scientific names of plants. Sampling Point: SP-29 Absolute Dominant Indicator Tree Stratum (Plot size: 30') Species? Status **Dominance Test worksheet:** % Cover Quercus palustris **FACW** Yes **Number of Dominant Species** 2. Acer rubrum 15 FAC That Are OBL, FACW, or FAC: No 4 (A) 5 **FACW** 3. Ulmus americana No **Total Number of Dominant** 4. Species Across All Strata: 4 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: 105 =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' OBL species x 1 = Frangula alnus FAC **FACW** species 97 x 2 = 194 2. FAC species 23 x 3 = 0 x 4 = 3. FACU species 0 4. **UPL** species 0 x 5 = 5. Column Totals: 126 269 Prevalence Index = B/A =2.13 6. **Hydrophytic Vegetation Indicators:** 8 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 5') X 2 - Dominance Test is >50% Quercus palustris Yes **FACW** X 3 - Prevalence Index is ≤3.0¹ Carex vulpinoidea 5 OBL 4 - Morphological Adaptations¹ (Provide supporting 2. Yes data in Remarks or on a separate sheet) 3. Juncus effusus 1 No OBL 4. Problematic Hydrophytic Vegetation¹ (Explain) 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 13 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes X No __ Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

Depth	Matrix			x Feature		1 2	- .	D
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-3	10YR 3/1	97	5YR 3/4	3	<u>C</u>	PL	Loamy/Clayey	Prominent redox concentrations
3-20	2.5Y 6/1	60	7.5YR 5/8	40		PL/M	Loamy/Clayey	Prominent redox concentrations
		<u> </u>			<u>-</u>			
		<u> </u>			<u>_</u>			
		pletion, R	M=Reduced Matrix, M	S=Mask	ed Sand (Grains.		cation: PL=Pore Lining, M=Matrix.
Histos Histic Black Hydrog Stratifi X Deplet Thick I Sandy Sandy Strippe Dark S	Epipedon (A2) Histic (A3) gen Sulfide (A4) ed Layers (A5) ed Below Dark Surfa Dark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) ed Matrix (S6) Surface (S7)	ation and	Polyvalue Below MLRA 149B) Thin Dark Surfar High Chroma Sar Loamy Mucky M Loamy Gleyed M X Depleted Matrix Redox Dark Sur Depleted Dark Sur Depleted Dark S X Redox Depressi Marl (F10) (LRR	ce (S9) (I ands (S1: lineral (F Matrix (F2 (F3) face (F6) Surface (F ons (F8)	LRR R, M 1) (LRR M 1) (LRR M 2)	ILRA 149 (, L) (, L)	2 cm Mu ? Coast Pr S cm Mu Polyvalu Thin Dar Iron-Mar Piedmor Mesic Sp Red Pare Very Sha Other (E	or Problematic Hydric Soils ³ : ack (A10) (LRR K, L, MLRA 149B) rairie Redox (A16) (LRR K, L, R) acky Peat or Peat (S3) (LRR K, L, R) be Below Surface (S8) (LRR K, L) reduction of the soil of t
Depth (in	nches):						Hydric Soil Pre	esent? Yes X No
			al and Northeast Regi w.nrcs.usda.gov/Interi					RCS Field Indicators of Hydric Soils

Project/Site: Trumbull Energy Center	City/County: Lordstown, Trumbull Sampling Date: 12/16/2015
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-30
Investigator(s): B. Slaby and M. Gilmore, EnviroScience, Inc.	Section, Township, Range:
-	Local relief (concave, convex, none): convex Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.147905	Long: -80.843921 Datum: WGS84
Soil Map Unit Name: Wadsworth silt loam, 0 to 2 percent slopes (What a client is the control of	
Are climatic / hydrologic conditions on the site typical for this time of	
Are Vegetation, Soil, or Hydrologysignifican	
Are Vegetation, Soil, or Hydrologynaturally	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes No X	within a Wetland? Yes No X
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:
Forest. Sample plot was re-visited and verified in 2016.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	
l 	Drainage Patterns (B10)
High Water Table (A2) Aquatic Faun	
Saturation (A3)Marl Deposits	
	ulfide Odor (C1) Crayfish Burrows (C8)
	zospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
	Reduced Iron (C4) Stunted or Stressed Plants (D1) Seduction in Tilled Soils (C6) Commercial Resistant (D2)
	Reduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Thin Muck St	urface (C7)Shallow Aquitard (D3) in in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	A The House Tool (50)
Surface Water Present? Yes No X Depth (inch	roct.
Water Table Present? Yes No X Depth (inch	
Saturation Present? Yes No X Depth (inch	
(includes capillary fringe)	Totalia Tyarology 1 1000m.
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
3 3 7 3 7	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Remarks:	

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Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Quercus palustris	75	Yes	FACW	
Populus grandidentata	20	Yes	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
3. Ulmus americana	5	No	FACW	Total Number of Dominant
4.				Species Across All Strata: 6 (B)
5.				Descent of Deminent Species
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)
7.				Prevalence Index worksheet:
	100	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:15')				OBL species 0 x 1 = 0
1. Frangula alnus	15	Yes	FAC	FACW species 90 x 2 = 180
2.				FAC species 26 x 3 = 78
3.				FACU species 20 x 4 = 80
4.				UPL species 2 x 5 = 10
5.				Column Totals: 138 (A) 348 (B)
6.				Prevalence Index = B/A = 2.52
7.				Hydrophytic Vegetation Indicators:
	15	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5')				X 2 - Dominance Test is >50%
1. Doellingeria umbellata	10	Yes	FACW	3 - Prevalence Index is ≤3.0 ¹
2. Frangula alnus	5	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting
3. Rubus occidentalis	2	No	UPL	data in Remarks or on a separate sheet)
4. Unknown dicot	2	No	NL	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Prunella vulgaris	1	No	FAC	Indicators of hydric call and watland hydrology must
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
9				at breast height (DBH), regardless of height.
10.				Sapling/shrub – Woody plants less than 3 in. DBH
11.				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	20	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:30')				Woody vines – All woody vines greater than 3.28 ft in
1. Toxicodendron radicans	5	Yes	FAC	height.
2				1
3				Hydrophytic Vegetation
4				Present? Yes X No
	5	=Total Cover		
Pomarka: (Include photo numbers here or on a cond				•

Remarks: (Include photo numbers here or on a separate sheet.)

Unknown dicot possibly Claytonia virginica confused about warm December weather.

SOIL Sampling Point: SP-30 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) % Color (moist) Loc² (inches) Type¹ Texture Remarks 10YR 4/3 0-15 100 Loamy/Clayey refusal at 15 inches (roots/rocks) ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Stripped Matrix (S6) Marl (F10) (LRR K, L) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): **Hydric Soil Present?** No This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 30 Aug 2016
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-31
Investigator(s): N.Knowles; EnviroScience, Inc.	Section, Township, Range:
Landform (hillside, terrace, etc.): depression	Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.147003	Long: -80.844312 Datum: WGS 84
Soil Map Unit Name: Wadsworth silt loam, 0 to 2 percent slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of	
Are Vegetation, Soil, or Hydrologysignification	
Are Vegetation, Soil, or Hydrologynaturally	y problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-17
Remarks: (Explain alternative procedures here or in a separate rep	
PFO	, and the second
HYDROLOGY	
	Secondary Indicators (minimum of two required)
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required) Y Surface Soil Cracks (R6)
Primary Indicators (minimum of one is required; check all that apply	
Surface Water (A1) High Water Table (A2) X Water-Staine Aquatic Faur	
Saturation (A3) Aquatic Faur Marl Deposit	
	ulfide Odor (C1) Crayfish Burrows (C8)
	izospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
	Reduced Iron (C4) Stunted or Stressed Plants (D1)
	Reduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck S	· / - · · · · · · · · · · · · · · · · ·
l 	ain in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inch	nes):
Water Table Present? Yes No X Depth (inch	
Saturation Present? Yes No X Depth (inch	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
Remarks:	

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	olants.			Sampling F	Point: SP-31
<u>Tree Stratum</u> (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Quercus palustris	45	Yes	FACW	Number of Dominant Species	
2. Acer saccharum	40	Yes	FACU	That Are OBL, FACW, or FAC:	(A)
3. Fraxinus pennsylvanica	15	No	FACW	Total Number of Dominant	
4.	_			Species Across All Strata:	(B)
5.	-	·		Develop of Deminent Charles	
6.				Percent of Dominant Species That Are OBL, FACW, or FAC:	(A/E
7.				Prevalence Index worksheet:	
		=Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15')				x 1 =
1	,,				x 2 =
_					x 3 =
				·	x 4 =
1					x 5 =
					· · · · · · · · · · · · · · · · · · ·
5.					(A)(E
6.				Prevalence Index = B/A	<u> </u>
7				Hydrophytic Vegetation Indic	
		=Total Cover		X 1 - Rapid Test for Hydroph	
Herb Stratum (Plot size: 5')				2 - Dominance Test is >50	
1. Frangula alnus	5	Yes	FAC	3 - Prevalence Index is ≤3.	
2				4 - Morphological Adaptati- data in Remarks or on a Problematic Hydrophytic V Indicators of hydric soil and we	separate sheet) (egetation ¹ (Explain)
6.				be present, unless disturbed or	
7. 8.				Definitions of Vegetation Stra	ata:
9.				Tree – Woody plants 3 in. (7.6 at breast height (DBH), regardl	
10 11				Sapling/shrub – Woody plants and greater than or equal to 3.2	
12.					
	5	=Total Cover		Herb – All herbaceous (non-wood of size, and woody plants less	
Woody Vine Stratum (Plot size: 30' 1.				Woody vines – All woody vine height.	s greater than 3.28 ft i
2					
_	_			Hydrophytic Vegetation	
3.				Present? Yes X	No
1				_	
	-	=Total Cover			

Depth	scription: (Describe Matrix	to the d	epth needed to docui Redox	ment tn : Feature		or or cor	ifirm the absence o	of indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-2	10YR 2/2	100					Loamy/Clayey		
2-4	10YR 4/1	80	10YR 7/4	20	С	М	Loamy/Clayey		
4-10	10YR 6/4	75	10YR 7/6	15	С	m	Loamy/Clayey	Distinct redox concentrations	
	,								
								_	
						—			
¹ Type: C=	Concentration, D=De	oletion, R	M=Reduced Matrix, MS	S=Mask	ed Sand (Grains.	² Loc	ation: PL=Pore Lining, M=Matrix.	
	I Indicators:	,	,					r Problematic Hydric Soils ³ :	
	ol (A1)		Polyvalue Below	Surface	e (S8) (LR	RR,		ck (A10) (LRR K, L, MLRA 149B)	
	Epipedon (A2)		MLRA 149B)	(00) (airie Redox (A16) (LRR K, L, R)	
	Histic (A3) gen Sulfide (A4)		Thin Dark Surface High Chroma Sa					cky Peat or Peat (S3) (LRR K, L, R) Below Surface (S8) (LRR K, L)	
_	ed Layers (A5)		Loamy Mucky Mi			-		Surface (S9) (LRR K, L)	
	ed Below Dark Surfa	ce (A11)	Loamy Gleyed M			ν, Ξ/	_	ganese Masses (F12) (LRR K, L, R)	
	Dark Surface (A12)	,	X Depleted Matrix (,		_	Floodplain Soils (F19) (MLRA 149B)	
Sandy	Mucky Mineral (S1)		Redox Dark Surf	ace (F6))		_	odic (TA6) (MLRA 144A, 145, 149B)	
Sandy	Gleyed Matrix (S4)		Depleted Dark S	urface (F7)		Red Pare	nt Material (F21)	
Sandy	Redox (S5)		? Redox Depressions (F8)				Very Shallow Dark Surface (TF12)		
Strippe	ed Matrix (S6)		Marl (F10) (LRR K, L)				Other (Explain in Remarks)		
Dark S	Surface (S7)								
³ Indicators	of hydrophytic vegeta	ation and	wetland hydrology mus	st be pre	esent. unle	ess distur	rbed or problematic.		
	Layer (if observed)								
Type:									
Depth (ir	nches):						Hydric Soil Pre	sent? Yes X No	
			al and Northeast Regic w.nrcs.usda.gov/Intern					CS Field Indicators of Hydric Soils cx)	

Project/Site: Trumbull Energy Center	City/County: Lordstown	n/Trumbull	Sampling Date: 30 Aug 2016		
Applicant/Owner: TetraTech		State:	OH Sampling Point: SP-32		
Investigator(s): N.Knowles; EnviroScience, Inc.	Section, Township, Ran	nge:			
Landform (hillside, terrace, etc.): flat	Local relief (concave, con		Slope (%):		
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.1446		ng: -80.844173	Datum: WGS 84		
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes			ication: N/A		
Are climatic / hydrologic conditions on the site typical for this tin		No (If no, explain			
Are Vegetation, Soil, or Hydrologysign		rmal Circumstances" pro			
Are Vegetation, Soil, or Hydrologynat	urally problematic? (If need	ed, explain any answers	in Remarks.)		
SUMMARY OF FINDINGS – Attach site map sho	wing sampling point loo	cations, transects,	important features, etc.		
Hydrophytic Vegetation Present? Yes 0 No	X Is the Sampled Ar	ea			
Hydric Soil Present? Yes No			No X		
Wetland Hydrology Present? Yes No	X If yes, optional Wet				
Remarks: (Explain alternative procedures here or in a separate	e report.)				
Open Field	•				
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indic	cators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that	apply)	•	il Cracks (B6)		
	Stained Leaves (B9)		atterns (B10)		
	Fauna (B13)	Moss Trim			
	posits (B15)		Dry-Season Water Table (C2)		
Water Marks (B1) Hydrogo	en Sulfide Odor (C1)	Crayfish Bu	rrows (C8)		
Sediment Deposits (B2) Oxidize	d Rhizospheres on Living Roots	Saturation	Visible on Aerial Imagery (C9)		
Drift Deposits (B3) Presence	ce of Reduced Iron (C4)	Stunted or	Stressed Plants (D1)		
Algal Mat or Crust (B4) Recent	Iron Reduction in Tilled Soils (C	Geomorphic	c Position (D2)		
Iron Deposits (B5) Thin Mu	ick Surface (C7)	Shallow Aq	uitard (D3)		
	Explain in Remarks)		raphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		FAC-Neutra	al Test (D5)		
Field Observations:					
	(inches):				
	(inches):				
	(inches): Wetla	and Hydrology Present	? Yes No X		
(includes capillary fringe)	I photos, provious inspections)	if available:			
Describe Recorded Data (stream gauge, monitoring well, aeria	i priotos, previous inspections),	, ii avaliable.			
Remarks:					

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	Absolute	Dominant	Indicator	Sampling Point: SP-32	_
Tree Stratum (Plot size:30')	% Cover	Species?	Status	Dominance Test worksheet:	
1				Number of Dominant Species	
2.				•	A)
3.				Total Number of Dominant	
4.	· · ·				B)
5.					
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A	A/B)
7.				Prevalence Index worksheet:	
		=Total Cover		Total % Cover of: Multiply by:	
Sapling/Shrub Stratum (Plot size: 15'	·	•		OBL species 0 x 1 = 0	-
1.	,			FACW species 15 x 2 = 30	-
					-
				_ ·	-
3.				FACU species 55 x 4 = 220	-
4		- ——		UPL species 0 x 5 = 0	-
5		- —		Column Totals: 100 (A) 340	- (B)
6.				Prevalence Index = B/A = 3.40	_
7				Hydrophytic Vegetation Indicators:	
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation	
Herb Stratum (Plot size: 5')				2 - Dominance Test is >50%	
Solidago rugosa	30	Yes	FAC	3 - Prevalence Index is ≤3.0 ¹	
2. Solidago canadensis	25	Yes	FACU	4 - Morphological Adaptations ¹ (Provide suppo	ortin
3. Rubus allegheniensis	15	No	FACU	data in Remarks or on a separate sheet)	
4. Doellingeria umbellata	15	No	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Poa pratensis	15	No	FACU	¹ Indicators of hydric soil and wetland hydrology mu	ıot
6.				be present, unless disturbed or problematic.	มรเ
7.				Definitions of Vegetation Strata:	
8.					
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diar at breast height (DBH), regardless of height.	nete
		-			
10				Sapling/shrub – Woody plants less than 3 in. DB and greater than or equal to 3.28 ft (1 m) tall.	Н
11				and greater than or equal to 3.20 it (1 iii) tall.	
12	100	T		Herb – All herbaceous (non-woody) plants, regard	less
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.	
Woody Vine Stratum (Plot size: 30'				Woody vines – All woody vines greater than 3.28	ft in
1		·		height.	
2		- ——		Hydrophytic	
3.				Vegetation	
				Present?	
4.		=Total Cover			

SOIL Sampling Point: SP-32 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) % Color (moist) Loc² (inches) Type¹ Texture Remarks 10YR 4/4 0-12 100 Loamy/Clayey ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): **Hydric Soil Present?** No This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site: Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 30 Aug 2016
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-33
Investigator(s): N.Knowles; EnviroScience, Inc.	Section, Township, Range:
Landform (hillside, terrace, etc.): depression	Local relief (concave, convex, none): concave Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.14366	
Soil Map Unit Name: Wadsworth silt loam, 0 to 2 percent slopes	
Are climatic / hydrologic conditions on the site typical for this time	
Are Vegetation, Soil, or Hydrologysigni	
Are Vegetation, Soil, or Hydrologynatu	
	ving sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-7
PSS	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that a	
1 ——	tained Leaves (B9) Drainage Patterns (B10) Maga Trip Haga (B40)
l 	Fauna (B13) Moss Trim Lines (B16) Dry Second Wester Table (C2)
1 	Dry-Season Water Table (C2) Dry-Season Water Table (C2) X Crayfish Burrows (C8)
- 	n Sulfide Odor (C1) Rhizospheres on Living Roots (C3) X Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
1 	e of Reduced Iron (C4) Stunted or Stressed Plants (D1)
1 	ron Reduction in Tilled Soils (C6) Geomorphic Position (D2)
1 -	ck Surface (C7) Shallow Aquitard (D3)
1 	xplain in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
<u> </u>	(inches):
	(inches):
· — —	(inches): Wetland Hydrology Present? Yes X No
(includes capillary fringe)	abote a serieus increations) if qualishing
Describe Recorded Data (stream gauge, monitoring well, aerial	photos, previous inspections), if available:
Remarks:	

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VEGETATION – Use scientific names of plants. Sampling Point: SP-33 Dominant Absolute Indicator Species? <u>Tree Stratum</u> (Plot size: 30') % Cover Status **Dominance Test worksheet: Number of Dominant Species** 2. That Are OBL, FACW, or FAC: (A) 3. Total Number of Dominant 4. Species Across All Strata: (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: Prevalence Index worksheet: Multiply by: =Total Cover Total % Cover of: Sapling/Shrub Stratum (Plot size: _____15' OBL species ___ x 1 = ___ FACW species x 2 = _____ Cornus racemosa FAC FAC 2. Frangula alnus 10 Yes FAC species x 3 = ___ Yes 3. Viburnum lentago 10 FAC FACU species x 4 = 4. UPL species x 5 = 5. Column Totals: 6. Prevalence Index = B/A =**Hydrophytic Vegetation Indicators:** 35 =Total Cover X 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% Herb Stratum (Plot size: 5') Typha angustifolia 25 Yes OBL 3 - Prevalence Index is ≤3.01 Epilobium coloratum 15 OBL 4 - Morphological Adaptations (Provide supporting 2. Yes data in Remarks or on a separate sheet) 3. Glyceria striata 15 Yes OBL 4. Carex crinita 10 No OBL Problematic Hydrophytic Vegetation¹ (Explain) 5. Agrimonia parviflora 10 No **FAC** ¹Indicators of hydric soil and wetland hydrology must 10 OBL 6. Carex stipata No be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. **Herb** – All herbaceous (non-woody) plants, regardless 85 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes X No ___ Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: SP-33

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Feature	Type ¹	Loc ²	Texture	Remarks
0-16	10YR 5/1	90	2.5YR 3/6	10	C	PL	Loamy/Clayey	Prominent redox concentrations
	1011(0/1		2.011(0,0		<u> </u>	<u> </u>	Loamyrolayey	Tromment redox concentrations
¹ Type: C=	Concentration, D=Dep	oletion, R	M=Reduced Matrix, M	S=Maske	ed Sand (Grains.	² Lo	cation: PL=Pore Lining, M=Matrix.
-	il Indicators:							or Problematic Hydric Soils ³ :
	sol (A1)		Polyvalue Below	/ Surface	(S8) (LR	RR,		uck (A10) (LRR K, L, MLRA 149B)
	Epipedon (A2)		MLRA 149B)	(CO) (I	DD D M	U DA 440		rairie Redox (A16) (LRR K, L, R)
	Histic (A3) gen Sulfide (A4)		Thin Dark Surfa High Chroma Sa				· —	ucky Peat or Peat (S3) (LRR K, L, R) ue Below Surface (S8) (LRR K, L)
	ied Layers (A5)		Loamy Mucky M			-		rk Surface (S9) (LRR K, L)
	ted Below Dark Surfac	ce (A11)	Loamy Gleyed N			ν, Ε)		nganese Masses (F12) (LRR K, L, R)
	Dark Surface (A12)	(- ()	X Depleted Matrix		,			nt Floodplain Soils (F19) (MLRA 149B)
Sandy	Mucky Mineral (S1)		Redox Dark Sur					podic (TA6) (MLRA 144A, 145, 149B)
Sandy	Gleyed Matrix (S4)		Depleted Dark S	Surface (F	7)		Red Par	ent Material (F21)
Sandy	Redox (S5)		? Redox Depressi	ons (F8)			Very Sh	allow Dark Surface (TF12)
	ed Matrix (S6)		Marl (F10) (LRR	K, L)			Other (E	explain in Remarks)
Dark S	Surface (S7)							
31	of headers had a conseque	Cara and	tland budadaan			P	de e de e e e e la la casa Ca	
	of nydropnytic vegeta e Layer (if observed)		wetland hydrology mu	st be pre	sent, unie	ess aistur	bed or problemation).
Type:	e Layer (II Observed)	-						
Depth (ii	achos):						Hydric Soil Pr	esent? Yes X No
	icries).						Hydric Soil Fi	esent? Yes X No No
Remarks:	orm is revised from N	orthcentr	al and Northeast Regi	onal Suni	nlament \	/arsion 2	0 to include the NI	RCS Field Indicators of Hydric Soils
			w.nrcs.usda.gov/Inter					

Project/Site: _Trumbull Energy Center	City/County: Lordstown/Trumbull Sampling Date: 30 Aug 2016
Applicant/Owner: TetraTech	State: OH Sampling Point: SP-34
Investigator(s): A. Gilmore, L.Sayre; EnviroScience, Inc.	Section, Township, Range:
Landform (hillside, terrace, etc.): depression	Local relief (concave, convex, none): concave Slope (%):
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.143512	Long: -80.846158 Datum: WGS 84
Soil Map Unit Name: Ct - Condit silt loam	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of	
Are Vegetation, Soil, or Hydrologysignifical	
Are Vegetation, Soil, or Hydrologynaturally	
	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland W-7
PFO.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	
Surface Water (A1) X Water-Staine	
High Water Table (A2) Aquatic Faur	and its above the control of the con
Saturation (A3)Marl Deposit	
	ulfide Odor (C1) Crayfish Burrows (C8)
l 	izospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Reduced Iron (C4) Stunted or Stressed Plants (D1)
-	Reduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Si	
-	in in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inch	nes):
Water Table Present? Yes No X Depth (inch	
Saturation Present? Yes No X Depth (inch	nes): Wetland Hydrology Present? Yes X No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
Remarks:	

Northcentral and Northeast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: SP-34 Absolute Dominant Indicator Tree Stratum (Plot size: 30') Species? Status **Dominance Test worksheet:** % Cover Quercus palustris Yes **FACW Number of Dominant Species** 20 2. Acer rubrum Yes FAC That Are OBL, FACW, or FAC: 7 (A) 20 **FACW** 3. Ulmus americana Yes Total Number of Dominant 4. Species Across All Strata: 7 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: 65 =Total Cover Multiply by: Total % Cover of: Sapling/Shrub Stratum (Plot size: 15' OBL species __ x 1 = ___ Frangula alnus FACW species x 2 = ____ 10 FAC Quercus palustris 5 Yes **FACW** FAC species x 3 = ___ 3. FACU species x 4 = 4. UPL species x 5 = 5. Column Totals: 6. Prevalence Index = B/A =**Hydrophytic Vegetation Indicators:** 15 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 5') X 2 - Dominance Test is >50% Quercus palustris Yes **FACW** 3 - Prevalence Index is ≤3.01 5 2. Glyceria striata Yes OBL 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 3. 4. Problematic Hydrophytic Vegetation¹ (Explain) 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 10 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines – All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes X No __ Present? =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

Depth	scription: (Describe Matrix	e to the d	epth needed to docu Redo:	ment the c Feature		or or cor	ntirm the absence	of indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-4	10YR 5/1	80	10YR 5/8	20	С	М	Loamy/Clayey	Prominent redox concentrations	
4-10	10YR 6/2	75	10YR 6/8	25	С	М	Loamy/Clayey	Prominent redox concentrations	
		—		—					
		pletion, R	M=Reduced Matrix, M	S=Mask	ed Sand (Grains.		cation: PL=Pore Lining, M=Matrix.	
•	il Indicators:		5 5.	0 ((OO) (I D			or Problematic Hydric Soils ³ :	
	ol (A1) Epipedon (A2)		Polyvalue Below MLRA 149B)	Surface	e (S8) (LR	кк,		ck (A10) (LRR K, L, MLRA 149B) airie Redox (A16) (LRR K, L, R)	
	Histic (A3)		,	re (S9) (IRRR M	II RA 149		cky Peat or Peat (S3) (LRR K, L, R)	
	gen Sulfide (A4)		Thin Dark Surface (S9) (LRR R, MLRA 149B High Chroma Sands (S11) (LRR K, L)				Polyvalue Below Surface (S8) (LRR K, L)		
	ed Layers (A5)		Loamy Mucky Mineral (F1) (LRR K, L)				Thin Dark Surface (S9) (LRR K, L)		
	ed Below Dark Surface	ce (A11)	Loamy Gleyed N			-, -/		iganese Masses (F12) (LRR K, L, R)	
	Dark Surface (A12)	(, , , ,	X Depleted Matrix		-/		Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Mucky Mineral (S1)		Redox Dark Surface (F6)				Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Gleyed Matrix (S4)		Depleted Dark S					ent Material (F21)	
	Redox (S5)		? Redox Depressions (F8)				Very Shallow Dark Surface (TF12)		
	ed Matrix (S6)		Marl (F10) (LRR K, L)				Other (Explain in Remarks)		
	Surface (S7)						Other (Explain in Remarks)		
	()								
³ Indicators	of hydrophytic vegeta	ation and	wetland hydrology mu	st be pre	esent, unle	ess distu	rbed or problematic		
	e Layer (if observed)):							
Type:									
Depth (ir	nches):						Hydric Soil Pre	esent? Yes X No	
Remarks:	orm is revised from N	lorthcentr	al and Northeast Pegi	anal Sun	ınlement \	Jersian 2	O to include the NE	RCS Field Indicators of Hydric Soils	
			w.nrcs.usda.gov/Interr						
			_						

Appendix D: Ohio Rapid Assessment Method for Wetlands v. 5.0 Rating Forms

Background Information

Background information	
Name: Laura Sayre	
Date: 8/26/2016	
Affiliation: EnviroScience, Inc.	
Address: 5070 Stow Road, Stow Ohio 44224	
Phone Number: 330-688-0111	
e-mail address: LSayre@EnviroScienceInc.com	
Name of Wetland: W-1, W-2, W-5, and W-9	-
Vegetation Communit(ies): PEM/PSS/PFO	
HGM Class(es): Riverine	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to site wetlands and water resources map.	
Lat/Long or UTM Coordinate 41.14547	i 9N, -80.852313W ·
USGS Quad Name	Warren
County	Trumbull
Township	Lordstown Township
Section and Subsection	
Hydrologic Unit Code	05030103
Site Visit	2/2016, 8/2016
National Wetland Inventory Map	attached
Ohio Wetland Inventory Map	
Soil Survey	attached

attached

Delineation report/map

Name of Wetland: W-1, W-2, W-5, and W-9		
Wetland Size (acres, hectares): 18.94 ac. onsite, Approxi		
Sketch: Include north arrow, relationship with other surface waters	vegetation zones, etc.	
Please refer to site wetlands and water resources	map.	
Comments, Narrative Discussion, Justification of Category Change	s:	
Final score: 52	Category:	2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	Х	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	Х	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	†
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

			_
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	NO
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
-10	Lake Bleig Count Busines (Oak Openings) to the continued to extend in	Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this	Go to Question 11	
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	YES Wetland should be evaluated for possible Category 3 status	NO Complete Quantitative Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		_
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site:	Trumbu	ıll Energy Center	Rater(s): Laura Sayre	Date: 8/26/2016		
4	4	Metric 1. Wetland Area	a (size).			
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) 4 10 to <25 acres (4 to <10.1 ha) (4 pts) 3 to <10 acres (1.2 to <4 ha) (3 pts) 0.3 to < 3 acres (012 to <1.2ha) (2 pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)				
9	13	•	rs and surrounding lan			
max 14 pts.	subtotal	4 MEDIUM. Buffers average 25 NARROW. Buffers average 1 VERY NARROW. Buffers ave 2b. Intensity of surrounding land use. Sele 7 VERY LOW. 2nd growth or ol LOW. Old field (>10 years), sl 3 MODERATELY HIGH. Reside	(164 ft) or more around wetland perimeter (m to <50m (82 to <164ft) around wetland p 0m to <25m (32ft to <82ft) around wetland erage <10m (<32ft) around wetland perimet	(7) perimeter (4) perimeter (1) ter (0) etc. (7) illage, new fallow field. (3)		
16	29	Metric 3. Hydrology.				
max 30 pts. 3c. Maxim	subtotal num water dep	3a. Sources of Water. Score all that apply High pH groundwater (5) Other groundwater (3) 1 Precipitation (1) 3 Seasonal/Intermittent surface Perennial surface water (lake of the Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) 1 <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic regions.	water (3) or stream (5)) ime. Score one or double check and avera	3b. Connectivity. Score all that apply. 1 100 year floodplain (1) 1 Between stream/lake and other human use (1) Part of wetland/upland (e.g. forest), complex (1) 1 Part of riparian or upland corridor (1) on/saturation. Score one or dbl check. Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3) 2 Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) age.		
		None or none apparent (12) 7 Recovered (7) 3 Recovering (3) Recent or no recovery (1)	Check all disturbances observed X ditch tile X dike weir X stormwater input	point source (nonstormwater) X filling/grading X road bed/RR track dredging Other:		
13 max 20 pts.	42 subtotal	4a. Substrate disturbance. Score one or of the state of t	and assign score. e check and average. Check all disturbances observed			
		6 Recovered (6) 3 Recovering (3) Recent or no recovery (1)	X mowing grazing X clearcutting	X shrub/sapling removal herbaceous/aquatic bed removal X sedimentation		
	42		selective cutting X woody debris removal X toxic pollutants	dredging farming nutrient enrichment		

Site:	Trumbı	ull Ener	gy Center	Rater(s): La	ura Sayre	12/16/201	5
5	42 subtotal first pag	Je					
0	42	Metric	5. Special Wet	lands.			
max 10 pts.	subtotal	Check all th	nat apply and score as indica	ated.			
			Bog (10)				
			Fen (10)				
			Old growth forest (10)				
			Mature forested wetland (5)	-	(40)		
			Lake Erie coastal/tributary	_			
			Lake Erie coastal/tributary Lake Plain Sand Prairies (C		logy (3)		
			Relict Wet Prairies (10)	Jak Operings) (10)			
			Known occurrence state/fee	deral threatened or end	angered species (10)		
			Significant migratory songb			,	
			Category 1 Wetland. See (
40		Metric				nicrotopography.	
10 max 20 pts.	52 subtotal		nd Vegetation Communities.	-	ation Community Co		
			resent using 0 to 3 scale.		0	Absent or comprises <0.1ha (0.2471 acres) contiguous area	_
			Aquatic bed		1	Present and either comprises small part of wetland's vegetation and of moderate quality, or comprises a significant part but is of low qua	
		2	Emergent				
		2	Shrub		2	Present and either comprises significant part of wetland's vegetation and is of moderate quality, or comprises a small part and is of high	1
		2	Forest			quality.	
			Mudflats		3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality.	
			Open Water				
			Other	No		A control of the control	
		Score only	ntal (plan view) Interspersion one.	n. Narrat	ive Description of V	Low spp diversity and/or predominance of nonnative or disturbance	_
			High (5)		low	tolerant native species	
		4	Moderately high (4)		mod	Native spp are dominant component of the vegetation, although	_
			Moderate (3)			nonnative and/or disturbance tolerant native spp can also be preser and species diversity moderate to moderately high, but generally w/	
			Moderately low (2)			presence of rare, threatened, or endangered spp	
			Low (1)		high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high	
			None (0)			spp diversity and often, but not always, the presence of rare,	
			ige of invasive plants. Refer AM long form for list. Add o		nt and Open Water C	threatened, or endangered spp	_
			nts for coverage.	Widdle	0	Absent <0.1ha (0.247 acres)	_
		-5	Extensive >75% cover (-5)		1	Low 0.1 to <1ha (0.247 to 2.47 acres)	
			Moderate 25-75% cover (-3	3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)	
			Sparse 5-25% cover (-1)		3	High 4ha (9.88 acres) or more	
			Nearly absent <5% cover (0) Microt	opography Cover S	Scale	
			Absent (1)		0	Absent	
		6d. Microto	ppography. resent using 0 to 3 scale.		1	Present in very small amounts or if more common of marginal qualit	iv
		1	Vegetated hummucks/tuss	ucks			_
		2	Coarse woody debris >15cl		2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality	
		1	Standing dead >25cm (10ir				_
		1	Amphibian breeding pools		3	Present in moderate or greater amounts and of highest quality	
52	GRANI		L (max 100 pts			·	
U Z		I <i>F</i>	- tillax ioo pto	,			

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	4	
J	Metric 2. Buffers and surrounding land use	9	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	13	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	10	
	TOTAL SCORE	52	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM	
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM	
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.	
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM	
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.	
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).	
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, loca or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.	

	Fir	nal Category	
Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Buokground information	
Name: Laura Sayre	
Date: 8/26/2016	
Affiliation: EnviroScience, Inc.	
Address: 5070 Stow Road, Stow Ohio 44224	
Phone Number: 330-688-0111	
e-mail address: LSayre@EnviroScienceInc.com	
Name of Wetland: W-3 and W-4	
Vegetation Communit(ies): PFO	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to site wetlands and water resources map.	
Lat/Long or UTM Coordinate 41.14445	l 1N, -80.850574W
USGS Quad Name	Warren
County	Trumbull
Township	Lordstown Township
Section and Subsection	
Hydrologic Unit Code	05030103
Site Visit	2/2016, 8/2016
National Wetland Inventory Map	attached
Ohio Wetland Inventory Map	
Soil Survey	attached
Delineation report/map	attached

Name of Wetland: W-3 and W-4	
Wetland Size (acres, hectares): $W-3 = 0.272$ ac.; $W-4 = 1.951$ ac.	,
Sketch: Include north arrow, relationship with other surface waters, vegetation zone	s, etc.
Please refer to site wetlands and water resources map.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score: 39	Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	х	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	Х	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

			_
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	NO
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
-10	Lake Bleig Count Busines (Oak Openings) to the continued to extend in	Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this	Go to Question 11	
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	YES Wetland should be evaluated for possible Category 3 status	NO Complete Quantitative Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		Ţ.
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site:	Trumbu	III Energy Center	Rater(s): Laura Sayre	Date: 8/26/2016
				•
2	2	Metric 1. Wetland Area	a (size).	
max 6 pts.	subtotal	Select one size class and assign sco	ore.	
		>50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2	tha) (5 nte)	
		10 to <25 acres (4 to <10.1 ha	, , , ,	
		3 to <10 acres (1.2 to <4 ha) (
		2 0.3 to < 3 acres (012 to <1.2ha		
		0.1 to <0.3 acres (0.04 to <0.1 <0.1 acres (0.04ha) (0 pts)	2na) (1 pt)	
9	11	Metric 2. Upland buffe		
max 14 pts.	subtotal	2a. Calculate average buffer width. Selec	t only one and assign score. Do not double 164 ft) or more around wetland perimeter	
			m to <50m (82 to <164ft) around wetland p	
			0m to <25m (32ft to <82ft) around wetland	
			erage <10m (<32ft) around wetland perime	ter (0)
		2b. Intensity of surrounding land use. Selection VERY LOW. 2nd growth or old	der forest, prairie, savannah, wildlife area,	etc. (7)
			hrubland, young second growth forest. (5)	.,
			ential, fenced pasture, park, conservation t	-
		nigh. Orban, industrial, open	pasture, row cropping, mining, construction	л. (1)
12	23	Metric 3. Hydrology.		
max 30 pts.	subtotal	3a. Sources of Water. Score all that apply	/.	3b. Connectivity. Score all that apply.
		High pH groundwater (5) Other groundwater (3)		100 year floodplain (1) Between stream/lake and other human use (1)
		1 Precipitation (1)		1 Part of wetland/upland (e.g. forest), complex (1)
		Seasonal/Intermittent surface	* /	Part of riparian or upland corridor (1)
		Perennial surface water (lake	or stream (5)	v/saturation. Score one or dbl check.
3c. Maxim	um water dep	th. Select only one and assign score. >0.7 (27.6in) (3)		Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3)
		0.4 to 0.7m (15.7 to 27.6in) (2)		2 Seasonally inundated (2)
		1 <0.4m (<15.7in) (1)	:	Seasonally saturated in upper 30cm (12in) (1)
		3e. Modifications to natural hydrologic reg None or none apparent (12)	Check all disturbances observed	age.
		7 Recovered (7)	ditch	point source (nonstormwater)
		Recovering (3)	tile	X filling/grading
		Recent or no recovery (1)	dike weir	road bed/RR track dredging
			stormwater input	Other: Mowed Easement
13	36	Metric 4. Habitat Alteri	nation and Develonmer	nt .
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or o	• • • • • • • • • • • • • • • • • • •	16.
		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)		
		4 Moderately good (4)		
		Fair (3)		
		Poor to fair (2) Poor (1)		
		4c. Habitat alteration. Score one or doubl	e check and average.	
		None or none apparent (9)	Check all disturbances observed	
		6 Recovered (6) Recovering (3)	mowing	shrub/sapling removal herbaceous/aquatic bed removal
		Recent or no recovery (1)	grazing clearcutting	sedimentation
	36	<u> </u>	selective cutting	dredging
			woody debris removal	X farming
SI	ubtotal this page		toxic pollutants	nutrient enrichment

Site:	ite: Trumbull Energy Center Rater		Rater(s): Laura Sayre	Date: 8/26/2016			
		1					
	36						
5	subtotal first pag	1		_			
0	36		5. Special Wetla				
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 wet	tland -unrestricted hydrology (10)			
			Lake Erie coastal/tributary wet	tland-restricted hydrology (5)			
			Lake Plain Sand Prairies (Oak	Openings) (10)			
			Relict Wet Prairies (10)				
			Known occurrence state/feder	al threatened or endangered species (10)			
			Significant migratory songbird/	/water fowl habitat or usage (10)			
			Category 1 Wetland. See Que	estion 1 Qualitative Rating (-10)			
3	39	Metric	- : 6. Plant commu	nities, interspersion, m	nicrotopography.		
max 20 pts.	subtotal		nd Vegetation Communities.	Vegatation Community Cove			
			resent using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area		
			Aquatic bed	1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of		
			Emergent	· 	low quality		
			Shrub	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality, or comprises a small part		
		2	Forest		and is of high quality.		
			Mudflats	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality.		
			Open Water		regetation and to or riight quality.		
			Other				
			ntal (plan view) Interspersion.	Narrative Description of Veg			
		Score only	7	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species		
		-	High (5)	mod	Native spp are dominant component of the vegetation, although		
			Moderately high (4)	illou	nonnative and/or disturbance tolerant native spp can also be		
			Moderate (3)		present, and species diversity moderate to moderately high, but generally w/o presence of rare, threatened, or endangered spp		
			Moderately low (2)	high	A predominance of native species, with nonnative spp and/or		
			Low (1)	ılığı	disturbance tolerant native spp absent or virtually absent, and high		
		6c. Covera	None (0) age of invasive plants. Refer to		spp diversity and often, but not always, the presence of rare, threatened, or endangered spp		
			RAM long form for list. Add or	Mudflat and Open Water Cla			
		deduct poir	nts for coverage.	0	Absent <0.1ha (0.247 acres)		
			Extensive >75% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)		
		-3	Moderate 25-75% cover (-3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)		
			Sparse 5-25% cover (-1)	3	High 4ha (9.88 acres) or more		
			Nearly absent <5% cover (0)	Microtopography Cover Sca	ale		
			Absent (1)	0	Absent		
		6d. Microto	opography. resent using 0 to 3 scale.	1	Present in very small amounts or if more common of marginal quality		
		1	Vegetated hummucks/tussuck		77		
		2	Ť	2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality		
		1	Coarse woody debris >15cm (· · · · · · · · · · · · · · · · · · ·	amounts of mynest quality		
		0	Standing dead >25cm (10in) d Amphibian breeding pools	3	Present in moderate or greater amounts and of highest and of highest		
	1				Present in moderate or greater amounts and of highest quality		
. 2U		> TOT	\ \max 100 nta\				

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
Ü	Metric 2. Buffers and surrounding land use	9	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	13	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	39	Category based on score breakpoints Modified 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	-	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category					
Choose one	Category 1	Category 2	Category 3		

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Laura Sayre	
Date: 8/26/2016	
Affiliation: EnviroScience, Inc.	
Address: 5070 Stow Road, Stow Ohio 44224	
Phone Number: 330-688-0111	
e-mail address: LSayre@EnviroScienceInc.com	
Name of Wetland: W-6	
Vegetation Communit(ies): PFO	
HGM Class(es): Depression	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to site wetlands and water resources map.	
Lat/Long or UTM Coordinate 41.14639	3N, -80.84769W
USGS Quad Name	Warren
County	Trumbull
Township	Lordstown Township
Section and Subsection	
Hydrologic Unit Code	05030103
Site Visit	8/2016
National Wetland Inventory Map	attached
Ohio Wetland Inventory Map	
Soil Survey	attached
Delineation report/map	attached

Name of Wetland: W-6	
Wetland Size (acres, hectares): 0.064 ac.	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, or	etc.
Please refer to site wetlands and water resources map.	
Comments, Narrative Discussion, Justification of Category Changes:	
	la
Final score: 35	ategory: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		Х
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

			_
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	NO
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
-10	Lake Bleig Count Busines (Oak Openings) to the continued to extend in	Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this	Go to Question 11	
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	YES Wetland should be evaluated for possible Category 3 status	NO Complete Quantitative Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		Ţ.
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site:	: Trumbull Energy Center			(s): Laura Sayre		Date: 8/26/2016	
		1					
0	0	Metric 1. Wetland Area	•	÷).			
max 6 pts.	subtotal	Select one size class and assign sco >50 acres (>20.2ha) (6 pts)	re.				
		25 to <50 acres (10.1 to <20.2	ha) (5 pts))			
		10 to <25 acres (4 to <10.1 ha					
		3 to <10 acres (1.2 to <4 ha) (3 0.3 to < 3 acres (012 to <1.2ha					
		0.1 to <0.3 acres (0.04 to <0.1)			
	т	0 <0.1 acres (0.04ha) (0 pts)					
8	8	Metric 2. Upland buffe	rs and	d surrounding lan	d use.		
max 14 pts.	subtotal	2a. Calculate average buffer width. Select	t only one	and assign score. Do not double	e check.		
				more around wetland perimeter (7 n (82 to <164ft) around wetland pe			
				5m (32ft to <82ft) around wetland			
			-	m (<32ft) around wetland perimeter	ter (0)		
		2b. Intensity of surrounding land use. Sele		double check and average. , prairie, savannah, wildlife area, e	etc (7)		
				young second growth forest. (5)	610. (1)		
				ced pasture, park, conservation til	-	ow field. (3)	
		HIGH. Urban, industriai, open	pasture, r	row cropping, mining, construction	n. (1)		
10	18	Metric 3. Hydrology.					
max 30 pts.	subtotal	3a. Sources of Water. Score all that apply	/-			tivity. Score all that apply.	
		High pH groundwater (5) Other groundwater (3)				100 year floodplain (1) Between stream/lake and other human use (1)	
		1 Precipitation (1)				Part of wetland/upland (e.g. forest), complex (1)	
		Seasonal/Intermittent surface	٠,,			Part of riparian or upland corridor (1)	
3c Maxim	num water der	Perennial surface water (lake of the Select only one and assign score.	or stream ((5)		Score one or dbl check. Semi- to permanently inundated/saturated (4)	
JU. IVIAAIIII	Ulli Water ucp	>0.7 (27.6in) (3)				Regularly inundated/saturated (3)	
		0.4 to 0.7m (15.7 to 27.6in) (2))			Seasonally inundated (2)	
		1 <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic region	ime. Scor	e one or double check and avera		Seasonally saturated in upper 30cm (12in) (1)	
		None or none apparent (12)	g	all disturbances observed			
		7 Recovered (7)	Х	ditch		point source (nonstormwater)	
		Recovering (3) Recent or no recovery (1)	├──	tile dike		filling/grading road bed/RR track	
				weir		dredging	
				stormwater input		Other: Mowed Easement	
		1 '					
13	31	Metric 4. Habitat Alterr		•	ıt.		
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or o	Jouble che	ck and average.			
		3 Recovered (3)					
		Recovering (2)					
		Recent or no recovery (1) 4b. Habitat development. Select only one	and assig	in score			
		Excellent (7)	and doors	11 30016.			
		Very good (6)					
		Good (5) 4 Moderately good (4)					
		Fair (3)					
	Poor to fair (2)						
		Poor (1) 4c. Habitat alteration. Score one or double	e check ar	nd average.			
		None or none apparent (9)		all disturbances observed			
		6 Recovered (6)		mowing		shrub/sapling removal	
		Recovering (3) Recent or no recovery (1)	├──	grazing clearcutting		herbaceous/aquatic bed removal sedimentation	
1	31	†	Х	selective cutting		dredging	
		1		woody debris removal toxic pollutants		farming	
51	subtotal this page	,a	4	loxic politicarits		nutrient enrichment	

Site:	<u>Trumbu</u>	<u>ıll Ener</u>	gy Center	Rater(s): Laura Sayre	Date: 8/26/2016
		1			
	31				
5	subtotal first page	1			
0	31		5. Special Wetla		
max 10 pts.	subtotal	Check all th	hat apply and score as indicated	d.	
			Bog (10)		
			Fen (10)		
			Old growth forest (10)		
			Mature forested wetland (5)		
			Lake Erie coastal/tributary wet	tland -unrestricted hydrology (10)	
			Lake Erie coastal/tributary wet	tland-restricted hydrology (5)	
			Lake Plain Sand Prairies (Oak	Openings) (10)	
			Relict Wet Prairies (10)		
			Known occurrence state/feder	al threatened or endangered species (10)	
			Significant migratory songbird	/water fowl habitat or usage (10)	
			Category 1 Wetland. See Que	estion 1 Qualitative Rating (-10)	
4	35	Metric	: 6. Plant commu	nities, interspersion, m	icrotopography.
max 20 pts.	subtotal		nd Vegetation Communities.	Vegatation Community Cove	
		Score all pr	resent using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
			Aquatic bed	1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of
			Emergent		low quality
			Shrub	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality, or comprises a small part
		2	Forest		and is of high quality.
			Mudflats	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality.
			Open Water	-	
			Other		
		6b. Horizon Score only	ntal (plan view) Interspersion.	Narrative Description of Vege	
		Oilly	High (5)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
			Moderately high (4)	mod	Native spp are dominant component of the vegetation, although
			Moderate (3)		nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but
			Moderate (3)		generally w/o presence of rare, threatened, or endangered spp
			Low (1)	high	A predominance of native species, with nonnative spp and/or
		0	None (0)		disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare,
			age of invasive plants. Refer to		spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
			RAM long form for list. Add or	Mudflat and Open Water Clas	•
		aeduct poir	nts for coverage.	0	Absent <0.1ha (0.247 acres)
			Extensive >75% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
			Moderate 25-75% cover (-3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
		-1	Sparse 5-25% cover (-1)	3	High 4ha (9.88 acres) or more
			Nearly absent <5% cover (0)	Microtopography Cover Scal	
		6d M4:	Absent (1)	0	Absent Present in very small amounts or if more common of marginal
		6d. Microto Score all pr	opography. resent using 0 to 3 scale.	1	present in very small amounts or it more common of marginal quality
		1	Vegetated hummucks/tussuck	is	Present in moderate amounts, but not of highest quality as in access
		2	Coarse woody debris >15cm (2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
		0	Standing dead >25cm (10in) d	dbh	
		0	Amphibian breeding pools	3	Present in moderate or greater amounts and of highest quality
25	GRANII		_ ·		<u> </u>
35	J GKANL	וטוע	AL (max 100 pts)		

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
J	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	13	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	35	Category based on score breakpoints Modified 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	-	Evaluation of Categorization Result of ORAM	
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM	
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.	
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM	
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.	
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).	
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.	

Final Category					
Choose one	Category 1	Category 2	Category 3		

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Background information	
Name: Laura Sayre	
Date: 8/26/2016	
Affiliation: EnviroScience, Inc.	
Address: 5070 Stow Road, Stow Ohio 44224	
Phone Number: 330-688-0111	
e-mail address: LSayre@EnviroScienceInc.com	
Name of Wetland: W-7 and W-8	
Vegetation Communit(ies): PEM/PSS/PFO	
HGM Class(es): Depression	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to site wetlands and water resources map.	
Lat/Long or UTM Coordinate	/ 7N, -80.845488W
USGS Quad Name	Warren
County	Trumbull
Township	Lordstown
Section and Subsection	Township
Hydrologic Unit Code	05030103
Site Visit	8/2016
National Wetland Inventory Map	attached
Ohio Wetland Inventory Map	
Soil Survey	attached
Delineation report/map	attached

attached

Name of Wetland: W-7 and W-8	
Wetland Size (acres, hectares): $W-7 = 12.848$ ac. onsite; $W-8 = 0.218$	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones	s, etc.
Please refer to site wetlands and water resources map.	
Community Nameting Discoursing Instiffer than of Cotange Charges	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score: 44	Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	х	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	Х	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

			_
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	NO
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
-10	Lake Bleig Count Busines (Oak Openings) to the continued to extend in	Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this	Go to Question 11	
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	YES Wetland should be evaluated for possible Category 3 status	NO Complete Quantitative Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		Ţ.
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site:	Trumbu	III Energy Center	Rater(s): Laura Sayre	Date: 8/26/2016				
		1	-					
4	4 4 Metric 1. Wetland Area (size).							
max 6 pts.	subtotal	Select one size class and assign so	core.					
		>50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.	2ha) (5 pts)					
		4 10 to <25 acres (4 to <10.1 h						
		3 to <10 acres (1.2 to <4 ha)						
		0.3 to < 3 acres (012 to <1.2h 0.1 to <0.3 acres (0.04 to <0.	, , , ,					
		<0.1 acres (0.04ha) (0 pts)	12.10) (1 pt)					
8	12	Motrio 2 Unland buffs		ad uga				
max 14 pts.	subtotal	•	ers and surrounding land ct only one and assign score. Do not double					
max 11 pto.	odbiotai		(164 ft) or more around wetland perimeter					
			5m to <50m (82 to <164ft) around wetland p					
			10m to <25m (32ft to <82ft) around wetland /erage <10m (<32ft) around wetland perime					
		2b. Intensity of surrounding land use. Se		(O)				
			older forest, prairie, savannah, wildlife area,					
			shrubland, young second growth forest. (5) dential, fenced pasture, park, conservation t					
		-	n pasture, row cropping, mining, construction	· · · · · · · · · · · · · · · · · · ·				
10	22	Matria 2 Hudralani						
max 30 pts.	subtotal	Metric 3. Hydrology. 3a. Sources of Water. Score all that app	lv.	3b. Connectivity. Score all that apply.				
max 50 pts.	Subtotal	High pH groundwater (5)	.y.	100 year floodplain (1)				
		Other groundwater (3)		Between stream/lake and other human use (1)				
		1 Precipitation (1) Seasonal/Intermittent surface	a water (3)	1 Part of wetland/upland (e.g. forest), complex (1) Part of riparian or upland corridor (1)				
		Perennial surface water (lake	, ,	/saturation. Score one or dbl check.				
3c. Maxim	num water dep	th. Select only one and assign score.		Semi- to permanently inundated/saturated (4)				
		>0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (3	2)	Regularly inundated/saturated (3) Seasonally inundated (2)				
		1 <0.4m (<15.7in) (1)	-)	Seasonally saturated in upper 30cm (12in) (1)				
			gime. Score one or double check and avera	age.				
		None or none apparent (12) Recovered (7)	Check all disturbances observed X ditch	point source (nonstormwater)				
		3 Recovering (3)	tile	X filling/grading				
		Recent or no recovery (1)	dike	X road bed/RR track				
			weir stormwater input	X dredging X Other: Mowed Easement				
			stomwater input	X Other. Wowed Edserherit				
4.4	26	 Natrio 4 Habitat Altan	matics and Davidson	-4				
14 max 20 pts.	36 subtotal	4a. Substrate disturbance. Score one or	nation and Developmer	π.				
max 20 pts.	Subtotal	None or none apparent (4)	double check and average.					
		3 Recovered (3)						
		Recovering (2) Recent or no recovery (1)						
		4b. Habitat development. Select only on	e and assign score.					
		Excellent (7)						
		Very good (6) 5 Good (5)						
		Moderately good (4)						
		Fair (3)						
	Poor to fair (2) Poor (1)							
		4c. Habitat alteration. Score one or doub	ole check and average.					
		None or none apparent (9)	Check all disturbances observed					
		6 Recovered (6) Recovering (3)	X mowing grazing	X shrub/sapling removal herbaceous/aquatic bed removal				
		Recent or no recovery (1)	X clearcutting	sedimentation				
	36		X selective cutting	X dredging				
SI	ubtotal this page		woody debris removal toxic pollutants	farming nutrient enrichment				

Site:	e: Trumbull Energy Center Rate		Rater(s): La	ura Sayre	Date: 8/26/2016	
	26	1				
	36 subtotal first pag	e				
0	36	7	5. Special Wetla	nds.		
max 10 pts.	subtotal		nat apply and score as indicate			
			Bog (10)			
			Fen (10)			
			Old growth forest (10)			
			Mature forested wetland (5)			
			Lake Erie coastal/tributary wet	tland -unrestricted h	ydrology (10)	
			Lake Erie coastal/tributary wet	-	ology (5)	
			Lake Plain Sand Prairies (Oak	Openings) (10)		
			Relict Wet Prairies (10)			
			Known occurrence state/feder			0)
			Significant migratory songbird			
		 	Category 1 Wetland. See Que			
8	44	1		· ·	•	microtopography.
max 20 pts.	subtotal		d Vegetation Communities. resent using 0 to 3 scale.	Vegatat	ion Community Co	Absent or comprises <0.1ha (0.2471 acres) contiguous area
			Aquatic bed		-	Present and either comprises small part of wetland's vegetation
		2	Emergent		1	and is of moderate quality, or comprises a significant part but is of low quality
		0	Shrub			Present and either comprises significant part of wetland's
		2	Forest		2	vegetation and is of moderate quality, or comprises a small part and is of high quality.
			Mudflats		2	Present and comprises significant part, or more, of wetland's
			Open Water		3	vegetation and is of high quality.
			Other			
			ntal (plan view) Interspersion.	Narrativ	e Description of V	
		Score only	High (5)		low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
			Moderately high (4)		mod	Native spp are dominant component of the vegetation, although
			Moderate (3)			nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but
		2	Moderately low (2)			generally w/o presence of rare, threatened, or endangered spp
			Low (1)		high	A predominance of native species, with nonnative spp and/or
			None (0)			disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare,
			ige of invasive plants. Refer to	N 10 1		threatened, or endangered spp
			AM long form for list. Add or list for coverage.	Mudflat	and Open Water C	Absent <0.1ha (0.247 acres)
			Extensive >75% cover (-5)		1	Low 0.1 to <1ha (0.247 to 2.47 acres)
		-3	Moderate 25-75% cover (-3)		2	Moderate 1 to <4ha (2.47 to 9.88 acres)
			Sparse 5-25% cover (-1)		3	High 4ha (9.88 acres) or more
			Nearly absent <5% cover (0)	Microto	pography Cover So	cale
			Absent (1)		0	Absent
		6d. Microto Score all pr	ppography. resent using 0 to 3 scale.		1	Present in very small amounts or if more common of marginal quality
		1	Vegetated hummucks/tussuck	is	2	Present in moderate amounts, but not of highest quality or in smal
		2	Coarse woody debris >15cm (6in)	<u>-</u>	amounts of highest quality
		1	Standing dead >25cm (10in) d	lbh	3	
	7	1	Amphibian breeding pools			Present in moderate or greater amounts and of highest quality
44	GRANI	D TOT	AL (max 100 pts)			

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	4	
ŭ	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	14	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	8	
	TOTAL SCORE	44	Category based on score breakpoints Modified 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	-	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	Category 1	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Laura Sayre	
Date: 8/26/2016	
Affiliation: EnviroScience, Inc.	
Address: 5070 Stow Road, Stow Ohio 44224	
Phone Number: 330-688-0111	
e-mail address: LSayre@EnviroScienceInc.com	
Name of Wetland: W-10	
Vegetation Communit(ies): PSS	
HGM Class(es): Depression	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to site wetlands and water resources map.	
Latti and an ITM Constitute	
	2N, -80.845802W I
USGS Quad Name	Warren
County	Trumbull
Township	Lordstown Township
Section and Subsection	
Hydrologic Unit Code	05030103
Site Visit	8/2016
National Wetland Inventory Map	attached
Ohio Wetland Inventory Map	
Soil Survey	attached
Delineation report/map	attached

Name of Wetland: W-10		
Wetland Size (acres, hectares): 0.107 ac.		
Sketch: Include north arrow, relationship with other surface waters, vegetation zone	s, etc.	
Please refer to site wetlands and water resources map.		
Comments, Narrative Discussion, Justification of Category Changes:		
Final score: 21.5	Category:	1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		Х
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	i e
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	NO
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
-	an elevation less than 575 feet on the USGS map, adjacent to this		
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		3 Welland	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
	tolerant hauve plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	MO
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies		
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		Ţ.
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site:	Trumbu	ıll Energy Center	Rater(s): Laura Sayre	Date: 8/26/16
	Ι.]		
	1	Metric 1. Wetland Area	` ,	
max 6 pts.	subtotal	Select one size class and assign sco >50 acres (>20.2ha) (6 pts)	ne.	
		25 to <50 acres (10.1 to <20.2	, , , ,	
		10 to <25 acres (4 to <10.1 ha 3 to <10 acres (1.2 to <4 ha) (
		0.3 to < 3 acres (012 to <1.2h	, , , ,	
		1 0.1 to <0.3 acres (0.04 to <0.7 <0.1 acres (0.04ha) (0 pts)	zna) (1 pt)	
4	5	Metric 2 Unland huffe	rs and surrounding land	1 1150
max 14 pts.	subtotal		et only one and assign score. Do not double	
			(164 ft) or more around wetland perimeter (7 im to <50m (82 to <164ft) around wetland pe	
			Om to <25m (32ft to <82ft) around wetland p	
		VERY NARROW. Buffers avoid 2b. Intensity of surrounding land use. Sel	erage <10m (<32ft) around wetland perimete	er (0)
			lder forest, prairie, savannah, wildlife area, e	tc. (7)
			hrubland, young second growth forest. (5) ential, fenced pasture, park, conservation till	age new fallow field (3)
			n pasture, row cropping, mining, construction	-
10	15	Metric 3. Hydrology.		
max 30 pts.	subtotal	3a. Sources of Water. Score all that appl	y.	3b. Connectivity. Score all that apply.
		High pH groundwater (5) Other groundwater (3)		100 year floodplain (1) Between stream/lake and other human use (1)
		1 Precipitation (1)		1 Part of wetland/upland (e.g. forest), complex (1)
		Seasonal/Intermittent surface Perennial surface water (lake		Part of riparian or upland corridor (1) on/saturation. Score one or dbl check.
3c. Maxim	num water dep	oth. Select only one and assign score.	or oriodin (o)	Semi- to permanently inundated/saturated (4)
		>0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2)	Regularly inundated/saturated (3) 2 Seasonally inundated (2)
		1 <0.4m (<15.7in) (1)		Seasonally saturated in upper 30cm (12in) (1)
		3e. Modifications to natural hydrologic reg None or none apparent (12)	ime. Score one or double check and averaç Check all disturbances observed	Je.
		7 Recovered (7)	ditch	point source (nonstormwater)
		Recovering (3) Recent or no recovery (1)	tile dike	X filling/grading road bed/RR track
		, (.,	weir	dredging
			stormwater input	X Other: ATV paths
8.5	23.5	Motrio 4 Habitat Altar	ation and Development.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or		
		None or none apparent (4)		
		3 Recovered (3) 2 Recovering (2)		
		Recent or no recovery (1)		
		4b. Habitat development. Select only one Excellent (7)	and assign score.	
		Very good (6)		
		Good (5) Moderately good (4)		
		3 Fair (3)		
		Poor to fair (2) Poor (1)		
		4c. Habitat alteration. Score one or doub		
		None or none apparent (9) Recovered (6)	Check all disturbances observed X mowing	X shrub/sapling removal
		3 Recovering (3)	grazing	herbaceous/aquatic bed removal
	22.5	Recent or no recovery (1)	X clearcutting selective cutting	X sedimentation dredging
	23.5		X woody debris removal	X farming
S	ubtotal this page	е	toxic pollutants	nutrient enrichment

Site:	<u>Trumbu</u>	<u>ıll Ener</u>	gy Center	Rater(s): Laura Sayre	12/16/2015
s	23.5	e			
0	23.5	Metric	5. Special Wetla	nds.	
max 10 pts.	subtotal	Check all th	nat apply and score as indicated	i.	
			Bog (10)		
			Fen (10)		
			Old growth forest (10)		
			Mature forested wetland (5)		
			Lake Erie coastal/tributary wetl	and -unrestricted hydrology (10)	
			Lake Erie coastal/tributary wetl		
			Lake Plain Sand Prairies (Oak		
			Relict Wet Prairies (10)	3,7(3)	
			1	al threatened or endangered species (10)	
			1	water fowl habitat or usage (10)	
			1	estion 1 Qualitative Rating (-10)	
_	Ι	B #			
-2	21.5			nities, interspersion, mic	
max 20 pts.	subtotal		d Vegetation Communities. resent using 0 to 3 scale.	Vegatation Community Cover	r Scale Absent or comprises <0.1ha (0.2471 acres) contiguous area
		Ocore an pr	Aquatic bed	0	Present and either comprises small part of wetland's vegetation and is
		0	1	1	of moderate quality, or comprises a significant part but is of low quality
		1	Emergent		Present and either comprises significant part of wetland's vegetation
		<u>'</u>	Shrub _	2	and is of moderate quality, or comprises a small part and is of high
			Forest	-	quality. Present and comprises significant part, or more, of wetland's
			Mudflats	3	vegetation and is of high quality.
			Open Water		
		Ch. Harian	Other	Nametica Description of Vana	atation Coulife.
		Score only	ntal (plan view) Interspersion. one.	Narrative Description of Vege	Low spp diversity and/or predominance of nonnative or disturbance
			High (5)	low	tolerant native species
			Moderately high (4)	mod	Native spp are dominant component of the vegetation, although
			Moderate (3)		nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o
			Moderately low (2)		presence of rare, threatened, or endangered spp
			Low (1)	high	A predominance of native species, with nonnative spp and/or
		0	1		disturbance tolerant native spp absent or virtually absent, and high
			None (0) ge of invasive plants. Refer to		spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
			AM long form for list. Add or	Mudflat and Open Water Clas	•
		deduct poin	its for coverage.	0	Absent <0.1ha (0.247 acres)
			Extensive >75% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
		-3	Moderate 25-75% cover (-3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
			Sparse 5-25% cover (-1)	3	High 4ha (9.88 acres) or more
			Nearly absent <5% cover (0)	Microtopography Cover Scale	e
			Absent (1)	0	Absent
		6d. Microto	opography. resent using 0 to 3 scale.	1	Present in very small amounts or if more common of marginal quality
		0	Vegetated hummucks/tussuck		1
		0	Coarse woody debris >15cm (6	2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
		0	Standing dead >25cm (10in) di	· —	amount of riighton quality
	•	0	Amphibian breeding pools	3	Present in moderate or greater amounts and of highest quality
21.5	GRANI	TOT C	AL (max 100 pts)		

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
Ü	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	8.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-2	
	TOTAL SCORE	21.5	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	-	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, loca or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	Category 1	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Background information	
Name: Laura Sayre	
Date: 8/26/2016	
Affiliation: EnviroScience, Inc.	
Address: 5070 Stow Road, Stow Ohio 44224	
Phone Number: 330-688-0111	-
e-mail address: LSayre@EnviroScienceInc.com	
Name of Wetland: W-11, W-12, W-13, and W-14	
Vegetation Communit(ies): PEM/PFO	
HGM Class(es): Depression	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to site wetlands and water resources map.	
Lat/Long or UTM Coordinate	
USGS Quad Name	9N, -80.844611W
	Warren
County	Trumbull
Township	Lordstown Township
Section and Subsection	
Hydrologic Unit Code	05030103
Site Visit	2/2016, 8/2016
National Wetland Inventory Map	attached
Ohio Wetland Inventory Map	
Soil Survey	attached

attached

Delineation report/map

Name of Wetland: W-11, W-12, W-13, and W-14					
Wetland Size (acres, hectares): W-11=0.023, W-12=0.032, W-13=0.810, W-14=0.013 ac.					
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.					
Please refer to site wetlands and water resources map.					
Comments, Narrative Discussion, Justification of Category Changes:					
Final score: 36 Category: Modified 2					

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	х	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	Х	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

			_
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	NO
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
-10	Lake Bleig Count Busines (Oak Openings) to the continued to extend in	Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this	Go to Question 11	
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	YES Wetland should be evaluated for possible Category 3 status	NO Complete Quantitative Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		Ţ.
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site:	Trumbu	ıll Energy Center	Rater(s): Laura Sayre	Date: 8/26/16
2	2	Motric 1 Wotland Aros	a (sizo)	
max 6 pts.	subtotal	Select one size class and assign scores (>20.2ha) (6 pts) >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) 10 to <25 acres (4 to <10.1 ha) 3 to <10 acres (1.2 to <4 ha) (0) 0.3 to <3 acres (0.04 to <0.14) 0.1 to <0.3 acres (0.04 to <0.14) <0.1 acres (0.04ha) (0 pts)	ore. 2ha) (5 pts) a) (4 pts) 3 pts) a) (2 pts)	
8	10	Metric 2. Upland buffe	rs and surrounding land	l use.
max 14 pts.	subtotal	WIDE. Buffers average 50m 4 MEDIUM. Buffers average 25 NARROW. Buffers average 1 VERY NARROW. Buffers average 1 VERY LOW. 2nd growth or o LOW. Old field (>10 years), s MODERATELY HIGH. Resid	et only one and assign score. Do not double (164 ft) or more around wetland perimeter (7 im to <50m (82 to <164ft) around wetland per 0m to <25m (32ft to <82ft) around wetland per 10m to <25m (32ft to <82ft) around wetland per 10m (<32ft) around wetland per 10m (<32ft) around wetland per 10m to et and average. Ider forest, prairie, savannah, wildlife area, ehrubland, young second growth forest. (5) ential, fenced pasture, park, conservation tilled pasture, row cropping, mining, construction	rimeter (4) erimeter (1) r (0) dc. (7) age, new fallow field. (3)
10	20	Metric 3. Hydrology.		
max 30 pts. 3c. Maxim	subtotal num water dep	3a. Sources of Water. Score all that apple High pH groundwater (5) Other groundwater (3) 1 Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lake oth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2 1 <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic reg	water (3) or stream (5)	3b. Connectivity. Score all that apply. 100 year floodplain (1) Between stream/lake and other human use (1) Part of wetland/upland (e.g. forest), complex (1) Part of riparian or upland corridor (1) on/saturation. Score one or dbl check. Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3) Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) e.
		None or none apparent (12) 7 Recovered (7) 3 Recovering (3) Recent or no recovery (1)	Check all disturbances observed ditch tile dike weir	point source (nonstormwater) X filling/grading road bed/RR track dredging
		_	stormwater input	X Other: ATV paths
10 max 20 pts.	30 subtotal	Metric 4. Habitat Altera 4a. Substrate disturbance. Score one or or or one apparent (4) 3 Recovered (3) 2 Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one excellent (7) Very good (6) Good (5) Moderately good (4) 3 Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double	and assign score.	
SI	30	None or none apparent (9) 6 Recovered (6) 3 Recovering (3) Recent or no recovery (1)	Check all disturbances observed X mowing grazing Clearcutting selective cutting woody debris removal toxic pollutants	X shrub/sapling removal herbaceous/aquatic bed removal X sedimentation dredging A farming nutrient enrichment

Site:	<u>Trumbı</u>	ıll Energy Center	Rater(s): Laura Sayre	12/16/2015
	30 subtotal first pag	1		
0	30	Metric 5. Special Wetl	ands.	
max 10 pts.	subtotal	Check all that apply and score as indica	ted.	
		Bog (10)		
		Fen (10)		
		Old growth forest (10)		
		Mature forested wetland (5)		
		Lake Erie coastal/tributary w	vetland -unrestricted hydrology (10)	
		Lake Erie coastal/tributary w	vetland-restricted hydrology (5)	
		Lake Plain Sand Prairies (Oa	ak Openings) (10)	
		Relict Wet Prairies (10)		
		Known occurrence state/fed	eral threatened or endangered species (10)	
		Significant migratory songbir	rd/water fowl habitat or usage (10)	
		Category 1 Wetland. See Q	Question 1 Qualitative Rating (-10)	
6	36	Metric 6. Plant commu	unities, interspersion, m	icrotopography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.	Vegatation Community Co	
		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 small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
		1 Emergent		
		0 Shrub	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality, or comprises a small part and is of high
		2 Forest		quality.
		Mudflats	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality.
		Open Water		regordien and to or mgri quality.
		Other		
		6b. Horizontal (plan view) Interspersion.	Narrative Description of Ve	
		Score only one.	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
		High (5)	mod	Native spp are dominant component of the vegetation, although
		Moderately high (4)		nonnative and/or disturbance tolerant native spp can also be present,
		Moderate (3)		and species diversity moderate to moderately high, but generally w/o presence of rare, threatened, or endangered spp
		Moderately low (2)	high	A predominance of native species, with nonnative spp and/or
		1 Low (1)	····g··	disturbance tolerant native spp absent or virtually absent, and high
		None (0) 6c. Coverage of invasive plants. Refer t	to	spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
		Table 1 ORAM long form for list. Add or		- ''
		deduct points for coverage.	0	Absent <0.1ha (0.247 acres)
		Extensive >75% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
		-3 Moderate 25-75% cover (-3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
		Sparse 5-25% cover (-1)	3	High 4ha (9.88 acres) or more
		Nearly absent <5% cover (0)) Microtopography Cover Sc	cale
		Absent (1)	0	Absent
		6d. Microtopography. Score all present using 0 to 3 scale.	1	Present in very small amounts or if more common of marginal quality
		1 Vegetated hummucks/tussu	cks	
		2 Coarse woody debris >15cm	2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
		1 Standing dead >25cm (10in)		7
	7	1 Amphibian breeding pools	3	Present in moderate or greater amounts and of highest quality
36	GRANI	O TOTAL (max 100 pts)		

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
3	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	6	
	TOTAL SCORE	36	Category based on score breakpoints Modified 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	-	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category					
Choose one	Category 1	Category 2	Category 3		
	-				

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Laura Sayre	
Date: 8/26/2016	
Affiliation: EnviroScience, Inc.	
Address: 5070 Stow Road, Stow Ohio 44224	
Phone Number: 330-688-0111	
e-mail address: LSayre@EnviroScienceInc.com	
Name of Wetland: W-15 and W-16	
Vegetation Communit(ies): PFO	
HGM Class(es): Depression	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to site wetlands and water resources map.	
	i 9N, -80.843907W L
USGS Quad Name	Warren
County	Trumbull
Township	Lordstown Township
Section and Subsection	
Hydrologic Unit Code	05030103
Site Visit	2/2016, 8/2016
National Wetland Inventory Map	attached
Ohio Wetland Inventory Map	
Soil Survey	attached
Delineation report/map	attached

Name of Wetland: W-15 and W-16				
Wetland Size (acres, hectares): W-15=0.049 ac., W-16=0.012 ac. onsite				
Sketch: Include north arrow, relationship with other surface waters, vegetation zones	s, etc.			
Please refer to site wetlands and water resources map.				
Comments, Narrative Discussion, Justification of Category Changes:				
Final score: 35.5	Category: Modified 2			

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

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Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	х	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	Х	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

			_
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	NO
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
-10	Lake Bleig Count Busines (Oak Openings) to the continued to extend in	Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this	Go to Question 11	
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	YES Wetland should be evaluated for possible Category 3 status	NO Complete Quantitative Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		Ţ.
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site:	Trumbu	ıll Energy Center	Rater(s): Laura Sayre	Date: 8/26/16
	ı	1		
1	1	Metric 1. Wetland Area	•	
max 6 pts.	subtotal	Select one size class and assign sco >50 acres (>20.2ha) (6 pts)	ore.	
		25 to <50 acres (10.1 to <20.2	2ha) (5 pts)	
		10 to <25 acres (4 to <10.1 had 3 to <10 acres (1.2 to <4 ha) (
		0.3 to < 3 acres (0.12 to <1.2h		
		1 0.1 to <0.3 acres (0.04 to <0.1	2ha) (1 pt)	
	I	<0.1 acres (0.04ha) (0 pts)		
8	9		rs and surrounding land	
max 14 pts.	subtotal		et only one and assign score. Do not double (164 ft) or more around wetland perimeter (
		4 MEDIUM. Buffers average 25	m to <50m (82 to <164ft) around wetland p	erimeter (4)
			Om to <25m (32ft to <82ft) around wetland erage <10m (<32ft) around wetland perimet	
		2b. Intensity of surrounding land use. Sel		51 (0)
			lder forest, prairie, savannah, wildlife area,	etc. (7)
			hrubland, young second growth forest. (5) ential, fenced pasture, park, conservation til	llage, new fallow field. (3)
			pasture, row cropping, mining, construction	
10	19	Metric 3. Hydrology.		
max 30 pts.	subtotal	3a. Sources of Water. Score all that appl	y.	3b. Connectivity. Score all that apply.
		High pH groundwater (5) Other groundwater (3)		100 year floodplain (1) Between stream/lake and other human use (1)
		1 Precipitation (1)		1 Part of wetland/upland (e.g. forest), complex (1)
		Seasonal/Intermittent surface		Part of riparian or upland corridor (1)
3c. Maxim	num water der	Perennial surface water (lake oth. Select only one and assign score.	or stream (5)	on/saturation. Score one or dbl check. Semi- to permanently inundated/saturated (4)
		>0.7 (27.6in) (3)		Regularly inundated/saturated (3)
		0.4 to 0.7m (15.7 to 27.6in) (2 1 <0.4m (<15.7in) (1))	2 Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1)
		. , , , ,	ime. Score one or double check and avera	
		None or none apparent (12) Recovered (7)	Check all disturbances observed ditch	point source (nonstormwater)
		Recovering (3)	tile	X filling/grading
		Recent or no recovery (1)	dike	road bed/RR track
			weir stormwater input	dredging X Other: ATV paths
		1		
11.5	30.5	Metric 4. Habitat Altera	ation and Development.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or	•	
		None or none apparent (4) Recovered (3)		
		Recovering (2)		
		Recent or no recovery (1) 4b. Habitat development. Select only one	and assign agers	
		Excellent (7)	and assign score.	
		Very good (6)		
		Good (5) 4 Moderately good (4)		
		Fair (3)		
		Poor to fair (2) Poor (1)		
		4c. Habitat alteration. Score one or doub	e check and average.	
		None or none apparent (9)	Check all disturbances observed	X shrub/sapling removal
		6 Recovered (6) 3 Recovering (3)	mowing grazing	X shrub/sapling removal herbaceous/aquatic bed removal
	_	Recent or no recovery (1)	clearcutting	sedimentation
	30.5		X selective cutting woody debris removal	dredging farming
s	ubtotal this page	■ e	toxic pollutants	nutrient enrichment

Site:	Trumbu	ull Ener	gy Center	Rater(s):	Laura Sayre	12/16/2	<u>015</u>
s	30.5 subtotal first pag	je					
0	30.5	Metric	5. Special Wetl	ands.			
max 10 pts.	subtotal	Check all the	nat apply and score as indica	ited.			
			Bog (10)				
			Fen (10)				
			Old growth forest (10)				
			Mature forested wetland (5)				
			Lake Erie coastal/tributary w				
			Lake Erie coastal/tributary w		ydrology (5)		
			Lake Plain Sand Prairies (O	ak Openings) (10)			
			Relict Wet Prairies (10)				
			Known occurrence state/fed				
			Significant migratory songbi		- ' '		
	Ι	3.0 4 .	Category 1 Wetland. See C		- ' '	,	
5	35.5		6. Plant commi	-	•		
max 20 pts.	subtotal		nd Vegetation Communities. resent using 0 to 3 scale.	Ve	gatation Community Cove	Absent or comprises <0.1ha (0.2471 acres) contiguous area	
			Aquatic bed	_		Present and either comprises small part of wetland's vegetation a	
			Emergent		1	of moderate quality, or comprises a significant part but is of low of	uality
			Shrub	_		Present and either comprises significant part of wetland's vegeta	
		2	Forest		2	and is of moderate quality, or comprises a small part and is of high	Ju
			Mudflats			Present and comprises significant part, or more, of wetland's	
			Open Water		3	vegetation and is of high quality.	
			Other				
		6b. Horizo Score only	ntal (plan view) Interspersion.	. Na	rrative Description of Veg		
		Score only	High (5)		low	Low spp diversity and/or predominance of nonnative or disturbar tolerant native species	ce
			Moderately high (4)	_	mod	Native spp are dominant component of the vegetation, although	
			Moderate (3)			nonnative and/or disturbance tolerant native spp can also be pre and species diversity moderate to moderately high, but generally	
			Moderately low (2)			presence of rare, threatened, or endangered spp	
			Low (1)	_	high	A predominance of native species, with nonnative spp and/or	
		0	None (0)			disturbance tolerant native spp absent or virtually absent, and hig spp diversity and often, but not always, the presence of rare,	μ
			age of invasive plants. Refer			threatened, or endangered spp	
			RAM long form for list. Add or ts for coverage.	Mu	udflat and Open Water Clas	Absent <0.1ha (0.247 acres)	
			Extensive >75% cover (-5)	_	1	Low 0.1 to <1ha (0.247 to 2.47 acres)	
			Moderate 25-75% cover (-3)		2	Moderate 1 to <4ha (2.47 to 9.88 acres)	
		-1	Sparse 5-25% cover (-1)		3	High 4ha (9.88 acres) or more	
			Nearly absent <5% cover (0) Mi	crotopography Cover Scal	le	
			Absent (1)		0	Absent	
		6d. Microto	ppography. resent using 0 to 3 scale.	_	1	Present in very small amounts or if more common of marginal qu	ıalitv
		0	Vegetated hummucks/tussu	ıcks			
		2	Coarse woody debris >15cm		2	Present in moderate amounts, but not of highest quality or in sma amounts of highest quality	all
		1	Standing dead >25cm (10in	<u> </u>			
	1	1	Amphibian breeding pools	_	3	Present in moderate or greater amounts and of highest quality	
35.5	GRANI	D TOTA	AL (max 100 pts))			

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
•	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	11.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	5	
	TOTAL SCORE	35.5	Category based on score breakpoints Modified 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	-	Evaluation of Categorization Result of ORAM	
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM	
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.	
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM	
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.	
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).	
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.	

Final Category						
Choose one	Category 1	Category 2	Category 3			

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

_							
Name: Laura Sayre							
Date: 8/26/2016							
Affiliation: EnviroScience, Inc.							
Address: 5070 Stow Road, Stow Ohio 44224							
Phone Number: 330-688-0111							
e-mail address: LSayre@EnviroScienceInc.com							
Name of Wetland: W-17							
Vegetation Communit(ies): PFO							
HGM Class(es): Depression							
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.							
Please refer to site wetlands and water resources map.							
Lat/Long or UTM Coordinate							
41.14/01	N, -80.844252W 						
USGS Quad Name	Warren						
County	Trumbull						
Township	Lordstown Township						
Section and Subsection							
Hydrologic Unit Code	05030103						
Site Visit	8/2016						
National Wetland Inventory Map	attached						
Ohio Wetland Inventory Map							
Soil Survey	attached						
Delineation report/map	attached						

Name of Wetland: W-17	
Wetland Size (acres, hectares): 0.023 ac.	
Sketch: Include north arrow, relationship with other surface waters, vegetation zone	es, etc.
Please refer to site wetlands and water resources map.	
Comments, Narrative Discussion, Justification of Category Changes:	
Comments, Narrauve Biscussion, Cusumouter of Cutegory Changes.	
Final score: 35.5	Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		Х
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

			_
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	NO
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
-10	Lake Bleig Count Busines (Oak Openings) to the continued to extend in	Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this	Go to Question 11	
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	YES Wetland should be evaluated for possible Category 3 status	NO Complete Quantitative Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		Ţ.
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site:	Trumbu	ıll Energy Center	Rater(s): Laura Sayre	Date: 8/26/16
0	0	Metric 1. Wetland Area	a (size).	
max 6 pts.	subtotal	Select one size class and assign scc >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2 10 to <25 acres (4 to <10.1 ha 3 to <10 acres (1.2 to <4 ha) (0.3 to < 3 acres (012 to <1.2h 0.1 to <0.3 acres (0.04 to <0.1 <0.1 acres (0.04ha) (0 pts)	2ha) (5 pts) a) (4 pts) (3 pts) a) (2 pts)	
9	9	•	rs and surrounding land	
max 14 pts.	subtotal	WIDE. Buffers average 50m 4 MEDIUM. Buffers average 25 NARROW. Buffers average 1 VERY NARROW. Buffers average 1 2b. Intensity of surrounding land use. Sel VERY LOW. 2nd growth or o 5 LOW. Old field (>10 years), s MODERATELY HIGH. Resid	ct only one and assign score. Do not double (164 ft) or more around wetland perimeter (7 fm to <50m (82 to <164ft) around wetland per 10m to <25m (32ft to <82ft) around wetland per 10m to <25m (32ft to <82ft) around wetland per 10m (<32ft) around wetland perimeter one or double check and average. Ider forest, prairie, savannah, wildlife area, exhrubland, young second growth forest. (5) ential, fenced pasture, park, conservation till a pasture, row cropping, mining, construction	7) erimeter (4) perimeter (1) er (0) etc. (7) lage, new fallow field. (3)
10	19	Metric 3. Hydrology.		
max 30 pts. 3c. Maxim	subtotal ium water dep	3a. Sources of Water. Score all that apple High pH groundwater (5) Other groundwater (3) 1 Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lake oth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2 1 <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic reg	water (3) or stream (5)	3b. Connectivity. Score all that apply. 100 year floodplain (1) Between stream/lake and other human use (1) 1 Part of wetland/upland (e.g. forest), complex (1) part of riparian or upland corridor (1) on/saturation. Score one or dbl check. Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3) Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) ge.
		None or none apparent (12) 7 Recovered (7) 3 Recovering (3) Recent or no recovery (1)	Check all disturbances observed ditch tile dike weir stormwater input	point source (nonstormwater) X filling/grading road bed/RR track dredging X Other: ATV paths
11.5 max 20 pts.	30.5 subtotal	4a. Substrate disturbance. Score one or or None or none apparent (4) 3 Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one Excellent (7) Very good (6) Good (5) 4 Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double	e and assign score.	
sı	30.5	None or none apparent (9) 6 Recovered (6) 3 Recovering (3) Recent or no recovery (1)	Check all disturbances observed mowing grazing clearcutting X selective cutting woody debris removal toxic pollutants	X shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging farming nutrient enrichment

Site:	<u>Trumbı</u>	<u>ıll Ener</u>	gy Center	Rater(s): Laura Sayre	12/16/2015					
5	30.5	e								
0	30.5	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)							
			1	tland -unrestricted hydrology (10)						
			Lake Erie coastal/tributary wet							
			Lake Plain Sand Prairies (Oak							
			Relict Wet Prairies (10)							
			1	al threatened or endangered species (10)						
			1	/water fowl habitat or usage (10)						
			1	estion 1 Qualitative Rating (-10)						
	05.5	Motrio	1 • '	· ,	aratana aranhy					
5	35.5			nities, interspersion, mic						
max 20 pts.	subtotal		nd Vegetation Communities. Tesent using 0 to 3 scale.	Vegatation Community Cover	Absent or comprises <0.1ha (0.2471 acres) contiguous area					
			Aquatic bed		Present and either comprises small part of wetland's vegetation and is					
			Emergent	1	of moderate quality, or comprises a significant part but is of low quality					
			Shrub		Present and either comprises significant part of wetland's vegetation					
		2	Forest	2	and is of moderate quality, or comprises a small part and is of high quality.					
			Mudflats		Present and comprises significant part, or more, of wetland's					
			Open Water	3	vegetation and is of high quality.					
			Other							
		6b. Horizoi	ntal (plan view) Interspersion.	Narrative Description of Vege	etation Quality					
		Score only	one.	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species					
			High (5)	mod	·					
			Moderately high (4)	mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present,					
			Moderate (3)		and species diversity moderate to moderately high, but generally w/o presence of rare, threatened, or endangered spp					
			Moderately low (2)	hiah						
			Low (1)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high					
		0	None (0) ge of invasive plants. Refer to		spp diversity and often, but not always, the presence of rare, threatened, or endangered spp					
			AM long form for list. Add or	Mudflat and Open Water Clas	, , , ,					
		deduct poir	nts for coverage.	0	Absent <0.1ha (0.247 acres)					
			Extensive >75% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)					
			Moderate 25-75% cover (-3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)					
		-1	Sparse 5-25% cover (-1)	3	High 4ha (9.88 acres) or more					
			Nearly absent <5% cover (0)	Microtopography Cover Scale	9					
			Absent (1)	0	Absent					
		6d. Microto	ppography. esent using 0 to 3 scale.	1	Present in very small amounts or if more common of marginal quality					
		0	Vegetated hummucks/tussuck		recent in very ornal anisante of it more common of marginal quality					
		2	Coarse woody debris >15cm (2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality					
		1	1 '		amounto of migricot quanty					
		1	Standing dead >25cm (10in) d Amphibian breeding pools	3	Present in moderate or greater amounts and of highest quality					
05.5	1		.	-	. 1995 In moderate of greater amounts and of highest quality					
35.5	IGRANI	D TOTA	AL (max 100 pts)							

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	9	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	11.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	5	
	TOTAL SCORE	35.5	Category based on score breakpoints Modified 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM	
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM	
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.	
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM	
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.	
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).	
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, loca or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.	

Final Category							
Choose one	Category 1	Category 2	Category 3				

End of Ohio Rapid Assessment Method for Wetlands.

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in

Case No(s). 17-0819-EL-BLN

Summary: Letter of Notification of Trumbull Energy Center Electrical Interconnection - Part 2 electronically filed by Teresa Orahood on behalf of Sally W. Bloomfield